Draft: Jan 2012

# Multi-Modal Circulation, Streetscape, and Storm-water

# 3

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MILL SITE SPECIFIC PLAN

# 6 Multi-Modal Circulation, Streetscape, and Stormwater



*This chapter describes policies, guidelines, and improvements for the Mill Site's multi-modal transportation network and parking management system. This chapter also includes policies and guidelines that address the design of streets, sidewalks, landscape treatments, stormwater management, street furniture, and street lighting in the Mill Site.*

The multi-modal transportation network for the Mill Site is designed to accommodate future residents and employers while ensuring seamless connectivity between the existing circulation network in Fort Bragg and the Mill Site. In order to achieve these goals, the multi-modal transportation network emphasizes:

- ~~Reduced~~Complete streets that effectively and safely serve vehicles, pedestrians and cyclists.
- Moderate vehicle speeds;
- Improved pedestrian safety;
- Enhanced neighborhood-serving transit service;
- Supportive parking policies; and
- Convenient bike and pedestrian facilities.

As designed, the circulation network will create a high-quality walking and biking environment and will thereby expand mobility choices for existing and future residents, visitors, and employees.

## 3.1 Circulation Plan

The street, transit, pedestrian, and bicycle network for the Mill Site is designed to achieve the following objectives:

- Goal 1: Create a community with places that are easily accessible to pedestrians, cyclists, and drivers and that are well connected to other parts of Fort Bragg.
- Goal 2: Provide safe and convenient connections for pedestrians and bicycles through the Mill Site by establishing a network of streets and multi-use paths connecting Main Street and the Coastal Trail area.
- Goal 3: Create high quality public spaces within rights of way.

***Circulation Policies:***

# 4 Multi-Modal Circulation, Streetscape, and Stormwater

***Policy MM-1.*** "Complete Streets." As part of the first (Master) Tentative Subdivision Map for the Plan Area Mill Site, the applicant shall establish a multi-modal network of "complete streets" that balances the needs for safety and comfort of pedestrians, cyclists, drivers, and transit riders and that substantially conforms to the conceptual street network design in Figure 3-1. Interior streets within each district shall be determined at the Master Tentative Subdivision Map stage for each district. MAP C-2.

***Policy MM-2.*** Mill Site Public Right of Way Dedication. New Mill Site streets shall be offered for dedication at the (Master) Tentative Subdivision Map stage. Streets and all associated utilities (sewer, water, stormwater, etc.) shall be offered for dedicated to the City of Fort Bragg upon completion of construction by the developer. Interior rights of way for each subsequent subdivision shall dedicate right of way at the time of development or subdivision, as required by the permitting authority.

Policy MM-2. Policy MM-3. Street Connectivity. At the The (Master) Tentative Subdivision Map stage for each district, the applicant shall establish street connectivity that encourages pedestrian and bicycle travel and provides convenient connections to destinations in the Plan Area Mill Site and Fort Bragg.

**Comment [MJ1]:** Applicant's may decide to realign roadways and cross streets within the plan area during the Mater Tentative Map stage for the site.

## 3.1.1 STREET CONNECTIONS. CYPRESS STREET AND GATEWAYS

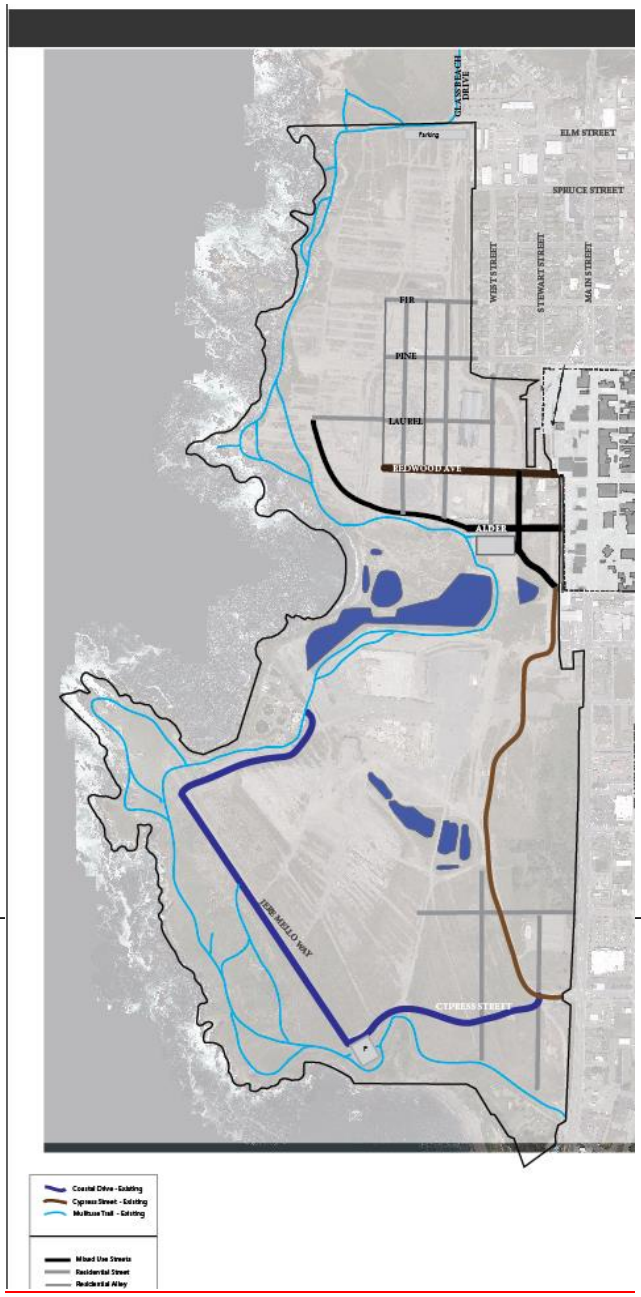
Policy MM-3. Policy MM-4. New development in the Mill Site will be integrated with the existing street network by creating effective linkages between the two. The overall street layout is depicted in Map C-2. Highway 1 generally serves Redwood Avenue shall serve as the boundary between the Mill Site and the existing developed portions of the City south of Madrone Street. These connection points will be designed to provide a more seamless transition that integrates existing neighborhoods and districts with gateway connections between new development in the Mill Site. The feasibility of connections to these streets may be constrained by wetlands and/or safety concerns on Highway 1.

and existing development. Other connection points shall occur at Elm Street, Spruce Street, Bush Street, Fir Street, Pine Street, Redwood Avenue, Alder Street and Oak Street, as feasible.

***Policy MM-5.*** Other Connections. Non-street public rights of wal shall be dedicated as necessary to support the multi-modal transportation network.

# 4 ~~Multi-Modal Circulation, Streetscape, and Stormwater~~

*FIGURE 3-1* *CONCEPTUAL STREET NETWORK DIAGRAM*


GLASS BEACH DRIVE
ELM STREET
SPRUCE STREET
WEST STREET
STEWART STREET
MAIN STREET
FIR
PINE
LAUREL
REDWOOD AVE
ALDER
TIDE MELLO WAY
CYPRESS STREET
Coastal Drive - Existing
Cypress Street - Existing
Multiuse Trail - Existing
Mixed Use Streets
Residential Street
Residential Alley

# ~~4~~ ~~Multi-Modal Circulation, Streetscape, and Stormwater~~

## 3.1.23.1.1 ROADWAY NETWORK

### A. New Streets and Street Connections

A number of new streets will be necessary to serve future development of the MIll Site and connection to the existing street network. A wide range of street typologies will serve the varying types of development that will occur, ranging from one-lane alleys to commercial streets with parking on both sides and generous sidewalks that allow for outdoor seating and other amenities. The overall street layout is shown in Figure 3-1.

In the east-west direction, the City's existing street network will extend into the Mill Site from Alder Street (south) to Elm Street (north). A street connection at Laurel Street is not feasible due to the Skunk Train tracks; similarly, a connection at Madrone Street is inhibited by the Mendo Mill property, while a connection at Oak Street may be constrained by Pond 5. In addition, a number of new north-south small-scale residential streets and alleys will provide connections between east-west streets, creating a fine-grained block system.

Cypress Street will be extended into the site to serve as the major entry point for the southern part of the Mill Site.

A preliminary traffic analysis was conducted based on the street standards included in Table 3-1. Given the development limitations and the density of the road network, it is likely that all on-site streets would need only one lane in each direction. Some intersections may need left-turn lanes, depending on specific development projects. It is unlikely that any on-site intersections will need traffic signals. Stop signs and traffic signals, if necessary, will be installed in accordance with the Manual of Uniform Traffic Control Devices.

A preliminary assessment of off-site intersections shows that few, if any, intersection improvements would be needed (see Appendix C). The intersection of Main Street/Pine Street will need to be signalized. Other cross-streets that intersect Main Street at un-signalized intersections may experience an increase in traffic due to the development of the MIll Site.

- **Coastal Drive:** This street is unique in that the southbound lane is wider than typical in order to accommodate (1) Mendocino Transit Authority (MTA) buses on the western side

Comment [MJ2]: No longer in plan

of the roadway, (2) a Class 1[4] bike trail that extends the length of Coastal Drive on the west side of the road, and (3) parking provided on the east side of the street and in occasional perpendicular bays on the west side of the street. The parking bays will allow motorists to park and enjoy views of the Pacific Ocean without blocking view corridors along east-west streets in the Plan Area and the rest of the city. Bicycle parking will also be provided at each bay. (See cross section and plans in Figures 3-2A through 3-2C. The section locations are shown in Figure 3-1.)

- **Residential Streets:** One of the primary objectives in residential street design for the Plan Area is to ensure low vehicle speeds. Travel lanes will be shared by motorists and cyclists. In some instances, it may be appropriate to use "yield" streets, with a single 10- to 12-foot travel lane for two-way traffic. On-street parking will be provided on both sides of the street. Streets will be designed so that motorists drive no faster than 20 miles per hour.
- **Mixed-Use Streets:** In the Central District, foot traffic will be higher due to the mix of residential, commercial, visitor facility, and light industrial uses, and therefore mixed-use streets will include generous sidewalks. On-street parking will be provided on both sides of the street to accommodate visitors and shoppers. Redwood Avenue, the commercial heart of the Plan Area, will be a two-way street to ensure retail success. Special corner treatments and landscaping, similar to those in the existing downtown, will ensure very low motor vehicle speeds.
- **Alleys:** In the Northern District, garages will typically be located behind residential buildings and will be accessible via alleys, which will connect to the main residential streets. The alley grid will mimic the existing grid in Fort Bragg.
- **Linear Park:** A car-free green corridor will run from the northern edge of the Plan Area through the Northern District to the Central District. The linear park will be designed to provide stormwater treatment and a north-south pedestrian and bicycle connection from Elm Street to Parkway Street at Laurel Street within the Central District.
- **Parkway Street:** The existing Glass Beach Drive will be extended into the Plan Area to serve as a north-south connector roadway for the Northern and Central Districts.
- **Southern District Streets:** These streets will be designed to accommodate larger truck movements, with 11-foot travel lanes and more generous corner radii.

**Comment [MJ3]:** These could be made into programs or placed in the Design Guidelines.

**Comment [MJ4]:** Removed from plan.

[4] A Class 1 path is defined in the California Highway Design Manual as ". . . a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross-flow minimized." The Class 1 segment (see Figure 3-2A) of the Coastal Trail for the A/B segment of Coastal Drive is the Coastal Trail multi-use path. The path is 12 feet wide and has an 8-foot width of natural pavement and a 4-foot wide gravel shoulder on the western edge of the trail. In the B/C and C/D segments, the Class 1 path will be immediately west of the roadway (see Figures 3-2B and 3-2C).

Table 3-1 lists standards for street width, parking lanes, vehicle speeds, and other features of new streets in the Plan Area.

TABLE 3-1 STREET STANDARDS

| | Residential Streets | Mixed-Use Streets – Redwood Avenue | Other Mixed-Use Streets | Alleys | Southern District Streets |
|---|---|---|---|---|---|
| Typical Travel Lane | Up to 10 feet – no lane definition necessary. | 10 to 11 feet | 10 feet | Minimum acceptable to Fire Department and garbage collection. | 11 feet |
| Parking | 7 feet | 8 feet | 8 feet | None | 8 feet |
| Bike Lane | None | 5 feet optional | 5 feet optional | None | 5 feet |
| Low-Impact Development (LID) Feature | Required (see Sections 3.4for details) | | | | |
| Design Speed | 20 miles per hour | 20 miles per hour | 25 miles per hour | 15 miles per hour | 25 miles per hour |
| Control Vehicle | WB-40 | WB-40 | WB-40 | WB-40 | Semi-trailer |
| Sidewalk | Required (see Table 3-2 for details) | | | | |

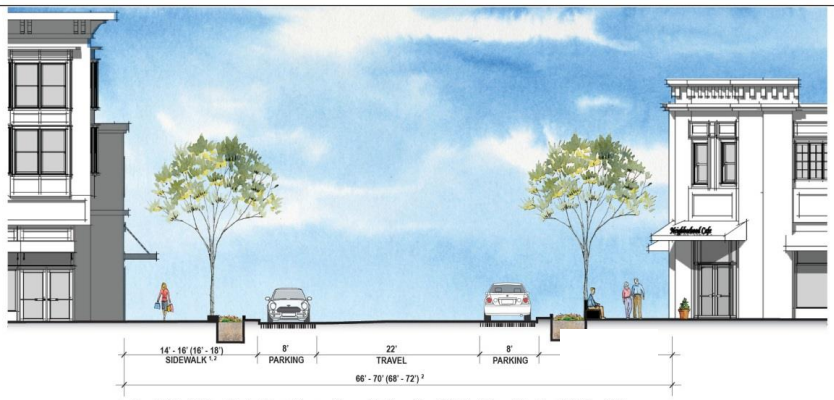
Source: Nelson Nygaard, 2010.

Figures 3-2A through 3-6 illustrate the street segments (plan view and elevation) shown in Figure 3-1.

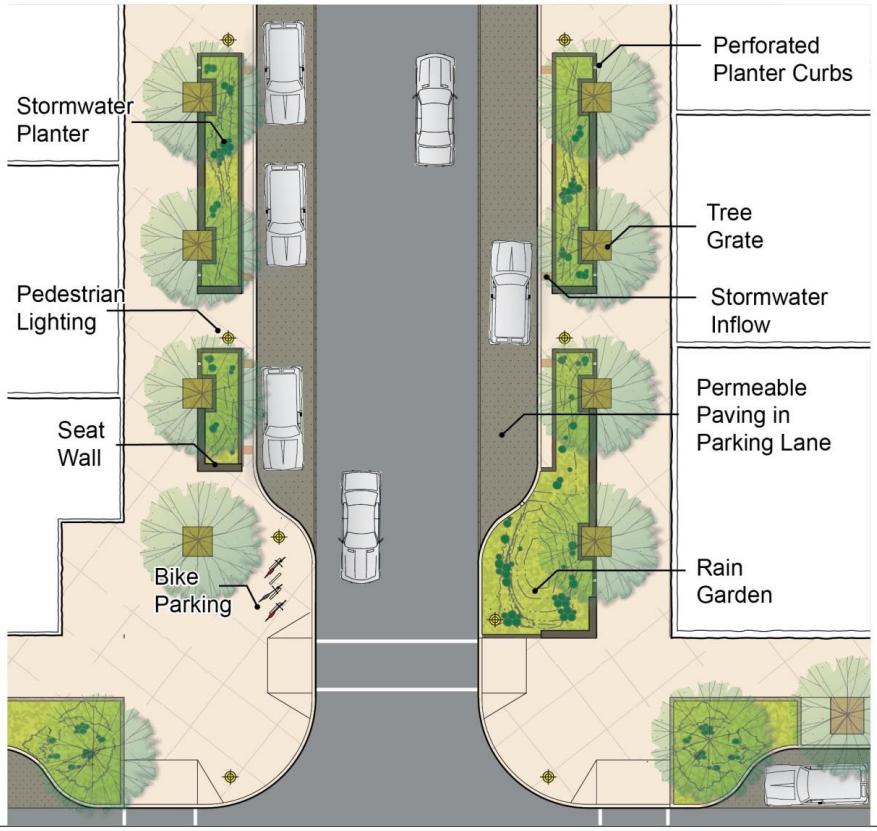
**Comment [MJ5]:** Use new or existing Street standards?

# 4 Multi-Modal Circulation, Streetscape, and Stormwater

**FIGURE 3.2 — MIXED USE STREET/REDWOOD AVENUE ALTERNATIVE 1 (WITH STORMWATER PLANTERS)**




1. See Table 4.3 for detailed breakdown of overall sidewalk width into Edge, Planting/LID/Furnishing, Clear and Frontage Zones.
2. Minimim and Maximum Dimensions increase by 2 feet for Redwood Ave.




**Comment [MJ6]:** Recommend deleting these street typologies as they are very suburban and use up a lot of real estate. Current City streets are 50 to 60" ROW and these and 70+ ROW. Also no need to overdesign streets. It is better to have flexibility when a project is submitted.

**FIGURE 3-2B — MIXED USE STREET/REDWOOD AVENUE[2] — ALTERNATIVE 2 (TREE WELLS ONLY)**

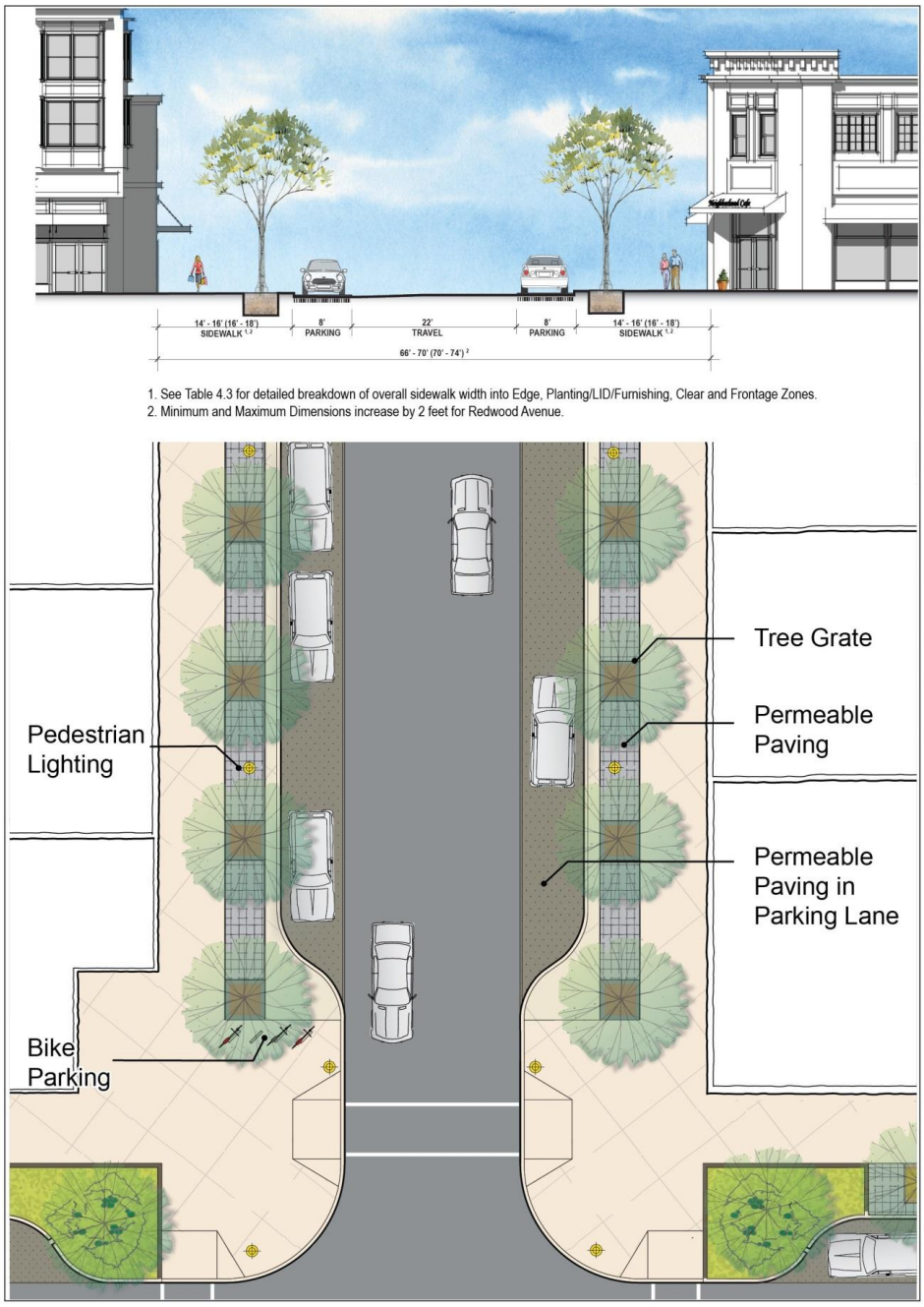
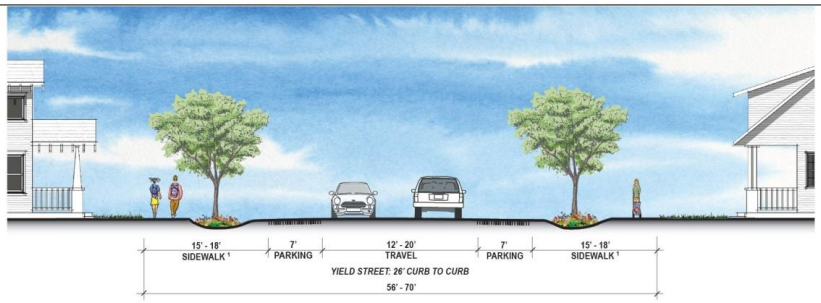
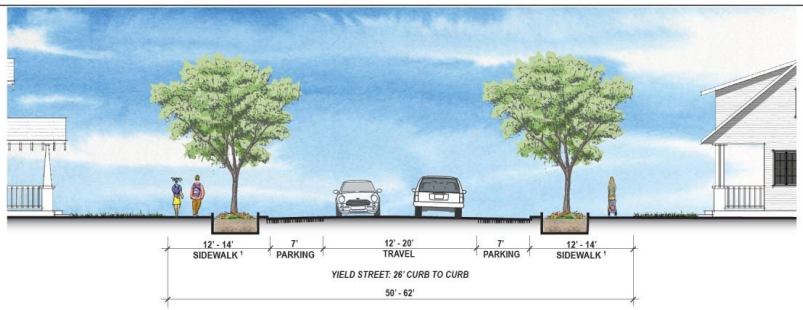


FIGURE 3-3A – STANDARD RESIDENTIAL STREET – ALTERNATIVE 1 (WITH SWALES)

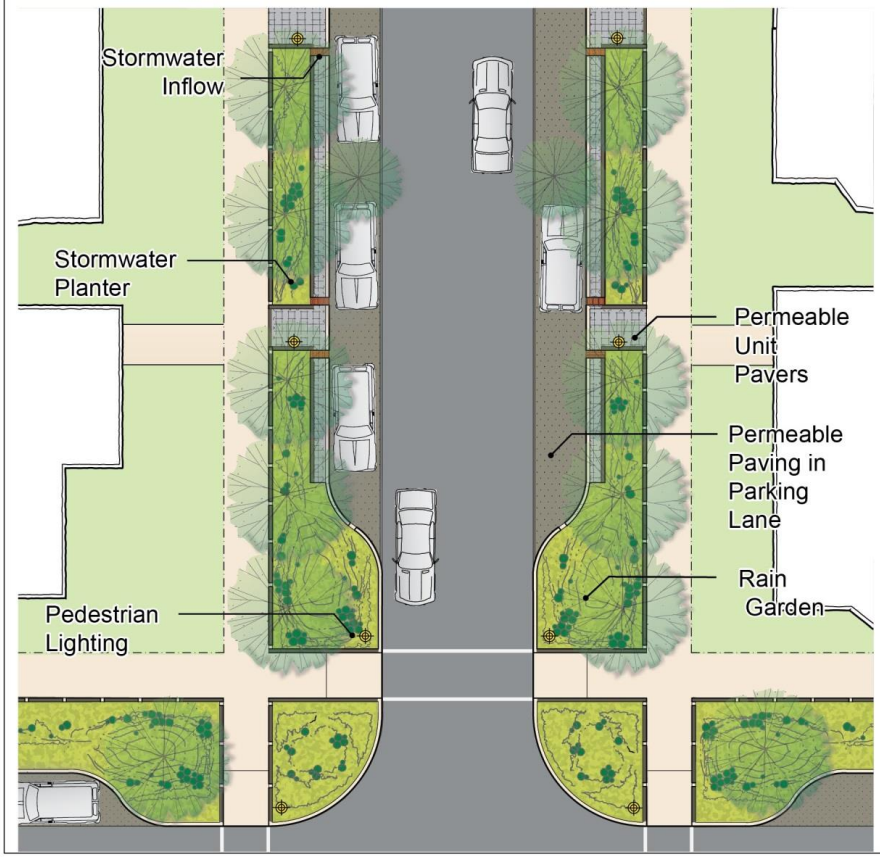



1. See Table 4.3 for detailed breakdown of overall sidewalk width into Edge, Planting/LID/Furnishing, Clear and Frontage Zones.

FIGURE 3-3B — STANDARD RESIDENTIAL STREET — ALTERNATIVE 2 (WITH CURB/NARROW LID)

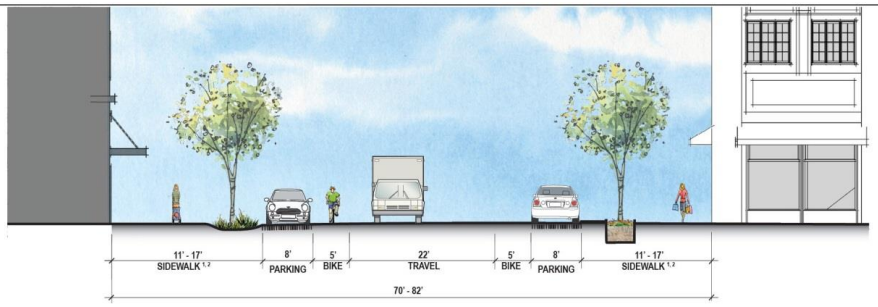



1. See Table 4.3 for detailed breakdown of overall sidewalk width into Edge, Planting/LID/Furnishing, Clear and Frontage Zones.

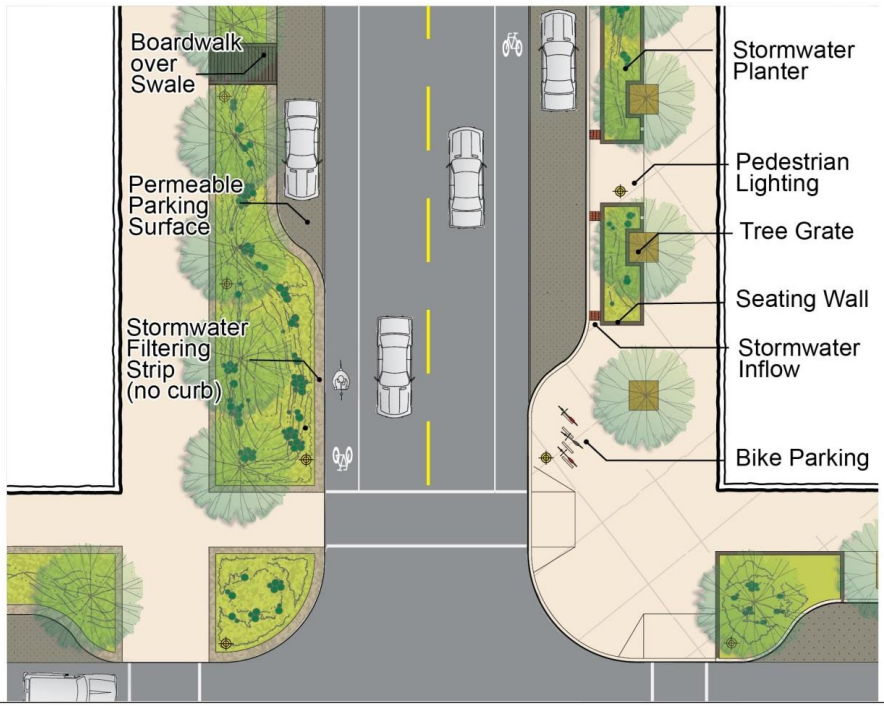


# 4 Multi-Modal Circulation, Streetscape, and Stormwater

*FIGURE 3-4 — SOUTHERN DISTRICT STREETS*




1. See Table 4.3 for detailed breakdown of overall sidewalk width into Edge, Planting/LID/Furnishing, Clear and Frontage Zones.
2. Illustrated LID features are examples of options discussed in Section 4.6.




~~Policy MM-4.~~ Policy MM-6.

# 4 Multi-Modal Circulation, Streetscape, and Stormwater

***Roadway Policies:*** ***Street Typologies.*** The Mill Site street network shall conform with the City's existing street standards.

***Policy MM-5.*** *Policy MM-7.* **Connectivity.** The roadway network shall include facilities for all modes of transportation generally consistent with ***Figure 3-1*** Map C-2. In the Northern and Central Districts, block size and roadway pattern shall be similar to the existing city grid, and the existing alley along the eastern edge of the district shall be maintained. The east-west streets shall extend into the ***Plan Area*** Mill Site in alignment with the existing city grid where feasible. In addition, the north-south West Street and Glass Beach Drive shall continue into the ***Plan Area.*** Mill Site.

***Program MM 4-1*** ***Cypress Street Gateway.*** *Cypress Street shall serve as the major entry point for the southern part of the* ***Plan Area*** *Mill Site and as the primary access point to a* ***potential hotel/resort and a*** *research and education center,* ***as well as*** *and future employment uses. Therefore, the gateway shall be designed to highlight these potential uses in the Southern District* ***and include clear and visible signage.*** *.*

***Program MM 4-2*** ***Cypress Street Bridge.*** *A vehicular bridge* ***shall*** *may be installed over* ***the*** *a restored Maple Creek.*

***Program MM 4-3*** ***Redwood Avenue Gateway.*** *The extension of Redwood Avenue from the existing Central Business District (CBD) into the Central District of the* ***Plan Area*** *Mill Site shall serve as a direct physical connection between existing and future commercial development. Redwood Avenue shall: (1) be a two-way street* ***to ensure:*** *; (2) be designed to ensure low motor vehicle speeds by using traffic calming measures; 3) the* ***success*** *northern sidewalk of* ***retailers; (2) include*** *Redwood Ave shall serve as a pedestrian promenade from the CBD to the coast to facilitate pedestrian and solar access; and 4) sidewalks shall feature special corner treatments* ***and.*** *, pedestrian refuge crosswalks, landscaping, and valley gutters similar to* ***those in*** *the existing downtown****; and (3) be designed to ensure low motor vehicle speeds).***

***Policy MM-6. Laurel Street.*** *Recognizing that the existing Skunk Train Depot and tracks prevent through automobile traffic from the terminus of Laurel Street at the historic Skunk Train Depot, a walkway shall be created south of the depot and west around the train tracks to the Plan Area.*

***Policy MM-7. Glass Beach Drive and Elm Street.*** *The street shall be designed to be compatible with the adjacent residential neighborhood and to provide appropriate bicycle and automobile access to Coastal Drive and Parkway Street.*

***Program MM 4-5*** ***Connections at Spruce, Bush, Fir, and Pine Streets.*** *The street connections shall be designed to ensure that vehicle speeds and volumes are kept low and that the connection itself is compatible with the existing neighborhood and the proposed development.*

**Comment [MJ7]:** Consider making this a program to provide greater flexibility.

**Comment [MJ8]:** City Council should consider if they want to be this proscriptive regarding this street. It might be easier to just require that the street match existing Downtown street treatments.

**Comment [MJ9]:** Its not clear that this is feasible, given train track ownership. This should be made into a program instead.

*Program MM 4-6* **Alder, Oak, Maple, Walnut, and South ~~Streets.~~Street Connections.** *Entries to the ~~Plan Area~~Mill Site for vehicles shall be accommodated at Redwood and Alder Street. Connections at Oak, Maple, and Walnut Streets should be ~~considered and~~ completed if feasible. A connection at South Street and Noyo Point Road is not ~~recommended~~feasible due to ~~its~~ proximity to ~~Cypress Street and~~ the Noyo Bridge.*

~~***Policy MM-8.*** *The design of the Southern District shall accommodate future pedestrian crossings of Main* **Street** *at every cross street.~~

~~***Policy MM-9.*** ***Parkway Street.*** *Parkway Street as shown in Figure 3-1~~***& Infrastructure Dedication.*** *All Streets, alleys and associated infrastructure (sewer mains, water mains, drainage features) shall be offered for dedication to the City as part of ~~the Master Tentative Subdivision Map. Parkway Street~~any subdivision or Coastal Development Permit approval. All Street and infrastructure shall be constructed by the developers ~~of the Northern, Central, and Southern Districts~~ consistent ~~with~~City Standards, the ~~Utility Master~~Coastal General Plan~~.~~*

~~*Policy MM-10.*~~ *Policy MM-8.* ~~***Linear Park.*** *A car-free green corridor shall run from the northern edge of the Plan Area through the Northern District to the Central District. The greenway shall be designed to provide stormwater treatment and conveyance and shall provide a north-south pedestrian~~any Master Subdivision Map and~~ ~~bicycle connection to Parkway Street/Glass Beach Drive within the Central District.~~ /or Development Agreement.*

~~*Policy MM-11.*~~ *Policy MM-9.* ***Complete Streets.*** *All streets shall be designed as complete streets for the safety and comfort of cyclists and pedestrians, including children, the elderly, and people with disabilities, consistent with US Department of Transportation complete streets guidelines.*

~~***Policy MM-12. Well Designed Streets.*** *All streets shall be designed and improved consistent with the standards included in Table 3-1, the street sections and plans detailed in Figures 3-2 through 3-6, and the guidelines in Table 3-2. Exceptions may be granted by the review authority, if it is determined that safe and adequate public access and circulation for all modes are preserved by such an exception.~~*

*Program MM 4-9* **Safe Streets.** *The design speed of streets in the Central and Northern Districts shall not exceed 25 miles per hour, with typical operating speeds below 20 miles per hour. In the Southern District, design speeds may be as high as 30 miles per hour, with typical operating speeds below 25 miles per hour. Streets shall be designed to optimize pedestrian safety and comfort, with the minimum number of travel lanes necessary to accommodate their traffic function at Level of Service E or better, averaged over the midweek peak one hour. If unacceptable traffic congestion is identified, traffic shall be redistributed onto additional streets, or accommodated with a right- or left-turn pocket, rather than by adding a travel lane.*

**Comment [MJ10]:** Not necessary as the only cross street in the southern district at this time is Cypress Street, which already has a crossing.

**Comment [MJ11]:** This policy should be more inclusive to include the dedication of all streets and all infrastructure.

**Comment [MJ12]:** This park has been deleted from the plan as this area is no longer slated for rezoning.

~~*Policy MM-13.*~~ *Policy MM-10.* ***Gated Communities.*** *Gated communities are prohibited.*

~~*Policy MM-14.*~~ *Policy MM-11.* ***Alleys and Garages in the Northern District.*** *The alley grid shall be similar to the original alley grid ~~in the remainder~~ of ~~the~~ Fort Bragg west of Harold Street. Except where infeasible, garages shall be located behind residential buildings and shall be accessible via alleys connecting to the main residential street.*

~~*Policy MM-15.*~~ *Policy MM-12.* ***South District Streets.*** *The streets in the Southern District which serve commercial or industrial uses shall be designed to accommodate larger truck movements~~.~~.*

## ~~3.1.3~~3.1.2 BICYCLE SYSTEM

Its largely flat terrain, compact development pattern, and mild climate make Fort Bragg an ideal place for bicycling. Bicycling in Fort Bragg is already popular for recreational purposes and as a transportation mode to destinations both within the city and in surrounding communities. The City's current bicycle network is comprehensive, and the Mill Site offers the opportunity to tie into the City's existing bicycle routes and connect them to the ocean, providing an extraordinary system for utility and recreational riding.

### *Bicycle Policies:*

~~*Policy MM-16.*~~ *Policy MM-13.* ***Bike-Friendly Streets.*** *Streets shall accommodate cyclists, either though dedicated bicycle facilities or through traffic calming sufficient to ensure that motor vehicles travel at bike-compatible speeds.*

~~*Policy MM-17.*~~ *Policy MM-14.* ***~~Recreational~~ Path Connections.*** *Multi-use paths that connect with the Coastal Trail~~, Glass Beach, Cypress Street, Noyo Harbor, and the Noyo Bridge~~ are encouraged within the ~~Plan Area~~Mill Site and may ~~in some cases~~ be required by the California Coastal Act.*

~~***Policy MM-18. Parking.*** *Bicycle parking shall be provided throughout the Plan Area in accordance with the requirements of the Coastal Land Use Development Code. Bicycle parking shall be installed at locations that have significant potential for increasing bike travel, such as visitor attractions and community facilities.*~~

~~***Policy MM-19.***~~

***Policy MM-15. Multi-Use Trail Along Highway 1*** *A multi-use trail along the western edge of the Mill Site from Noyo Point Road to Madrone Street shall be developed and offered in dedication to the City of Fort Bragg at the time that the associated parcels are developed.*

~~Policy MM-20.~~ Policy MM-16. The ~~Specific Plan~~ bicycle network includes the following improvements~~, shown in Figure 3-7:~~ :

- A multi-use trail connecting to the Pudding Creek Bridge, Elm Street, Redwood Ave, Cypress Street, Noyo Point Road &Highway 1;
- Bicycle lanes on Redwood Street;
- A multi-use trail along the western edge of the Caltrans right-of-way from Noyo Point Road to Madrone Street; and
- Shared space (bicycles and vehicles) on residential ~~streets~~ and mixed use streets~~; and~~.

~~These improvements will connect several gaps in the existing bicycle network by providing additional north-south bike connections, integrating and expanding east-west bike routes into the Mill Site and to the coast, and creating a more continuous recreational and utility biking network.~~

## ~~3.1.4~~3.1.3 PEDESTRIAN SYSTEM

All streets in the Mill Site are designed to maintain motor vehicle travel at a speed that optimizes safety for all users, including cyclists and pedestrians.

### A. Traffic Calming Elements

By providing compact intersections and travel lanes, small blocks, abundant landscaping, and sidewalk-oriented development, the design for the Mill Site sends a clear message to motorists that they have left the highway and entered a pedestrian-oriented neighborhood. Specific traffic calming elements included in the site design include:

All new streets in the ~~Plan Area~~Mill Site (except the west side of Coastal Drive) will be equipped with sidewalks to ensure that future residents, visitors, and employees can safely and comfortably walk throughout the site at all times of day and night.

***Pedestrian Policies:***

***Policy MM-17. Traffic Calming.*** *The following specific traffic calming elements, or their equivalents, shall be included, as required by the Community Development Director, in all Streets: sidewalks in compliance with City standards on both sides of the street; corner "bulb-outs" to ensure low-speed turning movements and improving pedestrian safety; native landscaping along the roadway edge; small block length; and dedicated Bicycle lanes on the Primary streets.*

~~*Policy MM-21.*~~ *Policy MM-18.* ***Safety and Security.*** *Streets on the Mill Site shall be designed to be safe at all times of day and night for pedestrians ~~through compliance with the design guidelines identified for the "sidewalk zones" (see Table 3-2.)~~. The minimum sidewalk width for all streets within all districts shall be 6 feet.*

~~*Policy MM-22.*~~ *Policy MM-19.* ***Pedestrian-Oriented Buildings.*** *All future buildings in the Mill Site shall be oriented toward sidewalks rather than parking lots. No parking shall be placed between a building front façade and the street it faces.*

~~*Policy MM-23.*~~ *Policy MM-20.* ***Pedestrian Connectivity.*** *To the extent feasible, where streets are discontinuous for cars, pedestrian and bicycle connections shall be made, through the construction of multi-use trails and sidewalks with clear sightline visibility from adjoining rights of way.*

~~***Policy MM-24. Wayfinding.*** *Destination-oriented, pedestrian-scale signage shall be provided to help pedestrians find their way toward key destinations throughout the Central Business District.*~~

**Comment [MJ13]:** Consider if the City want's pedestrian wayfinding on the Mill Site, since it is not currently offered in downtown. Staff recommends deletion of this policy, especially as way findings is more often completed through destination maps and mobile devises.

~~Policy MM 25.~~ Policy MM-21. **Crosswalk Design.** *Base geometric design of crosswalks on residential streets ~~shall~~are encouraged to follow the guidance of the Institute for Transportation Engineers' Traditional Neighborhood Development Street Design Guidelines: An ITE Recommended Practice or Residential Streets, Third Edition or update. Geometric design of crosswalks for Redwood Avenue, other street segments with mixed-use development, and street segments with light industrial development ~~shall~~are encouraged to follow the guidance of the Institute for Transportation Engineers' Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: An ITE Recommended Practice.* ~~**Intersection Design.** Intersections shall be designed at the tightest turn radii to accommodate the design vehicle, to slow turning vehicles as they cross the pedestrian realm. The "control vehicle" – larger vehicles such as delivery trucks and fire engines that only occasionally use the street – may cross the center line to make turns.~~

Program MM 21.2 **Raised Crosswalks.** *Raised crosswalks and/or high visibility intersections ~~shall~~are encouraged to be installed along Redwood Avenue and in the Central Business District extension to slow vehicles and reduce conflicts with crossing pedestrians.*

Program MM 21.3 **Accent Paving.** *Accent paving in crosswalks on Redwood Avenue shall be installed to improve crosswalk visibility and aesthetics.*

Program MM 21,4 **Bulb-Outs.** *Corner ~~and mid-block curb~~ bulb-outs ~~shall~~may be incorporated to narrow crossing distances, increase pedestrian visibility, and slow motorists on Redwood Avenue.*

Program MM 21.5 **Additional Traffic Calming Measures.** *The City engineer may require additional traffic claming features where necessary to ensure pedestrian safety.*

**Comment [MJ14]:** This probably does not need to be a policy. Overly proscriptive. Staff recommends deletion.

**Comment [MJ15]:** Consider making these programs under Policy MM 16 regarding safety.

~~**B. Sidewalk Zones**~~

~~The pedestrian realm is defined as the area between the edge of the roadway and the property line. The overall width of the pedestrian realm is determined by a variety of factors, including the space required to accommodate the expected pedestrian volumes and activities, the space needed to buffer pedestrians from moving traffic, the space desired for the accommodation of street furniture and low impact development (LID) features, and the character of sidewalk adjacent land uses. Based on the combination of these characteristics, the width of the pedestrian realm and the arrangement of streetscape elements may vary along the length of a given street.~~

**Comment [MJ16]:** City Council will need to consider if we want this level of specificity in the Mill Site LCP Amendment or not.

Staff recommends that this entire section on sidewalks be deleted as it is overly proscriptive and would require a significant dedication of developable land for rights of way.

# 4 Multi-Modal Circulation, Streetscape, and Stormwater

The Specific Plan describes functional and design standards for the pedestrian realm according to the concept of "sidewalk zones."[3] This concept is based on the segmentation of the overall sidewalk into zones located between the sidewalk curb and the property line. The Specific Plan distinguishes among the following four sidewalk zones:

- **Edge Zone:** An area between the curb and the planting/furnishing zone that provides space to prevent vehicle overhangs from hitting vertical objects located near the sidewalk edge. The Edge Zone provides clearance for large mirrors on delivery trucks and allows the opening of passenger side doors of parked vehicles and the safe exiting of passengers onto the sidewalk.
- **Planting/LID/Furnishings Zone:** An area with street trees and other landscaping (including LID features for stormwater collection and treatment), street furniture, fire hydrants, bicycle racks, wayfinding signs, and other street furniture. Portions of this zone act as a buffer between moving traffic and activities on the sidewalk.
- **Clear Zone:** An area of the sidewalk intended for pedestrian travel and that must comply with all applicable Americans with Disabilities Act (ADA) requirements. The width of this zone increases where higher levels of pedestrian volumes and activity are expected.
- **Frontage Zone:** An area between the Clear Zone and the property line. It establishes the transition between the Clear Zone and sidewalk adjacent use. Along mixed-use streets, this zone may be used for outdoor displays and seating when a clear passage that meets ADA standards is still provided.

Table 3-2 provides an overview of the sidewalk zone width guidelines for all street types in the Plan Area. The streetscape characteristics of sidewalks are addressed in Section 3.3.

TABLE 3-2 SIDEWALK ZONES

| | Overall Sidewalk Width in Feet[1] | | All Dimensions in Feet | | | |
|---|---|---|---|---|---|---|
| Street Type | Required Minimum | Recommended Maximum | Edge[2] | Planting[3]/ LID Feature[4]/ Furnishings | Clear | Frontage |
| Parkway Street Segment AA to BB - | 21 | 24 | 0/2 | 10 – 12 | 6 – 8 | 5[7] |
| Parkway Street Segment BB to CC - | 14 | 16 | 2 | 5 – 6 | 6 – 8 | 1 – 2 |

[3] Institute for Transportation Engineers' Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: An ITE Recommended Practice.

**Comment [MJ17]:** City Council will need to consider if we want this level of specificity in the Mill Site LCP Amendment or not.

Staff recommends that this entire section on sidewalks be deleted as it is overly proscriptive and would require a significant dedication of developable land for rights of way.

| | | | | | | |
|---|---|---|---|---|---|---|
| Parkway Street Segment DD to EE | 17 | 24 | 0/2 | 10 – 12 | 6 – 8 | 1 – 5[7] |
| Residential Streets (ALT 1 – curbless w/swales) | 15 | 18 | 0 | 10 – 12 | 6 | 0 – 1 |
| Residential Streets (ALT 2 – w/curbs, narrow LID) | 12 | 14 | 2 | 5 – 6 | 6 | 0 – 1 |
| Mixed Use Streets (ALT 1 and ALT 2) | 14 | 16 | 2 | 4 – 5 | 6 – 8 | 2 |
| Redwood Avenue | 16 | 18 | 2 | 4 – 6 | 8 – 10 | 2 |
| Southern District Streets | 11 | 17 | 0/2 | 5 – 12 | 6 8 | 1 |
| Alleys – All Districts | 20 foot right of way/shared space | | | | | |

Note: All see street sections in Figures 3-2 to 3-6.

(1) The Overall Sidewalk Width column includes minimum dimensions for the total width of the sidewalk area and recommendations for the upper end of the range that should not be exceeded. The upper end of the range is not expressed as a maximum because the final dimension of potentially employed LID features is determined at the preliminary engineering stage (also see Note 4). NOTE: the maximum width does not represent a sum of all upper values provided for individual sidewalk zones. In order to avoid excessively wide sidewalks, the overall sidewalk width should bring into balance the functional and comfort goals associated with the individual zones.

(2) Where two figures are provided in the "Edge" column, the first applies to street designs that include curbless LID features directly adjacent to parking or travel lanes, and the second applies to streets with curbs.

(3) Final sizing of LID features, where applicable, may exceed recommended dimensions for this sidewalk zone. Sizing of LID features will occur when accurate calculations of stormwater runoff volumes are available.

(4) The 18 foot dimension is only applicable at parking bays.

(5) The upper end of the range should be used for sidewalk segments along commercial frontages.

(6) Where development fronts directly onto the west side of Coastal Drive, a 14 foot wide "Shared Space" should be designed along the development that is shared by pedestrian and bicycles (see Figure 3-2C, Coastal Drive – Segment C to D). Where no development fronts directly onto Coastal Drive, a 14-foot-wide multi-use path should be provided (see Figure 3-2B, Coastal Drive – Segment B to C).

(7) The 5-foot dimension is applicable where a second row of trees is accommodated on the development side of the sidewalk.

(8) Where employed, curbless LID features adjacent to parking lanes are required to include a 1½-foot-wide flat area that can accommodate passengers exiting from parked vehicles.

## 3.1.53.1.4 TRANSIT ACCESS AND TRANSIT NEEDS

The City of Fort Bragg is currently served by the Mendocino Transit Authority (MTA), and its existing service may be seamlessly extended into the Plan AreaMill Site.

### *Transit Policies:*

*Policy MM-26. Policy MM-22.* ***Transit Design.*** *The design of Coastal Drive and Redwood Avenue shall accommodate Mendocino Transit Authority (MTA) transit buses and stops.*

An example of a transit stop incorporated into a development site.

~~*Policy MM-27.*~~ *Policy MM-23.* ***Transit Amenities.*** *Future bus stops located adjacent to, or on, development sites within* ~~*theMill Site shall include bus shelters with the following features: seating, trash receptacles, adequate coverings to protect riders from inclement weather while maintaining transparency, maps and schedules, and lighting at night*~~*the Mill Site shall meet MTA requirements*.

## 3.2 Parking Management and Design

The Mill Site is designed to be pedestrian-oriented. Applying conventional parking requirements to development in the Mill Site will result in too much surface parking, excessive construction costs, and reduced development. In vibrant, mixed-use downtowns along the West Coast, peak cumulative parking demand rarely exceeds two spaces per 1,000 square feet of commercial development—as long as parking is shared among different uses.[3] This figure applies even in intensely successful retail districts with limited transit, like the downtowns of Palo Alto, Santa Monica, and Santa Barbara, California, and Bellevue, Washington. So little parking is needed in these downtowns because customers park once and visit several destinations. To provide for a successful mixed-use downtown extension, the Specific Plan's approach to parking follows the example of these successful, walkable downtowns, rather than more auto-dependent locations.

The Specific Plan parking requirements seek to ensure adequate parking for all users. The standards will also prevent the problems that would arise if too much parking were provided and land uses were too far apart for the downtown extension to remain walkable.

***Parking Policies:***

~~*Policy MM-28.*~~ *Policy MM-24.* ***"Park Once" District.*** *The Central District shall be designed and managed as a "~~Park Once~~park once" district, where visitors, residents, and employees are encouraged to park once and walk to various destinations without moving their cars.*

~~*Policy MM-29.*~~ *Policy MM-25.* ***Focus on Availability.*** *Public and on-street parking throughout the Mill Site shall be managed to spread parking demand and achieve a target of 15 percent of spaces being available at all times along all block faces and in all parking lots. This target may be achieved through installation of parking meters, parking time limits, or other mechanisms.*

~~*Policy MM-30.*~~ *Policy MM-26.* ***Shared Parking.*** *Shared parking, particularly in the Central District, shall maximize the use of parking spaces and minimize spaces that are reserved for*

[3] In 2010, parking studies were compiled for downtown Santa Monica, Ventura, Walnut Creek, and Palo Alto, California; Bellevue, Washington; and other small, mixed-use downtowns. Each study measured peak, cumulative parking demand, total parking supply, and total built floor area. In each case, including cities where vehicle mode share is high, shoppers, employees, and visitors tended to park once and visit a few destinations, allowing one shared parking space to substitute for several private parking spaces.

*individual commercial tenants. In all districts, adjacent parking lots shall be ~~connected with driveways.~~designed for joint use where practical. In the Central District, individual commercial tenants or property owners shall be restricted from reserving for their own use more than two spaces or 10 percent of project spaces, whichever is greater. New commercial and residential development in the ~~Plan Area~~Mill Site shall be required to share parking to take advantage of differential peak parking periods for residential, industrial, retail, restaurant, and office uses that ~~enable~~maximize parking ~~to be shared~~use throughout the day.*

***Policy MM-27.*** ***Coastal Access.*** *On-and off-street parking shall be provided ~~along~~to achieve the ~~east side~~access requirements of the Coastal ~~Drive. On-street parking shall also be provided in bays of ten or fewer, with perpendicular parking on the west side of Coastal Drive, in order to reduce the visual impact of parking and to allow motorists to park and enjoy the view while remaining in their vehicle. These bays shall be provided every other block or as needed in order to provide sufficient coastal access.~~Act.*

~~*Policy MM-31.*~~ *Policy MM-28. To protect ~~the viewsheds~~view sheds from public rights of way to the ocean, ~~these bays~~coastal access, parking shall not be located at the termination of any east-west street.*

~~*Policy MM-32.*~~ *Policy MM-29.* ***Parking Management Plan.*** *A parking management plan shall be prepared for the Central District by the applicant for the first development proposal in the district. Each subsequent development shall be required either to prepare a summary of how the development will comply with the Central District Management Plan or to update the plan. The Central District Management Plan shall include the following elements:*

- *Current/proposed parking supply by block;*
- *Current parking utilization by block, including, at a minimum, counts at weekday midday, weekday evening, and Saturday midday;*
- *Estimated observed and proposed parking demand by land use;*
- *Recommended sites for shared parking facilities;*
- *Recommended time restrictions;*
- *A financing plan for the development~~and~~, management and financing of shared parking facilities; and*
- *A management plan for meeting parking availability targets, including parking time limits.*

**Comment [MJ18]:** Revisions required as Coastal Drive is no longer in the plan.

**Comment [MJ19]:** Charging stations are now required by State Law. We don't need a policy to achieve this.

**Comment [MJ20]:** Do we want centralized parking program or to require each project to provide its own parking? Generally, shared parking provides for a more efficient use of land and better walkability, shared parking is more difficult to manage.

## 3.3 Streetscape Design

The streetscape design standards are designed to achieve the following objectives:

**Comment [MJ21]:** Does City Council agree with these objectives?

- Create a cohesive public realm that includes streets, parks, squares, trails, community gardens, and other open spaces to link future development in the Mill Site with the coastal trail and existing portions of Fort Bragg.
- Reduce watershed pollution by developing standards for collecting, conveying, and treatment of storm water runoff that take advantage of and respect the limitation imposed by the site's natural hydrology.

~~• Establish a tree canopy within future rights-of-way and open spaces that are appropriate to the coastal setting.~~

### 3.3.1 GENERAL STREETSCAPE DESIGN

Depending on the specific land use context of a neighborhood or district within the Mill Site, activities may vary along the length of a street and sometimes between segments of the same street. The design of residential streetscapes will therefore look and function differently from commercial or industrial streetscapes. In addition, the integration of traditional streetscape design elements, such as street trees, street furniture, and street lighting with landscape-based storm water management techniques (LID), will require the particular attention by the designers and engineers involved in the final streetscape design process.

***Streetscape Policies:***

~~*Policy MM-33.*~~ *Policy MM-30.* ***Creating "Place Identity."*** *Streetscapes in the ~~Plan Area shall~~ Mill Site are encouraged to contribute to ~~the~~ overall place identity and district character.*

~~*Policy MM-34.*~~ *Policy MM-31.* ***Creating User Appropriate Streetscapes.*** *Streetscapes in the ~~Plan Area~~Mill Site shall be designed to promote walking; support pedestrian comfort; and accommodate the needs of residents, visitors, restaurant or shop patrons, and commercial businesses and their employees.*

~~*Policy MM-35.*~~ *Policy MM-32.* ***Integration of Low Impact Development (LID).*** *Development projects shall incorporate LID features~~,~~ *Subdivision and ~~subdivision or~~ development projects that include street improvements shall incorporate LID features into the public rights-of-way ~~when~~where feasible.*

~~*Policy MM-36.*~~ *Policy MM-33.*

~~***Policy MM-37.*** ***Streetscape Master Plan.*** *The City will require or prepare one Streetscape Master Plan for each district (prior to approval of the first development within the subject district). The plan(s) shall comprehensively describe the design of public rights-of-way, including proposed sidewalk layouts, street trees species and other plant materials,~~

**Comment [MJ22]:** This policy is very vague. Staff suggests deletion or change the wording to is encouraged.

selection of low impact development (LID) features, paving materials, wayfinding signage, gateway treatments, and the style and color of street furniture, and street lighting.

Comment [MJ23]: Consider deleting. These may be overkill for this small rezoning project.

### 3.3.2 DESIGN OF THE PEDESTRIAN REALM

This section includes policies related to several critical areas for creating streetscapes that are functional and comfortable for the pedestrian. These critical streetscape areas include:

- Landscape Elements
- Parking Lane and Curb Extension Treatments
- Street Furniture
- Lighting

This section provides policies for where specific streetscape design elements will be located and how the elements will relate to one another. Additionally, the streetscape design policies in this section closely relate to the street typology established in Section 3.1.2. This section also addresses the proposed greenway in the Northern District. Table 3-2, Sidewalk Zones, and the street cross-sections and plan views in Figures 3-2 to 3-6 illustrate the standards and recommendations described below.

#### A. Landscape Elements

Landscape elements, especially trees, greatly contribute to establishing the streetscape character for individual districts or individual streets. Trees add soft textures and colors, provide shade from the sun, act as a windbreak, introduce a pleasing visual rhythm, and create a positive sense of spatial enclosure for pedestrians. Incorporation of shrubs, grasses, and perennials in the LID features required along the majority of streets will help create pedestrian scale while effectively treating and conveying stormwater.

Fort Bragg's coastal climate (Climate Zone 17) limits the selection of plants that will survive and thrive in the ~~Plan Area~~Mill Site. The use of trees in the swales for stormwater management in the public rights-of-way (residential east-west streets, Coastal Drive, and portions of Parkway Street) presents an additional challenge for the plant selection process, as these trees will need to tolerate the coastal climate and wet conditions in their root zones. Appendix B includes a table of tree species, shrubs, and perennials that can survive and thrive in Fort Bragg's climate.

*Landscape Elements Policies:*

***Policy MM-38. Use of Appropriate Plant Material.*** *Trees and other plant material used in the streetscapes of future streets shall be appropriate to Fort Bragg's coastal climate. The final plant selection process shall balance the desire to use native plants to the degree feasible*

~~with selection criteria associated with the design of functioning stormwater planters and streetscape aesthetics.~~

~~***Policy MM-39. Consistency with Streetscape Master Plan(s).*** *Trees and other plant material used within the public right-of-way shall be consistent with the requirements described in the Streetscape Master Plan(s).*~~

***Policy MM-34.*** ~~***Native Plants.***~~ **Eliminate Potable Water Use for Landscaping.** Landscaping within the streetscape shall not use potable water, by including plantings that do not require irrigation.

***Policy MM-35.*** **Drought Tolerant Street Landscaping.** Street trees, bushes and landscaping shall be**:**

1. Appropriate for Fort Bragg's coastal climate.

~~1.~~2. Plants shall be carefully selected to emphasize native plants in order to provide habitat, use minimal water, and reflect the natural community of the area.

~~***Policy MM-40. Minimizing Potable Water Use for Landscaping.*** *Landscaping within the streetscape shall minimize the use of potable water, either by including plantings that do not require irrigation or by using drip irrigation systems where irrigation is required.*~~

~~***Policy MM-41. Street Trees.*** *Street trees shall be:*~~

~~*2. Appropriate for Fort Bragg's coastal climate (see Appendix B).*~~

~~*3. Selected to create a visual distinction between streets within the North, Central, and Southern Districts in order to provide drivers with an additional "clue" of the type of environment they are passing through and cause them to adjust their driving behavior and travel speed accordingly.*~~

~~*4. Used to complement street lighting, street furniture, and other amenities to create a distinct design character for districts or individual streets, and placed in order to avoid conflicts between tree canopies and street lighting.*~~

~~5.~~3. Accommodated in species-appropriate soil volumes in individual tree wells, or with other landscaping in continuous landscape strips, stormwater planters, or swales~~*located in the Planting/LID Feature/Furnishings Zone of the sidewalk (see Table 3-2). Trees*~~. Trees and landscaping bushes may also be accommodated in curb extensions or landscape planters in the parking lane.

~~*6. Planted between 20 to 30 feet on center, depending upon species and the desired canopy coverage. Along Coastal Drive, planting trees in clusters rather than rows is preferred. Trees shall only be planted on the east side of Coastal Drive.*~~

**Comment [MJ24]:** This duplicated Policy MM-37 below. Policy MM37 is more comprehensive.

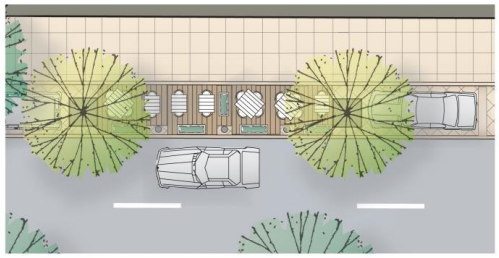
4. Trees and landscaping bushes should be planted in groupings along a block.

~~*Policy MM-42.*~~ *Policy MM-36.* Plant material used in LID features, such as stormwater planters, vegetated swales, or rain gardens, shall be consistent with recommendations for plant material included in the most current best management practices (BMPs) available for such facilities and appropriate for the ~~*Plan Area*~~Mill Site climate. Native plant material shall be used in the landscaped strip of streets to the extent practicable.

## B. Parking Lane Treatment

Parking lanes create an important buffer between pedestrians on adjacent sidewalks and moving traffic in the roadway. Parking lanes can also include low impact development (LID) features, such as permeable paving, and can be used to increase the space available for pedestrian-oriented streetscape elements. The latter requires configuration as a flexible parking lane in which temporary or seasonal use of the parking lane for pedestrian-oriented activities is allowed. See the illustration below showing the seasonal use of a parking lane for outdoor dining.

'FLEX' LANES FOR PARKING & CAFÉ/ RESTAURANT SEATING



Detail Plan
- Trees, movable bollards, & planters define café area
- Removable platforms accommodate tables & chairs
- Allow more space for pedestrians

Example:
- Castro Street, Mountain View

- Allow more space for pedestrians

### *Parking Lane Treatment Policies:*

~~*Policy MM-43.*~~ *Policy MM-37.* ***Use of Parking Lane.*** ~~*The use of parking*~~ *Parking lanes shall be used for parking* ~~*shall be balanced with the need*~~*and to accommodate low impact development (LID) and other landscape features in parking lanes as needed.*

~~*Policy MM-44.*~~ *Policy MM-38.* ***Flexible Parking Lanes.*** *Use of flexible parking lanes is encouraged* ~~*as an option for*~~*on Redwood Avenue.*

~~*Policy MM-45.*~~ *Policy MM-39.* ~~**Engineered Soils.** The engineered soils that detain and convey stormwater that infiltrates the permeable~~**Permeable Paving.** *Permeable paving* ~~*in parking lanes shall*~~*features should be tied* ~~*to*~~*into other low impact development (LID) features of the* ~~*comprehensive, landscape-based*~~ *stormwater management system, as feasible.*

~~*Policy MM-46.*~~ *Policy MM-40.* ***Use of Rain Gardens and Planters.*** *Rain gardens, stormwater planters, or a series of tree planters* ~~*may be required*~~*are encouraged in the parking lane in order to provide additional capacity for stormwater management and to visually narrow the roadway for speed management.*

*A "two-step" curb that links the parking lane and sidewalk.*

~~*Policy MM-47.*~~ *Policy MM-41.* ***Extent of Rain Gardens and Planters.*** *Rain gardens and stormwater planters incorporated into the parking lane shall not extend* ~~*beyond the depth of the parking lane*~~*into travel lanes.*

~~*Policy MM-48.*~~ *Policy MM-42.* ***Parking Lanes on Redwood Avenue/Other Mixed-Use Streets.*** ~~*Parking lanes on these streets shall conform to the following requirements:*~~ *Colored or textured paving* ~~*shall be used*~~*is encouraged to* ~~*offset*~~*identify the flexible parking lane on Redwood Avenue from the adjacent roadway.*

~~*A "two-step" curb that links the parking lane and sidewalk.*~~

- ~~*A 1- to 2-inch level change shall be provided between the flexible parking lane and the adjacent roadway.*~~
- ~~*The curb along the flexible parking lane shall be designed to provide an in-between step between the parking and sidewalk levels.*~~

**Comment [MJ25]:** Consider if the City would want to take a dedication with a complicated street profile such as this. IT would cost more to maintain and repair over the long term.

## C. Curb Extension Treatment

Curb extensions (or bulb-outs) can be used to narrow the roadway and extend the sidewalk into the parking lane at street corners and in mid-block locations. Curb extensions provide

additional space for pedestrian activities, bicycle parking, café seating, or the accommodation of LID features like rain gardens. They also reduce the crossing distance for pedestrians, increase a pedestrian's visibility at crosswalks, and can be effectively used for traffic calming.

***Curb Extension Treatment Policies:***

~~*Policy MM-49.*~~ *Policy MM-43.* ***Curb Extensions.*** *Corner curb extensions shall be installed at all street intersections unless determined by the City Engineer to be infeasible~~ due to transit bus turning requirements or other location-specific geometric intersection constraints.~~.*

~~An example of a curb extension with a stormwater planter in Portland, Oregon.~~

~~*Policy MM-50.*~~ *Policy MM-44.* ***Curb Extension Treatments.*** *Curb extension treatments shall comply with the following:*

- *The length of curb extensions shall be determined by balancing the need for parking with the need for added space dedicated to pedestrian activities, bicycle parking, and stormwater management (e.g., rain gardens).*
- *Curb extensions shall generally extend the full width of the parking lane.*
- ~~*Width requirements for the Edge Zone shall be applied to the edge of curb extensions.*~~
- *Curb extensions shall not extend into travel lanes~~ unless the extensions are specifically intended and designed to act as a traffic calming devices~~.*
- *On streets with curbless LID features such as swales, the geometry of "curb" extensions shall follow the ~~same standards~~approximate location of the curb as if a ~~curb~~one were present.*

**Comment [MJ26]:** Does the City Council want curb extensions (bulb-outs) throughout the plan area of would you like to limit them to the commercial core, as in the remainder of the City.

## D. Street Furniture

Pedestrian-oriented amenities, if well selected and located, can enrich the walking experience by adding functionality and visual interest to the pedestrian realm. Street furniture includes public seating, trash and recycling receptacles, drinking fountains, news racks, bicycle parking, restrooms, information kiosks, and pedestrian-scale retail stands.

**Comment [MJ27]:** Consider if we want to regulate street furniture.

### *Street Furniture Policies:*

~~*Policy MM-51.*~~ *Policy MM-45.* ***Consistency with Streetscape Master Plan(s).*** *Street furniture within the public right-of-way may be transferred to the City of Fort Bragg as part of the right of way dedications and shall be consistent with the requirements described in the Streetscape Master Plan or as defined by the Planning Commission through permit approvals.*

Comment [MJ28]: The City may not want to own all street furniture.

~~*Policy MM-52.*~~ *Policy MM-46.* ***Street Furniture Requirements.*** *Development within the ~~Plan Area~~Mill Site shall comply with the following street furniture requirements:*

~~*1. All public street furniture shall be located in the Planting/LID Feature/Furnishings Zone (see Table 3-2). The Edge Zone (see Table 3-2) shall remain free of any vertical objects.*~~

~~2.~~*1. Amenities along ~~streets within a particular district or along streets for which a unified streetscape character across district boundaries is envisioned—such as Coastal Drive, the linear park, or Parkway Street—shall be selected to form a group of amenities.~~ Redwood Avenue—shall be coordinated in style and color ~~so as to visually reinforce the street and district identity.~~ with amenities in the Downtown.*

~~*An example of a coordinated set of street furnishings, light fixtures, and street trees.*~~

~~3.~~*2. Street furniture placement shall be closely coordinated with the design of LID features ~~discussed in Section 3.4.1~~ the striping of parking stalls, and breaks in stormwater planters required for pedestrian circulation between the parking lane and the Clear Zone of sidewalks ~~(see Table 3-2~~).*

~~4.~~*3. No sidewalk amenity shall reduce the clear width of a sidewalk or walkway path to less than 4 feet. All street furniture~~, ~~wayfinding signs,~~ *and other amenities shall comply with Americans with Disabilities Act (ADA) requirements.*

~~5.~~*4. All street furniture and other amenities shall be made of durable, high-quality non-metal materials. Materials and finishes shall be specifically selected to withstand exposure to Fort Bragg's coastal climate.*

~~Policy MM-53.~~ Policy MM-47. ***Appropriate Street Furniture by Street Type.*** *All street furniture shall be consistent with the specifications listed in Table 3-3, Appropriate Streetscape Furniture by Street Type.*

~~Policy MM-54.~~ Policy MM-48. ***Street Furniture and Art in the Central District.*** *Public seating shall be incorporated into the Redwood Avenue extension and considered on other ~~mixed-use~~ streets in the Central District. Seat walls and seating may be incorporated into buildings, landscape features, and stormwater planters, as an alternative to freestanding benches. Public Art is encouraged and may be incorporated into street furniture and sidewalks.*

~~TABLE 3-3 APPROPRIATE STREET FURNITURE BY STREET TYPE~~

| ~~Street Type~~ | ~~Trash/ Recycling Receptacles~~ | ~~Seating~~ | ~~Newspaper Racks[1]~~ | ~~Wayfinding Signage[2]~~ | ~~Bicycle Parking~~ |
|---|---|---|---|---|---|
| ~~Coastal Drive All Segments~~ | ~~Yes~~ | ~~Yes~~ | ~~No~~ | ~~Yes~~ | ~~At Parking Bays~~ |
| ~~Parkway Street~~ | ~~No~~ | ~~Optional~~ | ~~No~~ | ~~No~~ | ~~Central District Only~~ |
| ~~Residential Streets~~ | ~~No~~ | ~~No~~ | ~~No~~ | ~~No~~ | ~~No~~ |
| ~~Mixed Use Streets~~ | ~~No~~ | ~~Yes~~ | ~~Yes~~ | ~~Yes~~ | ~~Yes~~ |
| ~~Redwood Avenue~~ | ~~Yes~~ | ~~Yes~~ | ~~Yes~~ | ~~Yes~~ | ~~Yes~~ |
| ~~Southern District Streets~~ | ~~No~~ | ~~No~~ | ~~No~~ | ~~No~~ | ~~Yes~~ |
| ~~Alleys – All Districts~~ | ~~No~~ | ~~No~~ | ~~No~~ | ~~No~~ | ~~No~~ |

~~(1) Only consolidated, decorative newspaper racks are allowed.~~

~~(2) ALL WAYFINDING SIGNAGE SHALL BE NON-COMMERCIAL IN NATURE AND SHALL NOT CONFLICT WITH THE OFF-SITE SIGNAGE PROHIBITION IN THE COASTAL LAND USE AND DEVELOPMENT CODE (COASTAL LUDC).~~

## E. Lighting

High-quality lighting helps create a positive streetscape and district character during the day and at night. Street lighting increases the sense of safety for all users of a street. By day, the light fixtures establish a rhythm along the street and can unify the street design. At night, pedestrian-scaled light fixtures define the visual nighttime experience of a streetscape, path, plaza, or park. Street lighting can also use significant energy, and poorly placed or designed street lights can result in light pollution and an unsightly visual experience.

*Lighting Policies:*

***Policy MM-55. Pedestrian-Friendly* Lighting.** *To encourage pedestrian activity at night, all streets shall include* ***of Public Rights-of-Way.*** *Roadway and* pedestrian-scale lighting *that promotes walking .*

***Policy MM-56. Consistency with Streetscape Master Plan(s).*** *Light fixtures and poles within the public right-of-way* shall be *consistent with the Streetscape Master Plan(s).*

***Policy MM-57. Energy-Efficient Lighting.*** *All street lighting shall be energy-efficient. All lighting in the public realm shall be fitted with energy-efficient lamps, such*provided, as *Metal Halide, LED, or other energy-efficient lamp technology, as well as optical systems that reduce energy use. Light operation shall be managed to reduce energy use by reducing or turning off lighting when activity levels decrease at night (typically after midnight).*

*Policy MM-58.* Policy MM-49. ***Lighting Safety*** *appropriate, on all new streets* and ***Comfort.*** *All new street lighting shall comply*pathways in accordance with the following *requirements:* guidelines and with applicable City standards.

1. Light level and uniformity ratio requirements for street and pedestrian lighting as well as crosswalks shall follow the standards described in the American National Standard Practice for Roadway Lighting (RP-8) published by the Illuminating Engineering Society of North America (IESNA). *See Table 3-4 for an example of how these standards can be applied to the proposed streets in the Plan Area.*Lamps shall have a high Color Rendering Index (CRI).
2. Sky glow shall be mitigated by selecting "dark sky"-friendly light fixtures that direct most of the emitted light downward*.* and mitigate glare

*• Lamps shall have a high Color Rendering Index (CRI).*

***Policy MM-59. Central District Lighting.*** *Central District lighting shall be compatible with existing Central Business District lighting.*

**Comment [MJ29]:** Lights in Fort Bragg are owned by PG&E. Do we need to consult with Pg7E before setting standards.

**TABLE 3-4 — EXAMPLE OF LIGHT LEVELS AND UNIFORMITY RATIOS FOR LIGHTING**

| Street Type | Horizontal Light Level Range[1] At Ground[2] Minimum Maintained Average[3] (Units: Footcandle) | Uniformity Ratio Range[1,2] Average/Minimum |
|---|---|---|
| Northern Coastal Drive | 0.3 to 1.2 | 4 to 6 |

| Street Type | Horizontal Light Level Range[1] At Ground[2] Minimum Maintained Average[3] (Units Footcandle) | Uniformity Ratio Range[1,2] Average/Minimum |
|---|---|---|
| Central Coastal Drive | 0.4 to 1.2 | 3 to 4 |
| Southern Coastal Drive | 0.3 to 1.2 | 4 to 6 |
| Parkway | 0.4 to 1.2 | 3 to 4 |
| Mixed Use Streets – Central District (IESNA roadway classifications: Major/Collector) | 0.5 to 1.7 | 3 to 6 |
| Residential Streets – Northern District (IESNA roadway classifications: Collector/Local) | 0.3 to 1.2 | 4 to 6 |
| Southern District Streets (IESNA roadway classifications: Major/Collector/Local) | 0.3 to 1.7 | 3 to 6 |
| Alleys – All Districts<br>Urban Trails – All Districts<br>(IESNA roadway classification: Alley) | 0.3 to 0.5 | 4 to 6 |
| Pedestrian Accessways – All Districts (IESNA classification: Pedestrian Walkway) | 0.3 to 1 | 4 to 6 |

(1) Recommendations based on the Illuminating Society's ANSI approved RP-8 document ("Roadway Lighting").
(2) Light levels listed in the table are provided in ranges, as the determination of the specific required minimum maintained average light level requires the verification of variables such as traffic and pedestrian volumes as well as pavement classifications. (The latter are related to the amount of light reflected by a given pavement.)
(3) The "minimum maintained average" is the lowest accepted value of an average light level calculated with a light loss factor.

***Policy MM 60. Lighting Section in Streetscape Master Plan(s).*** *The Streetscape Master Plan(s) shall include a section on lighting that describes the required unified palette of fixture styles to be used and standards for appropriate fixture spacing, lamping, and other technical criteria.*

***Policy MM 61. Lighting of Public Rights of Way.*** *Roadway and pedestrian scale lighting shall be provided, as appropriate, on all new streets and pathways in accordance with the following guidelines and with applicable City standards not superseded by these guidelines.*

3. *The characteristics of pedestrian activity, such as slow travel speeds, frequent stopping and standing, and the need for human scale, shall be taken into account in the light fixture selection process as well as in the fixtures' day and nighttime design characteristics.*

4. *Light fixtures along streets shall be located in the Planting/LID Feature/Furnishings Zone (see Table 3-2).*

4. *All street lighting shall be energy-efficient. All lighting in the public realm shall be fitted with energy-efficient lamps, and optical systems. Light operation shall be managed to reduce energy use by reducing or turning off lighting when activity levels decrease at night. Lamps shall include individual on and off switches.*
5. *Light fixtures shall efficiently direct light to the desired area of the roadway, sidewalk, and/or pathway, avoiding excessive glare, the shedding of light onto adjacent private properties, and sky glow.*
6. *The preferred height of pedestrian-scale light fixtures is between 12 and 15 feet (to light source). The use of light fixtures with light sources at heights of 20 feet or more shall be limited to locations where the required lighting levels cannot be met by solely using pedestrian-scale fixtures. The use of "cobra head" fixtures is not acceptable.*
7. *Fixtures may be staggered or placed symmetrically on both sides of the street depending on lighting and uniformity requirements. Light fixtures shall be spaced with as consistent a rhythm as feasible. Light fixture and tree spacing shall be closely coordinated to prevent tree canopies from blocking the light emitted by the fixture.*

~~8. Light fixtures along Coastal Drive shall be restricted to the eastern side of the street and shall minimize light intrusion onto the Coastal Trail property.~~

~~9. Light fixtures along Coastal Drive shall be coordinated in style and color with other streetscape design elements used along the entire length of Coastal Drive.~~

~~10. In the Northern District, light fixtures shall be placed near boardwalk, bermed, or paved crossings across swales~~

~~11. Light fixtures along the Northern District greenway shall be coordinated in style and color with other design elements along the entire length of the greenway.~~

~~12.~~8. ~~In mixed-use and commercial environments that include restaurants, theaters, or other uses frequented during evening hours, appropriate lighting shall be designed to enhance the access to and experience of activities into the night.~~ *Street lighting can be located on adjacent buildings, where desirable.*

~~13.~~9. *The City of Fort Bragg's standard, decorative downtown pedestrian-scale light fixture shall be used throughout the Central District. On Redwood Avenue, banner arms and banners shall be attached to light poles to further identify this street as a commercial street integral to Fort Bragg's downtown.*

~~14.~~10. *The location and spacing of light fixtures shall be coordinated with those of low impact development (LID) features, street trees, and street furniture along Redwood Avenue to properly accommodate the higher pedestrian volumes and circulation needs expected on this street.*

## 3.4 Stormwater Management

The vision for sustainable development of the ~~Plan Area~~Mill Site considers water, including stormwater runoff, an important natural resource of the site. This section calls for an approach to the management of stormwater runoff in the ~~Plan Area~~Mill Site that uses "green infrastructure" and low impact development (LID)[4] strategies. These strategies meet the legal requirements for flow control and pollution prevention relevant to stormwater runoff from public rights-of-way.

The prime objective of LID is to reduce and treat stormwater close to its source. Traditional urban stormwater management systems are designed for fast and concentrated evacuation of stormwater, while LID-based systems reuse, slow, spread, and infiltrate stormwater to minimize the quantity of runoff and improve stormwater quality. When LID systems use natural processes and native plants, they are called "green infrastructure." Green infrastructure features, such as swales, stormwater planters, permeable paving, mulched landscape areas, and retention and infiltration ponds, are used to detain, convey, infiltrate, and treat stormwater (see Table 3-5). They also generally reduce the amount of impervious surfaces in the public right-of-way.

The green infrastructure approach to stormwater management in the ~~Plan Area~~Mill Site is sustainable, meets applicable stormwater regulations, and creates a site design element that ecologically and aesthetically connects the future developed and undeveloped portions of the ~~Plan Area~~Mill Site. Green infrastructure (or other LID) features will be systematically integrated into the design of public streets, sidewalks, parking areas, and plazas in the ~~Plan Area's~~Mill Site's developed area.

TABLE 3-5 FUNCTIONS OF LOW IMPACT DEVELOPMENT (LID) STORMWATER FACILITIES

| | Detention | Retention | Infiltration | Conveyance | Water Quality |
|---|---|---|---|---|---|
| Permeable Paving | X | X | X | | X |
| Stormwater Planters | X | X | X | | X |

[4] Low impact development (LID) is a landscape-based approach to on-site stormwater management that emphasizes the use of best management practices (BMPs) integrated into a building, site, or street to treat stormwater and detain stormwater runoff. BMPs are strategies or structural devices used to reduce volume, peak flows, and/or pollutant concentrations of stormwater runoff through one or more of the following processes: evapotranspiration, infiltration, detention, filtration, and biological and chemical actions. In addition to minimizing specific negative environmental effects of the built environment, the LID approach is focused on how BMPs can create more aesthetically pleasing stormwater management solutions that contribute to placemaking.

| | | | | | |
|---|---|---|---|---|---|
| Swales | X | | X | X | X |
| Rain Gardens | X | X | X | | X |
| Subsurface Trenches | X | X | X | X | X |

## 3.4.1 STORMWATER MANAGEMENT

This section of the Specific Plan discusses green infrastructure strategies for application within public rights-of-way in the Plan. Please note that stormwater management requirements for development outside of the public right of way is regulated by the CLUDC. These strategies, which include the use of permeable paving materials coupled with landscaped detention and conveyance systems, are aimed at reducing the peak flow of stormwater runoff from public rights-of-way and treating the runoff for pollutants. In addition, LID features contribute to a more verdant and attractive urban environment that will complement Fort Bragg's unique natural setting and create a comfortable and visually attractive pedestrian environment.

The final size, location, and number of stormwater detention, conveyance, and infiltration areas and elements will need to be designed to ensure both that water is retained and treated and that sufficient flood control measures are in place to handle even large storm events with no crossover from the storm sewers to the sanitary sewer system.

The following policies apply to the treatment of stormwater runoff from public rights-of-way and all associated best management practices (BMPs) and build upon Coastal LUDC Chapter 17.64, Stormwater Runoff Pollution Control (which regulate stormwater management associated with private development within the Coastal Zone and on the Mill Site.

***Stormwater Management Policies:***

~~*Policy MM-62.*~~ *Policy MM-50.* ***Stormwater as a Resource.*** ~~*Stormwater shall be treated as a resource*~~*In the public right* *of* ~~*the Plan Area*~~*way, stormwater that is reused, infiltrated into the groundwater, and integrated into natural hydrological flows*~~*, where feasible*~~ *is encouraged.*

~~*Policy MM-63.*~~ *Policy MM-51.* ***Low Impact Development:*** ~~***A***~~*In the public right of way a Low Impact Development (LID) approach to stormwater management that integrates landscape and natural processes into aesthetically pleasing stormwater solutions* ~~***shall be incorporated into all designs***~~*is encouraged.*

**Comment [MJ30]:** Please note that the CLUDC includes extensive stormwater management requirements for private development projects. All of these policies are envisioned for stormwater management within the public right of way.

~~*Policy MM-64.*~~ *Policy MM-52.* ***Runoff into Public Rights-of-Way.*** *Runoff into the public rights-of-way shall be minimized to the degree feasible and treated via bio-retention to remove pollutants to the maximum extent practicable.*

~~*Policy MM-65.*~~ *Policy MM-53.* ***Stormwater Connections to Coastal Trail and Mill Pond Complex.*** *Plans for all ~~Plan Area~~Mill Site stormwater systems that connect to stormwater conveyance systems on the Fort Bragg Coastal Trail property and/or the Mill Pond Complex area shall analyze and address through system design any cumulative downstream impacts on the trail and Mill Pond Complex facilities to ensure that the trail, parkland, ponds, and wetland functions are not degraded or damaged.*

~~***Policy MM-66. Low Impact Development (LID) in Streetscape.*** *LID features shall be integrated with the streetscape to allow roadway or sidewalk runoff to collect and infiltrate via bio-retention.~~

~~*Policy MM-67.*~~ *Policy MM-54.* ***Low Impact Development (LID) in Landscaping Design.*** *LID features shall integrate attractive landscaping design that provides both a functional and aesthetic amenity with minimal maintenance requirements.*

~~*Policy MM-68.*~~ *Policy MM-55.* ***Use of Native and Adapted Landscaping in Low Impact Development (LID).*** *Native and suitable adapted landscaping shall be used to the maximum extent practicable in LID features.*

~~***Policy MM-69. Educational Signage in Stormwater Management Features.*** *Educational signage about climate, natural water and stormwater patterns, native landscaping, and other applicable topics shall be integrated into stormwater management features in public locations where appropriate.~~

~~*Swales are linear depressions adjacent to the streetscape that can detain and convey stormwater along their length.*~~

~~*Rain gardens are landscaped planters that are more extensive than storm water planters and typically are designed to infiltrate storm water. They can be located in or adjacent to the street.*~~

~~Policy MM-70.~~ Policy MM-56. **Swales.** *Swales to convey stormwater ~~shall be provided~~are encouraged where practical. Where infiltration is possible, swales ~~shall~~may be designed with a subsurface infiltration trench to allow infiltration. ~~Along streets with driveway and on-street parking, swales shall include crossings for pedestrian access to parking and vehicular crossings for proper driveway access.~~*

Swales are linear depressions adjacent to the streetscape that can detain and convey stormwater along their length.

~~Policy MM-71.~~ Policy MM-57. **Rain Gardens**. *Rain gardens ~~shall be installed~~are encouraged in curb ~~extensions as discussed in Sections 3.3.2 and 3.4.2,~~extension, street-adjacent open spaces, and other places where ~~educational opportunities and~~ adequate space exist. Rain ~~gardens shall be designed~~garden are encouraged to maximize stormwater infiltration as permitted by local soil conditions.*

Rain gardens are landscaped planters that are more extensive than storm water planters and typically are designed to infiltrate storm water. They can be located in or adjacent to the street.

~~Policy MM-72.~~ Policy MM-58. **Permeable Paving.** *Permeable paving materials, such as permeable asphalts and concretes, decomposed granite surfaces, and unit paver systems, are preferred over asphalt and concrete where technically feasible. ~~Permeable paving shall be used in parking lanes, paths, alleys, and paving surfaces in plazas, where feasible. All permeable paving surfaces shall be Americans with Disabilities Act (ADA) accessible.~~*

~~Policy MM-73.~~ Policy MM-59. **Tree Wells and Streetscape Planters.** *Tree wells and streetscape planters ~~shall~~may include roadway curb cuts and planter curb cuts to allow roadway or sidewalk runoff to collect in them and infiltrate.*

~~Policy MM-74.~~ Policy MM-60. **Streetscape Landscape Features as Temporary Reservoirs.** *The soil and subsurface composition of streetscape landscaping ~~shall~~may allow landscape*

*features to serve as temporary reservoirs, where water is treated and detained for later slow release or infiltration.*

***Policy MM-75. Subsurface Trenches.*** *Subsurface trenches shall only be installed in locations where infiltration is advisable. A perforated pipe or other outlet leading to a detention pond or other facility that has the capacity to accommodate overflow in case of major storm events shall be included in all subsurface trenches. Where trenches are located under hardscape surfaces, permeable paving shall be used if possible.*

*Stormwater planters allow roadway runoff to flow into and out of adjacent landscaping, where the stormwater is detained and treated.*

*Policy MM-76. Policy MM-61.* ***Engineered Soil Matrix.*** *Engineered soil matrix of sand, compost and mulch shall required for bio-retention facilities as determined by the City Engineer.*

The applicability of each policy to specific street types is detailed in Table 3-6. The street sections and plans presented earlier in this chapter (Figures 3-2 through 3-6) illustrate examples of how LID features listed in Table 3-6 can be integrated into future Plan Area streets.

## 3.4.2 Site-Wide and District Strategy

Stormwater that falls on public rights-of-way—as opposed to private property—will be managed in each district based on local environmental, land use, and site design considerations. Due to limited infiltration potential resulting from a high groundwater table in much of the Plan Area, stormwater will need to be detained temporarily to reduce peak flows and allow sediment settlement and initial pollutant removal through bio-filtration before it is conveyed to subsequent facilities. Where possible, BMPs should be designed to allow infiltration. The majority of stormwater from the public right-of-way will ultimately join with stormwater from development in detention ponds and infiltration areas for gradual infiltration to groundwater, discharge into the ocean via culverts, or evaporation.

TABLE 3-6 POTENTIAL APPLICABILITY OF STORMWATER STRATEGIES TO SPECIFIC STREET TYPES

| Street Type | Permeable Paving | Stormwater Planters | Swales | Rain Gardens | Subsurface Trenches |
|---|---|---|---|---|---|
| Coastal Drive Segment A to B | In parking lane and/or sidewalk. | Not applicable. | Adjacent to street on ocean side or both sides. | In curb extensions and adjacent to parking bays on ocean side. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Coastal Drive Segment B to C Segment C to D | In parking lane and/or sidewalk. | Where adjacent land uses front directly onto street. | Adjacent to street on ocean side or both sides. | In curb extensions and adjacent to parking bays on ocean side. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Parkway Street Segment AA to BB | In parking lane and/or sidewalk. | Not applicable. | Between parking and sidewalk. | In curb extensions. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Parkway Street Segment BB to CC | In parking lane and/or sidewalk. | Within sidewalk or curb extensions. | Not applicable. | In curb extensions. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Parkway Street Segment CC to DD | In parking lane and/or sidewalk. | Within sidewalk or curb extensions. | Between parking and sidewalk (along open space only). | In curb extensions. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Mixed Use Streets (East-West Streets) Redwood Avenue | In parking lane and/or sidewalk. | Within sidewalk or curb extensions. | Not applicable. | In curb extensions. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Residential Streets – Northern District (East-West and North-South Streets) | In parking lane and/or sidewalk. | Within sidewalk or curb extensions. | Between parking and sidewalk. | In curb extensions. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |

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TABLE 3-6 — POTENTIAL APPLICABILITY OF STORMWATER STRATEGIES TO SPECIFIC STREET TYPES

| Street Type | Permeable Paving | Stormwater Planters | Swales | Rain Gardens | Subsurface Trenches |
|---|---|---|---|---|---|
| Southern District Streets | Not applicable. | Within sidewalk or curb extensions. | Between parking and sidewalk. | In curb extensions. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |
| Alleys – All Districts | Full alley treatment; in a strip down center of alley, with alley crowned to drain to center; or in strips down edges with street crowned to drain to edges. | Not applicable. | Not applicable. | Not applicable. | Installed under other measures as necessary to provide reservoir volume for treatment, infiltration, detention, and conveyance. |

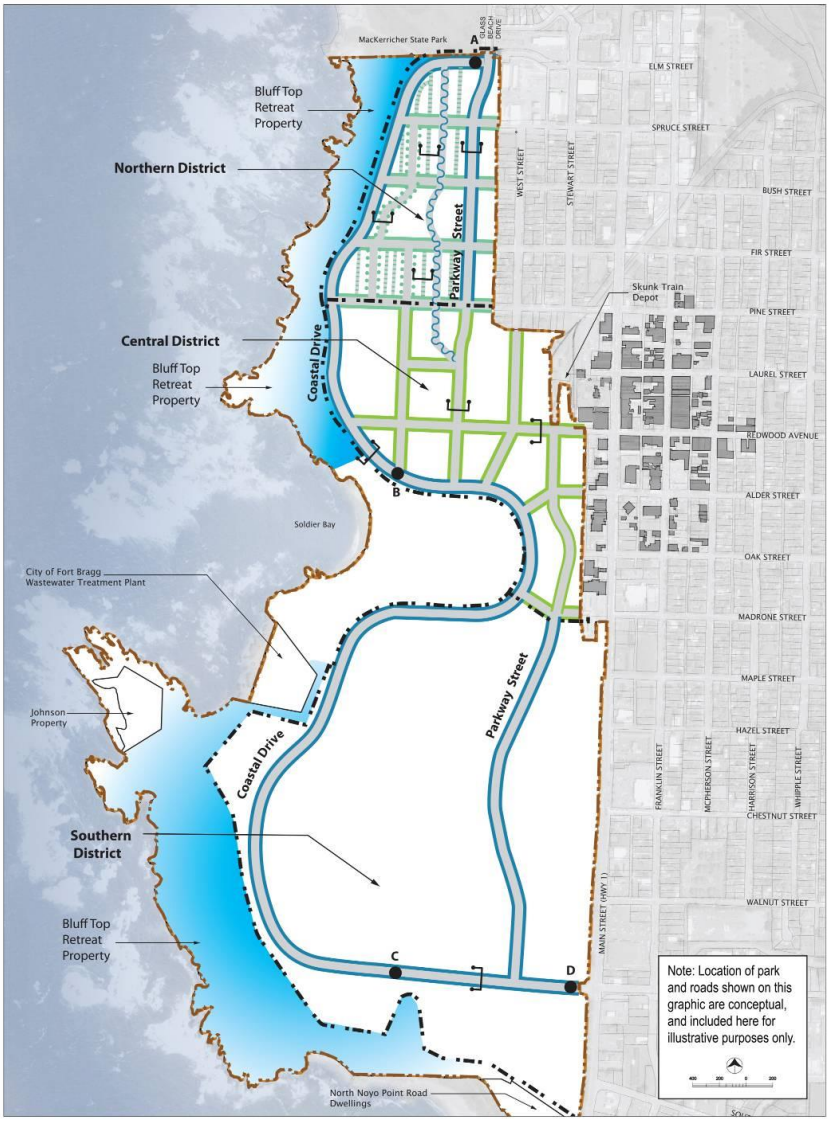
It is the responsibility of future Plan Area developers and their engineers to determine the specific LID components, details, and capacities involved in implementing the stormwater management approach required by the Specific Plan. Figure 3-8 illustrates the use of recommended LID features in future public rights-of-way. Further hydrological analysis, required as part of each infrastructure phasing study (see Chapter 8), will be required to determine the feasibility of these strategies. The general strategy for each district is as follows:

- **Northern District.** Stormwater collected in swales and stormwater planters will be detained and gradually conveyed to east-west running residential streets in this district. Swales or wide stormwater planters on these streets will establish a gradual, westward flow of the collected stormwater. Conveyance of the collected stormwater through rain gardens and temporary detention in ponds or subsurface detention and infiltration facilities will allow for ongoing bio-filtration of pollutants and allow portions of the stormwater to gradually seep toward the groundwater, evaporate back into the atmosphere, or be collected in a proposed storm drain system after appropriate contact with bio-filtration methods described in the Specific Plan.
- **Central District.** Stormwater will be collected in stormwater planters and conveyance structures, such as structural soils beneath permeable pavers and conventional storm drain systems. Together, these conveyance facilities will allow stormwater to travel gradually toward the lowland wetland, where it will collect and gradually discharge into the ocean. As described for the Northern District above, the employed BMPs will allow stormwater to infiltrate into the groundwater, evaporate back into the atmosphere, or be collected in a proposed storm drain system after appropriate contact with bio-filtration methods described in the Specific Plan.
- **Southern District.** Stormwater will collect in swales and stormwater planters and be conveyed into detention ponds for temporary detention and bio-filtration, reducing both peak volume and pollutant loads. The collected stormwater will be retained, infiltrated, and discharged in a manner consistent with the strategies described above, depending on which district the street traverses.

The site-wide stormwater management plan is in the Master Utility Plan for the site.

Per Article 17.64.020, Stormwater Runoff Water Quality and Discharge Management, of the Coastal LUDC, any number of BMPs may be selected from the California Stormwater Quality Association (CASQA) Stormwater BMP Manual.

## ~~FIGURE 3-8 LOW IMPACT DEVELOPMENT IN PUBLIC RIGHTS-OF-WAY~~




LEGEND / NOTES

- Curbless streets with landscaped swales; Parking lane includes permeable paving and rain gardens (Coastal Drive and portions of Parkway).[1]
- Residential Streets curbed or curb-less with landscaped swales or wide landscaped stormwater planters. Parking lane includes permeable paving/rain gardens in parking lane.
- Curbed residential streets with landscaped stormwater planters.
- Curbed mixed-use streets with curbed, stormwater planters or connected flow-through tree wells.
- Alleys with permeable paving
- Greenway (not a street) with a large central swale, rain gardens, and walkways on either side
- MSSP Study Area Boundary
- Section Locations

[1]Where development fronts directly onto the Coastal Drive or the Parkway in the Southern District, curbs may be introduced and swales be substituted with landscaped flow-through planters of different designs.