APPENDIX B
Moffett Park Specific Plan

Moffett Park Specific Plan

Public Review Draft

Sunnyvale

City of Sunnyvale
Moffett Park Specific Plan
Public Review Draft
Released December 2022

Moffett Park Specific Plan

Sunnyvale

Sunnyvale

This Specific Plan is authorized by California Government Code sections 65450 through 65457. The law authorizes adoption of a Specific Plan for the systematic implementation of an area covered by a local general plan.

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Chapter 1

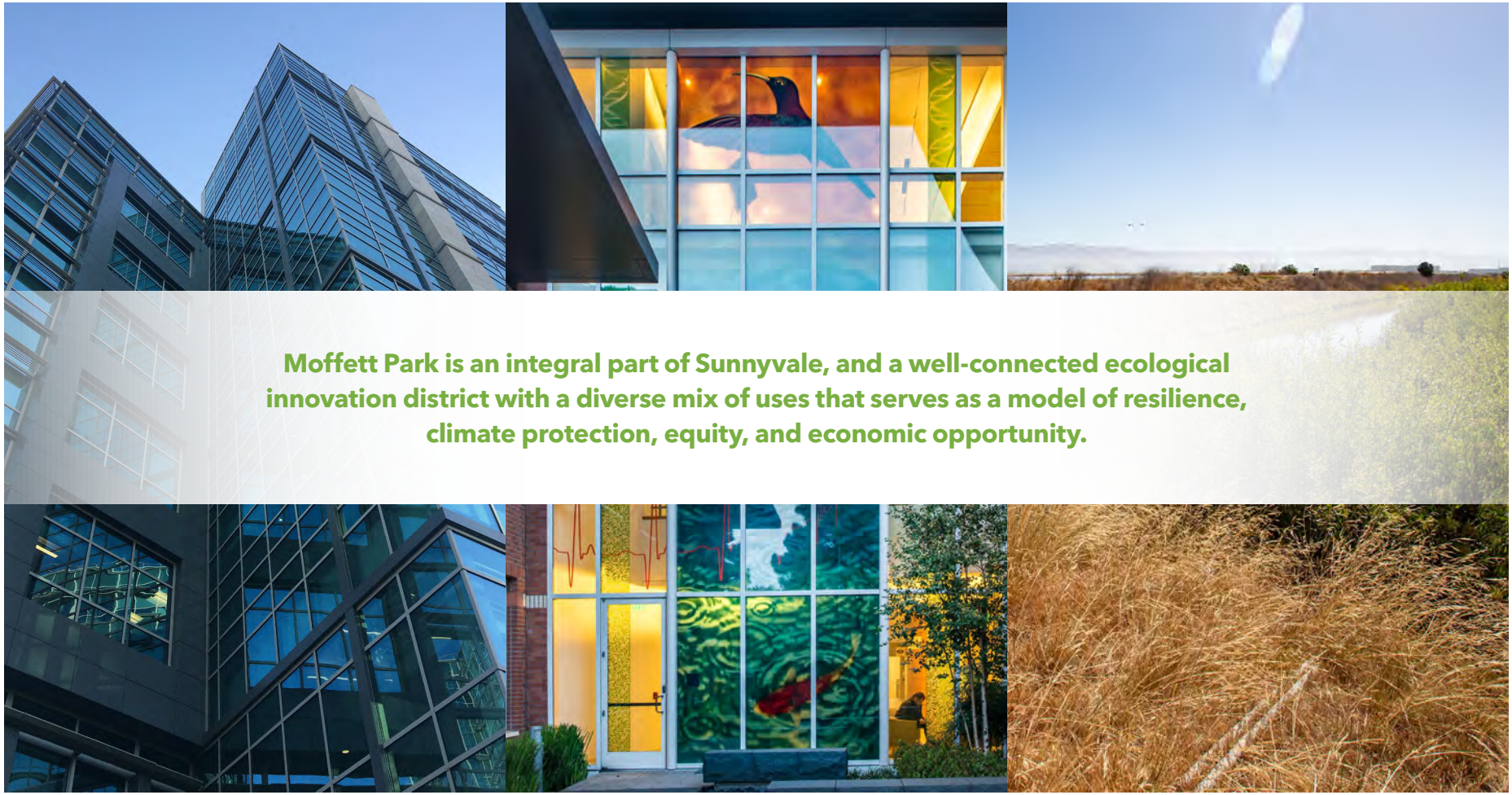
Vision and Guiding Principles

Wildlife Observation in the City after a Rainy Day by Amandine Breilly

The vision and guiding principles describe where we want to be in the future and how we get there.

1.1 Vision

Moffett Park has served as a critical piece of Sunnyvale's cultural landscape and built environment for decades. Through collaborative input from City Council, Planning Commission, local stakeholders, and the wider Sunnyvale community, a shared vision statement was created:



Moffett Park is an integral part of Sunnyvale, and a well-connected ecological innovation district with a diverse mix of uses that serves as a model of resilience, climate protection, equity, and economic opportunity.

As an ecological innovation district, Moffett Park combines the tenets of sustainable, ecological, and resilient practices with a leading-edge, technologically driven cluster of businesses. Anchor businesses combine with new spaces for start-ups, housing, and retail in a walkable and transit-accessible environment. The ecological innovation district stewards the natural environment, bringing nature into Moffett Park to enhance climate resilience, while supporting biodiverse native ecosystems and local community health. The ecological innovation district centers community health and well-being and fosters equitable development that accelerates prosperity for all.

What is Ecological Development?

Ecological development is an integrated approach to implementing sustainable practices across geographic scales and a diverse mix of land uses. Ecological development promotes healthy biodiverse landscapes but also provides positive benefits to public health, community character, and economic stability. Ecological development strives to promote sustainability at the community and district level.

"The EcoDistricts approach is a comprehensive strategy to accelerate sustainable development at the neighborhood scale by integrating building and infrastructure projects with community and individual action."

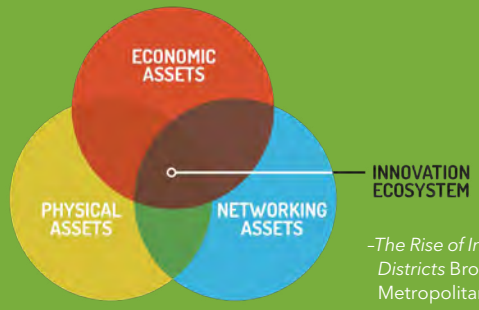
–Eco Districts Protocol

"London Wetlands" by Jon Aker licensed under CC BY 2.0

What is an Innovation District?

Beginning with a strong core of primary institutions, innovation districts accommodate a diverse profile of businesses that include larger, well-established anchor companies, balanced by a number of smaller businesses and startups. Technology, life science research, and information services are complemented by local educational establishments, which facilitates a collaborative environment that encourages a culture of knowledge sharing and innovative thinking.

Characterized by a pattern of compact development, innovation districts emphasize a tight network of streets and multi-modal transportation options. Transit is very often prioritized, with buildings and mixed-use development strategically concentrated around community transportation hubs. Innovation districts are social, facilitating engagement and social interaction in comfortable spaces for work, life, and leisure and recreation.



–*The Rise of Innovation Districts* Brookings Institute Metropolitan Policy Programs

"Geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail."

–*The Rise of Innovation Districts* Brookings Institute Metropolitan Policy Programs

Example rendering of park within innovation district; Source: SASAKI

1.2 Guiding Principles

To achieve the vision for an ecological innovation district, the Guiding Principles offer more specific direction regarding how strategies and activities within Moffett Park can be implemented over time. The principles connect the overarching vision with the Specific Plan's goals, policies, actions, and development standards. These principles establish a reference point for stakeholders and decision-makers as projects are reviewed. These principles offer an opportunity to not only build on current conditions but to adapt and respond to new issues that will emerge in the future.

Murphy Avenue in Sunnyvale

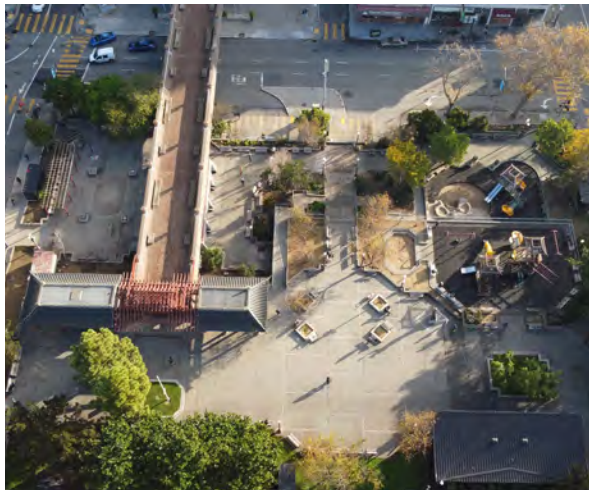
1. Maintain Moffett Park as an integral part of Sunnyvale

Moffett Park remains a natural extension of the City's built landscape, providing residents, workers, and visitors an integrated and cohesive connection between the San Francisco Bay (which sits to the north of Moffett Park) and the wider neighborhoods of Sunnyvale. Through enhanced multimodal mobility connections, including transit, pedestrian, and bicycle improvements, and accessible parks and open space that support underserved neighborhoods in northern Sunnyvale, Moffett Park connects and serves all Sunnyvale residents with new amenities and destinations. Additional employment and housing growth support the fiscal health of Sunnyvale through increased property, hotel, and sales tax revenues.

2. Establish Moffett Park as a model community through its commitment to comprehensively addressing resilience, climate protection, and equity in all activities

Moffett Park is a model for the community in the face of climate change, as well as a template for equitable and sustainable development at the building, block, and neighborhood scale. New residential and neighborhood commercial uses support a sustainable land use mix in Moffett Park, improving the local as well as regional jobs-housing ratio, lowering travel distances, reducing greenhouse gas emissions per capita, and improving access, and improving access to daily goods and services. New development is all-electric phasing out natural gas use, while building materials and construction techniques prioritize the development of low carbon building. Policies, actions, and development standards are designed to reduce greenhouse gas emissions from water and energy use and landfill disposal and minimize air and water pollution while maximizing waste diversion. The City prioritizes walking, biking, and public transit and requires aggressive single-occupancy vehicle trip reduction for all new developments. The City promotes the social and physical needs of all visitors, workers, and future residents.

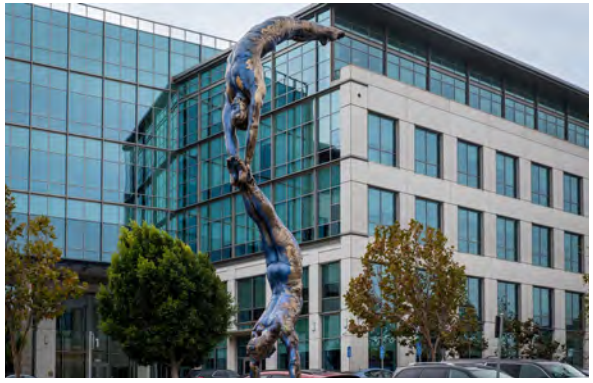
To address flooding and climate change in Moffett Park, the City will continue to engage in additional efforts with multiple, integrated strategies to increase resilience. Opportunities to increase system resilience throughout Moffett Park include increasing detention capacity and using green infrastructure to remove pollutants and reduce runoff volumes entering the stormwater system. Likewise, Moffett establishes performance targets for the open space and urban tree canopy to mitigate and adapt to climate change through carbon sequestration, urban heat island reduction, air pollution filtration, and stormwater retention. These targets are implemented through the open space and urban ecology framework, street design standards, and landscaping and site design standards for new development.



Aerial view of Portsmouth Square in Chinatown, San Francisco CA

3. Evolve Moffett Park into a vibrant and inclusive community where all people can thrive

Moffett Park establishes a network of active and unique neighborhoods that serve a broad range of users and cohesively integrate with the rest of Sunnyvale. Moffett Park will transition from an office and industrial area into an adaptable environment that also accommodates residential, neighborhood-serving commercial, and recreational activities. Through the Specific Plan, the City establishes numeric objectives to guide the transition of Moffett Park into a series of complete neighborhoods. Each neighborhood accommodates neighborhood-serving commercial square footage, housing, employment square footage, and parks and open space. New park and open space types promote recreation, active transportation, and social gathering. The City aspires for a minimum fifteen percent of the future housing in Moffett Park to be reserved for lower-income households, creating incentives for up to twenty percent affordable housing and providing much needed housing for a diverse workforce at all income levels.



"Double Diver" located at 1275-1395 Crossman Ave By Carole Feuerman

4. Maintain and strengthen Moffett Park as a diverse economic engine that supports economic prosperity for all

Moffett Park continues to be a hub of economic activity and technological innovation, supporting a diverse economic base to ensure the long-term fiscal health of the plan area and the City. The economic activity and technological innovation include a mix of large, established high-tech companies, smaller spaces for start-ups, and a range of retail, services, hotels, and entertainment. The City supports a wide range of businesses, including small, local companies as well as large, multinational firms through the continued growth of Moffett Park. Policies to support the retention of existing local businesses and to encourage essential services, such as a grocery store, help maintain economy diversity. The City promotes the training and continued education of workers, residents, and students to support economic prosperity for all.

Long term parking; Source: BART, Eric Londgren 2013

5. Create a connected, accessible district that prioritizes the movement of people over vehicles to reduce climate pollution and to support a healthy community

Moffett Park uses multimodal strategies and district-wide policy to redesign the district around people rather than vehicles. Streets are designed to promote a safe and comfortable mobility network for all individuals, regardless of which mobility option they use. All streets within Moffett Park are "Complete Streets," balancing space for motorists, bicycles, pedestrians, transit vehicles, and other mobility options. New bicycle and pedestrian connections into and out of Moffett Park are essential to improving circulation and overall connectivity. These would include Mary Avenue Overcrossing, East Channel Trail, and a Multi-Use Path on Manila Drive. Moffett Park supports existing operations of public transit and facilitates opportunities for expansion and new connections like the Moffett Park Circulator. An emphasis on walking, biking, and transit use shifts travel away from single-occupant vehicles and promotes lower greenhouse gas emissions.

"High Line, New York City" by Another Believer, licensed under CC BY-SA 3.0

6. Cultivate dynamic and connected public spaces that accommodate the physical and social needs of all users

Moffett Park cultivates a network of welcoming, connected, and accessible parks and open spaces that support recreation, social gathering, health, and urban ecology. Moffett Park provides a high level of service with ample parks and open space through the development of new Natural Areas, Ecological Corridors, Greenbelt, Biodiversity Hubs, Community Parks, Neighborhood Parks, Mini-Parks, Plazas, and Laneways. The interconnected spaces maintain and expand connections to the San Francisco Bay, while enhancing ecological value and resilience. The variety of open space types ensure recreational and social opportunities support different activities, age groups, and uses throughout the day and evenings.

Tree canopy over walking path; Source: Shira Bezalel, San Francisco Estuary Institute (SFEI)

7. Create a healthy, resilient, and biodiverse environment

The open space and urban ecology plan for Moffett Park creates an interconnected system of habitat areas that are supported by surrounding green features integrated into streetscapes and new development. Habitat patches are distributed across Moffett Park and connected by corridors along the channels and streets. Canopy cover along streets facilitates wildlife movement across Moffett Park while providing vital shade over multi-modal routes, reducing stormwater runoff, enhancing the character of Moffett Park, addressing heat island effects, and adding to the overall resilience to climate change. Additionally, new developments enhance ecosystems and support biodiversity through bird safe design, an Ecological Combining District, a transfer of development rights policy, and increased building setbacks along the East, West, and Lockheed Martin Channels. Infrastructure improvements and both active and passive strategies at the site and building level provide opportunities to manage stormwater and future challenges associated with climate change and sea level rise.

"Mexico City Greenwall" by Mark Hogan, licensed under CC BY-SA 2.0

8. Integrate innovative and emerging technologies in the district to support community-wide goals

Moffett Park continues to leverage its position as an innovative hub to establish itself as a regional center for thought leadership and emerging technologies. The City accelerates Smart City design and district-scale infrastructure systems, fostering collaboration among the regional agencies, community, and property owners to develop innovative, multi-benefit solutions to complex challenges facing the San Francisco Bay Area.

Chapter 2

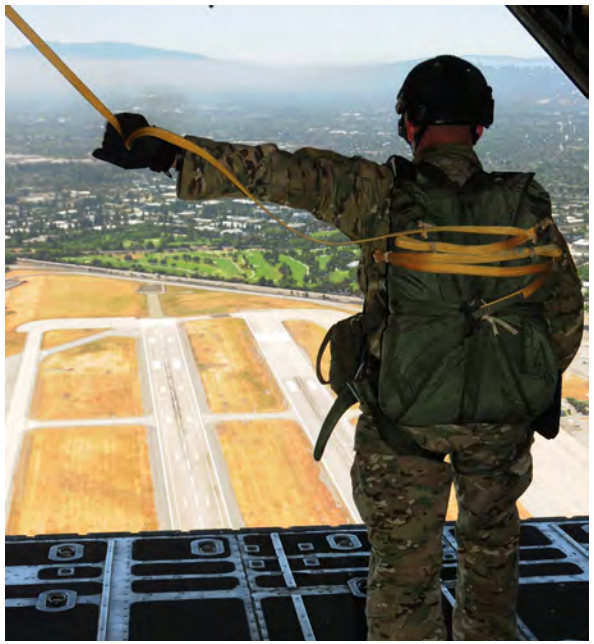
Planning Foundation

Aerial view of Moffett Park

The regional setting and history of Moffett Park help tell the story of the plan area today and set the stage for the future.

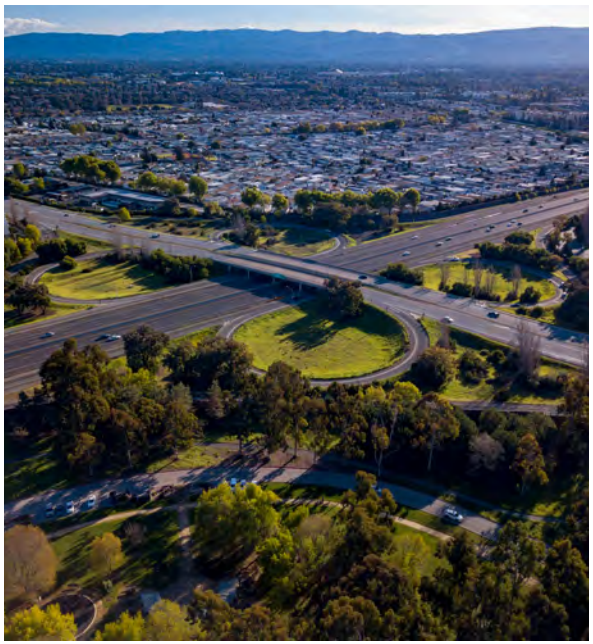
2.1 Plan Location and Context

The Moffett Park Specific Plan Area (Moffett Park) covers approximately 1,275-acres of the City of Sunnyvale's northern-most area. The site is generally bound by:



Military training over at Moffett Federal Airfield

Moffett Federal Airfield, a joint civilian-military airport located on federal land to the west. This western boundary also correlates with the official city-limits.



SR 237 interchange on the border of Moffett Park

State Highway 237 (SR 237) to the south. Moffett Park includes Moffett Park Drive, between Enterprise Way and Caribbean Drive.

Caribbean Drive in Moffett Park

Caribbean Drive to the north. The plan area west of Mathilda borders San Francisco Bay as its northernmost boundary.

The plan area ***excludes*** all facilities north of Caribbean Drive, including: the former Sunnyvale Landfill, the Donald M. Somers Water Pollution Control Plant, the Sunnyvale Materials Recovery and Transfer Station (SMaRT™), Stevens Creek Quarry, Twin Creeks Sports Complex, and Baylands Park.

FIGURE 1 Moffett Park Specific Plan Area

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021)

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel

REGIONAL CONTEXT

While Moffett Park makes up a less than 10% of the the land area in the City of Sunnyvale, it occupies a key location within the broader landscape of the southern San Francisco Bay Area. Moffett Park lies at the northern edge of Santa Clara Valley, a highly urbanized region in northern California located between two mountain ranges: the Santa Cruz Mountains to the west and the Diablo Range to the east. To the north of Moffett Park, large expanses of tidal marsh, mudflats, ponds, and open water in the South San Francisco Bay provides habitat for diverse wetland and aquatic wildlife. The areas north and east of Moffett Park have also been designed to accommodate recreational use for residents and visitors of Sunnyvale and Silicon Valley, among them the Bay Trail and Baylands Park.

Along with U.S. Highway 101 (US 101) and SR 237, Moffett Park lies in close proximity to other regional corridors including State Route 82 (El Camino Real), State Route 85 (SR 85), and U.S. Interstate Highway 880 (I-880). Santa Clara Valley Transit Authority (VTA) provides local bus and light rail services, with four stations along VTA's Orange Line located within Moffett Park. Commuter access is also available by connections to Caltrain (3 miles) and Altamont Corridor Express/Amtrak (5 miles), along with connections to municipal airports, such as San Jose International Airport (8 miles) and San Francisco International Airport (28 miles).

Moffett Park has four main gateways to enter into the area at North and South Mathilda Avenue/ Sunnyvale Saratoga Road, at Caribbean Drive/ Lawrence Expressway, at Manila Avenue, and at Fair Oaks Avenue/North and South Wolfe Road. In addition, an elevated bridge spanning SR 237 connecting Persian Drive and Moffett Park Drive at Borregas Avenue also offers pedestrian and bicycle access to Moffett Park.

Simulated aerial view of Moffett Park looking Southeast; Source: Google Landsat / Copernicus Data SIO, NOAA, U.S. Navy, NGA, GEBCO

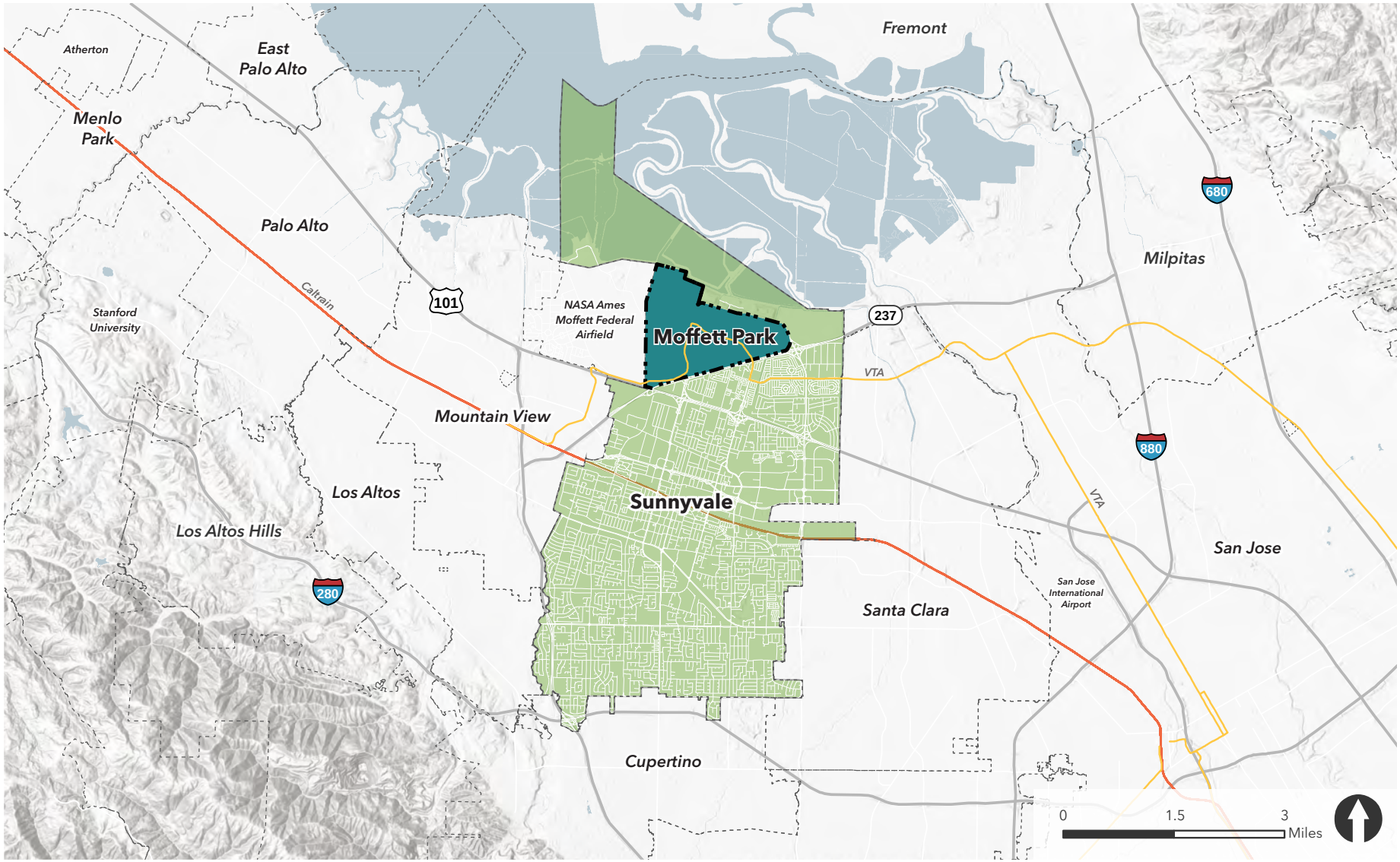


FIGURE 2 **Regional Context**

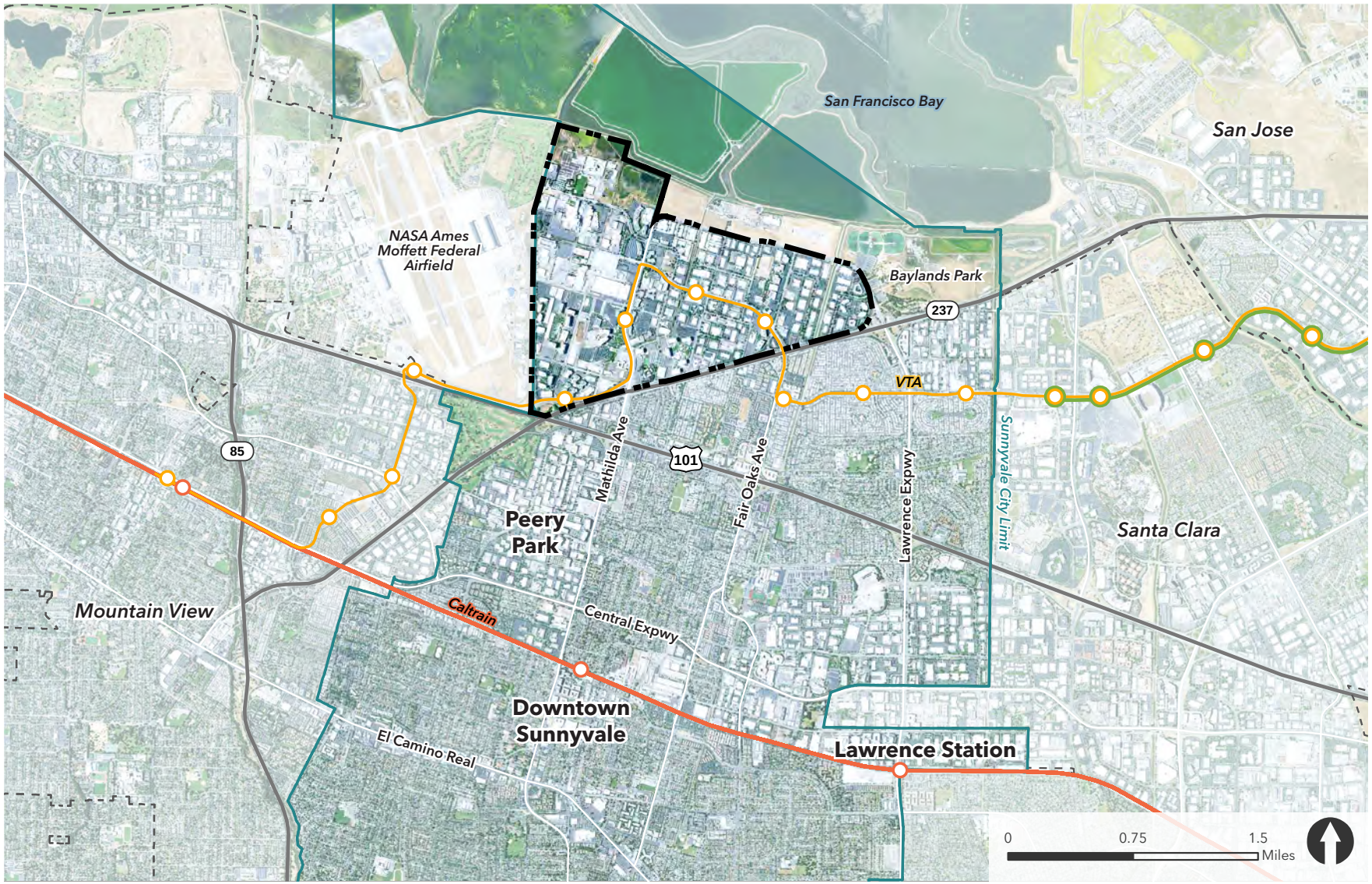


FIGURE 3 **Vicinity Map**

REGULATORY COMPLIANCE AND AUTHORITY

The 2022 Moffett Park Specific Plan has been prepared in compliance with the Sunnyvale General Plan, City ordinances, and regulations (including the Sunnyvale Municipal Code), and the California Environmental Quality Act (CEQA). Regulatory components of this Specific Plan are formalized in Zoning Code (Chapter 19.29. Moffett Park Specific Plan District).

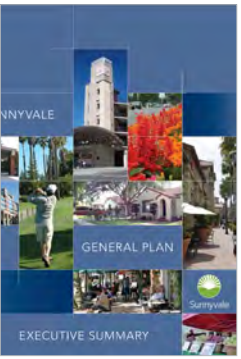
This Specific Plan is further authorized through California Government Code Sections 65450 through 65457, which allows the City of Sunnyvale to prepare a specific plan for the purpose of implementing the city-wide general plan within a defined area. The City of Sunnyvale certified an Environmental Impact Report (EIR) for the Specific Plan and all zoning amendments, in accordance with CEQA.

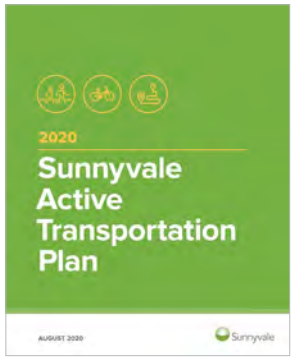
TIME FRAME

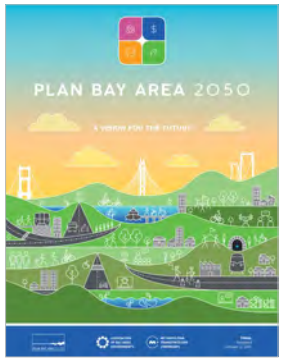
The Moffett Park Specific Plan update is a long-term planning document that serves as a regulatory framework for Moffett Park through 2040. Development and implementation, as described in this document, are expected to occur and be phased in over the planning horizon.

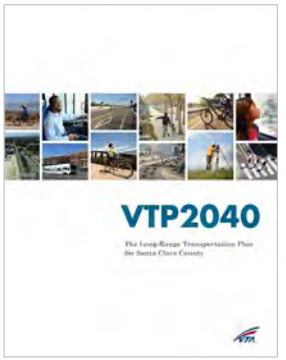
RELATIONSHIP TO OTHER PLANS

The City of Sunnyvale is committed to the realization of the Vision and goals of this Specific Plan and will continue to collaborate locally and regionally to strengthen Moffett Park as an integral part of Sunnyvale and the San Francisco Bay Area's cultural, environmental, and economic landscape. The list below provides various local and regional plans applicable to the Specific Plan.









CITY OF SUNNYVALE:

Sunnyvale General Plan

The Sunnyvale General Plan includes policies for citywide development. Development and City actions within the plan area should be consistent with the policies in the General Plan.

Sunnyvale Housing Strategy and Housing Element

The Sunnyvale Housing Strategy, completed in 2020, provides a series of policy recommendations related to age-friendly housing, supply-side housing issues, demand-side housing issues, and mobile home parks. The strategy recommends up-zoning land in Moffett Park to increase housing supply in the city. Building on the Housing Strategy, the City's General Plan Housing Element adopted in 2023 regulates housing development across the entire city between the period of January 31, 2022, through January 31, 2031 (an eight-year cycle). Crucial to this regulatory document are the policies aligning with the City's Regional Housing Needs Allocation (RHNA), as prepared by the Association of Bay Area Governments (ABAG) and Bay Area communities. Future residential development within the Moffett Park plays a significant role in meeting the City's RHNA obligations.

Sunnyvale Climate Action Playbook

The Sunnyvale Climate Action Playbook sets a vision for the City of Sunnyvale to reduce carbon emissions by 2050. It builds upon our past success and integrates new, bold, breakthrough ideas generated by our community. Above all, it paves the path towards becoming a resilient and sustainable Sunnyvale through collective action. New development in Moffett Park will adhere to citywide requirements, with districtwide programs to support reduction strategies.

Active Transportation Plan
The Active Transportation Plan, adopted in 2020, provides a framework and strategy for supporting the city's bicycle and pedestrian network. Written with the goal of improving infrastructure and coverage for pedestrians and cyclists, the plan proposes infrastructure upgrades within Moffett Park that include new bike facilities and pedestrian improvements. The standards and policies outlined in Chapter 7 of the Moffett Park Specific Plan are written in consistency with the Active Transportation Plan.

Roadway Safety Plan
Completed in 2020, the Roadway Safety Plan complements the Vision Zero Plan and serves as a quantitative reference and comprehensive summary of traffic patterns and transportation data. In addition to identifying specific streets and intersections that are especially susceptible to past and future collision, the Roadway Safety Plan includes a toolset of safety measures and potential funding sources for supporting intersection improvements and other infrastructure upgrades.

Vision Zero Plan
Adopted in 2019, the Vision Zero Plan identifies a goal to reduce vehicular traffic fatalities and serious injuries by 50 percent by 2029. This reduction is to be achieved through a combination of streetscape improvements, intersection enhancements, signage, and interventions oriented along roadways and intersections that are used by the public. Moffett Park is identified throughout the document, especially as the area features a combination of highway networks, light rail transit, vehicular lanes, and bicycle and pedestrian infrastructure. It is expected that as the area redevelops, that intersection corners, driveways, roadways and properties are designed and constructed with measures contemplated in the Vision Zero Plan to work towards attaining the goal of reducing severity and fatalities in the City. As with the Active Transportation Plan, standards and policies outlined in the Specific Plan align with the Vision Zero Plan's recommendations.

Council Policy 1.2.8 Transportation Policy (Vehicle Miles Traveled)
Adopted in 2020, the City's Vehicle Miles Traveled (VMT) and Level of Service (LOS) policies are designed to promote the reduction of greenhouse gas emission by reducing overall vehicular trips, encourage mixed-use development near public transit, and support a multimodal transportation network across the entire city – consistent with the vision and goals established with the Specific Plan. All developments within Moffett Park are subject to these VMT and LOS policies as part of the development review process.

Zero Waste Strategic Plan
In 2009, Council adopted a Zero Waste Policy that broadly defines a vision for greater waste diversion. In 2011, a Zero Waste Strategic plan was developed to identify program and facility options for achieving Zero Waste. Included in the plan are improvements in technologies at the Sunnyvale Material Recovery and Transfer Station (SMaRT Station®) to increase diversion of material from the waste and recycling stream and focusing "upstream" on problematic materials before they become waste. The City's goal is to reach 90% diversion by 2030. All developments in Moffett Park are subject to the Zero Waste Plan.

REGIONAL PLANS:

Moffett Field Comprehensive Land Use Plan

Moffett Federal Airfield is a joint civil-military airport and forms the eastern boundary of Moffett Park. It is an operational facility currently used by NASA/Ames, various federal military groups, and private entities. The Comprehensive Land Use Plan (CLUP), adopted by the Santa Clara County Airport Land Use Commission (ALUC), establishes certain building height and land use restrictions for new development to ensure compatibility between Moffett Field operations and surrounding communities.

Sunnyvale Shoreline Resilience Vision

The Sunnyvale Shoreline Resilience Vision ("Vision") is an ongoing collaborative effort between a group of organizations deeply invested in long term regional resilience and interested in coordinating across their individual planning efforts. This effort is led by Santa Clara Valley Water District (Valley Water) and Google. Stakeholders includes the City of Sunnyvale, Valley Water, Lockheed Martin, the Midpeninsula Regional Open Space District, NASA, the US Fish and Wildlife Services, the South Bay Salt Pond Restoration Project, and Google. The area of interest is the shoreline from Stevens Creek to San Tomas Aquino Creek and associated urban areas south to US 101 and SR 237. The group focused on shoreline adaptation, stormwater management, and urban ecology.

Plan Bay Area 2050

Adopted in 2021, Plan Bay Area 2050 is a regional plan that aims to integrate sustainable land use, housing, and transportation strategies within the nine-counties of the San Francisco Bay Area. Moffett Park was identified as a Priority Development Area (PDA), defined as: places near public transit planned for new homes, jobs, and community amenities. Key benefits available to PDA areas are CEQA streamlining and access to a variety of federal, State, and regional funding sources.

Valley Transportation Plan 2040

VTA, the regional transportation authority, has an adopted Long-Range Transportation Plan (VTP 2040) that describes all major projects and initiatives expected to occur in the next 20 years. It prioritizes complete streets, express lanes, light rail effectiveness upgrades, bus rapid transit, and bicycle/pedestrian improvements.

Santa Clara County Operation Area Hazard Mitigation Plan

Published by the Office of Emergency Services (OES) in 2017, the Santa Clara County Operation Area Hazard Mitigation Plan details risks, policies, and programs designed to address a broad range of challenges that could result from natural disasters. The City of Sunnyvale's Department of Public Safety was an active collaborator throughout the development of the report.

County of Santa Clara Climate Roadmap 2030

The County of Santa Clara Office of Sustainability is actively leading the development of a roadmap with the goal of reducing greenhouse gas emissions in unincorporated areas of the County. The roadmap is intended to complement local municipal climate action plans and will provide a number of digital resources and implementation strategies to support local initiatives. The roadmap is expected to be completed in 2022.

2.2 A Brief History of Moffett Park

Section compiled from the City of Sunnyvale Community Development Department's Historical Context Statement and the History of Sunnyvale on the City's website.

1770s

The land now known as Moffett Park was inhabited by the Tamien Ohlone people. The Ohlone maintained villages along the San Francisco Bay shore, in close proximity to fresh water sources. When the Spanish first arrived at the Santa Clara Valley in the 1770s, the area was heavily populated by the Ohlone Native Americans. In 1777, Mission Santa Clara's Ohlone Christian converts helped build the permanent Mission building.

1840s

In 1842, Rancho Pastoria de las Borregas Francisco Estrada and his wife Inez Castro were given a land grant; portions of the land in this grant were later developed into the cities of Mountain View and Sunnyvale. Two years later, in 1844, another land grant was given to Lupe Yñigo, one of the few Native Americans to hold land grants. His land grant was first called Rancho Posolmi, named in honor of Posolmi village of the Ohlone that once stood in the area. Rancho Posolmi was later known as Rancho Ynigo.

1860+

In 1860, the San Francisco and San Jose railroad laid tracks on Bay View and established Murphy Station (2 miles to the south of Moffett Park), which was named in honor of the Murphy family, who was one of prominent early landowners in Sunnyvale. Lawrence Station was later established on the southern edge of Bay View (4 miles from Moffett Park). In 1912, the residents of Sunnyvale voted to incorporate, and Sunnyvale became an official city.

1930+

In the early 20th century, a series of levees and channels were constructed to keep the area dry and facilitate the movement of stormwater directly into the San Francisco Bay. The conversion from historic wet meadows into a relatively flat area made development feasible, with agriculture becoming the primary economic activity in Moffett Park until the 1930s. However, after World War I, fierce regional efforts went into winning a Santa Clara County site for the nation's new dirigible airship base. As a result, the National Air Station Sunnyvale (later renamed Moffett Field Naval Air Station) was commissioned in 1933. Development of the air station facilitated the widening of Murphy Avenue in downtown Sunnyvale and prompted more growth along this commercial artery in anticipation of a business boom.

For decades Moffett Park was a sparsely populated, nearly remote part of the city. The Moffett Industrial Park was developed in the 1960s and 1970s when a gradual acceleration of several large manufacturing sites and corporate campuses were introduced. A steady rate of development would unfold, concurrent with the growth of the population of Sunnyvale, and several other neighboring municipalities, including Mountain View and San Jose.

1960+

By the 1990s, Moffett Park had transitioned into an economic engine, with much of the contemporary street network and block pattern firmly established. In addition to the early tenants, such as Lockheed Martin Corporation who grew as an extension to the military and aerospace activities of Moffett Federal Airfield, the area had become home to a collection of technology companies. NetApp, Yahoo, Juniper Networks, and Atari opened campuses in Moffett Park, establishing Moffett Park as a major hub for office, research and development, and industrial spaces.

1990s

As part of the preparation of the first Specific Plan for Moffett Park (2004) and all subsequent amendments, the City leveraged the favorable location to continue growing the technology sector and a burgeoning demand for Class A office, as emerging companies and businesses leaned more heavily on research facilities and the potential for large, independent campuses. Moffett Park's large-scale office park capacities with availability of larger size parcels, coupled with robust access to transportation and transit infrastructure, met the market demands of the time.

2000s

The heritage of Moffett Park's development history has enabled the area to become one of Sunnyvale's most robust and diverse economic hubs. In 2022, the smaller businesses still constitute most employers in Moffett Park, while 14 firms, including Juniper Networks, NetApp, Lockheed Martin, Google, and Amazon, employ over 85% of the employees in the area.

2020s

FIGURE 4 Historic Maps and Aerials Looking Northwest

2.3 Contemporary Trends and Challenges

Over the past decade, shifts in market demand, population demographics, and environmental patterns have signaled a change in both the economic and cultural landscape of Sunnyvale and the Bay Area as a whole. Where once Moffett Park and Silicon Valley focused almost entirely on quality office spaces, research and development (R&D) facilities, and flexible manufacturing and incubator spaces, contemporary trends have revealed a demand for a more diverse concentration of uses.

Changes in market demand for commercial spaces has unfolded consistently at both the regional scale, and locally in Moffett Park and Sunnyvale. Downward trends in the traditional industrial sector and a reduction in available industrial land can be observed across the Bay Area, owing to a multitude of factors including shifts in production processes, aging infrastructure, and districts that are now being repurposed, remediated, and rehabilitated for other uses entirely. In Moffett Park, the number of businesses in the manufacturing sector has experienced steep declines since 2011 when compared to other business types. Concurrently, the demand for Class A office and R&D space has increased. While it is anticipated that Moffett Park has a strong market for a substantial amount of additional office space in the future, the Moffett Park of the future is envisioned to have a greater emphasis on office spaces that provide additional services and recreational opportunities, located within a vibrant mixed-use environment that also includes housing.

"The Pearl District, Portland" by Buzzlovestravel, licensed under CC BY-SA 4.0

Housing demand and population demographics have also shifted, as the extraordinary demand for housing has been exacerbated by rising costs in new home construction, higher land prices, steep escalations in housing cost in the rental and buyers' market alike, and population growth. Simultaneously, new housing developments are becoming harder to build with rising development costs and a shortage of available land suitable for residential development. Cities like Sunnyvale must meet State-mandated Regional Housing Needs Allocations (RHNA) to directly address issues of housing production and affordability, spurring local jurisdictions to

consider a broad range of possible solutions and identify areas appropriate for future housing development. New developments emerging throughout the Bay Area in recent years have leaned towards a pattern of mixed-use development, siting higher-density housing within a larger commercial context that features ground-level retail, integrated office and residential buildings, and smaller service-oriented commercial or entertainment spaces.

Beyond the economic and housing challenges, the localized impacts of climate change, including sea level rise, extreme heat, and poor air quality associated with regional wildfire are already affecting the health, safety, and biodiversity of the Bay Area. The aging berms and channels from the early 20th century have contributed to a contemporary landscape that is particularly vulnerable to future flooding events, based on Moffett Park's close proximity to the San Francisco Bay, existing detention ponds, and two open channels which bisect the plan area. Potential threats of rising tides and stormwater runoff are further exacerbated by the conditions of existing infrastructure and a building pattern characterized by large areas of impervious surfaces. The impacts of climate change in Moffett Park are projected to worsen, even with only moderate increases in greenhouse gas emissions.

Historic Murphy Avenue in Sunnyvale


Water channel in Moffett Park

Likewise, the COVID-19 pandemic that began in 2020 has also reverberated in all aspects of daily life. Uncertainty still exists about the full scope of the pandemic's economic, housing, and public health impacts. However, many existing issues have been magnified:

- The COVID-19 pandemic resulted in a decline in economic activity with variation across sectors and demographic groups. For example, employment in service sectors fell significantly along with businesses in leisure and hospitality, recovering more slowly than other sectors.
- As economic activity declined or shifted, unemployment rates rose and more residents were in the economically precarious situation of being rent-burdened. Unemployment rates have now stabilized and are at or near pre-COVID-19 pandemic levels.
- Cities, like Sunnyvale, piloted streets with low traffic volumes and speeds to provide for more outdoor space for residents while practicing social distancing. For Sunnyvale, the Murphy Avenue pilot program in downtown closed the street to support local businesses, providing outdoor space for outdoor seating areas.

While these changes have been significant, in 2023 it is not possible to fully predict COVID-19's impact over the next 20 years. Projections and trends described in this Specific Plan may differ from future conditions if there are long-lasting fundamental shifts in the economy and/or our behaviors.

2.4 Specific Plan Development

This Moffett Park Specific Plan update represents an occasion to address some of the pressing contemporary challenges confronting the area today, as well as reinforce the aspirations of the community into a renewed vision that positions Moffett Park to become an ecological innovation district. An update to the Moffett Park Specific Plan was initiated in 2017, with City Council voting to approve preliminary outreach and analysis in February 2018. City staff then underwent a series of public outreach efforts and studies to determine feasibility and necessity for an updated Specific Plan, later presenting the findings to the Planning Commission in March 2019. In subsequent City Council hearings, key guiding principles for the updated Specific Plan were prepared and included: addressing questions surrounding the introduction of housing in Moffett Park, the potential to redefine Moffett Park as an ecological innovation district, and the need to prepare and plan for infrastructure to address matters of traffic, sea level rise, and utilities. On April 19, 2019, City Council approved the project framework for the Specific Plan update.

PLANNING PROCESS

The Specific Plan process was made up of five stages that began in 2019. The process was incremental, with each phase informing the work done within the following stage.

- **Existing conditions and discovery.** In this initial phase of the planning process, the Specific Plan update team assessed the current conditions and policies of Sunnyvale to gain a greater understanding of the plan area's key issues, community assets, and future opportunities and trends.
- **Listening and vision development.** Community input through workshops, stakeholder interviews, and meetings with property owners and businesses led the development of a long-term Vision and Guiding Principles for the Specific Plan. All the policies and development standards within the Specific Plan are guided by these elements.
- **Alternatives.** During this stage, different land use and mobility alternatives were prepared for the community to assess the trade-offs between different future growth patterns in Moffett Park, and to identify which scenario best met the community's Vision. Through a series of public workshops with City Council, the planning team finalized a preferred land use for study in Spring 2021. This process also informed the development of the final Land Use Districts in the Specific Plan.
- **Policy development.** Goals, policies, and development standards for all chapters of the Specific Plan were developed by the planning team and City staff. These policies were refined through City Council and community discussions during multiple study sessions and shaped the development of the final Specific Plan.
- **Plan preparation and review.** The last stage of the planning process included the publishing of the Public Review Draft of the Specific Plan for City Council, Planning Commission, and community review. Additionally, an Environmental Impact Report (EIR) was prepared and published to evaluate the potential impact of the Specific Plan. This phase also includes preparing and publishing updates to the City's Zoning Code.

COMMUNITY AND STAKEHOLDER ENGAGEMENT

Throughout the Specific Plan update process, the planning team conducted a variety of engagement activities that included public workshops, neighborhood meetings, online surveys and videos, and commission and committee meetings. Emphasizing the need to engage with a wide range of community members, stakeholders, organizations, and businesses, the engagement efforts served to facilitate conversation, share information and ideas, and most importantly to think holistically and collectively about the long-term transformation of Moffett Park. Recognizing that these conversations would involve a number of topics and require input from a host of experts, leaders, elected officials, volunteers, and people from diverse backgrounds and abilities, the engagement efforts of this Specific Plan update was accomplished through use of several different platforms, in-person and virtual events, individual meetings, and numerous opportunities to participate at various points in the planning process.

With the COVID-19 pandemic unfolding in March 2020, the community and stakeholder engagement efforts of the planning process were initially halted, as public gatherings, workspaces, and businesses adhered to public health orders and social distancing measures. A re-evaluation of the City's approach to engagement for both the Moffett Park effort and civic events occurred with a deliberate shift towards digital and virtual engagement. What remained unchanged during this transition to digital engagement was the City's commitment to providing a platform for sharing knowledge, gathering feedback, engaging in conversation, and realizing the goals and vision of the Specific Plan.

THE FOLLOWING IS A SUMMARY OF THE OUTREACH ACTIVITIES.

Project Website

Community engagement began formally in Fall 2019, with the launch of a project website. An engagement plan was published in November 2019. It outlined distinct phases for the project and detailed a number of public engagement efforts, including but not limited to community workshops, property owner meetings, pop-ups, and hearings with the Sunnyvale Planning Commission and City Council. The different types of community engagement efforts would provide the community and broader public with a host of options to remain updated on the progress of the plan, and actively participate in the conversations.

Homepage of project website

Used throughout the engagement process, the project website connected community members to project updates and deliverables, upcoming events, and meeting summaries. The site included an interactive component to encourage the community to share their ideas and feedback.

The project website gathered over 25,000 page views and 8,000 unique visitors.

Understanding the Future Video Series
"Understanding the Future" was a video series that offered unique insight into Moffett Park and how the City worked collaboratively to respond to challenges to forge a path for the future. The series covered a range of topics including mobility, open space, and market conditions. Six educational videos were developed and shared through the project website, receiving nearly 800 views.

Thumbnail of "Understanding the Future of Moffett Park" video series

Community Surveys
Community surveys were conducted in most phases of the planning process, either as live polling questions in workshops or through the project website.

The Community Visioning Survey (available on the website from 2020) gathered community members' feedback on community priorities and big ideas for Moffett Park. With the Understanding the Future Video Series, micro-surveys (available on the website in 2020 and 2021) unique to each topic were launched to gather input to the topic. Questions focused on priorities, concerns, and big ideas.

The Community Priorities Survey (available on the website in 2021) was oriented around five key themes: guiding principles, housing, amenities, open space, and urban design. Responses helped shape the Guiding Principles and Specific Plan policy.

The online surveys received over 1,000 unique responses.

Community Workshops
Discussions and collaboration between the project team and the community began in February 2020, with the first public workshop being held in person at a local office in Moffett Park. Community members and members of Sunnyvale's various boards and commissions, and Councilmembers were among the participants. The meeting provided opportunities for participants to share their perspective on key priorities, land use, mobility and transportation, and open space. Later in fall 2020 and early 2021, the Moffett Park Specific Plan project initiated a series of three interactive, virtual workshops. These meetings provided an educational platform and opportunity to actively discuss topics and details regarding challenges facing Moffett Park and implementation strategies.

The four community workshops were attended by nearly 400 participants, with nearly 1,000 views of the workshop recordings.

- **Workshop #1: Project Kick-Off** (February 12, 2020)
- **Workshop #2: Sea Level Rise and Climate Change** (November 30, 2020)
- **Workshop #3: Transportation and Infrastructure** (February 1, 2021)
- **Workshop #4: Land Use, Housing, Open Space, and Market Conditions** (March 2, 2021)


Public participating in visoning activity

Virtual Office Hours
To complete community workshops, virtual office hours were scheduled after each workshop. These sessions allowed the public to engage one-on-one with City staff and the consultant team to discuss Moffett Park and any of the material that was presented previously. Nine virtual office hour sessions were hosted.

Technical Working Group
The City formed a Technical Working Group to provide high-level feedback on the project issues. The Technical Working Group facilitated a collaborative and transparent process with representatives from City departments, local and regional organizations, such as Santa Clara Valley Water District (Valley Water) and Santa Clara Valley Transit Agency (VTA), educators, and staff from nearby municipalities including Mountain View, Santa Clara, and San Jose.

Stakeholder and Community Meetings
Meetings were held with representatives of a range of community and neighborhood groups, business leaders, property owners, advocacy organizations and community leaders early in the engagement process to help identify key assets and opportunities and during specific phases of the project. There were ten community meetings hosted by the City and over forty meetings held with local stakeholders.

City Council and Planning Commission Updates
City Council and Planning Commission received periodic updates on the Specific Plan Update. Additionally, eight virtual community workshops were held as study sessions with the City Council.

Public attending Project Kickoff Community Workshop

2.5 Specific Plan Organization

The Moffett Park Specific Plan is divided into chapters, each one documenting a different aspect of development, policy, design, and analysis for Moffett Park.

CHAPTER I: VISION AND GUIDING PRINCIPLES

This chapter establishes the Vision for the Moffett Park Specific Plan, and Guiding Principles that provide a foundation and regulatory framework for all future development proposals, design concepts, and capital improvements within Moffett Park.

CHAPTER II: PLANNING FOUNDATION

This chapter includes a brief overview of Moffett Park, existing conditions, and a summary of the planning process and development of this Specific Plan.

CHAPTER III: MAJOR PLAN STRATEGIES

This chapter highlights the Specific Plan's major plan strategies including design and policy approaches to shape the future of Moffett Park. These strategies are detailed subsequently in Chapters IV through X.

CHAPTER IV: LAND USE

The Land Use Chapter describes Moffett Park's neighborhoods and details the Land Use Districts across the entire plan area. It also provides a regulatory structure for density/intensity, community benefits, and transfer of development rights programs.

CHAPTER V: DEVELOPMENT STANDARDS

This chapter includes standards to regulate site and building design and development. It establishes block standards, site design and lot standards, height, massing, building frontage design, building placement, and other aspects of architecture. The Development Standards chapter also includes cross-cutting standards, such as bird safe design and landscape design. Standards are requirements that must be adhered to for all development.

CHAPTER VI: OPEN SPACE AND URBAN ECOLOGY

The Open Space and Urban Ecology Chapter defines the goals, polices, standards and guidelines for the improvement and development of a high-quality public realm that will meet the needs of residents, workers, and visitors. It integrates the development of park and open space typologies with standards to protect and enhance key ecological resources. Standards are tailored to the unique conditions in Moffett Park and indicates the general location, scale, and type of open space to be developed. This chapter also includes an Ecological Combining District, channel setback requirements, and urban forestry standards.

CHAPTER VII: MOBILITY

The Mobility Chapter establishes the multimodal strategies and districtwide policy to redesign the plan area around people rather than vehicles. The chapter defines a complete streets typology and network, and contains standards for designing bicycle, pedestrian, and transit infrastructure.

CHAPTER VIII: TRANSPORTATION DEMAND MANAGEMENT AND PARKING

The Transportation Demand Management and Parking Chapter aims to reduce single-occupancy vehicle travel, minimize peak period vehicle trips, and shift trips to transit, biking, walking, scooting, or rideshare. It establishes vehicular and bicycle parking requirements and standards, including on- and off-street parking and loading requirements.

CHAPTER IX: INFRASTRUCTURE AND UTILITIES

The Infrastructure and Utilities Chapter guides future investment in sea level rise, water, sanitary sewer, stormwater, and district-scale infrastructure projects.

CHAPTER X: IMPLEMENTATION

The Implementation Chapter includes a list of implementation actions to realize the Specific Plan vision.

APPENDICES

Included in this document's appendices are several supportive reports and resources including:

- **Appendix A.** Glossary of terms
- **Appendix B.** Plant and landscape palettes

The full Moffett Park Specific Plan Environmental Impact Report is available as a separate document and is not included in the appendices.

Chapter 3
Major Plan Strategies

Art Boxes by Michelle Taniguchi in Sunnyvale on Washington Ave. @ Taaffe Ave.

Nine major plan strategies provide the framework for Moffett Park's transition to an ecological innovation district.

As an ecological innovation district, Moffett Park combines the tenets of ecological development with innovation districts. Moffett Park can be a precedent for successful planning by leveraging emerging development opportunities to steward habitat and complement existing businesses with the creation of mixed-use neighborhoods that include neighborhood-serving retail, housing, open spaces, and emerging mobility services. Moffett Park today features many of the inherent characteristics of an ecological innovation district:

- A history of business innovation, high technology, and manufacturing, complemented by a contemporary business community featuring leading companies in information services and professional, scientific, and technical services, including Lockheed Martin, Google, and Juniper Networks;
- A strong tradition of small businesses, where today these businesses represent the majority of all employers in Moffett Park;
- A multimodal transportation network that features local public transit, connections to interstate highway systems, and close proximity regional airports; and
- A direct link to local and regional open spaces and natural areas that support a diversity of habitat types and species.

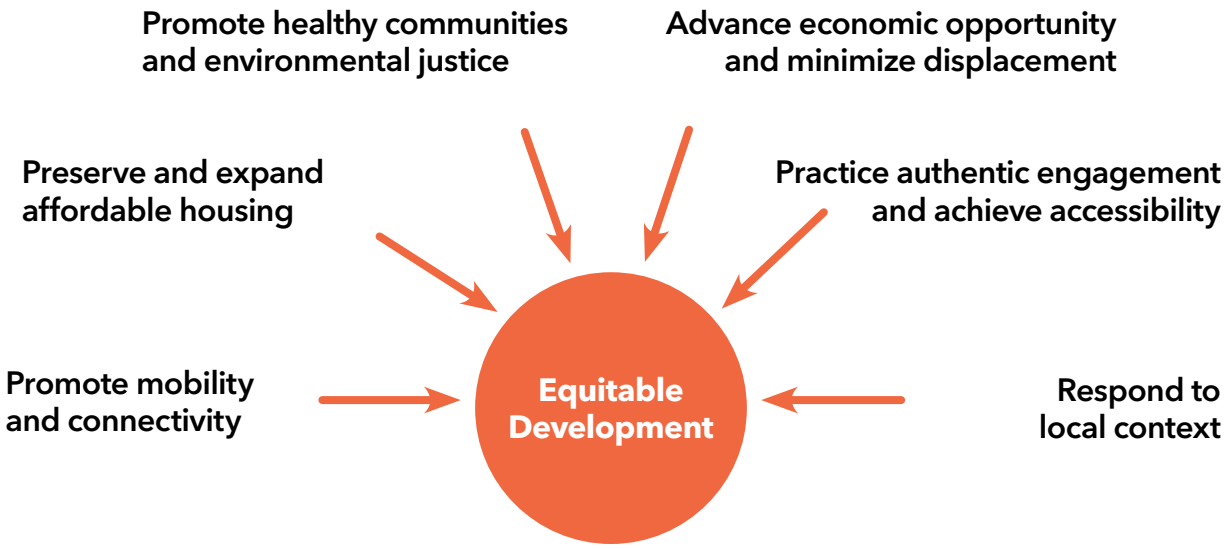
FIGURE 5 Illustrative Moffett Park Diagram

Building off these characteristics, Moffett Park can become an ecological innovation district through the implementation of the following major strategies. Above is a detailed framework plan on how open space, urban ecology, mobility, and land use come together in the Specific Plan.

3.1 Advancing Equitable Development

How communities plan and prioritize growth for the future can influence equity outcomes. Equitable development ensures quality of life outcomes are experienced and shaped equitably by the people currently living and working in a neighborhood, as well as for new people moving in. These outcomes include affordable housing, quality education, living wage employment, healthy environments, and accessible transportation. Most importantly, equitable development strives to ensure fairness, accountability, and access to the same opportunities. Equitable development also equips residents, employees, and visitors with what they need to thrive and succeed. The Specific Plan works to advance equitable outcomes as shown in Figure 6.

FIGURE 6 Equitable Development Framework



These factors inform many of the standards and practices at the core of this Specific Plan. Examples to advance equity in Moffett Park include:

Via Apartments in Sunnyvale

Encourage affordable housing

New residential neighborhoods in Moffett Park provide a range of options accessible to varying income levels and household types. The placement and proximity of housing relative to employment opportunities, open space, and multimodal transportation infrastructure is also crucial, as it supports health and access to opportunity.

Example strategies include:

- Implementing the City's Inclusionary Below Market Rate (BMR) Housing Program within Moffett Park, with incentives to exceed the City's Inclusionary BMR Housing Program
- Establishing parking management practices, including shared parking, unbundled parking, and parking maximums to lower the cost of future housing

Health foods store

Promote healthy communities and environmental justice

Healthy communities are places that foster positive health outcomes for all who live, work, and play in them. Good nutrition, physical activity, and access to healthcare all influence health. However health is also influenced by many other factors, including safe and sanitary housing and low exposure to pollution. A neighborhood's physical, social, and economic environments combine to make residents healthier and more resilient to long-term changes and short-term shocks.

Example Specific Plan strategies include:

- Creating a convenient and accessible open space network for all residents, employees, and visitors, including links with neighborhoods south of Moffett Park
- Prioritizing healthy food access through requiring commercial spaces large enough for grocery stores
- Establishing allowances and incentives for public facilities, such as childcare and schools
- Supporting the clean-up of environmental hazard sites and locating new housing away from regional highways
- Encouraging a greater level of green building and ecological-friendly development
- Creating standards that build resilience into the infrastructure of Moffett Park and protect against future hazards

3.2 Building Climate Resilience

It is unequivocal that human emissions of carbon dioxide and other greenhouse gas emissions have warmed the atmosphere, ocean, and land. Recent changes across the climate system are unprecedented. Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes include heatwaves, heavy precipitation, droughts, and sea level rise.[1]

California and Moffett Park are already experiencing the effects of a changing climate. Both gradual change (e.g., sea level rise) and hazard events (e.g., extreme heat days) expose people, infrastructure, buildings and properties, and ecosystems to a wide range of stress-inducing and hazardous situations. These hazards and their impacts disproportionately affect the most sensitive natural resources and populations in the city, including children and elderly adults, households with low-incomes, renters, immigrants, and historically marginalized groups, among others.

HEAT

Moffett Park's landscape is highly vulnerable to the formation of urban heat islands. Extensive impervious areas, lack of vegetative cover, and low albedo surfaces exacerbate heat stress during summer and extreme heat events. This is of particular concern given predicted future warming trends. Average summer temperatures are expected to increase in Santa Clara County by ~4°F by 2050 and up to more than 6°F by 2100.[2]

The Specific Plan establishes performance targets for the open space and urban tree canopy to mitigate and adapt to climate change through carbon sequestration, urban heat island reduction, air pollution filtration, and stormwater retention. These targets are implemented through the open space and urban ecology framework, street design standards, and landscaping and site design standards for new development.

Street trees on Murphy Avenue in Sunnyvale

1. Intergovernmental Panel on Climate Change 2021. Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press. In Press.
2. Maizlish N, English D, Chan J, Dervin K, English P. Climate Change and Health Profile Report: Santa Clara County. Sacramento, CA: Office of Health Equity, California Department of Public Health; 2017.

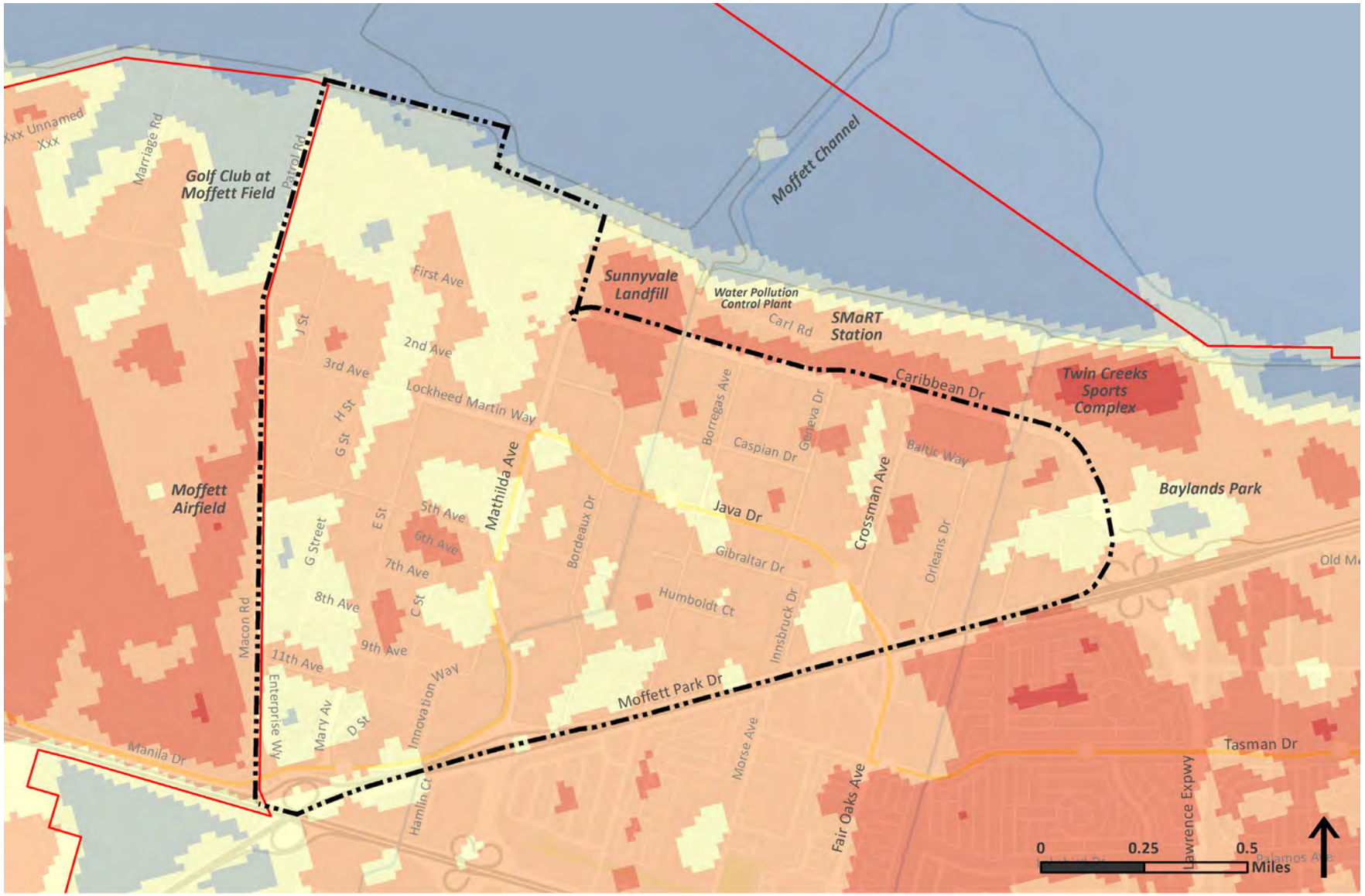


FIGURE 7 Urban Heat Island Effect Map (Existing)

Data Source: City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021).

LAND SURFACE TEMPERATURE

74–80	89–91
80–84	91–93
84–87	93–101
87–89	

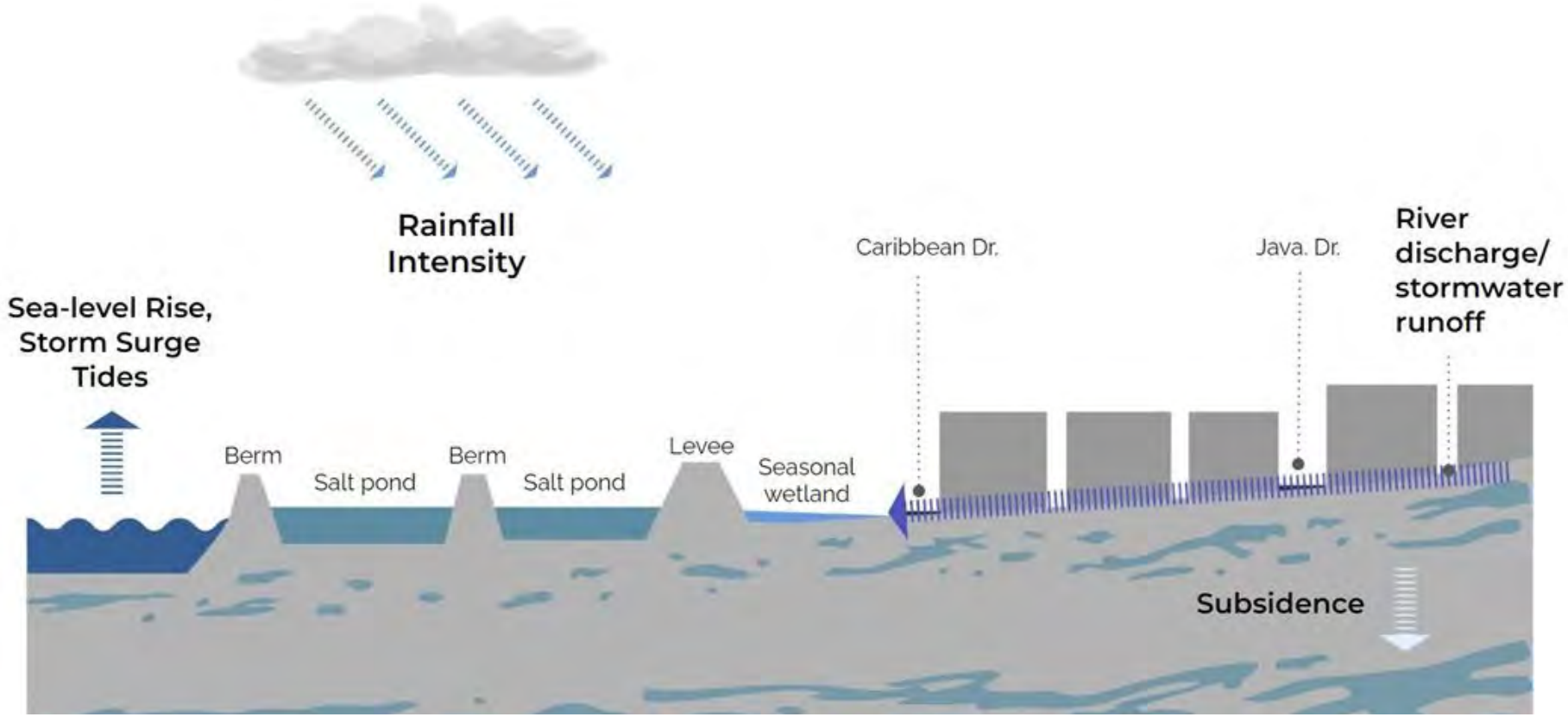
* Remotely-sensed surface temperatures captured by Landsat 8 during the heatwave of Septemeber 2, 2017 at 10:40 am

- Specific Plan Boundary
- City of Sunnyvale Limit
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway

FLOODING

Moffett Park faces flood risk from coastal, fluvial, and stormwater sources. Climate change is likely to exacerbate flood risk, due to rising sea levels, rising groundwater levels associated with rising sea levels, and increased intensity of precipitation events.[3] To address flooding in Moffett Park, the City will continue to engage in additional efforts with multiple, integrated strategies to increase resilience, including realignment, protection, and accommodation. A successful flood adaptation strategy requires a holistic approach that carefully balances all three categories.

FIGURE 8 Sources of Surface Flooding



Source: San Francisco Estuary Institute (2020)

3. More information about flood risk and future projections is available in the Sunnyvale Sea Level Rise Adaptation Strategy Appendix XX.

Implementation actions to address flooding could include the following:

Realignment

Realignment measures move the line of coastal protection inland to reduce the area that needs to be protected from coastal flooding. The City of Sunnyvale will continue to engage with a collaborative subregional effort to develop a shoreline adaptation strategy through the Sunnyvale Shoreline Resilience Vision process. The Sunnyvale shoreline is vulnerable to rising sea levels because it is only protected by berms surrounding former salt evaporation ponds, which were not designed to function as long-term flood management levees, particularly with the additional coastal flood hazard due to sea level rise. Changing the line of protection by building a future levee on the land side of the ponds would allow for these outer berms to be breached and tidal marsh to be restored in the former salt ponds. Restored marshes would further provide valuable habitat, recreation, and flood protection benefits.

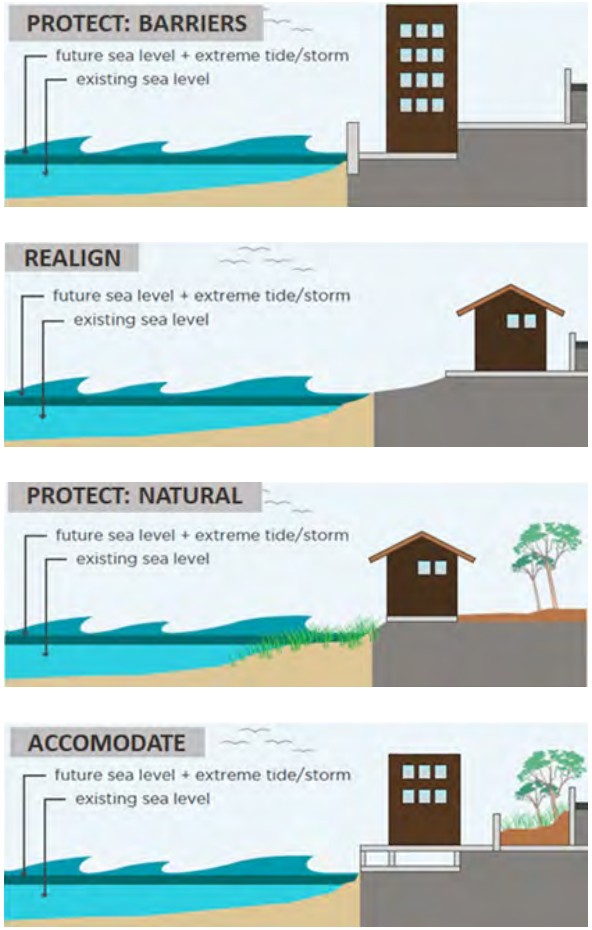
Protection

Protection measures involve the construction of physical structures to keep floodwaters away from development. An upgraded system of levees and floodwalls is needed to protect Moffett Park from coastal and fluvial flooding. One area of focus for the Sunnyvale Shoreline Resilience Vision group has been Phase III of the South San Francisco Bay Shoreline Feasibility Study, a process led by the United States Army Corps of Engineers (USACE), in partnership with Valley Water and the State Coastal Conservancy. This study is the first step toward federal funding for a coastal levee upgrade, which would also include recreational and habitat benefits. Other key protection projects include Valley Water's Sunnyvale East and West Channel Flood Protection Project, which protect against fluvial flooding from precipitation runoff, and a floodwall surrounding the main area of City's Water Pollution Control Plant.

Accommodation

Accommodation measures allow continued use of land in flood-prone areas by improving resilience of development to flooding. Even after realignment and protection measures are put in place, Moffett Park needs to manage flood risk due to rising groundwater levels, extreme precipitation events, and the possibility of failure or overtopping of flood risk management levees and floodwalls. Therefore, accommodation strategies are needed to reduce damages in the event of these types of flooding. These strategies include measures like designing infrastructure for higher groundwater levels than historic maximums, raising finished floor elevation requirements, and expanding riparian zones and buffers around channels and detention ponds to increase their capacities. Some of these implementation strategies are included in the Ecological Combining District, as discussed in the next section.

FIGURE 9 Adaptation Approaches



Source: Environmental Science Associates

3.3 Fostering Urban Ecology

Urban ecology is fundamental to the transformation of Moffett Park into an ecological innovation district. Cities harbor a significant share of the world's biodiversity, and cities can be made more livable and resilient for people, plants, and animals through nature-friendly urban design. Bringing nature into cities can mitigate effects of urbanization and development, such as urban heat islands and stormwater runoff, while supporting biodiverse native ecosystems and local community health. Integrating ecology into urban design in Moffett Park – through ecological infrastructure such as stormwater detention wetlands, healthy urban forests, and well-connected parks – is a multi-benefit approach that moves the area towards a more resilient and sustainable future. New developments support a healthy and biodiverse environment through landscape and planting design, reduction in impervious coverage, and bird-safe design.

The open space and urban ecology plan for Moffett Park creates an interconnected system of habitat areas to support biodiversity that are supported by surrounding green features integrated into the urban fabric. This system includes establishing an Ecological Combining District in the northwest corner of the plan area to expand and enhance the ecological value of existing emergent wetlands and potential new wetlands. Biodiversity Hubs and Habitat Patches are distributed across Moffett Park and are connected by corridors along the channels and streets. In addition, continuous canopy cover along streets facilitates wildlife movement across Moffett Park while providing vital shade over multi-modal routes, slowing stormwater runoff, enhancing the character of Moffett Park, and adding to the overall resilience of the plan area. Building off the existing features in Moffett Park, Figure 10 illustrates the vision for an interconnected urban ecology network, one that aligns with the open space vision.

Tanner Springs Park by Cord Rodefeld, licensed under CC BY 2.0

FIGURE 10 **Urban Ecology and Open Space Network**

3.4 Connecting Open Space and Urban Ecology

Parks and public open space are integral to the creation of an ecological innovation district to meet the needs of residents, workers, and visitors. The network of parks and open spaces connect to each other and the regional open space network including the Bay Trail, Baylands Park, and adjacent neighborhoods. Moffett Park's open spaces and streets create a unique district comprised of varied places- an inclusive, urban, and active district that welcomes and facilitates a variety of uses and activities for residents of all ages and abilities. The location and distribution of open spaces also establish destinations and landmarks within the plan area. Integrating ecology into urban design in Moffett Park – through ecological infrastructure such as protected wetlands, healthy urban forests, and well-connected parks – is a multi-benefit approach that moves the area towards a more resilient and sustainable future.

The plan includes a network of publicly accessible parks, open spaces, biodiversity hubs, and habitat patches that will serve the residents and employees of Moffett Park. Achieving this target requires a coordinated effort between the City, property owners, and developers, including land dedication or easement dedication by non-residential and residential developments, transfer of development rights, ecological setback standards, the purchase of land using park dedication fee, and maintenance of parks and open spaces by property owners.

The proposed park and open space network for Moffett Park is composed of existing green spaces and new parks and open spaces. Open spaces are located to provide a universally accessible route from all residential buildings to a neighborhood-serving park with a ½ mile walk. Open space sites and facilities build on existing assets in the plan area, phasing in over time.

The framework is based on the following strategies.

Ecological Combining District

The Ecological Combining District preserves and enhances the existing green space and biological resources located at the northwest corner of Moffett Park and provides limited public access and passive recreation.

"London Wetlands" by Jon Aker licensed under CC BY 2.0

Channel Open Spaces

Channel open spaces build on the potential of the East and West Channels to create strong north-south active transportation connections and ecological corridors, by expanding the open space on each side of the channels and creating a biodiverse greenbelt.

Open space in downtown Vancouver, BC

Caspian Community Park

Caspian Community Park creates a strong east–west connection by integrating the Caspian Drive right-of-way into a linear park.

High-Line in New York, NY; Source: Iwan Baan

East and West Channel Parks

East and West Channel Parks create destination parks and Biodiversity Hubs at the intersection of the Caspian Community Park and the East and West Channels.

Children playing along creek

Activity Centers

Activity centers create a series of plazas, squares, and paseos within the activity centers to create synergy with retail, food, entertainment, and cultural destinations.

Neighborhood and Mini Parks

Neighborhood and mini parks located within each residential area along key active transportation connections.

The Diagonal

The Diagonal creates a unique urban experience that links a diversity of open spaces and provides a diagonal connection from Mathilda Avenue to the East Channel and Baylands Park.

3.5 Facilitating Diverse Housing and Economic Development

Moffett Park's transformation from a single-use office/industrial park into a mixed-use district continues to support a diverse economic engine for the City of Sunnyvale and region. New office space, "innovation and creation space," and housing enable Moffett Park to remain competitive in the Bay Area, creating a complete vibrant community and establishing an everyday population to activate these businesses. 20,000 housing units mix throughout Moffett Park into distinct neighborhoods and mixed-use activity centers, supporting neighborhood serving commercial, hospitality space, school and community buildings, and employment spaces. Housing also creates opportunities for people to live closer to work, help reduce traffic congestion by internalizing trips, and increase housing production to enable the City of Sunnyvale to meet its RHNA obligation. Example Specific Plan strategies include:

Diverse housing
To meet the Vision of an ecological innovation district, a minimum of 15% of units are affordable to a diverse workforce at all income levels. If the target of building 20,000 housing units is met, Moffett Park will include a minimum of 3,000 affordable homes.

Neighborhood-serving uses
Providing places to dine, shop, socialize, and fulfill daily needs is key to Moffett Park's livability and vibrancy. Moffett Park's neighborhood-serving uses help fulfill daily needs within a short walk or bike ride from new homes and businesses. While allowed throughout Moffett Park, neighborhood-serving uses are required in the activity centers and other targeted locations to support active street life.

Innovation and creation spaces
The changing economy has led to a decline in small businesses, light industrial, R&D, and other flex employment uses. The plan requires a minimum amount of "innovation" and "creation" spaces in order to build net new office floor area. These requirements will help maintain a diverse range of workplaces in Moffett Park.

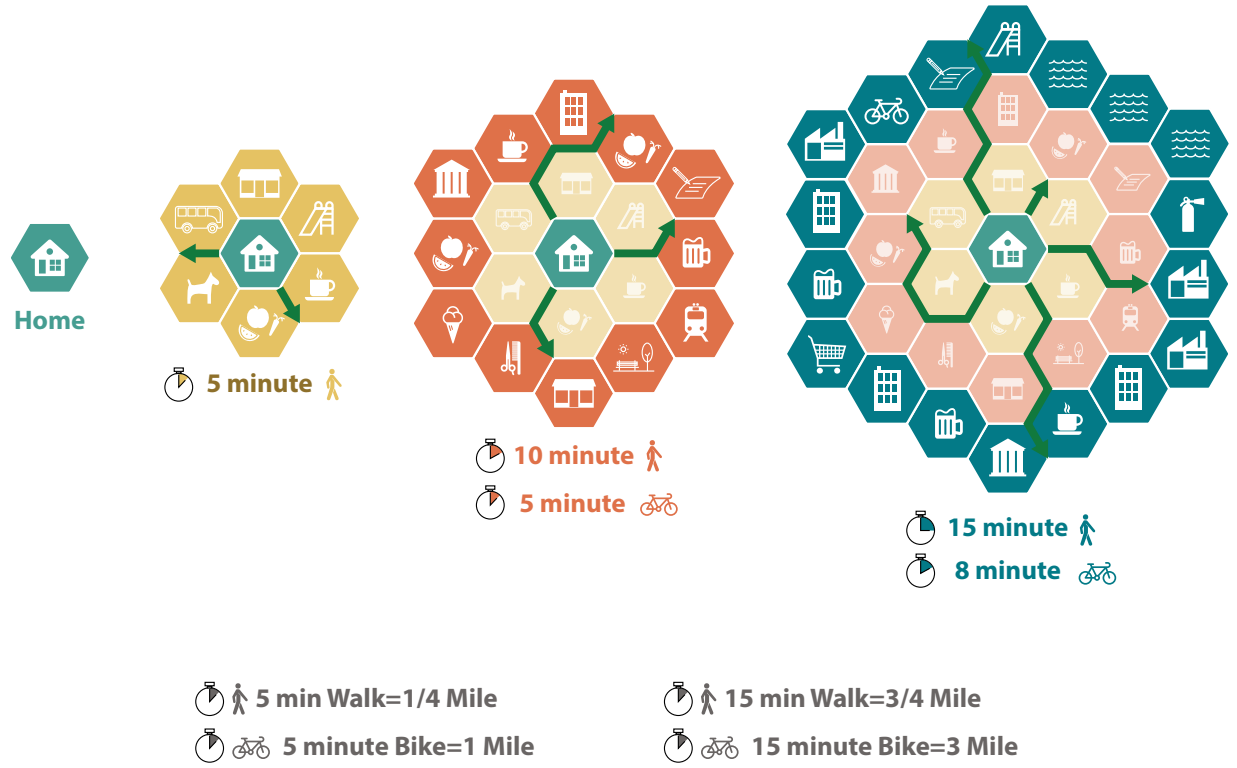
Incentive based zoning
Incentive-based zoning establishes a system to encourage developments to work toward the new vision for Moffett Park. For example, to achieve the maximum intensities, non-residential developments must be granted Bonus Floor Area Ratio (FAR). Bonus FAR developments contribute to community benefits, such as publicly accessible open space and urban ecology, housing affordability above the minimum, and contribution to the City's Community Benefits Fund. Neighborhood-serving commercial, spaces for non-profits, and space for district systems are not counted toward floor area maximums.

3.6 Creating Complete Neighborhoods

Recognizing the existing pattern of development, unique characteristics of future development, and pace of anticipated change, Moffett Park is divided into six complete neighborhoods. Each neighborhood is distinct with a unique mix of land uses to create a complete walkable neighborhood oriented around a centralized public open space and activity center and featuring all the services and necessities needed for daily life within a 15-minute walk or bike ride from places of residence or employment. Moffett Park's complete neighborhoods offer workers, residents, and visitors alike with a range of commercial options, recreational opportunities, and transit within a convenient distance of their place of employment or homes.

The neighborhoods function as an organizing element of the Specific Plan's Land Use Districts, establishing descriptive narratives for the quality of place and specify development ranges for office, R&D, and industrial floor area, residential units, open space, and mobility improvements. The City will monitor development relative to the Specific Plan goals and development ranges over time and adjust policy to ensure plan implementation.

FIGURE 11 Complete Neighborhood Diagram



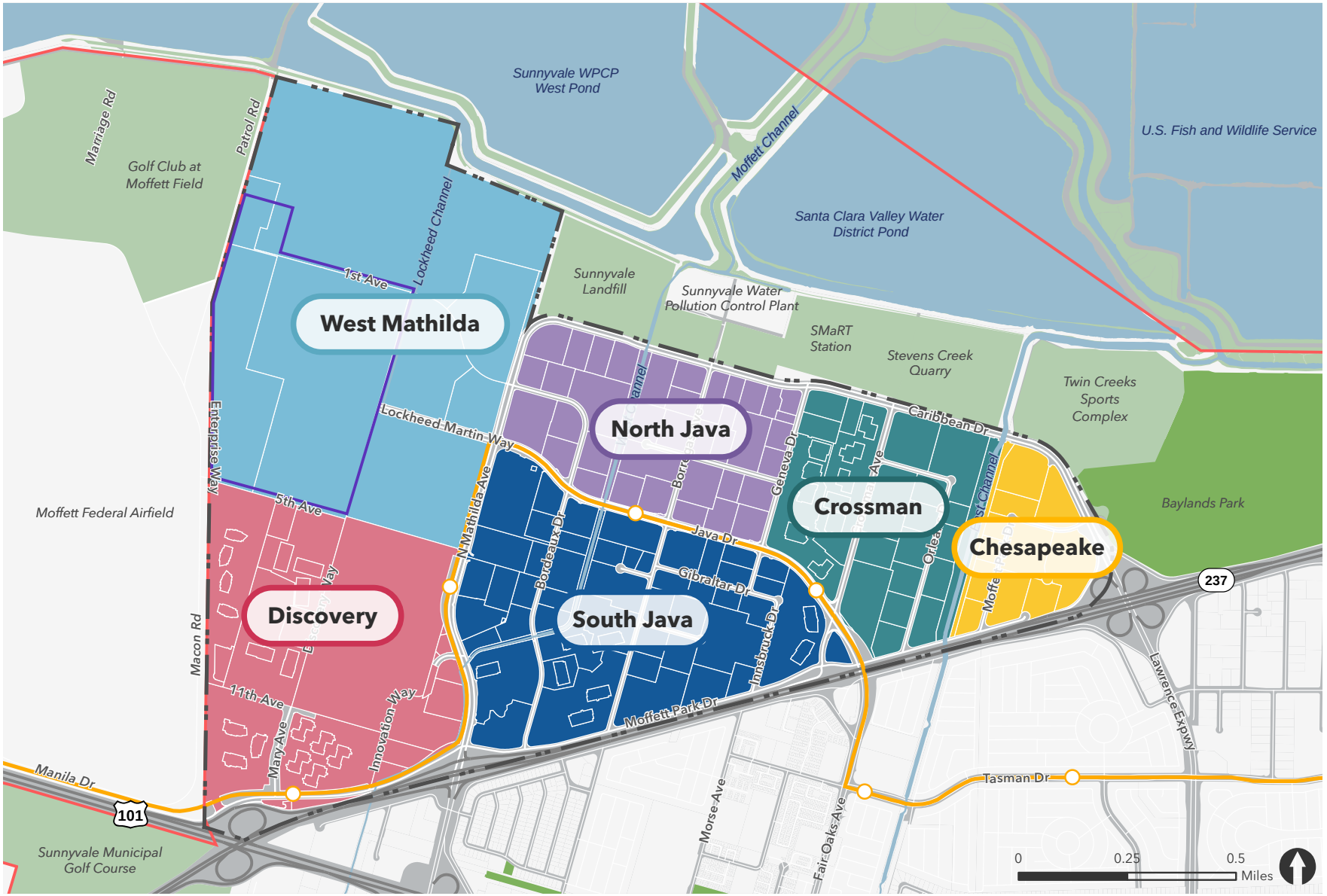


FIGURE 12 Moffett Park Neighborhoods

Data Source: City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021).

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

3.7 Establishing Strong Landmarks of Community Identity

A key to achieving the vision of an ecological innovation district is to create "complete neighborhoods." This requires the transformation of Moffett Park into a series of walkable neighborhoods with interconnecting mobility, open space, and urban ecology networks. The complete neighborhood strategy is enhanced through specific placemaking strategies that establish a strong community identity, create places for recreation and social gathering, and connect neighborhoods through active mobility. Figure 13 illustrates how the land use, open space, and mobility connections come together to implement the vision.

FIGURE 13 Urban Design Framework Diagram

Artist Rendering

Moffett Park introduces three bold and dynamic new linear corridors to serve as key placemaking strategies:

The Diagonal

The Diagonal is envisioned as an urban promenade that provides a continuous visual and active mobility corridor from Mathilda Avenue to Crossman Square and the East Channel Park and Biodiversity Hub. Mini parks, plazas, and squares are situated at key nodes along its length. This car-free path will offer a direct walkable and bikeable connection across the Moffett Park, as well as a visual connection across the plan area with architectural landmarks punctuating each end of the Diagonal.

FIGURE 14 Illustrative Diagonal Diagram

Caspian Community Park

As a central part of the open space, urban ecology, and active transportation network, Caspian Community Park creates a gracious and dynamic linear park linking the East and West Channel Parks and Biodiversity Hubs. The park includes a diversity of programs and features that serves residents, employees, visitors, youth, families, and seniors. As a connector and a destination, the design of the park creates cohesive experience and identity that is punctuated by distinct spaces, features, and activities and includes a separated bicycle and pedestrian paths from the east to the west.

Java as a Transit Spine

Java Drive is envisioned as a key transit spine through the plan area with VTA Light Rail's Orange Line and the future alignment for of VTA's bus lines. Because of the Light Rail, pedestrian crossings are limited to existing street crossings. To increase access across Java, the plan envisions a redesign of the Java/Borregas station to provide a new pedestrian connection across Java connecting the north and south sides of the West Channel/Borregas Activity Center and the potential for a future at-grade or grade-separated crossing at the intersection of the Diagonal and Java Drive.

FIGURE 15 Illustrative Caspian Promenade Diagram

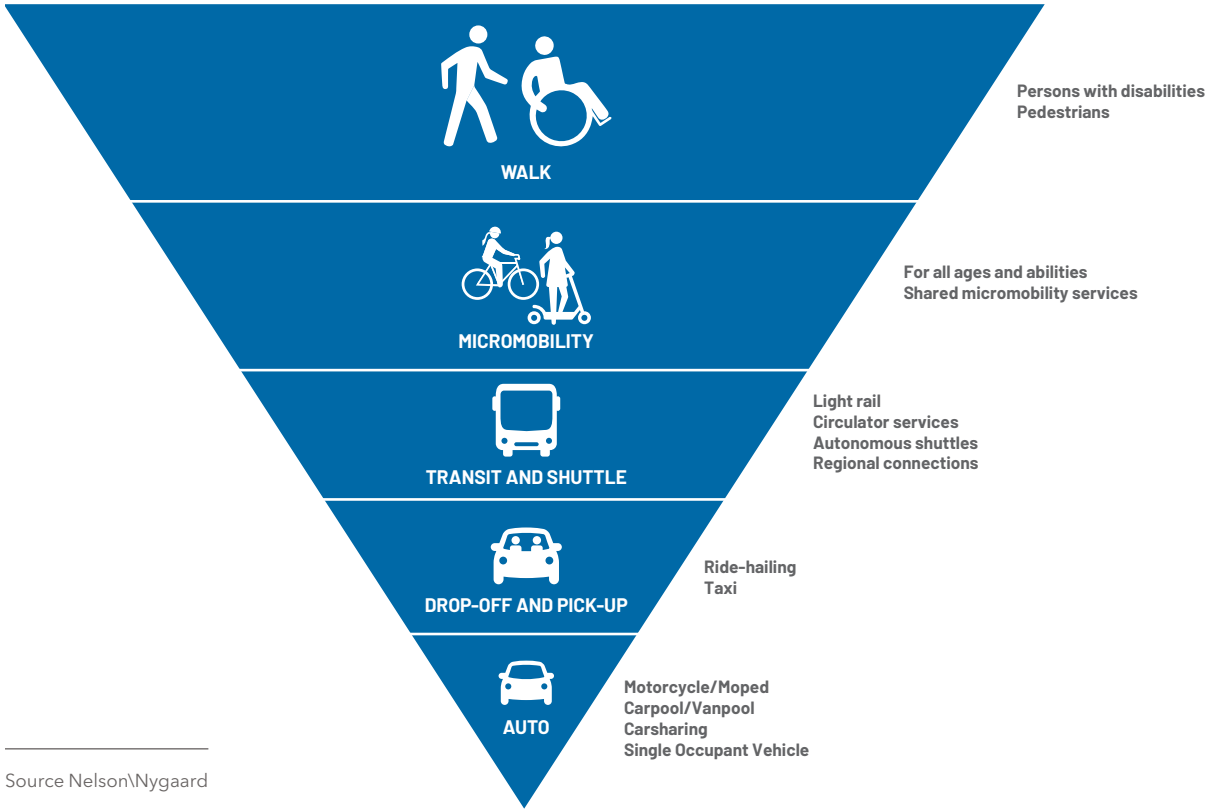
3.8 Prioritizing Active Mobility

Moffett Park uses multimodal strategies and districtwide policy to redesign the plan area around people rather than vehicles. When the needs of people are considered first, streets are designed to promote a safe and comfortable mobility network for all individuals, regardless of which mobility option they use.

COMPLETE STREETS

Foundational to achieving a connected, accessible, and safe district is the hierarchy of modes shown in Figure 16. To accommodate growth in Moffett Park, streets must be designed to move more people in the same amount of space. Walking and biking—mobility options that use little space and promote health and sustainability – complement regional transit connections and form the backbone of the local mobility network. Transit and automobile networks that support carpooling, ride-hailing, and personal driving are layered on top, which further contribute to promote greenhouse gas emission reduction throughout the plan area. This creates an environment that is oriented around people while also accommodating the needs of people who drive and park. With upgrades to the active transportation network and transit services—such as new protected bike facilities or local transit circulator services—

FIGURE 16 Moffett Park Modal Hierarchy



Source Nelson\Nygaard

Moffett Park becomes a complete district with comfortable, inviting spaces for biking and walking and frequent transit service within a short distance.

New street typologies are tailored to the unique land use and transportation conditions in Moffett Park and provide design guidance for each street, and balance tradeoffs among competing design goals. New complete streets are expected to occur in alignment with future redevelopment of Moffett Park (see Figure 17).

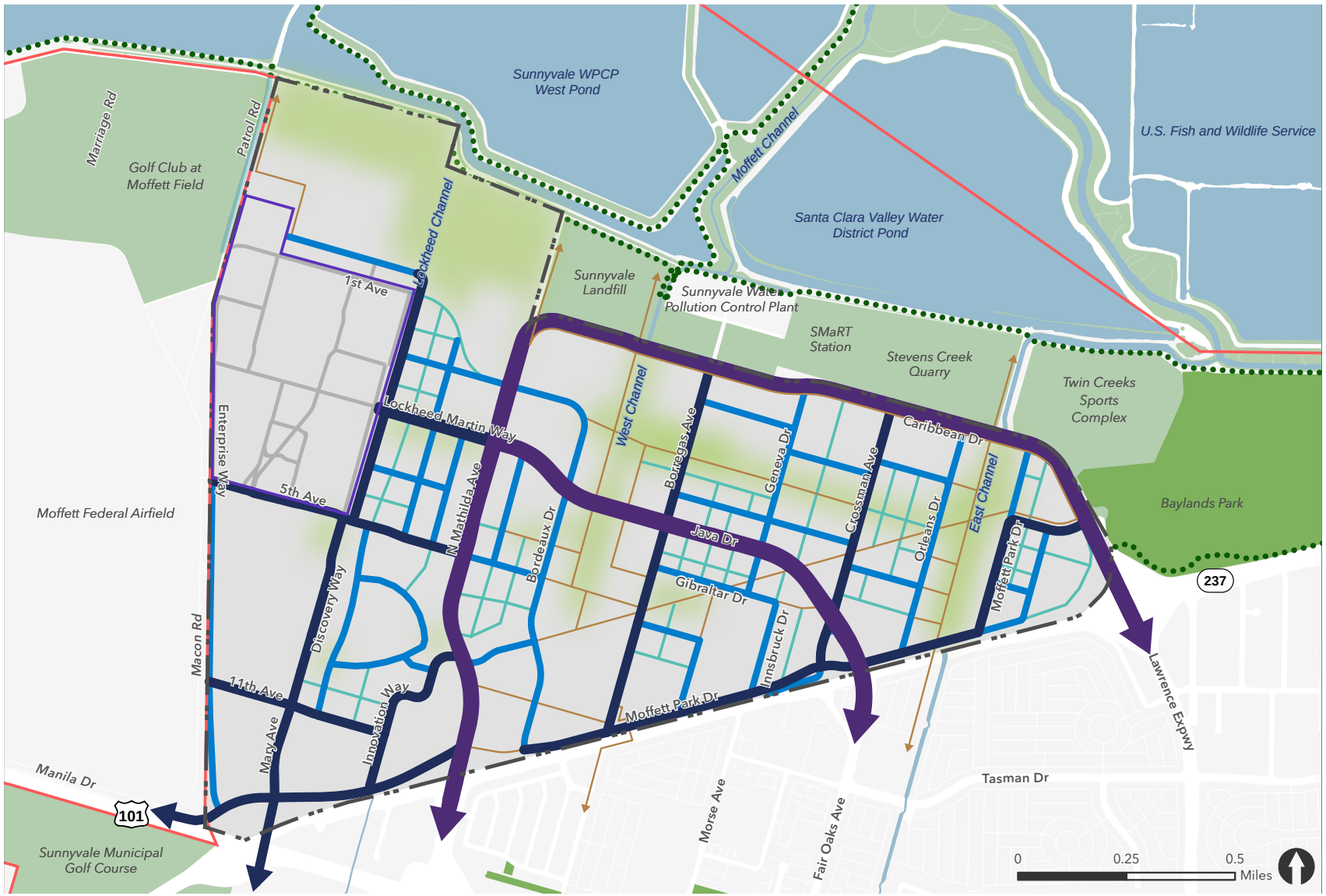


FIGURE 17 Complete Conceptual Street Framework

Data Source: City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021).

- Anchor Streets
- Crosstown Connectors
- Neighborhood Streets
- Laneways (Locations Flexible)
- Multi-Use Off-Street Paths or Pedestrian/Bicyle Plazas
- Bay Trail
- Open Space
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

BICYCLE NETWORK

Moffett Park has a highly bikeable scale, most of which could be reached within a less than fifteen-minute bike ride. The Moffett Park Complete Bicycle Network (Figure 18) leverages these existing amenities and builds upon the City's Active Transportation Plan to prioritize bicycle connectivity, permeability, and convenience across the plan area, requiring several bicycle enhancements at key crossings. Most streets, existing or planned, are part of the bikeway network. The network includes several east-west and north-south connections that allow people who bike to travel across the plan area. These connections are supplemented by additional internal bikeways that connect people who bike to key activity centers. Bicycle connections provide high-quality bicycle facilities.

TRANSIT NETWORK

Robust local and regional transit service is critical to serving the large number of anticipated workers, residents, and visitors in Moffett Park and to fostering a people-oriented environment. To reduce the number of overall vehicle trips, there will be a significant increase in both public and private transit service. With future expansion and investment in public and private transit and shuttle routes, it will be important to coordinate transit and street design improvements. Priority for transit on important routes, and strategies for integration with other modes will improve connectivity and access for passengers on both public transit and private shuttles.

Future transit investments should include the following:

VTA 26 Bus at Borregas by Grendelkhan, licensed under CC BY-SA 3.0

VTA bus service. Reconfigure VTA bus service in Moffett Park to better serve increased demand.

VTA Lightrail passing through Moffett Park

VTA light rail service and access. Prioritize light rail on Java Drive and reconfigure station pedestrian access to Java/Borregas station.

"Kamloops bus route 18" by Kiyoteru Awaji, licensed under CC BY-SA 4.0

Internal circulator. Plan for an internal circulator that connects activity centers, office and residential areas, and district parking sites.

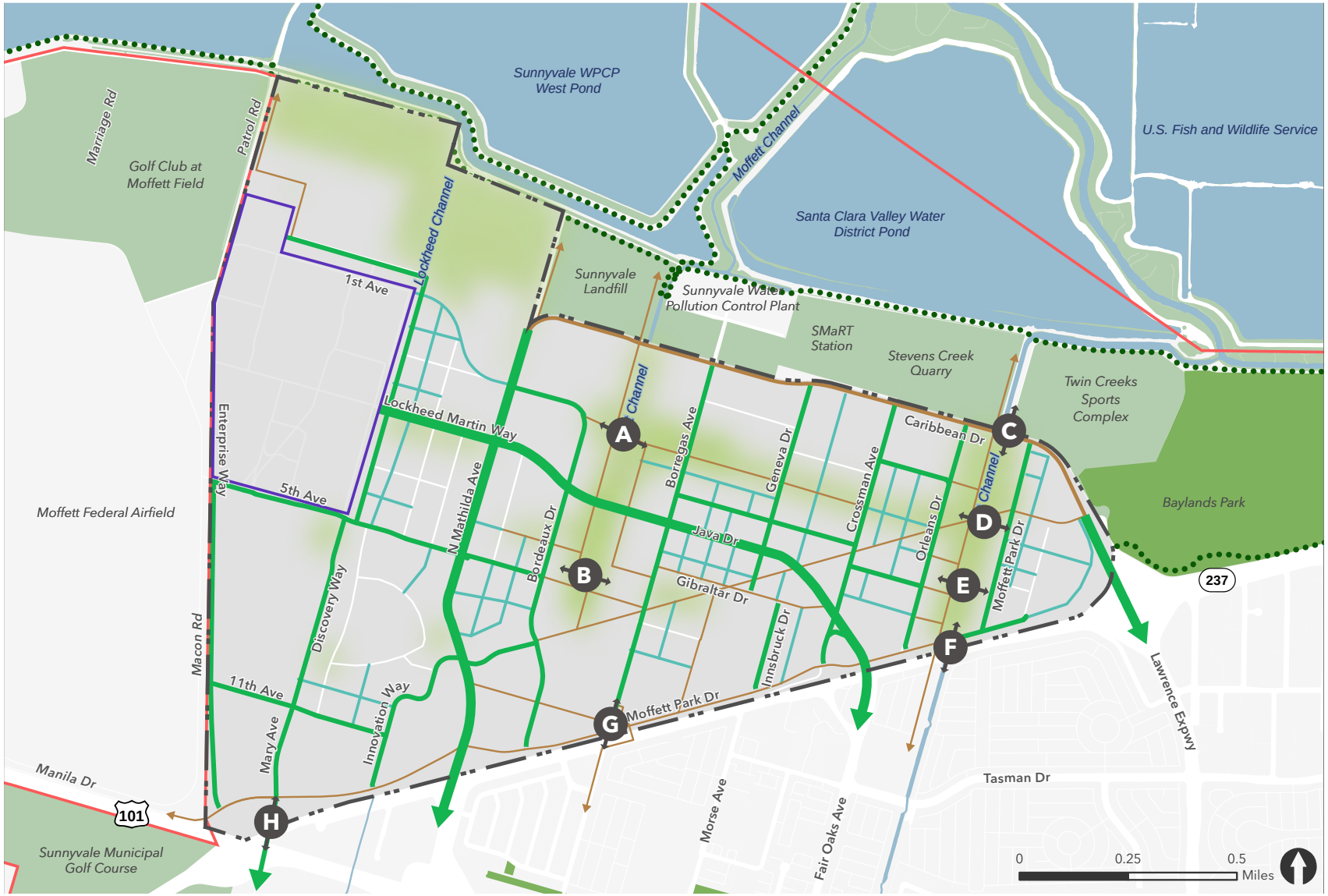


FIGURE 18 Complete Bicycle Network

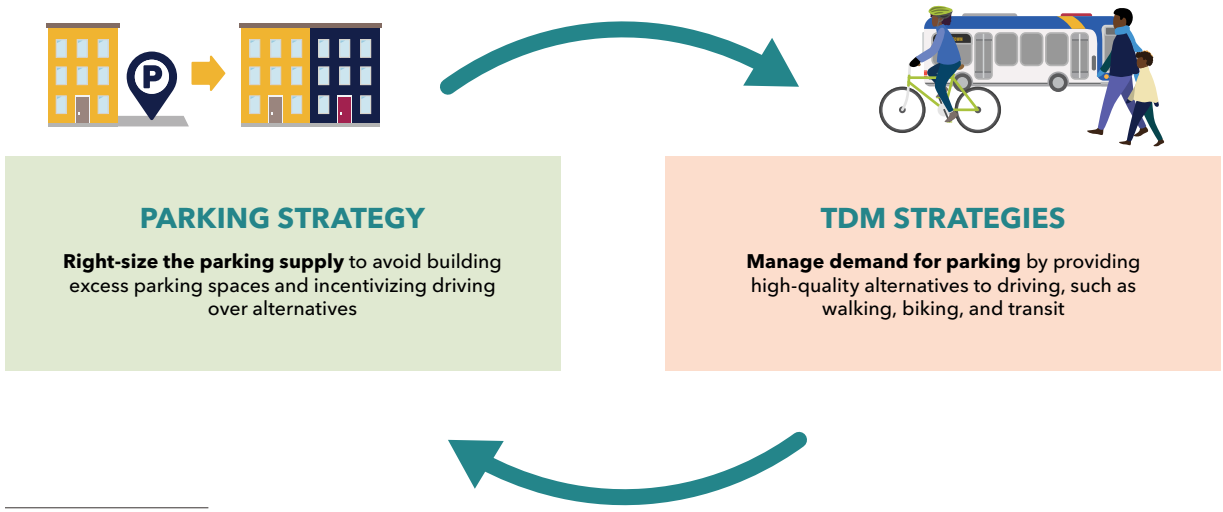
Data Source: City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021).

- Bicycle Lanes
- Laneways
- Multi-Use Off-Street Paths or Pedestrian/Bicyle Plazas
- Bay Trail
- Open Space
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

3.9 Reducing Single-Occupancy Vehicle Trips

To accommodate future growth and establish Moffett Park as a model community of climate protection, a substantial mode shift away from single-occupancy vehicle (SOV) trips is needed to reduce congestion, ensure multimodal access at the district gateways, and meet local and regional ambitions for improved climate and environmental outcomes. Transportation demand management (TDM) and parking management strategies aim to reduce single-occupancy vehicle (SOV) travel, minimize daily vehicle trips, and shift trips to transit, biking, walking, scooting, or rideshare. TDM manages transportation resources through pricing, incentives, services, communication, marketing, and other techniques. The Specific Plan builds off the City's existing requirements enhancing TDM requirements for both non-residential and multi-family residential developments. TDM within Moffett Park will be managed by a Transportation Management Association (TMA).

A key element of the Moffett Park TDM strategy is parking management, prioritizing a reduction in the overall parking supply while providing well-managed access for people who choose to drive. Parking maximums, unbundling, and shared parking reduce parking demand, minimize the number of vehicle trips, optimize the use of the existing and future parking supply, and support enhanced urban design and placemaking.

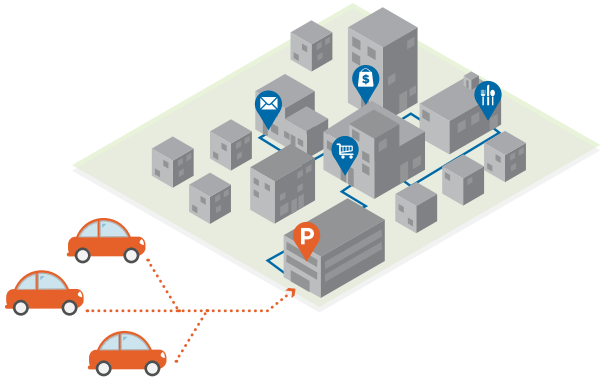


Source Nelson\Nygaard

The approach for parking is anchored by two key concepts:

Park Once

Motorists who drive to Moffett Park, will park their car, and walk, bike, scoot, or take transit to a variety of destinations. The result is more physical activity, additional economic activity, less internal driving, and fewer needed parking spaces.



Source Nelson\Nygaard

Shared Parking

Shared parking facilities close to key destinations can be effective in optimizing the use of parking supply, limiting the number of vehicle trips and local congestion, and improving urban design and placemaking. Moffett Park shall utilize policy and management tools to strike an efficient balance between resident, tenant, and public parking.

Sufficient vehicle parking is also necessary for the success of Moffett Park. Too much parking, however, can incentivize driving and create traffic congestion. It is necessary to provide the right amount of parking and ensure that it is managed to maximize its use. The Specific Plan establishes parking maximums to limit the amount of parking and the use of single occupancy vehicles. The maximum amount of parking allowed for office uses will be phased in over time.

Shared Parking Diagram

Source Nelson\Nygaard

Chapter 4
Land Use

Example rendering of residential development; Source: Berkeley Property Group

This chapter defines neighborhood character, Land Use Districts, the Development Reserve, and other land use policies and standards to meet the needs of the community, businesses, and property owners.

The establishment of new Land Use Districts in Moffett Park fosters an ambitious transformation from an auto-oriented employment district to a series of vibrant neighborhoods that implement the vision for an ecological innovation district. The following chapter defines the goals, policies, and standards for land use, development allocation, and community benefits that will meet the needs of the community, businesses, and property owners. The Land Use Districts provide flexibility for development over time, while maintaining spaces for mixed-use activity centers and new residential neighborhoods. The pattern ensures a high-quality living and working environment that helps the city and district meet targets for housing, jobs, and sustainability.

4.1 Land Use Goals and Policies

GOALS AND POLICIES

To ensure that transformation in Moffett Park is consistent with the community's vision for the future, the following goals and policies summarize how the Land Use Chapter supports the implementation of the Guiding Principles.

Goal LU-1: COMPLETE NEIGHBORHOODS.
A series of neighborhoods with access to public amenities, quality housing, good jobs, and healthy and safe environments that weave together into a vibrant ecological innovation district.

Policy LU-1.1: Establish a series of neighborhoods to guide an orderly and flexible transition over time. Neighborhoods provide "targets" for non-residential uses, parks and open space, and residential uses.

Policy LU-1.2: Facilitate different development character across Moffett Park neighborhoods by allowing walkable, higher-density, mixed-use areas near Java Drive and more campus-like environments on along the edges of the district.

Policy LU-1.3: Locate activity centers, neighborhood-serving commercial uses, and public open spaces in proximity to each other in order to create complete, walkable neighborhoods.

Policy LU-1.4: Locate residential areas throughout Moffett Park to create 24-hour neighborhoods and increase demand for and support neighborhood serving commercial uses.

Policy LU-1.5: Allow a variety of uses to provide opportunities for innovation.

Policy LU-1.6: Create opportunities for new institutional and community-servicing uses, such as schools, libraries, and community centers.

Goal LU-2: A VARIETY OF HOUSING OPTIONS.

Moffett Park provides housing opportunities for a range of incomes and household types.

Policy LU-2.1: Require a minimum of 15% of all residential units in Moffett Park as deed restricted affordable consistent with SMC 19.67 and 19.77. Provide incentives for property owners to provide more affordable housing than is required by citywide policy.

Policy LU-2.2: Fairly distribute the affordable housing units throughout Moffett Park's residential neighborhoods. Promote the mixing of affordable housing units into market-rate developments.

Policy LU-2.3: Require the integration of affordable housing into market-rate developments. Consider alternative compliance in accordance with the zoning code provisions.

Policy LU-2.4: Plan residential areas so that they are well-connected to services and amenities.

Policy LU-2.5: Monitor and report on development permitting in Moffett Park. Take adaptive actions to facilitate housing growth and open space provision if monitoring shows that the total office, R&D, and industrial development outpaces housing development and open space provision at the district wide or neighborhood scale.

Goal LU-3: A CENTER FOR INNOVATION.

Moffett Park continues to be a center of innovation and the knowledge economy.

Policy LU-3.1: Continue transforming the district into a high-density district to maintain and attract innovative businesses.

Policy LU-3.2: Incentivize the retention and creation of space for small, local, and startup businesses.

Policy LU-3.3: Retain or create space for light industrial, creation/maker, production/distribution/repair, and research and development uses through development incentives and requirements.

Policy LU-3.4: Facilitate partnerships with academic institutions to foster innovation.

Goal LU-4: A GREEN MOFFETT PARK.
Moffett Park is designed to promote greenhouse gas emission reduction and adapt to a changing climate.

Policy LU-4.1: Concentrate growth and intensity to ensure efficient use of resources and support high-quality transit.

Policy LU-4.2: Prioritize walking and biking by breaking up large blocks into a finer-grained network and through complete streets improvements as defined in the Development Standards and Mobility Chapters.

Policy LU-4.3: Maintain unique green building standards and incentivize higher-performing buildings.

Policy LU-4.4: Require transportation demand management (TDM) and parking reductions to minimize single-occupancy vehicle trips as defined in the Transportation Demand Management and Parking Chapters.

Policy LU-4.5: Require setbacks on the East and West Channels to establish new publicly accessible open space areas with the dual purpose of recreation and resilience.

Goal LU-5: DEVELOPMENT CONTRIBUTES COMMUNITY BENEFITS.
Collaboration between the City, property owners, and private development ensures collective action to achieve plan goals.

Policy LU-5.1: Maintain a community benefits framework that requires developers to contribute to community goals and amenities, including parks and public spaces, affordable housing, and other community-serving amenities. Continually update and adjust the community benefits framework over time to meet changing needs.

Policy LU-5.2: Require new publicly accessible parks and open spaces for residential development and non-residential development that seeks bonus floor area.

Policy LU-5.3: Require space for neighborhood-serving office and community uses within Moffett Park's Activity Centers.

Policy LU-5.4: Support small, local, and startup businesses through Innovation and Creation Space requirements to create diverse employment opportunities.

Policy LU-5.5: Construction contracts with a value of $5 million or more must register the job site with the State Department of Tax and Fee Administration (CDTFA) to ensure the 1% percent of the local sales tax is allocated to the City.

4.2 Moffett Park Neighborhoods

Moffett Park's future neighborhoods include a mix of land uses and amenities. Each neighborhood is distinct with a unique mix of land uses that blends the historic development of the area with future needs to create an ecological innovation district. Each neighborhood is planned around an active transportation network, parks and open space, and community-supporting services.

Moffett Park is organized in to six neighborhoods based on their proximity to natural and transportation features. Neighborhoods establish descriptive narratives for the quality of place and specify development ranges for office/R&D/industrial floor area, residential units, open space, mobility improvements, and district parking. The City will monitor development relative to the Specific Plan goals and development ranges over time and adjust policies to ensure plan implementation.

TABLE 1 Estimated Neighborhood Land Use Ranges

Neighborhood	Land Area (Gross)	Existing + Approved Office/ R+D/Industrial Development	Future Office/ R+D/Industrial Range	Future Residential Range	Future Open Space
West Mathilda	399 acres	4.7 million sf	6-8.5 million sf	1,800-2,200 du	123 acres
Discovery	246 acres	6.9 million sf	7-8.5 million sf	200-400 du	9 acres
North Java	149 acres	2.7 million sf	3-5 million sf	2,400-3,200 du	31 acres
South Java	261 acres	4.6 million sf	6-8 million sf	5,600-7,400 du	22 acres
Crossman	150 acres	2.2 million sf	2-4.5 million sf	4,300-5,800 du	30 acres
Chesapeake	70 acres	0.8 million sf	0.8 -1.5 million sf	2,200-3,200 du	11 acres
Totals	**1,275 acres**	**21.9 million sf***	**32 million sf****	**16,000-20,000 du**	**226 acres**

* Does not include commercial, hospitality, or other non-Office/R+D/Industrial floor area
** The 32 million sf Office/R+D/Industrial Range includes creation and innovation space.

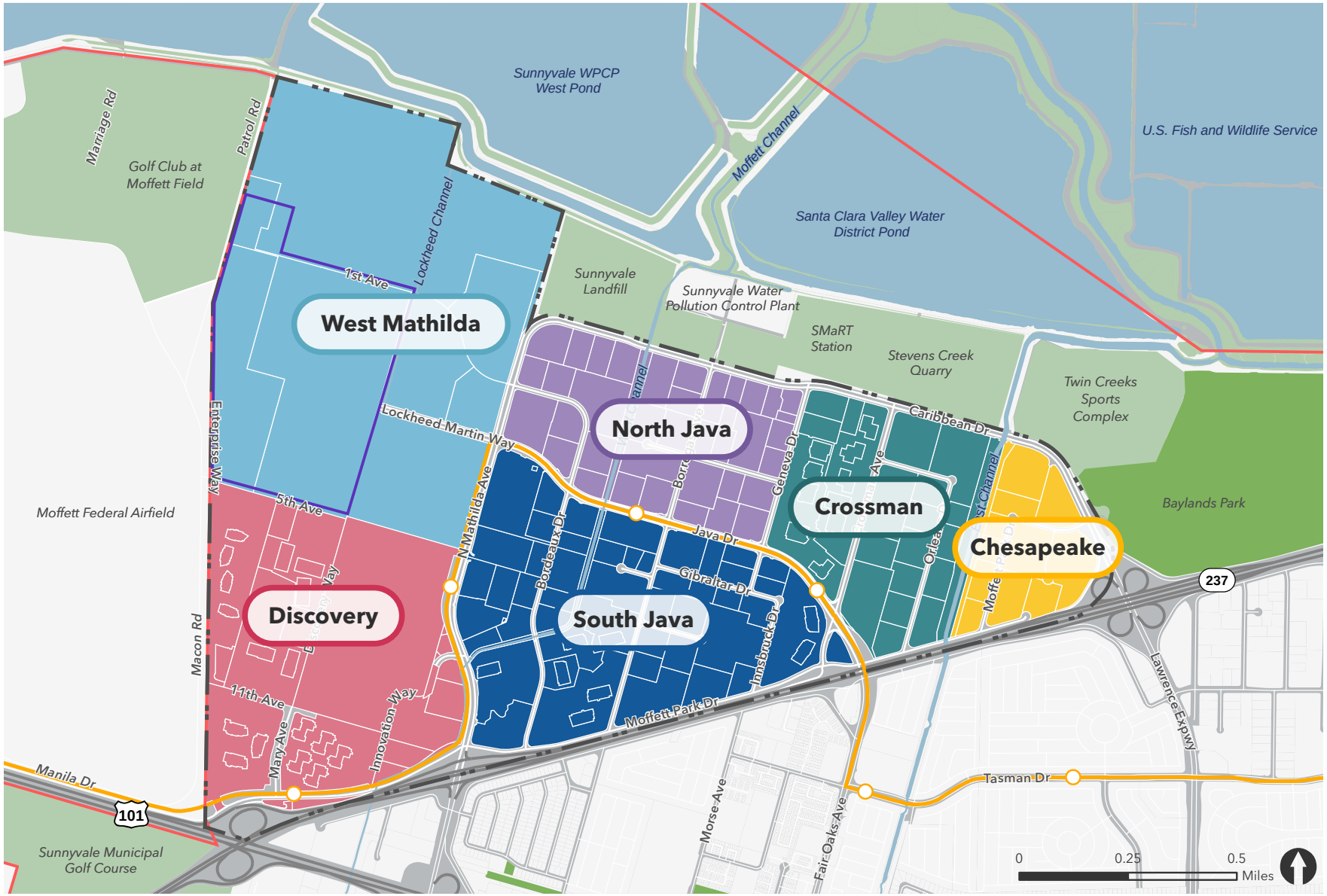


FIGURE 19 Moffett Park Neighborhoods

Data Source: City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021).

NORTH JAVA NEIGHBORHOOD

The North Java Neighborhood is located north of Java Drive and Java/Borregas VTA Station and is bounded by Mathilda Avenue to the west, Caribbean Drive to the north, and Geneva Avenue to the east. The district is envisioned as follows:

Land Use

The heart of the North Java Neighborhood is a high-density, mixed-use activity center between the Java/Borregas VTA Station and the West Channel Park and Biodiversity Hub. Neighborhood-serving retail and community services are concentrated into the activity center as a new north/south pedestrian main street.[4] The main street establishes the center of a complete neighborhood, connecting from the West Channel Park and Biodiversity Hub across Java Drive and into the South Java Neighborhood. Ground floor-retail, community, and entertainment uses open onto the plaza, West Channel Park and Biodiversity Hub, and the Caspian Community Park. On the east side of Borregas Avenue, there are opportunity sites for larger stores, such as grocery stores, pharmacies, and other services. Outside of the activity center, the neighborhood is a walkable mix of office and residential uses. On the northern edge of the neighborhood, there are opportunities for larger-scale office campuses.

Open Space and Urban Ecology

The North Java Neighborhood is home to the West Channel Park and Biodiversity Hub and Caspian Community Park. At approximately sixteen acres in size, the West Channel Park and Biodiversity Hub and Caspian Community Park connect the West Channel and the Java/Borregas Activity Center to the Crossman Neighborhood to the east. The park is a community gathering space, becoming a destination for residents, workers, and visitors in Moffett Park, the city, and the region. The Caspian Community Park establishes a critical link to the West Channel; the West Channel provides an additional ten acres of open space, habitat area, and active transportation connections to the Bay Trail and other Sunnyvale neighborhoods.

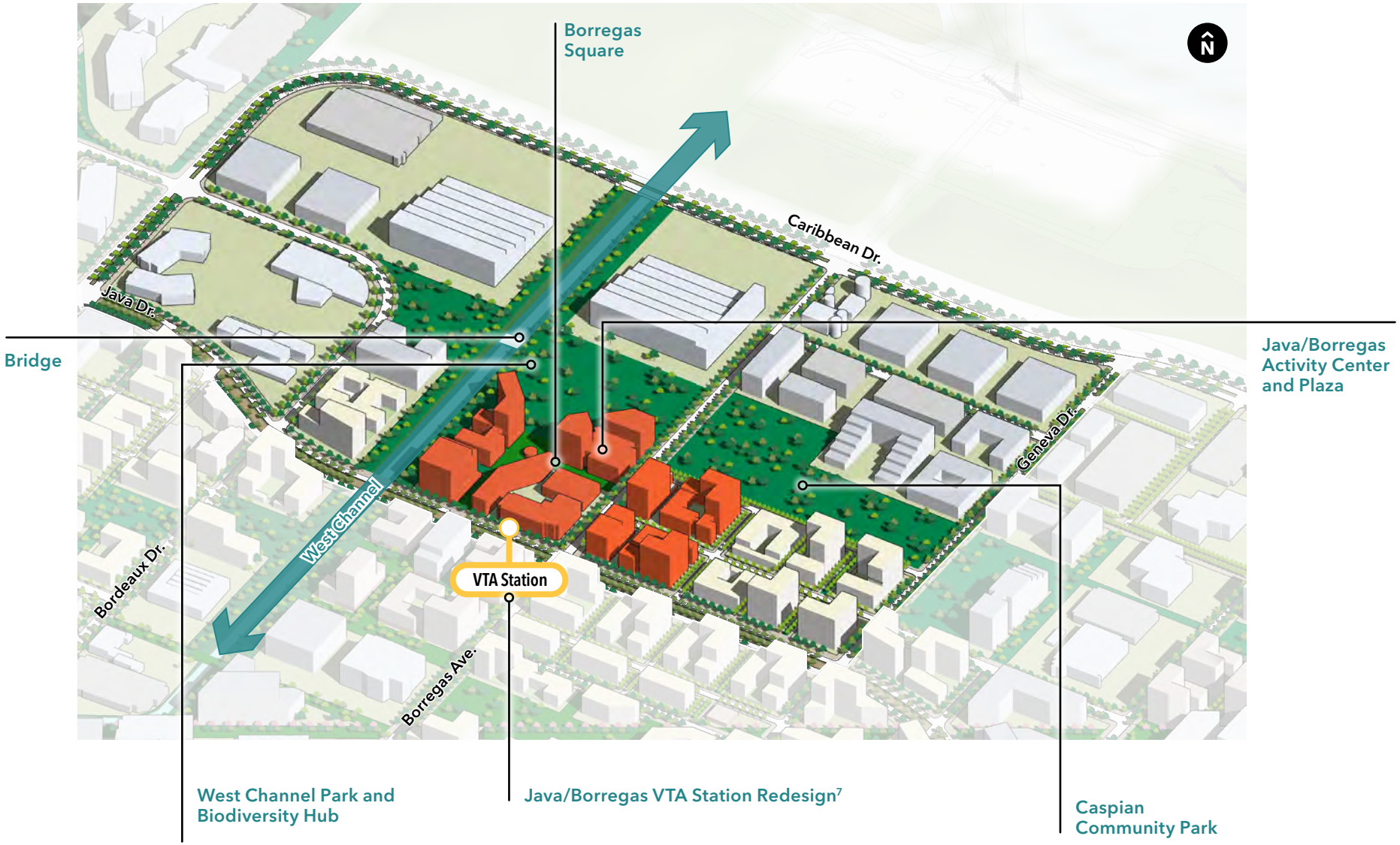
The North Java Neighborhood includes three important urban ecology features. These include: the expansion of the West Channel into an ecological and recreational corridor; the creation of the Caspian Community Park that connects the Ecological Combining District to Baylands Park; and the creation of a large biodiversity hub.[5]

Mobility.

The Java/Borregas VTA Station supports light rail, bus, and private shuttle services. The station is located in the center of the activity center, acting as a mobility hub for both the North Java and South Java Neighborhoods. The Caspian Community Park provides essential active transportation links through the neighborhood.[6]

4. For a detailed description of activity centers, see Land Use 4.3.
5. For a detailed description of biodiversity hubs, see Urban Ecology 6.4.
6. For a detailed description of mobility hubs, see Mobility 7.7.

FIGURE 20 Illustrative North Java Neighborhood Diagram (Artist Rendering)



7. For a detailed description of the potential Java/Borregas VTA Station redesign, see Mobility 7.6.

SOUTH JAVA NEIGHBORHOOD

The South Java Neighborhood is the largest neighborhood east of Mathilda Avenue and includes the area located south of Java Drive between Mathilda Avenue and Highway 237.

Land Use

The neighborhood houses a diverse mix of uses focused around a high-density, mixed-use activity center located between Borregas Avenue and the West Channel. Neighborhood-serving retail and community services are concentrated into the activity center as a new north/south pedestrian main street. The main street establishes the center of a complete neighborhood, connecting to the North Java Neighborhood. Surrounding the activity center are residential blocks with neighborhood parks. A new connection is made across the neighborhood through the introduction of the Diagonal that links people across the district to open spaces, activity centers, employment, and residential neighborhoods. Larger-scale office campuses are along Highway 237 and frame the edges of the neighborhood.

Open Space and Urban Ecology

The South Java Neighborhood is anchored by a new pedestrian plaza and main street located within the activity center. The plaza opens to the West Channel, connecting the activity center to the ecological and recreational corridor adjacent to the channel. Neighborhood parks serve as center pieces to the residential blocks on either side of the channel. The South Java Neighborhood expands the habitat and open space areas along the West Channel and through the addition of two habitat patches within the neighborhood.

Mobility

The South Java Neighborhood includes two important active transportation connections. The 5th Avenue Laneway links the activity center to the Discovery Neighborhood across Mathilda Avenue.[8] The Diagonal connects from Mathilda Avenue in a direct line parallel to Highway 237 to the Chesapeake Neighborhood. At over a mile long, the Diagonal is a key bike, pedestrian, and micromobility route, supporting mobility needs for a variety of adjacent land uses.

8. For a detailed description of the Laneways street type, see Mobility 7.3.4.

FIGURE 21 **Illustrative South Java Neighborhood Diagram (Artist Rendering)**

CROSSMAN NEIGHBORHOOD

The Crossman Neighborhood is bounded by the East Channel, Java Drive, and Geneva Avenue to the west.

Land Use

The Crossman Neighborhood is centered around a high-density, mixed-use activity center. Entertainment, restaurants, and neighborhood-serving commercial spill out onto the Diagonal and Crossman Square, a new public plaza. Dense office and residential developments support neighborhood-serving commercial and community round the clock. The activity center is surrounded by a ring of residential uses and larger-format office campuses located around the periphery of the neighborhood. The neighborhood is one of the densest and most vibrant neighborhoods in Moffett Park.

Open Space and Urban Ecology

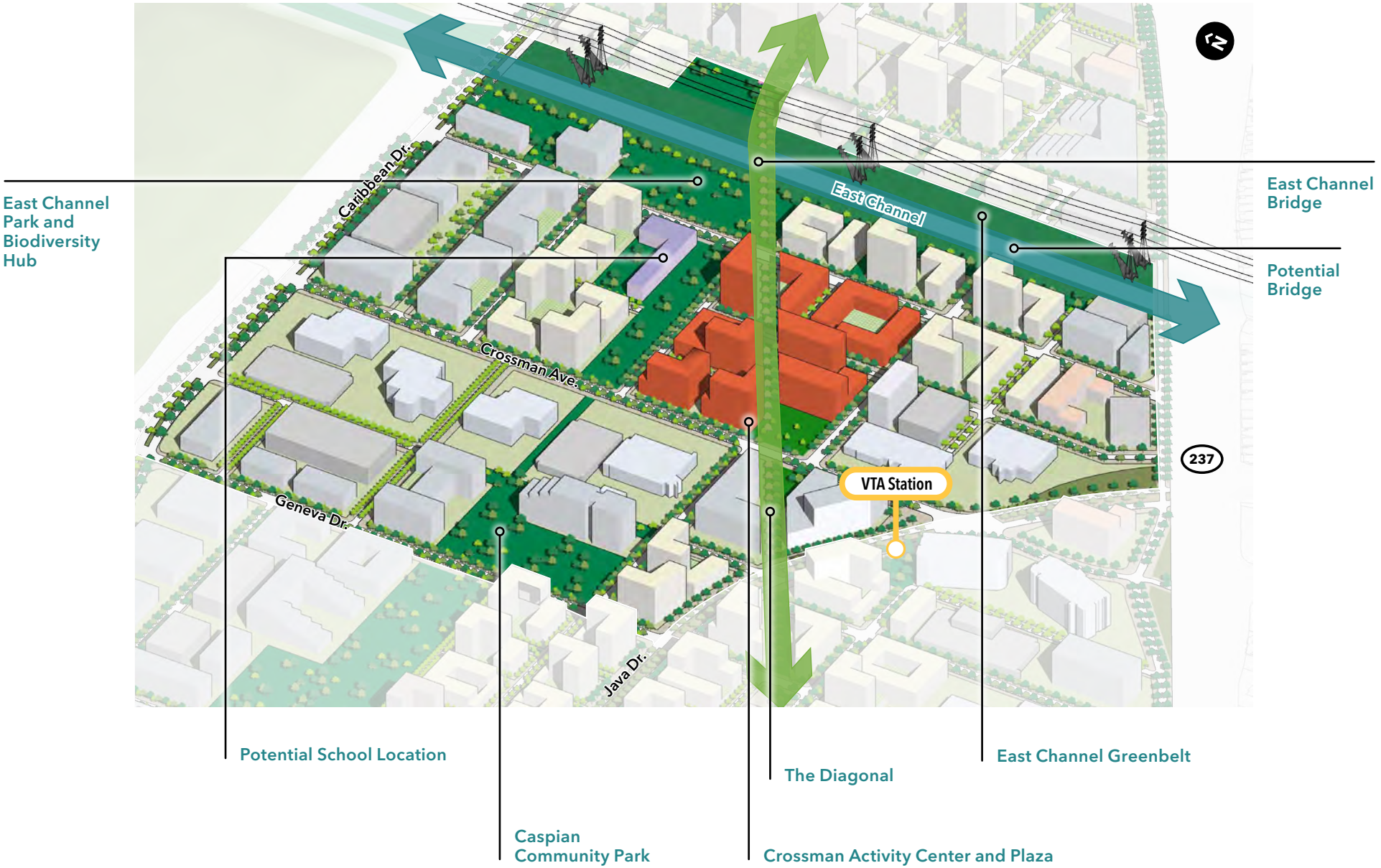
Crossman Square is the heart of the Crossman Neighborhood and a vibrant destination along the Diagonal. The Diagonal connects from Crossman Square to the East Channel Park and Biodiversity Hub and East Channel Greenbelt. In sum, these parks and open spaces total approximately 20-acres. The Caspian Community Park serves as a key connection to the North Java Neighborhood and Java/ Borregas Activity Center.

The Crossman Neighborhood supports urban ecology through the East Channel Park and the eastern portion of the Caspian Community Park. The Caspian Community Park provides a habitat connection from the East to the West Channel.

Mobility

The Crossman Neighborhood is at the crossroads three important active transportation corridors: the Diagonal connecting to the South Java, Discovery, and Chesapeake Neighborhoods; the Caspian Community Park connecting through the North Java Neighborhood; and the East Channel Greenbelt connecting the Sunnyvale neighborhoods south of Highway 237 through to the Bay Trail. The neighborhood also includes crossing of the East Channel for pedestrians, bicycles, and the Moffett Park Circulator.

FIGURE 22 **Illustrative Crossman Neighborhood Diagram (Artist Rendering)**



CHESAPEAKE NEIGHBORHOOD

The Chesapeake Neighborhood is bounded by the East Channel, Highway 237, Caribbean Drive. It is the smallest neighborhood, by land area, in Moffett Park.

Land use

The Chesapeake Neighborhood is a primarily high-density residential neighborhood with a focused amount of office uses located at the SR 237/Lawrence Expressway interchange. The neighborhood is centered around the Diagonal which connects to Baylands Park and the Crossman Neighborhood. A small amount of neighborhood-serving commercial uses line the Diagonal. The height limit allows for high-rise residential buildings with views of the San Francisco Bay.

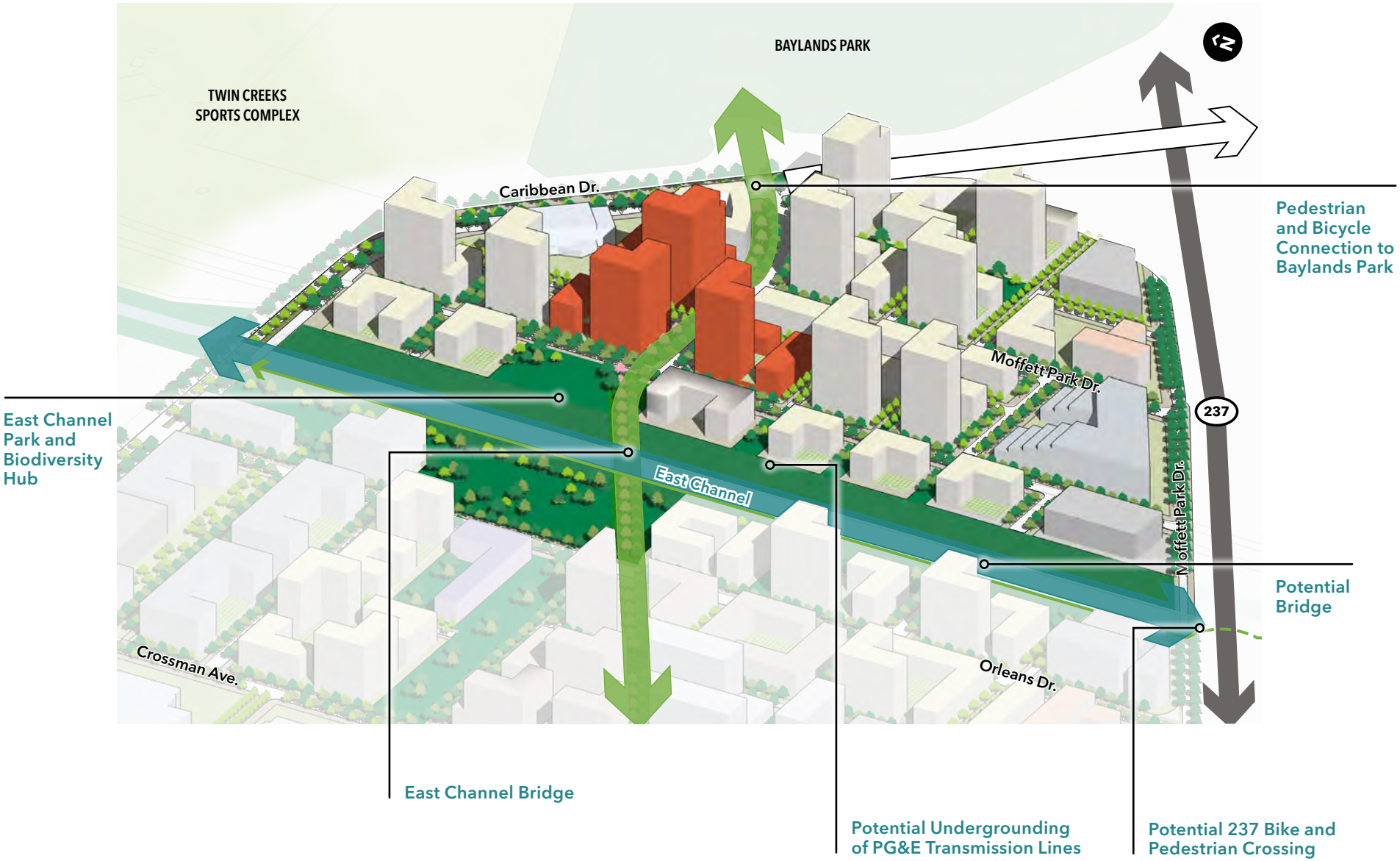
Open Space and Urban Ecology

The Chesapeake Neighborhood is situated between Baylands Park and the East Channel Park and Biodiversity Hub. Connections across Caribbean Drive to the Bay Trail make this neighborhood one of the most accessible to park and open space areas. Urban ecology enhancements include connecting Baylands Park to the East Channel Park and Biodiversity Hub and creating the East Channel Greenbelt. In the long term, the open space may be enhanced through the undergrounding of the Pacific Gas & Electric transmission lines or the transformation of the open space below the transmission lines into habitat and recreation areas.

Mobility

The neighborhood is located a short distance (one-half mile) from the Crossman Activity Center and a VTA light rail station on Java Drive. The Chesapeake Neighborhood is connected to the Crossman and North Java Neighborhoods with direct pedestrian and bicycle routes along the Diagonal and Caspian Community Park. At least one bridge crosses the East Channel for pedestrians, bikes, and the Moffett Park Circulator, and additional crossings in the future pending coordination with Valley Water.

FIGURE 23 **Illustrative Chesapeake Neighborhood Diagram (Artist Rendering)**



WEST MATHILDA NEIGHBORHOOD

The West Mathilda Neighborhood is the largest, by land area, in Moffett Park. It includes portions of the Lockheed Martin core campus, a former industrial site owned by the United States Department of the Navy, and a stormwater detention area that includes emergent and potential wetlands and habitat areas. The neighborhood encompasses the northwest corner of Moffett Park, north of 5th Avenue and west of Mathilda Avenue.

Land Use

West Mathilda Neighborhood includes a new mixed-use residential neighborhood between Lockheed Martin Way and 1st Street, with approximately 2,000 housing units and a concentration of employment uses. The West Mathilda Neighborhood is anchored by a neighborhood corner commercial area located at the northwest intersection of Discovery Way and Lockheed Martin Way. This small center will serve the new residents, as well as employees of existing and future office, light industrial, and R&D uses in the area.

The former US Navy site will provide an opportunity for a new mix of uses, that will continue the history of employment diversity, innovation, and creation within Moffett Park.

Open Space and Urban Ecology

Parks and open space in the West Mathilda Neighborhood include a new neighborhood park on the US Navy site, the expansion and restoration of the Lockheed Martin stormwater detention area, and a bicycle and pedestrian connection along Discovery Way. The West Mathilda Neighborhood includes the Ecological Combining District that includes emergent and potential wetlands and habitat areas that will be enhanced through the development of a Biodiversity Hub and park lands.

Mobility

Connecting the West Mathilda Neighborhood to other Moffett Park neighborhoods is achieved through the extension of Discovery Way to the Discovery Neighborhood. The future Moffett Park Circulator connects the employment uses west of Mathilda Avenue to the activity centers and VTA rail stations east of Mathilda.

FIGURE 24 **Illustrative West Mathilda Neighborhood Diagram (Artist Rendering)**

DISCOVERY NEIGHBORHOOD

The Discovery Neighborhood is bounded by Highway 237, the Moffett Park Federal Airfield, 5th Avenue, and Mathilda Avenue.

Land Use

The Discovery Neighborhood continues to be an economic engine for the region with high-density office campuses. Future activity in the neighborhood is centered around a small retail area and public plaza at the intersection of 11th Avenue and Discovery Way. New residential connects the Foothill College campus to the South Java Neighborhood.

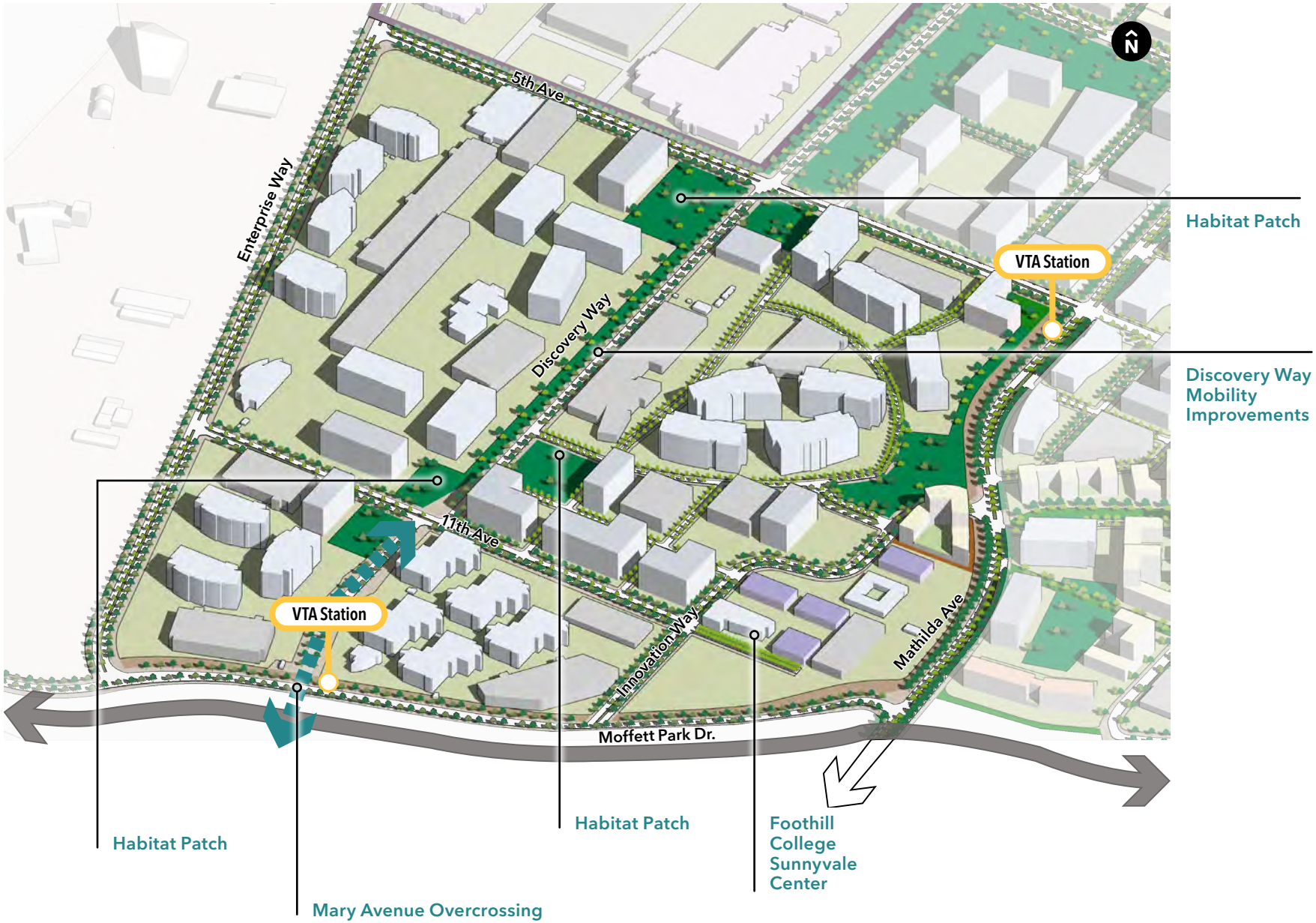
Open Space and Urban Ecology

The plan envisions three publicly accessible open spaces located along Discovery Way, adjacent to the Lockheed Martin VTA Station, and along a greenway connection to the Diagonal. Discovery Way is an important ecological corridor for the Discovery Neighborhood. Existing parking areas are transformed into open spaces.

Mobility

The Discovery Neighborhood includes two existing VTA light rail stations. The proposed Mary Avenue Overcrossing links north Sunnyvale to Moffett Park through a new multimodal and active transportation connection across US 101 and Highway 237. The Mary Avenue Overcrossing connects to Discovery Way and creates a key mobility corridor to the West Mathilda Neighborhood.

FIGURE 25 **Illustrative Discovery Neighborhood Diagram (Artist Rendering)**



4.3 Land Use Districts

To implement the land use goals and policies, the Specific Plan contains eleven Land Use Districts, along with one combining district. Each Land Use District regulates allowable land use, floor area ratio, and other design standards in Moffett Park. The combining district serves as an overlay across a select area of Moffett Park, with the goal of preserving and enhancing crucial wetland habitat.

Example rendering of activity center; Source:Republic

ACTIVITY CENTER (MP-AC)
Activity Center districts are vibrant, mixed-use places that allow a mix of office, residential, and commercial uses. The district accommodates neighborhood-serving commercial uses, community services, and entertainment in ground floor storefronts facing public streets, parks, and open space. To achieve the highest office densities, the Activity Center district requires a minimum amount residential uses to ensure day/night activity within the area, and to support neighborhood-serving commercial uses. Buildings have minimal setbacks. Parking is accommodated in structures, with a focus on shared and district parking strategies. Non-residential FAR from 35% up to 75% with community benefits; minimum residential density is 40 du/ac.

Jackson Apartments in Seattle, WA; Source: Google

RESIDENTIAL (MP-R)
Residential districts allow for very high density housing. Residential neighborhoods and developments are typically located near the Activity Center district and within a short walk to VTA light rail. Minimum residential density is 70 du/ac.

Example rendering of Mixed-Use building; Source: MITHUN

MIXED-USE (MP-MU)
Mixed-Use districts provide land use flexibility for property owners, allowing standalone residential, standalone office, or a mixed-use development. The Mixed-Use district allows dense residential or office development to provide flexibility in specific locations within the plan area. The Mixed-Use district does not require a minimum amount of residential uses. Non-residential FAR from 35% up to 100%.

Example rendering of office building; Source: Jay Paul Company

OFFICE (MP-O1) AND (MP-O2)

Office districts provide for higher-intensity corporate and professional office uses. Office districts include high-quality public spaces organized into a larger block structure.

- The MP-O1 district provides for the potential densification of existing office campuses in the West Mathilda and Discovery Neighborhoods up to 100% FAR with community benefits.
- The MP-O2 district allows for up to 135% FAR with community benefits, the highest intensity of office uses in proximity to the MP-AC, MP-R, MP-MU, and high-quality transit.

Example of Mixed-Employment in Moffett Park

MIXED EMPLOYMENT (MP-E1), (MP-E2), (MP-E3)

The Mixed-Employment districts allow for a mix of office, light industrial, and other non-residential uses, as well as open space. Each Mixed-Employment district is unique in character building on its historic development pattern and described as follows:

- The MP-E1 district is the former US Navy property. It allows for a mix of uses, including corporate and professional office in an urban pattern with integrated open space. Non-residential FAR from 35% up to 75% with community benefits and up to 150% with transfer of development rights. Future development and allowed uses on the site are contingent on the on-site cleanup and remediation.
- The MP-E2 district provides the opportunity for a mix of office, R&D, and industrial uses. Non-residential FAR from 35% up to 50% with community benefits and up to 100% with transfer of development rights.
- The MP-E3 district allows for a mix of office, R&D, and light industrial. A portion of the district is partially located within the Ecological Combining District, and allows for the clustering of future development away from the combining zone and the ability to transfer development rights to minimize the amount development near sensitive habitat. The allowed non-residential FAR is 35%. The MP-E3 district may not receive transferred development rights and has no option for Bonus FAR.

Hilton Hotel in Des Moines, IA

HOSPITALITY (MP-H)

The Hospitality district allows for hotel uses up to 100% FAR.

"Foothill College Sunnyvale Center" by Coolcaesar, licensed under CC BY-SA 4.0

PUBLIC FACILITIES (MP-PF)

The Public Facilities land use district includes the Santa Clara Valley Water East and West Sunnyvale and City-owned properties as well as properties used by the U.S. Veterans Affairs Department and Foothill/De Anza Community College District.

"London Wetlands" by Jon Aker licensed under CC BY 2.0

ECOLOGICAL COMBINING DISTRICT (ECD)

The Ecological Combining District preserves and enhances the existing green space and biological resources located at the northwest corner of Moffett Park and provides open spaces with limited public access and passive recreation. The ECD does not limit the gross parcel area for determining the amount of development permitted. The ECD restricts new private development within the zone and special design standards regulate development within and adjacent to the ECD boundary. See Chapter 6 for more details on the special design standards.

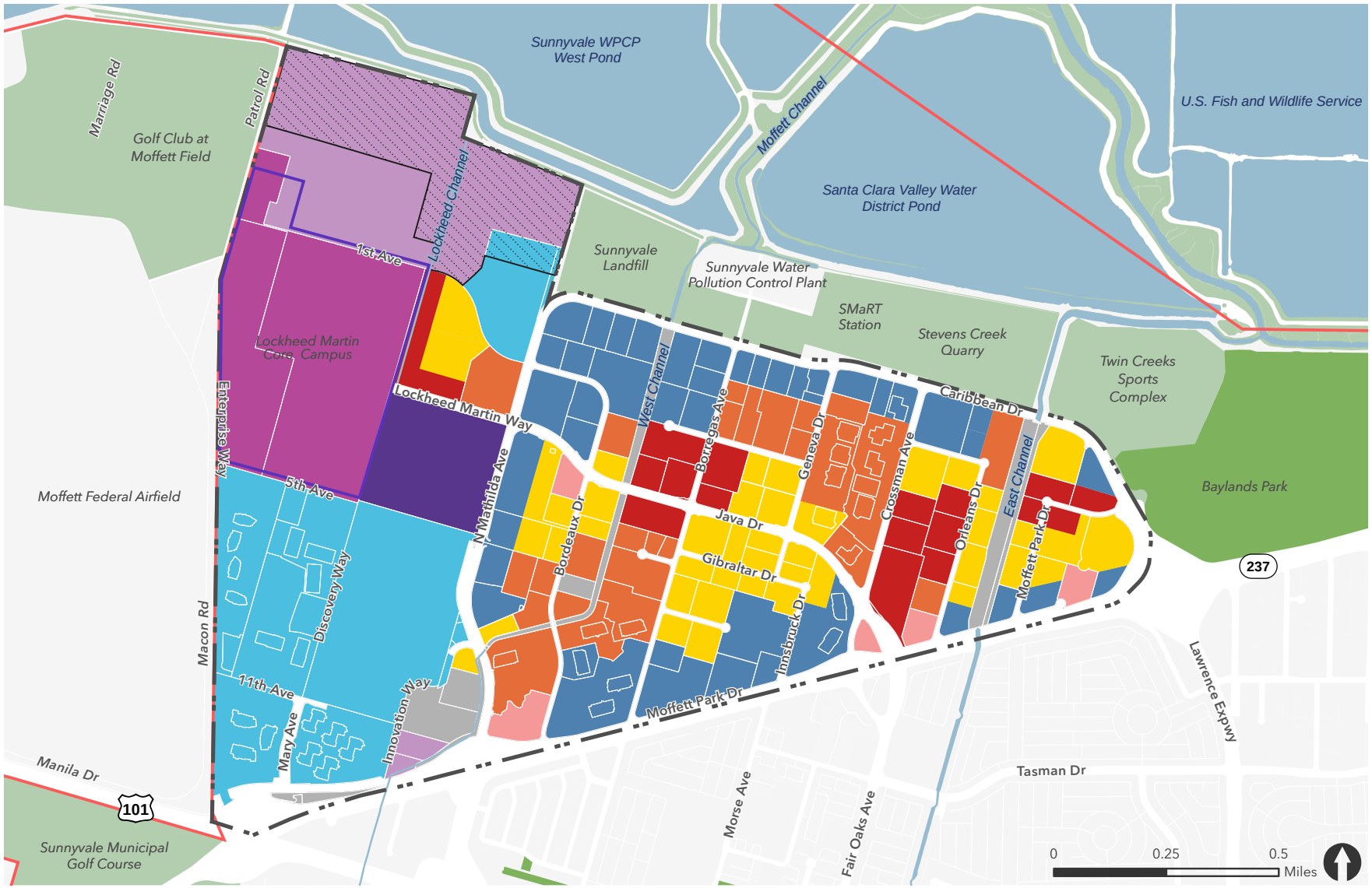


FIGURE 26 Land Use Districts

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021)

- MP-O1: Office 1
- MP-O2: Office 2
- MP-E1: Mixed Employment 1
- MP-E2: Mixed Employment 2
- MP-E3: Mixed Employment 3
- MP-AC: Activity Center
- MP-MU: Mixed Use
- MP-H: Hospitality
- MP-R: Residential
- MP-PF: Public Facilities
- Ecological Combining District
- Specific Plan Boundary
- City of Sunnyvale Limit
- Water/Channel
- Lockheed Martin Core Campus

4.4 General Land Use

This section describes the allowable uses in Moffett Park. Land uses are regulated by the Land Use Districts defined in Section 4.3.

STANDARDS

1. **Allowable land uses.** Allowable land uses for each Land Use District are listed in the Zoning Code.
2. **Residential uses.** Residential uses are only allowed within the following districts: MP-AC, MP-MU, and MP-R.

A base density/intensity and maximum density/intensity are defined for each Land Use District, with the highest intensities in the MP-AC district and areas closest to transit and neighborhood serving commercial amenities.

- Non-residential development. Floor area ratio (FAR) is used to regulate non-residential developments and/or the non-residential component of a mixed-use development. Additional FAR for non-residential developments, up to the bonus maximum, may be granted to developments that contribute to community benefits and/or district-level improvements. Developments may also exceed the Bonus FAR Maximum for the district through the Transfer of Development Rights (TDR) Program up to the Total FAR Maximum. Developments requesting TDR must first meet the requirements for Bonus FAR through the provision of community benefits.
- Residential developments. Residential and mixed-use development within the MP-AC and MP-R have a minimum residential density. There is no residential density minimum for MP-MU. All residential districts do not have a maximum density but are limited through form-based standards including setbacks, lot coverage, height, FAR, and required publicly accessible open spaces.

DEFINITIONS

- **Base FAR.** Maximum allowed non-residential intensity for a parcel without the addition of Bonus FAR.
- **Bonus FAR.** Allowed office and R+D intensity for a parcel if development meets Bonus FAR Development standards, including community benefits, on net new floor area.
- **Total FAR Maximum.** Maximum density for a parcel inclusive of office and R+D floor area, commercial and retail areas, residential floor area, and TDR floor area from sending parcels.
- **Residential Density Minimum.** Minimum density (dwelling units per acre) for new residential development.
- **Bonus FAR Development.** Developments that exceed the allowed non-residential Base FAR are deemed Bonus FAR developments.
- **Development Reserve.** Bonus FAR Developments are eligible to apply for bonus floor area allocation from the Development Reserve. The Development Reserve includes allowed net new office, R+D, and industrial floor area studied and covered under the EIR/CEQA documentation.

TABLE 2 Office and Residential Intensity and Density Standards by Land Use District

Land Use District	Office and R+D Base FAR	Office and R+D Bonus FAR Maximum	Residential Density Minimum	Total FAR Maximum*
MP-AC	35%	75%	40 du/a	450%** 150% Office
MP-R	-	-	70 du/a	350%**
MP-MU	35%	100%	Allowed, no minimum required	400% 200% Office
MP-O1	35%	100%	-	150%
MP-O2	35%	135%	-	200%
MP-E1 (Navy)	35%	75%		150%
MP-E2 (LHM)	35%	50%	-	100%
MP-E3	35%	-		35%
MP-H	-	-		100%
MP-PF	-	-	-	-

* Total FAR Maximum is the total of Office and R+D Bonus FAR Maximum, residential floor area, commercial and retail floor area, creation and innovation space, and additional Transfer of Development Rights Program incentives (Section 4.6).
** MP-AC and MP-R developments in the Chesapeake neighborhood may exceed the Total FAR Maximum by up to 100% FAR due to additional height allowances.

STANDARDS FOR ALL DEVELOPMENT

The following standards apply to all new development in Moffett Park.

1. **Site Master Plan.** All developments shall submit a Site Master Plan Application. Site Master Plans identify horizontal development, streets, open spaces, district infrastructure, and allocation of vertical development.
2. **Allowed floor area and density.** Allowed floor area and density are defined by Land Use District in Table 2. Allowed floor area and density is based on the gross parcel area.
   a. **Non-residential FAR.** "Base" and "Bonus" FAR intensity are established for each Land Use District.
   b. **Residential density.** Minimum residential densities are set for the MP-AC and MP-R districts. There are no residential maximum densities.
3. **Height.** All districts have maximum height. See Section 5.3.1 (Figure 30) for maximum height per district.
4. **Landscaping.** All development shall comply with the Sunnyvale Municipal Code Title 19 Section SMC 19.37.
5. **Transportation, park, and open space dedications and easements.** Any new dedication or easement for a street, path, or other transportation connection or open space shall not be deducted from a site's gross lot area for the purposes of calculating FAR.
6. **Consolidated density.** As part of a Site Master Plan, Bonus FAR and residential density may be consolidated across parcels within the neighborhood boundaries in Figure 19.
7. **Split parcels.** If a parcel includes more than one Land Use District, the site development shall be based on the land area within each Land Use District. At the City's discretion, a weighted average may be distributed without regard to the Land Use District boundary, provided the Total FAR Maximum is not exceeded.
8. **Exemptions.** The following building area may be exempt from a project's development's gross floor area, including allowed FAR, community benefit, or development reserve calculations, subject to approval from the decision-making body.
   a. **Neighborhood-serving uses.** As defined in Section 4.6, neighborhood-serving uses may be excluded from gross floor area for Bonus FAR non-residential development, mixed-use projects development with a residential component, and residential development. The maximum floor area exemption shall not exceed 10% of the project's development's gross floor area (up to 20,000 SF). Creation or Innovation space (excluded from FAR but not from Development Reserve)
   b. **District parking facilities or infrastructure.** Building spaces devoted to district parking or district infrastructure shall be excluded from allowable gross floor area calculations if these uses facilities are provided.
9. **Existing City fees and linkage programs.** All development must provide the City-specified impact fees and other requirements.
   a. Development shall make community benefits contributions with minimum value proportional to the development's building square footage in excess of the Base FAR.
   b. In lieu of monetary payment of community benefit contributions, development proponents may propose to provide a community benefit or district improvement project as defined in Table 3 in excess of the amount required under existing City and Specific Plan regulations or fee programs.
   c. **Exception for transferred Base FAR with common ownership.** Base FAR transferred between properties with common ownership and within neighborhood boundaries are not subject to community benefit requirements. Base FAR transferred to another property owner shall be subject to contribute to community benefits for receiving property.

STANDARDS FOR RESIDENTIAL DEVELOPMENT OR THE RESIDENTIAL COMPONENT OF MIXED-USE DEVELOPMENT

Residential development or the residential component of a mixed-use development may exceed the minimum density up to the Total FAR Maximum if they meet all of the following requirements, in addition to the Standards for All Development requirements above.

1. **Green building standards.** All residential development shall achieve a minimum of 120 points on the Green Point Rated system.
2. **Usable open space and landscaping.** All development shall comply with the Sunnyvale Municipal Code Title 19 (Zoning).
3. **Provision of open space versus payment of park dedication in-lieu fees.** Where open space types are identified in the Parks and Open Space Framework (see Chapter 6), developments are required to provide open space for public use which will credit toward the park dedication requirements. Residential densities are be based on gross lot area.
4. **Affordable housing.** Residential developments shall provide no less than fifteen percent (15%) of all units, rental or ownership, as deed restricted affordable housing units in accordance with the parameters of the City's Inclusionary Housing Program.
5. **Alternative pathway to meet affordable housing requirement.** Developers may request to meet inclusionary housing requirements through a variety of alternatives, as outlined in Sunnyvale Municipal Code Title 19 (Zoning).

STANDARDS FOR BONUS FAR DEVELOPMENTS

Non-residential developments or the non-residential component of a mixed-use development may pursue Bonus FAR if they meet all of the following requirements, in addition to the Standards for All Development requirements above.

1. **Bonus FAR developments.** A Bonus FAR development shall meet all the following requirements, in addition to the Standards for All Development requirements above, and contingent on remaining available floor area in the Development Reserve.
   a. Base FAR transferred between properties with common ownership and within neighborhood boundaries are not subject to community benefit requirements for net new Bonus FAR.
   b. Base FAR transferred to another property owner shall be subject to contribute to community benefits for receiving property.
2. **Development Agreement.** A Development Agreement shall be required for any projects requesting Bonus FAR
3. **Green building standards.** All new non-residential projects developments shall meet City's green building Program requirements and achieve LEED BD+C Platinum. New development shall conduct a whole-building life-cycle assessment per the Building Life-Cycle Impact Reduction Credit.
4. **Park and open space dedications or easements.** Where open space types are identified in the Parks and Open Space Framework, the development shall contribute the open space onsite and in designated locations as part of its community benefits contribution.
5. **Community benefit requirement.** Non-residential Bonus FAR development shall contribute to community benefits.
   a. **Community benefits contribution.** Developments that contribute to community benefit fund or construct facilities considered community benefits shall receive a density bonus up to the Maximum FAR not including TDR. The density bonus amount for a given development shall depend on the contribution to the community benefit and compliance with other requirements. No development requirements established by the Specific Plan, the City Code, or other law or ordinance may be considered a community benefit for purposes of satisfying this requirement.
   b. **Community benefit value.** Bonus FAR development shall make community benefits contributions with minimum value proportional to the development's building square footage in excess of the Base FAR. In lieu of monetary payment of community benefit contributions, development proponents may propose to provide a community benefit or district improvement project as defined in Table 3 in excess of the amount required under existing City and Specific Plan regulations or fee programs.
   c. **Exception for transferred Base FAR with common ownership.** Base FAR transferred between properties with common ownership and within neighborhood boundaries are not subject to community benefit requirements. Base FAR transferred to another property owner shall be subject to contribute to community benefits for receiving property.

TABLE 3 Potential District Community Benefits

Type	Description
Open space	New dedicated or publicly accessible open space beyond standards in the Specific Plan and City Parkland Dedication Ordinance requirements.
Public uses	Dedication of land for public uses, including community centers, schools, and other government facilities, such as police substation, in excess of the amount required under existing City and Specific Plan regulations.
Affordable housing	Development of affordable housing units on or off-site within Moffett Park, in excess of the amount required under existing City and Specific Plan regulations.
District transportation or utility improvements	Off-site transportation, infrastructure, and utility improvements in excess of required contributions that address the fair share of impacts needed to serve the development.
Retention and/or expansion of existing small business or non-profits, including below market rate creation and innovation spaces	Supporting or subsidizing small, local businesses in excess of the amount required under existing City and Specific Plan regulations.
Shared parking facilities	Constructing or otherwise providing publicly accessible parking facilities to serve district-wide parking needs.
Community facilities	Development of childcare facilities or other community serving facilities provided as below market rate space or as approved by the City Council.
Ecological or environmental enhancements	On-site or off-site improvements related to ecological enhancement or environmental stewardship.
Community Benefit Fund	Contribution to the City's Community Benefit Fund
Other	Other benefits proposed by applicants and approved by the City Council that further the Guiding Principles.

4.5 Transfer of Development Rights Programs

The Specific Plan allows transfer of non-residential development rights to incentivize the Specific Plan priorities related to open space, urban ecology, public school, publicly accessible open space, and community facility site acquisition, and residential development.

STANDARDS

1. **Transfer of Development Rights (TDR) Programs.** Non-Residential Bonus FAR Maximums may be exceeded through the transfer of development rights from one parcel to another parcel within Moffett Park. The Specific Plan establishes three TDR programs.
2. **General provisions.** The following general provisions apply to all TDR programs.
   a. **Eligible sites.** Parcels that are "receiving" sites may receive additional non-residential floor area from "sending" sites. Receiving and sending sites must be within Moffett Park.
   b. **Allowable transfers.** All the non-residential floor area on a sending parcel may be transferred in its entirety, to a single receiving parcel, or in separate increments to several receiving parcels. Receiving parcels may receive floor area from multiple sending parcels. Individual receiving parcels may not exceed the Total FAR Maximum.
   c. **TDR procedures.** The following procedures are required for any transfer of development rights.
      i. **City Planning Permit approval.** The transfer of development rights shall be initiated with a City Planning Permit to be approved by the Director unless addressed through a Development Agreement and approved by the City Council.
      ii. **Documentation of transfer.** The owner of the sending site shall document the transfer, which shall contain:
         01. The names and mailing addresses of the owner of the sending site and owner(s) of the receiving site(s) of the floor area.
         02. Execution and acknowledgment of the transfer of the gross floor area by the sending site owner, all parties with record title interest in the real property of the sending site and the owner(s) of the receiving site of the gross floor area.
         03. The amount of floor area transferred (in square feet).
         04. The addresses, legal descriptions, assessor's parcel numbers, and the Specific Plan Land Use District of the sending site and receiving site.
      iii. **Recording the transfer.** Each transfer shall be recorded with the County Recorder's office, and the process shall be initiated by the owner of the sending site. The Recorder shall be instructed to mail the transfer to the owner of the sending site, owner(s) of the receiving site(s), and the City.
      iv. **Issuing of building permits.** The City shall not issue any building permits for the receiving parcel unless the City has verified that the owner of the receiving site is entitled to the amount of floor area for the development based on a recorded document of transfer.

d. **Fees for transferred square footage.** The receiving non-residential development shall not be required to pay City's commercial linkage fees on the transferred non-residential square feet.

3. **TDR Programs.** Three TDR programs seek to incentivize the Specific Plan priorities related to open space, urban ecology, public school and community facility site acquisition, and residential development as follows:

a. **Public schools, publicly accessible open spaces, and community facilities.** To incentivize the dedication of a school, publicly accessible open space, or community facility site, property owners may maintain rights to demolished non-residential square footage (rather than adding it into the Development Reserve) and transfer square footage to a receiving site for the provision of a public school or community facility on the sending site.

b. **Residential development.** To provide residential developers an additional marketable asset to facilitate housing development, residential development in the MP-R, MP-AC, or MP-MU districts may maintain rights to demolished non-residential square footage (rather than adding it into the Development Reserve).

c. **Ecological Combining District (ECD).** To facilitate the expansion and enhancement of the unique habitat, property owners north of 1st Avenue in the ECD may transfer non-residential building area and developable square footage up to the Base FAR to other sites within Moffett Park.

i. **Habitat Enhancement and Management Plan.** The property owner shall submit a Habitat Enhancement and Management Plan, developed by a qualified biologist, which includes:

01. Habitat enhancements that shall be completed on the sending parcel. Examples of habitat enhancements include, but are not limited to, the removal of existing buildings, removal of impervious surface, and landscape design and planting to enhance the ecological value of the area.
02. A maintenance and management plan for the ECD.
03. Adherence to additional standards in the Open Space and Urban Ecology Chapter.

ii. **Transferable floor area from the sending sites.** The property owner may transfer floor area up to the Base FAR.

4.6 Neighborhood-Serving Uses

Providing places to dine, shop, socialize, and fulfill daily needs is key to Moffett Park's livability, vibrancy, and ability to create a walkable community, reduce trips and vehicle miles traveled, improve air quality, and reduce greenhouse gas emissions. Moffett Park's neighborhood-serving uses help fulfill daily needs within a short walk or bike ride from new homes and businesses. While allowed throughout Moffett Park, neighborhood-serving uses are required in the activity centers, adjacent to transit, and in neighborhood centers to support active street life.

DEFINITIONS

- **Neighborhood-serving retail and commercial uses.** Neighborhood-serving retail and commercial uses provide goods or services to neighborhood residents, employees, and visitors. Specific uses include retail sales, personal services, financial institutions, service commercial, and restaurants.
- **Neighborhood-serving office and community uses.** Neighborhood-serving office and community uses provide space for non-profit office, personal service offices, medical clinics, medical offices, childcare, adult daycare, yoga/dance studios, education businesses, or other similar uses to support neighborhood residents, employees, and visitors.
- **Medium-format retail.** Medium-format retail includes spaces for tenants such as grocery stores, pharmacies, hardware stores, or other retailers that require larger retail shells typically ranging from 15,000 to 40,000 square feet.

STANDARDS

1. **Neighborhood-serving retail and commercial uses.** The permit requirements for those uses in Zoning Code Title 19, Article 3 apply.
2. **Neighborhood-serving retail and commercial use location.** Neighborhood-serving retail and commercial storefronts are required on building frontages adjacent to all locations identified in Figure 27.
3. **Neighborhood-serving retail and commercial ground floors.** Frontages shall meet the following standards:
   a. **Ground floor frontage.** Within North Java, South Java, and Crossman neighborhoods, a minimum 85% of building frontage identified in Figure 27 shall be retail and commercial storefronts. For other neighborhoods, a minimum 50% of building frontage identified shall be retail and commercial storefronts.
   b. **Ground floor depth.** Ground floor retail and commercial storefronts shall have a minimum depth of 25 feet and a minimum of 50% of the frontage shall have a minimum depth greater than 50 feet.
   c. **Ground floor design.** Ground floor retail and commercial storefronts spaces shall meet design standards regardless of ground floor use.
4. **Medium-format retail.** To ensure the ability to attract larger retailers to serve the daily needs of Moffett Park residents, new development in locations identified on Figure 27 shall provide the following size retail shells. These shells may be temporarily subdivided through a minor use permit.
   a. A minimum of one ground floor commercial tenant space with a minimum floor area greater than 15,000 square feet shall be located in the medium format area in the North Java neighborhood.
   b. A minimum of one ground floor commercial tenant space with a minimum floor area greater than 15,000 square feet shall be located in the medium format area in the South Java neighborhood.

c. A minimum of one ground floor commercial tenant space with a minimum floor area greater than 30,000 square feet shall be located in the medium format retail area in the Crossman neighborhood.

5. **Neighborhood-serving office and community uses.** The permit requirements for those uses in Zoning Code Title 19, Article 3 apply.
6. **Neighborhood-serving office and community uses floor area requirements.** Neighborhood-serving office and community uses may be provided on ground or upper floors. Neighborhood-serving office and community uses may not be provided in lieu of neighborhood-serving retail and commercial frontage requirements.
   a. A minimum of 10,000 square feet each for neighborhood-serving office and community uses be located in the MP-AC zoned area in the North Java neighborhood.
   b. A minimum of 10,000 square feet each for neighborhood-serving office and community uses be located in the MP-AC zoned area in the South Java neighborhood.
   c. A minimum of 20,000 square feet each for neighborhood-serving office and community uses be located in the MP-AC zoned area in the Crossman neighborhood.
7. **Space for community center and library uses.**
   a. A minimum of one ground floor community space with a minimum floor area greater than 15,000 square feet shall be located in the MP-AC zoned area in the North Java neighborhood.
   b. A minimum of one ground floor community space with a minimum floor area greater than 15,000 square feet shall be located in the MP-AC zoned area in the Crossman neighborhood.

FIGURE 27 Neighborhood-Serving Use Locations

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020); California Department of Fish and Wildlife (2021)

- Retail Frontage Required
- Medium Format Retail Area
- Potential Open Space Locations
- (1) Frontages facing Borregas Square, paseos, and other public plazas in the North Java Activity Center. Location of Borregas Square is flexible as as outlined in Chapter 6.
- (2) Frontages facing public plazas and paseos in the South Java Activity Center.
- (3) Frontages facing Crossman Square. Location of Crossman Square is flexible as as outlined in Chapter 6.
- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

4.7 Innovation and Creation Space

To ensure a diversity of businesses within Moffett Park, the plan has a goal to create 750,000 square feet of Innovation and Creation space for small and start-up businesses and non-profits. A portion of all new office, R+D, and industrial development will be required to provide Innovation and/or Creation space. Through the Site Master Plan process, these spaces may be consolidated into one site and/or adjacent sites. It is preferred that Innovation Spaces are located within or near activity centers to provide a diversity of employment close to transit and within proximity to daily needs.

DEFINITIONS

- **Innovation space.** Innovation space is intended to provide floor area for small businesses, start-ups, and accelerators.
- **Creation space.** Creation space provides floor area designed for and leased to production, distribution, repair businesses, art or crafting, clean manufacturing, construction industries, start-up spaces, or spaces for other similar creation space. The permit requirements for those uses in Zoning Code Title 19, Article 3 apply.

STANDARDS

1. **Innovation and creation space minimum area.** A minimum of 7.5% of all net new office and R+D space shall be provided as innovation or creation space. Creation space floor area may be counted at 1.5 times innovation space to meet minimum amount (i.e., 10,000 square feet of creation space = 15,000 square feet of innovation space).
2. **Innovation and creation space consolidation.** Innovation and creation space may be consolidated into one site and/or adjacent sites through the Site Master Plan process.
3. **Design standards for innovation space.**
   a. Innovation spaces shall be divisible into floor areas down to 3,600 square feet and have a floor-to-floor height of 15 feet.
   b. Innovation space leases shall be limited to 20,000 square feet per lessee.
   c. Innovation spaces shall be located within MP-AC and MP-MU districts to the extent feasible.
4. **Design standards for creation space.**
   a. Creation spaces shall be located on the ground floor and have a floor-to-floor height of 20 feet.
   b. Creation space shall not be located adjacent to or across from residential uses.
   c. Creation Space leases shall be limited to 40,000 square feet per lessee.

4.8 Development Reserve

The Specific Plan establishes a Development Reserve to limit overall growth in Moffett Park and to provide incentives for developments that further the vision for an ecological innovation district. The Development Reserve sets aside square footage for which individual developments may request allocation. Approved allocation from the reserve permits a development to exceed the Base FAR of the site up to the Bonus FAR Maximum for the Land Use District. The Development Reserve allocates Bonus FAR to each neighborhood in Moffett Park to ensure growth targets can be met across the site. The Development Reserve sets up a "small project reserve" for smaller development projects.

DEFINITIONS

- **Base FAR reserve.** The Base FAR reserve consists of 2,000,000 square feet of net new office, R+D, and industrial floor area for existing parcels to meet their Base FAR density.
- **Neighborhood reserve.** The neighborhood reserve consists of 6,750,000 square feet of net new office, R+D, and industrial floor area distributed by neighborhood for Bonus FAR Development. Distribution of the neighborhood reserve is established in Table 4.
- **Small project reserve.** The small project reserve is a 1,250,000 square feet Development Reserve for Bonus FAR Development with net new office, R+D, and industrial floor area less than 150,000 square feet.

STANDARDS

1. **Development Capacity.** This Specific Plan establishes a Development Capacity of 10,000,000 net new square feet of office, R+D, and industrial floor area (above already entitled developments at the time of plan adoption). The Development Reserve is divided into a "small project reserve" and "neighborhood reserve."
   a. **Neighborhood reserve.** The neighborhood reserve allocates non-residential Bonus FAR to each neighborhood in Moffett Park to support development of an ecological innovation district.
   b. **Small project reserve.** The small project reserve may be accessed for any single development where the net new office, R+D, and industrial floor area allocation is less than 150,000 square feet. Project applicants may access the special reserve within a multi-owner Site Master Plan if ownership of single development within Site Master Plan is identified and verified as separate from other ownership within a Site Master Plan. Fifty percent of the small project reserve sunsets five-years after Specific Plan adoption, with any remaining floor area up to 50% of the original reserve amount returning to the neighborhood reserve. The remainder of the small project reserve sunsets ten-years after Specific Plan adoption.
2. **Neighborhood-serving uses and hotel exemption.** Neighborhood-serving uses and hotels are not calculated as part of the Development Reserve.
3. **Council Approval.** All use of the Development Reserve is subject to City Council approval.
4. **Monitoring.** The City shall monitor development in Moffett Park to ensure the

maximum allowable net new development certified in the Moffett Park Specific Plan EIR (i.e., 20,000 residential units and 10,000,00 square feet of office, R+D, and industrial uses) is not exceeded. The City will review the development by neighborhood every five years and either reconfirm the distribution or amend it based on the needs of the community and the emerging development patterns.

5. **Adaptative action.** If monitoring shows that the total net new office, R&D, and industrial development outpaces housing development and open space provision, district wide or per neighborhood, the City may take adaptive actions to facilitate housing growth and open space provision. Monitoring shall occur every three years.
   a. **Thresholds.** The following district-wide thresholds are established:
      i. 50% office, R+D, and industrial uses allocated and less than 33% housing units and/or less than 50% open space provision permitted, or master planned.
      ii. 75% office, R+D, and industrial uses allocated and less than 66% housing units and/or less than 75% open space provision permitted, or master planned.
   b. **Additional actions.** If the thresholds are not met, the City may take adaptive actions. Actions may include, but are not limited to: not granting any new Development Reserve allocation for net new square footage in Moffett Park, requiring additional master planned housing and/or open space, increasing community benefits for allocation of Development Reserve.

TABLE 4 Development Reserve

Neighborhood	Land Area (Gross)	Development Reserve (Net New Floor Area)	Estimated Office, R+D, and Industrial Total Floor Area at Plan Buildout	Estimated Residential Range at Plan Buildout	Estimated Open Space at Plan Buildout
West Mathilda	399 acres	800,199 sf	5,500,000 sf	1,800-2,200 du	123 acres
Discovery	246 acres	715,344 sf	7,700,000 sf	200-400 du	9 acres
North Java	149 acres	990,775 sf	3,500,000 sf	2,400-3,200 du	31 acres
South Java	261 acres	2,479,729 sf	7,100,000 sf	5,600-7,400 du	22 acres
Crossman	150 acres	1,600,948 sf	4,000,000 sf	4,300-5,800 du	30 acres
Chesapeake	70 acres	222,602 sf	1,000,000 sf	2,200-3,200 du	11 acres
Base FAR Reserve		2,000,000 sf	2,000,000 sf		
Small Project Reserve		1,200,000 sf	1,200,000 sf		
Totals	**1,275 acres**	**10,009,597 sf**	**32,000,000 sf**	**16,000-20,000 du**	**226 acres**

4.9 Dedication and Easement Requirements

The following section describes the dedication and easement requirements for new Complete Streets and open spaces. Additional design standards for Complete Streets are included in Chapter 5 Development Standards and Chapter 7 Mobility. Additional design standards for open spaces are included in Chapter 6 Open Space and Urban Ecology.

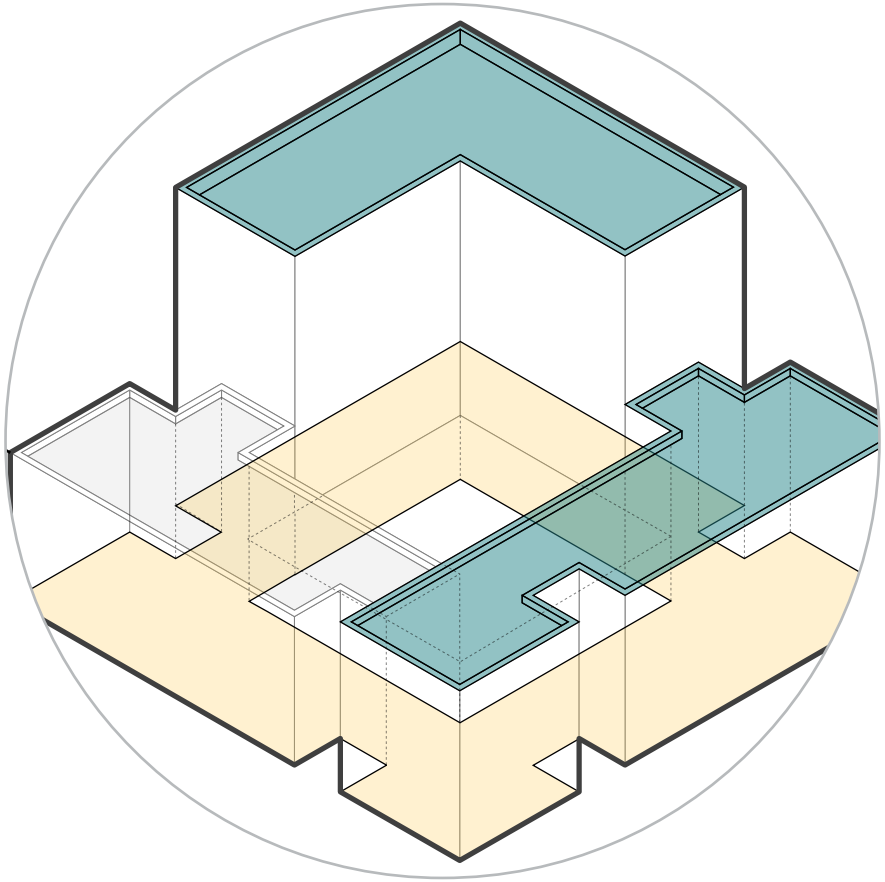
STANDARDS

1. **Complete street requirements.** The following standards apply to modification of existing and new complete streets.
   a. **Complete street improvements.** Complete street design standards, including sidewalk widths and bicycle facilities, are identified in Chapter 7. Where existing public streets do not meet these standards, or where new streets are identified, property owners shall provide an easement and dedicate the streets, as required in Chapters 5 (Development Standards) and 7 (Mobility). Improvements shall be constructed by the development as described below.
   b. **Complete street dedications.** Street elements shall be dedicated to the City as follows:
      i. Additions to existing public streets shall be widened through a street easement or dedication depending on City Council direction.
      ii. New public streets shall be dedicated to the City.
      iii. New private, publicly accessible streets and connections shall be dedicated as public access easement. Maintenance and operations shall be the responsibility of the property owner unless determined otherwise by the City. Pedestrians, bicycles and similar modes must be permitted public access. New fire access routes will require an emergency access easement. Maintenance and operations shall be the responsibility of the property owner.
   c. **Street Improvements.** At time of development, street improvements shall be made to meet appropriate standards outlined in as required in Chapters 5 (Development Standards), 6 (Open Space and Urban Ecology), 7 (Mobility), and measures identified in the City's Vision Zero Plan for proactive implementation.
   d. **Partially complete streets implementation.** The developer shall put forward an interim streetscape plan if they do not control both sides of a street. If the City determines that a development cannot implement a functional complete street, the City will determine the street area's temporary condition. The development proponent shall provide fair-share funding of the improvements if the street is not constructed, and a street easement shall be provided.
   e. **Complete street alignment and phasing.** The property owner requesting the first major redevelopment along a new public street shall develop a plan line of the street for the entire street length for review and approval by the City and final recordation with the County Recorder's office, per Sunnyvale Municipal Code 19.06 "Official Plan Lines".

2. **Open space requirements.** The following standards apply to open spaces.
   a. **Open space improvements.** Proposed open space types and design standards, including size, width, and other standards, are identified in Chapter 6. Where required, property owners shall dedicate land or provide an easement consistent with these standards. Improvements shall be constructed by the development.
   b. **Maintenance and operations.** Maintenance and operations shall be the responsibility of the property owner unless determined otherwise by the City.
3. **Utility improvements requirements.** The following standards apply to utilities.
   a. **Existing private utilities.** Private utilities shall be improved up to City of Sunnyvale standards and either maintained as private infrastructure or dedicated to the City.
   b. **New utilities.** All new streets shall be designed and constructed per City standards to include storm, sewer, domestic water, recycled water, and dry utilities.
   c. **Undergrounding utilities.** All utilities need to be underground (per the Sunnyvale Zoning Code).

Cleanwater Construction Project; looking east along the channel in the forebay system; stormwater detention channel

Chapter 5
Development Standards



Development standards support the health and safety of existing and future residents and employees by reducing vehicle miles traveled, contributing to climate mitigation efforts, minimizing the heat island effect, and improving ecological resiliency.

An active, safe, and comfortable public realm contributes to a healthy and sustainable urban environment for users of all ages and abilities. Block structure, building setbacks, and building forms contribute to the activation of streets by creating ground floors that are welcoming as a place for social interaction and mobility. This chapter's development standards are intended to support the health and safety of existing and future residents and employees by reducing vehicle miles traveled, contributing to climate mitigation efforts, minimizing the heat island effect, and improving ecological resiliency.

5.1 Development Standards Goals and Policies

GOALS AND POLICIES

The following goals and policies summarize how the development standards support the implementation of the Moffett Park Specific Plan's vision of an ecological innovation district.

Goal DS-1: WALKABLE NEIGHBORHOODS. Moffett Park is transformed into a series of 15-minute neighborhoods.

Policy DS-1.1: Create a walkable "fine grain core" located in the center of Moffett Park through the creation of network of small blocks, active ground floor building frontages, and pedestrian-scaled architecture.

Policy DS-1.2: Define compact clusters of commercial and retail opportunities oriented around residential and transit hubs that serve as Activity Centers (MP-AC) for the entire district.

Policy DS-1.3: Concentrate high-density, mixed-use residential areas around activity centers and transit hubs.

Policy DS-1.4: Ensure neighborhoods and activity centers have a minimum density of residential uses to support commercial activity.

Policy DS-1.5: Ensure each neighborhood has adequate space for retail to serve the daily needs of the residential neighborhoods.

Policy DS-1.6: Create gathering places, including pedestrian plazas, parks, and natural areas adjacent to activity centers.

Goal DS-2: PEDESTRIAN-ORIENTED STREETS AND PUBLIC SPACES. A comfortable, pedestrian focused network of streets and open spaces connects people to activities.

Policy DS-2.1: Create distinct but well-designed delineations and transitions between public and private spaces through interventions that both enhance the public realm and provide a measure of privacy.

Policy DS-2.2: Outside of Activity Centers, provide for enhanced natural and landscaped areas that create a robust urban forest and pedestrian-focused streetscape through wide building setbacks.

Policy DS-2.3: Prioritize the creation of publicly accessible open spaces, streets, and laneways over private common open spaces.

Policy DS-2.4: Consolidate maintenance and operation facilities, utilities, and other infrastructure in areas that do not negatively impact the experience of pedestrians, residents, or tenants.

Policy DS-2.5: Orient parking facilities away from the street and integrate them into building designs or parcel interiors.

Policy DS-2.6: Facilitate a comprehensive network of pedestrian facilities to provide alternatives for private vehicular trips and reduce vehicle miles traveled and contribute to climate mitigation efforts.

Goal DS-3: VARIED NEIGHBORHOOD CHARACTER AND DESIGN STANDARDS. Design standards reflect the character of place, allowing for a diversity of land uses, building types, and intensities.

Policy DS-3.1: Allow for taller buildings within Activity Centers, adjacent to transit, and in clusters to create dense urban neighborhoods to support neighborhood-serving uses.

Policy DS-3.2: Restrict block lengths, building size, and increase pedestrian detailing and scale with the fine grain core.

Policy DS-3.3: Provide flexibility in building designs outside of fine grain core to support corporate campuses and larger-scale office development.

Policy DS-3.4: Create opportunities for open space at the site-level and encourage building design that accommodates both publicly accessible and private open spaces.

Goal DS-4: HEALTHY, CLIMATE-READY SITE AND BUILDING DESIGN. Site and building design reduce energy use and water use, protect public health, and increase climate resilience.

Policy DS-4.1: Decarbonize new developments with low embodied carbon materials, renewable energy generation, and resource efficient design (energy, water, and waste) through development standards and incentives for higher performing new developments.

Policy DS-4.2: Regularly update the Moffett Park Specific Plan's green building incentives and requirements to ensure Moffett Park achieves the vision of an ecological innovation district.

Policy DS-4.3: Make Moffett Park a testing ground for innovation:

- Encouraging cutting-edge design, development, and construction techniques that support deep greenhouse gas reduction and climate resilience; and
- Piloting programs to eliminate emissions from existing buildings.

Policy DS-4.4: Require new development to implement all applicable best management practices (e.g., site design, barriers, ventilations systems) that will reduce air quality exposure, including installing indoor air filtration systems to effectively reduce particulate matter (PM2.5 and PM10) to avoid adverse public health impacts.

Policy DS-4.5: Apply "universal design principles" in the design and review of new development and redevelopment projects so that development is accessible to all people.

Policy DS-4.6: Utilize onsite green infrastructure and stormwater management standards to reduce runoff and impacts on district stormwater systems.

Policy DS-4.7: Where possible, include independent energy systems and solar and battery systems in new developments.

Policy DS-4.8: Encourage the productive use of roof space for PV, solar thermal, and vegetation.

Goal DS-5: ECOLOGICAL SITE AND BUILDING DESIGN. Site and building design enhance urban ecology and increase ecosystem resilience.

Policy DS-5.1: Integrate bird-safe designs into all new developments.

Policy DS-5.2: Encourage plant assemblages drawn from local native ecosystems based on historical, present, and future conditions, and prioritize native species that provide ecological and resilience benefits.

Policy DS-5.3: Outside of Activity Centers, provide for enhanced natural and landscaped areas that create a robust urban forest and pedestrian focused streetscape through wide building setbacks.

Policy DS-5.4: Prioritize the use of vegetation at the site and building level to provide natural shade, reduce energy consumption, reduce reliance on indoor climate control systems, and address urban heat island effects.

Policy DS-5.5: Encourage the implementation of green roofs to support increased biodiversity and other co-benefits.

5.2 Site Design

Site design standards regulate block design, building placement and setbacks, and lot coverage. These standards support the health and safety of future residents and employees by providing standards to ensure a walkable block structure and safe pedestrian experience, reduce vehicle miles traveled, contribute to climate mitigiation efforts, minimize the heat island effect, and improve ecological resiliency.

5.2.1 BLOCK STRUCTURE

To support the mobility vision for an ecological innovation district, redeveloped sites within Moffett Park will need to provide for a new block structure and network of Complete Streets that will connect people and places throughout the district. The density and connectivity of the mobility network is tied to the intensity of development and mix of uses, with Moffett Park divided into two areas. The "fine grain core" area is centered around transit and Activity Centers and will include a small grain walkable block structure that supports the concept of the 15-minute neighborhood. This structure in coordination with the Land Use Districts (Figure 26) and location of neighborhood-serving uses (Figure 27) is essential for providing a healthy environment for pedestrians and reducing vehicle miles traveled. Surrounding the fine grain core area, larger blocks enable corporate campus facilities and larger-scale buildings.

STANDARDS

1. **Block size.** Development applicants shall bring blocks into conformity with the following block standards.
2. **Fine grain core.** Developments within the fine grain core area shall have a maximum block length of 400 feet and a maximum block perimeter of 1,400 feet. See Figure 28 for Find Grain Core Boundary.
3. **Outside fine grain core.** Developments outside the fine grain core area shall have a maximum block length of 600 feet and a maximum block perimeter of 2,400 feet.
4. **Breaks in blocks.**
   - **a.** Blocks may be broken by private or public streets, laneways, or open spaces with a minimum width of 50 feet and a shared bike/pedestrian path with a minimum width of 12 feet.
   - **b.** Breaks shall have a public access easement with a minimum width of 20 feet.
   - **c.** Breaks in blocks may occur through a building courtyard if open to the public at all times and the path of travel is ADA compliant and meets all public access standards.
   - **d.** Alleyways or streets that function primarily as service and vehicle accessways shall not count as a break in block length.
5. **Special location alternative.** The former US Navy site, bounded by 5th Avenue, Mathilda Avenue, Lockheed Martin Way, and the future continuation of Discovery Way, provides a unique opportunity for a large office campus. As an alternative to meeting the fine grain core block structure standards, an applicant may choose to increase publicly accessible open space and limit development of the campus to one mega block with a maximum 1,000 feet by 1,000 feet dimension located at southeastern edge of the site.

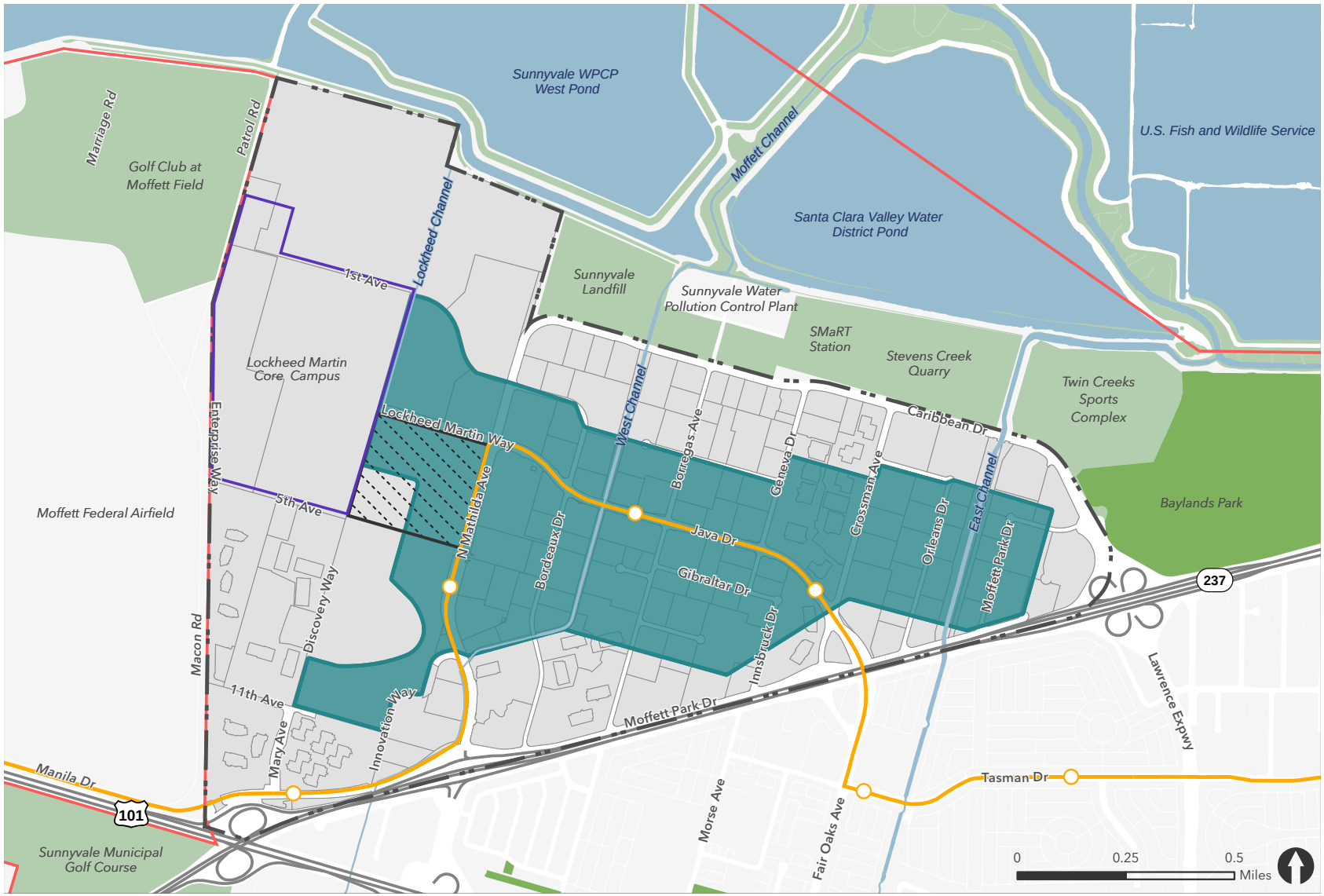


FIGURE 28 Fine Grain Core Area

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Fine Grain Core Area
- Special Location Alternative
- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

5.2.2 BUILDING SETBACKS

Building setbacks help create distinct pedestrian environments. Within Activity Centers, minimal building setbacks will create a dense urban environment with active ground floors lined with neighborhood-serving uses. Outside of the Activity Centers, generous building setbacks provide a gradual transition between the public realm, private ground floor residential, and office uses. The setback areas provide opportunities for landscaping, tree cover, building shading, and stormwater management that will minimize the heat-island effect and protect public health.

STANDARDS

1. **Setback requirements.** All buildings shall meet the minimum setbacks requirements in Table 5 for building frontages along streets, laneways, and public open spaces.
   a. Setbacks are measured from defined developable parcel lines or back-of-walk from a publicly accessible sidewalk or path as defined in a development's Site Master Plan. If fronting a plaza, park, or open space without an adjacent publicly-accessible sidewalk or path, setback shall occur at the edge of the property or access easement.
2. **Setback character.** Developments shall meet the following setback character requirements. Landscape areas may be at grade or in structured planters. Where the vertical distance between back-of-walk and required ground floor finished floor height exceeds 4 feet (except adjacent to the Ecological Combining District (ECD)) stairs and ramps may be excluded from setback character calculations.
   a. **Ground floor storefront.** Setback areas shall function as an expansion of ground floor uses, including outdoor seating, daytime expansion of retail, and/or areas that enhance the public realm. Setback areas are primarily hardscape but may include planters, stormwater management, and trees.
   b. **Activity Center character.** Building setbacks in the Activity Center that are not ground floor storefronts should enhance the public realm and provide a transition between public and private spaces. Building setback areas located in Activity Center districts shall be a minimum 40% landscape area.
   c. **Ground floor office.** Where ground floor office space is provided, the setback character should enhance the public realm through landscaping, private open space areas, and grade separation. Building setback areas abutting ground floor office uses shall be a minimum 80% landscape area.
   d. **Ground floor residential.** Where ground floor residential units are provided, the setback character should enhance the privacy of the residential units through landscaping, private open space areas, and grade separation. Building setback areas abutting ground floor residential use shall be a minimum 60% landscape area.
   e. **Adjacent to channels and Ecological Combining District.** Setback character adjacent to channels and ECD should enhance urban ecology through an appropriate planting palette. Building setback areas abutting ground floor office uses shall be a minimum 60% landscape area.

Example of Mixed-Employment in Moffett Park

f. Parking and driveways. Surface parking and driveways parallel to the street frontage are prohibited within the maximum setback requirements.

3. **Projections.** The following projections are allowed to encroach within required building setbacks:

a. Residential stoops, porches, and terraces that do no exceed 5 feet in height above back-of-walk, that do not exceed more than 30% of setback area, and that do not exceed more than 15 feet in façade length for an individual stoop or porch (see exemption j).

b. Non-residential terraces that do not exceed 4 feet in height above back-of-walk. Where the vertical distance between back-of-walk and required ground floor finished floor height exceed 4 feet, projections may include: necessary ramping and stairs to make up grade; stoops or porches that exceed 5 feet in height; and non-residential terraces that exceed 4 feet in height.

c. Habitable spaces such as bays, balconies, or other building modulations may project up to 3 feet into the setback area. No habitable projection shall exceed 15 feet in length. All projections shall have a minimum vertical clearance of 12 feet above setback area. All projections shall have a minimum separation distance equal to the depth of projection and not exceed 60% of the building façade.

d. Decorative architecture elements, signage, weather protection structures such as canopies, sunshades or other similar features. All projections shall have a minimum vertical clearance of 12 feet above setback area.

e. Fences or railings not greater than 42 inches in height; 40 percent transparency required.

f. Landscape planters, low walls, and landscaped terraces not exceeding 30 inches in height for any one terraced step.

g. Bicycle parking.

h. Permanent seating.

i. Public Art.

TABLE 5 Building Setback Requirements

Land Use	Minimum	Maximum	Percent of Building Frontage with Min/Max
Ground Floor Storefront (applicable to all areas)	0 feet	15 feet 30 feet (with outdoor seating)	80%
Activity Areas and Diagonal			
Ground Floor Office	0 feet	15 feet	70%
Ground Floor Residential Units	5 feet	25 feet	70%
Ground Floor Residential Accessory Spaces	0 feet	25 feet	70%
Other Uses	10 feet	25 feet	60%

Land Use	Minimum	Maximum	Percent of Building Frontage with Min/Max
Mixed-Use Neighborhoods			
Ground Floor Office	20 feet 10 feet (facing publicly-accessible open space and laneways)	40 feet	60%
Ground Floor Residential Units	18 feet 10 feet (facing publicly-accessible open space and laneways)	25 feet	60%
Other Uses	18 feet	25 feet	60%
Office Campus Areas			
Ground Floor Office	10 feet	40 feet	50%
Other Uses	10 feet	40 feet	50%
Java Drive Activity Center (outside Borregas Activity Center)			
Ground Floor Residential Units	5 feet	25 feet	60%
Other Uses	5 feet	25 feet	60%
Java Drive Typical (inside Borregas Activity Center)			
Ground Floor Residential Units	15 feet	25 feet	60%
Other Uses	15 feet	25 feet	60%
Adjacent to Mini-Parks, Plazas, and Paseos			
All Uses	Buildings fronting mini-parks, plazas, and paseoa are exempt from setback requirements.		
Adjacent Valley Water Channels*			
West Channel (areas north of the "turn")	30 feet average (from new parcel line or public access easement defining publicly-accessible open space)	N/A	N/A
Other Setbacks			
Side	0 feet	N/A	N/A
Rear	0 feet	N/A	N/A

* See section 6.5 of the Open Space and Urban Ecology Chapter for more details.

FIGURE 29 Building Setbacks

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Activity Areas
- Mixed-Use Neighborhoods
- Office Campus Areas
- Channel
- Java Typical
- Java Activity Center
- Diagonal
- Specific Plan Boundary
- City of Sunnyvale Limit
- Water/Channel
- Lockheed Martin Core Campus

5.2.3 LOT COVERAGE AND PAVING AREA

Lot coverage and paving area standards limit the amount of impervious coverage for new development, reducing stormwater runoff and minimizing the amount of district stormwater runoff. For development outside of the fine grain core, in addition to publicly-accessible open spaces, development shall have adequate landscape area to support public health and connectedness, increased ecological value, and on-site stormwater management. Standards differ by Land Use District and location within Moffett Park.

STANDARDS

1. **Lot coverage.** Development shall comply with lot coverage maximums in Table 6. Maximum area is based on net parcel areas excluding publicly accessible open spaces and complete street easements and dedications.
2. **Paving area.** Development shall comply with paving area maximums in Table 6. Maximum area is based on net parcel areas excluding publicly accessible open spaces and complete street easements and dedications. Paving area includes any paved or hardscaped area used for vehicular circulation and parking of vehicles.
3. **Landscape area lot coverage.** Development outside of the fine grain core shall have a minimum landscape area of 20% of net parcel area.

TABLE 6 Lot Coverage and Paving Area

District	Building Area	Paving Area
MP-AC	100% Maximum	10% Maximum
MP-R	70% Maximum	15% Maximum
Non-Residential Development Inside Fine Grain Core	80% Maximum	15% Maximum
Non-Residential Development Outside Fine Grain Core	70% Maximum	25% Maximum

5.3 Building Design

5.3.1 BUILDING HEIGHT AND GROUND FLOOR ELEVATION

Building heights in Moffett Park are oriented around the center of the district, with the tallest buildings correlating with the central activity hubs, neighborhood corners, transit stations, and in the Chesapeake neighborhood where additional height is allowed per the FAA rules surrounding the Moffett Federal Airfield. Additional height in the Chesapeake neighborhood will establish a memorable focal point and cluster of dense development to support a walkable neighborhood within a short distance from transit, services, and jobs in the Moffett Park neighborhoods west of the East Channel.

STANDARDS

1. **Maximum building heights.** Building heights shall not exceed the heights identified in Figure 30.
   a. **Compliance with the Moffett Field Comprehensive Land Use Plan.** Additional height for architectural provisions as provided in SMC 19.32.030 are allowed as long as they do not exceed maximum heights set forth by the Moffett Field Comprehensive Land Use Plan.
   b. **Measurement of building height.** "Building height" means the vertical distance measured from the top of the curb closest to the main building, or if there is no curb, from the highest point of the street adjacent to the main building, to the highest point of the main building. Regardless of maximum building heights allowed in Figure 30, all buildings shall meet the height standards set forth by the Moffett Field Comprehensive Land Use Plan.
   c. **ECD daylight plane zone.** For development within the ECD daylight plane zone located in Figure 30, no portion of a building shall be within a 45-degree daylight plane measured perpendicularly from the south edge of the ECD from a height of 30 feet above grade.
   d. **Diagonal terminus sites.** For building locations designed as Diagonal terminus sites in Figure 30, buildings are encouraged to maximize height at corner of parcel to create a strong visual focal point along the Diagonal.
2. **Ground floor finish level.** New buildings shall meet the following ground floor finish level standards.
   a. **Finished floor elevation.** All buildings shall have a ground floor finished level elevation of 12 feet above sea level (NAVD88) and meet all current FEMA Flood Zone Standards. FEMA standard subject to change.
   b. **Ground floor storefront.** Ground floor finished level for storefronts shall be located within 3 feet of sidewalk grade at back of walk. Ground floor storefronts shall meet all necessary ADA requirements.
   c. **Ground floor residential.** Ground floor finished level for residential units shall be a minimum 3 feet above sidewalk grade or setback a minimum 12 feet from back of walk. Ground floor residential units greater than 8 feet above sidewalk grade shall be setback a minimum 15 feet from back of walk.

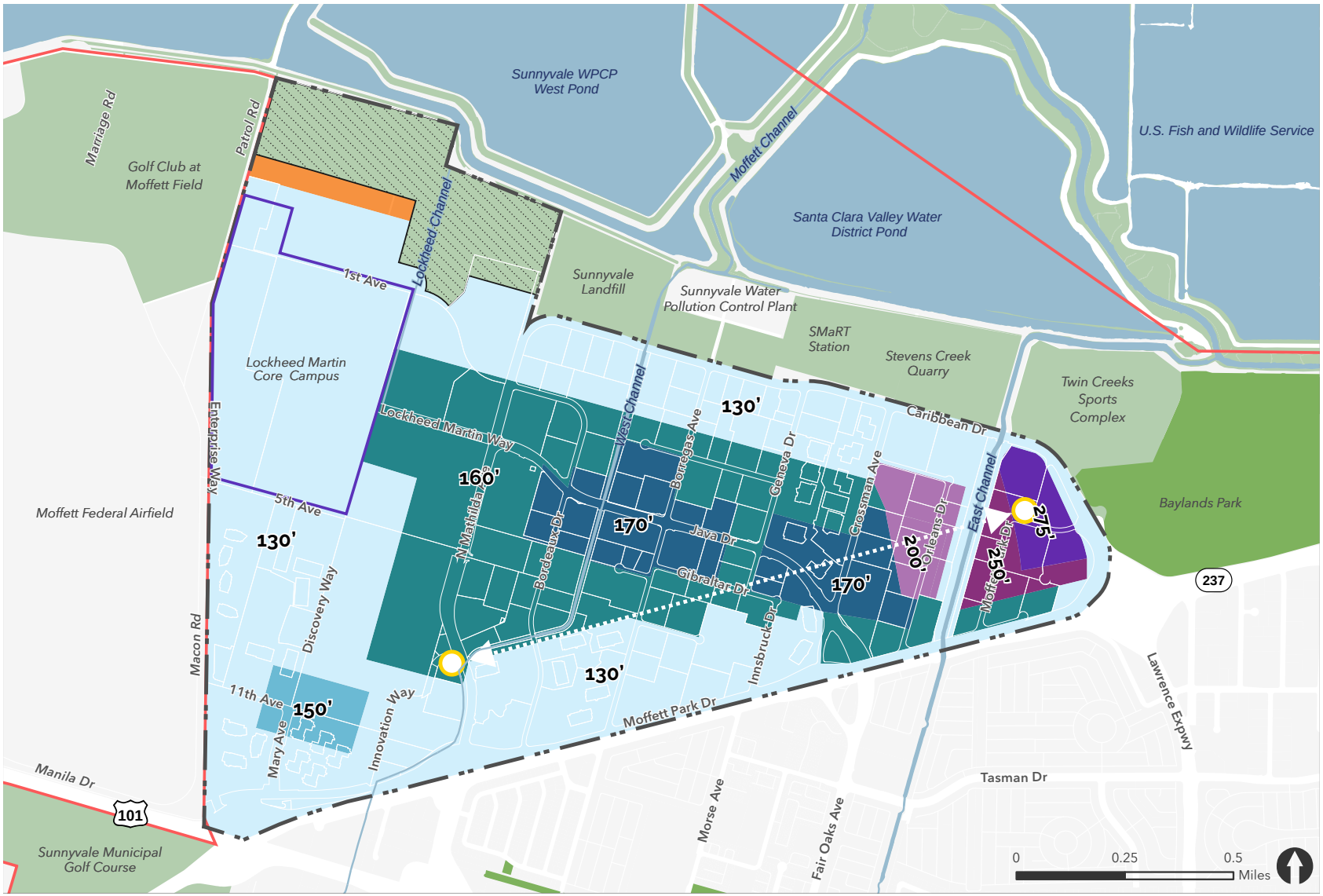


FIGURE 30 Maximum Building Height

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

All building heights measured from grade.

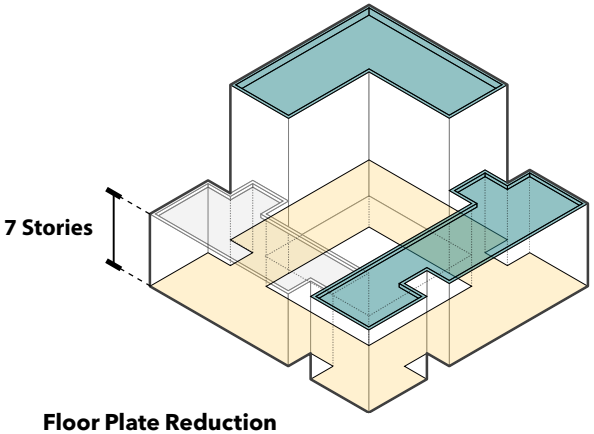
- 130 feet max
- 150 feet max
- 160 feet max
- 170 feet max
- 200 feet max
- 250 feet max
- 275 feet max
- Daylight plan step down for buildings adjacent to ECD
- Ecological Combining District (ECD)
- Diagonal
- Diagonal Terminus Sites
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

5.3.2 BUILDING MASSING

Building massing within the fine grain core should reflect the pedestrian scale nature of the area with a variety of building heights, shorter building lengths, and a rhythm and pattern of building massing that provides a human-scaled architecture with frequent breaks in massing. Outside of the fine grain core, building massing and modulation standards allow for greater flexibility in size and massing of the building.

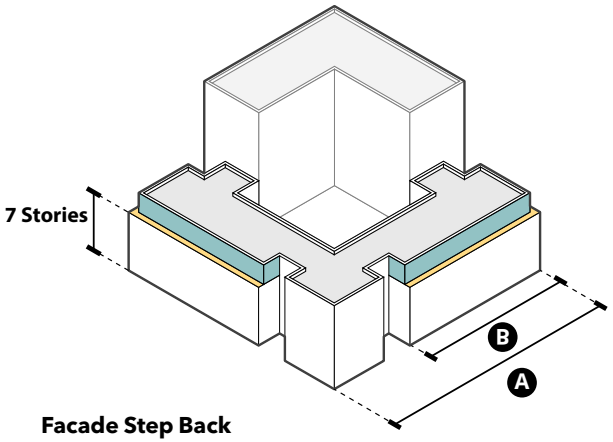
STANDARDS

1. **Building length.** New buildings shall meet the following building length standards.
   a. **Building length in the fine grain core.** Buildings within the fine grain core area shall not exceed 380 feet in length.
   b. **Building length outside the fine grain core.** Buildings outside the fine grain core area shall not exceed 600 feet in length.
   c. **Building length adjacent to the ECD.** Buildings fronting the ECD shall not exceed 120 feet in length parallel to the ECD for the first 100 feet of developable area.
2. **Upper floor massing.** New buildings shall meet the following upper floor massing standards.
   a. **Upper floor massing in the fine grain core.** All buildings within the fine grain core shall meet the following standards:
      i. **Mid-rise buildings.** Buildings greater than 65 feet in height shall provide a variety in building heights and reduce the massing of upper floors through one or more of the following techniques:
      01. **Floor plate reduction.** Building floorplates greater than the 7th story in height shall include a floor area less than 75% of the ground floor area or the building floor area of the podium level, whichever is less; or
      02. **Façade step back.** Step back façade of floors above the 7th story for a minimum depth of 10 feet for a minimum 60% of the total façade perimeter length dimension of all complete streets and change to "publicly accessible" open space facing facades.



Floor Plate Reduction

- Ground floor area **or** building floor area at podium level
- Floorplate above > 7th story height ≤ 75% of

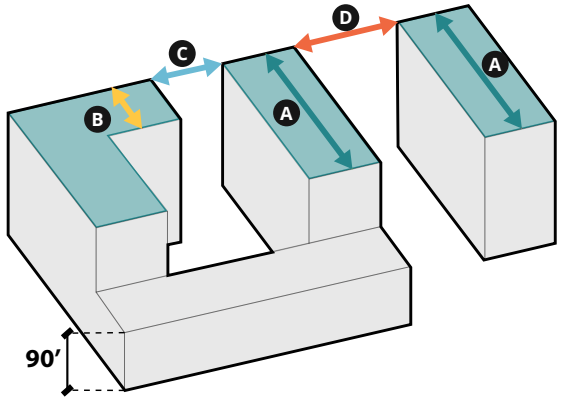


Facade Step Back

- A Street facing facade dimension
- B Stepped back facade of floors above 7th story for a minimum 60% length of A
- Floors above 7th story height step back
- Step back minimum 10' deep

ii. High-rise buildings. Any portion of a building greater than 90 feet in height within the fine grain core area shall meet the following standards:

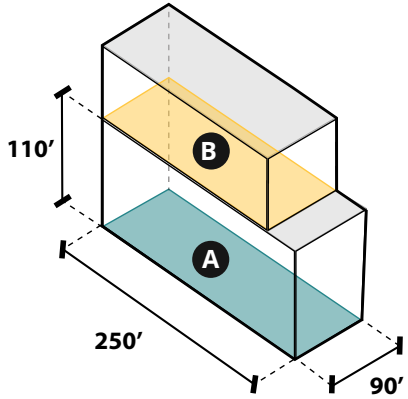
01. **High-rise building spacing.** The applicable building portion shall be located a minimum 60 feet from all other buildings greater than 90 feet in height regardless of whether the adjacent building is on the same parcel or different parcel.
02. **High-rise building façade.** Building facades greater than 100 feet in length shall be located a minimum 120 feet from all other buildings greater than 90 feet in height.
03. **High-rise building dimension.**
    A. For residential buildings the applicable building portion shall not have a building dimension that exceeds 160 feet in length.
    B. For non-residential buildings in MP-AC zones, the applicable building portion shall not have a dimension that exceeds 200 feet in length.
    C. For all other non-residential buildings, the applicable building portion shall not have a dimension that exceed 300 feet in length.
04. **High-rise residential floor plate.** Residential floor plates on the applicable building portion shall not exceed 16,000 square feet.



High Rise Buildings

- Maximum residential floorplate above 90′ in height: 16,000 sf
- A Buildings Facade ≥ 100′ Length
- B Buildings Facade ≤ 90′ Length
- C 60′ min. distance between buildings ≥ 90′
- D 120′ min. distance between building facades ≥ 100′ in length

b. Building floor plates greater than 110 feet in height shall include a floor area less than 75% of the floor plate immediately below the 110 feet height.

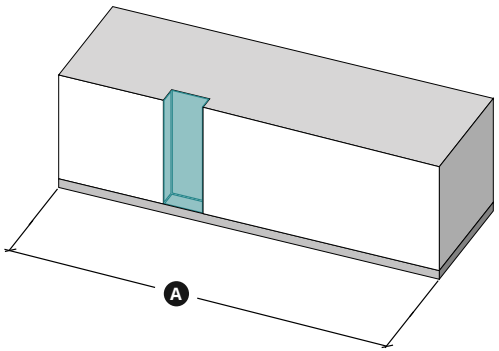


Outside Fine Grain Core Floor Plate Reduction

- A Building Floor Plate below 110 feet
- B Floor area less that 75% of floor plate immediately below 110 feet

3. **Façade modulation outside the fine grain core (FGC).** All buildings located outside the fine grain core shall meet the following standards:
   a. **Number of breaks.** Building facades greater than 250 feet in length shall have at least one major break. Building facades greater than 400 feet in length shall have at least two major breaks.
      i. **Major break dimensions.** The first major break required shall be a minimum 25 feet wide and 25 feet deep. If two major breaks are required, the second major break shall be a minimum 40 feet wide and 40 feet deep.
      ii. **Major break location.** A major break may extend to the corner of a building with a maximum width of 80 feet.
      iii. **Major break height.** A major break shall extend from the finished ground floor through the full height of the building including breaking the roof plane.

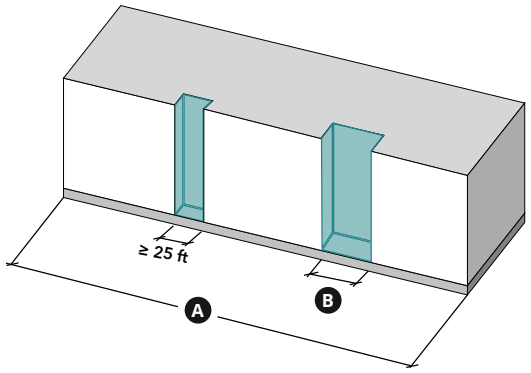
4. **Façade modulation in the fine grain core.** All buildings located within the fine grain core shall meet the following standards:
   a. **Major breaks.** Building facades greater than 150 feet in length shall have at least one major break. Building facades greater than 250 feet in length shall have at least two major breaks.
      i. **Major break dimensions.** The first major break required shall be a minimum 25 feet wide and 20 feet deep. If two major breaks are required, the second major break shall be a minimum 20 feet wide and 10 feet deep.
      ii. **Major break location.** A major break may extend to the corner of a building with a maximum width of 50 feet.
      iii. **Major break height.** A major break shall extend from the finished ground floor through the full height of the building including breaking the roof plane.



Number of Breaks: One Major Break

Major Break

A Outside FGC ≥ 250′
Inside FGC ≥ 150′

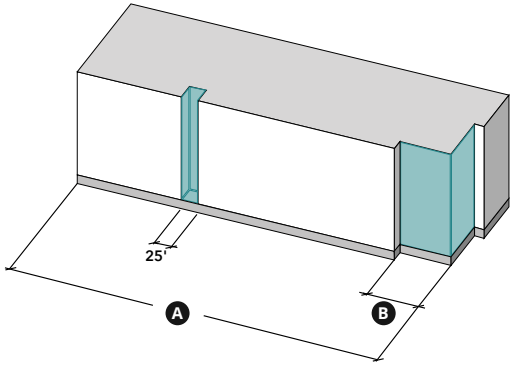


Number of Breaks: Two Major Break

Major Break

A Outside FGC ≥ 400′
Inside FGC ≥ 250′

B Outside FGC < 40 ft
Inside FGC < 20 ft



Major Corner Break Externing from Building Corner Break

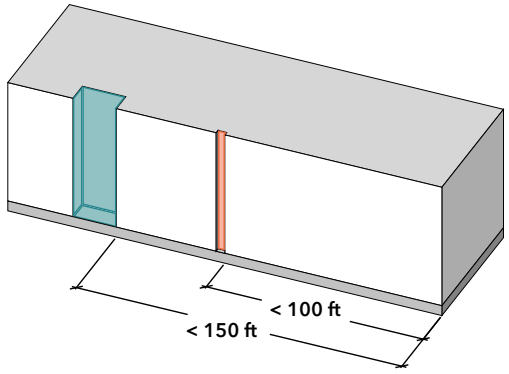
Major Break

A Outside FGC ≥ 400′
Inside FGC ≥ 250′

B Outside FGC < 80 ft
Inside FGC < 50 ft

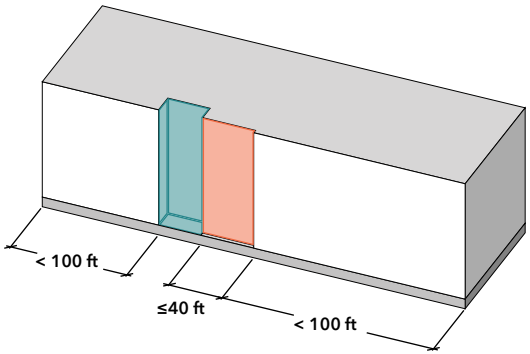
b. Minor breaks. Façade planes in Fine Grain Core shall not exceed 100 feet in length as measured from façade break (major or minor) to façade break or corner of a building. Minor break design standards include:

- **i. Depth.** Minor breaks shall be a minimum 2 feet deep.
- **ii. Width.** Minor breaks shall be a minimum 4 feet wide and a maximum 40 feet wide.
- **iii. Location.** A minor break may extend from the edge of a major break or the corner of a building.
- **iv. Height.** A minor break shall extend from the top of the ground floor through the full height of the building including breaking the roof plane.



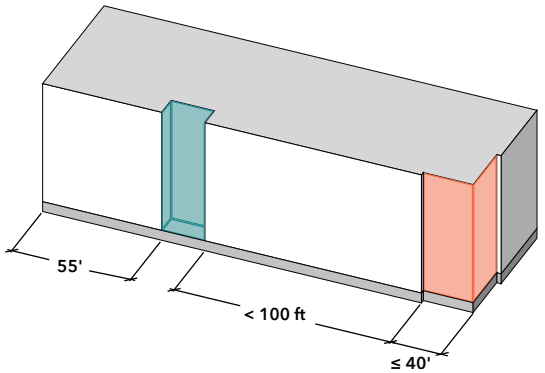
In Fine Grain Core Minor Breaks- Min Depth

- Minor break (Min. 2 ft. Depth & 4ft. Width)
- Major break



In Fine Grain Core Minor Breaks- Location

- Minor break extending from edge of major break (Max. 40' Width)
- Major break



In Fine Grain Core Minor Break at Corner

- Minor break extending to corner of a building (Max. 40' Width)
- Major break

5.3.3 GROUND FLOOR DESIGN AND BUILDING ENTRIES

Within the fine grain core, the ground floor of buildings shall be designed to create a vibrant pedestrian experience and create active building frontages. Ground floor residential shall be designed to create an active building frontage while maintaining privacy for the residents.

STANDARDS

1. **Building orientation.**
   - **a.** All buildings and storefronts within the fine grain core shall have the primary entry located on a complete street, laneway, or publicly accessible open space or includes a public access easement.
   - **b.** Utilities, loading, and parking access shall not be located on primary building facades if feasible.
2. **Building entries.** Building frontages facing a laneway or publicly accessible open space shall meet the following standards.
   - **a. Number of entries - Activity Centers.** Where ground floor storefront is not required, buildings located in an MP-AC district shall have a minimum of one building entry per every 75 feet of building length.
   - **b. Number of entries - fine grain core.**
     - **i. Non-residential frontages.** Buildings shall have a minimum of one building entry per every 150 feet of building length.
     - **ii. Residential frontages.** For buildings with ground floor residential units, a minimum of 80% of the ground floor residential units shall have a unit entry with direct access to the sidewalk, path, or open space. Senior units or other deed-restricted units for special-needs populations are exempt.
   - **c. Entry size.** Building entries inclusive of doorway and adjacent façade plane shall meet the following minimum width and depth from primary façade dimensions:
     - **i.** Individual residential entries: 5 feet; depth: 2 feet
     - **ii.** Multifamily entries (9 or more units): width: 10 feet; depth: 3 feet
     - **iii.** Upper floor commercial entries: width: 15 feet; depth; 5 feet
   - **d. Active vertical circulation.** Building lobbies for primary entries shall include direct access to a stairwell to provide an alternative to elevators. Stairwells shall be visible from lobby area, include natural light, and may be open air.

3. **Storefront design.** Storefront design shall meet the following standards.
   a. **Floor-to-floor height.** Storefront spaces shall have a minimum floor-to-floor height of 20 feet.
   b. **Transparent glazing.** Storefront façades shall have a minimum 60% transparent glazing between 1.5 and 7.5 feet in height. Transparent glazing shall be maximum 15% reflective, visible light transmittance greater than 80%, and without tint or coloration in the glass substrate.
   c. **Fenestration.** Ground floor storefronts shall have a minimum 40% of façade area fenestrated.
   d. **Bulkheads.** Bulkheads and solid base walls: If provided, shall measure between 12 and 30 inches from finished grade.
   e. **Weather protection.** Storefront entries shall include weather protection that is a minimum 6 feet wide and 4 feet deep by recessing the entry, providing an awning, or using a combination of these methods.

Storefront Design

- Minimum transparent glazing between 1.5-7.5 feet
- Bulkheads and solid base walls between 12″-30″
- Awning, canopy, and weather protectionbetween transom and display windows Min. 6 feet wide and 4 feet deep
- A | Transparent wall area
- B | Facade length

$$\left(\frac{\text{Sum area of A}}{\text{B * 6 ft}}\right) \geq \text{40\% transparency}$$

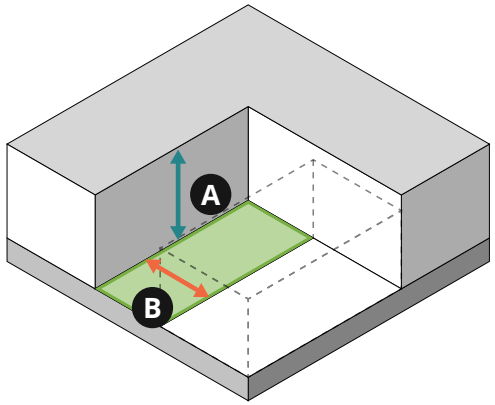
4. **Utilities, loading, and parking access.** Utilities, loading, and parking access shall meet the following standards.
   a. **Parking structure ingress and egress.** Ingress and egress points in structured parking shall be combined where possible and shall not exceed 24 feet in width. Each block length shall not have more than one ingress and one egress access point to the structured parking. Ingress and egress areas with the fine grain core areas shall be recessed a minimum of 4 feet to allow for clear pedestrian visibility and provide a level area at back of sidewalk in the garage to further enhance pedestrian visibility.
   b. **Transformer placement.** All building transformers shall be located within a building interior, or below-grade. If located with building, access doors shall be located in a unobtrusive location and shall be architecturally compatible.
   c. **Back flow placement.** Back flow preventers in the fine grain core shall be located in a building alcove and screened.
   d. Where there is zero setback to the sidewalk, building protrusions (such as in-building Fire Department Connections (FDC)) must be set flush with the building face.

5.3.4 USABLE OPEN SPACE

Usable open space refers to common and private open spaces that are meant for the use of the residents or tenants of a particular building. Common open space refers to open space that is shared amongst residents or tenants of a particular building and may include courtyards, shared roof decks, or shared ground level open spaces. Private open space refers to open spaces that are private to a specific unit like balconies or front porches. In addition to usable open space requirements, the Specific Plan outlines targets and strategies for providing publicly-accessible open spaces throughout Moffett Park as defined in Chapter 6. The following standards are applicable to individual residential and mixed-use buildings and are in addition to required open space requirements defined in Chapter 6.

STANDARDS

1. **Residential open space.** Usable open space may be met in any combination of common and private open space. Open space requirements defined in Chapter 6 may not be used to meet usable open space requirements. Residential buildings shall meet the following minimum usable open space requirements:
   a. **Within Activity Center (MP-AC).** Minimum 25 square feet per unit.
   b. **Within all other districts.** Minimum 75 square feet per unit.
   c. **Units above the 8th story in any district.** Minimum 25 square feet per unit.
2. **Common open space.** Common open space shall meet the following standards:
   a. **Location.** Common open space shall be located immediately adjacent to common spaces, hallways, or residential units.
   b. **Accessibility.** Common open space shall be accessible to all residents.
   c. **Vertical clearance.** A minimum of 60% of the area shall be open to the sky and free of permanent weather protection or encroachments. Trellises and similar open-air features are permitted.
   d. **Planting.** Minimum 20% of the open space area shall be planted with trees, ground cover, and/or shrubs.
   e. **Seating.** Common open space shall provide permanent seating.
   f. **Dimensions.** Common open space shall have a minimum width of 20 feet.
      i. **Dimensions for partially enclosed interior courtyards.** In the case of a courtyard where the common open space is enclosed by three sides of a building, the minimum width shall be equal to or greater than 80% of the highest height of the adjoining facade.



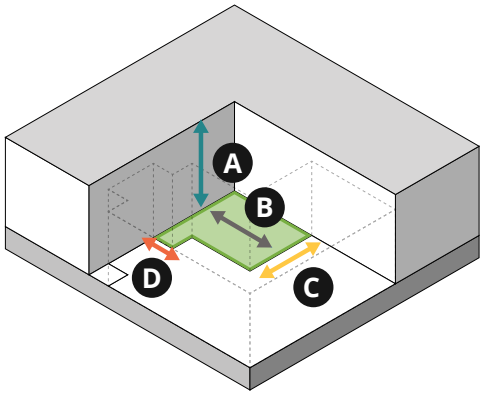
Courtyard- Partially Enclosed

Courtyard common open space

A | Highest height of adjoining faces

B | Minimum width ≥ 80% of A

ii. **Dimensions for fully enclosed interior courtyards.** In the case of a courtyard where the common open space is enclosed on all four sides, one minimum dimension of the open space shall be equal to or greater than the highest height (up to 80 feet) of the adjoining facades. The second dimension shall be equal to or greater than 80% of the highest height of the adjoining facades.



Courtyard- Fully Enclosed

- Fully enclosed courtyard
- A | Highest height of adjoining faces (Up to 80 ft.)
- B | Minimum width greater than or equal to (Up to 80 ft.) A
- C | Minimum width ≥ 80% of A
- D | Minimum 20 ft. wide

3. **Private open space.** If private open space is provided, it shall meet the following standards:
   a. **Accessibility for residential units.** Private open space attributed to a residential unit shall be directly accessible from the individual residential unit.
   b. **Balcony design.** Balconies shall have a minimum dimension of 6 feet and shall have a minimum area of 50 square feet.
   c. **Patio design.** Patios shall have a minimum dimension of 8 feet and shall have a minimum area of 64 square feet.
   d. **Floor to ceiling height.** Floor to ceiling height shall have a minimum dimension of 8.5 feet.
   e. **Ground-level screening.** Ground-level private open space shall be screened or buffered from adjacent private or common open space with landscaping, fencing, walls, trellises, or other screening elements.

5.3.5 PARKING FACILITY DESIGN

Structured parking plays an important role in supporting an efficient use of limited space within Moffett Park. Although the current landscape in Moffett Park features significant surface parking facilities, future development in Moffett Park should prioritize the organization of parking into tighter, structured facilities that are integrated with other building functions. Parking structures should be focused on areas of higher activity and located on anchor streets whenever possible. Although a number of surface parking spaces will still play an important role in matters of public safety, deliveries, loading, and ADA accessibility, new development in Moffett Park should limit the frequency of surface lots and design buildings and developments to feature integrated vehicular and bicycle parking spaces alongside habitable uses.

STANDARDS

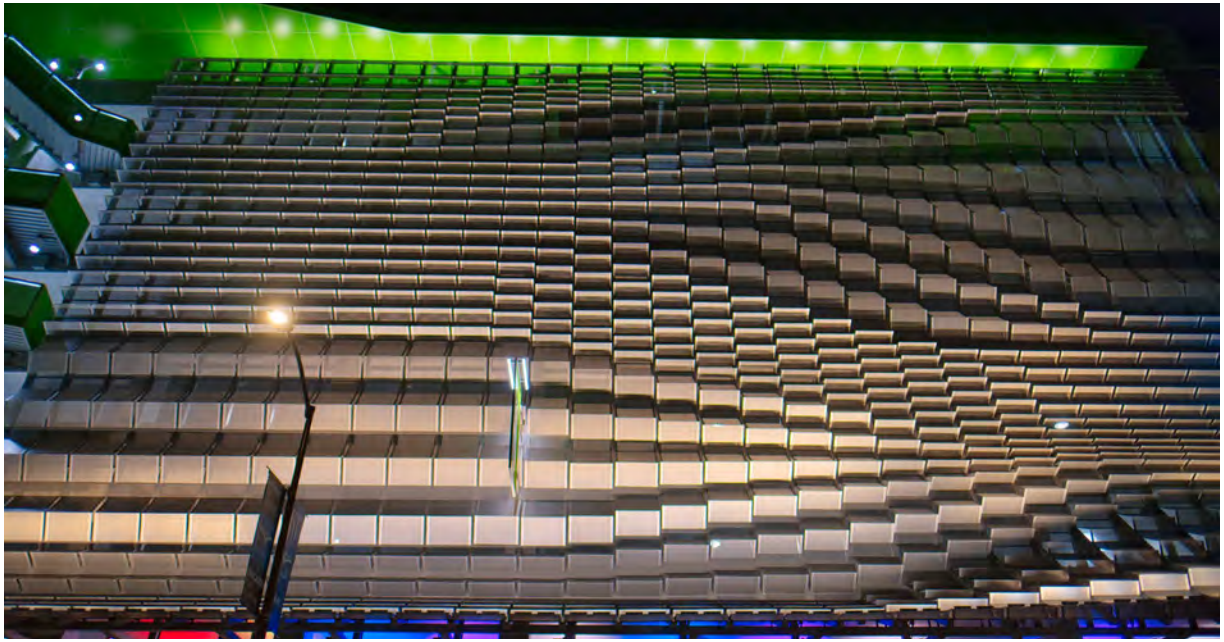
1. **Location of driveways.** Driveways shall be minimized to the extent feasible on the primary bike network to minimize conflicts between bikers and vehicles.
2. **Ramping.** Ramps and ramped floors shall not face a street or publicly accessible open space.
3. **Stand-alone parking structures.** All stand-alone parking structures shall meet the following standards:
   a. **Location.** Stand-alone parking structures are prohibited in the following locations:
      i. Residential districts (MP-R)
      ii. Locations fronting to any Neighborhood or Community Park.
      iii. Locations fronting any portion of the Diagonal.
   b. **Landscape area.** Setback areas shall have a minimum 80% landscape area for areas not including building entries, areas adjacent to active ground floor uses, and vehicle entries.
   c. **Screening.** All parapet edges and/or façades shall be designed to screen vehicles from public view at all levels. All parapet edges of parking levels, including the roofs, shall be a minimum 42 inches in height to screen adjacent properties from light trespass from vehicle headlights.
   d. **Rooftop parking.** A minimum of 80% of all parking stalls located on the top floor or roof of a parking structure shall be screened from above with one of the following: trellises, solar collectors, PV trellises, trees, or shade structure.
   e. **Lighting.** Interior lighting fixtures of parking levels shall not directly visible from outside of the parking structure. All lighting shall meet bird safe and night sky design standards.
4. **Integrated parking structures.** All structured parking within a building shall meet the following standards:
   a. **Above grade parking.** Above grade structured parking levels facing a street, laneway, or publicly accessible open space, except for alleyways, shall be lined with commercial or habitable uses with a minimum depth of 20 feet or minimum depth of 16 feet for residential units. In an MP-AC district, structured parking located above the first floor within a tower residential mixed-use building may have up to two facades with structured parking facing the street for a maximum of 4 stories. Façade design shall screen all parking and lighting and shall be of similar detail, material quality, and façade articulation to the rest of the building.
   b. **Partially subgrade parking.**
      i. All portions of partially subgrade parking visible above grade shall not exceed 8 feet in height, shall be designed and treated with the same level of detail, material quality, and facade articulation as other facade areas.
      ii. All portions of partially subgrade parking shall be screened a minimum of 3 feet in height with landscape screening (e.g., shrubs, landscaped trellises), and/or crafted ornamental metal screens.
5. **Surface parking.** Surface parking lots are strongly discouraged. If built, surface parking shall meet the following standards:
   a. **Surface parking size.** New surface parking lots shall be no larger than 20 spaces and shall be located behind buildings and/or screened from the street.

b. Surface parking access. All surface parking lots shall be designed to provide safe, direct, and comfortable pedestrian paths from parking lots to building entrances.

6. **Tandem, stacked, and mechanical parking spaces.** Tandem, stacked, and mechanical parking spaces shall be permitted for non-residential uses with the condition that valet parking, or an automated vehicle release for mechanical parking, is provided during all hours of operation. Tandem, stacked, and mechanical parking spaces shall be permitted for residential uses with the condition that no more than two spaces are permitted in the tandem layout and tandem spaces are leased to the same unit or an automated vehicle release for mechanical parking, is provided during all hours of operation.

GUIDELINES

1. **Stand-alone parking structures.** Encourage design that includes the following elements:
   - **a.** Level floors.
   - **b.** Ramps at the center of the garage or external to the garage.
   - **c.** Floor-to-structure heights with a minimum 9 feet clear to accommodate future residential or commercial conversion



"Facade of the Central Street Parking Garage" in Berkeley, CA by Chris Rycroft, licensed under CC BY 2.0

5.3.6 BUILDING ELEMENTS AND REQUIRED FACILITIES

Where required facilities differ from those required in Chapter 19.38, the Specific Plan standards take precedent over zoning code requirements.

STANDARDS

1. **Fenestration.** All fenestrations shall meet the following standards:
   a. Windows shall be recessed a minimum of 4 inches. Façades or portions of façades utilizing a curtain wall are exempt from this standard.
   b. Windows that are flat or "flush" with the façade are prohibited unless applied to a portion of a building that is part of a recessed façade modulation with a minimum 4 inches in depth. Façades or portions of façades utilizing curtain walls are exempt from this standard.
2. **Screening of utilities.** To increase the character of the public realm, the following utilities shall be screened from view: at-grade utilities, utilities located in building setback areas, rooftop mounted equipment, and solid waste collection areas.
   a. **Design.** Screening shall be integrated into the building design and have the same building materials and level of design. Screening shall be equal to or greater than height of equipment.
   b. **Rooftop.** Rooftop mounted equipment shall be stepped back from top of parapet at a ratio of 1:1.2 and no less than 10 feet from the parapet or roof edge. Roof-mounted equipment greater in height than the parapet wall shall be screened to a height equal to the height of the equipment.
   c. **Exemptions.** Solar equipment and mechanical exhaust systems for laboratory uses may extend above screening.
3. **Residential lockable storage.** A minimum 125 cubic feet of personal storage per residential unit with a minimum width of 3 feet shall be provided. Personal storage may be integrated into the design of each unit or located in an accessible common area. Bike storage facilities shall not be counted towards personal storage requirements.

GUIDELINES

1. **Building shading.** Development applicants are encouraged to use vegetation to shade the surface of walls, roof area, and HVAC units to reduce energy consumption and costs associated with indoor climate control.

5.4 Ecological Development Standards

To ensure development applicants meet a high standard of ecological design, requirements for urban forestry, landscape, and bird safe design are included in the Specific Plan.

5.4.1 LANDSCAPES AND EXTERIOR IMPROVEMENTS

Landscapes and exterior improvements for private development shall achieve the standards and guidelines for parks and open spaces. Refer to the following sections in Chapter 6 Open Space and Urban Ecology for more details.

TREES AND CANOPY COVER → Section 6.6.3 Urban Forest
SOIL IMPROVEMENTS AND DRAINAGE → Section 6.6.5 Landscape Soils
LANDSCAPE PLANTING → Section 6.6.6 Landscape Design
IRRIGATION → Section 6.6.7 Irrigation Systems
EXTERIOR LIGHTING → Section 6.6.9 Exterior Lighting

"Lanxmeer Green Rood" by Lamiot, licensed under CC BY-SA 4.0

Landscaping in parking lot; Source: Shira Bezalel, SFEI

5.4.2 BIRD SAFE DESIGN

To minimize adverse effects on resident and migratory birds, new construction and major renovations will incorporate design measures to promote bird safety. These measures will help reduce the likelihood of building collision fatalities - typically occurring between grade and 60 feet above grade - through building design, façade treatments, and reduction of light pollution from indoor sources. These measures apply to both residential and non-residential land uses except where specified. Section 6.6.9, Exterior Lighting, includes additional measures to reduce the impacts of artificial light at night to birds and other wildlife. The standards below are in addition to the City's Bird Safe Design Guidelines.

STANDARDS

1. **Applicability.** All new construction, building additions, and/or building alterations shall adhere to the Bird Safe Design standards in this section.
2. **Façade treatment.** No more than 10% of the surface area of a building's total exterior façade shall have untreated glazing between the ground and 60 feet above ground. Bird-friendly glazing treatments can include the use of opaque glass, the covering of clear glass surface with patterns, the use of paned glass with fenestration patterns, and the use of external screens over non-reflective glass. All façade glazing shall have reflectivity ratings no greater than 30%.
3. **Skyways, walkways, or glass walls.** New construction and building additions shall avoid building glass skyways or walkways, freestanding glass walls, and transparent building corners. If such features are incorporated, all glazing on those features shall be treated as described under 4a, Glazing treatment.
4. **Façade treatment.** No more than 10% of the surface area of a building's total exterior façade between the ground and 60 feet above ground or within 15 feet above a green roof shall have untreated glazing. Bird-friendly glazing treatments can include the use of opaque glass, the covering of clear glass surface with patterns, the use of paned glass with fenestration patterns, and the use of external screens over non-reflective glass. All façade glazing shall have reflectivity ratings no greater than 30%.
   a. **Glazing treatment.** Bird-friendly glazing treatments shall include elements with a minimum horizontal width of 1/4 inch and minimum vertical height of 1/8 inch with a maximum vertical spacing of 4 inches and maximum horizontal spacing of 2 inches.
5. **Interior occupancy sensors.** Occupancy sensors or other switch control devices in non-residential development shall be installed on non-emergency interior lights. These lights should be programmed to shut off during non-work hours and between 10:00 pm and sunrise. Using smaller zones in internal lighting layouts will increase the effectiveness of occupancy sensors.
6. **Exceptions to the bird safe design requirements.** The City may waive or reduce bird safe design requirements based on analysis by a qualified ornithologist with bird safety expertise which indicates that proposed construction will not pose a collision hazard to birds.

GUIDELINES

1. **Flight paths.** New construction shall avoid the funneling of flight paths along buildings or trees towards a building façade.
2. **Reduced glazing.** New construction and building additions should reduce glass at tops of buildings, especially when incorporating a green roof into the design.
3. **Avoiding visual traps.** Visual traps such as areas of glass through which trees, landscape areas, water features or the sky are visible from the exterior, should be avoided unless a bird safety treatment is used.
4. **Collision monitoring.** Building owners and tenants are encouraged to monitor locations of bird collisions (e.g., based on dead or injured birds or imprints of feathers on windows) and implement retrofit measures, such as application of bird-friendly patterns to existing windows or use of internal blinds, where collisions occur.
5. **Interior lighting.** Building design and operation should reduce the amount of light that escapes through windows during the night.
6. **Window coverings.** Building owners and tenants are encouraged to install window coverings above the ground floor to reduce the amount of light escape from the building at night.
7. **Workstation lighting.** Businesses are encouraged to turn off lighting at employee workstations and draw office window coverings at the end of the day.
8. **Migration periods.** Building managers should place particular focus on limiting nighttime light escape during bird migration periods (February 15 - May 31 and August 15 - November 30th)
9. **Maintenance.** Businesses are encouraged to schedule maintenance during the day or to conclude before 10:00 pm.

Building with exterior window coverings in Seoul, South Korea

Birds migrating

5.4.3 GREEN ROOFS

A green roof is a flat or slightly sloped roof that has been altered to support urban ecology. They are comprised of a layer of engineered soil and vegetation planted over a waterproofing system. Green roofs facilitate a number of positive benefits in terms of greater community connections to green space, urban ecology (stormwater runoff reductions, decreased urban heat island effect), and building performance (improved photovoltaic (PV) panel efficiency, reduced building energy consumption). The green roof is an important factor in carbon use reduction, and because the co-location of green roofs and PV panels provides benefits for the performance of the green roof, the PV panels, and the building, PV panels and green roofs will be co-located where feasible.

Green roofs benefit from adaptive management plans that allow the habitat to evolve over time, increasing in complexity and resiliency. These plans should include seasonal maintenance programs that avoid detrimental practices such as leaf blowing (decomposing leaf material builds soil and provides habitat) and other traditional forms of landscape manicuring such as routine aggressive soil raking and heavy pruning. Care should be taken to inspect planting beds for weeds and other invasive plants to prevent them from becoming established and regular applications of gravel mulch may be required where plant density is low and soils susceptible to erosion.

STANDARDS

1. **Green roof size.** Green roofs shall be required for any new development or development expansions with a minimum net roof area (gross roof area – allowed deductions) addition of 5,000 square feet and shall only be applied to the expanded portion. The following uses are exempt from net roof area calculations: codified amenity spaces, codified setbacks, HVAC systems, fire suppression systems and associated easements, and emergency corridors. Public buildings are fully exempt from this standard. Table 7 defines the following graduated spatial requirement shall be used to determine the green roof size.

TABLE 7 Green Roof Size

Net Roof Area for Entire Development	Size of Green Roof
Less than 5,000 ft²	Exempt
5,000-14,999 ft²	20%
15,000-29,999 ft²	30%
30,000-49,999 ft²	40%
50,000-64,999 ft²	50%
65,000 ft² or greater	60%

2. **Green roof design.** All projects, including green roof improvements and new construction, shall satisfy the following standards.
   a. **Photovoltaic panels** (PV). PV panels and green roofs shall be co-located where feasible. PV panels shall be clustered together to allow for sunlight penetration to the green roof beneath.
   b. **Green roof habitat.**
      i. **Plant palettes.** Plant and tree selection shall be per Section 6.6.6 Landscape Design Guidelines and be appropriate for siting on green roofs (e.g. low maturation height and weight, shallow root structure, low water requirements). Refer to Appendix B for a list of appropriate plants.
      ii. **Tree selection and placement.** All green roof tree selection and placement shall satisfy the following standards regarding size and stability.
         01. **Maximum tree size.** Tree size and associated roof capacity will be determined by the mature tree size.
         02. **Root structure.** Tree species with deep taproots or invasive root tendencies shall be avoided. In many instances, a structural root control device may be necessary.
         03. **Root anchoring.** All trees shall be anchored at the root ball in accordance with wind shear, pressure, and suction capacity of the associated soils.
      iii. **Soils.** Green roof soil depth shall satisfy the following requirements to support healthy native plants.
         01. Minimum soil depth of 12 inches for ground cover, 20 inches for shrubs, and 36 inches for trees.
         02. Soil depth shall be strategically varied across the green roof to accommodate the needs of various plant communities.
   c. **Water Efficient Landscape Ordinance.** All projects shall satisfy the standards per Section 6.6.6 Landscape Design Standards.
   d. **Herbicide and pesticide use.** All projects shall satisfy the standards per Section 6.6.6 Landscape Design Guidelines.
   e. **Bird-safe design.** Green roof location and layout with the building's facade shall be designed to meet or exceed bird safety requirements per Section 5.4.2 Bird Safe Design.
3. **Green roof Adaptive Management Plan.** All projects at the time of project submittal shall provide an Adaptive Management Plan that includes the following:
   a. A detailed maintenance program that maximizes the ecological benefit of the green roof. The program shall include:
      i. Green roof maintenance practices that minimize leaf blowing (decomposing leaf material builds soil and provides habitat) and other traditional forms of landscape manicuring such as routine aggressive soil raking and heavy pruning.
      ii. Planting beds that are regularly inspected for weeds and other invasive plants, preventing them from becoming established to the detriment of the native plantings.
      iii. Where dense plantings cannot be accomplished, provision of a 1-inch layer of gravel mulch to help protect soil stability and moisture from winds.

GUIDELINES

1. **Green roof planning.** Prior to project submittal, the applicant shall collaborate with the landscape architect, architect, structural engineer, ecologist, maintenance staff, and others, to ensure green roof layout, structural support, biodiversity, and other co-benefits are maximized.
2. **Landscape configuration.** Landscaping should configure plantings in multi-layered clusters, placing groundcover, shrub, and tree canopy layers in the same area to provide vertical structure. Target an overlap of 2-3 layers of native vegetation for >75% of the planting area. Habitat should include structural elements such as branches, rocks, perches, nesting boxes, and water features that enhance the overall habitat quality for pollinators and birds.
3. **Green roof topography.** Varied topography, soil materials, and soil textures are critical in supporting more diverse plantings, pollinators, and a greater range of ecological functions. Engineered soil should be placed at varying depths to mimic the natural undulation of native habitat. This will help to represent the structural contrast that plant species with varying root depths and ground-nesting pollinators rely on.
4. **Green roof coordination.** Green roof habitat should be coordinated with green wall and/or ground-level habitat to create a larger-scale connected ecological infrastructure that maximizes effective habitat patch size.
5. **Green roof accessibility.** Access to, and views of the green roofs should be maximized to create opportunities for building occupants and the public (where applicable) to connect with nature. Thoughtful spatial planning can balance human enjoyment with high-quality urban habitat.

"Green Roof at the WIPO Headquarters 1" by Emmanuel Berrod, licensed under CC BY-SA 4.0

"Green Roof at the WIPO Headquarters 2" by Emmanuel Berrod, licensed under CC BY-SA 4.0

5.5 Public Art

Public art in Sunnyvale is required by Sunnyvale Municipal Code (SMC) 19.52-Art in Private Development and regulated by the Master Plan for Public Art (2020), which provides a choice of two options for eligible private developments within the city:

- Provision of on-site art installations within the private development area, with an installation valued at 2.0% of the building permit valuation; or
- A contribution to the city-wide Art in Private Development (AIPD) program in the amount of 1.1% of the building permit valuation, submitted as an in-lieu fee. Per SMC 19.52, the building permit valuation is determined by the chief building official using the city building valuation formula and will be determined during the project review process. Additional standards regulating the quality and design of public art can be found in SMC 19.52.040. All projects that select on-site public art installations shall be subject to the applicable standards in 5.5.2 - Bird Safe Design policy.

Element Grove on Mathilda/California Ave.

Influence (and) Arrival located at 250 N Sunnyvale by Peter Hazel

Untitled located at 1257 Lakeside DriveBy Steve Gillman

Chapter 6

Open Space and Urban Ecology

Children playing in open space

The establishment of a parks and public open space network that fosters urban ecology is integral to the creation of an ecological innovation district.

The establishment of a parks and public open space network that fosters urban ecology is integral to the creation of an ecological innovation district. This chapter defines the goals, policies, standards, and guidelines for the improvement and development of a high-quality public realm that will meet the needs of residents, workers, and visitors. The network of parks and open spaces will connect to each other and the regional open space network including the Bay Trail, Baylands Park, and adjacent neighborhoods. Together, Moffett Park's open spaces and streets will create a unique district comprised of varied places – an inclusive, urban, and active district that welcomes and facilitates a variety of uses and activities for residents of all ages and abilities. The location and distribution of open spaces will also establish destinations and landmarks within the district. Integrating ecology into urban design in Moffett Park – through ecological infrastructure such as green roofs, protected wetlands, healthy urban forests, and well-connected parks – is a multi-benefit approach that will move the area towards a more resilient and sustainable future. Bringing nature into cities can mitigate effects of urbanization such as urban heat islands and stormwater runoff, while supporting biodiverse native ecosystems and local community health.

6.1 Open Space Context

There are several significant regional open space assets and opportunities directly adjacent to Moffett Park. These open spaces provide important context for the planning and programming of open spaces and parks within Moffett Park. They include, Baylands Park, which is a joint venture between Santa Clara County, which owns the property, and the City, which currently manages and maintains the park. The Twin Creeks Sports complex is a privately operated sports and recreation facility. The capped/former landfill open spaces are designated as special use areas and include approximately 100 acres of undeveloped open space with limited trail access providing expansive vistas over the Baylands and Moffett Park. Two golf courses are located adjacent to the north and southwest corners of the plan area. Equally important are the San Francisco Bay Trail and Bayland open spaces within the Don Edwards National Wildlife Refuge.

FOR PURPOSES OF THE SPECIFIC PLAN, OPEN SPACE IS DEFINED AS:

Publicly accessible open spaces, parks, and natural areas which serve the community by providing public access, active transportation corridors, recreational, cultural programs and ecosystem services. These may include undeveloped natural areas, areas of ecological and ecosystem value, greenbelts and trails, recreation areas, community and neighborhood parks, areas of cultural historic significance, public plazas and squares. They may be publicly owned and managed, or privately owned publicly accessible spaces.

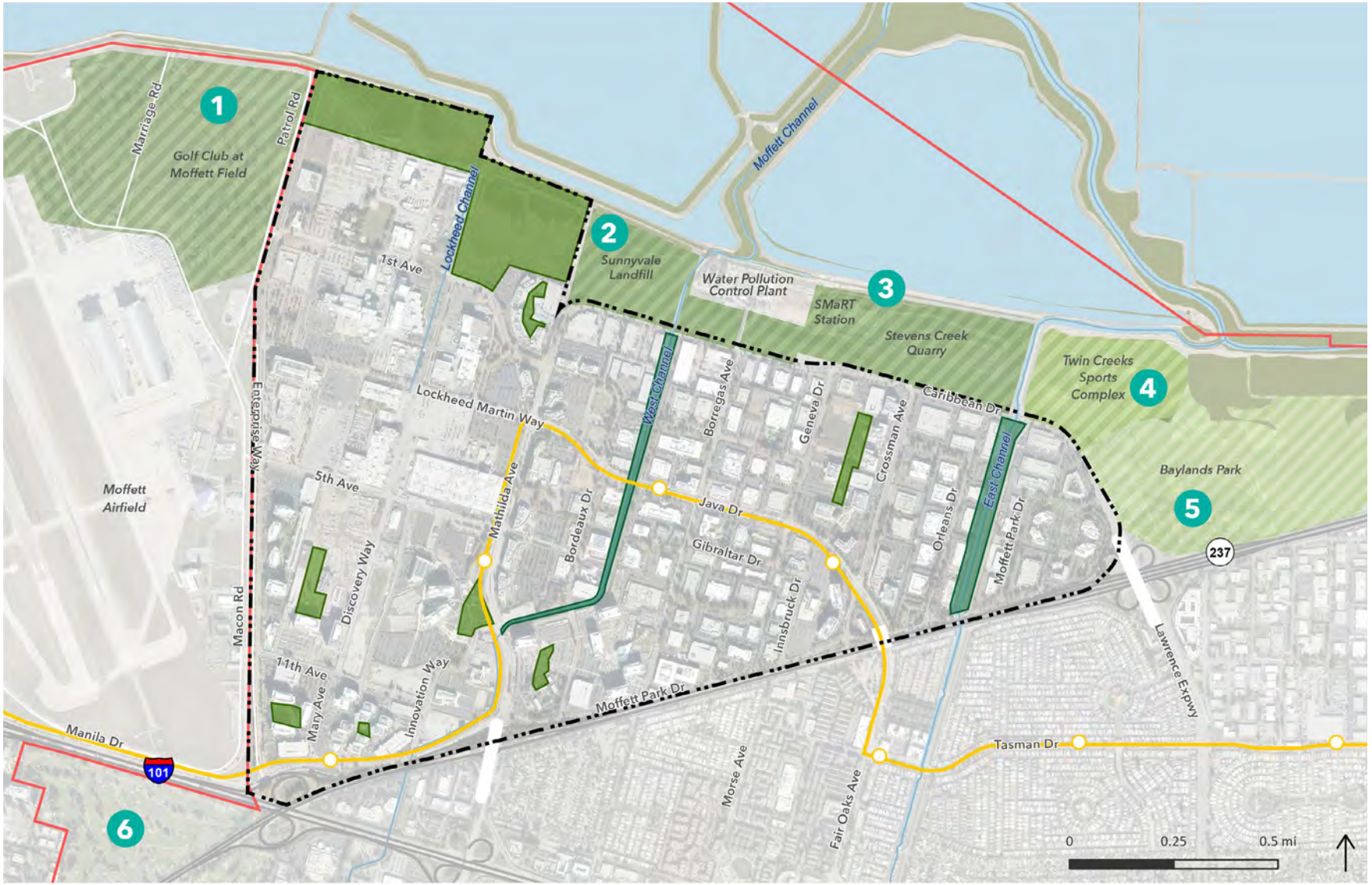


FIGURE 31 Existing Open Spaces and Open Space Context

City of Sunnyvale (2020); County of Santa Clara (2020); ESRI (2020)

EXISTING OPEN SPACES
- Existing Private Green Space in Moffett Park
- Existing Public Green Spaces in Moffett Park

OPEN SPACE CONTEXT
1. Moffett Field Golf Course
2. Land Fill Open Space
3. Bay Trail
4. Twin Creeks Sports Complex
5. Baylands Park
6. Sunnyvale Golf Course

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel

Currently, there are no designated public open spaces or parks within Moffett Park. However, there are several existing green spaces that can be leveraged as part of an open space and ecological network. These include the areas within and adjacent to the East and West Channels, which are owned and operated by Valley Water. The channels do not currently include public access improvements. The City of Sunnyvale has a memorandum of understanding with Valley Water to allow for public access on multi-use trails to be constructed as part of the flood control improvements project. In addition to the channels, there are a series of stormwater detention ponds and associated open areas located at the northwest corner of the site on Lockheed Martin property. These areas should be included as part of the open space network to preserve and improve habitat, provide increased stormwater management, and enhance public access. The plan area also includes wide range of existing private open spaces within the district, the most significant of which are identified in Figure 31.

KEY CITY POLICY AND OPEN SPACE GOALS

The Specific Plan Open Space goals and policies are predicated upon the City's General Plan and recommendations from the 2009 Parks of the Future Study. These include:

- Citywide Open Space Level of Service: 5.34 acres per 1,000 residents
- Sunnyvale Parks of the Future Plan (POFP) Policy Goals relevant to Moffett Park Specific Plan
  - > Additional Neighborhood Parks
  - > Developing two (2) new community parks to meet community needs for passive and active recreation opportunities—to serve as a potential location for a sports field complex, as well as to provide additional space and facilities for community gatherings and special events.
  - > Pursuing opportunities for trail development along the Sunnyvale East and West Channels.
  - > Continuing and enhancing recreation programming for teens and adults, particularly in the areas of special events/community celebrations, trail programs, nature programming/environmental education, outdoor active recreation, and sports and aquatics.
  - > Increased programming is desired in the following areas:
    - » Special events/cultural celebrations;
    - » Nature programs;
    - » Outdoor active recreation;
    - » Older adults (50+) and inclusive play elements; and
    - » Develop new sports fields as multi-use whenever possible.

West Channel in Moffett Park

6.2 Open Space and Urban Ecology Principles, Goals, and Policies

As an ecological innovation district, the vision for Moffett Park includes a network of open spaces that provide district and citywide benefits. The following principles guide the development of the parks and open space network and programs. Parks and open spaces shall be:

Welcoming
Welcome all to Sunnyvale's bayfront destination. Plan and design the open spaces to connect people to nature and the Bay, to create multi-generational invitations, and to provide free and affordable public uses, amenities, and services.

Connected
Design open space to simultaneously serve as part of the pedestrian and bicycle network, encouraging active lifestyles, and providing connections to citywide and regional open spaces.

Accessible
Provide multigenerational open spaces that are accessible to residents, employees and visitors throughout the district and enhance connections to adjacent communities. Include other inclusive elements, not just for generations, but for all abilities.

Social
Ensure open spaces are adaptable, inviting spaces for recreation, socialization, connection, and reflection, by providing varied neighborhood and destination programs.

Healthy
Create healthy and restorative environments that provide opportunities to connect with nature, and support fitness and recreation. Open spaces will also contribute to other public health benefits such as cleaner air, cooler microclimates and spaces for community gathering, socialization, mental health, and wellbeing.

Biodiverse and Resilient
Provide increased canopy cover, stormwater management, and native/adapted plantings, biodiversity hubs and habitat patches, and connected corridors to promote biodiversity and resilience to climate change.

GOALS AND POLICIES

The open space and urban ecology framework prioritizes the creation of an interconnected network of parks and open spaces that provides a wide range of uses to serve entire communities of all ages and abilities and address ecological, social, equity, and health issues. The policies listed are based on current City policy, best practices, and take into consideration policies that are being applied regionally and have been supported by local community groups. The following goals and policies are designed to ensure that open space is developed consistent with City policy and the principles defined previously.

Goal OSE-1: INTERCONNECTED AND BIODIVERSE OPEN SPACE NETWORK. Moffett Park provides a high level of service with ample open space for residents, employees, and visitors through an interconnected network of open spaces that supports healthy ecosystems, improves air and water quality, improves public health, and adapts to a changing climate.

Policy OSE-1.1: Establish a network of greenbelt, parks and trails that are an integral part of the active non-vehicular transportation network and promote safe pedestrian and bicycle use throughout the district.

Policy OSE-1.2: Provide connections to adjacent open spaces and neighborhoods including the Bay Trail, Baylands Park, and the Morse/Tasman neighborhood.

Policy OSE-1.3: Provide open spaces that are well distributed and located adjacent to transit, and activity and community centers.

Policy OSE-1.4: Design and manage open spaces to support urban ecology and resilience.

Policy OSE-1.5: Locate open spaces to provide a universally accessible route from all residential buildings to a neighborhood-serving park within a 1/2 mile or 10-minute average walking distance.

Policy OSE-1.6: Strive for native habitat diversity ranging from coastal wetlands to oak woodlands.

Policy OSE-1.7: Coordinate with Valley Water to improve the East and West Channels by providing naturalized flood protection, reduced flood walls, and improved habitat where possible.

Policy OSE-1.8: Discourage the use of invasive, non-native plantings in landscape areas across the city, working with regional agencies and local nurseries to educate property owners in removing non-native plant species and instead using native and drought tolerant species.

Policy OSE-1.9: Use management strategies to improve water quality, reduce the need to irrigate landscapes, use recycled water for irrigation, and use electric vehicles and equipment to maintain spaces.

Goal OSE-2: DIVERSE RECREATIONAL PROGRAMS AND AMENITIES. A diversity of social, recreational, and cultural programs and amenities that are multigenerational and accessible to all are provided in Moffett Park.[9]

9. The final program for each park and open space within the plan area will be developed as part of the implementation process. The following policies have been identified as essential components because they guide the size and distribution of open spaces within the plan area and the core needs of a successful mixed use/residential district.

Policy OSE-2.1: Provide a minimum of (1) tot lot for ages 2-5 within each residential neighborhood (6 total) or 1 per 7,000 residents.

Policy OSE-2.2: Provide a minimum of (1) inclusive, all-abilities and ages play space within each residential neighborhood (6 total) or 1 per 7,000 residents.

Policy OSE-2.3: Provide a minimum of (1) destination, all-abilities and ages play space within the plan area.

Policy OSE-2.4: Provide a minimum of (4) dog parks or dog walking areas located within 10-minute walk of residential buildings or 1/10,500 residents.

Policy OSE-2.5: Provide a minimum of (1) multi-use/flexible field area, 50 x 100 yards minimum or equivalent to a high school soccer field as defined by the US Youth Soccer Association.

Policy OSE-2.6: Provide a minimum of (3) open field/flexible recreation areas, 35 x 65 yards minimum or equivalent to a U10 soccer field as defined by the US Youth Soccer Association. Fields may be synthetic or natural turf with grading and drainage to allow for regular use for informal/drop-in, youth sports, and community events.

Policy OSE-2.7: When and where possible, increase the quantity of multi-use flex fields to include more opportunities for informal and youth athletics.

Policy OSE-2.8: Co-locate a community or neighborhood park with potential school site(s).

Goal OSE-3: ECOLOGICAL DEVELOPMENT. New developments' parks and opens spaces enhance ecosystems and support biodiversity, benefiting both people and natural habitat.

Policy OSE-3.1: Facilitate the removal of existing and transfer of future development away from the wetlands in the Lockheed Martin stormwater holding ponds through implementation of an Ecological Combining District to expand and enhance wetland habitat, ecosystem health, and climate resilience.

Policy OSE-3.2: Increase building setbacks and enhancing the quality of those setbacks to improve riparian habitat along the East, West, and Lockheed Martin Channels.

Policy OSE-3.3: Design new development to support a healthy and biodiverse environment through landscape and planting design, reduction in imperious coverage, green roof habitat patches, and bird-safe design.

Policy OSE-3.4: Integrate dark sky policies into site lighting and street light plans.

Goal OSE-4: URBAN FOREST. An abundant, robust urban forest that contributes to Moffett Park's quality of life as it combats the effects of climate change.

Policy OSE-4.1: Establish tree canopy cover along walkways and bike corridors to promote active mobility in the summer and reduce heat stress during extreme heat events.

Policy OSE-4.2: Plan for trees to promote the health and longevity of individual trees, reduce mortality/tree removals, and improve habitat for wildlife.

Policy OSE-4.3: Maintain and enhance existing tree canopy health.

Additional urban ecology policy and standards related to bird safe design and green roof habitat may be found in Chapter 5.4 Ecological Development Standards.

Tree canopy covering a multi-use trail

6.3 Open Space and Urban Ecology Framework

The park and open space framework plan indicates the general location, scale and type of open space and has been developed based on the principles, goals and policies defined above. The final location, size, program, ownership and management of each open space will be determined as part of the implementation of the plan.

PARK AND OPEN SPACE TYPES

The park and open space typologies are tailored to the unique conditions in Moffett Park. These typologies provide design guidance for each open space, and balance tradeoffs among competing design goals. The park and open space typologies include Natural Areas – Biodiversity Hubs, Greenbelts – Ecological Corridors, Community Parks, Neighborhood Parks, Mini Parks, and Plazas.

Greenbelts–Ecological Corridors

Natural Areas–Biodiversity Hubs

Community Parks

Neighborhood Parks

Mini Parks and Plazas

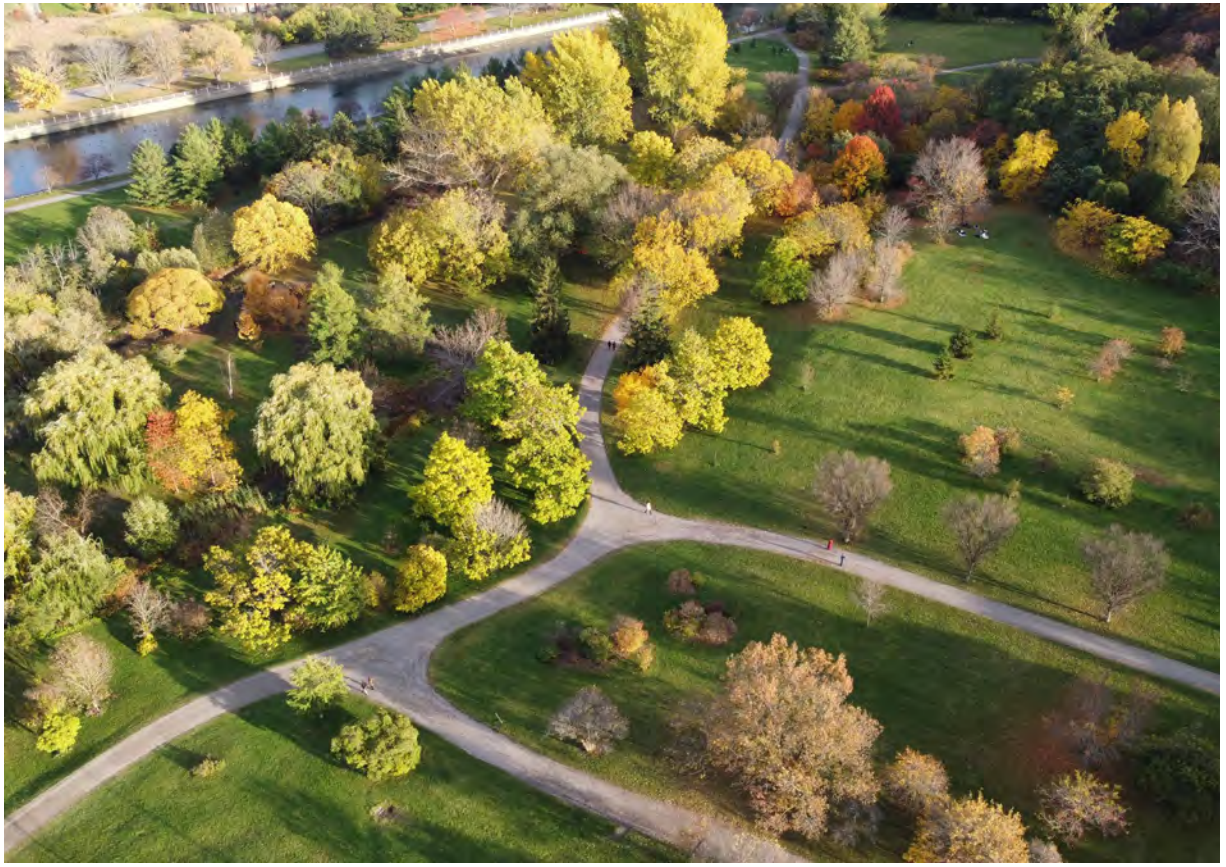
PUBLICLY-ACCESSIBLE PARK AND OPEN SPACES

The proposed park and open space network for Moffett Park is composed of existing green spaces (see Figure 32) and new parks and open spaces. New park and open space sites and facilities will need to be phased over time. Some will become public parks and open spaces, while others may include easements across private property. The location of new park and open spaces may be adjusted to meet specific requirements of developments as they occur subject to City approval and dependent on site and property conditions.

STANDARDS

1. **Park and open space location.** Parks and open spaces shall be provided in locations identified in Figure 32.
2. **Park and open space size.** Parks and open spaces shall meet minimum gross sizes identified in Table 9.
3. **Park and open space easements.** Parks and open spaces not dedicated to the City shall include public access easements for all areas except dedicated areas for maintenance. Easements shall allow public access from sunrise to sunset.
4. **Park and open space flexibility.** Minimum sizes and specific location may vary if the minimum gross acreage is preserved by park and open space type. Changes in location and size may be approved through the Site Master Plan process.
5. **Other park and open space standards.** Parks and open spaces shall meet all standards for each park and open space type, and the standards and guidelines defined in Section 6.6.

The complete conceptual park and open space framework with typologies is shown in Figure 32 and Figure 34.



Park in Ottawa, Canada

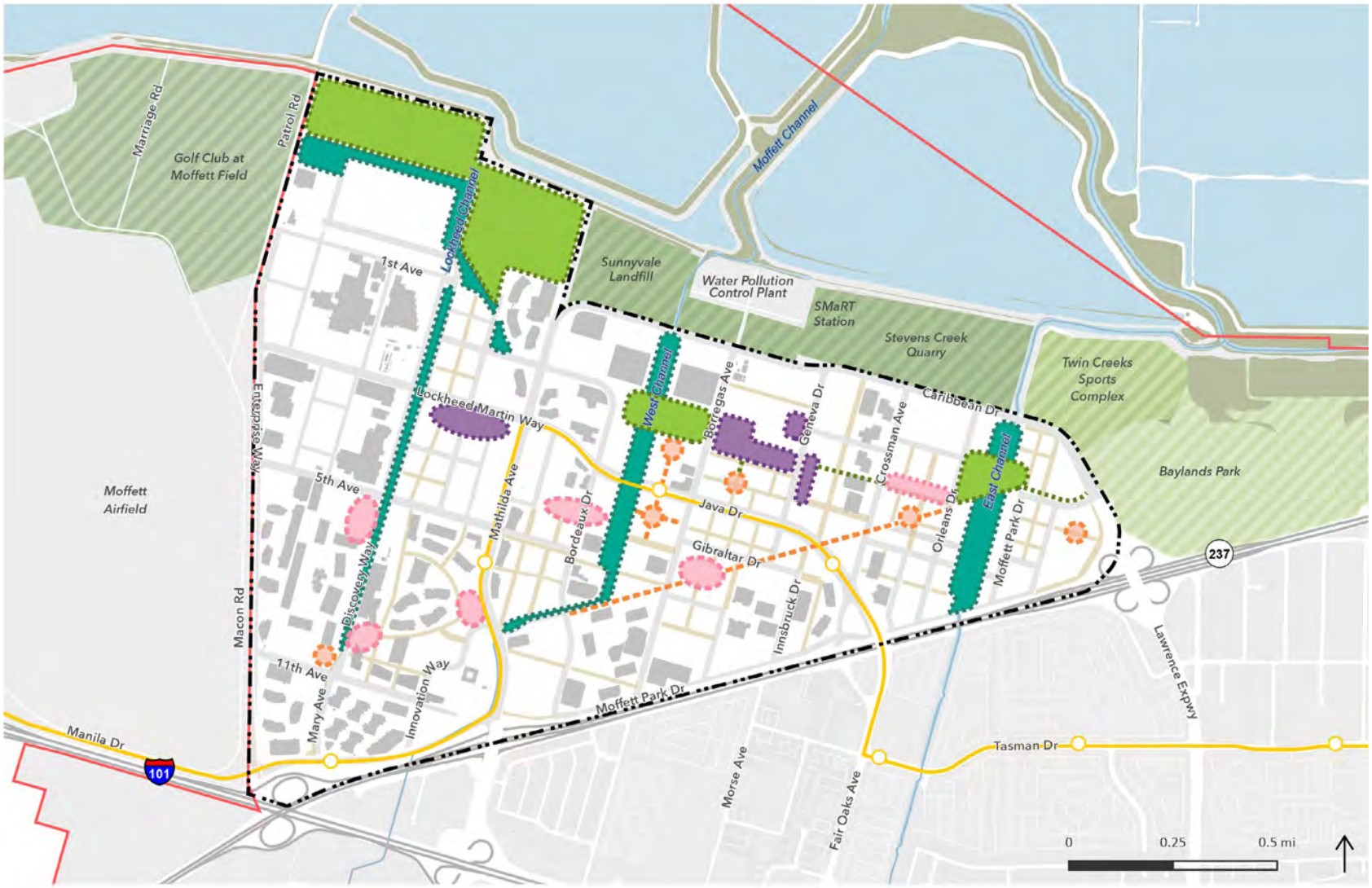


FIGURE 32 Parks and Open Space Framework

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

EXISTING OPEN SPACE
- Special Use Area
- Baylands Park
- Private Recreational Open Space

OPEN SPACE TYPES
- Greenway–Ecological Corridor
- Natural Area–Biodiversity Hub
- Community Park–Ecological Corridor
- Neighborhood Park–Habitat Patch
- Mini-Parks and Plazas
- Laneways

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel

*The final location, size, program, ownership, and management of each open space will be determined as part of the implementation of the plan.

URBAN ECOLOGY

Integrating ecology into the parks and open spaces within Moffett Park – through ecological infrastructure such as stormwater detention wetlands, healthy urban forests – is a multi-benefit approach that moves the area towards a more resilient and sustainable future. The open space and urban ecology plan for Moffett Park creates an interconnected system of habitat areas to support biodiversity that are supported by surrounding green features integrated into the urban fabric. This system includes establishing an Ecological Combining District (ECD) in the northwest corner of the plan area to expand and enhance the ecological value of existing emergent wetlands and potential new wetlands. Biodiversity hubs and habitat patches are distributed across Moffett Park and are connected by corridors along the channels and streets. In addition, canopy cover along streets facilitates wildlife movement across Moffett Park while providing vital shade over multi-modal routes, slowing stormwater runoff, enhancing the character of Moffett Park, and adding to the overall resilience of the plan area. Building off the existing features in Moffett Park, Figure 33 illustrates the vision for an interconnected urban ecology network, that aligns with the open space vision.

TABLE 8 Park, Open Space, and Urban Ecology Area Summary

Open Space Area by Type	Area Range (acres)	% of Moffett Park Open Space
Greenbelt - Ecological Corridor	40–45	20%
Natural Area - Biodiversity Hub	120–125	60%
Community Park – Ecological Corridor	20–25	5%
Neighborhood Park – Habitat Patch	18–20	12%
Mini Parks, Plazas & Laneways	14–15	3%
Totals	**212–230**	**100%**

The parks and open spaces indicated in the Figure 34 and Table 9 below are intended to guide the development of open space to meet the policy goals in this Chapter and the performance metrics defined in the Implementation Chapter. The final location, size, program, ownership and management of each open space will be determined as part of the Site Master Plan.

Existing channel in Moffett Park

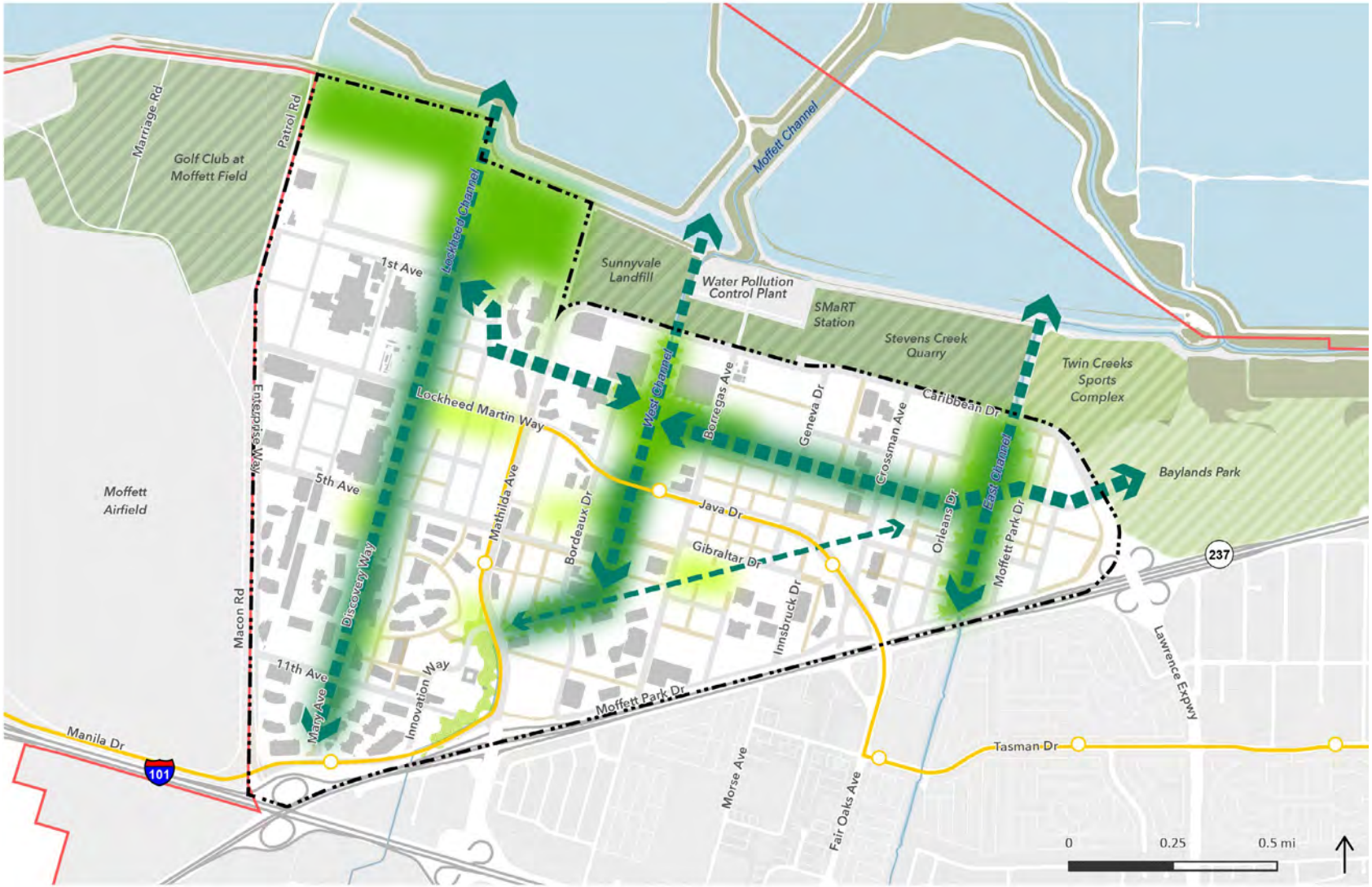


FIGURE 33 Urban Ecology Framework

City of Sunnyvale (2020); County of Santa Clara (2020); ESRI (2020)

EXISTING OPEN SPACE
- Special Use Area
- Baylands Park
- Private Recreational Open Space
- Golf Course

OPEN SPACE TYPES
- Ecological Corridors
- Biodiversity Hubs
- Habitat Patches
- Other Open Spaces

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel

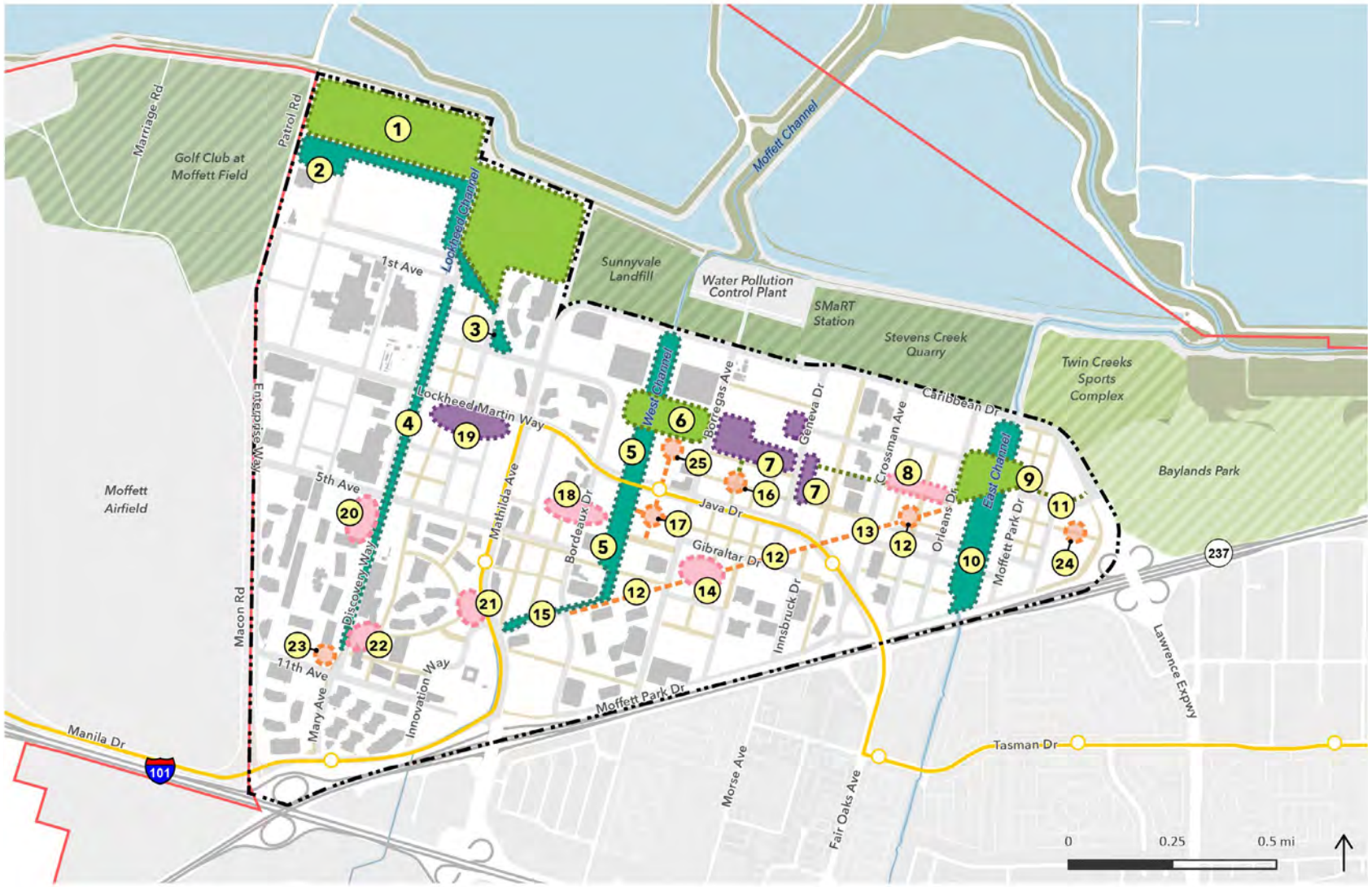


FIGURE 34 Park and Open Space Location and Size

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

*The final location, size, program, ownership, and management of each open space will be determined as part of the implementation of the plan. Refer to Table 9 for numbers.

EXISTING OPEN SPACE
- Special Use Area
- Baylands Park
- Private Recreational Open Space

OPEN SPACE TYPES
- Greenway–Ecological Corridor
- Natural Area–Biodiversity Hub
- Community Park–Ecological Corridor
- Neighborhood Park–Habitat Patch
- Mini-Parks and Plazas
- Laneways

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Channel

TABLE 9 Park and Open Space by Area

Open Space #	Open Space Areas	Min. Target Area (acres)	Open Space Type	Ecology Type
1	Ecological Combining District	81	Natural Area	Biodiversity Hub
2	Northwest Setback Open Space	21	Greenbelt	Ecological Corridor
3	1st Avenue Greenbelt	2	Greenbelt	Ecological Corridor
4	Discovery Way - East Street Greenbelt	6	Greenbelt	Ecological Corridor
5	West Channel Greenbelt	15	Greenbelt	Ecological Corridor
6	West Channel Park	8	Natural Area	Biodiversity Hub
7	Caspian Community Park	10	Community Park	Ecological Corridor
8	Crossman Neighborhood Park	3	Neighborhood Park	Ecological Corridor
9	East Channel Park	9	Natural Area	Biodiversity Hub
10	East Channel Greenbelt	16	Greenbelt	Ecological Corridor
11	Baylands Greenbelt	1	Greenbelt	Ecological Corridor
12	Diagonal	5	Laneway	
13	Crossman Square and Laneways	1	Mini Park	
14	South Java Park	4	Neighborhood Park	Habitat Patch
15	Diagonal - Connection	2	Greenbelt	Ecological Corridor
16	Borregas Mini Park	0.25	Mini Park	
17	South Java Mini Park	0.25	Mini Park	

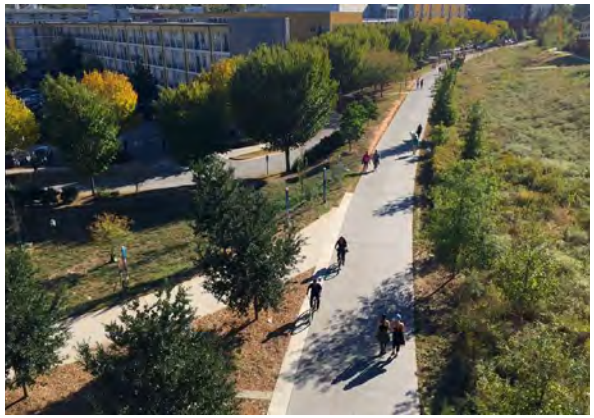
Open Space #	Open Space Areas	Min. Target Area (acres)	Open Space Type	Ecology Type
18	West Neighborhood Park	5	Neighborhood Park	Habitat Patch
19	Navy Park	9	Neighborhood Park	Habitat Patch
20	5th Avenue Corner Park	3	Neighborhood Park	Habitat Patch
21	Juniper Park	2	Neighborhood Park	Habitat Patch
22	Discovery Way Park	3	Neighborhood Park	
23	Tech Corners Square	0.5	Plaza	
24	Chesapeake Mini Park	1	Mini Park	
25	Borregas Square	0.5	Plaza	
	Estimated Non-Vehicular Laneways	5	Laneway	
	Total	**212**		

6.4 Park and Open Space Types

GREENBELTS–ECOLOGICAL CORRIDORS

Greenbelts - Ecological Corridors provide linear connections for active transportation and facilitate the movement of plants and animals. Connections include corridors (narrow stretches of greenspace that promote linear movement) and stepping stones (sets of discrete but nearby patches that together promote connectivity across the landscape). Refer to Table 10 and Figure 32 through Figure 34 for the location of Greenbelts – Ecological Corridors.

People riding bikes along path



Greenbelt connecting different areas of a city

Pedestrian path moving through water and greenspace

TABLE 10 Greenbelts - Ecological Corridor Standards

Design Criteria	Standards
Dimensions	40 – 300 feet in width
Service Area	Community/District
Program	• Urban ecology • Multiuse trails (shared pedestrian and bicycle) • Separated Class 1 bikeways (where appropriate) • Pedestrian pathways • Small gathering and seating areas • Interpretive program (history and ecology) • Fitness trail and equipment
Landscape Design & Lighting	• Minimize impervious areas and maximize groundcover, water, and tree cover. • Landscape design shall be per Section 6.6.6 Landscape Design. • Plant palette for the high-quality native habitat shall be comprised of 100% native species per Appendix B. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting. • Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan (plant palettes, structure, and species distribution) and the lighting plan.

NATURAL AREAS—BIODIVERSITY HUBS AND HABITAT PATCHES

Natural Areas - Biodiversity Hubs and Habitat Patches are located at strategic locations within the network to provide ecosystem services, biodiverse landscapes, habitat, shade, and stormwater management. They will also include contemplative and biophilic spaces for residents and visitors to connect with natural systems and processes. Patch size, or the size of a green space in a city, is a fundamental determinant of how much biodiversity a space can support. Larger patches tend to have greater habitat diversity and larger, more resilient wildlife populations. Green spaces with high-quality native habitat over 10 acres in size can support significant biodiversity and act as local **Biodiversity Hubs**. Smaller green spaces of high-quality native habitat can function effectively as **Habitat Patches** down to 2 acres, below which species richness rapidly declines. Nevertheless, green spaces smaller than 2 acres, including green roofs, can provide wildlife value as steppingstones connecting Biodiversity Hubs and Habitat Patches.

Rendering of residential development; Source: Berkeley Property Group

Habitat patch outside housing development

Natural Area observation point

TABLE 11 Greenbelts - Ecological Corridor Standards

Design Criteria	Standards
Scale	Habitat Patches: 2+ acres of high-quality native habitat Biodiversity Hubs: 10+ acres of high-quality native habitat
Service Area	Community/District
Shape	Biodiversity Hubs and Habitat Patches should be square or circular in shape, rather than long and narrow, to contain more core habitat and be more suitable for edge-sensitive species.
Program	• Preservation and restoration of habitat • Programming shall be balanced with high-quality native habitat. • Multi-use trails • Nature trails and bird watching • Picnicking in designated areas • Limited public and pet access
Landscape Design & Lighting	• Minimize impervious areas and maximize groundcover, water, and tree cover. • Landscape design shall be per Section 6.6.6 Landscape Design. Plant palette for the high-quality native habitat shall be comprised of 100% native species per Appendix B. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting. • Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan (plant palettes, structure, and species distribution) and the lighting plan.

COMMUNITY PARKS

Community Parks are designed to provide opportunities for both active and passive, structured and informal, recreation for small and large groups of all ages. These sites generally range from 9 to 20 acres in size and include facilities that serve nearby residents but also attract people from the entire community. The open space framework includes one central community park that is linked with greenbelts on the East and West Channel open spaces. Together these constitute a total of approximately 60 acres of parks and open spaces. They represent an incredible web of connected open spaces that can be programmed to create a citywide destination, provide for active transportation, and a wide range of community serving programs.

Public event in community park

People participating in recreational activity

Playground

TABLE 12 CommunityParkDesignStandards

Design Criteria	Standards
Scale	9+ acres; in aggregate
Service Area	Community/District
Minimum Resources	• Destination play space (all-abilities and ages) • Multi-purpose sports field • Sport courts (basketball court, tennis court, volleyball court) • Reservable and drop-in picnic areas • Restrooms • Pedestrian path system • Natural areas

Design Criteria	Standards
Potential Program	• Other active recreation resources (handball/racquetball court, croquet court, disc golf course, fitness stations, tennis backboard, horseshoe pit, shuffleboard lanes, volleyball court, mini skate park, skate park, skating rink, etc.) • Civic and cultural event spaces • Interactive water feature • Multi-purpose recreation center • Shade structures for appropriate facilities • Off-leash dog area • Snack shacks • Stage/amphitheater • Natural areas • Memorials • Multi-use trails • Stormwater treatment for impermeable surfaces within the park • Potential co-location with a school site
Landscape Design & Lighting	• Minimize impervious areas and maximize groundcover, water, and tree cover. • Active programming shall be balanced with high quality native habitat in non-programmed areas. • Landscape design shall be per Section 6.6.6 Landscape Design. Plant palette for the high-quality native habitat shall be comprised of 100% native species per Appendix B. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting. • Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan (plant palettes, structure, and species distribution) and the lighting plan.

NEIGHBORHOOD PARKS

Neighborhood Parks will provide places that encourage community gathering and support the recreational and social needs of nearby residents and workers. A Neighborhood Park should anchor each residential neighborhood area. Neighborhood Parks provide, informal, non-organized recreation opportunities, enhance neighborhood identity, and preserve neighborhood open space. Neighborhood Parks often include amenities such as playgrounds, sport courts, gathering spaces, special features, and seating areas. As indicated in Figure 32 through Figure 34, Neighborhood Parks also serve as habitat patches.

Aerial view of Neighborhood Park

Neighborhood park outside housing development

Landscaped park with elevated walkways

TABLE 13 Neighborhood Park Design Standards

Design Criteria	Standards
Scale	3 to 8 acres; minimum dimension of 100-feet
Service Area	Neighborhood ¼ to ½ mile from residential buildings
Minimum Resources	• Play space (all-abilities and ages) • Reservable and drop-in picnic areas • At least two active recreation resources (see potential program list)

Design Criteria	Standards
Potential Program	• Multi-purpose sports field • Sports courts (basketball court, tennis court, volleyball court) • Other small-scale active recreation resources (skate spot, horseshoe pits, bocce court, shuffleboard lane, lawn bowling, mini skate park) • Interactive water feature (small-scale) • Shelter or gazebo • Neighborhood-activity building • Restroom • Shade structures for appropriate facilities • Community gathering and event spaces • Community gardens • Dog park • Fitness equipment • Stormwater treatment for areas within the park
Landscape Design & Lighting	• Minimize impervious areas and maximize groundcover, water, and tree cover. • Active programming shall be balanced with high quality native habitat in non-programmed areas. • Landscape design shall be per Section 6.6.6 Landscape Design. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting. • Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan (plant palettes, structure, and species distribution) and the lighting plan.

MINI PARKS, PLAZAS, AND LANEWAYS

Mini Parks, Plazas, and Non-Vehicle Laneways will provide smaller scale residential, civic, and retail spaces that support the social, ecological, and commercial vitality of Moffett Park. They should be located and programmed to support adjacent residential, retail, and entertainment uses.

People lounging in covered plaza

Mini park illuminated at night

Example of Plaza/laneway

TABLE 14.1 Mini Park Design Standards

Design Criteria	Standards
Scale	1/8 to 3 acres; (minimum dimension of 50 feet on the smallest edge)
Service Area	Neighborhood and community
Potential Program	• Sports courts (1/2 court basketball or single tennis court) • Restrooms • Shelter or gazebo • Shade structures for appropriate facilities • Community events and gatherings (i.e., markets and festivals) • Cultural events and performances • Outdoor dining areas • Seating areas • Tot lots • Dog run • Pollinator gardens
Landscape Design & Lighting	• Landscape design shall be per Section 6.6.6 Landscape Design. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting.

TABLE 14.2 Plaza Design Standards

Design Criteria	Standards
Scale	10,000 square feet – 1 acre; (minimum dimension of 75 feet on the smallest edge)
Service Area	Neighborhood and community
Potential Program	• Community events and gatherings (i.e., markets and festivals) • Shade structures for appropriate facilities • Cultural events and performances • Outdoor dining areas • Seating areas • Landscape Areas
Landscape Design & Lighting	• Landscape design shall be per Section 6.6.6 Landscape Design. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting.

TABLE 14.3 Laneway Standards

Design Criteria	Standards
Scale	• Minimum 50 feet wide • Laneway shall include a multi-use path with a minimum 12 feet width • Laneway shall have a minimum landscape width of 12 feet exclusive of multi-use path, EVA route and sidewalks
Service Area	Neighborhood and community
Potential Program	• Multi-use paths • Pedestrian Paths • EVA Access may be included and can overlay the multi-use path • Shade structures for appropriate facilities • Outdoor dining areas • Seating areas and Site furnishings
Landscape Design & Lighting	• Landscape design shall be per Section 6.6.6 Landscape Design. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting

6.5 Design Vision for Key Park and Open Space Features

The general vision and programmatic approach for each of the following key open spaces is outlined on the following pages.

- Caspian Community Park
- Diagonal
- Borregas and Crossman Squares and Laneways
- East Channel Park
- West Channel Park
- East and West Channel Greenbelts
- Ecological Combining District

CASPIAN COMMUNITY PARK

The Caspian Community Park is envisioned as a social, cultural, and recreational hub that will be a destination for a variety of activities. As the central destination at the heart of the open space network Caspian Community Park will provide an important active transportation link between the East and West Channels. The park will include a diversity of programs and features that will serve, residents, employees, visitors, youth, families, and seniors. The design of the park should create cohesive experience and identity that is punctuated by distinct spaces, features, and activities. The park shall include a separated bicycle and pedestrian paths from the East to the West, along with ample secondary pedestrian paths throughout. As an ecological corridor, Caspian Community Park will also include native plantings and tree canopy cover consistent with the standards and guidelines in this chapter. Conceptually, the park is divided into three distinct spaces. The space to the west is envisioned as a social and recreational space, that may include court sports, flexible gathering and event spaces, shaded seating areas and/or shade structures, and stormwater gardens. Considering its central location and proximity to proposed residential areas the park shall include a destination play space. The park will incorporate the existing Caspian Drive street right-of-way.

STANDARDS

1. **Minimum Dimension:** 200 feet with at least one space that has a minimum dimension of 300 feet by 300 feet
2. **Minimum Area:** 10 acres
3. **Natural Area:** Minimum 40% (see Natural Area information above, including Table 11)
4. **Special Considerations**
   a. Refer to the Community Park Design Standards
   b. The park shall include a minimum of 70 feet of open space north of the existing Caspian Drive street right-of-way.

Children at outdoor water recreational facility

Outdoor sports field in New York, NY

People cooking at outdoor barbeques

FIGURE 35 Illustrative Caspian Community Park Section

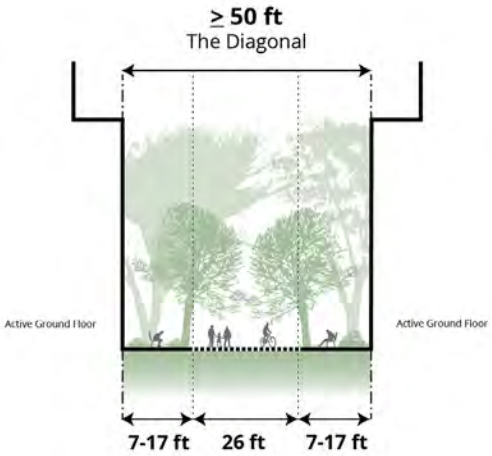
DIAGONAL

The Diagonal is envisioned an urban promenade that will provide continuous visual and active transportation corridor from Mathilda Avenue to Crossman Square and the East Channel Park. The South Java Neighborhood Park, mini parks, plazas, and squares should be situated at key nodes along its length. Seating and gathering areas should be located intermittently and the Diagonal should include a continuous canopy of trees. The design of the diagonal should include a common palette of paving, lighting, site furnishings and other elements to create a distinct and cohesive identity and experience.

STANDARDS

1. **Minimum Dimension:** 50 feet
2. **Special Considerations**
   - **a.** No Vehicle Access except for EVA Access where required.
   - **b.** Design standards for paving, lighting, site furnishings, and planting shall be established as part of the 1st phases of implementation and applied to subsequent segments of the Diagonal.

FIGURE 36 Diagonal Diagram



BORREGAS SQUARE AND LANEWAYS

Borregas Square is the central open space for the North Java side of the Borregas Activity Center and mixed-use district. The square is envisioned as well-scaled plaza that will provide a flexible space for community events and gatherings, such as farmers markets, festivals, art fairs, and performances. It should be designed in concert with adjacent buildings to support indoor-outdoor uses, including outdoor dining spaces. It should include ample seating areas of different types and scales. Smaller garden areas and stormwater gardens should be situated strategically throughout the square and shade trees or structures should be integrated in the design to green and cool the square. The square should include special elements, features, and public art to activate the space and give it a clear identity. The square should include durable paving and infrastructure that supports a variety of intensive events and functions. The surrounding laneways should link with and extend the urban design vocabulary of the central square. Special attention should be given to the link between Borregas Square, West Channel Park, and Caspian Community Park to ensure a complementary relationship between the spaces.

STANDARDS

1. **Minimum Dimension:** 100 feet
2. **Minimum Average Dimension:** 150 feet
3. **Minimum Area:** 25,000 square feet
4. **Special Considerations**
   - **a.** Minimum dimensions and areas shall not include any areas where vehicular access is permitted. EVA's may overlay the plaza area.
   - **b.** The plaza should include a minimum landscape area of 25% and may include stormwater treatment areas.
   - **c.** A minimum of 30% of the square shall be shaded by trees at mature sizes and/or canopy structures. Paving design, site furnishings, planting, and special features shall be consistent for the plazas and adjacent laneways.
   - **d.** Paving design, site furnishings, planting, and special features shall be consistent for the plazas and adjacent laneways.

People sitting in plaza

Plaza with businesses within

Plaza alongside road

CROSSMAN SQUARE

Crossman Square anchors the Crossman Activity Center and neighborhood. The program and function of the space is similar to that of Borregas Square; however, it should have a distinct design vocabulary and identity that is informed by the adjacent buildings. Crossman Square is envisioned as a flexible space for community events and gatherings, such as farmers markets, festivals, art fairs, and performances. It should be designed in concert with adjacent buildings to support indoor-outdoor uses, including outdoor dining spaces. It should include ample seating areas of different types and scales. Smaller garden areas and stormwater gardens should be situated strategically throughout the square and shade trees or structures should be integrated in the design to green and cool the square. The square should include special elements, features, and public art to activate the space and give it a clear identity. The square should include durable paving and infrastructure that supports a variety of intensive events and functions.

STANDARDS

1. **Plaza Minimum Dimension:** 100 feet
2. **Minimum Average Dimension:** 150 feet
3. **Minimum Area:** 25,000 square feet
4. **Special Considerations**
   - **a.** Minimum dimensions and areas shall not include any areas where vehicular access is permitted. EVA's may overlay the plaza area.
   - **b.** The plaza should include a minimum landscape area of 25% and may include stormwater treatment areas.
   - **c.** A minimum of 30% of the square shall be shaded by trees at mature sizes and/or canopy structures.
   - **d.** Paving design, site furnishings, planting and special features shall be consistent for the plazas and adjacent laneways.

Moderate sized open plaza

Covered Laneway within plaza

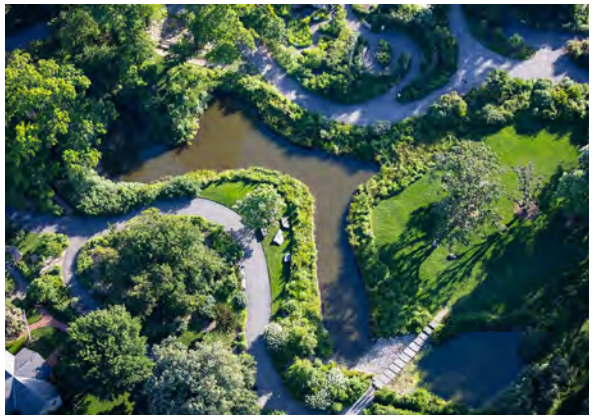
Plaza in fall

EAST AND WEST CHANNEL PARKS

The East and West Channel Parks and Biodiversity Hubs prioritizes terrestrial and aquatic habitats, stormwater conveyance and treatment, active transportation, picnicking, and interpretive and special moments that foster connections with the natural environment. The park, biodiversity hub, and adjacent private open spaces should provide a high level of canopy cover and biodiverse plantings consistent with the standards and guidelines described in this chapter. The East Channel park should include a pedestrian/bike/transit bridge across the channel to provide a safe connection to the east side of the park and surrounding areas.

STANDARDS

1. **Minimum Dimension:** 250 feet
2. **Minimum Area:** 9 acres each
3. **Natural Area:** Minimum 75% (see Natural Area information above, including Table 11)
4. **Special Considerations**
   - **a.** Refer to the Biodiversity Hub Design Standards
   - **b.** Provide a pedestrian and bicycle bridge across the East Channel.
   - **c.** Coordinate design of park with Valley Water to ensure that flood control requirements are integrated with the design. Nature-based solutions that reduce the height and extent of flood walls are encouraged.
   - **d.** West Channel Park areas shall include the Caspian Drive street right-of-way and shall be designed to integrate with the Borregas Activity Center, Borregas Square and associated laneways connecting across Java Drive.
   - **e.** West Channel Park areas shall include the existing approved Caribbean project's publicly accessible walking and biking trails, which are not and will not be publicly dedicated as a park or as public open space.



Aerial view of water channel

Bridge over waterway

Children playing along creek

EAST AND WEST CHANNEL GREENBELTS

The Sunnyvale East and West Channels that run through Moffett Park provide an opportunity to combine flood management needs with the enhancement of the greenbelt - ecological corridor. The channels are currently minimally vegetated and have planted banks as narrow as five feet wide in many areas. Providing adequate building setbacks and space for native vegetation around the channels can help create riparian habitat that can serve many functions for Moffett Park, such as biodiversity support, regional connectivity for wildlife and people, urban heat island mitigation, and pollution and runoff management.

The East and West Channels become recreational, ecological, and active non-vehicular transportation corridors, which provide continuous open space, habitat, and multi-use trail connections. In addition to providing public access, recreational and habitat benefits, the channel setback areas may provide stormwater detention and treatment functions for adjacent parcels. The PG&E easement area is included as part of the East Channel Greenbelt. The program in this area will be limited to multi-purpose pathways, seating areas, picnic areas and other passive uses. The planting will be limited to understory planting (consistent with PG&E) and designed to provide pollinator habitat. See Section 6.6.6 Landscape Design for more details.

Improvements to the East and West Channels by providing naturalized flood protection, reduced flood walls, and improved habitat are encouraged where possible.

The East and West Channels are owned and operated by Valley Water. The channels do not currently include public access improvements; however, the City has a memorandum of understanding with Valley Water to allow for public access and the multi-use trails included with the flood control project construction. The East and West Channel open spaces also include public and private setback requirements. The public open space setbacks shall be recorded as public access easements.

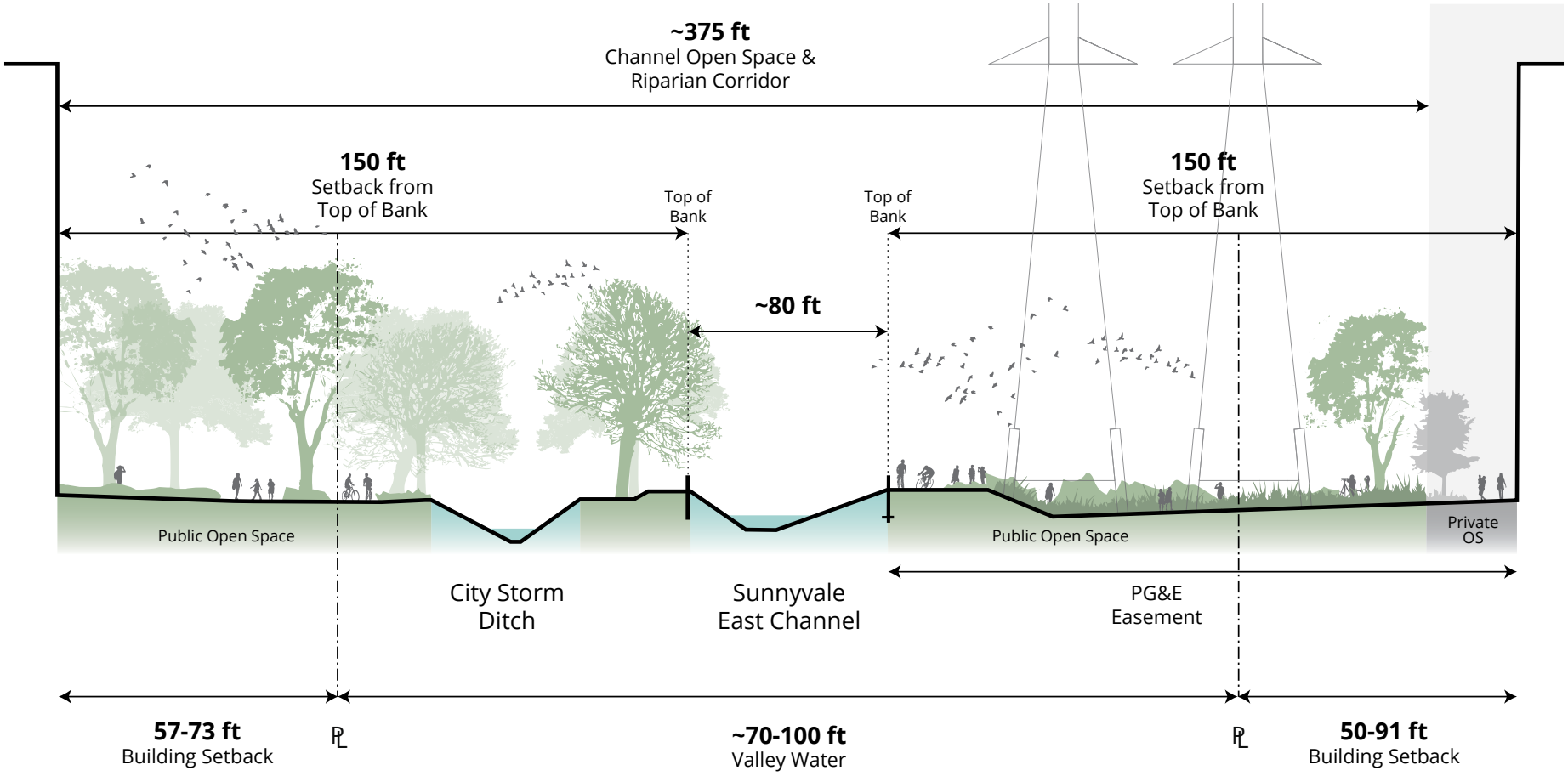
West Channel ecological improvements; Source: Google

TABLE 15 East and West Channel Design Standards

Design Criteria	East Channel Design Standards	West Channel Design Standards*
Minimum Required Open Space	150 feet from top of bank**	100 feet from top of bank** 75 feet from top of bank*
Minimum Total Open Space Width	380 feet	240 feet typical 200 feet in segments where channel flood protection is naturalized*
Public Open Space Setbacks	50-91 feet from property line, depending on location	70 – 85 feet from property line, depending on location
Private Open Space Setbacks	Refer to Figure 37 and Figure 38	30 feet 10 feet minimum, 15 feet average, in segments where channel flood protection is naturalized*
Multi-Use Trails	Multi-use trails shall be integrated within the Valley Water and Public Open Space Setback areas.	
Secondary Paths	Secondary paths that connect from adjacent streets and private parcels should be included within the public setbacks to provide accessible connections to the multi-use trails at a minimum of every 300 feet.	
Landscape Design & Lighting	• Landscape design shall be per Section 6.6.6 Landscape Design • Landscape areas adjacent to the channels shall be designed to provide high-quality habitat and shall be comprised of 100% native species per Appendix B, with a particular emphasis on riparian plant assemblages. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting. • Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan (plant palettes, structure, and species distribution) and the lighting plan.	
Canopy Cover	Refer to Section 6.6.3	
Impervious Areas	Impervious surface adjacent to channels. No new impervious surface shall be constructed closer to the channel than existing impervious surfaces, and no net increase in impervious surface can occur within the setback area.	
Programming	Seating areas and small gathering spaces should be included along the length of the multiuse trail at regular intervals not less than 300 feet. Active programming (e.g., playgrounds, small group picnic areas (5-10 people) and fitness equipment stations may be included. Sporting/outdoor events with high activity/noise levels are excluded.	

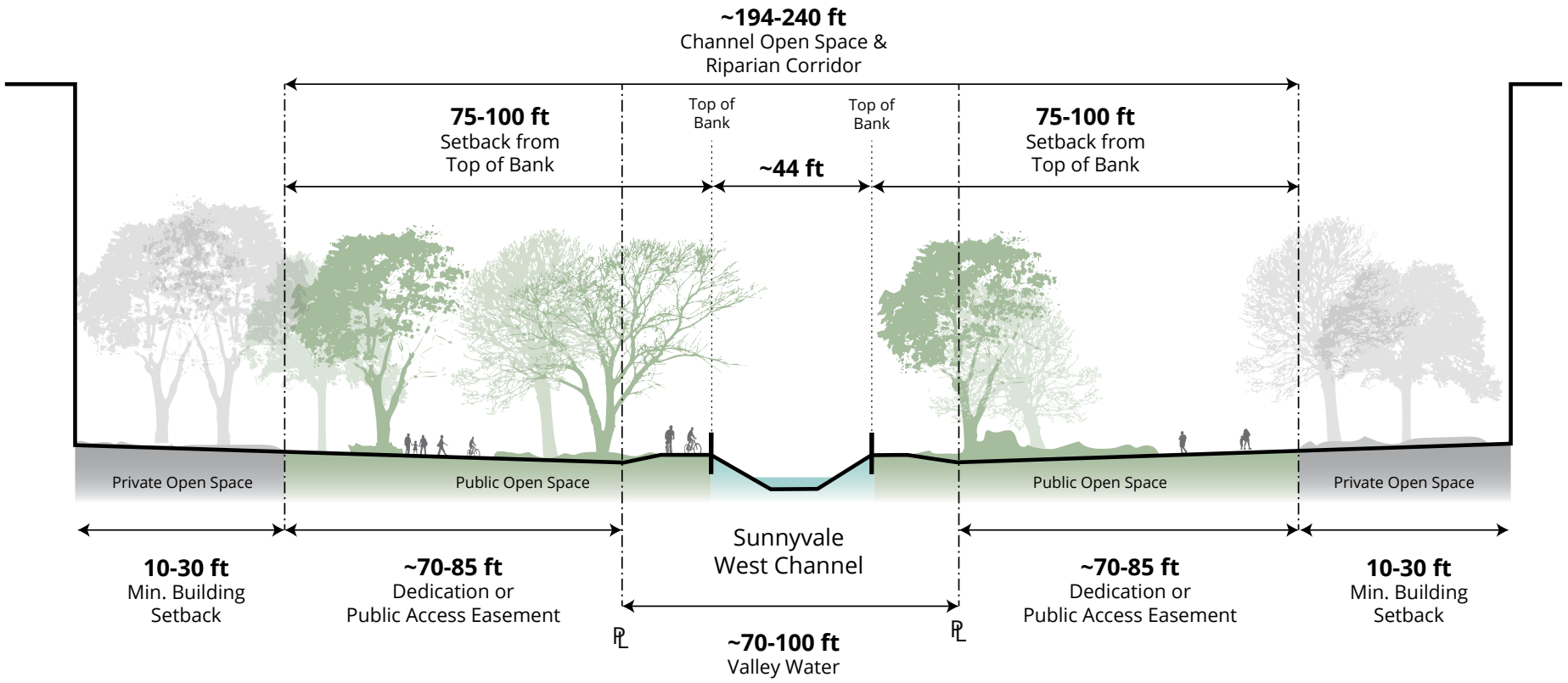
* West Channel standards apply from Caribbean Drive to 1210 Bordeaux Drive on the west side of the channel and to the curve of the channel on the east side. In channel segments where property owners coordinate with Valley Water to provide required flood protection with naturalized channels that eliminate flood walls the minimum open space and set back standards may be reduced as indicated in the table.
** Top of bank refers to location of the top of bank in 2020. Top of bank may be altered following Valley Water improvements or implementation of open space design.

FIGURE 37 East Channel Cross Section



Channel cross sections are representative. Specific conditions vary by channel reach.

FIGURE 38 West Channel Cross Section



Channel cross sections are representative. Specific conditions vary by channel reach.

ECOLOGICAL COMBINING DISTRICT

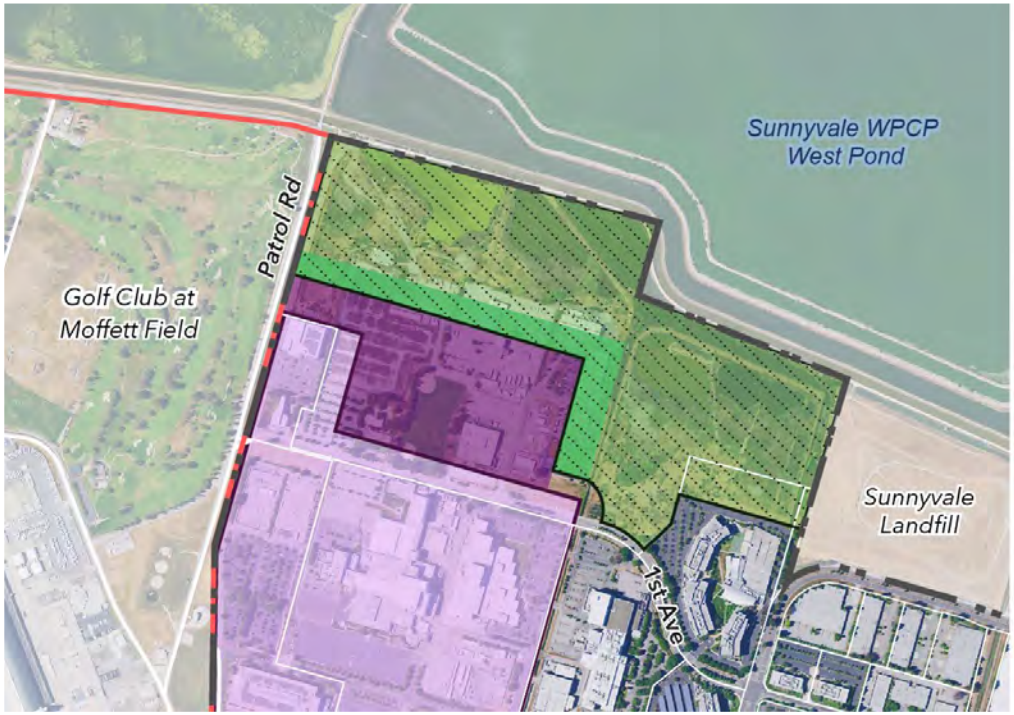
A large area of wetlands (~89.75 acres) currently exists in the northwest corner of Moffett Park. These brackish wetlands are former tidal marsh and tidal-terrestrial ecotone habitat, now filled by stormwater detention and groundwater rather than tidal flows. Expanding and enhancing the ecological value of these wetlands provides an opportunity to redefine Moffett Park as a bayfront district. The location of these wetlands along the Bay Trail makes them easily accessible and a prime open space destination within Moffett Park.

Wetlands require terrestrial buffers (i.e., strips of land that buffer the transition from upland to aquatic habitats) for several reasons:

- They are important for maintaining the quality and function of the wetland through nutrient, pollutant, and sediment removal, which also protects the water quality of other hydrologically connected waterways.
- A majority of wetland-dependent species use terrestrial buffers as an essential part of their life cycle.
- They help support functional ecological communities and higher levels of wetland biodiversity.

Creating more detention space inland of a future flood risk management levee will be especially important as rising groundwater levels may increase the water level of the existing ponds.

FIGURE 39 EcologicalCombiningDistrict



Ecological Combining District
Park/Open Space Area
Developable Area
Lockheed Martin Core Campus
Boundaries subject to change

Specific Plan Boundary
City of Sunnyvale Limit

TABLE 16 Ecological Combining District Standards

Design Criteria	Standards
Ecological Combining District (ECD)	Figure 39 identifies the boundary of the ECD. Southern boundary is a minimum 1,040 feet from northern property line up to the point where the boundary will be 200 feet from western top of bank of Lockheed Martin Stormwater Channel. From this point, the boundary runs parallel to the channel up to the existing 1st Avenue with the exception of areas needed to provide street and utility access north of the Lockheed Martin Core Campus.
Building Placement	No private development shall be located within the ECD. Buildings serving the ECD, such as public restrooms, restoration maintenance buildings, interpretive centers, or stormwater pumps shall be located to minimize impact on sensitive habitat areas.
Impervious area	No new impervious surface shall be constructed closer to the delineated wetlands than existing impervious surfaces, and no net increase in impervious surface can occur within the ECD.
Landscape Design & Lighting within the ECD	• Landscape design shall be per Section 6.6.6 Landscape Design. • Landscape areas adjacent within the ECD shall be designed to provide high-quality habitat and shall be comprised of 100% native species per Appendix B and per qualified restoration ecologist. • Landscape design shall be designed by a qualified restoration ecologist to ensure that the design is consistent with best practices for ecological habitat restoration including the planting plan (plant palettes, structure, and species distribution) and other work necessary for successful native habitat restoration. • Landscape lighting shall not be installed with the Ecological Enhancement Area to ECD.
Landscape Design & Lighting Within 150' of the ECD Boundary	• Landscape design shall be per Section 6.6.6 Landscape Design. • Landscape areas adjacent to the ECD shall be designed to provide high-quality habitat and shall be comprised of 100% native species per Appendix B. • Landscape design shall be reviewed by a qualified ecologist to ensure that the design is consistent with best practices for urban ecology including the planting plan (plant palettes, structure, and species distribution) and the lighting plan. • Landscape lighting shall be per Section 6.6.9 Exterior Lighting.
Raptor Perches	Raptor perch deterrents should be placed at the edges of new building roofs or other structures (e.g., light poles or electrical towers) within the ECD and within a 150 feet buffer from the ECD.

6.6 Parks and Open Space Standards and Guidelines

Park and open space improvements shall be implemented based on the following standards and guidelines to create a cohesive, high-quality, and sustainable environment. The design and construction of parks and open spaces shall be developed based on current best practices for design and construction including:

- **Performance.** Parks and open spaces shall be designed to provide a high-performance public realm, with functional spaces, elements, and features based on programmatic needs.
- **Durability.** Parks and open spaces shall be designed for public use, with durability and long-term maintenance as primary considerations.
- **Quality.** The design and construction of parks and open spaces shall be consistent with high-quality public spaces throughout the region.
- **Sustainability.** The design and construction should utilize current best practices for the reduction of embodied carbon and low-maintenance landscape design based on integrated pest management.

The standards and guidelines in this section apply to public parks and open spaces and private open spaces.

6.6.1 CIRCULATION

Pedestrian, bicycle, and micro-mobility routes shall be provided throughout each of the parks and open spaces to provide ample connectivity and access to facilities.

STANDARDS

1. **All ages and abilities.** All pedestrian paths within the parks and open spaces shall be designed based on the principles of Universal Access and design for all ages and abilities.
2. **Class 1 Shared Use Paths.** Class 1 shared-use paths shall be designed consistent with the Specific Plan requirements in Chapter 7 and the current edition of the VTA Bicycle Technical Guidelines, CA-MUTCD, Highway Design Manual, Caltrans standards, and City standards.
3. **Pedestrian paths.** The width of pedestrian paths shall be adequate to serve the expected pedestrian circulation volume and should have a clear hierarchy of primary, secondary, and tertiary circulation.
4. **Intersections.** Intersections and interfaces between pedestrian, bicycle and Class I shared-use paths shall be designed consistent with any Specific Plan requirements included in Chapter 7 and the current edition of the VTA Bicycle Technical Guidelines, CA-MUTCD, CA Highway Design Manual, Caltrans standards, City standards, and the NACTO Urban Bikeway Design Guidelines.

6.6.2 HARDSCAPE MATERIALS

Choices of materials used throughout the parks and open spaces system shall be standardized based on the type and function to create a cohesive identity for the public realm. Special materials and paving types should be used to establish identities for distinct spaces within the network. Materials for paving and pathways will be selected to reinforce the design intent and identity of each park, minimize environmental impact, and maximize durability, longevity, and ease of maintenance. The type and extent of paving will be based on specific program requirements for each open space type and area. Paving improvements will include sub-grade preparation, compaction, and sub-base materials to ensure a durable paving section consistent with proposed uses and loads.

GUIDELINES

1. **Class 1 Shared-Use Paths.** Class 1 shared-use paths should use asphalt paving.
2. **Bike paths.** Bike paths should use asphalt paving.
3. **Pedestrian paths – plazas and squares.** Pedestrian paths – plazas and squares should use the following:
   - **a.** Standard concrete (standard for City maintained facilities)
   - **b.** Enhanced concrete (with select aggregate, integral color and/or enhanced finishes)
   - **c.** Asphalt paving
   - **d.** Unit pavers
   - **e.** Stone paving
   - **f.** Materials for plazas and squares shall be selected to withstand both daily pedestrian use and vehicular access and loading requirements for emergency vehicles or large-scale installations. Plaza materials shall provide level surfaces onto which furnishings, stages, and other elements can be placed.
4. **Decks and boardwalks.** Decks and boardwalks may be integrated into parks and open space where appropriate and consistent with the design intent. Deck and terrace materials may include, but are not limited to, pressure treated woods, cedar, and redwood.
5. **Natural areas trails.** Natural areas trails should use the following:
   - **a.** Asphalt paving
   - **b.** Stabilized crushed stone paving
6. **Paving albedo.** To lower surrounding air temperatures and reduce the urban heat island effect, high reflectance paving with a three-year aged solar reflectance (SR) value of at least 0.28 should be used wherever possible.
7. **Tactile transition treatment and materials.** The transition to and from high pedestrian traffic areas should include tactile elements such as: tactile warning strips, raised intersections, and paving color and texture changes.
8. **Paving edges.** Paving edges should be thickened or supported as needed to support maintenance vehicle access, and event program access as applicable.

6.6.3 URBAN FOREST

Higher canopy cover increases ecological benefits in urban areas. Increasing canopy cover has been found to be the most valuable action for conserving species. Canopy cover provides habitat for shelter, cover, foraging, and nesting. Tree-lined streets also help connect green spaces for wildlife, improving the biodiversity support of the streetscape, green spaces, and the district as a whole.

Beyond providing habitat, urban trees have numerous benefits to cities, most of which are directly associated with the number of trees and percentage of tree canopy cover. Urban trees can provide immense economic benefits through provisioning services, such as reducing stormwater runoff by intercepting rainfall, muffling traffic noise, removing pollutants and dirt from the air, improving both mental and physical health of residents, providing carbon sequestration, and reducing cooling costs through direct shading of buildings. Increasing canopy cover can greatly improve the thermal comfort of outdoor spaces and reduce heat stress during extreme weather events and hot summer days, which are associated with health outcomes and active mobility.

The following standards and guidelines apply to new construction and landscape renovations of both publicly and privately owned/funded developments.

Tree lined residential street

Person running along multi-use path

STANDARDS

1. **Canopy Cover:** The overall goal is to achieve a minimum of 30% canopy cover for the entire district (~298 acres).
   - **a. Minimum canopy cover.** Canopy cover[10] shall be managed and monitored at different scales and in relation to different open space types, street types, and private open spaces, with the goal of maximizing coverage within Moffett Park. For isolated noncompliance areas with documented technical restrictions/circumstances (e.g. utility and programmatic conflicts), the required land areas for canopy cover may be reduced by up to 10% with approval by the City. Canopy goals are as follows:
     - **i. Publicly Accessible Open Spaces**
       - 01. **Greenbelts - Ecological Corridors**
         - A. East and West Channels Open Space Setbacks: 80%
         - B. Discovery Way Corridor: 50%
         - C. PG&E High Tension Lines ROW: 0%
       - 02. **Natural Areas – Biodiversity Hubs and Habitat Patches**
         - A. **ECD:** 0% in wetland and wet meadow areas. 25% in a 50' – 75' transitional zone along south edge of the ECD and the E Street Channel.
         - B. **West Channel Park:** 65% total, 80% of non-programmed open spaces.
         - C. **East Channel Park:** 65% total, 80% of non-programmed open spaces.
       - 03. **Caspian Community Park:** 50% total, 80% of non-programmed open spaces.
       - 04. **Neighborhood Parks:** 50% total, 80% of non-programmed open spaces.
       - 05. **Mini Parks and Plazas:** 30%
       - 06. **Diagonal:** 50%
     - **ii. Streets and Laneways**
       - 01. **Java:** 26%
       - 02. **Mathilda:** 40%
       - 03. **Caribbean:** 45%
       - 04. **Moffett Park Drive:** 30%
       - 05. **Crosstown Connectors (4 lane):** 38%
       - 06. **Neighborhood Streets (2 lane):** 50%
       - 07. **Laneways:** 50%
     - **iii. Private Open Spaces**
       - 01. **Building setbacks:** 50%
       - 02. **Lockheed Martin core campus open space:** 15%
       - 03. **Existing campus open space:** 9%
       - 04. **New MP-AC Land Use District:** 0%
       - 05. **New fine grain office open space:** 30%
       - 06. **New large campus open space:** 50%
       - 07. **New residential open space:** 30%
       - 08. **Surface parking:** 50% (of total area)
   - **b. Factors.** A wide variety of factors including species selection, spacing, programmatic and environmental conditions impact canopy cover and value. The targets above are estimated based upon the selection of trees as outlined in the plant palette in Appendix B and assumes that species are appropriately spaced to provide both soil volume and canopy space at a mid-range to mature size. Tree selection should also consider impacts on street lighting efficiency and shade value.
   - **c. Submittal Requirements.** Development applicant shall submit a canopy cover projection drawing, to include the following:
     - **i.** A table showing tree species' common name and scientific name, quantities, and container sizes at installation, and 80% mature canopy width and area, calculated as follows for each species:
       - 01. Reference Urban Forest Ecosystems Institute at Cal Poly's Tree Selector Tool (https://selectree.calpoly.edu/) to determine mature canopy width. If a range is provided, calculate the median mature canopy width. For example, if the Tree Selector Tool canopy width range is 25-35 feet, the mature canopy width is 30 feet.

10. Urban Tree Canopy (UTC), the extent of an area covered by the canopy of medium and large-scale trees.

02. Calculate 80% mature canopy width based on the median width. For example, 30 feet (median) mature canopy width x 80% = 24 feet 80% mature canopy width.
03. Calculate 80% mature canopy area. For example, 24 feet 80% mature canopy width = 452 square foot 80% mature canopy area.

ii. A plan showing the following:

01. Tree locations at 80% mature canopy width/area.
02. Boundary of noncompliance area(s) with technical restrictions/ circumstances not allowing the area to meet minimum canopy cover requirements. Include an annotation describing the constraint and the size (in square feet) of the area.

iii. Table showing that tree canopy calculations for the project provide the minimum canopy cover requirements listed above in item "a".

iv. If the project includes noncompliance area(s), include a table showing area (in square feet) of noncompliance area(s) relative to overall landscape area. The reduced minimum canopy cover requirement is listed above in item "a".

2. **Large trees.** Larger healthy trees shall be preserved. Exemptions may be granted based on tree health and the ecological value of the tree species (e.g., an invasive tree species or a non-native tree species with low wildlife value). Where possible, grow spaces and soil conditions should be improved to promote tree longevity.
3. **Street trees.** Complete street and public rights-of-way redesign shall maximize vegetated bulb outs, planting strips and medians, tree wells, and building setbacks to ensure adequate grow spaces for trees.
   a. Minimum planter strip width (where provided): Width: 5 feet, Length: 5 feet.
   b. Minimum below-grade soil depth and volume: See Section 6.6.5 Landscape Soils.
   c. Average number of trees per linear feet of sidewalk/curb space: 1 per 30 – 35 linear feet, except at intersection set back areas for sightlines.
4. **Tree species.** Trees selected for new plantings shall be chosen from locally-adapted, site-appropriate, native trees should be planted as a default, with recommended tree composition of 100% native species and minimal composition of 80% native species. Planting native trees that are adapted to local environmental and future climate conditions (e.g., increased heat, shallower groundwater depth) provides better support to native wildlife. Selected tree species should match local native ecosystem (see Appendix B) and site-specific conditions (shading, water availability, aesthetic requirements, and appropriate branching structure).
   a. Plaza tree planting. Hardscaped open spaces with ground-level vegetation restrictions should prioritize native tree canopy cover to better support biodiversity and provide shade.
5. **Tree sizes.** Minimum tree sizes shall be 24-inch box trees. Exemptions may be granted based on planting conditions, availability of plant material (especially for native species), etc.

6.6.4 STORMWATER MANAGEMENT

Grading and storm drainage and stormwater management shall be provided in all parks and open space areas to provide for positive drainage, conveyance, detention, and treatment of stormwater runoff. The type and extent of storm drainage and management shall be consistent with standard practices for the proposed landscape types and uses with a higher intensity of grading and drainage in smaller parks and planting areas and limited drainage in large open space areas. Stormwater management practices will evolve to address changes in the climate, and as dictated by the MRP and future iterations thereof.

STANDARDS

1. **Grading and storm drainage.** All open spaces shall include grading and storm drainage systems adequate to provide for positive drainage and conveyance of stormwater.
2. **Stormwater management.** All open spaces shall include a stormwater management plan that includes Green Stormwater Infrastructure (GSI), and low impact development (LID) best management practices consistent with the City requirements.

GUIDELINES

1. **Integration with parks and open spaces.** Stormwater treatment areas should be a cohesive and integrated part of parks and open space design and shall include native plant species that are consistent with the ecological and hydrologic function of the treatment method.
2. **Centralized treatment areas.** Parks and open spaces may include centralized stormwater treatment facilities to provide treatment and/or detention of stormwater and/or emergent groundwater from adjacent areas, provided they are designed and developed as part of a park dedication and included in a stormwater management plan that is coordinated with the City as part of the development review process.
3. **Subdrainage and underdrainage.** The elevations and soils within Moffett Park may require subdrainage and underdrainage systems for tree planting and other features, such as multi-use fields, dog parks etc. Subdrainage and underdrainage should be provided based on geotechnical and landscape design requirements. Geotechnical requirements should also consider a higher future groundwater table than the historical maximum, and where possible should make use of the latest data projections.
4. **Stormwater-resilient landscaping.** All planting and landscaping associated with streetscape design, open spaces, recreational areas, and other uses should be designed to reduce stormwater runoff volume and should be designed in such a way that pooled or standing water does not negatively impact any abutting or adjacent pedestrian or vehicular circulation paths, buildings, nor pose a significant threat of damage any infrastructure (both above and below ground).
5. **Designated stormwater retention areas.** Groundwater is shallowest (emergent) in Moffett Park at the Lockheed Martin stormwater ponds. Protecting open space around this area and allowing more room for stormwater and groundwater detention in the future is advisable. In addition to protecting open space along the Sunnyvale East Channel and stormwater ditch, it may also be advisable to protect more open spaces in the eastern portion of Moffett Park and in the adjacent area east of the Moffett Park Specific Plan boundary, with depressions designed as seasonal detention ponds for groundwater and stormwater.

6.6.5 LANDSCAPE SOILS

The long-term success of landscape improvements is contingent on proper soils management and design. The standards and guidelines below apply to new construction and landscape renovations of both publicly and privately owned/funded developments.

STANDARDS

1. **Soil management.** Existing topsoil shall be preserved in place and/or stripped and stockpiled for reuse where possible.
2. **Soil preparation.** Soil preparation shall be provided for all park and open space areas. Soil preparation operations shall include ripping of subgrade soils and import topsoil and/or amendment of existing site soils as required to establish soil texture and fertility levels suitable for each planting type. Existing, imported, and amended soils shall be tested to ensure suitability based on the proposed landscape design.
3. **Organic soils.** Soil preparation materials and operations shall be consistent with the organic approach to soil and landscape management with limited use of synthetic amendments or fertilizers, herbicides, and pesticides.
4. **Fine grading and mulching.** Fine grading and mulching will be provided in all planting areas.

GUIDELINES

1. **Tree planting soil depth and volume.**
   a. Soil depth and volume should be adequate for proposed tree species in landscape and streetscape settings. See Table 17.
   b. Tree wells should be connected when possible to create a shared soil volume.
2. **Understory planting.** Minimum 12 – 18 inches of improved soils.
3. **On-structure landscapes.** See Section 5.4.3 Green Roofs.
4. **Soil sources.** Soils should be reused on-site as feasible and import soils and amendments should be sourced from local and regional suppliers. Topsoil from agricultural areas or sites should not be used.
5. **Organics sources.** Compost developed as part of the City's organics waste reduction program should be used to improve soils in Moffett Park.

TABLE 17 Tree Planting Soil Depth and Volume

	Landscape Tree	Street Tree
Small Tree	Minimum depth 42 inches, Minimum volume 10 cubic yards	Minimum depth 42 inches, Minimum volume 10 cubic yards
Medium Tree	Minimum depth 48 inches, Minimum volume 30 cubic yards	Minimum depth 48 inches, Minimum volume 22 cubic yards
Large Tree	Minimum depth 48 inches, Minimum volume 60 cubic yards	Minimum depth 48 inches, Minimum volume 34 cubic yards

6.6.6 LANDSCAPE DESIGN

The purpose of the landscape design standards and guidelines is to create ecologically beneficial and resilient landscapes. Landscape / habitat zones can be categorized into archetypes, each of which interact with a number of plant selection factors to determine the appropriate local native ecosystem plant palette recommendations (see Appendix B). Plant selection and design will be specific to each site, based on microclimate and soil conditions and program. In general, plant selection will focus on native and climate-adapted species that require minimal water use and maintenance. Other factors that may influence plant selection include aesthetics, cultural significance, and habitat value.

The standards and guidelines below apply to new construction and landscape renovations of both publicly and privately owned/funded developments.

STANDARDS

1. **Existing site vegetation management.** All development shall satisfy the following standards regarding any existing vegetation found on-site.
   a. **Native plant preservation.** Design shall preserve portions of a lot largely occupied by native species. Exemptions may be granted if an equal area of native vegetation is created elsewhere on the site.
   b. **Invasive species control.** Best Management Practices (BMPs) shall be implemented during construction and subsequent site maintenance to manage and control invasive species found on site, except when the nonnative vegetation supports habitat particularly useful to native wildlife. BMPs may include clearing infested areas prior to construction, planting native seed from a local source, and avoiding seed dispersal through construction equipment use.
   c. **Special-status plants.** If special-status plants are found onsite, the development applicant shall work with the California Department of Fish and Wildlife to determine the appropriate protocol to survey, protect, and/or manage the special-status species.
2. **Plant palettes.** All development shall satisfy the following standards regarding any new vegetation proposed for the development site or any abutting right-of-way improvements associated with the development:
   a. **Native vegetation.**
      i. **Landscape area planting** shall be comprised of minimum 80% native vegetation consistent with Section 6.6.3 Urban Forest and Appendix B. Non-native plants may only be used if they support habitat useful to native wildlife.
      ii. **High-quality native habitat planting** shall be comprised of 100% native vegetation consistent with Section 6.6.3 Urban Forest and Appendix B. The following applies to certain areas of 100% native vegetation:
         01. ECD: Planting within the ECD shall be per Section 6.5 Design Vision for Key Park and Open Space Features.
         02. PG&E High Tension Lines ROW: Due to planting height and tree canopy restrictions within the ROW, this area will instead focus on providing pollinator habitat. The Coastal Grassland Ecosystem plant palette shall be installed consistent with Appendix B.
   b. **Invasive species.** Planting invasive species identified on the California Invasive Plant Council list is prohibited.
   c. **Plant assemblage.** Plant selection shall provide a mixture of groundcover, shrub, and tree species that mimics native ecosystems identified in Appendix B.
   d. **Tolerance to recycled water.** Plants shall be tolerant of recycled water as an irrigation source.
3. **Trees.** See Section 6.6.3 Urban Forest for information related to tree canopy cover, species, sizes, and placement.

4. **Water Efficient Landscape Ordinance.** Landscape planting shall be consistent with the Sunnyvale Water Efficient Landscape Ordinance (WELO) and will generally use California native or adapted species that require low or infrequent water use.
5. **Lawn areas.** Lawn areas shall be minimized and used only in areas where passive or recreational uses require it.

GUIDELINES

1. **Planting palette and structure.** Tree and plant selection and landscaping design should seek to meet these guidelines.
   a. Tree selection should prioritize native species that provide ecological and resilience benefits (e.g., native trees with large canopies that provide wildlife benefits and shade/cooling)
      i. Plant selection should provide a coherent mixture of groundcover, shrub, and tree species that mimics plant assemblages identified in Appendix B.
      ii. Landscaping should configure plantings in multi-layered clusters, placing groundcover, shrub, and tree canopy layers in the same area to provide vertical structure. Target an overlap of 2-3 layers of native vegetation for >75% of the planting area.
2. **Herbicide and pesticide use.** Operational policies adopting integrated pest management and restricting herbicide and pesticide use are encouraged.
3. **Maintenance equipment.** Landscape maintenance practices should minimize leaf blowing (because decomposing leaf material builds soil) and in general minimize or eliminate the use of fossil-fuel powered maintenance equipment.

6.6.7 IRRIGATION SYSTEMS

STANDARDS

1. **Public systems.** All open spaces shall include irrigation systems designed based on current City standards and/or a standard that is developed for Moffett Park.
2. **Private systems.** All private open spaces and landscape designs shall include automatic irrigation systems designed based on current best practices and consistent with current City policy.
3. **Recycled water.** All development in Moffett Park shall be designed based on current requirements for use of Title 22 recycled water.
4. **Water efficient landscape.** All irrigation systems shall be designed to meet the requirements of the current Water Efficient Landscape Ordinance. In addition, planting shall minimize the need for irrigation per Section 6.6.6 Landscape Design.

GUIDELINES

1. **Greywater systems.** Irrigation systems should employ energy and resource efficient methods that include reuse of stormwater or greywater systems.

6.6.8 SITE FURNISHINGS

Site furnishings include elements, such as trash receptacles, bicycle racks, drinking fountains, signage, and benches. The set of furnishings will vary by park type as appropriate to support the program and identity.

GUIDELINES

1. **Public open spaces.** Site furnishings should be standardized throughout the public open spaces to create a cohesive identity and to minimize maintenance and replacement costs.
   - **a.** Site furnishings within parks and open spaces should be provided based on use and programmatic need. The quantity and location of site furnishings should be consistent with the intensity and type of use.
   - **b.** Furnishings should be selected to minimize environmental impact, and maximize durability, longevity, and ease of maintenance.
2. **Public restrooms.** Restrooms shall have a minimum of one public bathroom including separate spaces for individuals identifying as men, women, and a non-gender/family bathroom, or a minimum of three separate non-gender bathrooms.
   - **a.** Caspian Community Park
   - **b.** Navey Park
   - **c.** Crossman Square
   - **d.** South Java Park

6.6.9 EXTERIOR LIGHTING

Exterior lighting shall be installed for safety, identifying building entrances and circulation routes, and activating outdoor spaces. Public and Private open spaces shall be illuminated based on the type and function of the space and based on the following standards and guidelines. Exterior lighting includes, but is not limited to, the following:

- Free-standing site lighting features, including pathway lights, bollards, spotlights, lampposts, light poles, athletic field lighting, and street lights.
- Exterior lighting attached to buildings.

STANDARDS

1. **General.**
   - **a.** Design lighting systems to provide safety, visual comfort with low energy use.
   - **b.** Incorporate 'state of the art' lighting controls to meet the standards and guidelines herein.
2. **Design and illumination standards.** Lighting Design and Illuminations standards shall be consistent with the current Illuminating Engineers Society (IES) Standards applicable to outdoor lighting.
   - **a.** ANSI/IES LP-2-20: Lighting Practice: Designing Quality Lighting for People in Outdoor Environments
   - **b.** ANSI/IES LP-6-20: Lighting Practice: Lighting Control Systems – Properties, Selection and Specification
   - **c.** ANSI/IES LP-10-20: Lighting Practice: Sustainable Lighting – An Introduction to the Environmental Impacts of Lighting
   - **d.** ANSI/IES LP-11-20: Lighting Practice: Environmental Considerations for Outdoor Lighting
   - **e.** ANSI/IES LP-13-21: Lighting Practice: Introduction to Resilient Lighting Systems
   - **f.** ANSI/IES TM-15-20: Luminaire Classification System for Outdoor Luminaires
3. **Full cutoff - light shielding.** All exterior lighting shall be shielded from the top, directed downward, and avoid excessive light trespass.
   - **a.** Uplighting on buildings or landscaped areas is prohibited.
   - **b.** Light fixtures shall meet the Backlight-Uplight-Glare (BUG) rating system requirements for the lighting zone corresponding to the land use where the light fixture is located (ex. residential, commercial, etc.) under the International Dark-Sky Association's model lighting ordinance.
4. **Lighting near habitat areas.** Exterior light design shall minimize the potential to impact open spaces intended to provide wildlife habitat as identified in this Chapter, including the Ecological Combining District ECD, areas within 150 feet of the ECD boundary, habitat areas within Greenbelts- Ecological Corridors and Natural Areas-Habitat Patches, and the East and West Channels. Within these areas the following standards shall apply.
   - **a.** Light fixtures shall be designed and maintained to only illuminate pathways and other surfaces or features necessary for safety, building entrances, and circulation. Light shall be diverted away from wildlife habitat. Light fixtures shall meet the Backlight-Uplight-Glare (BUG) rating system requirements for Lighting Zone 1 (LZ1) under the International Dark-Sky Association's model lighting ordinance.
   - **b.** Interior and exterior lighting that is not necessary for safety, building entrances, and circulation shall be automatically shut off from 10 pm to sunrise.
   - **c.** All light fixtures near habitat areas shall have a light temperature of ≤ 2,700 kelvin.

GUIDELINES

1. **Correlated color temperature.** Whenever possible, outdoor luminaires should have a light temperature ≤ 3,000 kelvin. Exceptions may be considered in spaces intended for nighttime social gatherings or commercial areas.
2. **Lighting studies.** Conduct modeling during the exterior lighting design process to confirm that the project will minimize the addition of indirect artificial light at night to habitat areas.
3. **Migration shutoffs.** Where feasible, extinguish exterior lights from 10 pm to sunrise during bird migration periods (February 1 - May 31 and August 1 - November 30th). If possible, interior lights should also follow this same schedule to avoid attracting birds.
4. **Safety lighting.** Where feasible, outdoor lighting which must remain on throughout the night (e.g., light used for security purposes or to illuminate walkways, roadways, equipment yards, parking lots and building entrances) should be designed and managed to avoid unnecessary light pollution.
   a. Use of specialized fixtures to focus light where needed and avoid light trespass into areas where lighting is not needed.
   b. Use of dimmers, motion sensors, and/or a control system to reduce light intensity when spaces are unoccupied.

6.6.10 MULTI-USE FLEX FIELDS

STANDARDS

1. **Multi-use flex field definition.** Multi-use flex fields shall be integrated into designated parks as defined during the implementation process. They are intended for flexible and informal athletic and recreational use i.e., informal soccer, volleyball, frisbee, picnicking, community gatherings, etc. They are not intended to be marked with permanent facilities for designated sports.
2. **Small flex fields.** A minimum of (3) open field/flexible recreation areas, 35 x 65 yards minimum or equivalent to a 10U soccer field as defined by the US Youth Soccer Association shall be provided. Potential locations for flex fields are designated in Figure 40. Final locations shall be determined during plan implementation.
3. **Soils and drainage.** A sand-based soil with underdrainage systems consistent with best practices for high use recreational fields shall be used.
4. **Surface.** Drought tolerant natural turf sod mix designed for high use recreational areas shall be used. Synthetic turf may be used in locations approved by the City as part of the design review process.

GUIDELINES

1. **Large flex fields.** A large flex field, 50 x 100 yards minimum or equivalent to a high school soccer field as defined by the US Youth Soccer Association, should be included within one of the community or neighborhood parks within Moffett Park.

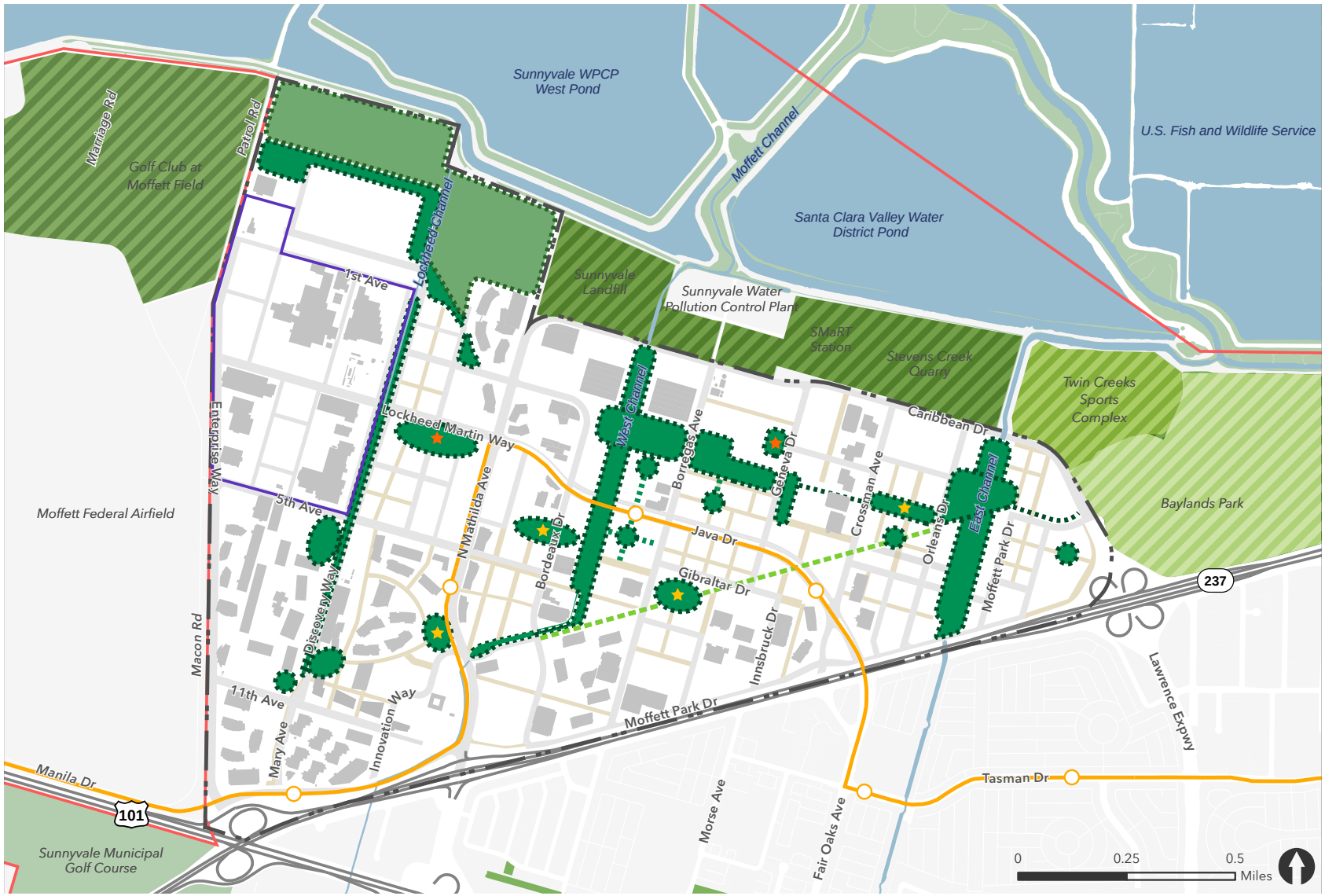


FIGURE 40 Potential Flex Field Locations

City of Sunnyvale (2020); County of Santa Clara (2020); ESRI (2020)

*The final location, size, program, ownership, and management of each open space will be determined as part of the implementation of the plan.

EXISTING OPEN SPACE
- Special Use Area
- Baylands Park
- Private Recreational Open Space
- Golf Course

PROPOSED OPEN SPACE
- Proposed Ecological Area
- Proposed Park/Plaza
- Proposed Greenway

PROPOSED FIELDS
- Potential Multi-use/ Flex-fields
- Potential Full-sized Flex-fields

- Specific Plan Boundary
- City of Sunnyvale Limit
- VTA Light Rail
- Freeway
- Water/Creek
- Lockheed Martin Core Campus

6.6.11 PLAY SPACES

STANDARDS

1. **Type and quantity of play spaces.** The following play spaces shall be integrated into the parks and open space network. Play spaces should be distributed throughout the plan area and located within a 10-minute walk of all residential areas.
   a. **Tot lot age (2-5).** A minimum of (1) in each residential neighborhood, (6) total shall be provided. Tot lots may stand alone spaces in mini-parks, or they may be integrated into larger play spaces.
   b. **Playground age (5-12).** A minimum of (1) in each residential neighborhood, (6) total shall be created.
   c. **Destination play space.** (1) large (25,000 sf min.) destination play space shall be provided.
2. **Design.** Play spaces shall be designed consistent with the requirements defined in the current edition of the Consumer Product Safety Commission (CPSC) Public Playground Safety Handbook.
3. **Equipment and materials.** Play equipment, materials, and safety surfacing shall meet the requirements defined in the CPSC Public Playground Safety Handbook, ASTM F1487 and ASTM F1292.
4. **Certification.** The design and installation of play spaces shall be inspected and certified by a Certified Playground Safety Inspector.

GUIDELINES

1. **All ages and abilities play space.** The play spaces should be designed as an all ages and abilities play park and community space consistent with the design principles defined by the Magical Bridge Foundation.

6.6.12 DOG PARKS

STANDARDS

1. **Type and quantity of dog parks.** A minimum of (1) off-leash dog walking area in each residential neighborhood, (6) total shall be provided. This requirement may be addressed with operational, and management policies that allow for off leash dog walking at designated times and areas within community or neighborhood parks.
2. **Size.** The minimum size for off leash dog parks shall be 2,500 sf.
3. **Location:** Locate a minimum of 300' from wetlands and sensitive ecological areas.

GUIDELINES

1. **Design.**
   a. Designated dog parks should be fenced where appropriate.
   b. Surfacing shall be graded gravel, synthetic turf, or lawn depending on context.
   c. A drinking fountain should be provided.
   d. Seating areas should be provided.
   e. Waste/trash cans and dog waste bags should bed provided.

Chapter 7
Mobility

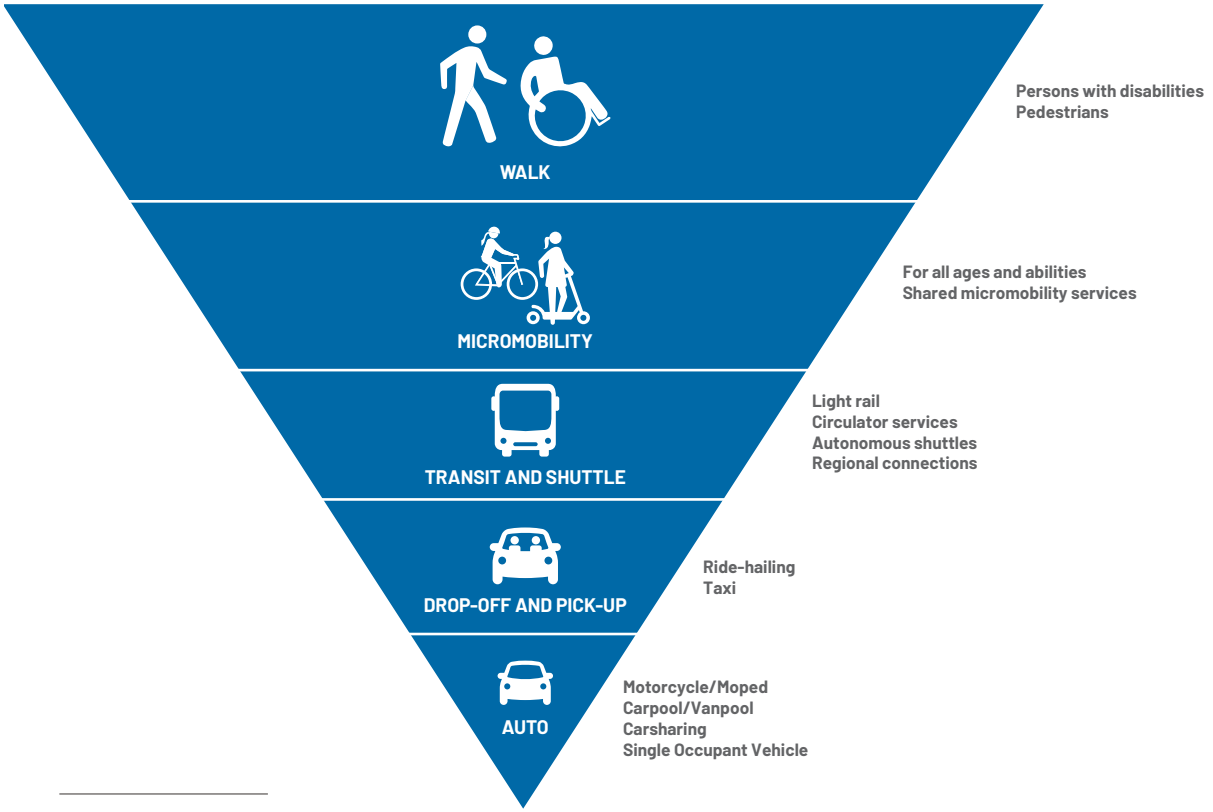
The crowd and the 'cloud' at dusk by Abon Chaudhuri

Mobility infrastructure and programs improve the safety and comfort of multimodal travel for residents, workers, and visitors of all ages and abilities in Moffett Park. New goals, policies, and standards for the street, bicycle, pedestrian, and transit networks provide safe, connected, and accessible places.

The streets in Moffett Park today prioritize people who drive. Automobile-oriented street design has resulted in wide streets with multiple vehicle travel lanes, relatively high speed limits, and a lack of safe and comfortable pedestrian and bicycle infrastructure. Moffett Park will use multimodal strategies and districtwide policy to redesign the district around people rather than vehicles. When people's needs are considered first, streets are designed to promote a safe and comfortable mobility network for all individuals, regardless of which mobility option they use.

Foundational to achieving a connected, accessible, and safe district is the hierarchy of modes shown in Figure 41. To accommodate growth in Moffett Park, streets must be designed to move more people in the same amount of space. Walking and biking—mobility options that use very little space and promote health and sustainability – complement regional transit connections and form the backbone of the local mobility network. Transit and automobile networks that support carpooling, ride-hailing/ taxi, and personal driving are layered on top. This will create an environment that is oriented around people while also accommodating the needs of people who drive and park. With upgrades to the active transportation network and transit services—such as with new protected bike facilities or local transit circulator services – Moffett Park will become a complete district with comfortable, inviting spaces for biking and walking and frequent transit service within a short distance. This chapter focuses on the mobility infrastructure and programs needed to improve the safety and comfort of multimodal travel for residents, workers, and visitors of all ages and abilities in Moffett Park. It introduces the mobility goals and policies, provides standards and guidelines for the street, bicycle, pedestrian, and transit networks, and details a mobility hub program.

FIGURE 41 Moffett Park Modal Hierarchy



Source: Nelson\Nygaard

7.1 Mobility Goals and Policies

GOALS AND POLICIES

The following goals and policies summarize how the mobility recommendations support the implementation of the Moffett Park Specific Plan's Guiding Principles.

Goal M-1: FLEXIBLE AND ADAPTABLE TRANSPORTATION SYSTEM. A transportation system that adjusts to changing transportation demands, accommodates future growth, and provides transportation options.

Policy M-1.1: Classify streets based on their modal purpose and land use context (design standards identify number of lanes and lane widths that may be considered for each street type).

Policy M-1.2: Plan for improvements that future-proof the transportation network for emerging technologies like autonomous and connected vehicles.

Policy M-1.3: Plan for and provide a transportation system that is flexible and appropriately accommodates all modes of traffic.

Goal M-2: SAFE AND CONNECTED ACTIVE TRANSPORTATION NETWORK. A bicycle and pedestrian network that is safe, connected, and comfortable for all travelers regardless of age or ability.

Policy M-2.1: Provide pedestrian access within the complete streets typology as illustrated on the Complete Conceptual Street Framework and modal networks maps.

Policy M-2.2: Designate street space for people who walk, bike, or use other micromobility.

Policy M-2.3: Design for the mobility and safety for non-motorized modes when considering intersection capacity increases.

Policy M-2.4: Keep the street network dense with short blocks to support connections for people who walk, bike, or use other micromobility.

Policy M-2.5: Minimize pedestrian crossing distances and maximize pedestrian connections.

Goal M-3: HIGH-QUALITY TRANSIT SYSTEM. A public transit network that is convenient and connected.

Policy M-3.1: Work with the Santa Clara Valley Transportation Authority to maintain high frequency, high-capacity transit services.

Policy M-3.2: Prioritize public transit networks within the complete streets typology as illustrated on the attached Complete Conceptual Street Framework and modal networks maps.

Policy M-3.3: Work towards obtaining and providing right-of-way for public transit and transit priority lanes.

Policy M-3.4: Make public transit a convenient and reliable option for daily trip making.

Policy M-3.5: Prioritize investments that reduce first/last-mile barriers to transit stops.

Goal M-4: PERSON CAPACITY AT THE GATEWAYS. Transit, bicycle, and pedestrian person capacity at district gateways is increased.

Policy M-4.1: Prioritize and implement transportation investments and strategies that reduce vehicle miles traveled per capita.

Policy M-4.2: Strategically and opportunistically increase person capacity at the district gateways.

Goal M-5: PERFORMANCE-BASED TRANSPORTATION SYSTEM. A transportation system that facilitates the transportation needs of existing users but can flexibly grow and change as transportation demand evolves.

Policy M-5.1: Consider transportation investments and strategies that meet current demands and can be adjusted for future needs.

Policy M-5.2: Changes to the transportation system should be data driven.

7.2 Complete Streets Typology and Network

Streets in Moffett Park play various roles. They provide local property access, accommodate utility infrastructure, and allow for people to move throughout the district and connect to the larger region. The Moffett Park street network increases multimodal connectivity and walkability and provides equitable mobility options for employees, residents, and visitors. The core of the street network focuses on facilitating bicycle, pedestrian, and multimodal travel, and most of the vehicle travel is concentrated on the periphery of the district.

STREET TYPOLOGIES

The street typologies are tailored to the unique land use and transportation conditions in Moffett Park. These typologies provide design guidance for each street, and balance tradeoffs among competing design goals. The street typologies include Anchor Streets, Crosstown Connectors, Neighborhood Streets, and Laneways. Design standards details are included in the following section.

Java Drive with VTA light rail traveling through

ANCHOR STREETS

Anchor Streets facilitate efficient and effective multimodal travel in and out of the district. There are three Anchor Streets in Moffett Park: Caribbean Drive, Java Drive, and Mathilda Avenue. Anchor Street design changes respond to nearby land uses, district parking locations, and Transportation Demand Management (TDM) strategies. Anchor Streets are the preferred primary corridors for vehicles, trucks, and private shuttles but still accommodate pedestrians and bicyclists.

Bike lanes with planters as buffers; Source: Flickr, Paul Krueger 2010

CROSSTOWN CONNECTORS

Crosstown Connectors serve trips from end-to-end of the district. All Crosstown Connectors include a dedicated sidewalk and protected bicycle facilities to accommodate bicycle and micromobility connections across key corridors in the district. They may also include flex lanes to accommodate curbside loading zones at the mixed-use activity centers and residential neighborhoods and may accommodate trucks and private shuttles and short-term parking as needed.

Residential street with large tree canopy

NEIGHBORHOOD STREETS

Neighborhood Streets serve localized, intra-neighborhood trips. All Neighborhood Streets include a dedicated sidewalk with a landscaped buffer to ensure safety and comfort for people walking, and flex lanes to accommodate curbside loading zones at activity centers and short-term parking. The street geometry will help to foster a pedestrian and bicycle-friendly environment by promoting slower vehicle speeds, without impacting traffic operations. Neighborhood Streets also may include dedicated bicycle lanes where they function as part of the connected bicycle network.

Green Loop in North Bayshore

LANEWAYS

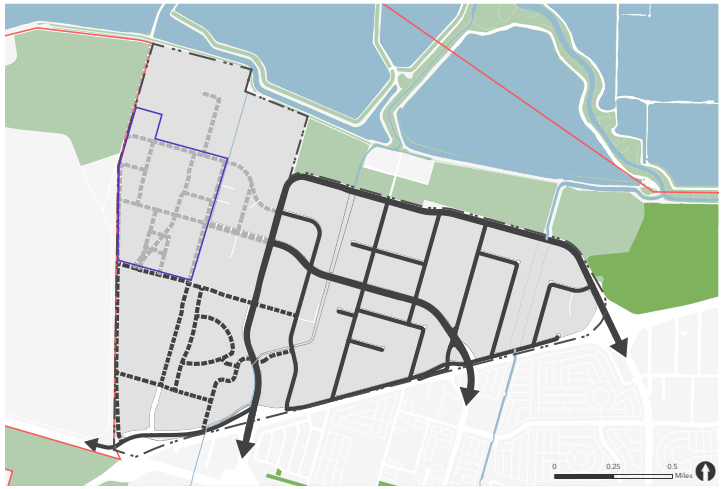
Laneways prioritize bicycle and pedestrian travel, while supporting local access and emergency vehicle traffic as needed. On Laneways that need to accommodate vehicle travel on a limited basis (e.g., service vehicles, emergency vehicles), lanes are shared between bicycles and vehicles. On all other Laneways, streets are designed to create a park or path environment while also accommodating emergency vehicle access as needed. This streetscape allows for two-way bicycle travel and does not have dedicated/striped facilities. Limited vehicle access may be indicated with design cues such as landscaping and narrow pavement, and/or with physical barriers, such as removable bollards depending on the access needs.

STREET NETWORK

The proposed street network for Moffett Park is composed of existing streets (public and private) and new streets for vehicles and/or people who walk or bike. Changes to the existing network and new facilities will need to be phased over time. Some will become public streets, while others may include easements across private property. The location and alignment of new streets may be adjusted to meet specific requirements of development projects as they occur subject to City approval and dependent on site and property conditions. Typically, east of Mathilda, Crosstown Connectors and Neighborhood Streets will be dedicated streets, while Laneways will be private streets with public access. Final street dedication requirements to be determined by Site Master Plan process.

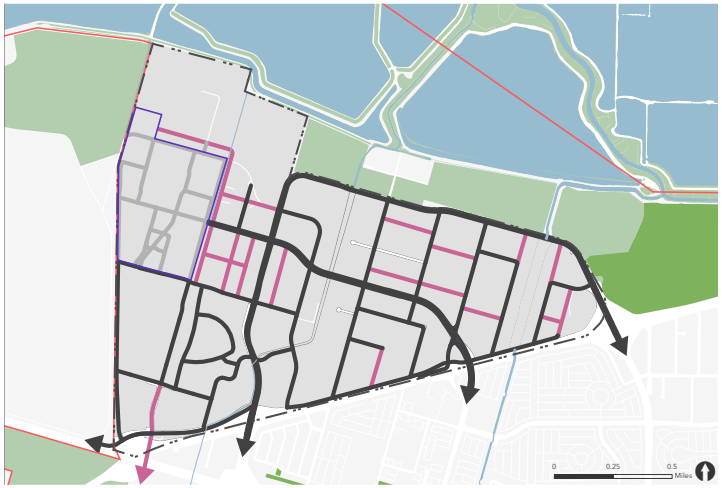
The existing street network is shown in Figure 42, conceptual new vehicular streets are shown in Figure 43, and the complete conceptual street framework with street typologies is shown in Figure 44.

FIGURE 42 Existing Vehicular Street Network



Existing Streets
Existing Streets (Private)
Existing Streets (Private, Not Publicaly Accessible)

FIGURE 43 Conceptual Vehicular Street Network



New Vehicular Streets
Existing Vehicular Streets
Existing Private Vehicular Streets (Not Publicaly Accessible)

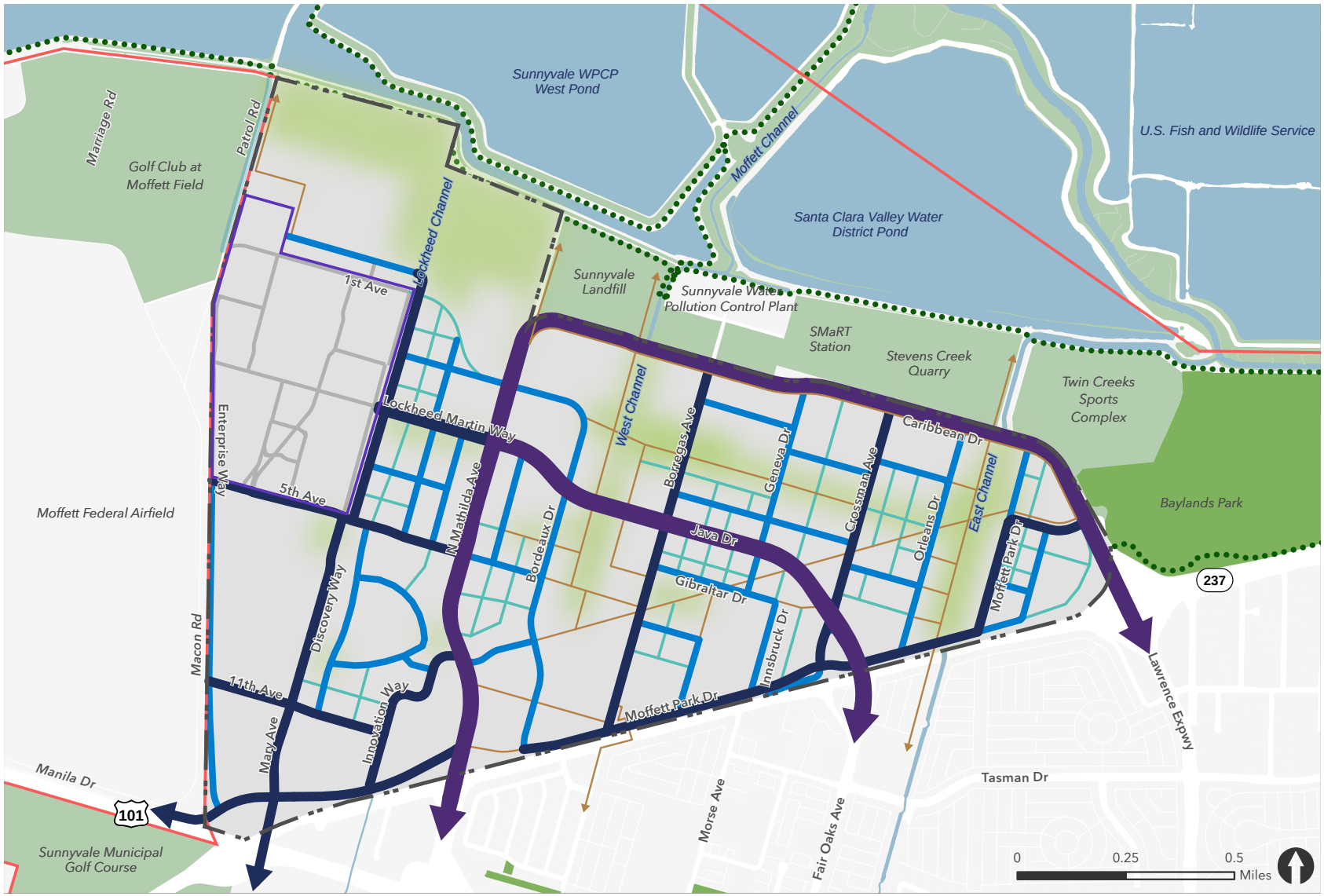


FIGURE 44 Complete Conceptual Street Framework

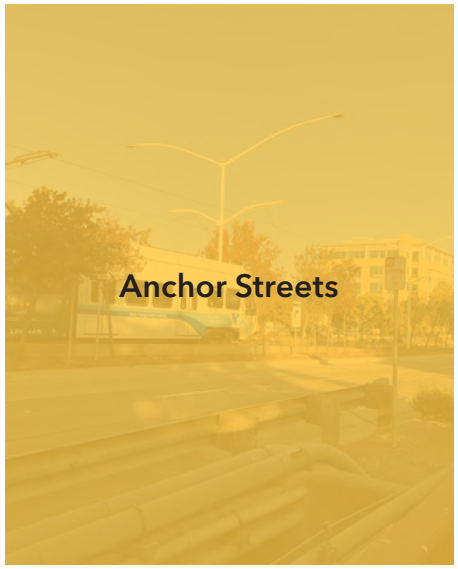
City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Anchor Streets
- Crosstown Connectors
- Neighborhood Streets
- Laneways (Locations Flexible)
- Multi-Use Off-Street Paths or Pedestrian/Bicyle Plazas
- Bay Trail
- Open & Green Spaces
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

7.3 Complete Streets Design Standards by Street Typology

Street designs shall meet City design requirements as defined in Table 18A through Table 22B. The standards presented in these tables describe the streets' end-state at plan full build-out. Some street designs may vary from the street design standards depending on the existing conditions (e.g., preservation of existing trees and underground utility infrastructure). Each street will require additional analysis and review by the City before designs are finalized, with the Transportation & Traffic Manager and Director of Public Works making a final determination during the Site Master Plan process.

For additional design guidance, the City shall use the American Association of State Highway and Transportation Officials (AASHTO) design standards, California Department of Transportation (Caltrans) Highway Design Manual, and the National Association of City Transportation Officials' (NACTO) Urban Street Design Guide and Urban Bikeway Design Guide. Landscape standards for streetscape design are located within Chapter 6.



7.3.1 ANCHOR STREET DESIGN STANDARDS

The design standards for Anchor Streets are as follows, presented in Table 18A through Table 18C. Anchor street design changes respond to nearby land uses, district parking locations, and TDM strategies. Anchor Streets are the preferred primary corridors for vehicles, trucks, and private shuttles but still accommodate pedestrians and bicyclists.

7.3.2 CROSSTOWN CONNECTOR DESIGN STANDARDS

The design standards for Crosstown Connectors are presented in Table 19A and Table 19B. Some Crosstown Connectors may deviate from the typical design standards depending upon available space and anticipated volumes of multimodal travel; the design standards for these unique streets are presented in Table 20A through Table 20C. All Crosstown Connectors include a dedicated sidewalk and protected bicycle facilities to accommodate bicycle and micromobility connections across key corridors in the district. They may also include flex lanes to accommodate curbside loading zones for passengers and goods at the mixed-use activity centers and residential neighborhoods, and may accommodate trucks and private shuttles as needed.

7.3.3 NEIGHBORHOOD STREET DESIGN STANDARDS

The design standards for Neighborhood Streets are presented in Table 21A and Table 21B. All Neighborhood Streets include a dedicated sidewalk with a landscaped buffer to ensure safety and comfort for people walking, and flex lanes to accommodate curbside loading zones at activity centers and short-term parking. Neighborhood Streets also may include dedicated bicycle lanes where they function as part of the connected bicycle network.

7.3.4 LANEWAYS DESIGN STANDARDS

The design standards for Laneways are presented in Table 22A and Table 22B. Laneways may be designed as either a park/pathway environment or as shared vehicle streets. For shared streets, design priority shall be given to pedestrians, bikes, and micromobility.

Anchor Street Cross Section

FIGURE 45 Caribbean Drive (Typical)

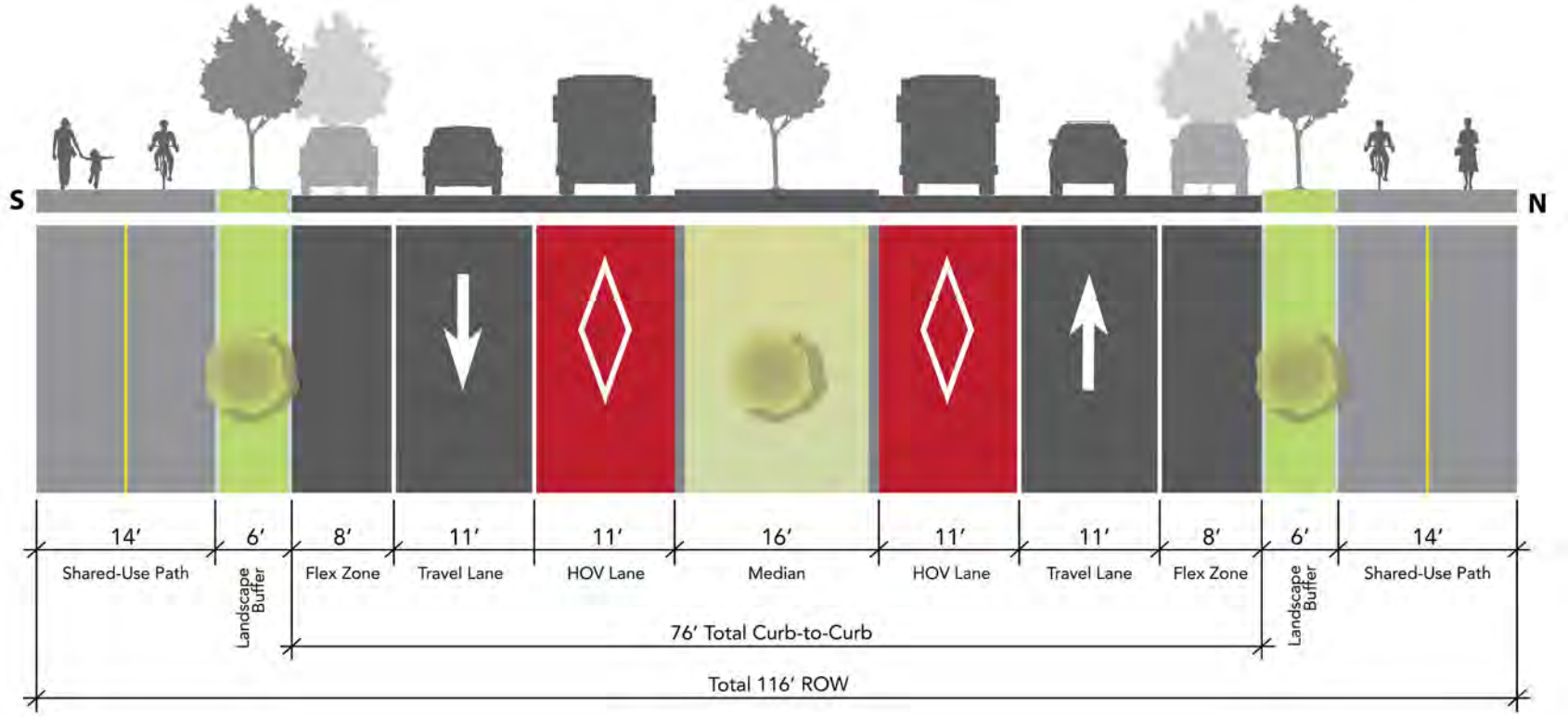


TABLE 18A

Curb-to-Curb
68′-75′
Right-of-Way (ROW)*
100′-107′
Pedestrian Zone
14′ Class I shared-use path on south side with 2′ landscape buffer; 14′ Class I shared-use path on north side with 2′ landscape buffer (north side shared-use path connects to the Bay Trail)

Bicycle Facilities
See Pedestrian Zone standards
Transit/Shuttles
One 11′ High Occupancy Vehicle (HOV) lane in each direction to accommodate high-capacity commute traffic, especially to support mode shift to shuttles and/or carpool
Vehicle Lanes
One 11′ travel lane in each direction where there is also an HOV lane (or two 11′ travel lanes in each direction if no HOV lane is present)

Curbside Zone
8-15′ flex space in each direction that could accommodate landscaping, stormwater management, loading, or short-term parking; flex space on the north side will provide Bay Trail access where space is available
Medians
16′ landscaped median

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Anchor Street Cross Section

FIGURE 46 Java Drive (Typical)

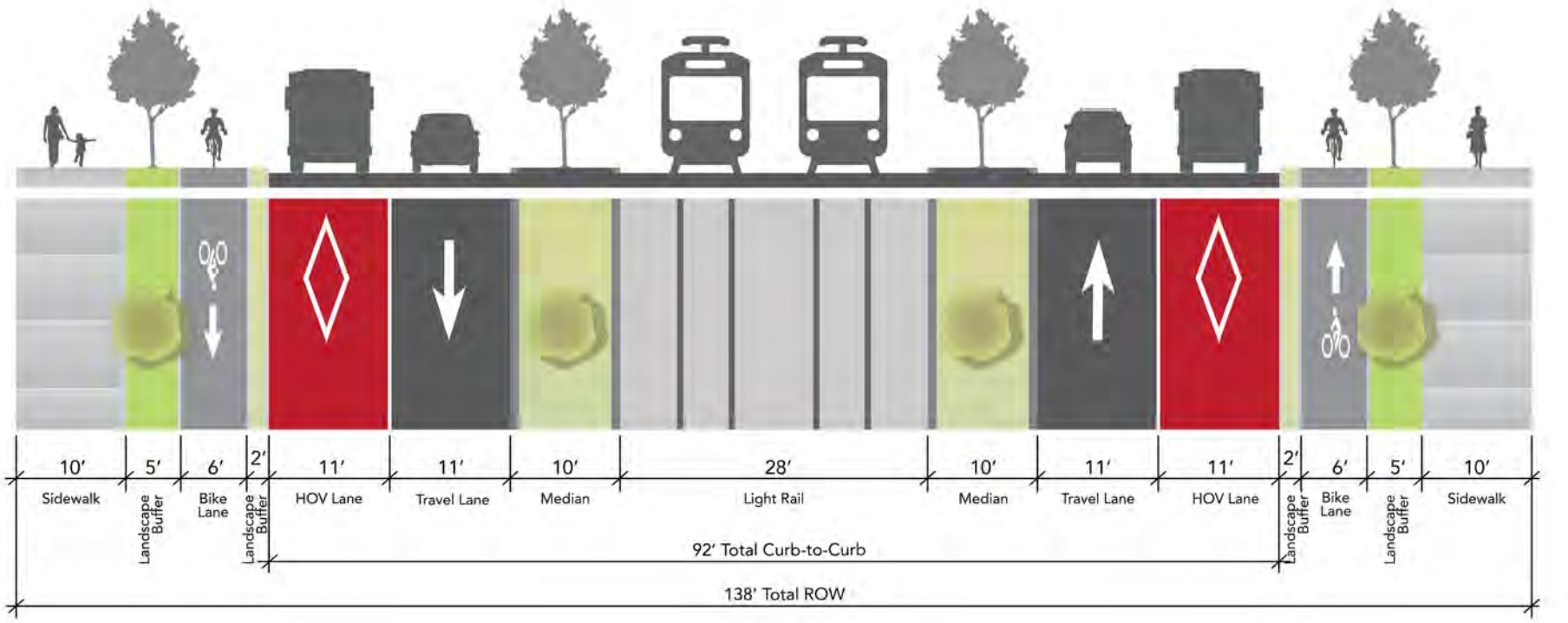


TABLE 18B

Curb-to-Curb
92′
Right-of-Way (ROW)*
138′
Pedestrian Zone
10′ sidewalk, wider sidewalk encouraged as ROW allows; 5′ landscape buffer

Bicycle Facilities
6′ Class IV separated bikeway and 2′ landscape buffer in each direction. Bike facility may be at sidewalk elevation; buffer should be planted (above grade planters allowed).
Transit/Shuttles
One 11′ HOV lane in each direction if transit service increases require dedicated ROW

Vehicle Lanes
One 11′ travel lane in each direction
Curbside Zone
N/A
Medians
Center-running light rail (maintain existing dimensions)

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Anchor Street Cross Section

FIGURE 47 Mathilda Avenue south of Java Drive (Typical)

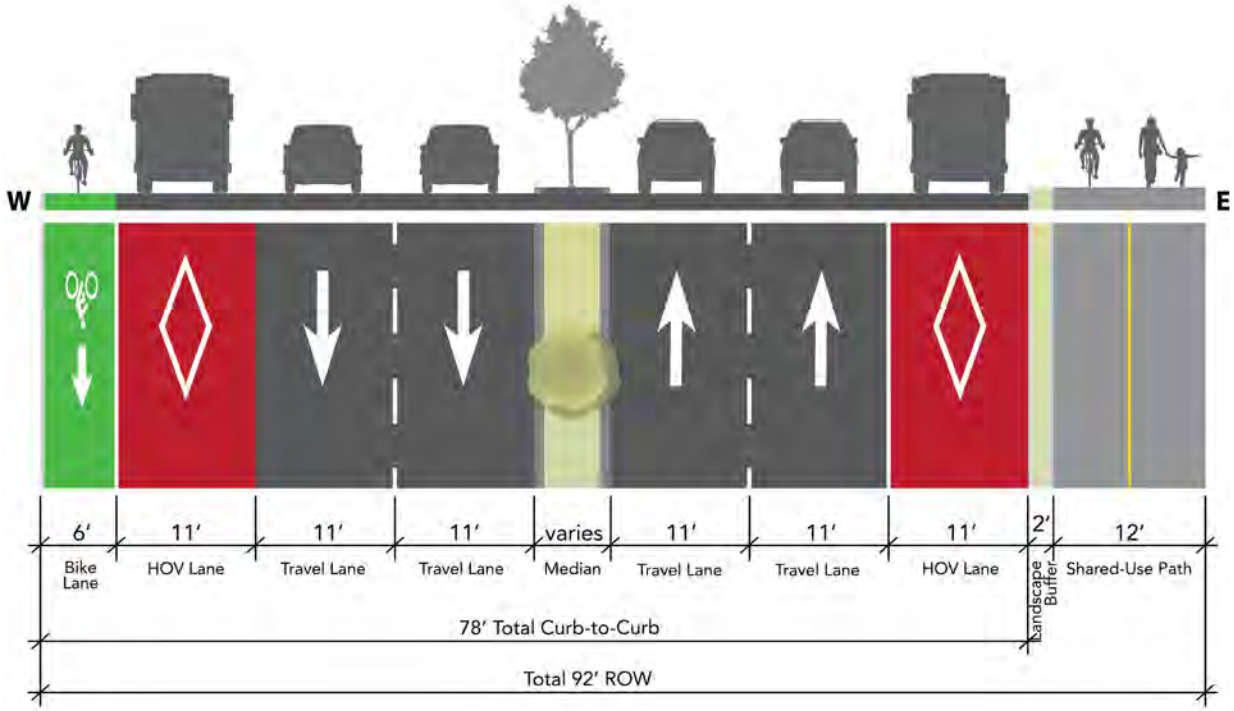


TABLE 18C

Curb-to-Curb
78′
Right-of-Way (ROW)*
100′ (east of light rail)
Pedestrian Zone
12′ Class I shared-use path on east side to accommodate pedestrian and bicycle travel; landscaping and/or wider pathway encouraged as ROW allows. This will require additional ROW beyond the existing curb-to-curb
Bicycle Facilities
See Pedestrian Zone standards. 6′ Class II bicycle lane on the west side
Transit/Shuttles
One 11′ HOV lane in each direction south of Java Drive if transit service increases require dedicated ROW; HOV lane will not continue north of Java Drive
Vehicle Lanes
Two or three 11′ travel lanes in each direction depending on multimodal travel demand space requirements
Curbside Zone
8′ flex space in each direction north of Java Drive if multimodal travel demand space requirements allow
Medians
6′ landscaped median

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Crosstown Connector Street Cross Section

FIGURE 48 Crosstown Connector with Flex Space (Typical)

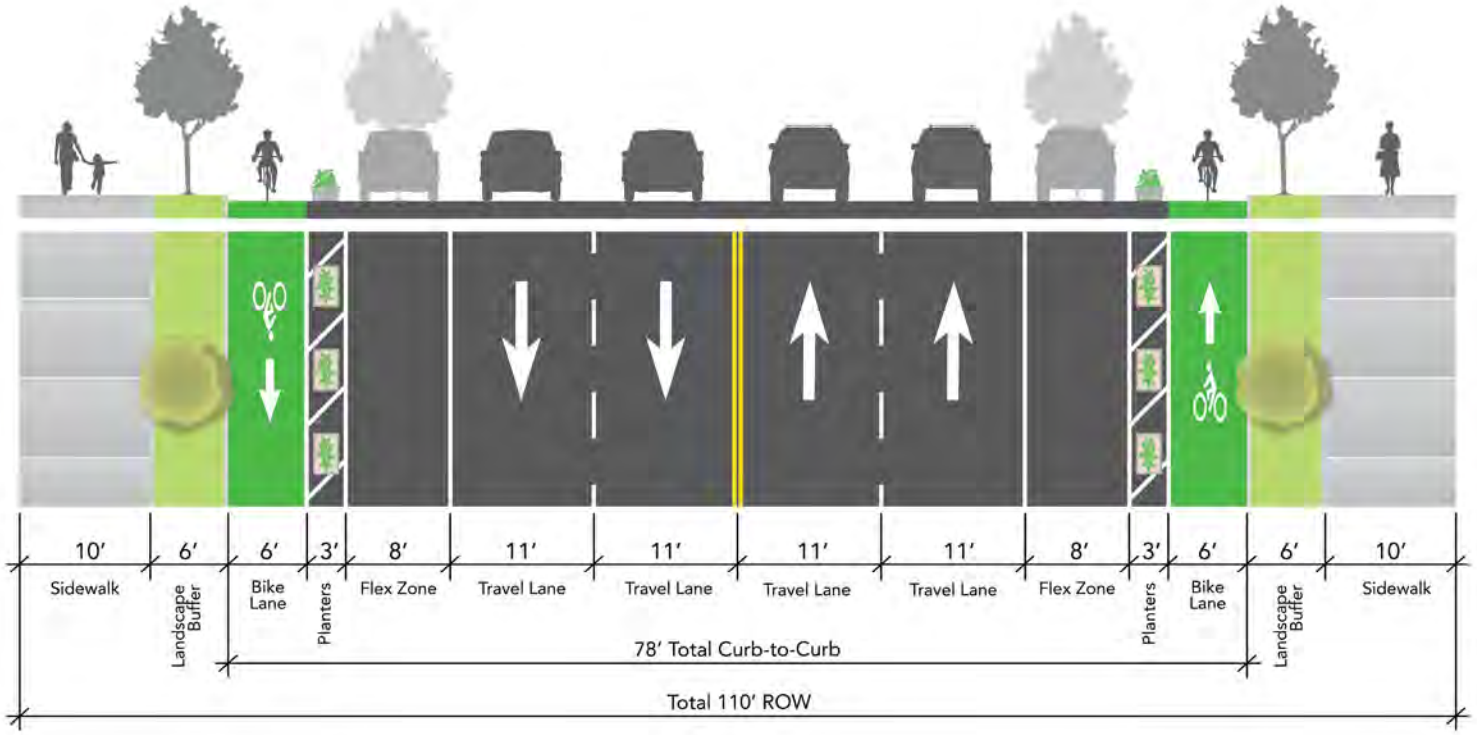


TABLE 19A

Curb-to-Curb
56′-78′
Right-of-Way (ROW)*
88′-110′
Pedestrian Zone
10′ sidewalk; 6′ landscape buffer between sidewalk and bicycle facilities

Bicycle Facilities
Class IV separated bikeway with 6′ lane in each direction protected by 3′ buffer; buffer should be planted (above grade planters allowed)
Vehicle Lanes
One to two 11′travel lanes in each direction

Curbside Zone
8′ flex space available for landscaping, loading, or short-term parking in high-demand locations
Medians
Optional; not typical

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Crosstown Connector Street Cross Section

FIGURE 49 Crosstown Connector without Flex Space (Typical)

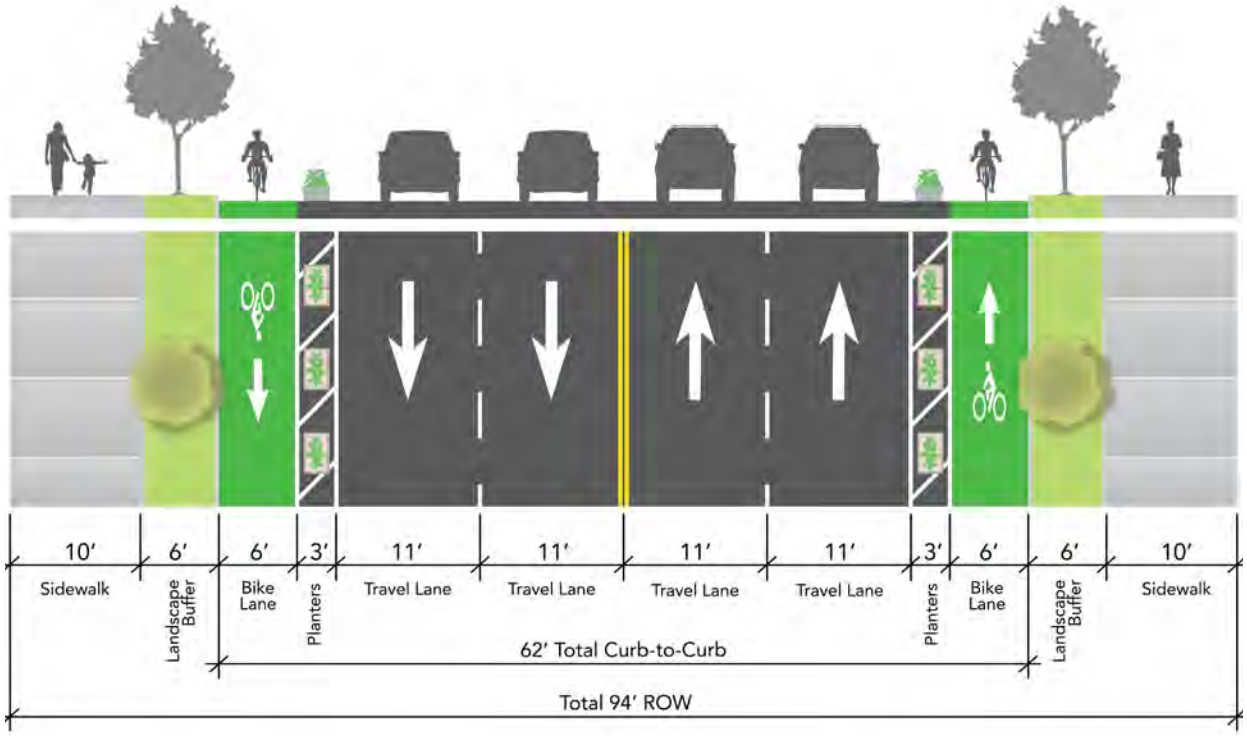


TABLE 19B

Curb-to-Curb
40′-62′
Right-of-Way (ROW)*
72′-94′
Pedestrian Zone
10′ sidewalk; 6′ landscape buffer between sidewalk and bicycle facilities
Bicycle Facilities
Class IV separated bikeway with 6′ lane in each direction protected by 3′ landscape buffer; buffer should be planted (above grade planters allowed)
Vehicle Lanes
One to two 11′travel lanes in each direction
Curbside Zone
None
Medians
Optional; not typical

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Crosstown Connector Street Cross Section

FIGURE 50 Crossman Avenue (Typical)

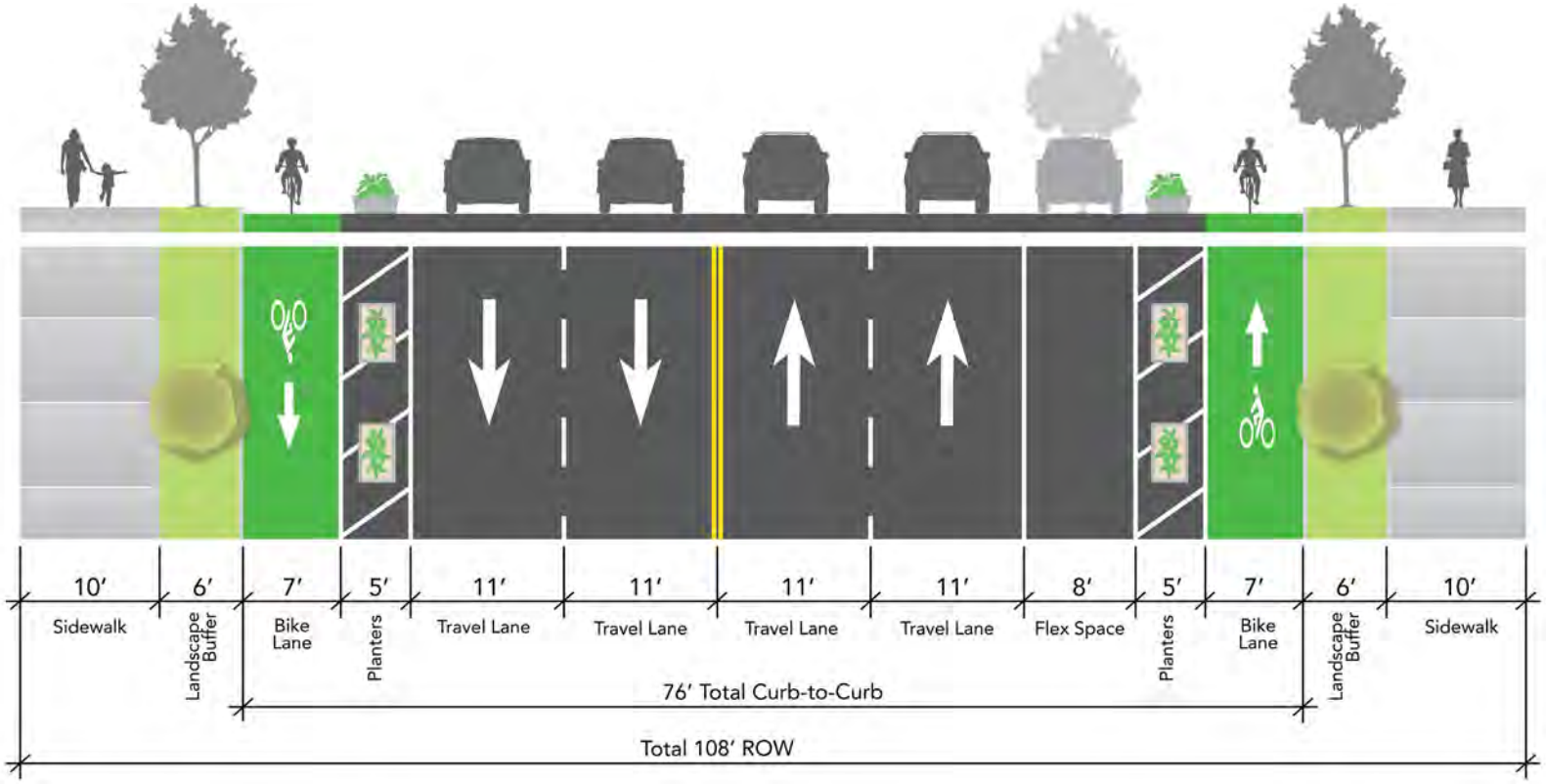


TABLE 20A

Curb-to-Curb
68′
Right-of-Way (ROW)*
88′
Pedestrian Zone
10′ sidewalk in each direction; wider sidewalk encouraged as ROW allows; 6′ landscape buffer between sidewalk and bicycle facilities

Bicycle Facilities
7′ Class IV separated bikeway protected by 5′ landscape buffer in each direction; buffer should be planted (above grade planters allowed)
Vehicle Lanes
Two 11′ travel2 through lanes in each direction; lane width 11′; Reallocate turning lane space to Pedestrian Zone and/or Bicycle Facilities

Curbside Zone
8′ flex space on the east side if ROW allows, available for loading or short-term parking in high-demand locations
Medians
N/A

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Crosstown Connector Street Cross Section

FIGURE 51 Borregas Avenue (Typical)

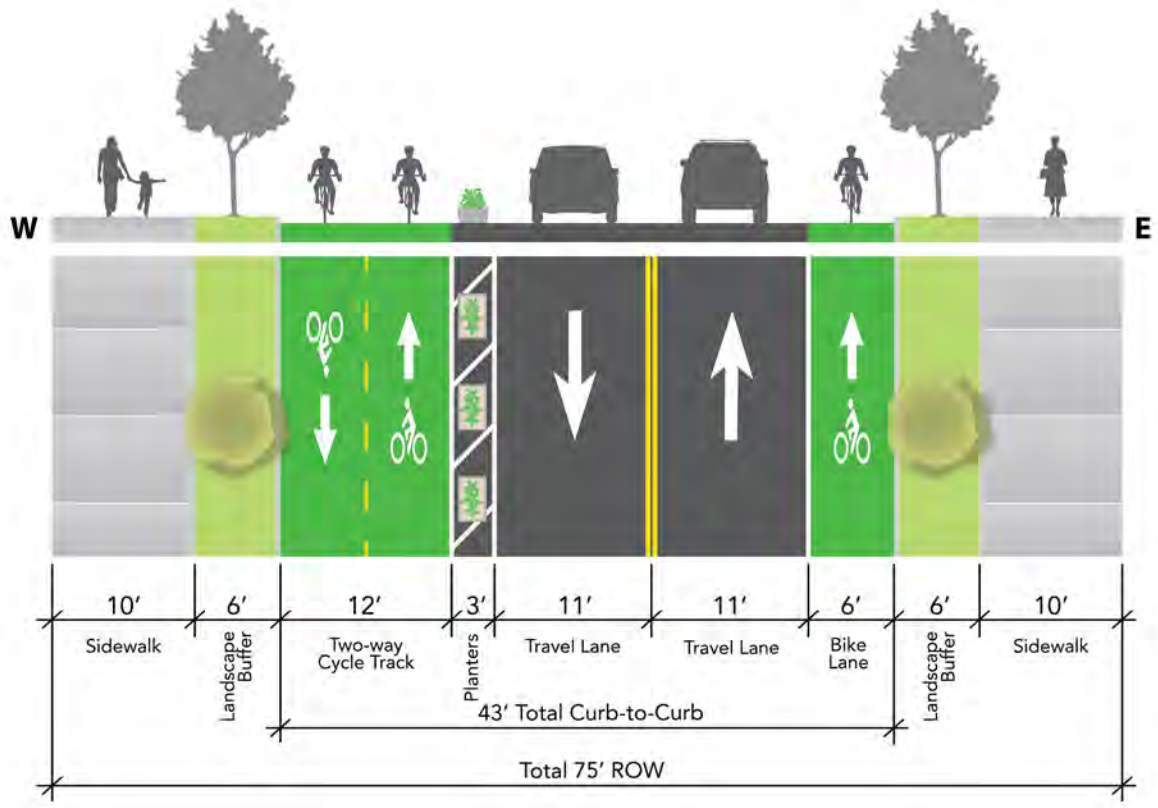


TABLE 20B

Curb-to-Curb
43′
Right-of-Way (ROW)*
59′
Pedestrian Zone
10′ sidewalk in each direction; 6′ landscape buffer between sidewalk and bicycle facilities
Bicycle Facilities
Class IV two-way separated bikeway on the west side protected by 3′ buffer; buffer should be planted (above grade planters allowed). 6′ Class II bicycle lane on the east side
Vehicle Lanes
One 11′ travel lane in each direction
Curbside Zone
N/A
Medians
N/A

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Crosstown Connector Street Cross Section

FIGURE 52 11th Avenue and Innovation Way West of Mathilda Avenue (Typical)

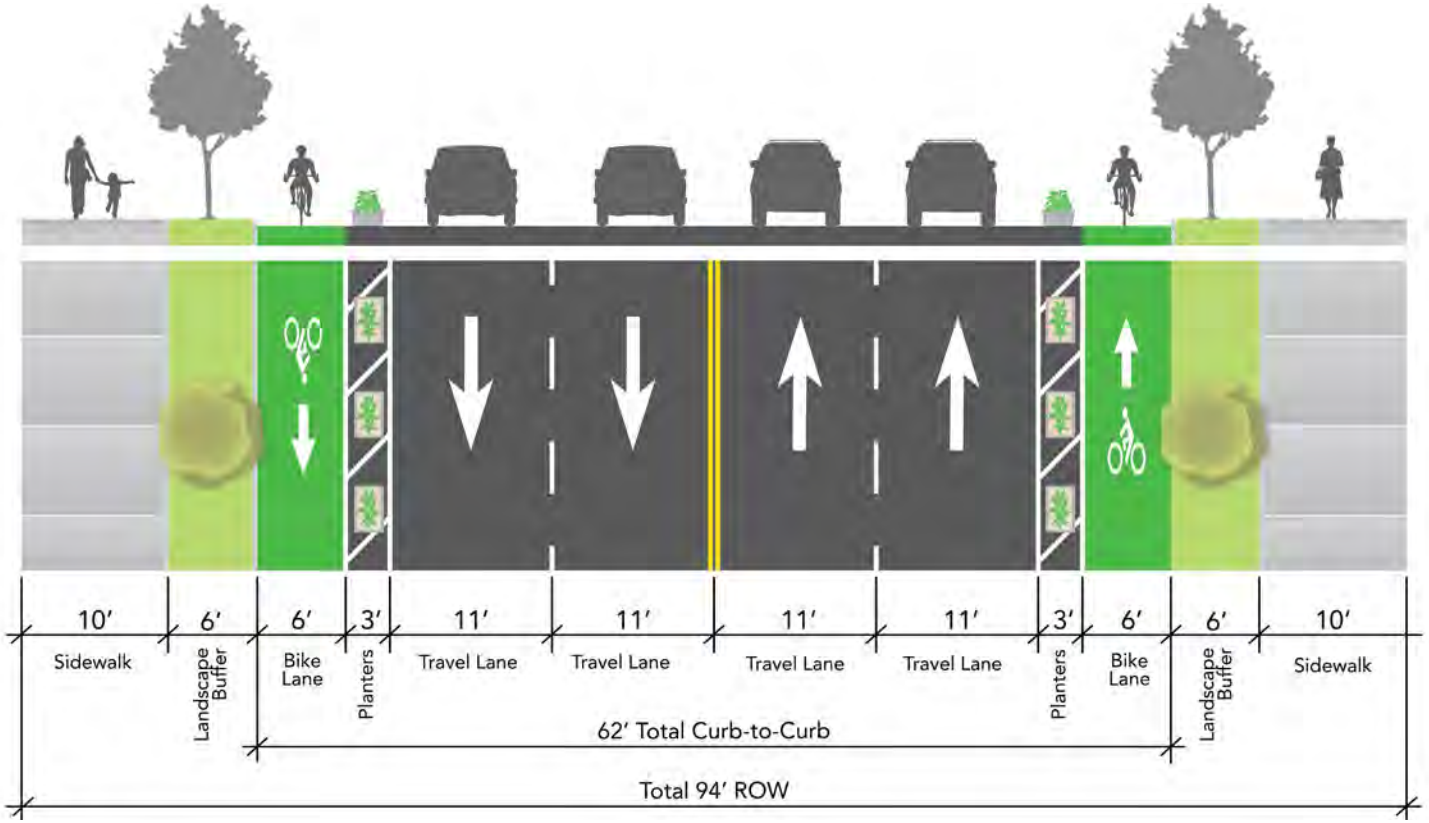


TABLE 20C

Curb-to-Curb
62′
Right-of-Way (ROW)*
78′
Pedestrian Zone
10′ sidewalk in each direction; wider sidewalk encouraged as ROW allows; 6′ landscape buffer between sidewalk and bicycle facilities

Bicycle Facilities
Class IV separated bikeway with a 6′ lane in each direction; protected by 3′ landscape buffer′ buffer should be planted (above grade planters allowed)
Vehicle Lanes
Two 11′ travel lanes in each direction

Curbside Zone
N/A
Medians
Remove as needed to accommodate Pedestrian Zone and/or Bicycle Facilities if placemaking elements (e.g., trees) are included elsewhere in the street design

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Neighborhood Street Cross Section

FIGURE 53 Neighborhood Street (Typical)

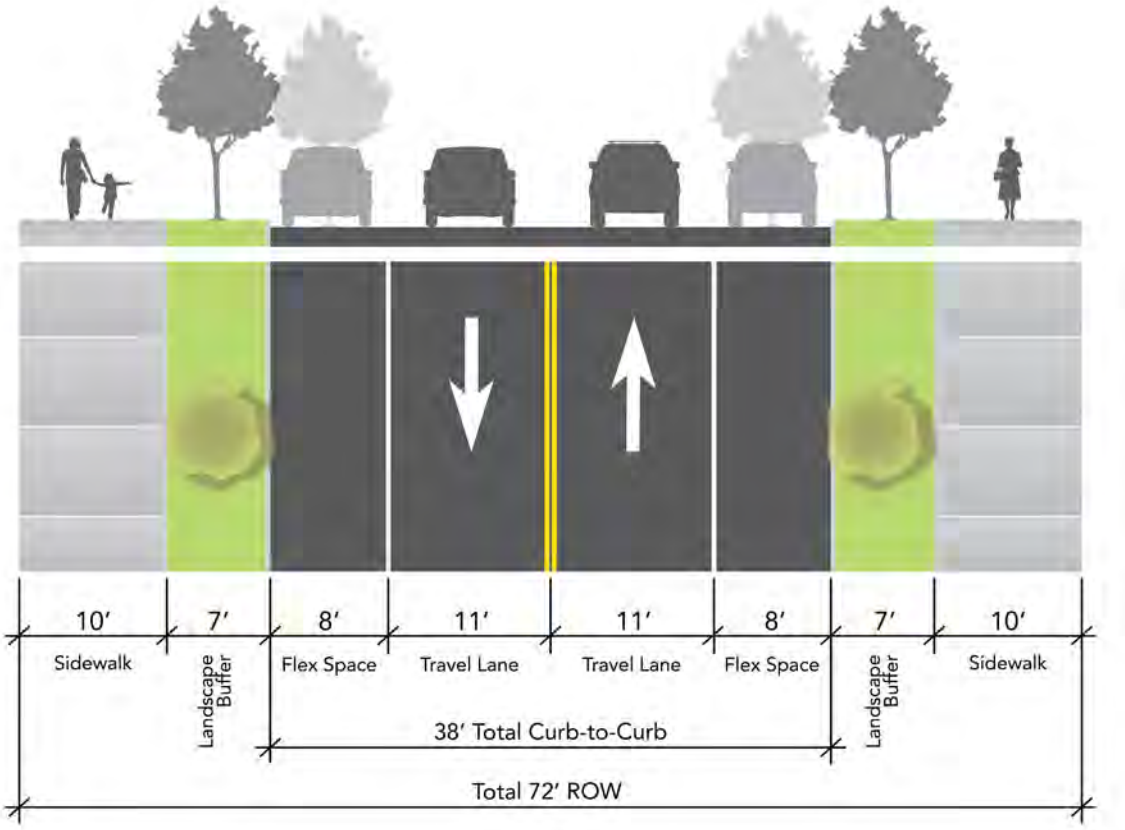


TABLE 21A

Curb-to-Curb
38′
Right-of-Way (ROW)*
72′
Pedestrian Zone
10′ sidewalk; 7′ landscape buffer
Bicycle Facilities
None
Vehicle Lanes
One 11′ travel lane in each direction
Curbside Zone
8′ flex space available for landscaping, loading, or short-term parking in high-demand locations
Medians
Optional; not typical

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Neighborhood Street Cross Section

FIGURE 54 Neighborhood Street with Bicycle Facility (Typical)

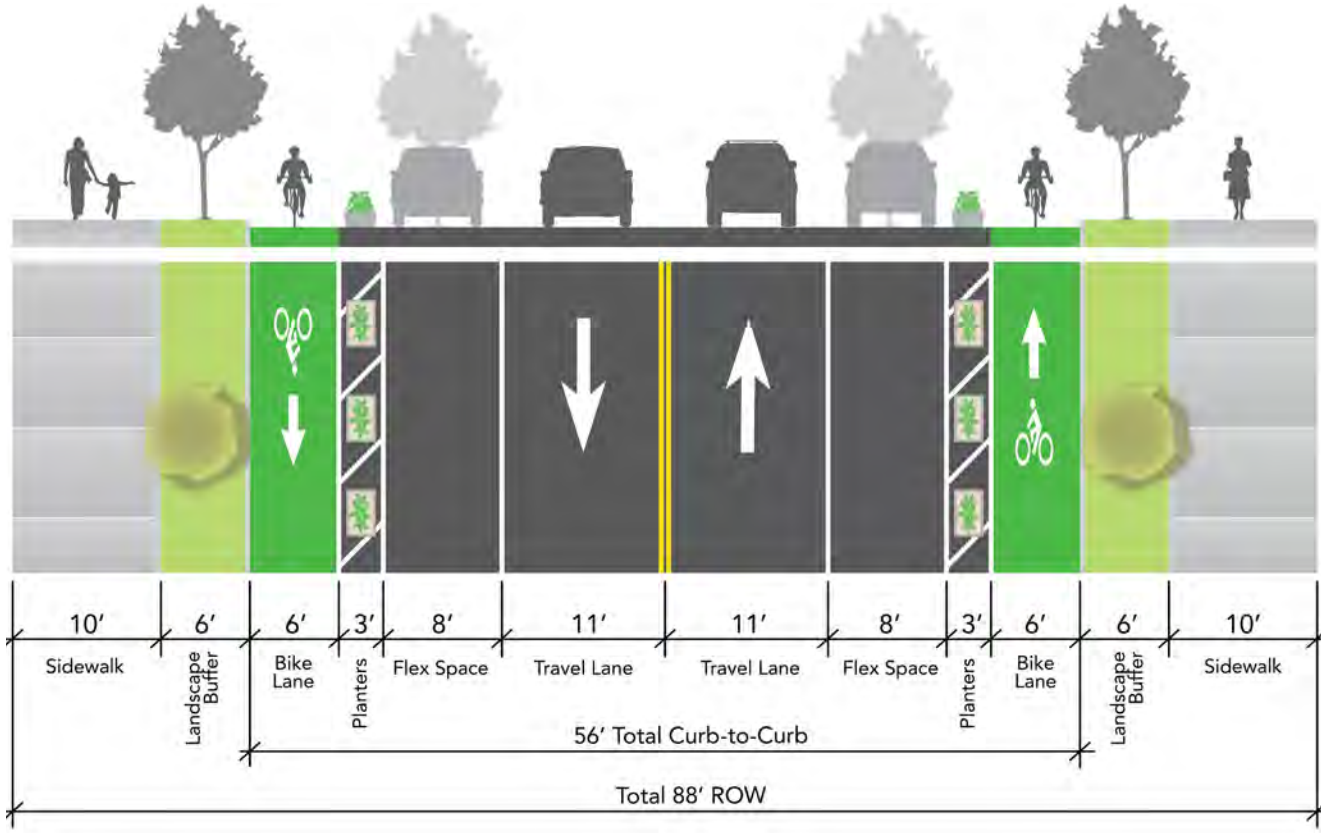


TABLE 21B

Curb-to-Curb
62′
Right-of-Way (ROW)*
88′-94′
Pedestrian Zone
10′ sidewalk; 6′ landscape buffer
Bicycle Facilities
6′ Class IV separated bikeway in each direction protected by 3′ to 6′ buffer depending on available right-of-way and expected vehicle volumes; buffer should be planted (above grade planters allowed) Street-specific guidelines: 6′ Class II bicycle lane on Innovation east of Mathilda Avenue; 6′ Class IIB buffered bike lane with 3′ buffer on Geneva Drive and Orleans Drive; 10′ two-way Class IV separated bikeway with 3′ buffer on the south side of Gibraltar Drive and 5′ Class II bicycle lane on the north side
Vehicle Lanes
One 11′ travel lane in each direction
Curbside Zone
8′ flex space available for landscaping, loading, or short-term parking in high-demand locations
Medians
Optional; not typical

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Laneway Cross Section

FIGURE 55 Laneway Shared Street (Typical)

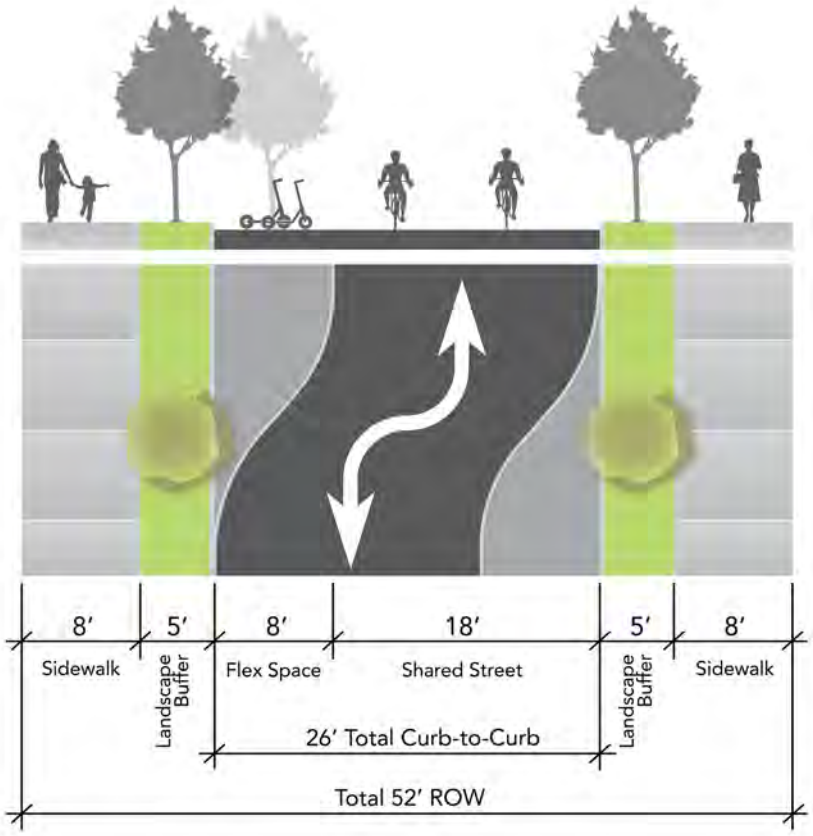


TABLE 22A

Curb-to-Curb
18-26′
Right-of-Way (ROW)*
52′
Pedestrian Zone
8′ sidewalk; 5′ landscape buffer
Bicycle Facilities & Vehicle Lanes
No dedicated/striped facilities, two-way riding allowed within 18′ two-way travel lane
Curbside Zone
8′ flex space available for loading, micro-mobility parking, landscaping; flex space designed to accommodate chicanes, if desired, to slow traffic and increase safety for people walking, biking, and using micromobility
Medians
None

*For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

Laneway Cross Section

FIGURE 56 Laneway Park/Path (Typical)

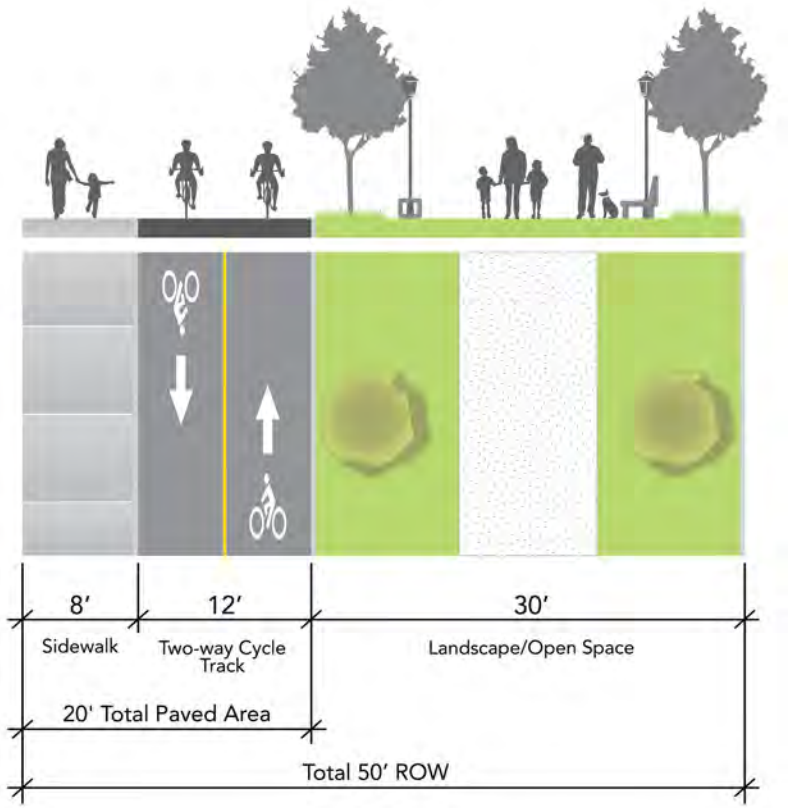


TABLE 22B

Curb-to-Curb
N/A
Right-of-Way (ROW)*
50′
Pedestrian Zone
8′ sidewalk; 30′ landscaped area that could accommodate furnishings, path, or other park amenities
Bicycle Facilities & Vehicle Lanes
12′ two-way cycle track; No vehicle lanes; emergency vehicle access only
Curbside Zone
None
Medians
None

* For the purpose of this table, right-of-way (ROW) refers to the space available for public access, from back-of-walk to back-of-walk

7.4 Bicycle Network

Moffett Park has a highly bikeable scale, most of which could be reached within less than a fifteen-minute bike ride. A backbone network of trails also serves Moffett Park. The Bay Trail is a regional amenity with connections directly to the district. The Borregas Avenue bike and pedestrian bridge connects people over the US 101 and SR 237 highways, and the Calabazas and San Tomas trails connect the area to a broader regional bike and pedestrian trail network.

The Moffett Park Complete Bicycle Network (Figure 57) leverages these existing amenities and builds upon the City's Active Transportation Plan and the "Green Link" (private campus multi-use trails that are available to the public), to prioritize bicycle connectivity, permeability, and convenience across the district. In some cases, the Moffett Park Complete Bicycle Network deviates from the City's ATP recommendations to better accommodate changing land uses and the future build-out of Moffett Park. Most streets, existing or planned, will be part of the bikeway network. The network includes several east-west and north-south connections that allow people who bike to travel across the district. These connections are supplemented by additional internal bikeways that connect people who bike to key activity centers. All bicycle connections will provide high quality, separated bicycle facilities, and fall into three categories:

MULTI-USE OFF-STREET PATHS

These corridors are the main thoroughfares of the bicycle network and include dedicated off-street multi-use paths (Class I) and separated bikeways (Class IV). These routes provide cyclists with facilities separated from vehicular traffic that connect to regional bicycle facilities.
Future goals include synchronized traffic signals at streets where these paths cross to provide continuous green lights at average biking speeds and where bicycles could receive priority treatment at intersections. These treatments could include advanced stop lines ("bike boxes"), continuous bike lane markings through the intersection and traffic signal loop detectors.

Class I bike lane in Houston, TX

BICYCLE LANES (CLASS II AND CLASS IIB BUFFERED)

New bicycle lanes complete important gaps in the bicycle network. When completed, they will allow safe and direct connections throughout the area and to regional facilities.

Class III bike lane with sharrow

LANEWAYS (CLASS III BICYCLE ROUTE AND CLASS IIIB BICYCLE BOULEVARD)

These streets have low traffic volume and speed. Markings and signage should be provided to signify that the roadway is shared with cyclists.

The Complete Bicycle Network requires several bicycle enhancements at key crossings. Figure 57 presents the following bicycle enhancements:

- **A** Crossing of West Channel at Caspian [Under Construction]
- **B** Crossing of West Channel at 5th Avenue [Approved Project]
- **C** Crossing of Caribbean at East Channel to connect to Bay Trail [Grade Separated and Improved Crossing Study identified in ATP]
- **D** Crossing at East Channel [Valley Water is in support of one bridge that would accommodate pedestrians, bicyclists, and a transit circulator. "D" represents the preferred location for bridge crossing to connect Chesapeake neighborhood to the Crossman Activity Center and VTA service]
- **E** Crossing at East Channel [Plan policy is to consider a second bridge for pedestrian and bicyclists and to study need for second transit connection to improve walkability of Chesapeake neighobrhood]
- **F** Crossing of SR 237 at East Channel [Grade Separated Crossing Study identified in ATP]
- **G** Crossing of SR 237 at Borregas [existing bridge; proposed on-street connection improvements to facilitate continuity with the expanded bicycle network]
- **H** Crossing of US 101 and SR 237 at Mary Avenue [Mary Avenue Overcrossing project underconsideration for approval in 2023]

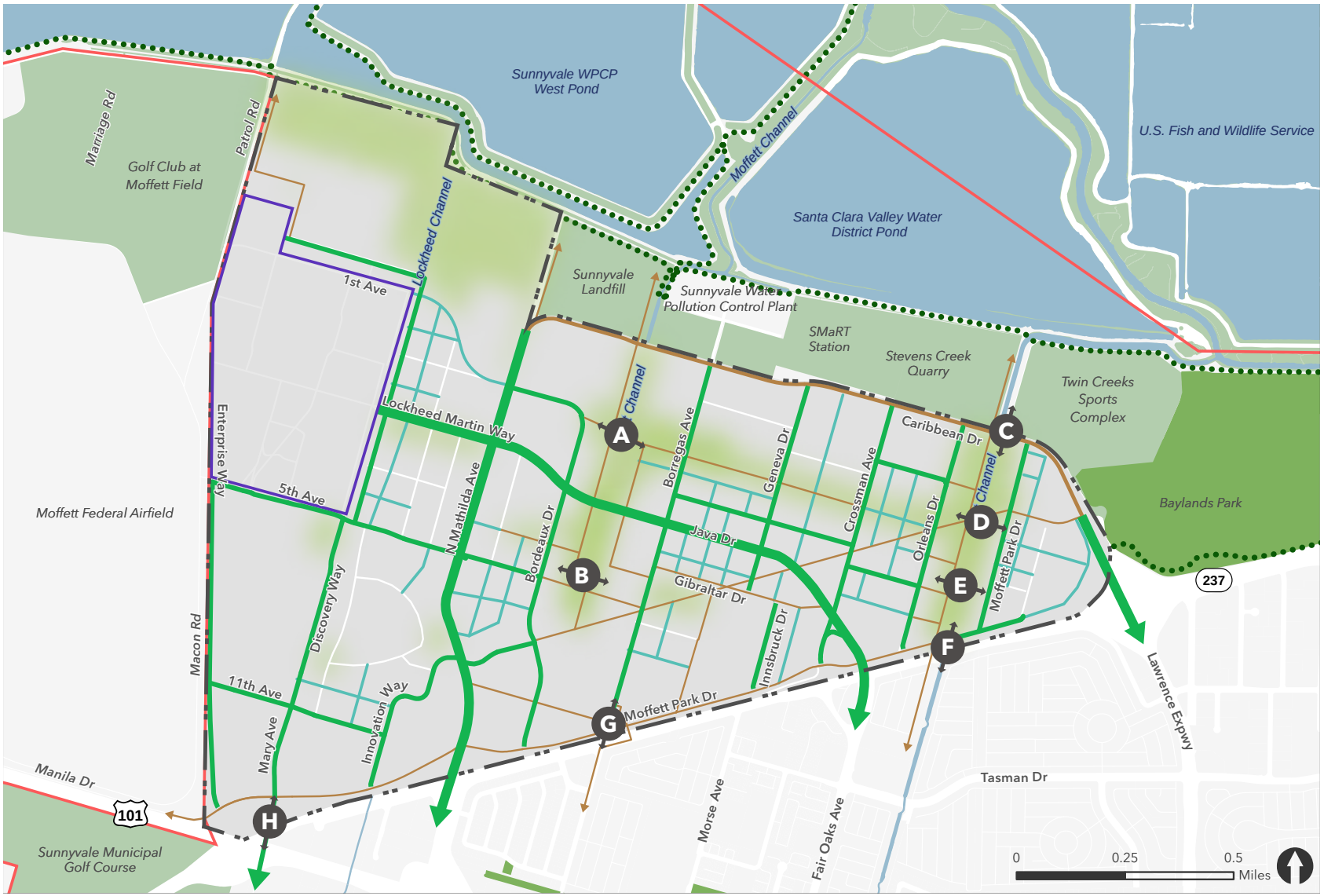


FIGURE 57 Complete Bicycle Network

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Bicycle Lanes
- Laneways
- Multi-Use Off-Street Paths or Pedestrian/Bicyle Plazas
- Bay Trail
- Pedestrian/Bicycle Bridge or Underpass
- Open & Green Spaces
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

STANDARDS

1. **Design guidelines for bike facilities.** The latest version of the California Manual on Uniform Traffic Control Devices (CA-MUTCD),[11] VTA Bicycle Technical Guidelines, Caltrans Standards, City Standards, Highway Design Manual, and National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide.[12] In the event of a conflict, the City will determine the most appropriate standard.
2. **Bi-directional separated bikeway (Class IV).** If space permits, separated bikeways shall be provided in both directions.
3. **Buffered bicycle lane (Class IIB).** A buffer between the bicycle lane and vehicular traffic lane shall be provided.
4. **Facility design on shared streets (Class III and Class IIIB).** On shared streets, "Bicyclists May Use Full Lane" signage and shared lane markings shall alert drivers to the presence of cyclists and the need to share the road. Refer to CA-MUTCD and NACTO bicycle boulevard signs and pavement markings design guidance.[13]
5. **Bicycle parking.** Secure short- and long-term bicycle parking shall be installed near key destinations, civic buildings, and transit facilities (see Chapter 8 for more details on parking requirements).

GUIDELINES

1. **Signal phases.** At complex intersections and where separated bicycle facilities are present, cyclists should be provided with their own signal phase to reduce conflicts between cyclists and right-turning vehicles.
2. **Bike facilities at intersections.** Intersection-only bike lanes and 'bike boxes' at intersections with high volumes of cyclists, or at intersections where cyclist left turns may be expected, should be provided.
3. **Bicycle detection mechanisms.** A bicycle detection mechanism should be provided at all major intersections.
4. **Freeway interchange improvements.** TIf freeway interchanges are redesigned, improvements should consider the movement and needs of cyclists.
5. **Intersection design.** Intersections should be designed to reduce the incidence and severity of collisions between cyclists and other road users.
6. **Pavement treatments.** Colored paving, colored striping, or other treatments may be required to highlight on-street bicycle facilities.
7. **Wayfinding.** Wayfinding for bicyclists should be improved. This could include signage identifying bicycle routes and connections as well as directions to major destinations such as the Bay Trail.
8. **Facility design on Anchor Streets.** Special design consideration should be given to bicycle facilities on Anchor Streets to minimize conflicts between cyclists and pedestrians.
9. **Separation of bicyclist from vehicular traffic.** Pavement markings, raised barriers, or other barriers should be used to separate on-street Class IV separated bikeways from vehicular traffic.

11. https://dot.ca.gov/programs/safety-programs/camutcd
12. https://nacto.org/publication/urban-bikeway-design-guide/
13. https://nacto.org/publication/urban-bikeway-design-guide/bicycle-boulevards/signs-and-pavement-markings/

7.5 Pedestrian Network

The proposed street network for Moffett Park calls for pedestrian facilities on every street to leverage connections to existing networks and improve the permeability and access for people walking within Moffett Park.

STANDARDS

1. **Crosswalk design.** All new crosswalks and other pedestrian and bicycle safety improvements shall follow the most recent design guidelines by California Manual on Uniform Traffic Control Devices (CA-MUTCD), VTA Bicycle Technical Guidelines, Caltrans Standards, City Standards, Highway Design Manual, and NACTO Urban Bikeway Design Guide. The City shall use the most conservative approach if any documents conflict.
2. **Protected crossings.** Protected crossings, which are crosswalks controlled with a traffic signal, shall be provided no more than 800' apart, and typically no more than 400' apart, consistent with maximum block lengths in the fine grain core.
3. **Prioritized crossings.** At crossing points with major intersections, priority may be given to pedestrians by providing leading pedestrian interval signals which allow pedestrians to enter the intersection before vehicles.
4. **Sidewalks.** The pedestrian zone shall be designed per the design standards for street types in Table 18A through Table 22B.
5. **Lighting.** Continuous, pedestrian-scale lighting shall be provided.
6. **Curbside drop off and loading areas.** Curbside drop off and loading areas shall be restricted within 20 feet of intersections to improve pedestrian and motorist sight lines.

GUIDELINES

1. **Crosswalk widths.** Crosswalks should be designed to be at least as wide as the sidewalks they connect to, especially at busy intersections.
2. **Sight lines.** Sight lines for pedestrians and motorists should be maintained by ensuring that the approach to the crosswalk is free of obstructions, such as structures or landscaping.
3. **Visibility of pedestrian crossings.** The visibility of crosswalks should be enhanced through lighting and markings to help alert motorists to the most important crossings and points of potential conflict.
4. **Raised crosswalks.** On low-volume streets, raised crosswalks should be considered to calm traffic and prioritize pedestrian movement. This should take emergency vehicle response routes into consideration, and only implemented on neighborhood streets or laneways.
5. **Pedestrian amenities.** Hydration stations should be provided along multi-use paths.
6. **Parking lot circulation.** Consideration should be given to safe pedestrian circulation when designing parking lots.

7.6 Transit Network

Robust local and regional transit service is critical to fostering a people-oriented environment and serving the large number of anticipated workers, residents, and visitors in Moffett Park. Moffett Park is currently served by the VTA bus service and light rail, as well as private employer sponsored shuttle services. Caltrain also provides regional commute connections for the City of Sunnyvale.

To reduce the number of overall vehicle trips, there will be a significant increase in both public and private transit service. With future expansion and investment in public and private transit and shuttle routes, it will be important to coordinate transit and street design improvements. Priority for transit on important routes and strategies for integration with other modes will improve connectivity and access for passengers on both public transit and private shuttles. Future transit investments should include the following:

VTA 26 Bus at Borregas by Grendelkhan, licensed under CC BY-SA 3.0

VTA BUS SERVICE

Reconfigure VTA bus service in Moffett Park to better serve increased demand. This includes coordinating and developing high-capacity transit on Mathilda Avenue that connects across SR 237 to downtown Sunnyvale.

VTA Lightrail passing through Moffett Park

VTA LIGHT RAIL SERVICE AND ACCESS

Prioritize light rail on Java Drive and reconfigure station pedestrian access to Java/Borregas station to support access between the light rail station and the planned commercial activity center.

"Kamloops bus route 18" by Kiyoteru Awaji, licensed under CC BY-SA 4.0

INTERNAL CIRCULATOR

Accommodate an internal circulator that connects activity centers, office and residential areas, and district parking sites.

STANDARDS

1. **Light rail station design and access.** Station design and access shall adhere to VTA's standards regarding items, such as platform lengths, train lengths, buffer space between a stopped train and the pedestrian crossing area, space for pedestrian gate arms and other rail related equipment at crossings.
2. **Transit amenities.** High quality shelters, real-time transit information, and benches shall be provided at bus and light rail stops on Mathilda Avenue and Java Drive.
3. **Shuttle-accessibility.** All workers, employees, and contractors employed in Moffett Park at a project site shall be provided shuttle services to the extent practical.

GUIDELINES

1. **Future transit and shuttle stop locations.** Future bus and shuttle stops should be identified near existing and future employment sites to direct transit investment and maximize transportation choices for commuters.
2. **Real-time information systems.** Private and public transit providers and employers should invest in real-time information systems displaying bus arrivals and departures. Such technologies include wireless phones and PDAs, the Internet, and changeable message signs at major bus stops.
3. **Signal prioritization.** Signal prioritization should be used to improve bus and light rail speed and reliability on Mathilda Avenue and Java Drive.
4. **Queue jump lanes.** Queue jump lanes or exclusive transit lanes could be considered when signal prioritization is inadequate to maintain transit speed and reliability upon mutual agreement by the City and VTA but may need additional right of way.
5. **Travel lane usage.** Buses may be allowed to stop in the travel lane at designated bus stops, as approved by the City, located at the far side of intersections where feasible, to reduce transit delay. The City may alternatively, require the construction of bus duckouts in order to maintain the overall transportation system efficiency.

REGIONAL TRANSIT SERVICE

One important strength of Moffett Park is its location and connectivity to the rest of the City and the region. The district is within five miles from Downtown Sunnyvale, Caltrain, and parts of San José and within ten miles of Downtown San José, with transit connections up the Peninsula and to the East Bay on Caltrain and BART. In Moffett Park, VTA is responding to challenges of low ridership and high operating costs through recent service changes that increase frequency, particularly on weekends, and increased regional connectivity by reorienting direct service to the future Milpitas BART station. Furthermore, VTA's Rapid 523 bus facilitates improved local connections from Moffett Park to Downtown Sunnyvale and San José. The Rapid 523 bus demonstrates an opportunity of Mathilda Avenue as an enhanced high-capacity transitway, with frequent service encouraging transit access to the district. The following sections discuss how both bus and light rail service can best serve the future of Moffett Park.

VTA BUS SERVICE

VTA bus service in Moffett Park will be reconfigured so that both the Rapid 523 and Local 56 travel the full length of Java Drive and Mathilda Avenue South of Java Drive (Figure 58). This concept ends use of the 5th Avenue transit station and instead allows for turnarounds near the Java Drive and Mathilda Avenue gateways (Figure 58). This service reconfiguration allows for improved frequency in both directions. To provide for the reconfiguration of the bus lines, the plan we need to accommodate turnarounds at the end of the line for each route and layover stations for VTA bus operators.

EXPECTED BUS TURNAROUND CONFIGURATIONS

Eastbound buses are expected to turn around at the intersection of Crossman Avenue and Java Drive.

- VTA's preferred turnaround location is to provide for a U-turn bus signal at the intersection. Layover space will be needed at the eastbound direction on Java Drive.
- Alternatively, a counter-clockwise route using Crossman Avenue, Moffett Park Drive, Orleans Drive and a future new street connecting back to Crossman Avenue is possible.
- Westbound buses are expected to turn around at the intersection of Mathilda Avenue and Innovation Way.
- VTA's preference is to have buses turn right onto Innovation Way, include a new bus stop at intersection of 11th Avenue to better serve Foothill College, and then return to Mathilda Ave via Moffett Park Drive. Layover space will need be provided for on Innovation Way between 11th Avenue and Moffett Park Drive.

STANDARDS

1. **Layover stations.**
   - **a.** Private development shall provide layover stations for VTA at the following locations:
     - **i.** 1020 Innovation Way or 801 11th Ave
     - **ii.** 1270 Crossman Ave
   - **b.** Layover stations shall include a gender-neutral bathroom specifically for VTA use.

FIGURE 58 VTA Transit Service in Moffett Park

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- VTA Orange Line
- VTA Bus Lines
- ACE Red Shuttle
- VTA Bus Stop Only
- VTA Bus Stop and VTA Orange Line Station
- VTA Orange Line Station Only
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

VTA LIGHT RAIL SERVICE AND ACCESS

The Java/Borregas light rail station will be reconfigured with both eastbound and westbound station platforms being located directly west of the Borregas Avenue intersection. This new location will allow one new at-grade pedestrian crossing of Java Drive to connect the north and south portions of the Java/Borregas Activity Center. This new connection will provide needed pedestrian and bike connectivity across the plan area, provide better connectivity to the station platform, and extend the retail "main street" across Java.

The design concept and standards for the station is a joint effort between the City and VTA. The standards below outline minimum standards necessary for the redevelopment of parcels to the north and south of the station to ensure that the pedestrian plaza/"main street" is aligned with the new at-grade crossing and that buildings along Java Drive are setback a sufficient dimension to allow for travel lanes, bus stops, pedestrian and bike facilities, street tree planting, and new station platforms within a wider Java Drive right-of-way or new public access easements.

The timing of the station redesign and specific cross section of Java Drive will be determined by a joint decision between the City and VTA.

STANDARDS

1. **Station platform location.**
   - **a.** When the station is redesigned, the station platform shall be located directly west of the Borregas Avenue intersection.
   - **b.** The station platform shall require 380 feet of length from the Borregas Avenue crosswalk to the new crosswalk connecting the pedestrian plazas across Java Drive. The 380 feet length includes a platform length of 280 feet and two 50 feet long ramps connecting to the pedestrian crosswalks on either site of the platform. The ramps shall be designed to meet ADA requirements.
2. **Mid-block crosswalk.**
   - **a.** A mid-block pedestrian crossing shall be located on the west side of the VTA station platform, 380 feet west of the edge of the crosswalk at Borregas Avenue.
   - **b.** The mid-block crossing shall be a minimum 20 feet in width.
   - **c.** The mid-block crossing shall be signalized.
   - **d.** The mid-block crossing is encouraged to be a raised-crosswalk to the height of the adjacent sidewalks.
3. **Transit connectivity**
   - **a.** VTA bus stations should be located between Borregas Avenue and the West Channel to allow for seamless transfer to Internal Circulator and VTA light rail.
4. **Java Drive design (between West Channel and Borregas Avenue)**
   - **a.** A combination of right-of-way and public access easement shall include enough space to provide for station redesign with a center or side platform configuration, one travel lane in each direction, a left hand turn lane from Java Drive to Borregas Ave, one public vehicle lane for buses in each direction, and sufficient space for pedestrians, bike facilities, and bus stop facilities.
   - **b.** See Chapter 5 for building setback standards.

FIGURE 59 **VTA Java/Borregas Station Existing Conditions and Potential Alternative**

MOFFETT PARK CIRCULATOR

An internal circulator will connect key centers of activity throughout the district. Figure 60 presents a potential route for the circulator at full build-out. The exact route of an internal circulator will depend on the build-out of the plan area, ridership demand, and other operational considerations, and will adjust over time throughout plan build-out and the construction of new streets.

The internal circulator vehicle type may evolve over time. It may operate as a fixed-route small shuttle service (between 25 to 28 feet), on-demand service, and/or potentially other small vehicles as technology evolves. The internal circulator will be funded by a district Transportation Management Association (TMA) (see Chapter 8 for more on the TMA). Once a TMA is established, this group will coordinate with the City to conduct a potential ridership analysis to identify priority circulator service areas. Route feasibility also considers operational constraints, integration with existing transit services, stop spacing, stop size, service frequency, turning movements, signal phasing, travel time, and potential on-street parking conflicts.

Anchor Streets, Crosstown Connectors, or Neighborhood Streets are suited for a circulator route, and depending on the vehicle type, circulator frequency and available technology and future route needs, narrower streets including Laneways may also be appropriate.

Shuttle; Source: Flickr, Greenbelt Alliance 2007

FIGURE 60 Potential Circulator Route at Full Build-Out

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Potential Circulator Route
- VTA Orange Line
- VTA Bus Lines
- ACE Red Shuttle
- VTA Bus Stop Only
- VTA Bus Stop and VTA Orange Line Station
- VTA Orange Line Station Only
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Water/Channel
- Lockheed Martin Core Campus

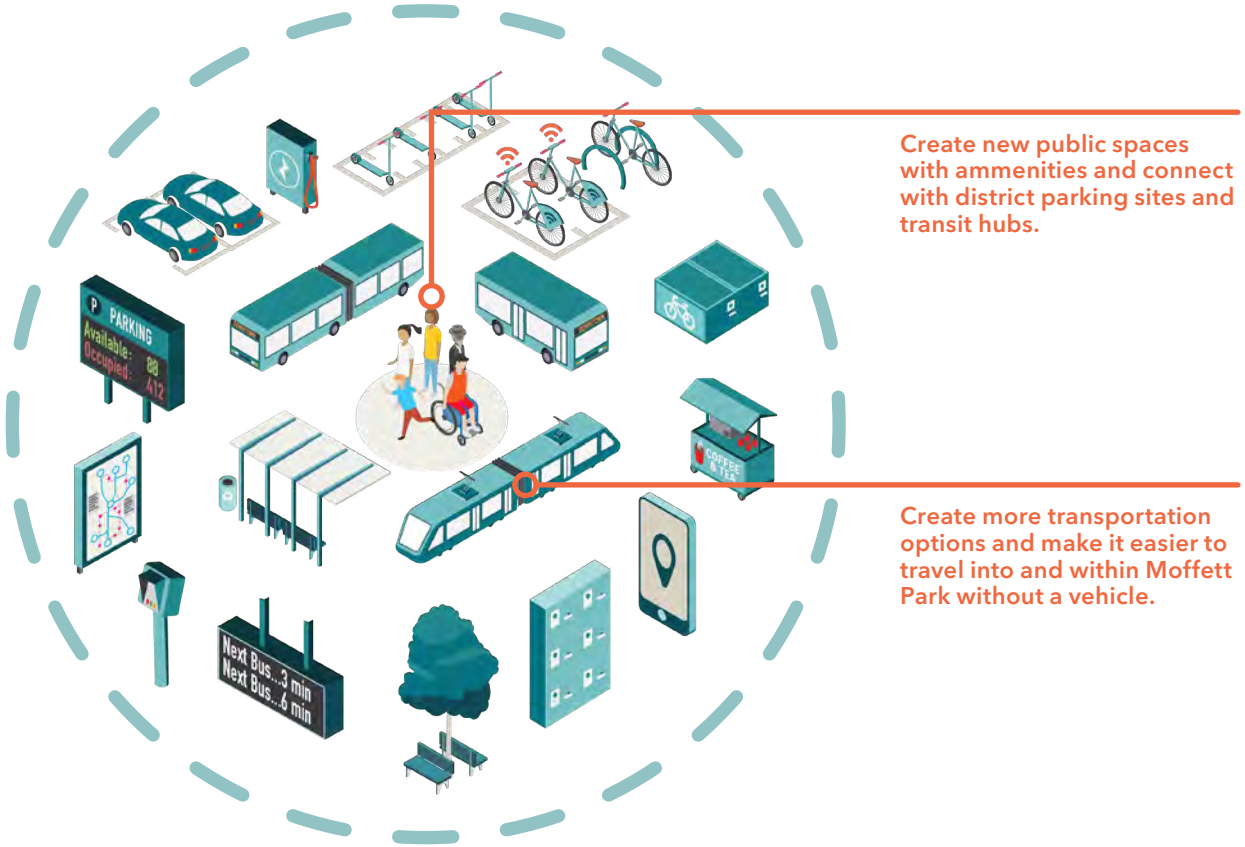
7.7 Mobility Hubs

Mobility hubs combine a variety of transportation services and amenities all in one site. Hubs can vary in terms of size, location, and services provided. All mobility hubs serve a core mobility function, which can include micromobility services, ride-hailing loading zones, commuter shuttle stops, real-time transit information, electric vehicle charging stations, transit pass sales kiosks, bike and car share parking, and secure bike lockers. Mobility hubs also serve as nodes of commercial and neighborhood activity.

Who builds and maintains a mobility hub will depend on location, available real estate, and which (if any) elements of a mobility hub will exist in the public right-of-way. Depending on these conditions, a mobility hub may be built and maintained by the City, VTA, TMA, property owners, or a combination of these players.

PROGRAM GOAL

By clustering mobility and other services together in strategic locations, mobility hubs facilitate the use of sustainable mobility by improving convenient access and connectivity. The Specific Plan establishes a Mobility Hubs program framework to facilitate implementation of policies, tools, and practices needed to support the development of mobility hubs.



Source: Nelson\Nygaard

MOBILITY HUB DESIGN ELEMENTS

The Metropolitan Transportation Commission (MTC) *Mobility Hub Playbook*[14] provides technical assistance by offering a menu of tools that will guide mobility hub development from concept to implementation. According to the Playbook, mobility hubs must be served by transit and could also be served by microtransit, car share, docked bike share, or other community mobility models. Mobility hub planning and design features are unique to each hub, reflecting local land use and transit network characteristics and addressing the mobility and community needs of each specific hub location. The exact footprint and design specifications of a mobility hub are flexible and can be accommodated on one site or distributed across several blocks.

The Playbook presents a typology of hubs, dependent on land use, transit services and frequency, and transportation access characteristics. The Playbook identifies Moffett Park as appropriate for Emerging Urban District Hubs, "located within areas of moderate and low residential and employment densities. These hubs serve high-capacity transit or high frequency bus service, functioning as centers for smaller, local communities and economic activity. These hubs are in MTC Priority Development Areas (PDAs), indicating future growth and often located near established job centers, shopping districts, and other services."

Table 23 provides an overview of the recommended elements to include and consider including at Emerging Urban District Hubs. Figure 61 illustrates an example mobility hub with a range of recommended elements, including light rail and bus/shuttle transit connections, a transit shelter, a loading zone for ride-hail and other transportation services, bike share, an information kiosk, vendors, and street furniture.

LOCATIONS

The location of hubs will be land use dependent and located near the biggest trip generators, such as VTA light rail stops, district parking sites, commercial services, and other key centers of community activity, such as schools or hotels. Leveraging transit stops as mobility hubs makes transit the focal point in the transportation network intentionally connected to a variety of first/last mile options.

Potential mobility hub locations in Moffett Park include, but are not limited to:

- VTA light rail stops on Moffett Park Drive, Mathilda Avenue and Java Drive.
- District parking sites serving offices along Caribbean Drive and Mathilda Avenue.
- Adjacent to circulator route serving mixed use activity centers to the west of Borregas Avenue, near Orleans Drive, and to the east of East Channel.

14. https://mtc.ca.gov/planning/transportation/mobility-hubs

TABLE 23 "Emerging Urban District Hub" Elements

Design Feature	Include	Consider Including
Sustainable Access and Mobility	• Transit shelters and waiting areas • Clear connections to bike and pedestrian networks • Loading zones for ride-hail, shuttles, micro/on-demand transit, and urban freight • EV charging infrastructure for shared vehicles and micromobility	• Long- and short-term secure bike parking • facilities • Bike stations with end-of-trip • Micromobility stations and drop zones • Dedicated car share parking • Digital policy and geofences • Common carrier package pickup and other efficient delivery services
Public Realm	• Permanent and mobile vending/retail space • Community-driven design elements/tactical urbanism • Street furniture	• Culturally relevant programming • Green space
Customer Experience	• N/A	• Off-board payment for transit • Plan, book, and pay with Clipper integration • Place programming • Digital screens for booking and trip planning
Information	• Real-time travel info	• Hub area maps, amenity info, and bulletins • Monitoring systems to measure mobility and public life metrics • Digital and physical wayfinding (infrastructure that displays mobility and community information)

Source: MTC Mobility Hub Playbook

FIGURE 61 Mobility Hub Example

Source: Nelson\Nygaard

Chapter 8
Transportation Demand Management and Parking

VTA Light Rail at Moffett Park Station

Transportation demand management (TDM) aims to reduce single-occupancy vehicle (SOV) travel, minimize peak period vehicle trips, and minimize overall vehicle miles traveled by shifting trips to transit, biking, walking, scooting, or rideshare.

TDM is a multi-faceted approach to manage transportation resources through pricing, incentives, services, communication, marketing, and other techniques. Strategies work together synergistically to achieve SOV trip reduction and mode share goals.

A key element of the Moffett Park TDM strategy is parking management, prioritizing a reduction in the overall parking supply while providing well-managed access for people who choose to drive. Parking maximums, unbundling, and shared parking reduce parking demand, minimize the number of vehicle trips, optimize the use of the existing and future parking supply, and support enhanced urban design and placemaking. A "park-once" environment provides optimally placed shared parking and inviting multimodal connections to encourage non-driving trips within Moffett Park.

8.1 TDM and Parking Goals and Policies

GOALS AND POLICIES

The following goals and policies summarize how the parking and TDM recommendations support the implementation of the Moffett Park Specific Plan's Guiding Principles.

Goal TDMP-1: PARKING MANAGEMENT. Right-sized and flexible parking systems support park-once access.

Policy TDMP-1.1: Implement a right-size parking system by eliminating parking minimums for the district and integrating a phased set of maximum parking requirements.

Policy TDMP-1.2: Improve affordability, promote equity, and reduce vehicle trips by unbundling parking.

Policy TDMP-1.3: Promote biking by establishing standards for bicycle parking facilities and infrastructure.

Policy TDMP-1.4: Incentivize the use of carpool/vanpool systems and electric vehicles (EV).

Policy TDMP-1.5: Support safe, accessible, and comfortable streets through parking facility design guidelines.

Policy TDMP-1.6: Promote and support flexible approaches to parking supply and management by coordinating parking infrastructure and prioritizing shared facilities.

Goal TDMP-2: TRANSPORTATION DEMAND MANAGEMENT. Moffett Park manages travel demand by reducing single-occupancy vehicle trips and incentivizing multi-modal trips.

Policy TDMP-2.1: Establish a Moffett Park Transportation Management Association (TMA) to oversee mobility improvements, coordinate efforts, and manage a district-wide TDM strategy.

Policy TDMP-2.2: Ensure new development reduces vehicle trips through a required TDM Plan and TMA membership.

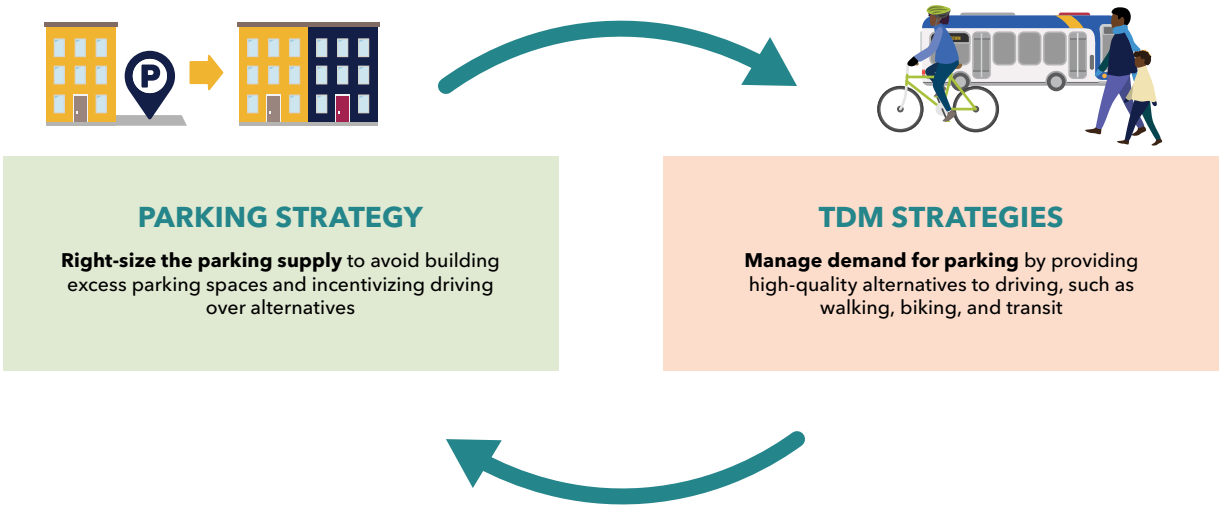
Policy TDMP-2.3: Establish clear metrics, data points, and processes for applying TDM measures at the site level across Moffett Park.

Policy TDMP-2.4: Continue to collaborate with VTA to align local development with transit infrastructure improvements.

Policy TDMP-2.5: Work with TMA to achieve a 50 percent single-occupancy vehicle rate at full build-out.

8.2 Transportation Demand Management

TDM aims to reduce SOV travel travel, minimize peak period vehicle trips, and minimize overall vehicle miles traveled by shifting trips to transit, biking, walking, scooting, or rideshare. TDM is a multi-faceted approach to manage transportation resources and incentivize new trip behaviors through pricing, financial incentives, services, communication, marketing, and other techniques. TDM strategies must be coordinated and work synergistically with parking management to achieve SOV trip reduction and provide robust mobility options.



Source Nelson\Nygaard

The City of Sunnyvale has existing TDM requirements for both non-residential and multi-family residential projects.

Non-Residential
Projects are required to set a trip reduction target and develop a plan to achieve that target.[15] Trip reduction targets are set on a project-by-project basis and the TDM Plan is incorporated into the conditions of approval.

Multi-Family Residential (10+ units)
Projects are required to create a TDM program with a points-based system.[16] Many of the points are for infrastructure and design improvements that are already included in the MPSP.

Transportation Management Association
TDM within Moffett Park will be overseen and managed by a newly formed TMA. To support implementation of the MPSP and operation of the TMA, the Specific Plan builds off the existing requirements. Such requirements will ensure consistent participation and investment in citywide TDM efforts and create a pathway to successful administration.

STANDARDS

1. **Participation in the Transportation Management Association.** All new residential projects with 10 or more units and new non-residential projects of 5,000 square feet or more shall be required to join the TMA. Prior to issuance of building permits, the applicant shall:
   - **a.** Join the TMA and record a deed restriction agreeing to require all building tenants to become members of the TMA in perpetuity from the date of final inspection or certificate of occupancy.
   - **b.** Remit a one-time and/or annual payment to the TMA for implementation of vehicle trip reduction measures. Required TMA membership shall be included as a separate line item in all applicable leases.
   - **c.** The obligation to pay to the TMA shall be as set forth as part of condition(s) of permit encumbering the property in the plan area.
   - **d.** TMA fees should be set on a per employee, per unit, and/or per square foot basis, and may be differentiated/scaled by land use category.
2. **TDM applicability.** All new residential projects with 10 or more units and new non-residential projects of 5,000 square feet or more shall be required to submit a TDM Plan for each project site. Prior to issuance of building permits, owner must have a TDM Form approved by the City and a copy of the TDM Plan shall be on file with the City.
3. **TDM responsibility.** All applicable TDM fees, penalties, reporting requirements, program implementation, and other TDM obligations are the sole responsibility of the property owner. Furthermore, since participation in the TMA and the associated TDM requirements are part of the conditions of permit(s) associated with the property, TMA/TDM requirements shall run with the land as to successive owners within the plan area.

15. City of Sunnyvale, 'Draft Ordinance to Amend Sunnyvale Municipal Code Chapter 10.60,' Legislative Public Meetings, October 25, 2016, https://sunnyvaleca.legistar.com/LegislationDetail.aspx?ID=2863616&GUID=C0FC3D16-6294-4F5F-A08D-E0D8BE5809F0&FullText=1.

16. City of Sunnyvale, 'City of Sunnyvale Multi-family Transportation Demand Management Program,' https://www.sunnyvale.ca.gov/home/showpublisheddocument/1466/637820846932070000.

4. **Trip reduction goals.** Trip reduction goals for new development are as follows:
   - **a.** Non-residential. The applicant shall develop and implement a TDM Plan that meets an a.m. and p.m. peak-hour trip reduction target from baseline conditions. Trip reduction goals shall be outlined in the TDM plan submitted to the TMA and may be subject to periodic revision to address new conditions at the project site and/or new services or programs in the plan area.
   - **b.** Residential. The applicant shall develop a TDM Plan using the existing multifamily residential TDM program with modified project size tiers, point thresholds, and additional TDM measures considered for Moffett Park. TDM point targets shall be outlined in the TDM plan submitted to the TMA and may be subject to periodic revision to address new conditions at the project site and/or new services or programs in the plan area.
5. **Required TDM measures.** All new residential and non-residential projects shall include the following baseline elements in their TDM Plan.
   - **a.** Participation in the TMA
   - **b.** Transportation Coordinator (TC): The project applicant and/or property owner shall designate a TC to serve as the point of contact for the City and/or TMA and provide the City and/or TMA with materials and data showing compliance with approved TDM Plan and monitoring requirements
   - **c.** Unbundled parking
   - **d.** Carpool/vanpool parking
   - **e.** Bike parking, showers, and lockers
   - **f.** Annual travel survey and reporting
   - **g.** Parking cash out program, as applicable and required per California Health and Safety Code 43845[17]
   - **h.** New metrics as needed and determined by the TMA
6. **TDM plan implementation.** Property owners shall implement TDM programs at building occupancy, however each site will not be subject to monitoring until it has reached 75% occupancy. It is the owner's responsibility to inform the TMA when sites have reached 75% occupancy.

GUIDELINES

1. **Supplemental TDM measures.** Additional TDM measures that may be included in the TDM Plan include, but are not limited to:
   - **a.** Reduction of parking below the parking maximum
   - **b.** Pre-tax transportation benefits, including employer contributions to transit and bike benefit programs
   - **c.** Shared parking facilities and/or public access to parking facilities
   - **d.** On-site bicycle repair / "fix-it" stations
   - **e.** Multimodal wayfinding
   - **f.** Transportation welcome packet and/or website
   - **g.** Guaranteed ride home service and/or subsidy
   - **h.** Free or subsidized transit passes
   - **i.** Car share service and/or subsidy
   - **j.** Bike share service and/or subsidy
   - **k.** Carpool/vanpools matching service and/or subsidy
   - **l.** Free/preferential carpool/vanpool parking above minimum requirements
   - **m.** Flex and other alternative work schedules or work from home programs
   - **n.** Shuttle service
   - **o.** Parking cash-out program (if not already subject to California Health and Safety Code 43845)
   - **p.** Other proposed by applicant

17. Health and Safety Code, Division 26

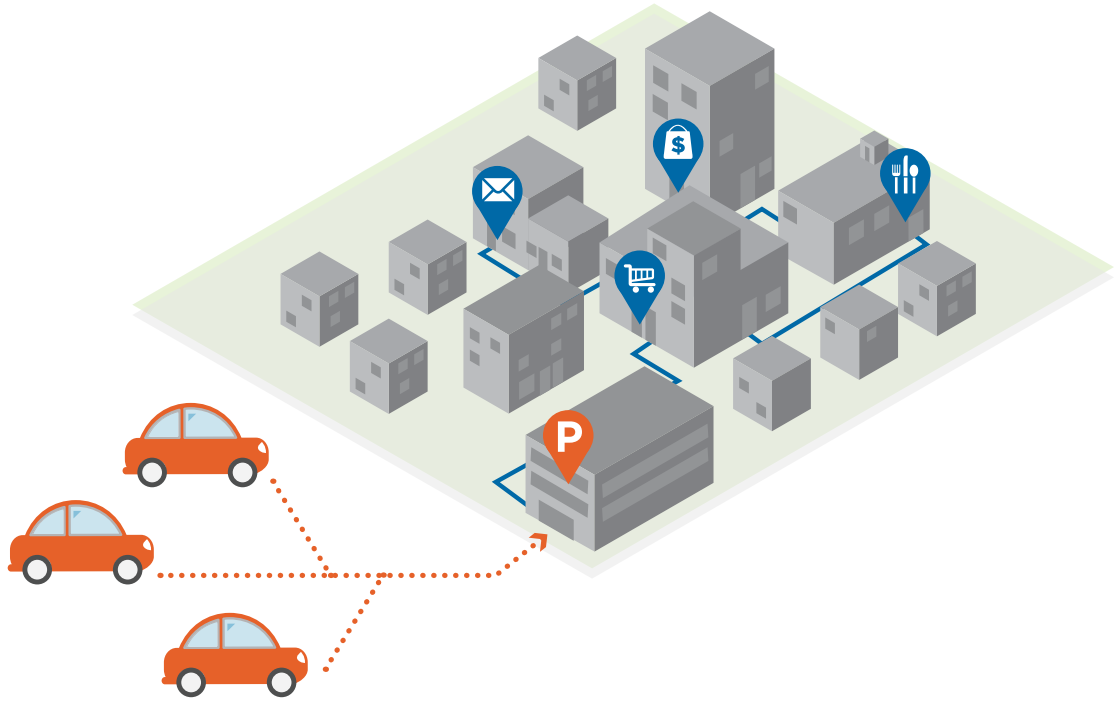
8.3 Vehicular Parking Requirements

Sufficient vehicle parking is necessary for the success of Moffett Park. Too much parking, however, can incentivize driving and create traffic congestion. It is necessary to provide the right amount of parking and ensure that it is managed to maximize its use.

Parking is also an expensive resource. The construction and ongoing operation of parking affects the price of housing and commercial lease rates, as parking costs are passed through to residents, tenants, and patrons. A successful approach for parking is anchored by two key concepts:

Park Once
Motorists will be able to drive to Moffett Park, park their car, and walk, bike, scoot, or take transit to a variety of destinations. The result is more physical and economic activity, less internal driving, and fewer needed parking spaces.

Shared Parking
Shared parking facilities proximate to key destinations can be effective in optimizing the use of parking supply, limiting the number of vehicle trips and local congestion, and improving urban design and placemaking. Moffett Park shall utilize policy and management tools to strike an efficient balance between resident, tenant, and public parking.



Source Nelson\Nygaard

8.3.1 VEHICLE PARKING MAXIMUMS

Building too much parking limits land available for other uses, impacts walkability and a district's placemaking, while increasing traffic congestion, vehicle miles traveled, and housing and transportation costs. Eliminating parking minimums does not mean new parking is prohibited. Instead, it offers flexibility to right-size parking supply to meet the needs of individual projects and their prospective tenants.

Parking Maximums specify the maximum number of off-street parking spaces permitted by land use, ensuring that parking is not overbuilt. Calibrating parking maximums to a phased land use plan and gateway capacity is essential to creating a multimodal and mixed-use district that also supports traffic reduction targets.

A shared parking analysis was conducted for the Moffett Park study area and demonstrates that status quo parking ratios in Moffett Park have the potential to generate more traffic than the gateways can accommodate. Reducing the total parking supply is an effective tool to limit vehicle trips through the district gateways. For example, the shared parking analysis estimates that if current downtown parking requirements are applied in Moffett Park, the resulting parking supply would be 150-190% of the maximum necessary to address gateway capacity limits, so lower maximums must be applied here.

Park once and shared parking are easier to achieve when phased in over time, as a greater mix of uses develops, multimodal projects are built, and TDM efforts ramp up. Therefore, it is useful to allow the earliest projects to build more parking up front through a tiered approach to maximums.

STANDARDS

1. **Parking maximums.** All new development shall adhere to the maximum parking requirements in Table 24. A project may exceed that maximum by up to 50% of the maximum ratio, provided that all of the additional spaces over the maximum shall be shared with the public at all times. The TMA should monitor parking needs and review the supply periodically to determine when parking maximum standards should be changed to adapt to evolving development conditions.
2. **Parking maximum phasing.** Parking maximums for new development shall be phased in over time as shown in Table 24. As defined in the Site Master Plan (see Chapter 10, section 10.3), the phasing of all new development shall adhere to the phased implementation of the off-street vehicle parking standards.
3. **Shared parking.** Shared parking shall be defined as meeting the following characteristics:
   - **a.** No individual spaces or parking areas shall be reserved for any individual, tenant, or class of individuals, except for persons with ADA placards or users of special vehicles, such as EV, carpool/vanpool, or carshare vehicles (noting that EV parking may become standard in the future).
   - **b.** Non-residential property owners may exclude anyone other than district residents from parking for more than 24 hours.
   - **c.** Public/visitor parking may be separated from employee or resident parking.

GUIDELINES

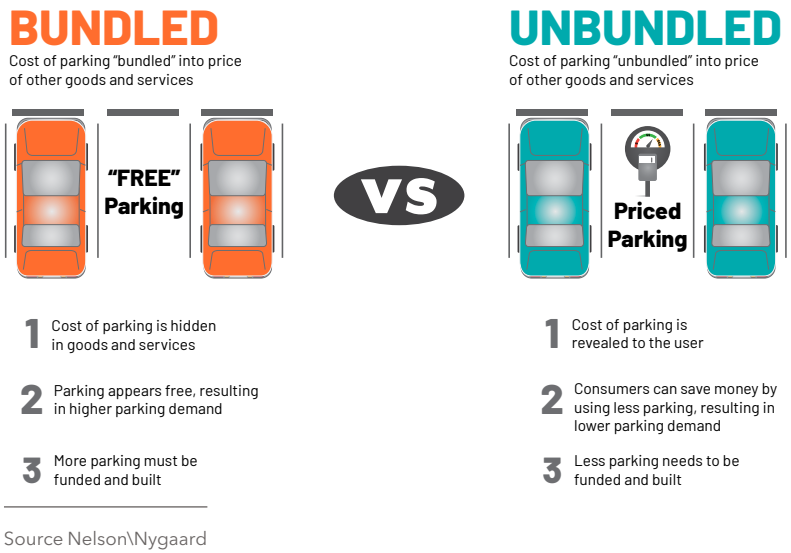
1. **Location.** Shared parking facilities should be located close to major office uses and activity centerss and other mixed-use areas. In order to protect areas that are designed for greater walking and biking, shared parking facilities are encouraged on the perimeter of the plan area and near the gateways in and out of the area.
2. **Proximity.** Parking facilities should be located within a comfortable walking distance of key Activity Centers to encourage accessibility. A distance of 1,000-1,500 feet, an approximately five-to-10-minute walk, is preferred.

TABLE 24 Off-street Maximum Vehicle Parking Standards for New Development

Land Use	Future Maximums		
	At Plan Adoption	Mid-Term	At Full Build Out
Office/R&D (per 1,000 sf)	2.0	1.0	0.75
Residential (per unit)	1.0	0.75	
Hotel (per room)	0.75	0.75	
Retail / Commercial / Restaurant (per 1,000 sf)	1.25	1.25	
Industrial (per 1,000 sf)	0.75	0.75	
Elementary School (per 1,000 sf)	0.10		
Recreational Fields	9.5 per acre		
Other Open Space Types	Parking study required		
All other uses	As determined by the Zoning Administrator		

8.3.2 UNBUNDLED PARKING

Parking costs are frequently subsumed into the leasing price of commercial/office space and the sale/rental price of housing. Although the parking cost may be "hidden," it is eventually passed on to all users. Unbundled parking separates the cost to rent or own a parking space from the cost to own or lease the property or unit. It can reduce demand for on-site parking, increase affordability, and allow those without cars to avoid paying for parking they do not use.



Source Nelson\Nygaard

STANDARDS

1. **Unbundled parking for non-residential uses.** Non-residential uses shall meet the following requirements:
   a. **Unbundled spaces.** All non-residential parking spaces shall be unbundled from the cost of a leased space. The cost of the parking space shall be included as a separate line item in the leasing agreement.
   b. **Leases.** Leases for parking spaces may be monthly or annual but shall have a maximum lease term of one year. Monthly or yearly parking leases shall identify primary address of lessee in the leasing agreement.
2. **Unbundled parking for residential uses.** Residential uses shall meet the following requirements:
   a. **Spaces.** All off-street parking spaces shall be leased or sold separately from the rental or purchase fees for the individual units in perpetuity, such that potential renters or buyers have the option of renting or buying a unit at a price lower than would be the case if there were a single price for both the unit and the parking space.
   b. **Leases.** Leases for parking spaces may be monthly or annual but shall have a maximum lease term of one year. Monthly or yearly parking leases shall identify primary address of lessee in the leasing agreement.
3. **Exception.** Affordable units which include financing requirements that conflict with these provisions may be granted an exception from these provisions by the Zoning Administrator.

8.3.3 CARPOOL/VANPOOL AND ELECTRIC VEHICLES

To encourage and incentivize shared rides, a portion of a parking facility's convenient, front-door spaces shall be reserved for carpool/vanpool parking. As an incentive for electric vehicle (EV) adoption, parking spaces for EVs should be designated, time limited and marked as reserved in prominent and convenient locations.

STANDARDS

1. **Carpool/vanpool parking-non-residential uses.** Each non-residential use shall provide a minimum number of designated and signed parking spaces for the exclusive use of a shared carpool or vanpool, per Table 25.
2. **Carpool/vanpool parking location.** Designated carpool/vanpool spaces shall be located in convenient locations, such as on first floor of parking garages and near building entrances, elevators and stairways, or pedestrian paths.
3. **Carpool/vanpool parking maximum allocation.** Carpool/vanpool parking spaces shall count toward the total parking supply and parking maximum.
4. **Electric vehicle parking.** The number, design, and infrastructure for electric vehicle parking shall be provided per Table 25 or CalGreen Tier 2, whichever is more stringent.
5. **Electric vehicle location.** EV parking spaces shall be located in the same lot as the primary use. EV parking spaces located on first floor of parking garage shall be located as close to a primary entrance of the principal building as possible.
6. **Electric vehicle signage.** EV parking spaces shall be signed in a clear and conspicuous manner indicating exclusive availability to electric vehicles, such as special pavement marking.
7. **Electric vehicle maximum allocation.** Electric vehicle spaces shall count toward the total parking supply and parking maximum.

TABLE 25 Carpool/Vanpool and EV Parking Requirements

Land Use	Carpool/Vanpool Parking	EV Parking[18]
Residential	N/A	30% of unbundled parking spaces shall be provided with at least one Level 2 EV Ready Space; An additional 30% of unbundled spaces shall be a Level 1 EV Ready space. All spaces shall be rounded up to the nearest whole number
Non-residential	1-200 space facility: 1 per 25 spaces	35% of parking spaces shall provide at least one Level 2 EVCS and an additional 35% Level 2 EV Ready; All spaces shall be rounded up to the nearest whole number
	201+ space facility: At least 8% of total	

18. See Sunnyvale Municipal Code 16.43.040 for definition of Level 1 and Level 2 EV Ready Space and Electric Vehicle Charging Station (EVCS).

8.3.4 LOADING

STANDARDS

1. **Loading – off street.** Off-street freight and equipment loading spaces shall be provided for all non-residential uses. The minimum number of loading spaces shall be provided for each use per Table 26, unless modified by the zoning administrator.
   a. **Design.** Required off-street loading spaces must meet the standards as described in Table 26 and Table 27.
   b. **Location.** All loading facilities shall be provided off-street and within the subject property. Loading facilities shall also meet the following additional standards:
      i. Adjacent to building door openings.
      ii. Situated to ensure that the loading facility is screened from adjacent streets as much as possible, with minimal interference with pedestrian and bicycle paths of travel.
      iii. Situated to avoid adverse impacts upon neighboring properties.
      iv. Accessible from an alley, or if no alley is adjacent to the site, a minor roadway.
2. **Loading – on street.** As appropriate, and as allowed by the City's Transportation and Traffic Manager, provide loading and pick-up/drop-off (PUDO) zones to allow for both commercial and passenger loading.

TABLE 26 Carpool/Vanpool and EV Parking Requirements

Land Use	Size	Number of Spaces
Non-residential only	0-50,000sf	1 Type A
	50,000-100,000sf	1 Type A
	100,000+ sf	1 Type B
Mixed Use, Primarily Residential (Residential with less than 50,000sf of non-residential use)	0-100 units	1 Type A
		1 Type C is encouraged
	100+ units	1 Type A
		1 Type C is required
Mixed Use, Primarily non-residential (Residential with more than 50,000sf of non-residential use)	0-50,000sf	1 Type A
	50,000+ sf	2 Type A
		1 Type C is required
	100,000+ sf	Zoning Administrator may require additional loading spaces based on the project's needs and site feasibility

TABLE 27 Off-Street Loading Standards

Type	Length	Width	Clearance
A	40 feet	12 feet	14 feet
B	65 feet	15 feet	14 feet
C	18 feet	10 feet	none

8.4 Shared Parking and Parking Management Program

Shared parking takes a holistic approach to determining parking supply by incorporating fluctuations in parking demand for different uses. Demand pattern variations create an opportunity to share centralized parking facilities, allowing for less parking to support more land use activity. Reserved parking for certain uses at certain times may be necessary, using management tools to strike an efficient balance between reserved and shared parking.

Shared parking at a district level can be designed to create a "park-once" environment that encourages drivers to leave their cars in one place while they circulate within the district on foot, by bike, or using transit. In a park-once district parking locations are clustered and serve multiple uses with clear signage, a single payment system, and coordinated parking management. Shared parking facilities within easy walking distance of each other and complementary land uses can be very effective in optimizing the use of parking supply and limiting the number of vehicle trips and local congestion.

Shared Parking Diagram

Source Nelson\Nygaard

8.4.1 SHARED PARKING

STANDARDS

1. **Shared parking goal.** A Shared Parking Management Program framework to implement policies, tools, and practices to efficiently manage a shared, park once district shall be established. The program will create a pool of shared parking supply within the district, offering a mix of short- and long-term spaces by facility to serve visitors, customers, employees, tenants, and residents.
2. **Shared parking locations.** Shared parking facilities shall be within easy walking distance (approximately 1,000 feet or 4-5 minutes) of each other. These facilities will be primarily located close to major office uses (most of which are located west of Mathilda Avenue and along Caribbean Drive and Moffett Park Drive) and distributed to serve the Activity Centers with retail and other mixed uses.
3. **Shared parking characteristics.** Shared parking should meet the following characteristics:
   a. No individual spaces or parking areas shall be reserved for any individual, tenant, or class of individuals, except for persons with ADA placards or users of special vehicles, such as EV, carpool/vanpool, or carshare vehicles.
   b. Non-residential property owners may exclude anyone other than district residents from parking for more than 24 hours.
   c. Public/visitor parking may be separated from employee or resident parking.

Solar shaded parking lot

8.4.2 MANAGEMENT OF OFF-STREET SHARED PARKING

Coordination between developers, area property owners and tenants, the City, and the district TMA will ensure existing or new parking facilities are efficiently shared. Management of the district program may involve a combination of all district stakeholders, but the TMA can be positioned to serve as a one-stop management entity for parking and transportation.

STANDARDS

1. **Target utilization.** A target utilization rate of 90-95% will ensure efficient use of all off-street, shared parking facilities. Targets may be calibrated by facility/location based on facility characteristics and their proximity to the district core or other key activity nodes.
2. **Pricing and permits.** Shared parking facilities shall use a pricing and permit system to reduce vehicle trips, achieve utilization targets, and ensure efficient management. A pricing and permit program may include the following policies:
   - All shared parking spaces shall be priced at an hourly or daily rate.
   - Leases for parking spaces may be monthly or annual but shall have a maximum lease term of one year. The percent of spaces on a single parcel that may be leased monthly or yearly will be based on an assessed need to ensure adequate daily parking flexibility.
   - If shared parking spaces are leased monthly, the monthly rate shall not be less than 15 times the applicable daily rate.
   - Monthly or yearly parking leases shall identify primary address of lessee.
   - A variable parking rate based on proximity and/or time of day is allowed. The right price for parking should be the lowest price that ensures 5-10% of off-street spaces are available – parking prices should be lower when and where demand is low and vice versa.
   - Incentivize carpooling by allowing lower rates for carpools.
   - Adjust regulations and prices periodically annually based on utilization data.
   - Allocate all, or a portion, of net parking revenue to fund the TMA and TDM programs.
3. **Technology and wayfinding.** The shared parking system shall implement consistent and universal payment technology and signage systems to manage, price, and enforce parking in all shared parking facilities. Shared parking management facility implementation shall also consider the following:
   - Accept multiple payment options, including cash/coin, credit cards, debit cards, and pay-by-phone options.
   - Design and construct to accommodate necessary current or future access controls. Options include gates, radio frequency identification (RFID)-based hang tag, and/or license plate recognition (LPR) technology.
   - Have auditable payment and utilization technologies, including automated utilization counting and the ability to distinguish between different parking users, with utilization data updated and transmitted in real-time for use by third parties.
   - Provide real-time apps and signage to indicate the location and amount of available parking spaces.
   - Provide universal Moffett Park-branded signage and wayfinding that promotes shared parking access.

8.4.3 MANAGEMENT OF ON-STREET PARKING

On-street parking will be a small portion of the future parking supply but will be highly visible and desired. If left free and unrestricted, motorists will search for these prime spaces, exacerbate congestion challenges, and park on-street all day long to the detriment of retail and commercial uses. On-street parking should be managed to prioritize short-term trips and commercial/passenger loading, and to encourage longer parking stays in off-street facilities. On-street management should prioritize the following actions.

STANDARDS

1. **Target utilization.** A target utilization rate of 85-90% for all on-street facilities shall be established, ensuring an average of 1-2 spaces per block face are available even at peak period.
2. **Pricing and time limits.** Time restrictions shall be implemented to achieve utilization targets. Modify time restrictions by geography and day of week across the district. For example, 2-hour time limits are appropriate in high-turnover retail areas while a 3-hr/4-hr time limit near trails on weekends would be more amenable to those users.
   - **a.** As needed, implement pricing to achieve utilization targets.
     - **i.** Modify price by geography and day of week. The right price for parking should be the lowest price that ensures 10-15% of on-street spaces are available – parking prices should be lower when and where demand is low and vice versa.
     - **ii.** Adjust regulations and prices periodically based on utilization data.
     - **iii.** Allocate all, or a portion, of net on-street parking revenue to fund the TMA and TDM/multimodal programs.
3. **Technology and wayfinding.** As needed, implement appropriate technology systems to manage, price, and enforce parking. These could include:
   - **a.** Pay-and-display kiosks and/or pay-by-space meters, including credit card and pay-by-phone options.
   - **b.** License plate recognition (LPR) vehicles to streamline enforcement, reduce administrative costs, and improve data collection.
   - **c.** Explore use of flexible loading and pick-up/drop-off (PUDO) zones that allow for both commercial and passenger loading. Flex loading zones reduce commercial loading impacts on traffic flow, improve pedestrian and bicyclist safety, allow for faster TNC pick-up/drop-off times, and can increase customer access at local businesses.
   - **d.** Establish a universal branding and signage program, and clearly communicate the curbside regulations

8.5 Bicycle Parking

Convenient and secure bicycle parking encourages people to use bicycles and other micro-mobility devices by providing a comfortable trip end. The provision of sufficient long-term and short-term bicycle parking supports the MPSP's multimodal vision.

Example of long-term bike parking outside of transit station

Long-term bike parking (Class 1) is in secure, weather-protected facilities and are intended for longer-term use, such as overnight or during the workday. Examples include bike lockers, indoor bike rooms, and access-restricted bike cages.

MassTrans located at 700 All America Way by Earlyn Tomasini

Short-term bike parking (Class 2) serves shorter stays for shopping, dining, and other retail trips. Examples include inverted "U" series and post-and-ring racks.

Rentable personal lockers

Shower and lockers incentivize travel by bicycle, scooter, and/or walking by removing a common barrier to workplace commutes via "active" modes.

STANDARDS

1. **Minimum bicycle parking for non-residential uses.** All new construction and additions of more than 5,000 square feet to an existing building shall provide bicycle parking facilities per Table 28.
2. **Minimum bicycle parking for residential uses.** All new development and additions to an existing building with 10 or more dwelling units shall provide bicycle parking facilities per Table 28.
3. **Minimum bicycle parking for mixed uses.** In instances where a building contains components of more than one land use, the requirements shall be the sum of the individual uses per Table 28.
4. **Bicycle parking design.** Per VTA Bicycle Technical Guidelines[19], bicycle parking shall meet the following minimum design standards, which may include charging options for short and long-term bicycle parking facilities:
   a. **Short-term parking.** Short-term bicycle parking shall be provided using bicycle racks that are securely anchored and to which the bicycle frame and at least one wheel can be locked. Recommended rack types: inverted "U" series and post-and-ring racks.
   b. **Long-term parking.** Long-term bicycle parking shall be fully enclosed. Acceptable installations include but are not limited to keycard/code access bicycle rooms or cages, attended roofed/indoor bicycle facilities, and/or leased/on-demand bike lockers.
   c. **Location.** All required short-term spaces shall be located as close as practicable to the entrance of the facility served, but no more than 50 feet from a primary building entrance. A minimum of 66" clear for pedestrian right-of-way outside from the footprint to the building frontage is required. Racks shall be clearly visible and accessible yet should not interfere with pedestrian traffic or other site furnishings.
   d. **Signage.** Where bicycle parking is not visible from the street, clear and visible signage leading to the bicycle parking shall be provided.
   e. **Lighting.** All bicycle parking facilities shall include lighting to provide high visibility.
   f. **Showers and Lockers.** All new Office and Industrial development shall provide showers and lockers per Table 28.

19. https://www.vta.org/programs/bicycle-program

TABLE 28 Bicycle Parking, Shower, and Locker Requirements[20]

Land Use	Bicycle Parking		Showers	Lockers
	Long-Term* (Class I)	Short-Term (Class II)		
Office	0.5 per KSF	0.125 per KSF	1 unisex for first 40,000 SF; 1 unisex for each additional 20,000 SF	75% of total long-term spaces provided
Multi-family residential	1 space per unit	1 per 10 units	N/A	75% of total long-term spaces provided
Hotel	1 per 20 rooms	1 per 15 rooms	N/A	75% of total long-term spaces provided
Retail / Commercial / Restaurant	0.1 per KSF	0.5 per KSF	None Required	
Industrial	0.1 per KSF	None	1 unisex per 100,000 SF	75% of total long-term spaces provided
K-12 School	1.5 spaces per 10 employees plus 1.5 space per 20 students (planned capacity)	1 per 4 students in secured area (planned capacity)	None Required	75% of total long-term spaces provided
College / University	1.5 space for each 10 employees plus 1 space for each 10 students (planned capacity); or .05 per KSF, whichever is greater	1 space per 10 students (planned capacity)	None Required	75% of total long-term spaces provided
Transit Stations	5% of 3-hour a.m. peak period ridership	1.5% of 3-hour a.m. peak period ridership	None Required	
All other uses	As determined by the City Transportation and Traffic Manager			

*At least 1 in 20 long-term spaces shall be able to accommodate oversized or cargo bicycles

20. Adapted from the following sources:
Silicon Valley Bicycle Coalition, 'Bike-Friendly Development Guidelines,' 2018, https://static1.squarespace.com/static/6189ac221f143a6d4957a531/t/61f3053c04124c6fccc2c5a1/1643316543082/180921-FINAL-SVBC-Bike-Friendly-Development-Guidelines.pdf;
Association of Pedestrian and Bicycle Professionals (APBP), 'Bicycle Parking Guidelines, 2nd Edition,' 2010, https://www.apbp.org/Publications;
VTA, 'Bicycle Technical Guidelines,' https://www.vta.org/sites/default/files/2022-04/vta-Bicycle-Technical-Guidelines_Cover-and-TOC-updated.pdf
City of Mountain View, 'North Bayshore Precise Plan,' https://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=29702;
City of Berkeley, CA; City of San Jose, CA; City of Cambridge, MA.

Chapter 9
Infrastructure and Utilities


West Channel

The development, management, and maintenance of infrastructure in Moffett Park is driven by the ability to optimize the efficiency and effectiveness of each system, and to achieve the performance required of an ecological innovation district.

Moffett Park has operated as a central economic and industrial hub since the mid-20th century. The area has experienced numerous cycles of growth that have influenced the type of development and infrastructure and utility provision. Today, Moffett Park has a patchwork of public and private infrastructure and utilities. For example, some of the infrastructure west of Matilda Avenue, including streets, stormwater, and sanitary sewer are owned, operated, and managed by private entities. As Moffett Park evolves, it will be presented with a new set of challenges as the types of uses in the plan area change combined with advances and innovations in technology, changes in local and regional policy, and shifting patterns in climate and ecological conditions. Moffett Park will require a coordinated and holistic approach to infrastructure and utility investments, with consideration for new management structures and funding sources.

The capacity of the existing utilities infrastructure was evaluated under buildout assumptions for the Moffett Park Specific Plan Area. Water supply, stormwater management and sewage conveyance were analyzed for their ability to support increases in population and development (see the EIR for more details). Existing public utilities will need improvement to accommodate future growth. It is expected that these improvements will occur through the collection of fees for future development, through the direct construction of improvements in order to serve future development or in some cases, as part of the community benefits program expected over the life of the plan's build out. Additional, smaller focused studies may be required for individual developments.

VTA light rail station in Moffett Park

In addition to future growth, demand for utilities is directly related to the effectiveness of Moffett Park's implementation of an ecological innovation district. Measures to accommodate districtwide utilities, decrease energy use, increase potable water use efficiency, increase recycled water use, and capture and treat stormwater are essential to achieve that vision. Along with utility infrastructure, upgrades to the stormwater management system will ensure the area proactively manages climate change impacts, such as sea level rise and flooding.

Implementing these changes and achieving the goals of the Moffett Park Specific Plan will require strong, sustained coordination between the private and public sector. The complexity of the systems, the size of the planning area, and the need to phase improvements will require substantial funding, management, and oversight. The vision of Moffett Park as an ecological innovation district, paired with the need to reduce the potential impacts related to greenhouse gases, water, and waste may require approaches to infrastructure and utilities that are different from elsewhere in Sunnyvale. A third-party entity, like a non-profit public benefit corporation, could be utilized to facilitate the development and operation of infrastructure and utilities in Moffett Park. This entity could help knit together traditional City roles and responsibilities, with private sector and regional agencies, while unlocking new funding sources to efficiently grow the district in a changing climate. The City is currently preparing a district infrastructure strategy.

9.1 Infrastructure Goals and Policies

GOALS AND POLICIES

The following goals and policies summarize how infrastructure and utility recommendations support the implementation of the Moffett Park Specific Plan's Guiding Principles.

Goal IU-1: UTILITY AND INFRASTRUCTURE MANAGEMENT. The development, management, and maintenance of infrastructure in Moffett Park is driven by the ability to optimize the efficiency and effectiveness of each system, and to achieve the performance required of an ecological innovation district.

Policy IU-1.1: Ensure that plan area infrastructure and utility improvements are designed to accommodate the full phased development of residential and commercial uses, establishing foundational systems/ networks that can be expanded and added on to overtime.

Policy IU-1.2: Require new development to contribute toward fees, on-site and off-site improvements related to the project, and provide contributions to other required funding sources or allowed alternative mitigations.

Policy IU-1.3: Support the upgrade of public and private infrastructure and utilities up to the most current City standards in line with State and County regulations and achieve the performance of an ecological innovation district.

Policy IU-1.4: Compliment City management and oversight of district infrastructure, as appropriate, with a collaborative entity, such as a non-profit public benefit corporation with City representatives on the board to facilitate financing, development, and management of infrastructure.

Policy IU-1.5: Diversify and unlock new funding sources (e.g., Enhanced Infrastructure Financing Districts, Business Improvements Districts, etc.), to facilitate capital improvements.

Policy IU-1.6: Monitor progress and facilitate corrective action to ensure Moffett Park transitions to an ecological innovation district.

Policy IU-1.7: Regularly update the fee schedule for infrastructure and utility improvements.

Goal IU-2: SUSTAINABLE AND RESILIENT INFRASTRUCTURE . To achieve the vision of an ecological innovation district, Moffett Park invests in sustainable and resilient infrastructure and practices to illustrate leadership.

Policy IU-2.1: Use a flexible adaptation approach to climate change, implementing strategies over time as current conditions, exposures and risks, and technologies change. Ensure that new infrastructure development, including transportation, water, and stormwater management is designed and constructed to be adaptable.

Policy IU-2.2: Use the best available science for sea level rise projections from State and regional efforts in accordance with the State of California Sea Level Rise Guidance when planning for critical infrastructure in the plan area and shoreline.

Policy IU 2.3: When possible, use recycled or reclaimed materials in infrastructure projects to lower embodied carbon.

Policy IU-2.4: Encourage the use of electric or alternative-fuel vehicles and construction equipment to contribute to greenhouse gas mitigation efforts.

Policy IU-2.5: Encourage district infrastructure systems and energy microgrids in Moffett Park and ensure there is a City process to enable such projects.

Policy IU-2.6: Ensure that infrastructure development considers and avoids impacts due to potential rising groundwater and overall low water tables in the plan area.

Goal IU-3: WATER, RECYCLED WATER, AND SANITARY SEWER INFRASTRUCTURE. Moffett Park includes all infrastructure to meet the needs of existing and future development.

Policy IU-3.1: Supply potable water to new residential development through public infrastructure.

Policy IU-3.2: Prioritize water conservation and the use of recycled water for all outdoor, non-drinkable uses, including in street, open spaces, and landscaped areas.

Policy IU-3.3: Encourage sustainable development practices for development projects to reduce the demands on the water supply and sanitary sewers systems, including use of recycled water indoors, installation of localized blackwater systems, regenerative and high efficiency landscape practices that reduce water and energy use, and increased building efficiency beyond City standards.

Policy IU-3.4: Allow for conveyance of private infrastructure across public streets and lands to implement district infrastructure systems.

Policy IU-3.5: Require new development to provide recycled water infrastructure in new streets, connect to the recycled water system, and use recycled water for outdoor water use at a minimum.

Policy IU-3.6: Consider expansion of the recycled water infrastructure in the Discovery neighborhood.

Policy IU-3.7: Coordinate investments and improvements to Moffett Park's sanitary sewer system with expansions to the Sunnyvale Water Pollution Control Plant.

Goal IU-4: FLOOD MANAGEMENT. The City utilizes an adaptable and multi-benefit framework to address sea level rise, groundwater changes, stormwater, and more intense storm events.

Policy IU-4.1: Incorporate nature-based shoreline elements with traditional flood reduction measures to reduce flood risk, improve sea-level rise resiliency, and increase habitat value.

Policy IU-4.2: Design a flexible and adaptable stormwater management system to accommodate climate change, including anticipated groundwater elevation changes, rising sea levels, and changes in the frequency and intensity of storm events.

Policy IU-4.3: Prioritize green infrastructure throughout the plan area to advance the City's Green Infrastructure efforts, and to a create a cohesive approach ecological enhancements throughout the open space system.

Policy IU-4.4: Encourage a more natural approach to manage flood risk in the areas adjacent to the East and West Channel, including channel widening, nature-based flood measures, and ecological improvements.

Policy IU-4.5: Utilize low impact development measures to design landscaped and planted areas along streets and in public spaces to reduce stormwater runoff and accommodate stormwater treatment efforts.

Goal IU-5: ENERGY. Moffett Park energy services and infrastructure supports an all-electric, renewable portfolio that is resilient and affordable.

Policy IU-5.1: Prohibit new natural gas services in all buildings and infrastructure to transition to all electric.

Policy IU-5.2: Encourage the installation of solar arrays on roofs, parking lots, and as shade structures paired with battery storage.

Policy IU-5.3: Plan energy systems collaboratively with SVCE, PG&E, property owners and the City to ensure that Moffett Park maintains affordable, resilient, reliable, and 100% renewable energy.

Policy IU-5.4: Increase energy infrastructure to build capacity for the Moffett Park, with a clear phasing program.

GOAL IU-6: REGIONAL COORDINATION. The City proactively cultivates a cohesive, coordinated, and comprehensive approach to infrastructure and utilities in Moffett Park.

Policy IU-6.1: Support the efforts of the Sunnyvale Shoreline Resilience Vision, the South San Francisco Bay Shoreline Feasibility Study, the South Bay Salt Pond Restoration Project, the Santa Clara Valley Water District's East Channel and West Channel Flood Protection Project, and any other regional planning efforts focused on addressing sea level rise by playing an active role in those efforts.

Policy IU-6.2: Coordinate with the Santa Clara Valley Water District's East Channel and West Channel Flood Protection Project to ensure flood protection design considers urban ecology, habitat, and recreational value of the East and West Channels.

Policy IU-6.3: Coordinate with regulatory agencies including the Department of Toxic Substances Control and the San Francisco Bay Regional Water Quality Control Board to facilitate the consideration of climate change in updates to remediation plans and requirements for contaminated sites.

9.2 Potable Water Supply System

The City owns, operates, and maintains a water supply and distribution system. The system is a closed network consisting of three different pressure zones. Zone I covers Moffett Park, extending from the San Francisco Bay to El Camino Real. Water is supplied by the San Francisco Public Utilities Commission (SFPUC). The conveyance system contains pipe diameters ranging from 8 inches to 16 inches.

The contemporary domestic water distribution system in Moffett Park has been developed to support the range of industrial and economic activities characteristic of the plan area. With the introduction of new land uses in the future, such as residential and mixed-use development, water demand will increase and require improvements to serve existing and new development. Figure 62 outlines proposed improvements to the potable water supply system. In addition to those improvements, all fire hydrants served by a 4 inch line shall be upgraded to a minimum 6 inch lateral.

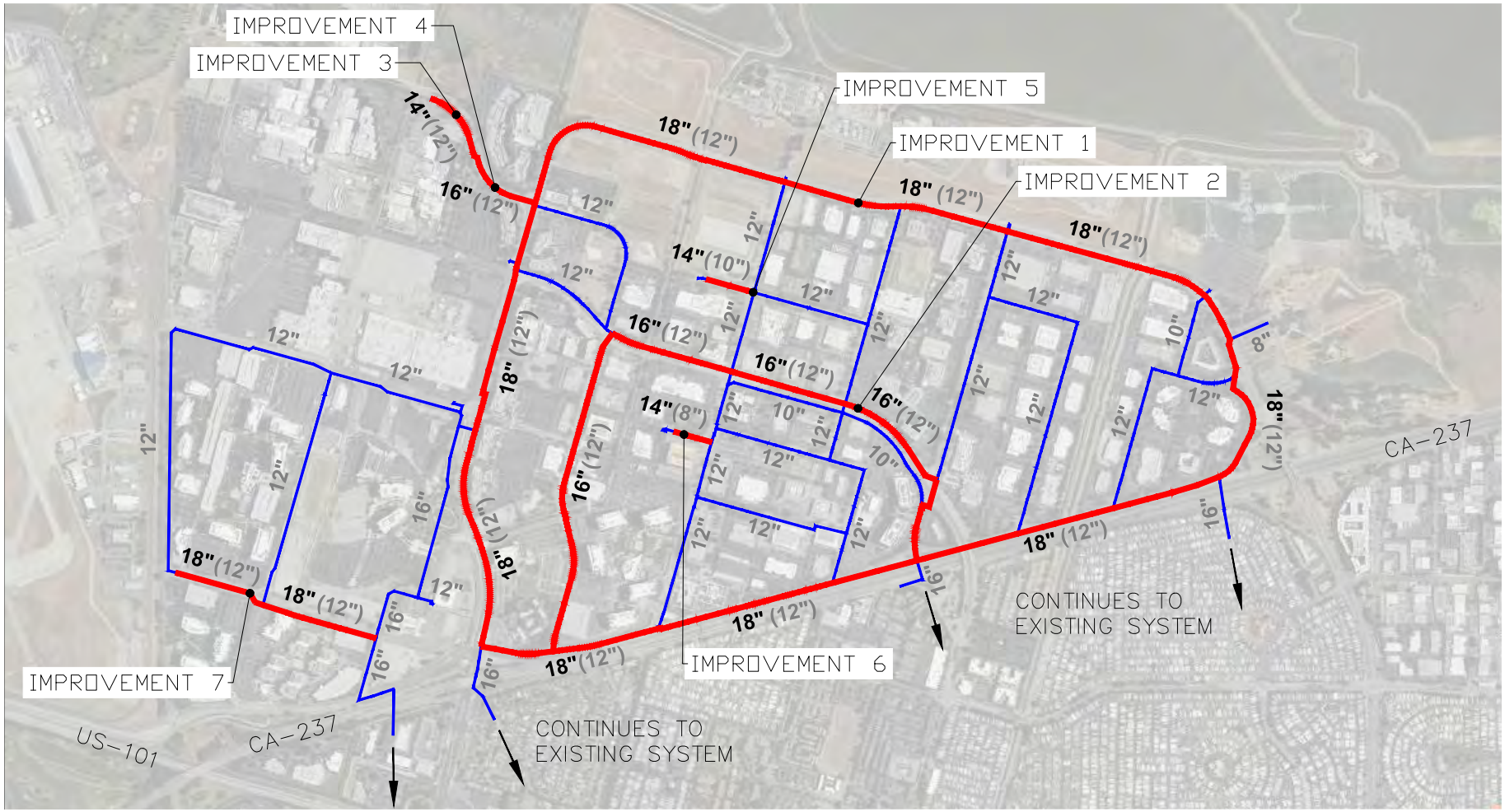


FIGURE 62 Water Supply System Improvements

- Existing System
- Proposed Improvement
- 8″ Existing Diameter
- **8″** Proposed Diameter
- (8″) Existing Diameter to be Replaced

GRAPHIC SCALE
(IN FEET)
1 inch = 500 ft.

MOFFETT PARK SPECIFIC PLAN
WATER MASTER PLAN
OCTOBER 2022
PREPARED BY
BKF ENGINEERS
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

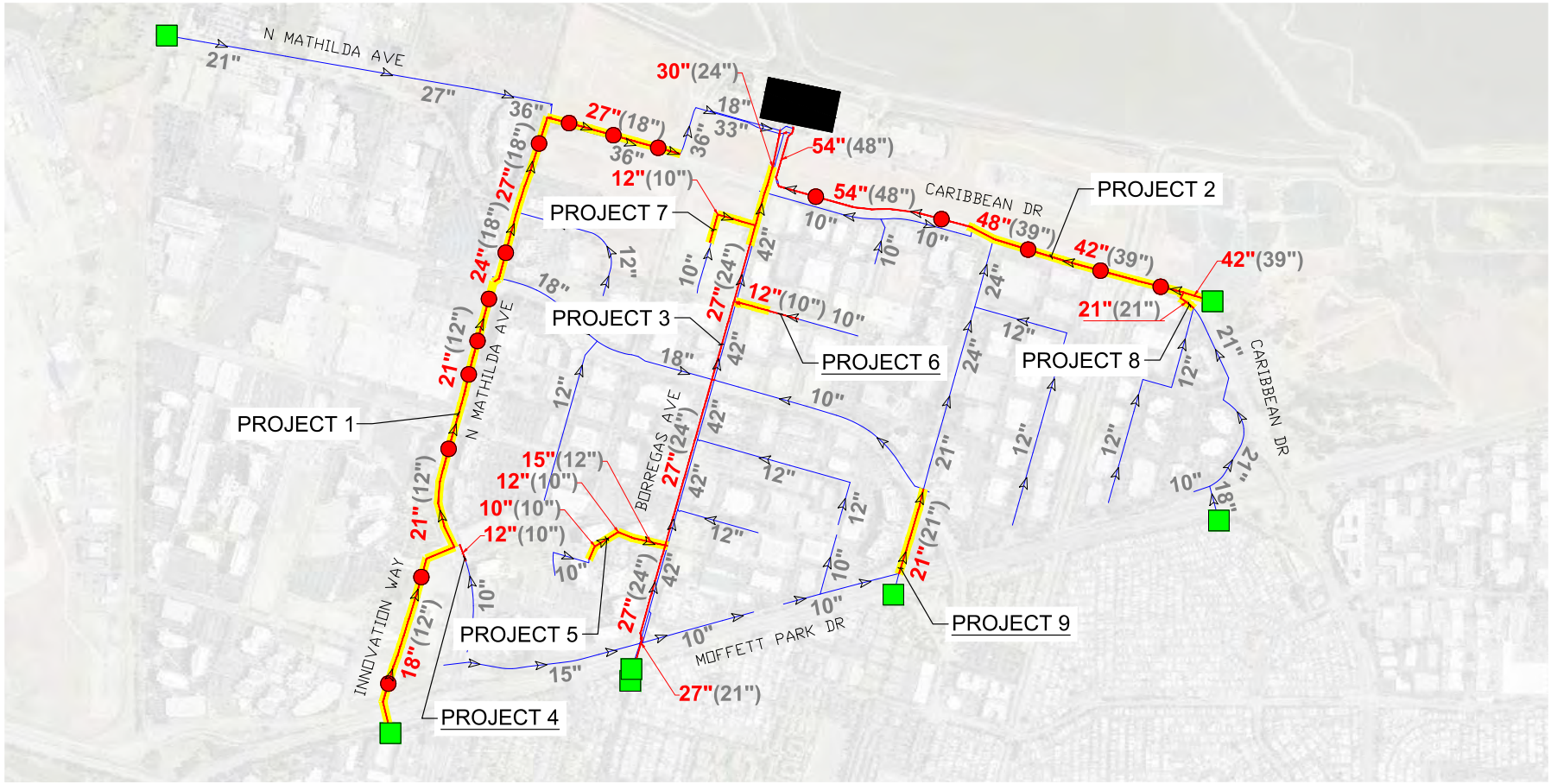
9.3 Sanitary Sewer System

The City of Sunnyvale operates a sanitary sewer system that serves a 23-square mile service area. Moffett Park is located at the northerly end of the city's drainage system near the Water Pollution Control Plant (WPCP) and is served by interceptor sewers from three of the five primary sewer drainage areas in the city. The sewer system consists of a number of components, including gravity sewers that range in size from 8-inch to 48-inch diameter in Moffett Park. The sanitary sewer system west of Mathilda Avenue is privately maintained by Lockheed Martin. Sewer service laterals are owned by, and therefore the responsibility of, the property owner to maintain and assure serviceability.

The City of Sunnyvale Water Pollution Control Plant, located just outside the boundary of the plan area, treats sanitary sewer demands for the entire city. The plant is currently undergoing a series of long-term projects that will involve repairs, replacement, and upgrades to existing facilities. These projects will result in the installation of higher efficiency equipment, greater production of recycled water, and better integration with the San Francisco Bay. Additionally, the City is initiating a Master Plan for the plant in order to accommodate anticipated future demand. If additional improvements related to the Master Plan update are identified, projects in Moffett Park and across the City, may need to pay an increased fee.

The existing City-operated wastewater system serving the Moffett Park area is currently undersized for buildout of the updated MPSP, as well as for the cumulative buildout of the MPSP area and offsite areas. In order to mitigate deficiencies observed during peak wet weather flows, the City identified the following new sanitary sewer gravity main be constructed to meet the needs of the cumulative buildout of the MPSP area as shown in Figure 63. Additional treatment improvements may be identified at a future date.

"Sunnyvale Water Pollution Control Plant from the air" by Grendelkhan, licensed under CC BY-SA 4.0



GRAPHIC SCALE
(IN FEET)
1 inch = 600 ft.

MOFFETT PARK SPECIFIC PLAN
WASTEWATER MASTER PLAN
SEPTEMBER 2022
PREPARED BY
BKF ENGINEERS
255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
(650) 482-6300
www.bkf.com

FIGURE 63 Sanitary Sewer Infrastructure Improvements

- Existing Wastewater System
- Proposed Pipeline Replacements
- Proposed Slope Changes (See Note 1)
- Existing Boundary Node for Offsite System
- Proposed New Manhole (See Note 2)

12″ Existing Diameter
12″ Proposed Diameter
(12″) Existing Diameter to be Replaced

NOTES
1. It is recommended that the inverts of replaced pipelines be constructed to meet minimum slope criteria, or minimum velocity criteria when minimum slope criteria cannot be met
2. It is recommended that new manholes be installed where replaced pipeline lengths exceed maximum manhole spacing criteria

9.4 Recycled Water System

The City's current recycled water system consists of the Recycled Water Pump Station located at the WPCP, the Sunnyvale Golf Course pump station, the San Lucas Tank and Pump Station, the Wolfe Road Pump Station (WRPS), and approximately 18 miles of recycled water pipelines ranging in diameter from 6- to 36-inches. Both the WRPS and the pipeline extension are owned by Valley Water and maintained by the City's Water and Sewer Services Division. The existing recycled water system is shown in Figure 64.

The recycled water meets non-restrictive irrigation use criteria and is suitable for uses, such as salt-tolerant agricultural and landscape irrigation, and toilet and urinal flushing. The recycled water system also is recognized as an asset and is envisioned as a strategic component of implementing sustainable design techniques in Moffett Park. New public and private streets will provide recycled water infrastructure, and new developments will be required to tie into the recycled water system. It is assumed that the already installed recycled water network will provide the entirety of outdoor water use once operational. Recycled water system resources could also be used for toilet flushing which will further alleviate domestic demand and help new developments meet sustainability requirements.

"Recycled Water irrigation sign in Sunnyvale" by Grendelkhan, licensed under CC BY-SA 3.0

FIGURE 64 Existing Recycled Water System

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Recycled Water Pipeline
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Parcels
- VTA Light Rail

9.5 Stormwater and Flood Management Systems

Moffett Park faces flood risk from coastal, fluvial, and stormwater sources. Climate change is likely to exacerbate flood risk, due to rising sea levels and increased intensity of storm events.

STORMWATER MANAGEMENT SYSTEM

The stormwater management system in Moffett Park collects precipitation that falls within the Specific Plan area and adjoining drainage areas and conveys this stormwater to channels and ultimately San Francisco Bay. Currently, Moffett Park is served by two separately owned and operated drainage systems: the City of Sunnyvale and the Lockheed Martin. Additionally, Valley Water maintains the channels of Calabazas Creek, Stevens Creek, East, West and El Camino Flood Control Channels.

Future land use changes in Moffett Park should not negatively impact the existing City drainage system, and the stormwater management system does not need to be upsized due to these changes. Currently, Moffett Park has a high proportion of impervious surfaces, like surface parking lots, but new open spaces and new development will reduce impervious coverage. Likewise, new development will be required to meet increasingly more stringent local municipal stormwater requirements and Bay Area Municipal Regional Stormwater Permit (MRP) requirements over time. Likewise, stormwater treatment requirements for streets are described in MRP provisions C.3.b.(ii)(4) and C.3.j. (i) through (ii).

Climate change is anticipated to impact the stormwater system, increasing the intensity of precipitation, and raising groundwater and sea levels. This increases pressure on the existing system managed by various agencies. Opportunities to increase system resilience throughout Moffett Park include increasing detention capacity and using green infrastructure to remove pollutants and reduce runoff volumes entering the stormwater system. Overall, green stormwater infrastructure can lessen impacts from increased rainfall, sea-level rise, and related storm surge tides; manage river discharge; and influence land subsidence issues. The City of Sunnyvale has prepared a Green Stormwater Infrastructure (GSI) Plan to help guide the siting, implementation, tracking, and reporting of GSI projects on private and City-owned land over the next several decades.

Stormwater management system in Moffett Park after King Tide event

Green infrastructure on smaller public parcels (such as road medians) can complement these efforts. Future stormwater improvements will also need to be coordinated with the construction of a future shoreline levee and all the other proposed changes along the Sunnyvale shoreline that will increase resilience and vibrancy of the area for people and wildlife.

FLOOD MANAGEMENT SYSTEM

Between Sunnyvale and the San Francisco Bay there are large areas of former salt ponds owned by the U.S. Fish and Wildlife Service as part of the Don Edwards San Francisco Bay National Wildlife Refuge. The existing berms on the outermost edge of the ponds set the water levels in the ponds and currently serve as the first line of defense from Bay flooding. The berms surrounding the ponds are older and not constructed to current flood risk management levee standards. As water levels increase, the existing system of flood protection will be susceptible to overtopping and flooding in Moffett Park.

Planning to improve the existing flood protection system is already underway. The South San Francisco Bay Shoreline Project is a regional effort to provide flood protection, restore former salt evaporation ponds, and improve public access across eleven areas. The project is a collaboration between Valley Water, the State Coastal Conservancy, and the U.S. Army Corps of Engineers. Phase I is under construction, with the Sunnyvale shoreline included in Phase III. Concurrently, the City is participating in the Sunnyvale Shoreline Resilience Vision, a collaborative effort between the City, Valley Water, U.S. Fish & Wildlife, NASA, the South Bay Salt Pond Restoration Project, and other organizations invested in long-term regional resilience and interested in coordinating across their individual planning efforts.

Likewise, the East Channel and West Channel Improvement Project (Valley Water) will increase channel capacity and reduce flood hazards from these channels. Sunnyvale East and West Channels were designed with capacity for a 10-year flood event; the current enhancement project will provide 100-year event protection. This project includes a mix of traditional gray infrastructure with green infrastructure. Currently at the West Channel, Valley Water, in partnership with Google, is constructing a wider channel with larger setback levees without floodwalls to enhance flood management, public access, and improve urban ecology.

Ensuring the appropriate management and restoration of the land along the shoreline will also support and enhance flood protection and the ecological function of the area. The Ecological Combining District preserves and enhances the existing green space and biological resources located at the northwest corner of Moffett Park. It provides for open spaces, wetlands, and stormwater management. These elements should be managed to ensure the protection and function of these critical resources.

Additionally, the open space network planned for Moffett Park can act as part of the flood management system. The open space network system includes parks, plazas, and ecological patches used for recreation and habitat restoration. Ecological patches are already designed as natural spaces meant to create and restore wildlife habitat, and have a large potential to help manage flooding, both through stormwater treatment and, in some cases, retention. Parks and plazas can also include green stormwater infrastructure in their design and can incorporate native plantings and landscaping to help absorb and filter stormwater. Design of these spaces may be done to accommodate both active and passive uses, while also serving an important ecological function.

View along East Channel

FIGURE 65 Existing Stormwater Management System

City of Sunnyvale (2020); County of Santa Clara (2021); ESRI (2020)

- Collector
- Conveyor
- Transmission
- Pump Station
- Ponds
- Specific Plan Boundary
- City of Sunnyvale Limit
- Freeway
- Parcels
- VTA Light Rail

FIGURE 66 Sunnyvale Shoreline Resilience Vision Preferred Shoreline Levee Alignment

Source: Sunnyvale Shoreline Resilience Vision

9.6 Gas and Electricity

Natural gas and electric power are supplied to the Moffett Park Specific Plan Area through Silicon Valley Clean Energy through Pacific Gas and Electric Company (PG&E) under a franchise agreement with the City of Sunnyvale. Lockheed Martin has two substations that serve their properties via PG&E distribution lines. Existing gas and electric facilities currently service all areas in the City of Sunnyvale, including Moffett Park. It is anticipated that current resources will not be adequate for the projected full build out and that the legacy electric infrastructure will need to be updated and enhanced to meet needs. There are current plans by Google to add a thermal district system to provide heating and cooling to its buildings to reduce the overall demand.

Per existing City policy, all new buildings will be electric and natural gas will be phased out. Immediate, medium, and long-term implementation will phase in programs to decarbonize existing buildings. Likewise, there are also opportunities to create onsite renewable energy to help address the electric grid impacts created by this new load, including but not limited to addition of solar panels and battery storage, the development of a grid-connected microgrid (opposed to a standalone or isolated microgrid), and the development of a complimentary district thermal system for non-Google properties.

While electricity can be provided in piecemeal fashion, planning for a more consistent, districtwide approach will reduce overall costs, reduce greenhouse gas emissions, improve the potential to reduce greenhouse gas, and support long-term energy reliability. Working with SVCE, PG&E, and potentially other energy providers will help to adequately plan and ensure energy resilience.

Electical infrastructure along Sunnyvale Bay Trail

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Chapter 10
Implementation


Reflecting Tips by Sharon Louden

This chapter describes the implementation activities, funding approach, and plan administration needed to execute the vision for an ecological innovation district. It identifies a range of funding programs to implement the capital improvements needed to support existing and future development.

Implementation of the Moffett Park Specific Plan will require a comprehensive approach that includes private sector development with City actions and resources. Development standards will guide future development, with larger residential and non-residential projects contributing to public benefit/district-wide improvements. The funding approach and plan administration will set the stage to enable these projects, which will transform Moffett Park into an ecological innovation district.

10.1 Specific Plan Authority

This Specific Plan implements the General Plan's goals and policies for Moffett Park and establishes the area's land use and development regulations. The Moffett Park Specific Plan guides land use and development decision-making processes for the area. The Specific Plan does not replace or augment building safety codes or other non-planning related codes. All applications for new development, substantial modifications or improvements to existing buildings, and changes in land use shall be reviewed for conformance with this Specific Plan. This Specific Plan is adopted under the authority of the City's Zoning Ordinance. Existing and previously entitled development may have their own approvals and requirements, which may supersede the requirements in this plan, unless additional approvals are required, or entitlements have expired.

CITY OF SUNNYVALE GENERAL PLAN AND ZONING CODE

At the time of plan adoption, concurrent amendments to the Sunnyvale General Plan and Municipal Code and Zoning Map will be made, including incorporating the ten land use districts and the ecological combining district detailed in Chapter 4 of this specific plan into Title 19. The previous subdistricts (MP-TOD, MP-I, MP-C) shall be repealed within the Specific Plan project area, and the zoning map amendment shall indicate the new zoning classifications including:

- MP-AC: Activity Center
- MP-R: Residential
- MP-MU: Mixed Use
- MP-O1 and MP-O2: Office
- MP-E1, MP-E2, and MP-E3: Mixed Employment
- MP-H: Hospitality
- MP-PF: Public Facilities

For all development criteria and regulations that are not amended or superseded by this Specific Plan, the provisions of the Sunnyvale Municipal Code shall prevail. In the review of proposals involving the modification of existing development, special circumstances can be taken into account during the requisite project review phase.

AMENDMENTS TO THE SPECIFIC PLAN

The Moffett Park Specific Plan may be amended following the same procedures as a General Plan Amendment. In addition to procedures for affecting an amendment to the General Plan contained in Title 19, the amendment may be approved upon finding that the amendment:

1. Meets the intent of the Specific Plan's adopted vision, guiding principles, goals, and policies; or
2. Enhances the Specific Plan's ability to accommodate development needs without compromising its original vision, guiding principles, goals, and policies; or
3. Implements the vision, guiding principles, goals, and policies of the Specific Plan or General Plan.

MOFFETT FEDERAL AIRFIELD AIRPORT INFLUENCE AREA

The Moffett Park Specific Plan area lies adjacent to Moffett Federal Airfield and falls entirely within the Moffett Federal Airfield Airport Influence Area. The Santa Clara County Airport Land Use Commission (ALUC) regulates and oversees the Comprehensive Land Use Plan (CLUP), which regulates development, including land use, building height, public safety measures, and noise. The standards of this plan have been written to be consistent with the CLUP. All projects within Moffett Park will be subject to additional approvals from the ALUC as part of the review process.

"Hangar 1 from the Air" by Nelson Minar, licensed under CC BY-SA 2.0

10.2 Exceptions to Standards

All new development shall comply with the standards set forth in this Specific Plan. New developments may be provided with some flexibility in meeting design standards based on special site conditions and constraints. To be considered for an exception, applicants for new development must: 1) provide findings on how the new development project meets the goals, policies, and intent of the standard where the exception is requested; and 2) document constraints to meeting the standard. Exceptions from quantitative standards shall not deviant more than 10% plus or minus from the standard.

Exceptions may be used for the following standards:

- 4.6 Neighborhood-Serving Uses
- 5.2.1 Block Structure
- 5.2.2 Building Setbacks
- 5.2.3 Lot Coverage and Paving Area
- 5.3.2 Building Massing
- 5.3.3 Ground Floor Design and Building Entries
- 5.3.5 Parking Facility Design
- 5.3.6 Building Elements and Required Facilities
- 6.6.3 Urban Forest
- 7.3 Complete Street Design Standards

10.3 General Submittals and Site Master Plans

The following submittal requirement list should be used in addition to the City's standard requirements. This list should be considered a resource, rather than a comprehensive list of all information to determine Specific Plan compliance; other submittal requirements may apply. Some items may not be necessary for all applications.

1. **Site Master Plan.** All developments shall submit a Site Master Plan. Site Master Plans identify horizontal development, streets, open spaces, district infrastructure, and allocation of vertical development. Site Master Plan requirements are established in a separate set of guidelines.
2. **Compliance with Specific Plan Vision.** Site Master Plans shall include a table comparing the development with each of the Specific Plan standards, and a narrative describing how the development is consistent with the vision for an ecological innovation district.
3. **Neighborhood targets.** The Specific Plan's land use targets, or the desired type and amount of each land use by neighborhood, will guide the creation of complete neighborhoods. New development will be compared to these land use targets to help inform subsequent decisions regarding the desired mix of land uses within each area. Development applications shall include a plan and data showing the proposed location, mix, intensity, and square footage of land uses within the development and compared to the neighborhood targets.

10.3.1 HAZARDS AND HAZARDOUS MATERIALS

The following hazards and hazardous submittals are required in addition to the City's standard requirements. Some items may not be necessary for all applications.

1. **Environmental Site Assessment.** For any renovation, modification, or redevelopment of a property within Moffett Park that includes subsurface disturbance and requires City review, a property-specific Phase I Environmental Site Assessment (ESA) shall be completed in accordance with ASTM Standard Designation E 1527-13 (or the standard that is effective at the time the Phase I ESA is completed) to identify Recognized Environmental Conditions, evaluate the property history, and establish if the property has been or is likely to have environmental impacts. The City or its designated environmental professional shall review the Phase I ESA to determine if additional investigation is required based on currently available information, which may supersede the designated property's risk value.
2. **Site Management Plan.** At properties with known or suspected minor environmental impacts that can be addressed safely and effectively during subsurface disturbance activities, a Site Management Plan (SMP) shall be prepared prior to development activities to establish management practices for handling contaminated soil, soil vapor, groundwater, or other materials during construction activities. The SMP shall also address management of site risks and previously unknown conditions during earthwork activities in areas where impacted soil, soil vapor, and/or groundwater are present or suspected. Recommendations for elements to be included in site-specific Health and Safety Plans (HSPs), to be prepared by individual contractors for their employees' safety based on their work scope, may also be included in the SMP. Worker training requirements and health and safety shall be described in the SMP. The SMP shall be reviewed and approved by a qualified environmental regulatory agency such as California Department of Toxic Substances Control (DTSC), San Francisco Bay Regional Water Quality Control Board (RWQCB), or Santa Clara County Department of Environmental Health (SCCDEH).
3. **Phase II ESA.** At properties with known or suspected environmental impacts that require additional investigation prior to subsurface disturbance activities, a Phase II ESA shall be prepared and implemented prior to development activities to determine the nature and extent of impacts. The Phase II ESA shall be reviewed and approved by a qualified environmental regulatory agency such as DTSC, RWQCB, or SCCDEH. Consideration should be given to obtaining approval for an investigation plan from the oversight agency prior to completing the Phase II investigation. The scope of work shall include soil, groundwater, and/or soil vapor sampling in areas of potential concern to evaluate if site-specific measures are needed to protect the health and safety of property occupants and construction workers. Field techniques that may be employed under include but are not limited to:
   - Collecting samples of soil, soil vapor, groundwater, sediment, indoor air, outdoor air, and other media of interest for laboratory analysis;
   - Drilling using methods such as direct-push, hollow-stem auger, vibracore, air rotary, and mud rotary;
   - Trenching, potholing, and excavating;
   - Constructing temporary or permanent soil vapor or groundwater wells or sampling points; and
   - Profiling geologic, hydrologic, geophysical, and chemical parameters of the subsurface using invasive and noninvasive tools.

4. **Remediation and/or Management Measures.** At properties with known environmental impacts that must be addressed to make the property compatible with its future use, appropriate remediation and/or management measures must be implemented under the oversight and to the satisfaction of a qualified environmental regulatory agency such as DTSC, RWQCB, or SCCDEH. Remediation techniques may include but are not limited to excavation, extraction, bioremediation, oxidation, reduction, phytoremediation, and thermal treatment. Management measures may include engineering and administrative controls such as but not limited to impermeable surface caps, vapor intrusion mitigation systems, permeable reactive barriers, land use covenants, and deed restrictions. Field techniques that may be employed under include but are not limited to:
   - Excavation, extraction, or removal of impacted material for off-site disposal or temporary on-site storage or treatment;
   - Ex-situ (i.e., above-ground) treatment of impacted material via physical and/or chemical processing; and
   - In-situ (i.e., below-ground) treatment of impacted material via intrusive physical and/or chemical processing.
   - These field techniques include those currently known and used (e.g, dig-and-haul, landfarming, groundwater and soil vapor extraction and treatment, subsurface injection, etc.) and those that will become state of the art in the future.
5. **Dewatering Management Plan.** For future development projects that require dewatering, a Dewatering Management Plan shall be prepared to determine how the dewatering activities will affect local groundwater quality, especially regarding movement of known or interpolated contaminated groundwater plumes. The Dewatering Management Plan also shall include protocols to evaluate extracted water quality and perform proper disposal of the water. Compliance with permitting requirements shall be described if required by the disposal method. The Dewatering Management Plan shall be prepared by a California Certified Hydrogeologist and approved by a qualified environmental regulatory agency such as DTSC, RWQCB, or SCCDEH.
6. **Asbestos Survey.** Prior to issuance of demolition permits, an asbestos survey shall be completed on all structures proposed for demolition that are known or suspected to have been constructed prior to 1978 in accordance with NESHAP guidelines. NESHAP guidelines require the removal of potentially friable ACMs prior to building demolition or renovation that may disturb the ACM.
7. **Lead-Based Paint Survey.** Prior to issuance of a demolition permit, a lead-based paint (LBP) survey shall be completed on all structures proposed for demolition that are known or suspected to have been constructed prior to 1978. If LBP is identified, then federal and state construction worker health and safety regulations shall be followed during renovation or demolition activities. If loose or peeling LBP is identified at the building, it shall be removed by a qualified lead abatement contractor and disposed of in accordance with existing hazardous waste regulations. Requirements set forth in the CCR Title 8, Section 1532.1 shall be followed during demolition activities, including employee training, employee air monitoring, and dust control. Any debris or soil containing LBP or coatings shall be disposed of at landfills that meet acceptance criteria for the waste being disposed.

10.3.2 CULTURAL RESOURCES

The following cultural resource submittals are required in addition to the City's standard requirements. Some items may not be necessary for all applications.

1. **Historic Resource Evaluation.** A Historic Resource Evaluation shall be required for future development that would impact properties that may meet the CEQA definition of historic resources, including resources 45 years of age or older and not currently listed/identified.
   - At a minimum, the supplemental review effort shall include preparation of a site-specific historic resources report that involves a records search at the Northwest Information Center (NWIC), a review of the Sunnyvale Heritage Resources Inventory, and where there is no evaluation within the last five years (using the Department of Parks and Recreation 523A and B forms), evaluation by a qualified historian or architectural historian to determine if the property meets the CEQA definition of a historic resource.
   - If the supplemental review effort does not identify any site or structure that meets the definition of a historic resource that could be affected by construction activities, then no further study or protection is necessary prior to project implementation.
2. **Standards for the treatment of historic properties.** New construction within historic districts or adjacent to a historic resource, rehabilitation of a historic resource, replacement of an existing historic resource, addition to a historic resource, or a renovation of a historic resource shall conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties, California Historic Building Code, and other applicable regulations.
3. **Archaeological literature review.** For any new proposed development or improvements within Moffett Park, an archaeological literature review shall be completed at the Northwest Information Center of the California Historical Resources Information System. If the site, prior to development, contains any visible soils, a field inspection shall also be conducted. Recommendations for additional archaeological efforts beyond these initial studies shall be commensurate with the scale of the project and range of proposed impacts. Development shall include subsurface exploration and monitoring as warranted by a qualified archaeologist.
4. **Finding of archaeological deposits or materials.** If buried, or previously unrecognized archaeological deposits or materials of any kind are inadvertently exposed during any monitoring work, work within 50 feet of the find shall cease until a qualified archaeologist can assess the find and provide recommendations for further treatment, if warranted. Construction and potential impacts to the area(s) within a radius determined by the archaeological shall not recommence until the assessment is complete.
5. **Finding of human remains during excavation.** In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the NAHC immediately. Once the NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines.

6. **Fossil review.** Future development projects involving excavation at depths of eight feet or greater, shall retain a qualified paleontologist to inspect cuts more than eight feet deep for fossils at all times during original grading. In the event paleontological resources are discovered, all work within 25 feet of the find shall be halted and a Principal Paleontologist (M.S. or PhD in paleontology or geology familiar with paleontological procedures and techniques) shall evaluate the find and prepare a Paleontological Resource Mitigation (PRM) plan. As part of the PRM plan, discovered fossil(s), along with copies of all pertinent field notes, photos, and maps, shall be deposited in a scientific institution with paleontological collections. A final report documenting any found resources, their recovery, and disposition shall be prepared and filed with the local repository and the City.

10.3.3 CONSTRUCTION AND OPERATIONAL MANAGEMENT

The following construction and operational management submittals are required in addition to the City's standard requirements. Some items may not be necessary for all applications.

1. **BAAQMD construction management practices.** All future construction projects under the Specific Plan shall implement the following BAAQMD basic best management practices (BMPs) to reduce DPM, PM2.5, and PM10 emissions during construction:
   - **a.** All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples of moisture probe.
   - **b.** All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
   - **c.** All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
   - **d.** All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
   - **e.** All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
   - **f.** All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
   - **g.** Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
   - **h.** All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour and visible dust extends beyond site boundaries.
   - **i.** Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
   - **j.** Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
   - **k.** The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities in the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
   - **l.** Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) site

accesses to a distance of 100 feet from public paved roads shall be treated with a six to 12-inch compacted layer of wood chips, mulch, or gravel and (2) washing truck tires and construction equipment of prior to leaving the site.

m. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

2. **Construction and operations modeling.** If future construction projects do not meet the screening level size identified by the BAAQMD for less than significant construction criteria air pollutant emissions, future construction projects shall estimate construction and operation period emissions using modeling methodologies recommended BAAQMD and approved by the City. Average daily emissions predicted for construction projects shall be estimated and compared against project-level thresholds identified in Table 2-1 of the BAAQMD CEQA Guidelines adopted in May 2017. Projects that have emissions exceeding the thresholds shall implement appropriate measures to achieve emissions that are below the thresholds, such as the following:

a. Use construction equipment that has zero or low diesel particulate matter exhaust and NOx emissions. Exhaust emission (NOx and PM) control measures include:

i. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for NOx and PM (PM10 and PM2.5), if feasible, otherwise,

01. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 2 or 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve an 85-percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).
02. Use of alternatively fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.
03. Special equipment that cannot meet the above requirements must be approved as exempt by the City after considering reasons for requesting an exemption.

ii. Use electric equipment such as aerial lifts, air compressors, cement mortar mixers, concrete/industrial saws, cranes, and welders

iii. Diesel engines, whether for off road equipment or on road vehicles, shall not be left idling for more than two minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.

iv. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment.

v. Use of zero emission construction equipment.

b. Use low volatile organic compound or VOC (i.e., reactive organic compounds) coatings, that are below current BAAQMD requirements (i.e., Regulation 8, Rule 3: Architectural Coatings), for at least 80 percent of all residential and non-residential interior paints and 80 percent of exterior paints. This includes all architectural coatings applied during both construction and reapplications throughout the project's operational lifetime. At least 80 percent of coatings applied must meet a "super-compliant" VOC standard of less than 10 grams of VOC per liter of paint. For reapplication of coatings during the project's operational lifetime, the Declaration of Covenants, Conditions, and Restrictions shall contain a stipulation for low VOC coatings to be used. Examples of "super-compliant" coatings are contained on the South Coast Air Quality Management District's website.

3. **Generator emissions.** All diesel standby emergency generators powered by diesel

fuel shall meet US EPA Tier 4 engine standards. Future development projects in Moffett Park that include installation of permanent stationary emergency generators shall ensure generators have engines that meet or exceed US EPA Tier 4 standards for particulate matter emissions.

4. **Health risk assessment.** Future development proposed within 1,000 feet of existing or planned sensitive receptors as defined by the BAAQMD (e.g., residences, schools) shall prepare a site-specific construction and operational health risk assessment (HRA) pursuant to the BAAQMD CEQA Air Quality Guidelines. If the HRA demonstrates, to the satisfaction of the City, that the health risk exposures for adjacent receptors would be less than the BAAQMD project-level and cumulative thresholds, then no further study or measures are required. If the HRA demonstrates the health risks would exceed BAAQMD project-level thresholds or the project results in a considerable contribution to a significant cumulative health risk impact, additional feasible on- and off-site mitigation shall be analyzed to reduce risks to a less than significant level. Measures to avoid and/or reduce significant construction health risk impacts, could include the following:
   - **a.** Use Tier 4 engines for all off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of construction activities.
   - **b.** Use diesel trucks with 2010 or later compliant model year engines during construction.
   - **c.** Use renewable diesel during construction.
   - **d.** Use low-VOC coatings during construction.
   - **e.** Implement fugitive dust best management practices and if necessary, enhanced measures recommended by BAAQMD.
   - **f.** Use portable electrical equipment where commercially available and practicable to complete construction. Construction contractors shall utilize electrical grid power instead of diesel generators when (1) grid power is available at the construction site; (2) when construction of temporary power lines are not necessary in order to provide power to portions of the site distant from existing utility lines; (3) when use of portable extension lines is practicable given construction safety and operational limitations; and (4) when use of electrical grid power does not compromise construction schedules.
   - **g.** Phase construction appropriate to lower the intensity of emissions at any one location with sensitive receptors.
   - **h.** Provide enhanced air filtration for sensitive receptors adversely affected by project emissions.
5. **Odor control plan.** Future projects that would generate odors shall develop an odor control plan that addresses plant design to control odors, operating and maintenance procedures to prevent odors, and an action plan to respond to upset conditions that could cause odors and measures to respond to odor complaints. The odor control plan shall describe the design elements and BMPs built into the facility that include:
   - **a.** Ventilation of the system using carbon absorption, biofiltration, ammonia scrubbers, or other effective means to treat exhausted air from the enclosed facility;
   - **b.** Odor proofing of refuse containers used to store and transport any odorous materials (e.g., biosolids); and
   - **c.** Injection of chemicals to control odorous compounds (e.g., hydrogen sulfide).

   The plan shall describe procedures to address upset conditions caused by equipment failures, power outages, flow control, or treatment issues. A publicly visible sign with the telephone number and person to contact regarding odor complaints shall be posted. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations. A log of odor complaints and procedures implemented to respond to complaints shall be maintained and provided to the City upon request.

10.3.4 NOISE AND VIBRATION

The following noise and vibration management submittals are required in addition to the City's standard requirements. Some items may not be necessary for all applications.

1. **Construction noise measures.** Future development projects shall implement site-specific noise attenuation measures during construction to reduce the generation of construction noise and vibration. These measures shall be included in a Noise Control Plan that shall be submitted for review and approval by the City prior to issuance of demolition, grading, and/or building permits. Measures specified in the Noise Control Plan and implemented during construction shall include the following noise control strategies:
   - **a.** Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).
   - **b.** Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools.
   - **c.** Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other similar measures.
   - **d.** Noise and vibration reducing pile-driving techniques shall be implemented during construction and shall be monitored to ensure no damage to nearby structures occurs (i.e., vibrations above PPVs of 0.25 in/sec at nearby structures). These techniques shall include:
     - **i.** Installing intake and exhaust mufflers on pile-driving equipment
     - **ii.** Vibrating piles into place when feasible, and installing shrouds around the pile-driving hammer where feasible
     - **iii.** Implementing "quiet" pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions
     - **iv.** Using cushion blocks to dampen impact noise, if feasible based on soil conditions.[21]
     - **v.** At least 48 hours prior to pile-driving activities, notifying building owners and occupants within 600 feet of the project area of the dates, hours, and expected duration of such activities
   - **e.** Prohibit unnecessary idling of internal combustion engines.
   - **f.** Construction staging areas shall be established at locations that create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. Material stockpiles, as well as maintenance/equipment staging and parking areas, shall be located as far as feasible from residential receptors.
   - **g.** Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
   - **h.** Where feasible, temporary power service from local utility companies shall be used instead of portable generators.
   - **i.** Locate cranes as far from adjoining noise-sensitive receptors as possible.
   - **j.** During final grading, substitute graders for bulldozers, where feasible. Wheeled heavy equipment are quieter than track equipment and should be used where feasible.
   - **k.** Maintain smooth vehicle pathways for trucks and equipment accessing the site, and avoid local residential neighborhoods as much as possible.

21. Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon, and micarta.

l. During interior construction, the exterior windows facing noise-sensitive receptors should be closed.

m. During interior construction, locate noise-generating equipment within the building to break the line-of-sight to the adjoining receptors.

n. The contractor shall prepare a detailed construction schedule for major noise-generating construction activities (including pile driving, removal of existing structures; site grading and excavation; installation of utilities; construction of building foundations, cores, and shells; paving; and landscaping). The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.

o. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

2. **Operational noise.** Prior to the issuance of building permits, a qualified acoustical consultant shall be retained to review mechanical equipment systems during final design of future projects. The consultant shall review selected equipment and determine specific noise reduction measures necessary to reduce noise to comply with the City's noise level requirements (including SMC Section 19.42.030 requires that operational noise not exceed 75 dBA along the property line, and that the noise levels not exceed 60 dBA during daytime hours or 50 dBA during nighttime hours at any point on adjacent residential properties). Noise reduction measures could include, but are not limited to, selection of equipment that emits low noise levels and/or installation of noise barriers, such as enclosures and parapet walls, to block the line-of-sight between the noise source and the nearest receptors. Additionally, enclosures and interior wall treatments shall be considered to reduce noise exposure within the on-site units. Alternate measures may include locating equipment in less noise-sensitive areas, where feasible. The specific equipment shall be included on the approved building permit plan set.

3. **Heavy vibration-generating construction equipment.** Prohibit the use of heavy vibration-generating construction equipment within 25 feet of residences and hotels/motels. Use a smaller vibratory roller, such as the Caterpillar model CP433E vibratory compactor, when compacting materials within 25 feet of residences and hotels/motels adjoining the site.

4. **Dropping heavy equipment.** Avoid dropping heavy equipment within 25 feet of residences and hotels/motels. Use alternative methods for breaking up existing pavement, such as a pavement grinder, instead of dropping heavy objects within 25 feet of residences and hotels/motels adjoining the site.

5. **Pile-driving techniques.** Noise and vibration reducing pile-driving techniques shall be employed during construction and monitored to ensure no damage to nearby structures occurs (i.e., vibrations above PPVs of 0.25 in/sec at nearby structures). These techniques shall include:
   - **a.** Installing intake and exhaust mufflers on pile-driving equipment
   - **b.** Vibrating piles into place when feasible, and installing shrouds around the pile-driving hammer where feasible
   - **c.** Implementing "quiet" pile-driving technology (such as pre-drilling of piles and the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions
   - **d.** Using cushion blocks to dampen impact noise, if feasible based on soil conditions[22]
   - **e.** At least 48 hours prior to pile-driving activities, notifying building owners and occupants within 600 feet of the project

22. Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon, and micarta

area of the dates, hours, and expected duration of such activities

6. **Heavy equipment communications.** The contractor shall alert heavy equipment operators to the proximity of the adjacent structures so they can exercise extra care.
7. **Construction Vibration Monitoring, Treatment, and Reporting Plan.** For projects requiring impact or vibratory pile driving, a Construction Vibration Monitoring, Treatment, and Reporting Plan shall be implemented to document conditions prior to, during, and after vibration-generating construction activities. All plan tasks shall be undertaken under the direction of a licensed Professional Structural Engineer in the State of California and be in accordance with industry-accepted standard methods. The construction vibration monitoring plan shall include, but not be limited to, the following measures:
   - **a.** Document conditions at all structures located within 100 feet of pile driving activities and at historic structures located within 275 feet of pile driving activities prior to, during, and after vibration-generating construction activities. All plan tasks shall be undertaken under the direction of a licensed Professional Structural Engineer in the State of California and be in accordance with industry-accepted standard methods. Specifically:
     - **i.** Vibration limits shall be applied to vibration-sensitive structures located within 100 feet of any high impact construction activities, such as pile driving, and 275 feet of historic buildings.
     - **ii.** Performance of a photo survey, elevation survey, and crack monitoring survey for each structure of normal construction within 100 feet of any high impact construction activities and each historic structure within 275 feet of pile driving activities. Surveys shall be performed prior to any construction activity, in regular intervals during construction, and after project completion, and shall include internal and external crack monitoring in structures, settlement, and distress, and shall document the condition of foundations, walls and other structural elements in the interior and exterior of said structures.
   - **b.** Develop a vibration monitoring and construction contingency plan to identify structures where monitoring would be conducted, set up a vibration monitoring schedule, define structure-specific vibration limits, and address the need to conduct photo, elevation, and crack surveys to document before and after construction conditions. Construction contingencies shall be identified for when vibration levels approached the limits.
   - **c.** At a minimum, vibration monitoring shall be conducted during all pile driving activities.
   - **d.** If vibration levels approach limits, suspend construction, and implement contingency measures to either lower vibration levels or secure the affected structures.
   - **e.** Designate a person responsible for registering and investigating claims of excessive vibration. The contact information of such person shall be clearly posted on the construction site.
   - **f.** Conduct a post-construction survey on structures where either monitoring has indicated high vibration levels or complaints of damage has been made. Make appropriate repairs or compensation where damage has occurred as a result of construction activities.
8. **CLUP noise levels.** Future developments under the Specific Plan exposed to conditionally acceptable and generally unacceptable aircraft noise levels, as defined by the Moffett Federal Airfield CLUP, shall complete a detailed noise analysis that includes the required noise reduction measures and noise insulation features included in the design to ensure compatibility with the CLUP noise standards.
9. **Noise sensitive outdoor uses.** Residential, hotel/motel, and school projects shall be designed in such a way to locate noise-sensitive outdoor use areas away from major roadways or other significant sources of noise.
   - **a.** Projects shall shield noise-sensitive outdoor use spaces with buildings or noise barriers to reduce exterior noise levels.

b. The final detailed design of the heights and limits of proposed noise barriers shall be completed at the time that the final site and grading plans are submitted.

10. **Acoustical analysis.** A project-specific acoustical analysis shall be prepared, in compliance with State Building Codes and City noise standards, to ensure that the design incorporates controls to reduce interior noise levels to 45 dBA Ldn or lower within the residential units and to 50 dBA Leq(1-hr) or lower within nonresidential interiors. Additionally for residential units located adjacent to the VTA light-rail tracks, maximum instantaneous noise levels shall be at or below 50 dBA Lmax within bedrooms and at or below 55 dBA Lmax within all other residential rooms. The project applicant shall conform with any special building construction techniques requested by the City's Building Department, which may include sound-rated windows and doors, sound-rated wall constructions, and acoustical caulking.

    If future projects do not meet the 45 dBA Ldn (for residential interiors) or 50 dBA Leq(1-hr) (for nonresidential interiors) standards, other site-specific measures, such as increasing setbacks of the buildings from the adjacent roadways, using shielding by other buildings or noise barriers to reduce noise levels, implementing additional sound treatments to the building design shall be considered to reduce interior noise levels to meet the State and City standards.

11. Vibration analysis near VTA light rail. Project-specific vibration analyses shall be prepared for future residential developments within 35 feet of the VTA light rail lines within Moffett Park and within 20 feet of the VTA light rail lines for commercial, office/industrial/R&D, or institutional developments. These analyses shall include vibration measurements at future project sites and a comparison of the measurements to the established FTA standards to verify vibration and land use compatibility. If FTA vibration standards are not met at future project sites, measures (such as requiring greater setback distances from the rail lines) to reduce vibration effects will be determined by the City at the time a specific development is proposed.

10.3.5 SPECIAL SPECIES

The following special species submittals are required in addition to the City's standard requirements. Some items may not be necessary for all applications.

1. **Special status plants.** At the time development is proposed, focused special status plant surveys shall be completed by a qualified biologist for alkali milk-vetch and Congdon's tarplant in the grasslands and vernally mesic areas (e.g., areas with a moderate supply of moisture) of Moffett Park's northwestern corner. These surveys shall be completed prior to ground disturbance and shall be timed to occur during the appropriate blooming season for each species. Surveys conducted in or around April, June, and September would be sufficient to confirm their presence or absence; the timing and number of surveys shall be adjusted based on environmental conditions that may affect blooming in a particular year. The surveys shall follow protocols outlined in the "California Native Plant Society Botanical Survey Guidelines" and the California Department of Fish and Wildlife's (CDFW's) "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities." If the alkali milk-vetch and Congdon's tarplant are determined absent, no additional measures are required.

   If the alkali milk vetch and/or Congdon's tarplant are present, to the maximum extent practicable, the project shall be designed to avoid populations of special status plants. If the project cannot be redesigned to avoid impacts to the identified species, and these impacts are found to be significant as defined by CEQA, then compensation measures shall include development of an on-site restoration plan for these species. The determination of the significance of impacts shall be based on, but not limited to, criteria such as the nature of the habitat impacts (i.e., temporary versus permanent impacts), extent of the species' range, relative abundance of regional populations of the species in its range, and the number of plant populations in Moffett Park. Areas to be preserved on-site as open space are expected to be able to fully accommodate any compensation measures for these species. If compensation measures cannot be fully accommodated on-site, then off-site compensatory mitigation (in the immediate vicinity of the identified populations(s), where feasible) would need to be considered. At a minimum, the restoration plan shall contain the following elements:
   - Location of restoration areas,
   - Propagation and planting techniques to be employed for the restoration effort,
   - Timetable for implementation,
   - Monitoring plan and performance criteria,
   - Adaptive management techniques, and
   - A site maintenance plan.

   A report would be prepared summarizing the results of the surveys and submitted to the City, along with the restoration plan (if required). The restoration plan shall be reviewed and approved by the City for approval prior to the start of project construction. The objective of the restoration plan would be to replace the special status plants and habitat lost during project buildout at proportional basis to the impact. This would incorporate both the spatial and relative density of the impacted plant and its habitat. Success of the restoration effort would be based on a five-year monitoring program.

2. **Burrowing owl survey.** Preconstruction surveys shall be completed by a qualified biologist in areas where burrowing owl habitat occurs such as ruderal lots (not including impervious surfaces) no more than 14 days in advance of the on-set of ground-disturbing activity. These surveys shall be conducted in accordance with the methods described in the Staff Report on Burrowing Owl Mitigation or the most recent California Department of Fish and Wildlife (CDFW) guidelines at the time development is proposed. The surveys shall cover all areas of suitable burrowing owl habitat within the construction zones.

- If preconstruction surveys are undertaken during the non-breeding season (September 1 through January 31), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 150 to 250 feet around each active burrow, with the required buffer distance to be determined in each case by a qualified biologist. Passive relocation of resident owls is not recommended by the CDFW where it can be avoided. If passive relocation is unavoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.
- If preconstruction surveys are undertaken during the breeding season (February 1 through August 31) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet shall be established around all active owl nests. The buffer areas shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take places but only under the conditions described below.

If breeding owls are detected, suitable compensation shall be provided. Compensation could include collaborating with existing protected areas for the burrowing owls along the San Francisco Bay or collaborating and interacting with the Santa Clara Valley Habitat Plan (Habitat Plan) burrowing owl program. Although the City of Sunnyvale is not within the Habitat Plan area, it is within the extended area for preserving habitat to assist with conservation of burrowing owls for the Habitat Plan; the applicant should collaborate with the Santa Clara Valley Habitat Agency to define a suitable and acceptable compensation strategy. This most likely would result in the applicant funding a defined conservation need for the Habitat Plan. Providing protection in the form of deed restrictions or establishing a conservation easement in the northwestern "natural" area would also help to provide suitable compensation for breeding owls observed within the developed portion of Moffett Park.

3. **Bumble bees survey.** At the time development is proposed in the potentially suitable habitat in the natural lands on the northern side of the Lockheed Martin property, four separate surveys shall be completed by a qualified biologist when the ambient temperatures are greater than 60 degrees Fahrenheit, wind speeds are ideally less than eight miles per hour (mph), and skies are clear enough to see your shadow. Bumble bees typically have an active season, or flight period in warmer months. The flight periods of the two different bumble bees which have potential to occur in Moffett Park are: (1) the Crotch bumble bee's flight period is typically late February through late October, peeking in early April with a second pulse in July; and 2) the western bumble bee's flight period is typically early April to early November, with workers peaking in early August and males peaking in late September; the queens' flight period is early February through late November, peaking in late June and late September. The survey period should be from March through September and should aim for a survey in April, July, August, and September at the least; surveys will depend on local temperatures to identify the specific active season for any given area.

   The surveys shall be completed between 12:00 PM and 4:00 PM, but may be completed earlier if the weather conditions are good. The surveys shall be completed by walking transects spaced up to approximately 100 feet apart within the affected habitat. Transect widths shall be reduced if needed, so there is complete visual coverage of potential nest, overwintering, and forage sites. These bumblebees are typically found in potential nesting, overwintering, and forge

habitat within brush piles, in un-mowed or overgrown areas, hollow logs, abandoned rodent burrows, but can also nest above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees, as well as milkweeds, daisies, lupines, burclovers, phacelias, and salvias. To the degree any of this habitat exists onsite, focused surveys shall occur within suitable habitat. If possible, bumble bee species shall be determined, the location of potential or known Crotch bumble bees and western bumble bees shall be recorded via a handheld GPS unit, and a representative picture shall be taken. No bumble bees shall be handled to determine species.

If protected bumble bees are observed on the project site, they shall be avoided via buffer zones (the size of which would be determined at the time surveys are prepared). If protected bumble bees are observed on the site or adjacent to the site and they cannot be fully avoided, construction shall occur during a period of time that minimizes the effect of dust on their lifecycles (which would be determined at the time surveys are prepared). If protected bumble bees are observed on the site, compensation may be necessary; any habitat compensation should protect suitable habitat proportional to the impact.

Following completion of the surveys, a report shall be prepared that documents the methods and summarizes the results of the survey which would identify any buffer zones, and measures to prevent impacts to protected bumble bees. The report shall be submitted to the City prior to issuance of grading permits.

4. **Steelhead.** Plans shall contain the following elements:
   - **a.** All work adjacent to waterways which may support steelhead shall use adequate silt fencing and Stormwater Pollution Prevention Plan (SWPPP) measures to ensure debris (i.e., soil) does not enter the waterway.
   - **b.** All work over waterways (e.g., bridge work) shall use netting to ensure items such as tools and pollutants do not fall into the waterway.
   - **c.** All work in or around waterways shall ensure an appropriate spill kit is onsite to avoid polluting the waterway.
5. **Western Pond Turtles.** Pre-construction surveys shall be completed by a qualified biologist within 250 feet of a waterway if development is proposed in or within 250 feet of a waterway within/no sooner than 48 hours of construction to ensure that western pond turtles are absent from the construction area. If western pond turtles are present, the turtle shall be able to leave on its own, or a biologist possessing all necessary permits shall relocate them.

A report shall be prepared summarizing the results of the pre-construction survey which outlines recommended next steps, including the following measures to prevent impacts to the western pond turtle. The report shall be submitted to the City prior to the issuance of grading permits.

Immediately following the pre-construction surveys, the construction zone shall be cleared, and silt fencing shall be erected and maintained around construction zones to prevent western pond turtles from moving into these areas.

A biological monitor shall be present onsite during particular construction activities, including initial silt fence installation along water features, to ensure western pond turtles are not harmed, injured, or killed during project buildout.

6. **Roosting bat assessment.** A bat assessment shall be completed by a qualified biologist and submitted to the City for approval, no more than 30 days prior to removal of trees or buildings. If a non-breeding bat colony is found, or if the tree supports suitable roosting habitat that cannot be fully visibly surveyed (such as peeling bark or cavities in trees, especially high up in trees), the individuals shall be humanely evicted via two-step removal as directed by a qualified biologist to ensure no harm or "take" would occur to any bats as a result of demolition

activities. Two-step removal shall occur during the volant seasons in fair weather and outside of the maternity season for bats (March 1 to April 15 or September 1 to October 15). Two-step removal consists of one day of disturbance and removing portions of buildings or trees, as directed by a qualified biologist, followed by the removal of that building or tree the following day; the goal is to disturb the bats and render the trees and structures unsuitable for them. This passive effort allows bats using these structures or trees to nocturnally relocate to a suitable nearby roost. Measures would not be required for the loss of roosting or foraging habitat for bats, as such habitat is abundantly available regionally.

If a breeding colony is observed, two-step removal shall not occur until breeding season is over (September 1) or until all young are independent of their parents. An appropriate buffer, as determined by a qualified biologist, based on the site conditions and location of the maternity colony would be established. This buffer may be up to 350 feet, depending on site-specific conditions, and shall remain until breeding season is over (September 1) or until all young are independent of their parents.

A report shall be submitted to the City summarizing the results of the survey, any buffer zones, and measures to prevent impacts to roosting bats.

7. **Salt-marsh harvest mouse survey.** A habitat survey shall be completed by a qualified biologist 30 days prior to work within 250 feet of the emergent wetland habitat located in the northeastern corner of Moffett Park to confirm current habitats. If pickleweed or salt grass habitats are within the work area, these areas shall be avoided, and a report shall be submitted to the City summarizing the results of the habitat survey which would identify any buffer zones and expected monitoring efforts to prevent impacts to the salt-marsh harvest mouse and their habitat.

   A qualified biologist shall monitor work occurring within 50 feet of habitat identified as suitable for the salt-marsh harvest mouse. This monitor shall stop work should a salt-marsh harvest mouse be detected in the work area until the individual moves out of the construction area and into suitable habitat on its own.

   Should monitoring be required, a report shall be submitted to the City summarizing the results of the monitoring, including any observation of the salt-marsh harvest mouse.

8. **San Francisco Dusky-Footed Woodrat survey.** A qualified biologist shall conduct a preconstruction survey for San Francisco dusky-footed woodrat nests no more than 30 days and no less than 14 days prior to the onset of construction activities. This survey timing allows for the scheduling of and deconstruction of any woodrat nests which need relocating. The survey shall encompass all construction zones and surrounding lands within 50 feet. If no woodrat nests are present, no additional measures are required.

   Identified nests shall be avoided, where possible. If avoidance is not possible, the nest(s) shall be manually deconstructed by a qualified biologist when helpless young are not present, typically during the non-breeding season (October 1 through January 31). The nest shall be reconstructed in a nearby suitable area.

   If it is determined during the preconstruction survey that young may be present, a suitable buffer, delineated with flagging, depending on the timing within the breeding season (ranging from 15 to 50 feet) shall be established around the nest by a qualified biologist and maintained during construction until the young are independent and have successfully moved from the nest on their own.

   A report shall be submitted to the City summarizing the results of the survey and identifies any buffer zones and measures implemented to prevent impacts to San Francisco dusky-footed woodrats.

9. **Construction during migratory bird and raptor nesting season.** To the extent feasible, construction activities shall be scheduled to avoid the nesting season. If construction activities are scheduled to take place outside the nesting season, all impacts to nesting birds protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code shall be avoided. The nesting season for most birds in Santa Clara County extends from February 1 through August 31.

   If initial site disturbance activities, including tree, shrub, or vegetation removal, are to occur during the bird breeding season (February 1 through August 31), a qualified biologist shall conduct a pre-construction survey for nesting migratory birds and raptors. The survey for nesting migratory birds shall cover the project site itself and the immediate vicinity of the site, with the survey for nesting raptors encompassing the site and surrounding lands within 250 feet, where accessible. The survey shall occur within seven days prior to the onset of ground disturbance.

   If active nests are detected, appropriate construction-free buffers shall be established. The buffer sizes shall be determined by the project biologist based on species, topography, and type of activity occurring in the vicinity of the nest. Typical buffers are 25 to 50 feet for passerines and up to 250 feet for raptors. The project buffer shall be monitored periodically by the project biologist to ensure compliance. After the nesting is completed, as determined by the biologist, the buffer shall no longer be required.

   A report shall be submitted to the City summarizing the results of the survey, identifies any buffer zones, and outlines measures implemented to prevent impacts to nesting birds.

10. **Riparian habitat.** During the environmental review process for future developments proposed within 250 feet of riparian areas, a qualified biologist shall determine if the project would impact riparian habitat and the project shall be designed to avoid impacts. If impacts cannot be avoided, the project shall mitigate for impacts to riparian habitat by a measure of at least 1:1. This can consist of on-site or off-site planting mitigation or fees paid to a suitable mitigation bank. For on- or off-site mitigation plantings, a restoration plan, including success criteria, must be written, which would include a minimum monitoring period of five years. Regulatory permits may be required for impacts to riparian habitat from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Regional Water Quality Control Board (RWQCB).

11. **State or Federally Protected Wetlands.** During the environmental review process for future developments containing a wetland or potential wetland on the project site, a formal aquatic resources delineation shall be completed and submitted to the USACE for verification of the presence and extent of jurisdictional waters within Moffett Park. Information about the riparian habitat shall be collected during the site visit for this work as well to evaluate potential impacts to riparian habitat on a project-specific level.

    Future development must comply with all state and federal laws and regulations related to disturbance to jurisdictional waters. If it is determined that wetlands within Moffett Park under the USACE's and/or RWQCB's jurisdiction, future project developers would be required to obtain a Section 404 Clean Water Act permit from the USACE, Section 401 water quality certification from the RWQCB, and/or Section 1602 Streambed Alteration Agreement from the CDFW or demonstrate that such permits are not necessary prior to initiating any construction-related activities within jurisdictional waters. Future project developers shall satisfy all agency requirements to mitigate aquatic impacts. These may include avoidance of aquatic resources, measures to minimize impacts, or compensation (e.g., habitat enhancement) for impacts.

10.4 Implementation Actions

The following implementation actions are needed to achieve the vision of the Moffett Park Specific Plan. The time frame for these actions includes four phases: short-term, medium-term, long-term, and ongoing. Each phase may be shorter or longer in duration, and the City action or capital improvement project may overlap or fall into different phases depending on development timing and funding availability.

- **Ongoing.** These actions include programs to cover the life of the Specific Plan, including ongoing monitoring and maintenance.
- **Immediate (2023 to 2027).** Immediate actions include many of the highest priority projects and establishing the funding mechanisms, monitoring programs, and governance structures.
- **Medium-term (2028 to 2032).** Medium-term actions include studies and plans.
- **Long-term (Beyond 2033).** These actions extend beyond 2033 to be implemented over a longer planning horizon.

TABLE 29 Implementation Actions

Implementation Item	Description	Participants	Time Frame
	Immediate Actions		
General Plan Amendment	Amend the City's General Plan to reflect this specific plan.	Community Development	Immediate
Zoning Code Amendment	Amend Title 19 of the City's Zoning Code to reflect this specific plan's land use districts and ecological combining district.	Community Development	Immediate
Green Building Program	Remove the incentive-based zoning provision for Moffett Park from the City's Green Building program.	Community Development	Immediate
Transportation Management Authority	Establish a TMA to provide a coordinated framework for designing, administering, operating, and marketing transportation services or programs that reduce SOV trips. May be combined with the special entity.	City Manager, Community Development, Public Works	Immediate

Implementation Item	Description	Participants	Time Frame
Colloborative Entity for Infrastructure	Establish a colloborative entity to manage and oversee infrastructure, such as a non-profit public benefit corporation for Moffett Park, with City staff on the board to facilitate financing, development, and management of infrastructure.	City Manager, Community Development, Public Works, Environmental Services, Finance, Moffett Park Business Group	Immediate
Community benefits guidelines and contribution	Adopt administrative guidelines and expected value of contributions for the community benefits bonus program.	Community Development	Immediate
Moffett Park Community Benefits Fund	Establish a fund for payment and use of revenues generated through the Moffett Park community benefits program and move forward with process to establish it.	Finance	Immediate
Creation of district-based funding mechanisms	Partner with property owners to explore the potential creation of district-based funding mechanisms specific to Moffett Park.	Economic Development, Finance	Immediate
Ecological Combining District Habitat Restoration Plan	Develop habitat restoration plan for the ecological combining district.	Property owner	Immediate
Streetscape and Urban Forest Master Plan	Develop a Streetscape and Urban Forest Master Plan to coordinate design specifications for streets and laneways.	Community Development, Public Works, Fire Department	Immediate
Moffett Park Open Space Working Group	Establish an Open Space Working Group to coordinate and implement major district-wide open space improvements, including The Diagonal, Community Parks, Caspian Community Park, and public plazas.	Community Development, Moffett Park Business Group, Public Works, Special Entity	Immediate
Clean Energy Partnerships	Partner with SVCE to identify barriers for existing non-residential users to participate in GreenPrime and develop a campaign to boost enrollment.	ESD, SVCE, Property Owners	Immediate

Implementation Item	Description	Participants	Time Frame
Decarbonized Building Status	Establish a process to record decarbonization status from each property at the time of sale.	Community Development	Immediate
	Medium-Term Actions		
Storm Drain Master Plan	Develop an updated City-wide storm drain master plan, including close coordination with the South Bay Salt Ponds Restoration Project.	Environmental Services	Medium term
Groundwater Data Collection	Establish a monitoring plan of groundwater elevations and salinity within Moffett Park that includes the development and publication of a three-dimensional map of subsurface geology.	Environmental Services, Community Development	Medium term
Moffett Park Internal Circulator Shuttle Study	Complete study regarding internal circulator.	TMA, Community Development, Public Works	Medium term
Grade Separated Pedestrian and Bicycle Crossing Study	tudy and implementation of grade separated crossings of Caribbean (East and West channels), Java Dr (West Channel), and 237 (East Channel) for pedestrians and bikes.	Public Works, Valley Water, TMA, Santa Clara Valley Transit Authority (VTA), Caltrans	Medium term
Existing Building Electrification Plan	Develop and pilot an existing building electrification plan for non-residential buildings. Establish a date-certain electrification ordinance.	ESD, SVCE, PG&E, Community Development, Property Owners	Medium term
Embodied Carbon Plan	Establish requirements for new development to measure and reduce the embodied carbon in buildings. Pilot the plan in Moffett Park.	ESD, SVCE, PG&E, Community Development	Medium term
Solid waste minimization programs	Develop solid waste minimization programs that include increased rates of recycling, composting of food, reuse of construction materials.	ESD, Community Development	Medium term

Implementation Item	Description	Participants	Time Frame
	Long-Term Actions		
Microgrid Program	Partner with PG&E and SVCE to implement a microgrid program in Moffett Park.	ESD, PG&E, SVCE	Long term
Date Certain Electrification Ordinance	Adopt a date-certain electrification ordinance.	SVCE, PG&E, Community Development, Property Owners	Long term
	Ongoing Actions		
South San Francisco Bay Shoreline Phase III Feasibility Study and South Bay Salt Pond Restoration Project	Continue to coordinate South San Francisco Bay Shoreline Phase III Feasibility Study and South Bay Salt Pond Restoration Project.	USACE, Valley Water, California Coastal Conservancy, Cal Dept. of Fish & Wildlife, US Fish & Wildlife Service, ESD	Ongoing
East Channel and West Channel Improvement Project	Coordinate with local and regional agencies to implement the East and West Channel Improvement Project.	Public Works, Santa Clara Valley Water District, Property Owners	Ongoing
Periodically re-study required community benefits contribution	Regularly restudy the required community benefits fee value, based on its impact on development project feasibility and maintaining competitiveness for investment in Moffett Park relative to nearby areas.	Community Development	Ongoing
Community benefits contribution oversight	Establish an internal City process for monitoring compliance with non-monetary community benefits contributions, such as creation and innovation space, access to shared district infrastructure/facilities, provision of childcare facilities, etc.	Community Development	Ongoing
Coordination with local school districts	Continue on-going coordination with local school districts to determine need of a new public school in Moffett Park.	Community Development, Sunnyvale School District, Mountain View Whisman School District, Santa Clara Unified School District, Fremont Unified School District	Ongoing

Implementation Item	Description	Participants	Time Frame
Partnership with Foothill College	Establish formal partnership between Moffett Park Business Group and Foothill College, to position Foothill's Sunnyvale Center as an institutional hub and resource for workforce training and education.	Moffett Park Business Group, Foothill College	Ongoing
Coordination with local transit agencies	Continue on-going coordination with local transit agencies to maintain frequent service, and implement station area improvements.	VTA, Public Works, TMA	Ongoing
Open Space Development of East Channel Power Lines	Coordinate with PG&E and Valley Water to improve publicly accessible open spaces and improved urban ecology within the PG&E easement.	Community Development; PG&E; Valley Water; Property Owners; Public Works	Ongoing
Undergrounding of East Channel Power Lines	Coordinate with PG&E on undergrounding transmission lines to improve publicly accessible open spaces and increase developable area.	Community Development; PG&E; Valley Water; Property Owners	Ongoing

10.5 Funding and Financing Strategy

A combination of funding sources will be necessary to fund the proposed capital improvements (both publicly owned and managed and privately owned and managed) required to support future development in Moffett Park. The funding and financing strategy identifies major categories of private and public funding sources and their application to capital improvement projects in the specific plan. As described in this chapter and elsewhere in this specific plan, these capital improvements include:

- Street improvements and dedications, including complete streets design standards;
- Other mobility improvements, such as dedicated biking infrastructure and multimodal transit-oriented mobility hubs;
- Shared parking facilities;
- Parks and open space;
- Flood protection and resilience infrastructure;
- Other utilities, including stormwater, sewer, domestic water, recycled water, and dry utilities;
- New public facilities, such as a library, community center, public schools, and police substation.

Private property development in Moffett Park is expected to contribute to infrastructure and facilities improvements and funding through both required and optional mechanisms. Property developers are required to meet minimum development standards, provide required CEQA mitigations, and pay development impact fees and other fees that are directly linked to the impacts of their development project.

Beyond these minimum requirements, developers may also choose to provide additional community benefits contributions identified in this plan in exchange for increased allowable floor area allocations from the Development Reserve. Property owners may also participate in the transfer of development rights (TDR) programs as a means of providing land for public schools and community facilities (see Chapter 4 for more details).

The City of Sunnyvale and local property owners should also explore adoption of district-based funding mechanisms to support the costs of shared infrastructure needs or operations costs specifically within Moffett Park that are more difficult to attribute to specific property owners. Land-based financing tools are typically associated with new real estate development to generate benefit-based special assessment revenues or property tax revenues to finance improvements through bond repayment or paying for improvements over time. District-based tools provide a stable revenue stream while ensuring that properties benefitting from improvements also contribute to those public investments. Potential tools include enhanced infrastructure financing districts (EIFD), special assessment districts (e.g., a landscaping and lighting district) and/or community facilities district (CFD); these tools require approval by affected stakeholders.

The following guidelines shall be used in the funding of capital improvements in Moffett Park:

- **New development contributes to related capital improvements.** Each new development project will contribute toward impact fees, on-site and off-site improvements related to the project, and provide contributions to other required funding sources or allowed alternative mitigations.
- **Easement dedication requirements.** New development will dedicate easement for improved mobility and utilities easements as required. In some cases, new development may be required to construct or contribute to mobility and utilities upgrades related to the development project and required to fulfill the Moffett Park specific plan's goals and requirements. As specified in this specific plan, any previously private infrastructure and facilities dedicated to the City of Sunnyvale must first be upgraded by the project developer to meet City standards.
- **Additional development contributions as part of the community benefits bonus program and TDR program.** As specified in the specific plan, developers can make optional community benefits contributions in exchange for additional development rights, subject to approval by the City of Sunnyvale; some specified contributions provide an additional potential funding source for capital improvements. The TDR program provides an additional means for development to provide land for public facilities.
- **Master plans.** As described in this chapter, development projects receiving bonus floor area or requiring the creation of public access easements may be required to undertake a master plan process. The master plan process will further clarify required contributions of development toward capital improvements and public facilities, including improvements shared between master plan development projects (such as district parking facilities).
- **Reimbursement Agreements.** If a development project is required to provide additional infrastructure capacity or amenities to serve the entire district or a portion of the district, a reimbursement agreement can be established to receive payments from later developers who benefit from these earlier improvements.
- **District-based funding.** The City should explore establishment of district-based funding sources for shared capital improvements, infrastructure, and facilities needs, and/or ongoing operations and maintenance costs of shared infrastructure.
- **Use of existing resources for existing deficiencies.** City resources should be dedicated to resolving existing infrastructure deficiencies that are unrelated to future growth in Moffett Park. Examples include the General Fund, Capital Improvement Program resources, and funding sources that receive user fees.

TABLE 30 Moffett Park Capital Improvements and Facilities Funding Sources

Source	Category	Specific Plan Capital Costs				
		Streets, Mobility, Shared Parking	Parks and Open Space	Water, Stormwater, Sewer, Utilities	New Public Facilities	Flood Protection and Resilience
Development Standards / Requirements	Developer Contribution	X	X	X		
CEQA Mitigations of Project Impacts	Developer Contribution	X	X	X		X
Development Impact Fees, In-Lieu Fees, and Related City Funds	Developer Contribution	X	X	X	X	X
Community Benefits Contributions	Developer Contribution	X	X	X	X	
TDR Program	Developer Contribution		X		X	
Reimbursement Agreements	Developer Contribution	X	X	X	X	
Assessment District (e.g., landscape and lighting district)	District-Based	X	X			
Mello Roos Community Facilities District (CFD)	District-Based	X	X	X	X	X
Enhanced Infrastructure Financing District (EIFD)	District-Based	X	X	X	X	X
Transportation Management Association (TMA)	Developer Contribution	X			X	
General Fund	City Resource	X	X	X	X	X
Capital Projects Fund	City Resource	X	X		X	X

Source	Category	Specific Plan Capital Costs				
		Streets, Mobility, Shared Parking	Parks and Open Space	Water, Stormwater, Sewer, Utilities	New Public Facilities	Flood Protection and Resilience
Infrastructure Renovation and Replacement Fund	City Resource	X	X		X	
Water Supply and Distribution Fund	City Resource			X		
Wastewater Management Fund	City Resource			X		X
School Districts	Sunnyvale School District, Santa Clara Unified School District				X	
Federal, State, Regional, and County Grants and Partnerships	Caltrans, BAAQMD, ABAG, MTC, VTA, Santa Clara Valley Water, Santa Clara County	X	X	X	X	X

10.6 Performance Metrics

The key performance metrics are the specific data used to measure progress in implementing the vision for an ecological innovation district. The Responsible Department collects and reports the data annually. The City should update Specific Plan polies and implementing measures on a regular basis (e.g., every five years) to measure progress and incorporate new measures to show progress toward achieving carbon neutrality. Updates to the Specific Plan would address the goals of new local and state plans (e.g., state's upcoming scoping plan) to achieve GHG emissions reductions as well as new methods to more accurately model GHG emissions and implement innovative measures or project designs.

LAND USE

1. **Performance Metric:** Percent of housing units permitted
   a. **Objective:** 20,000 housing units, including at least 3,000 affordable housing units
   b. **Responsible Department:** Community Development
   c. **Data Source:** Building permit data
2. **Performance Metric:** Percent of Creation and Innovation space square footage permitted
   a. **Objective:** 750,000 net new square feet of Creation space and Innovation space
   b. **Responsible Department:** Community Development
   c. **Data Source:** Building permit data
3. **Performance Metric:** Percent of office and R&D square footage permitted
   a. **Objective:** 32,000,000 total square feet for the Moffett Park Specific Plan Area
   b. **Responsible Department:** Community Development
   c. **Data Source:** Building permit data
4. **Performance Metric:** Complete neighborhoods
   a. **Objective:** All housing units within a 15-minute walking or biking of community amenities, services, and retail
   b. **Responsible Department:** Community Development
   c. **Data Source:** Building permit data
5. **Performance Metric:** Ratio of completed dwelling units to net new office floor area
   a. **Objective:** 1 unit to 500 square of office floor area
   b. **Responsible Department:** Community Development
   c. **Data Source:** Building permit data
6. **Performance Metric:** Percentage of district residents employed at locations in the district
   a. **Objective:** 35% of Moffett Park residents are employed in the district
   b. **Responsible Department:** Community Development
   c. **Data Source:** Employment Survey as part of TDM requirements
7. **Performance Metric:** Percentage of employees living within the district
   a. **Objective:** 35% of Moffett Park residents are employed in the district
   b. **Responsible Department:** Community Development
   c. **Data Source:** Employment Survey as part of TDM requirements

DEVELOPMENT STANDARDS

1. **Performance Metric:** Intersection density
   a. **Objective:** Attain an intersection density of 140 intersections per square mile for Moffett Park.
   b. **Responsible Department:** Community Development
   c. **Data Source:** TBD
2. **Performance Metric:** Green building
   a. **Objective:** 100% of new office and R&D development in Moffett Park is LEED Platinum or higher
   b. **Responsible Department:** Community Development
   c. **Data Source:** LEED

OPEN SPACE AND URBAN ECOLOGY

1. **Performance Metric:** Park service ratio
   a. **Objective:** 5.34 acres of open space per 1,000 residents[23]
   b. **Responsible Department:** Community Development
   c. **Data Source:** Parks inventory, US Census Bureau ACS
2. **Performance Metric:** Park access
   a. **Objective:** 1 open space or trail within a 10-minute walk of residents
   b. **Responsible Department:** Community Development
   c. **Data Source:** Parks inventory, US Census Bureau ACS
3. **Performance Metric:** Tree canopy coverage
   a. **Objective:** 30% minimum canopy cover for the entire district[24]
   b. **Responsible Departments:** Public Works and Community Development
   c. **Data Source:** Tree inventory

** Refer to section 6.6.3 for guidance on canopy cover objectives for specific open space types.*

MOBILITY

1. **Performance Metric:** Mode Split
   a. **Objective:** Define a target mode split for all transit, walk, and bike trips
   b. **Responsible Department:** Community Development, Public Works, and TMA
   c. **Data Source:** District trip monitoring, collected by TMA
2. **Performance Metric:** Collisions related to Transportation
   a. **Target:** Eliminate severe injury and fatal collisions on the roadway network
   b. **Responsible Department:** Public Safety and Public Works
   c. **Data Source:** Crossroads Collision Software
3. **Performance Metric:** Vehicle miles traveled
   a. **Target:** Reduce VMT per capita and VMT per employee, as needed, to achieve City, regional, and State sustainability and GHG reduction goals
   b. **Responsible Department:** Public Works, Community Development, and TMA
   c. **Data Source:** District daily total VMT, daily VMT per capita, and daily VMT per employee, collected by TMA

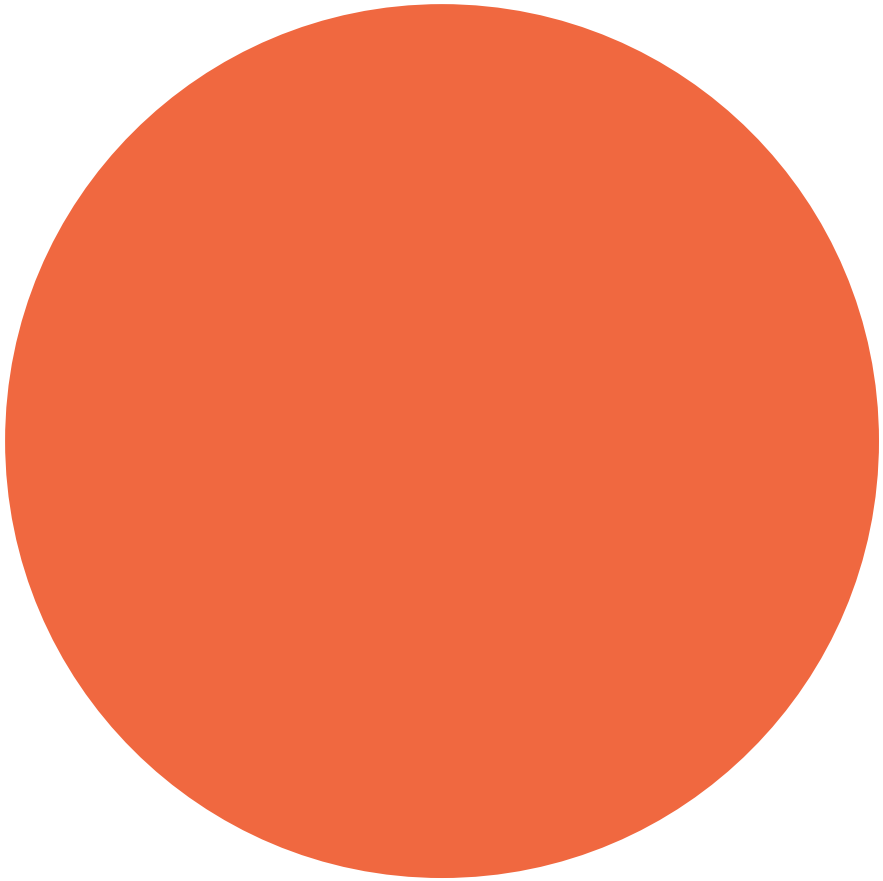
23. The plan includes 20,000 residential units, which translates to approximately42,000 residents. Therefore, the total target for open space within the plan area is approximately 224 acres. As noted, the plan area currently does not include any designated public open spaces or residents. It is expected that public open spaces will be created and improved incrementally as the specific plan is implemented. Refer to Chapter 10 for information regarding implementation of open space goals and policies.

24. Refer to section 6.6.3 for guidance on canopy cover objectives for specific open space types.

TRANSPORTATION DEMAND MANAGEMENT AND PARKING

1. **Performance Metric:** Utilization rate of parking facilities.
   a. **Objective:** Attain an average 85-90% utilization rate for all parking facilities in Moffett Park.
   b. **Responsible Party:** Community Development, Public Works, TMA
   c. **Data Source:** Individual facility inventory
2. **Performance Metric:** Parking cap.
   a. **Objective:** Cap total number of parking spaces within Moffett Park at 57,000 spaces and establish individual neighborhood maximums.
   b. **Responsible Party:** Community Development, Public Works, TMA
   c. **Data Source:** Individual facility inventory
3. **Performance Metric:** Universal payment technology and signage
   a. **Objective:** Implement a universal parking management system and signage accepted by all public parking facilities in Moffett Park by 2040.
   b. **Responsible Party:** Community Development, TMA
   c. **Data Source:** Individual facility inventory
4. **Performance Metric:** Trip reduction
   a. **Objective:** Establish a trip reduction performance metric, including establishing a baseline and a trip reduction target for the district as a whole.
   b. **Responsible Party:** Public Works, TMA
   c. **Data Source:** To be determined by TMA

Appendix A
Glossary



B

Base FAR: Maximum allowed density for a parcel without the addition of Bonus FAR.

Bonus FAR 1: Allowed Office/R+D density for a parcel if development meets Bonus FAR Development standards including community benefits on net new floor area.

Bonus FAR 2: Allowed Office/R+D density for a parcel if development meets Bonus FAR Development standards including community benefits on net new floor area and affordable housing plan.

Bonus FAR Development: Developments that exceed the allowed non-residential Base FAR are deemed Bonus FAR developments Total FAR Maximum. Maximum density for a parcel inclusive of Office/R+D floor area, Residential floor area and TDR floor area from sending parcels.

Base Reserve: The Base Reserve consists of 2,000,000 square feet of net new Office/R+D/ Industrial floor area for parcels to achieve their Base FAR density.

C

Creation space: Creation space provides floor area specifically designed for and leased to production, distribution, repair businesses (PDR), art or crafting, clean manufacturing, construction industries, start-up spaces, small businesses, or spaces for emerging businesses.

D

Development Reserve: Bonus FAR Developments are eligible to apply for bonus floor area allocation from the Development Reserve. The Development Reserve includes allowed net new office/R+D/industrial floor area studied and covered under the EIR/CEQA documentation.

I

Innovation Space: Innovation space provides floor area for small businesses, start-ups, accelerators, and non-profits. Innovation space is specifically not for large corporations.

Intersection Density: A measure of vehicular intersection density that is calculated within a defined boundary. Publicly accessible intersections within a vehicular circulation network are tallied, then extrapolated to an area of one square mile. Eligible intersections include public rights-of-ways, private alleys, and transit rights-of-ways, and excluded dead-ended streets. As described by LEED for Neighborhood Development (LEED ND): "Connectivity is an important objective [because] it enables multimodal travel that, in turn, reduces energy use and emissions of pollutants, including greenhouse gases, while improving public health and equitable access."

M

Medium Format Retail: Medium format retail includes spaces for tenants such as grocery stores, pharmacies, hardware stores, or other retailers that require larger retail shells ranging from 15,000 to 40,000 square feet.

N

Neighborhood Reserve: The Neighborhood Reserve consists of 6,750,000 square feet of net new Office/R+D/Industrial floor area distributed by neighborhood for Bonus FAR Development.

Neighborhood-serving office and community uses: Neighborhood-serving office and community uses provide space for non-profit office, personal service offices, medical clinics, medical offices, childcare, adult daycare, yoga/ dance studios, education businesses, or other similar uses to support neighborhood residents, employees, and visitors.

Neighborhood-serving retail and commercial uses: Neighborhood-serving retail and commercial uses provide goods or services to neighborhood residents, employees, and visitors. Specific uses include retail sales, shopping center, liquor store, personal service, financial institution, service commercial, and restaurant.

Net Developable Area: The remainder of parcel area for development after consideration of public access easements, dedication of land, or platting of new parcels for new streets, rights-of way, open spaces, and/or widening or expansion of such areas.

Non-Profit Public Benefit Corporation: A Non-profit Public Benefit Corporation is established with a Board of Directors that is appointed by the City Mayor, City Supervisors, or a similar leadership position. The non-profit can have advisory groups to help guide fund allocation throughout the District, and can also establish bylaws that govern the level of oversight from City Council. It can more easily create an EIFD and could also establish and oversee a CFD or BID.

R

Residential Density Minimum: Minimum density (dwelling units per acre and FAR) for new residential development.

Residential Density Maximum: Maximum density (dwelling units per acre and FAR) for new residential development without State Density Bonus.

S

Small Project Reserve: Small Project Reserve is a 1,250,000 square feet Development Reserve for Bonus FAR Development with net new Office/R+D/Industrial floor area less than 150,000 square feet. The Small Project Reserve is organized by neighborhood. 50% of the Small Project Reserve sunsets after 5 years of Specific Plan adoption with any remaining floor area up to 50% of the original reserve amount returning to the Neighborhood Reserve. The remainder of the Small Project Reserve sunsets after 10 years of Specific Plan adoption.

T

Total FAR Maximum: Maximum density for a parcel inclusive of office and R+D floor area, commercial and retail areas, residential floor area, and TDR floor area from sending parcels.

W

Walkability Score: A measure of pedestrian accessibility, where walking distances are calculated within a 5 to 30-minute radius. Walking distance to key amenities such as grocery stores, schools, or retail which are weighted, with shorter walking times scoring higher points. The final score ranges from 0 to 100, where a score of 90-100 indicates the most walkable environment where cars are not needed to conduct daily errands. A score between 70-89 indicates a very walkable environment, where most errands can be accomplished on foot. Walk Score® is an original methodology formulated by Front Seat, and is now owned by Redfin.

ODS-Specific Definitions

A

Arcade: A set of contiguous arches on the outside of a building that create a walkway.

Awning: An overhang element that is attached to the front façade over a storefront entrance.

C

Canopy: A light roof-like structure, supported by the exterior wall of a building and columns, or wholly on columns, extending over a building entrance doorway.

Carport: Covered structure with open sides, supported by posts, which provides shelter for a single or multiple cars for nearby residential development. Carports are typically used for apartment development.

Cornice: A projection at the top of a building wall near a roof or ceiling, intended to protect the wall or as ornamentation.

Courtyard: Outdoor area that is open to the sky and surrounded by buildings, walls or a combination of the two.

E

Entry Drive, Main: A drive that provides a single entry into a project site.

Entry Drive, Secondary: A drive that provides an additional entry drive, in addition to the Main Entry Drive or Shared Entry Drive, along a secondary street.

Entry Drive, Separate: A drive that provides a separate main entry point for commercial and residential uses in a horizontal mixed-use project.

Entry Drive, Shared: Drive that provides a single main entry point for commercial and residential uses in a horizontal mixed-use project.

F

Façade: The exterior wall of a building exposed to public view or that wall viewed by persons not within the building. The portion of any exterior elevation of a building extending vertically from the grade to the top of a parapet wall or eave, and horizontally across the entire width of the building elevation.

Frontage, Building: The lineal dimension, parallel to the ground, of a building abutting a public street.

Frontage, Primary: The edge of the closest building to the street bordering the property. If there are two streets bordering the property, the street with the Main Entry Drive or Shared Entry Drive is the Primary Frontage.

Frontage, Secondary: The edge of the closest building to any street bordering the property that is not the primary frontage.

Frontage, Street: That portion of a lot or parcel of land that borders a public street. Street frontage shall be measured along the common lot line separating said lot or parcel of land from the public street.

Furniture Zone: The area of the pedestrian realm between the Through Zone of the sidewalk and the front façade of the building.

G

Ground Floor Finish Level: The uppermost surface of the ground floor of a building once finishes have been applied.

H

Heritage Resource: Improvements, buildings, portions of buildings, structures, signs, features, sites, scenic areas, views and vistas, places, areas, landscapes, trees, or other natural objects or objects of scientific, aesthetic, educational, political, social, cultural, architectural, or historical significance to the citizens of the city, the Santa Clara Valley region, the state, or the nation, which are designated and determined to be appropriate for preservation by the city council.

Heritage Resource District: Any geographically definable area containing a concentration or continuity of heritage resources which are thematically related, or which contribute to each other and are unified by a distinctive character, historical interest, aesthetic value, or which represents one or more architectural periods or styles typical to the city, and that has been designated and determined to be appropriate for preservation by the city council.

Horizontal Mixed Use: Development project where the parcel has both commercial and residential uses on the ground floor on different parts of the site. The commercial use may be a planned building(s) or an existing commercial building(s) on the same site.

I

Interior Central Space: Outdoor space that is located fully or partially behind site building(s).

Internal Street: Smaller street or network of streets within a development project that provides internal circulation.

L

Landscape Buffer: A separation of uses, buildings or spaces composed of plantings, surface treatment or other non-structural landscaping techniques.

Light Shield: A physical hood installed over a light source to reduce light spillover and focus light on given space or feature.

M

Monument Sign: A free-standing sign that is mounted to the ground that is often placed at entries to a building or development

Mullion: A vertical element that forms a division between units of a window.

Multifamily Complex: Residential rental apartments and/or condominiums with two or three stories and arranged around a common landscaped courtyard. Parking is in the form of surface parking for residents and guests – residents often have covered car ports. Garden apartments also typically have amenities such as a common room or exercise room.

P

Podium Parking: Enclosed on-grade parking area covered by the ground floor of a building.

Pedestrian Friendly or Oriented: Design conditions that increase pedestrian safety, activity, accessibility and comfort.

Portico: A porch or walkway with a roof supported by columns, leading to the entrance of a building.

Primary Street: Street where the highest level of vehicle, pedestrian, and/or bicycle circulation is anticipated for a development project.

R

Residential Only: Development project where the entire area of the parcel has a residential use.

Residential Podium: A development project that has parking in an enclosed ground floor parking garage.

S

Secondary Street: Non-primary street adjacent to a development project.

Setback: The required distance from a structure to the property line on which it is located.

Stand-Alone Parking Structure: A parking structure that is not integrated into an occupied building.

Stepback: A change in the vertical plane of a multi-story building created by setting the upper story building facade away from the street beyond the maximum building height allowed at the build-to-zone.

T

Through Zone: The portion of the sidewalk intended for pedestrian movement.

Title 24: Refers to Title 24 of the California Code of Regulations, State of California Building Energy Efficiency Standards.

Transformer: Equipment to step down high-voltage electricity to a lower voltage needed to supply buildings. This equipment is typically housed in green utility boxes on sites.

Trellis: A light, open framework of wood or other materials used as a support for climbing plants or other landscaping approaches.

Townhouses: Attached units side-by-side that have front doors on one side and garages on the back side. Most townhouses have two-car garages, either two spaces wide or two tandem spaces (end to end). The front doors look onto a public street, private drive, or common open space, while the garages are usually lined up along an alley with garage doors on both sides. This development type typically includes tuck-under garage parking and additional surface parking spaces for visitors.

Tuck-Under Parking: Ground floor parking spaces that are open but covered by the upper floor of a residential building.

U

Uplighting: A strategy for increasing the visibility of an architectural or landscape feature by lighting the feature(s) from below.

Usable Open Space: Outdoor landscaped area with resources, features and/or design elements that facilitate active and/or passive recreation. Any site area covered by enclosed buildings, hardscaping or parking is not considered Usable Open Space.

V

Valance: The part of an awning that hangs down a short distance from the edge of the awning.

Vertical Mixed Use/Residential Podium Projects: Development project that has commercial uses on the ground floor with residential uses above.

W

Wall Cap: A protective and/or decorative top surface applied to a finished wall structure. Wall Caps include corner additions, end pieces, and flat or angled surface applications.

Appendix B

Planting Palettes

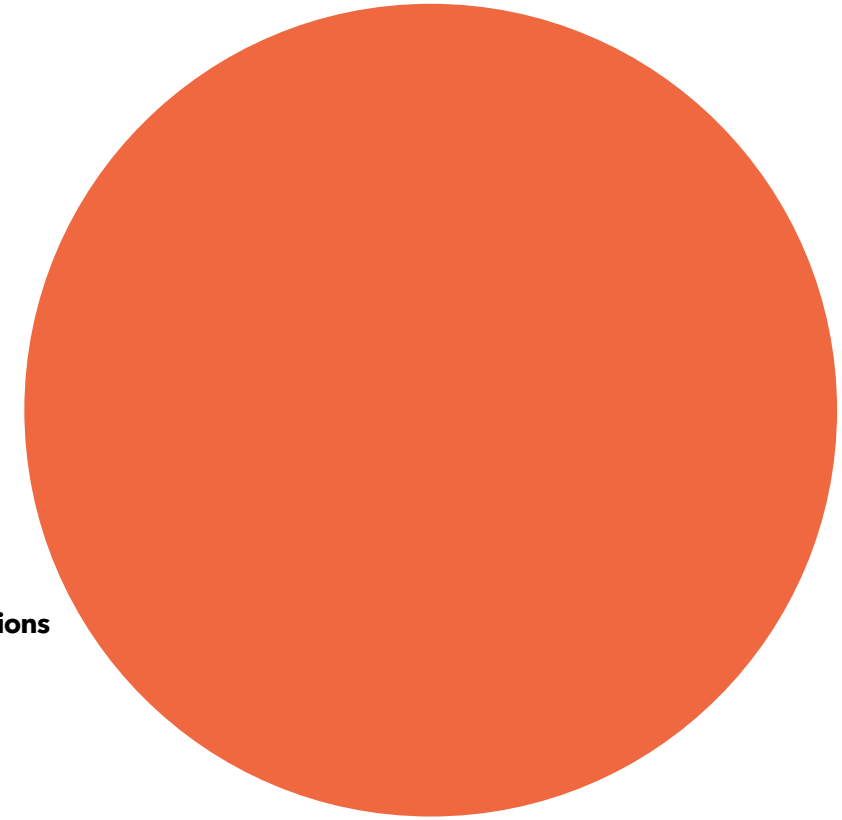


TABLE 31 Landscape / Habitat Zone Archetypes and Ecosystem Recommendations

Landscape / Habitat Zone Archetypes	Landscape / Habitat Zone Archetype Plant Selection Factors					Local Native Ecosystem Recommendation (See Plant Palette Tables for species mix)				
	Aspect / sun exposure	Drainage	Depth to groundwater (which is saline in this portion of Sunnyvale)	Visibility / safety considerations or requirements	Proximity to sensitive habitat areas, channels, and habitat patches	Local native ecosystems	Trees (overstory)	Small trees / large shrubs (midstory)	Small shrubs (understory)	Herbaceous vegetation (understory)
Lawn–functional amenity	sun	well	shallow- deep	yes	-	Coastal grassland	x (clusters/ edges)	-	x (clusters/ edges)	x (clusters/ edges)
Lawn–visual amenity	sun	well	shallow- deep	yes	-	Coastal grassland	x (clusters / edges)	-	x (clusters/ edges)	x (clusters/ edges)
Stormwater treatment areas–linear	sun (meadow) shade (riparian)	engineered	shallow	depending on location	-	Alkali wet meadow Wet meadow Riparian	x	-	x	x
Stormwater treatment areas–basins	sun	engineered	shallow	depending on location	-	Alkali wet meadow Wet meadow Willow grove	x	-	x	x
Small planting areas	sun	well	deep	depending on location	-	Oak savanna and oak woodland	x	-	x	x
Small planting areas	shade	well-poorly	mid	depending on location		Riparian	x	-	x	x
Large planting areas	sun	well-poorly	shallow- mid	-	-	Willow grove	x	x	x	x

Landscape / Habitat Zone Archetypes	Landscape / Habitat Zone Archetype Plant Selection Factors					Local Native Ecosystem Recommendation (See Plant Palette Tables for species mix)				
	Aspect / sun exposure	Drainage	Depth to groundwater (which is saline in this portion of Sunnyvale)	Visibility / safety considerations or requirements	Proximity to sensitive habitat areas, channels, and habitat patches	Local native ecosystems	Trees (overstory)	Small trees / large shrubs (midstory)	Small shrubs (understory)	Herbaceous vegetation (understory)
Large planting areas	sun overstory shade understory	well-poorly	mid	-	channels	Riparian	x	x	x	x
Large planting areas	matching sensitive habitat area or habitat patch			-	x	x	x	x		
High visibility / entry planting areas (building entrances, campus entrances)	sun	well	deep	yes	-	Oak savanna and oak woodland	x	x	x	x
High visibility / entry planting areas (building entrances, campus entrances)	sun overstory shade understory	well-poorly	mid	yes	-	Riparian	x	x	x	x
Pedestrian area planting (plazas, mixing zones)	sun	well	deep	yes	-	Oak savanna and oak woodland	x	-	x	x

Landscape / Habitat Zone Archetypes	Landscape / Habitat Zone Archetype Plant Selection Factors					Local Native Ecosystem Recommendation (See Plant Palette Tables for species mix)				
	Aspect / sun exposure	Drainage	Depth to groundwater (which is saline in this portion of Sunnyvale)	Visibility / safety considerations or requirements	Proximity to sensitive habitat areas, channels, and habitat patches	Local native ecosystems	Trees (overstory)	Small trees / large shrubs (midstory)	Small shrubs (understory)	Herbaceous vegetation (understory)
Pedestrian area planting (plazas, mixing zones)	sun overstory shade understory	well-poorly	mid	yes	-	Riparian	x	-	x	x
Vehicular area planting (street medians, street parking strips, parking lots)	sun	well	deep	yes	-	Oak savanna and oak woodland	x	x (where feasible*)	x	x
Vehicular area planting (street medians, street parking strips, parking lots)	sun overstory shade understory	well-poorly	mid	yes	-	Riparian	x	x (where feasible*)	x	x

* Small shrubs capture tailpipe emissions -- incorporate them adjacent to vehicular areas where visibility/safety requirements allow

TABLE 32 Ecosystem Plant Palettes

Alkali Wet Meadow

Scientific Name	Common Name
Small trees / large shrubs	
Baccharis douglasii	Marsh baccaris
Baccharis pilularis	Coyote bush
Small shrubs	
Frankenia salina	Alkali heath
Limonium californicum	Marsh rosemary
Herbaceous vegetation	
Distichlis spicata	Salt grass
Euthamia occidentalis	Western goldenrod
Jaumea carnosa	Jaumea
Limonium californicum	Marsh rosemary

Wet Meadow/Bioswale

Scientific Name	Common Name
Trees	
Acer macrophylum	Bigleaf maple
Acer negundo	Boxelder maple
Alnus rhombifolia	White alder
Platanus racemosa	California sycamore
Populus fremontii	Fremont cottonwood
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Small trees / large shrubs	
Baccharis pilularis	Coyote bush
Cornus sericea	Redosier dogwood
Morella californica	Pacific wax myrtle
Sambucus nigra ssp. caerulea	Blue elderberry

Wet Meadow/Bioswale

Scientific Name	Common Name
Small shrubs	
Baccharis salicifolia	Mulefat
Rosa californica	California wild rose
Herbaceous vegetation	
Agrostis pallens	Diego bent grass
Anemopsis californica	Yerba mansa
Asclepias fascicularis	Narrowleaf milkweed
Carex praegracilis	Clustered field sedge
Deschampsia cespitosa ssp. holciformis	Pacific hairgrass
Elymus triticoides	Creeping wildrye
Festuca rubra	Red fescue
Juncus balticus	Baltic rush
Juncus patens	Common rush
Juncus xiphioides	Irisleaf rush

Riparian

Scientific Name	Common Name
Trees	
Acer macrophylum	Bigleaf maple
Acer negundo	Boxelder maple
Aesculus californica	California buckeye
Alnus rhombifolia	White alder
Fraxinus latifolia	Oregon ash
Platanus racemosa	California sycamore
Populus fremontii	Fremont cottonwood
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Small trees / large shrubs	
Cornus sericea	Red osier dogwood
Corylus cornata var. californica	Hazelnut
Heteromeles arbutifolia	Toyon
Ribes californicum	Hillside gooseberry
Ribes sanguineum	Red flowering currant

Riparian

Scientific Name	Common Name
Sambucus nigra ssp. caerulea	Blue elderberry
Vitis californica	California grape
Small shrubs	
Baccharis salicifolia	Mulefat
Rosa californica	California rose
Symphoricarpos albus	Common snowberry
Herbaceous vegetation	
Aquilegia formosa	Western columbine
Artemisia douglasiana	Mugwort
Asclepias fascicularis	Narrow leaf milkweed
Clematis ligusticfolia	Virgin's Bower
Cyperus eragrostis	Tall flatsedge
Rubus ursinus	Seep monkeyflower
Iris douglasiana	Douglas iris
Juncus patens	Common rush
Rubus ursinus	California blackberry

Willow Grove

Scientific Name	Common Name
Trees	
Acer negundo	Boxelder maple
Fraxinus latifolia	Oregon ash
Populus fremontii	Fremont cottonwood
Salix laevigata	Red willow
Salix lasiolepis	Arroyo willow
Small trees / large shrubs	
Cornus sericea	Red osier dogwood
Physocarpus capitatus	Ninebark
Sambucus nigra ssp. caerulea	Blue elderberry
Vitis californica	California grape
Small shrubs	
Baccharis salicifolia	Mulefat
Rosa californica	California rose
Rubus ursinus	California blackberry
Herbaceous vegetation	
Artemisia douglasiana	Mugwort
Juncus patens	Common rush

Coastal Grassland

Scientific Name	Common Name
Small shrubs	
Eriogonum fasciculatum	California buckwheat
Lupinus albifrons	Silver bush lupine
Salvia sonomensis	Sonoma sage
Trichostema lanatum	Wooly blue curls
Herbaceous vegetation	
Achillea millefolium	Yarrow
Asclepias fascicularis	Narrow leaf milkweed
Bromus carinatus	California brome grass
Calochortus luteus	Yellow mariposa lily
Elymus triticoides	Creeping wildrye
Epilobium canum	California fuchsia
Eschscholzia californica	California poppy
Festuca rubra	Red fescue
Iris douglasiana	Douglas iris
Ranunculus californicus	California buttercup
Sidalcea malviflora	Checkerbloom

Coastal Grassland

Scientific Name	Common Name
Sisyrinchium bellum	Blue eyed grass
Stipa pulchra	Purple needlegrass
Triteleia laxa	Ithuriel's spear

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Trees	
Aesculus californica	California buckeye
Arbutus menziesii	Pacific madrone
Platanus racemosa	California sycamore
Quercus agrifolia**	Coast live oak**
Quercus kelloggii	California black oak
Quercus lobata*	Valley oak*
Small trees / large shrubs	
Corylus cornata ssp. californica****	Hazelnut****
Frangula californica	Coffeeberry
Heteromeles arbutifolia	Toyon
Prunus ilicifolia	Hollyleaf cherry
Solanum umbelliferum	Blue witch

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Small shrubs	
Artemisia californica	California sage
Lupinus albifrons	Silver lupine
Mimulus aurantiacus	Sticky monkeyflower
Symphoricarpos albus	Common snowberry
Herbaceous vegetation	
Achillea millefolium	Yarrow
Asclepias fascicularis	Narrow leaf milkweed
Clinopodium douglasii	Yerba buena
Elymus glaucus	Blue wild rye
Epilobium canum	California fuchsia
Eschscholzia californica	California poppy
Lupinus bicolor	Miniature lupine
Monardella villosa	Coyote mint

Oak Savanna & Oak Woodland (Coast Live Oak Mix, Valley Oak Mix)

Scientific Name	Common Name
Sisyrinchium bellum	Blue-eyed grass
Stipa pulchra	Purple needle grass
Symphyotrichum chilense	California aster

* Dominant tree species in Valley oak mix
** Dominant tree species in Coast live oak mix
*** Do not plant within 50 ft of oaks as precaution for Sudden Oak Death
**** Plant upslope of immediate riparian area

Moffett Park Specific Plan

Public Review Draft
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Sunnyvale