

## Street Lighting

### 4.1. General

- a. All street lighting shall be broad spectrum light sources no greater than 4000K Correlated Color Temperatures (CCT) except for areas that are designated for a maximum of 3000K CCT within 35 miles radius of Palomar observatory. Refer to “San Diego 3000 and 4000 Kelvin CCT Map” in Council Resolution R-306251.
- b. Street Luminaires shall be as defined in the City of San Diego Approved Materials List.
- c. Street Lighting Standards, arms, bases, and mounting heights shall conform to the City of San Diego Standard SDE-101 for intersection and mid-block lighting.
- d. Locations of additional poles to be determined by special conditions.

### 4.2. Intersection Street Lighting

- a. Lighting shall be installed at all street intersections and shall conform to Table 4-1.
- b. Street Lighting at Signalized Intersections shall conform to Chapter 9 of the Caltrans Traffic Manual.

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**TABLE 4-1. STREET LIGHTING AT NON-SIGNALIZED INTERSECTIONS**

<b>Street A</b> <b>Street B</b>	<b>B1</b> Local residential streets (any width) and collector or higher streets up to and including 40 feet wide, curb to curb	<b>B2</b> Collector or higher streets greater than 40 feet and up to and including 52 feet wide, curb to curb	<b>B3</b> Collector or higher streets greater than 52 feet wide, curb to curb
<b>A1</b> Local residential streets (any width) and collector or higher streets up to and including 40 feet wide, curb-to-curb	<b>A1 to B1</b> Install (1) pole with a Type Y-INT luminaire on the far right corners of the wider street	<b>A1 to B2</b> Same as A2 to B1	<b>A1 to B3</b> Same as A3 to B1
<b>A2</b> Collector or higher streets greater than 40 feet and up to and including 52 feet wide, curb-to-curb	<b>A2 to B1</b> Install (2) poles with a Type Z-INT luminaire on both far right corners of the wider street	<b>A2 to B2</b> Same as A2 to B1	<b>A2 to B3</b> Same as A3 to B2
<b>A3</b> Collector or higher streets greater than 52 feet wide, curb-to-curb	<b>A3 to B1</b> Install (2) poles with a Type Z-INT luminaire on both corners of the wider street and (2) poles with a Type Y-INT luminaire on both corners of the narrower street.	<b>A3 to B2</b> Install (4) poles with a Type Z-INT luminaire on each corner.	<b>A3 to B3</b> Same as A3 to B2

Note:

1. Refer to Sections “4.1. General” and “4.2. Intersection Street Lighting” for additional information.

Reference:

Luminaire Type	Min. Required Luminaire	Street Light Distribution	
Type X	3500 Lumens, Min.	Type II	
Type Y-INT	6500 Lumens, Min.	Type III	
Type Y-MID	6500 Lumens, Min.	Type II	
Type Z-INT	11000 Lumens, Min.	Type III	
Type Z-MID	11000 Lumens, Min.	Type III	

### 4.3. Mid-Block Street Lighting

Mid-block street lighting shall be installed as follows:

- a. **On Residential and collector streets,**
  - 1) Within 1,320 feet of a transit stop

**OR**

  - 2) In a residential or commercial district within a high-crime census tract staggered at 150 foot intervals, or else staggered at 300 foot intervals.
- b. **On Four-Lane Urban Major or higher classification streets with center medians:**
  - 1) Within 1,320 feet of a transit stop

**OR**

  - 2) In a residential or commercial district within a high-crime census tract on both sides of the street at 150 foot intervals, or else on both sides of the street not to exceed 300 foot intervals.
- c. **Near the end of a cul-de-sac that exceeds 150 feet in length,**
  - 1) Within 1,320 feet of a transit stop

**OR**

  - 2) In a residential or commercial district within a high-crime census tract or else near the end of a cul-de-sac that exceeds 200 feet in length.
- d. One light on each side of the street at a-grade railroad crossings to illuminate the side of the train facing the motorist
- e. Immediately adjacent to areas of high pedestrian activity, including schools, parks transit centers, access to transit, and commercial and recreational facilities that draw large numbers of pedestrians.
- f. At other locations, such as at abrupt changes in horizontal or vertical alignment, as determined by the City Engineer.

#### 4.3.1 Exempt Areas

Agriculture-zoned or natural open space land may be exempted from midblock street lighting provisions, at the direction of the City Engineer.

#### 4.3.2 Luminaires

Mid-block street lighting shall use fully shielded (Type U0) luminaires and shall conform to the following:

- 1. Type X, for alleys.
- 2. Type Y-MID, for local residential streets (any width) and streets classified as collector or higher with curb-to-curb width up to and including 40 feet.

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3. Type Z-MID, for streets classified as collector or higher with curb-to-curb width greater than 40 feet up to and including 52 feet.
4. Type Z-MID as applicable, for streets classified as collector or higher with curb-to-curb width greater than 52 feet.
5. At the end of a cul-de-sac, use a Type Y-INT luminaire to minimize impact to houses adjacent to luminaire.

### 4.4. Pedestrian-Scale Lighting

Where pedestrian-scale lighting is installed, sidewalk or walkway lighting shall be continuous, shall provide adequate lighting for pedestrians of all abilities, and shall conform to the following:

1. In commercial areas, the average maintained horizontal illuminance (FC) on the sidewalk or walkway shall be as shown in the current version of IES-RP-8 for High Pedestrian Conflict areas (Pedestrian Only).
2. In mixed-use areas, the average maintained horizontal illuminance on the sidewalk or walkway shall be as shown in the current version of IES-RP-8 for Medium Pedestrian Conflict areas.
3. In residential areas, the average maintained horizontal illuminance on the sidewalk or walkway shall be as shown in the current version of IES-RP-8 for Low Pedestrian Conflict areas.
4. In commercial areas, contributions from other nearby storefront lighting, private lighting, sign lighting, and/or reflections from structures on the private property should not be considered a reason for reducing the sidewalk or walkway illuminance levels indicated above.
5. Sidewalk or walkway lights shall have shielded fixtures that keep light pollution, trespass, and glare to drivers to a minimum, as approved by the City Engineer. Manufacturer models for sidewalk and walkway lighting shall be approved by the City Engineer.
6. Agriculture-zoned land or open space may be exempt, at the discretion of the City Engineer, from pedestrian scale lighting provisions.
7. Further design guidelines can be found in the current version of RP-8 publication of the Illuminating Engineering Society of North America, "America National Standard Practice for Roadway Lighting."
8. Energy code regulations for exterior lighting are in the current version of California's Title 24 regulations
9. All street lighting shall have shielding to cutoff illumination above an angle 90 degrees above the nadir.

#### 4.4.1 Post Top Luminaires

The following post top luminaires and poles have been standardized for use in the City. Refer to City of San Diego Standard Drawings, Standard Specifications Section 700, and Approved Materials List. Pole shall match luminaire color. All new and replacement luminaires shall be LED.

- a. Type A1(luminaire on street side) & A2( luminaire on sidewalk side), 'Gateway', Dual Acorn style on decorative Pole with dual arm support assembly
  - Distribution: One Type III & One Type V
  - BUG: U2 Max.
  - Lumens: 5900 Lumens, Min each
  - Color: CCDC Blue
  - Light Center Height: 21'-9"
  - Pole: Std. Dwg. # SDE-105
- b. Type AP, 'Asian Pacific', Single Hexagonal style on decorative pole
  - Distribution: Type V
  - BUG: N/A
  - Lumens: 5900 Lumens, Min.
  - Color: RAL#6028
  - Light Center Height: 16'-0"
  - Pole: Std. Dwg. # SDE-106
- c. Type C, 'Standard', Single Acorn style on decorative pole.
  - Distribution: Type V
  - BUG: U2 Max.
  - Lumens: 5900 Min
  - Color: CCDC Blue
  - Light Center Height: 12'-0"
  - Pole: Std. Dwg. # SDE-108
- d. Type CE, 'Enhanced', Single Acorn style on decorative pole with extended luminaire support assembly.
  - Distribution: Type V
  - BUG: U2 Max.
  - Lumens: 5900 Min.
  - Color: CCDC Blue
  - Light Center Height: 16'-3"
  - Pole: Std. Dwg. # SDE-109
- e. Type CL, 'Little Italy', Same as CE except dark green color.
  - Distribution: Type V
  - BUG: U2 Max.

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- Lumens: 5900 Min.
  - Color: RAL#6005, Dark Green
  - Light Center Height: 16'-3"
  - Pole: Std. Dwg. # SDE-109
- f. Type G, 'Gaslamp', five head, globe style on decorative pole with five arm luminaire support assembly.
- Distribution: Type V, each head.
  - BUG: N/A
  - Lumens: 4,000 Min, each head.
  - Color: Federal Standard #27038 Black
  - Light Center Length: 18'-0" to Top Head
  - Pole: Std. Dwg. # SDE-110
- g. Type T, 'Teardrop', Dual hung style on decorative pole with dual arm support assembly.
- Distribution: Type III
  - BUG: U3 Max.
  - Lumens: 6900, Min., each
  - Color: CCDC Blue
  - Light Center Length: 20'-6"
  - Pole: Std. Dwg. # SDE-111

### 4.4.2 Center City Street Lighting Application Guidelines

Pedestrian street lights should be located approximately **seventy-five (75) to ninety-five (95) feet apart**; with three lights located on each 200-foot block frontage and four lights located on each 300-foot block frontage. Street lights should be staggered on opposite sides of the street (Figure 4-1). When installed near street trees using **four (4) foot** by **six (6) foot** tree grates, the street lights are to be installed **two (2) feet** from the back of curb, measured from the back of curb to center of the pole base. When installed near street trees using **five (5) foot** by **five (5) foot** tree grates, the street lights are to be installed **two and a half (2½) feet** from the back of curb, measured from the back of curb to center of the pole base.

### 4.4.3 Street Light Conformance

1. Design of street lighting systems shall conform to Section 209 Electrical Components of the "Greenbook" Standard Specifications for Public Works Construction, National Electric Code, Standard Special Provisions for Street Lighting and Traffic Signal Systems for the City of San Diego, Caltrans Standard Plans, applicable amendments, and this Manual.
2. All luminaires shall be LED.

- All luminaire designs shall minimize upward light where possible and shall conform to the 'U' ratings above.

#### 4.4.4 Center City Luminaires and Poles

The street lighting program for downtown includes Type C - Standard, Type CE - Enhanced Standard, Type A - Gateway, Type G - Gaslamp, Type AP - Asian Pacific, and Type T - Tear-Drop Lights. These light standards are designed primarily for mid-block lighting. All signalized intersections shall utilize cobra head style luminaires on Type 15 standards per City requirements. Operation of the street light systems shall be network controlled unless otherwise noted.

#### 4.4.5 Street Lighting Classifications

- District Street Lights (See Figure 4-2):

District	Street Light
Ballpark District, Columbia, Core, Cortez, East Village, Marina	TYPE C Standard Light (SDE-108)
Gaslamp Quarter	TYPE G Gaslamp Light (SDE-110)
Horton Plaza	TYPE A Gateway Light (SDE-105)
Little Italy	TYPE CL Little Italy Light (SDE-109)

- Special Street Lights (See Figure 4-3):

District	Street Light
4th Ave. (Broadway to C St.), 5th Ave. (Broadway to C St.), 6th Ave. (Broadway to C St.), Kettner Blvd. (Ash St. to Laurel St.)	TYPE CE Enhanced Standard Light (SDE-109)
3rd Ave. (Market St. to J St.), Island Ave. (2nd Ave. to 6th Ave.)	TYPE AP Asian Pacific Light (SDE-107)
C St. (west of Park Blvd.)	Special per MTS (Induction Shoebox Lights)
J St. (6th Ave. to 14th St.)	TYPE A Gateway Light (SDE-105)

- Gateway Street Lights (See Figure 4-4):

District	Street Light
1st Ave., 10th Ave. (south of Ash St.), 11th Ave., A St., Ash St., F St. (east of 6th Ave.), Front St., G St. (west of 4th Ave. and east of 6th Ave.), Grape St., Hawthorn St., Laurel St., Pacific Highway	TYPE A Gateway Light (SDE-105)

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### 4. Ceremonial Street Lights (See Figure 4-5):

District	Street Light
<b>Broadway, Cedar St. (west of 1st Ave.), Imperial Ave., Market St. (west of 4th Ave. and east of 6th Ave.)</b>	TYPE A Gateway Light (SDE-105)
<b>Harbor Dr.</b>	Under Port of San Diego jurisdiction
<b>Park Blvd.</b>	TYPE T Tear-Drop Light (SDE-111)



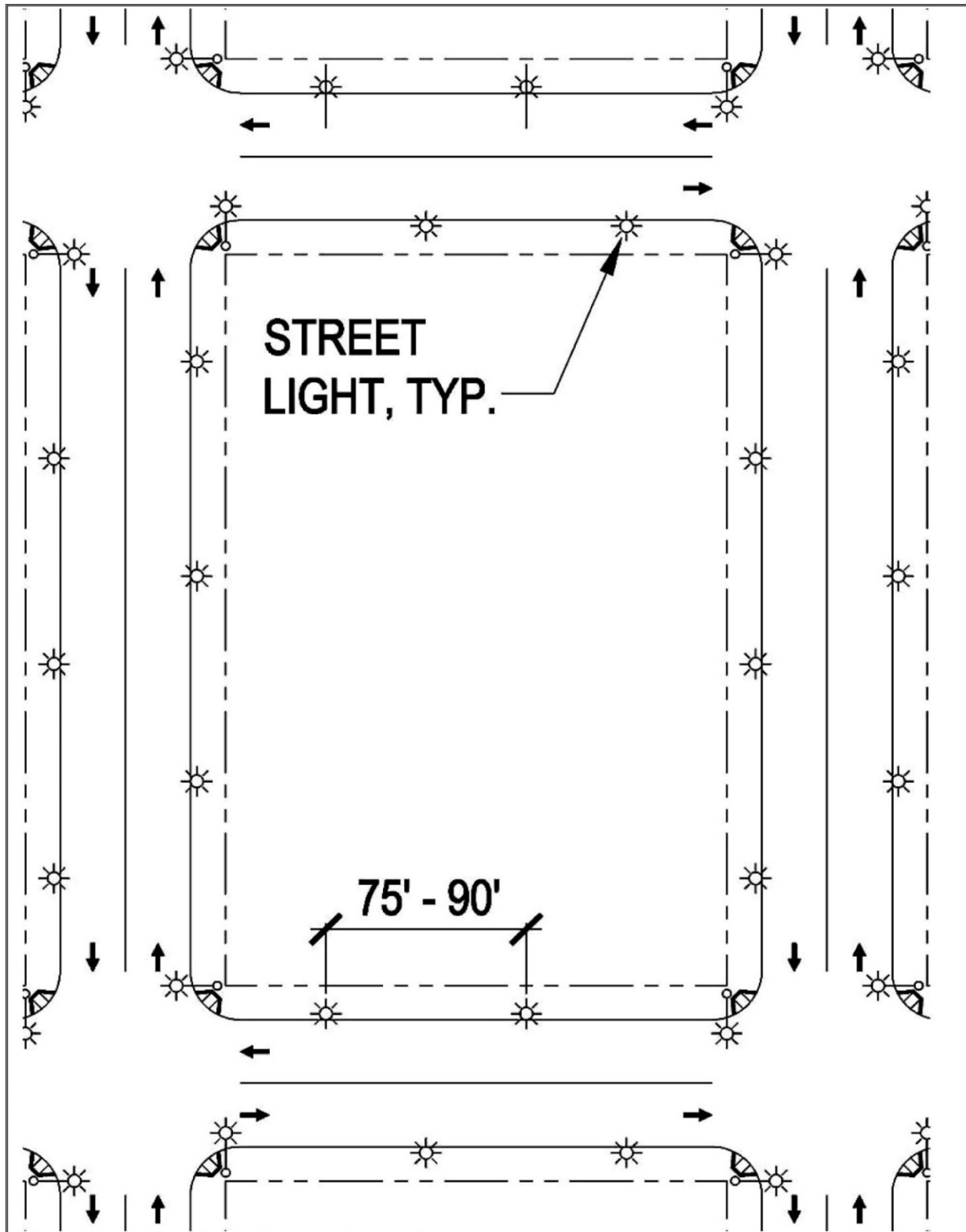
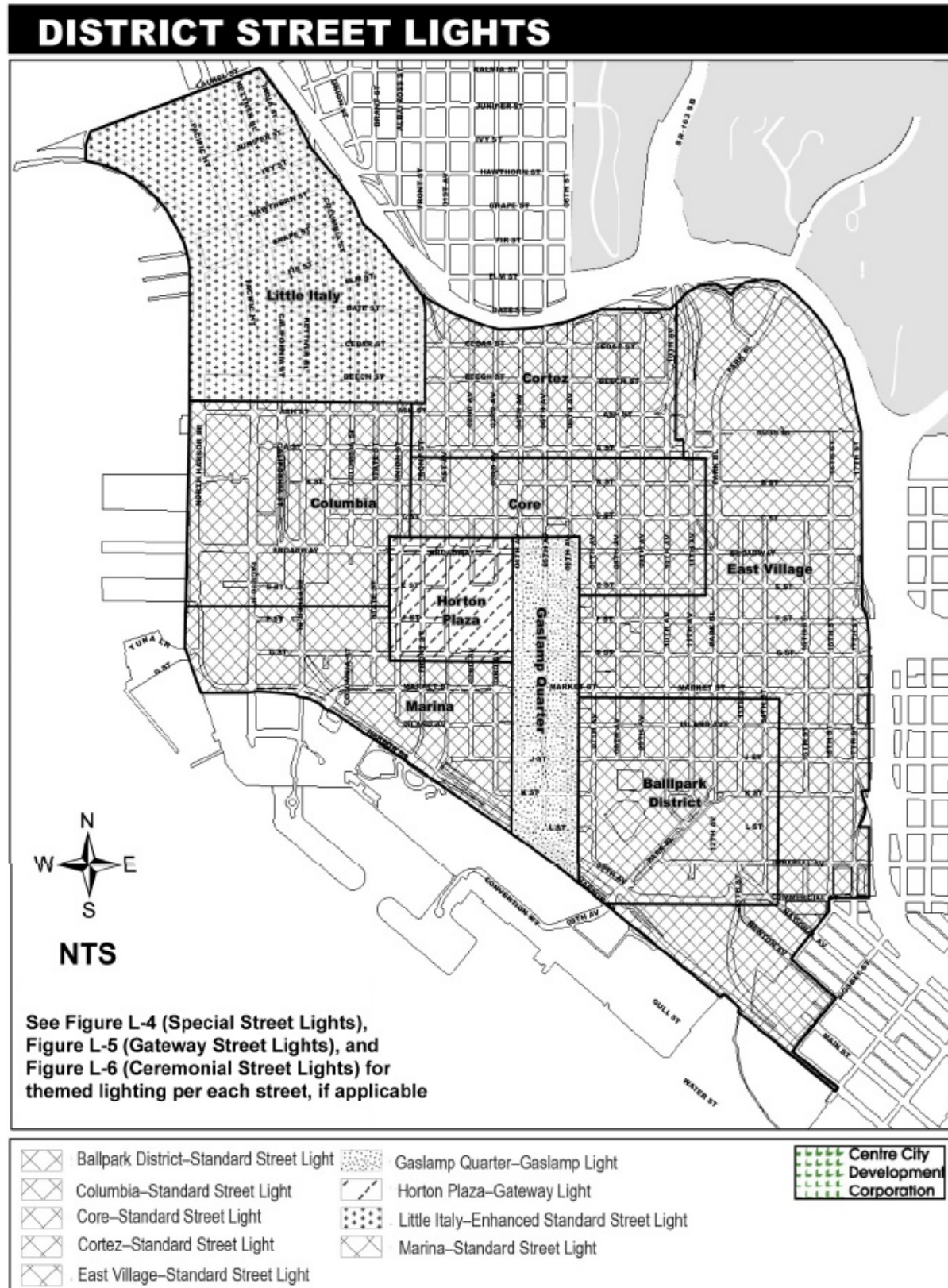


FIGURE 4-1. TYPICAL CENTER CITY STREET LIGHT LAYOUT



**FIGURE 4-2. DISTRICT STREET LIGHTS**

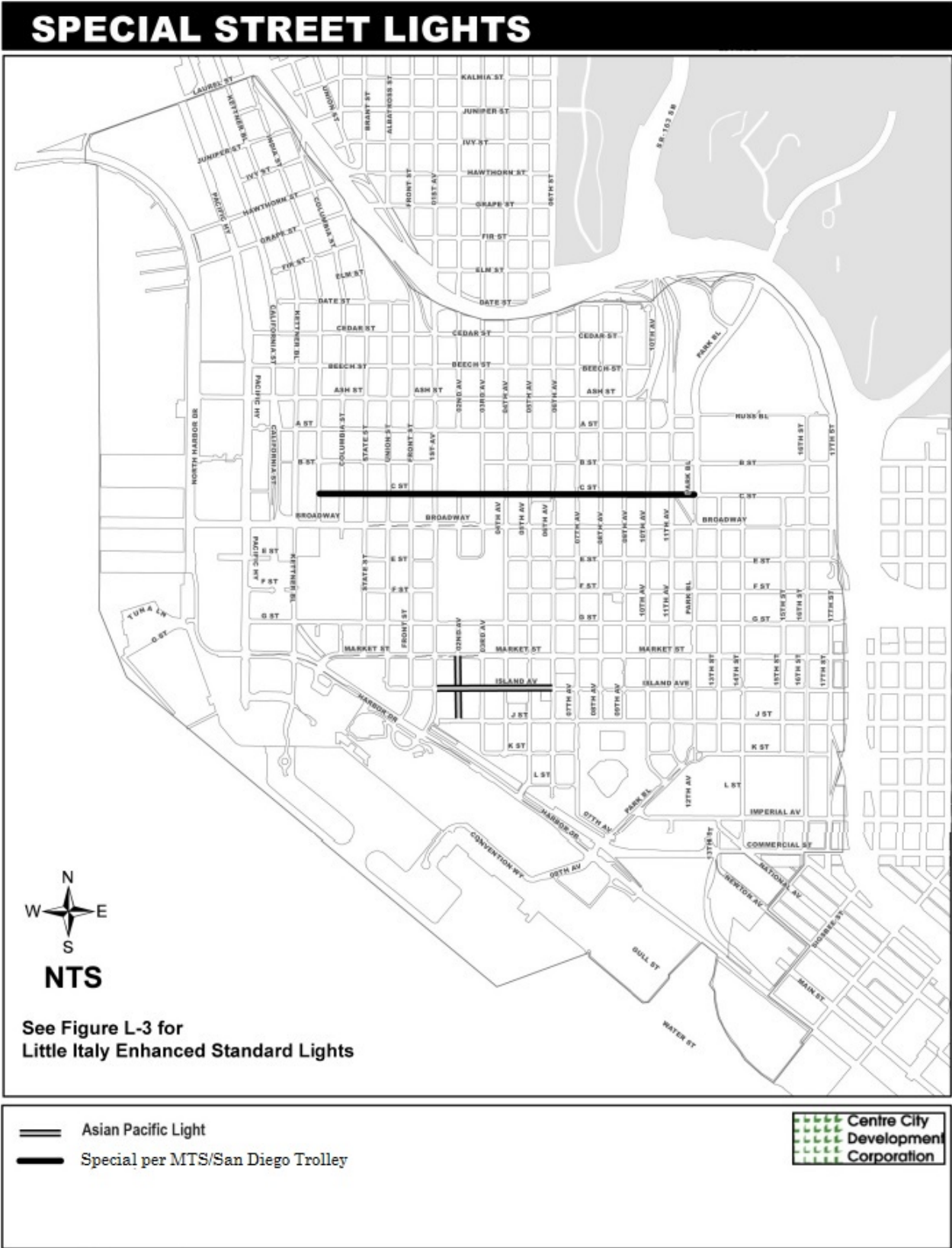


FIGURE 4-3. SPECIAL STREET LIGHTS

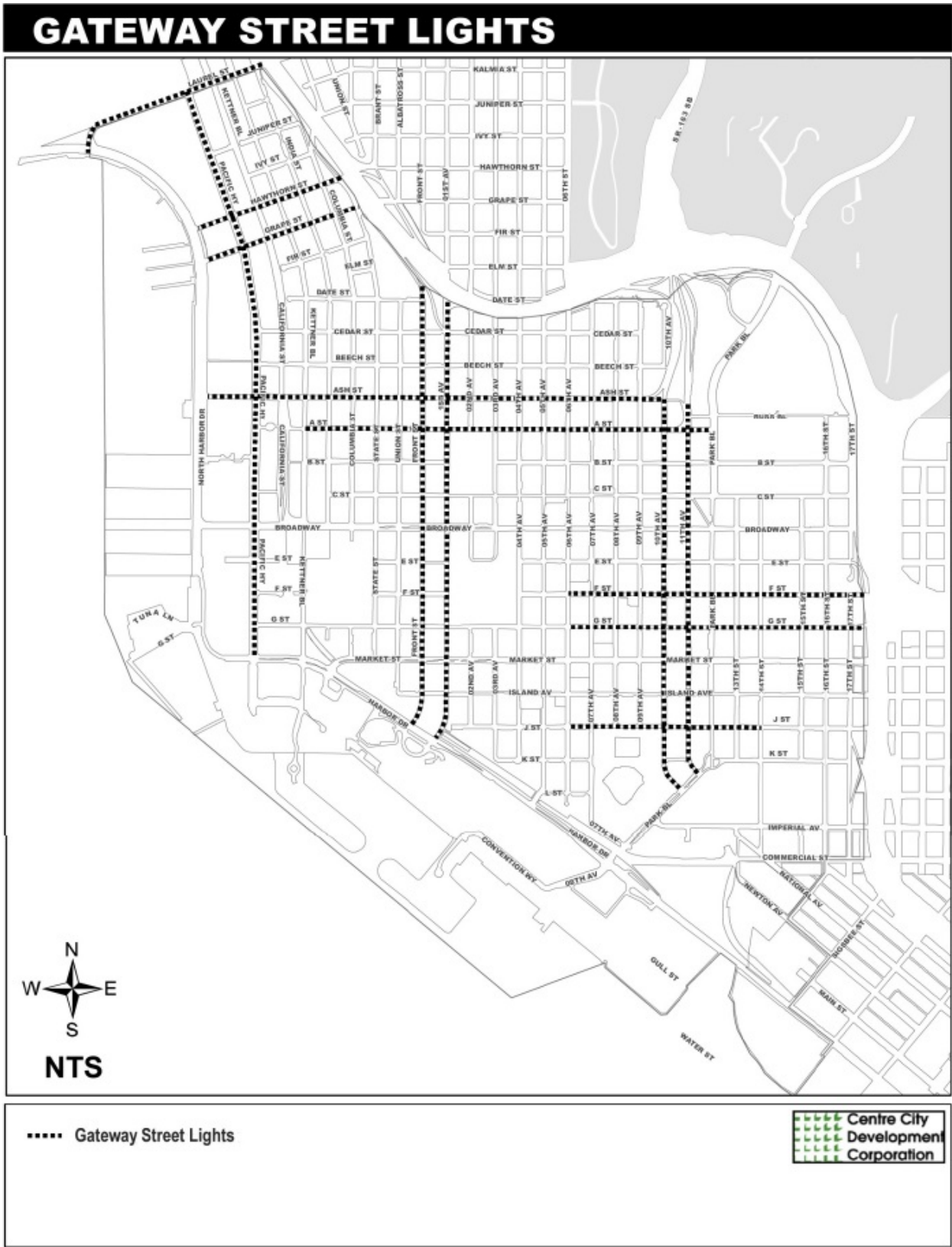


FIGURE 4-4. GATEWAY STREET LIGHTS



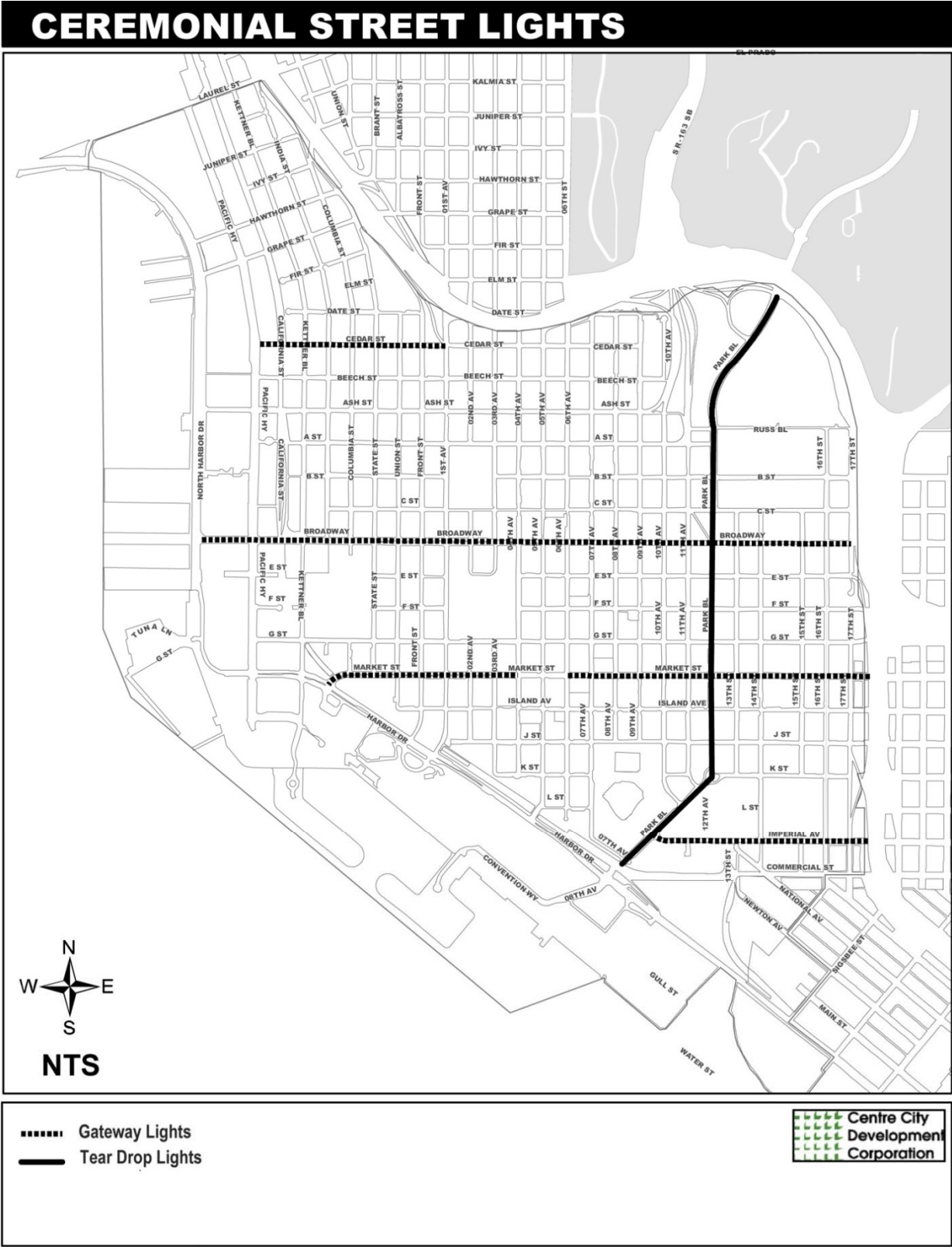


FIGURE 4-5. CEREMONIAL STREET LIGHTS



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## Parkway Configurations

This chapter contains illustrations for urban and rural parkway configurations.

### 5.1. Urban Parkway Configurations

Figures 5-1 through 5-9 illustrate relevant urban parkway configurations.

## Urban Parkway Configurations

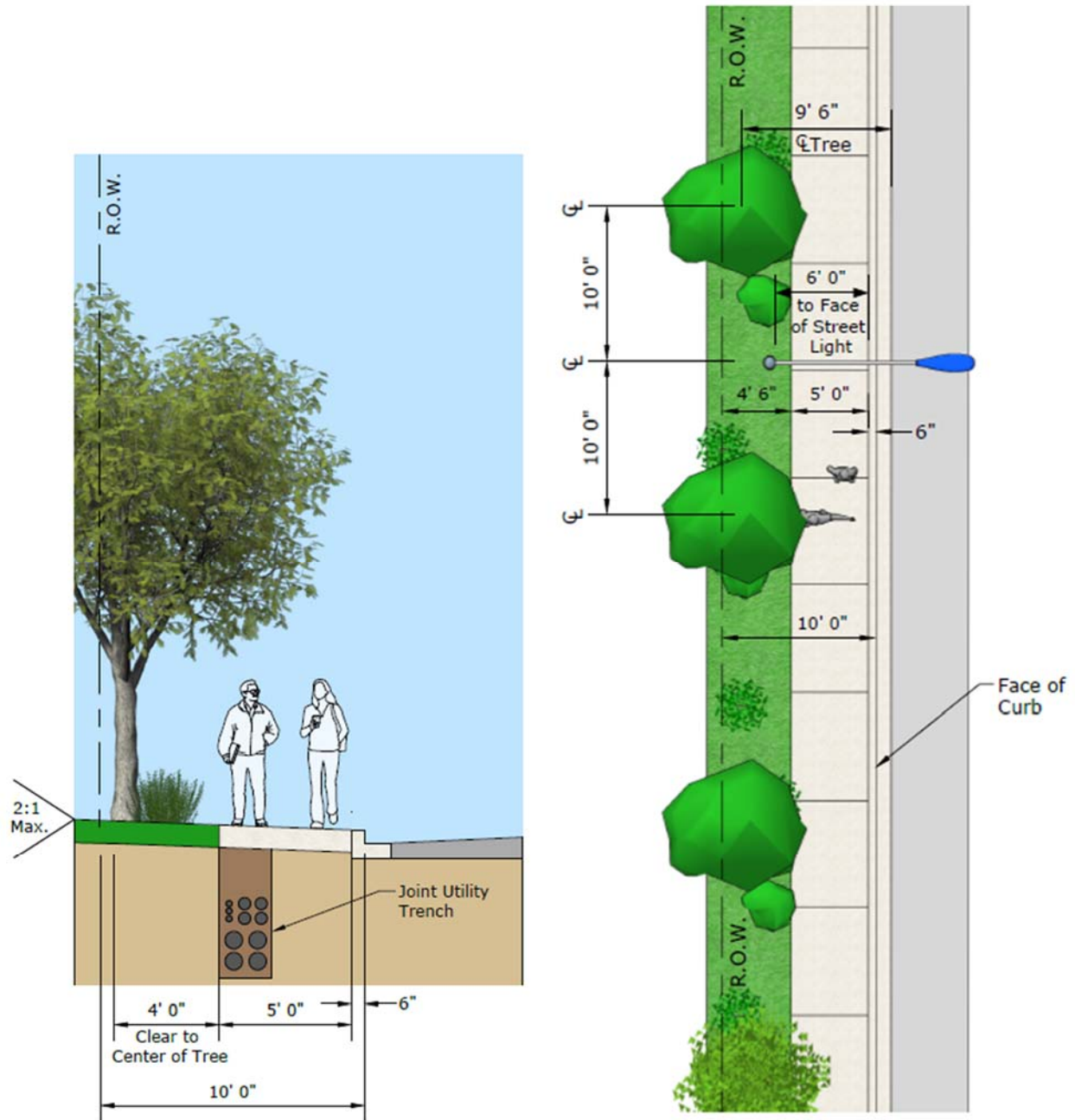
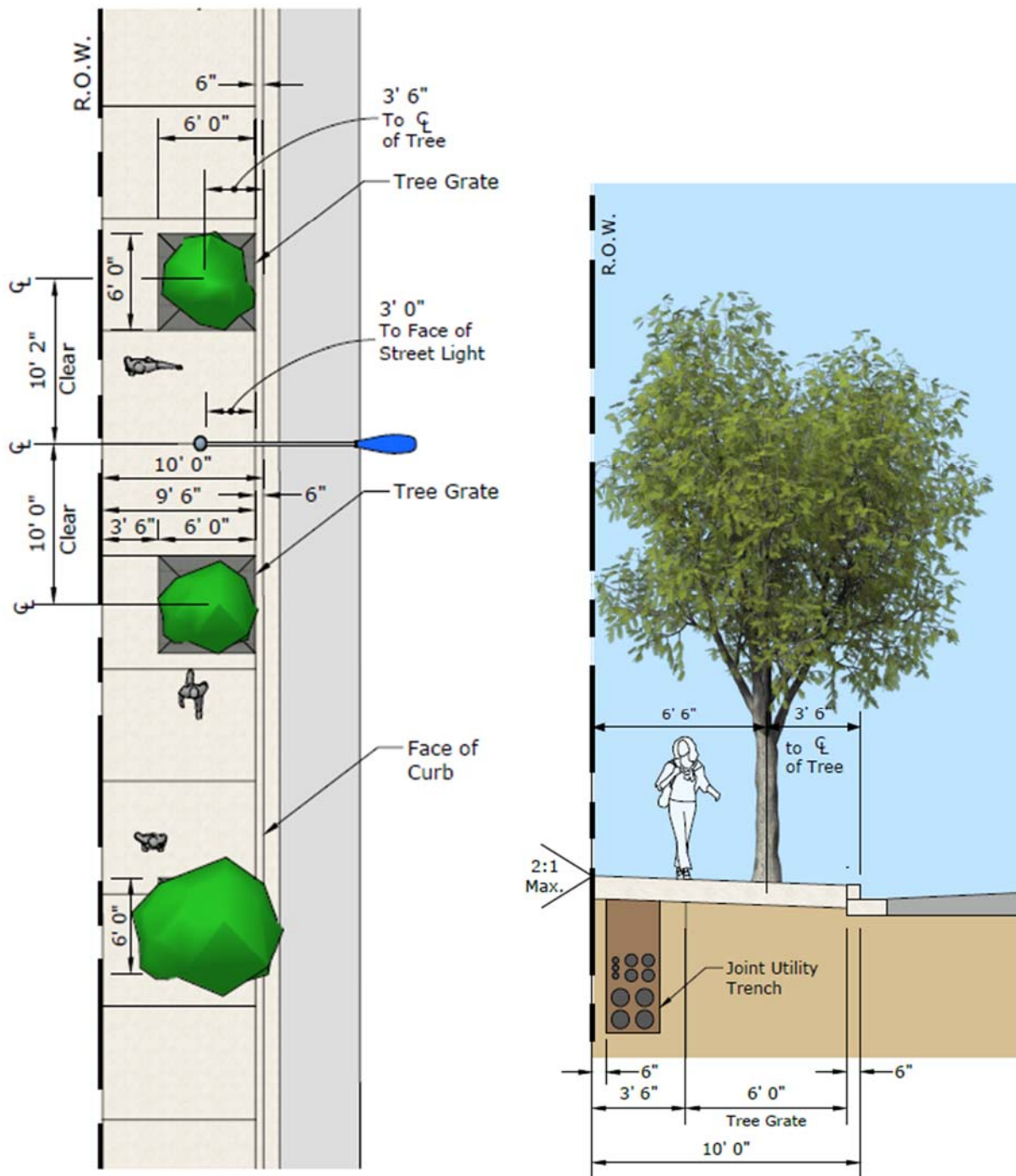


FIGURE 5-1. 10' PARKWAY – CONTIGUOUS SIDEWALK



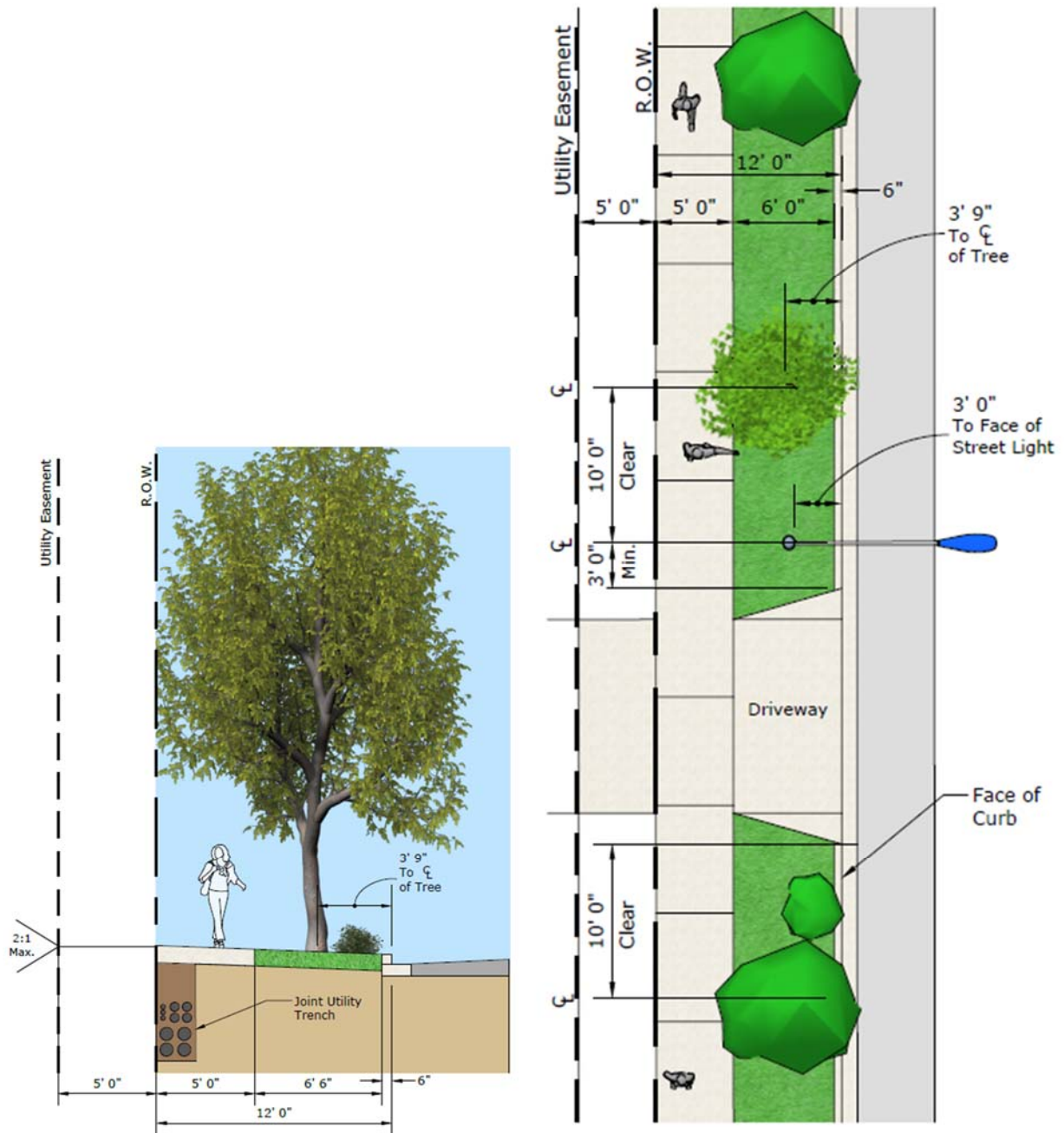


**FIGURE 5-2. 10' PARKWAY WITH TREE GRATES**

**Notes:**

1. All street trees shall conform to SDMC Chapter 14, Article 2, Division 4.

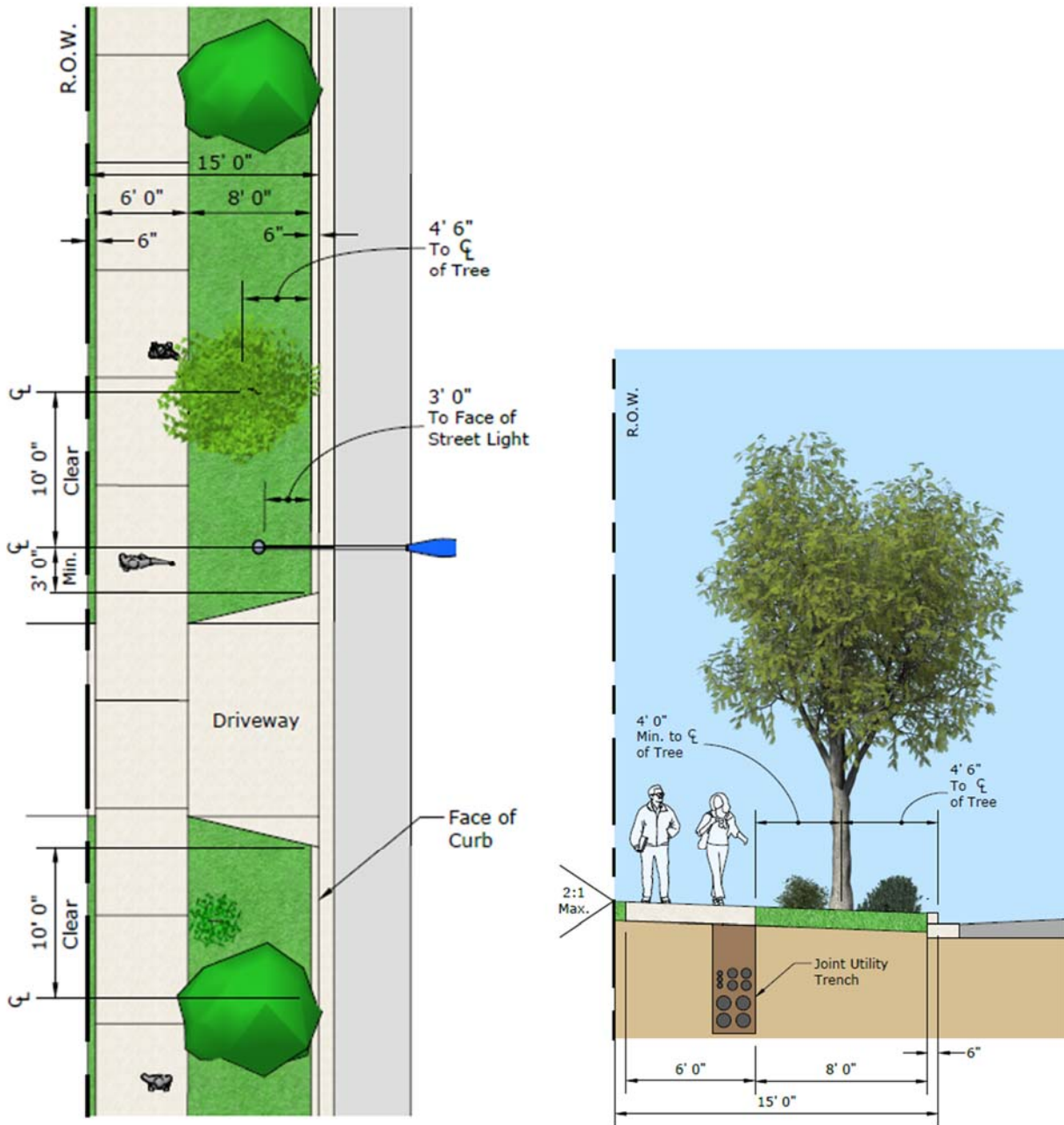
## Urban Parkway Configurations



**FIGURE 5-3. 12' PARKWAY- NON-CONTIGUOUS SIDEWALK**

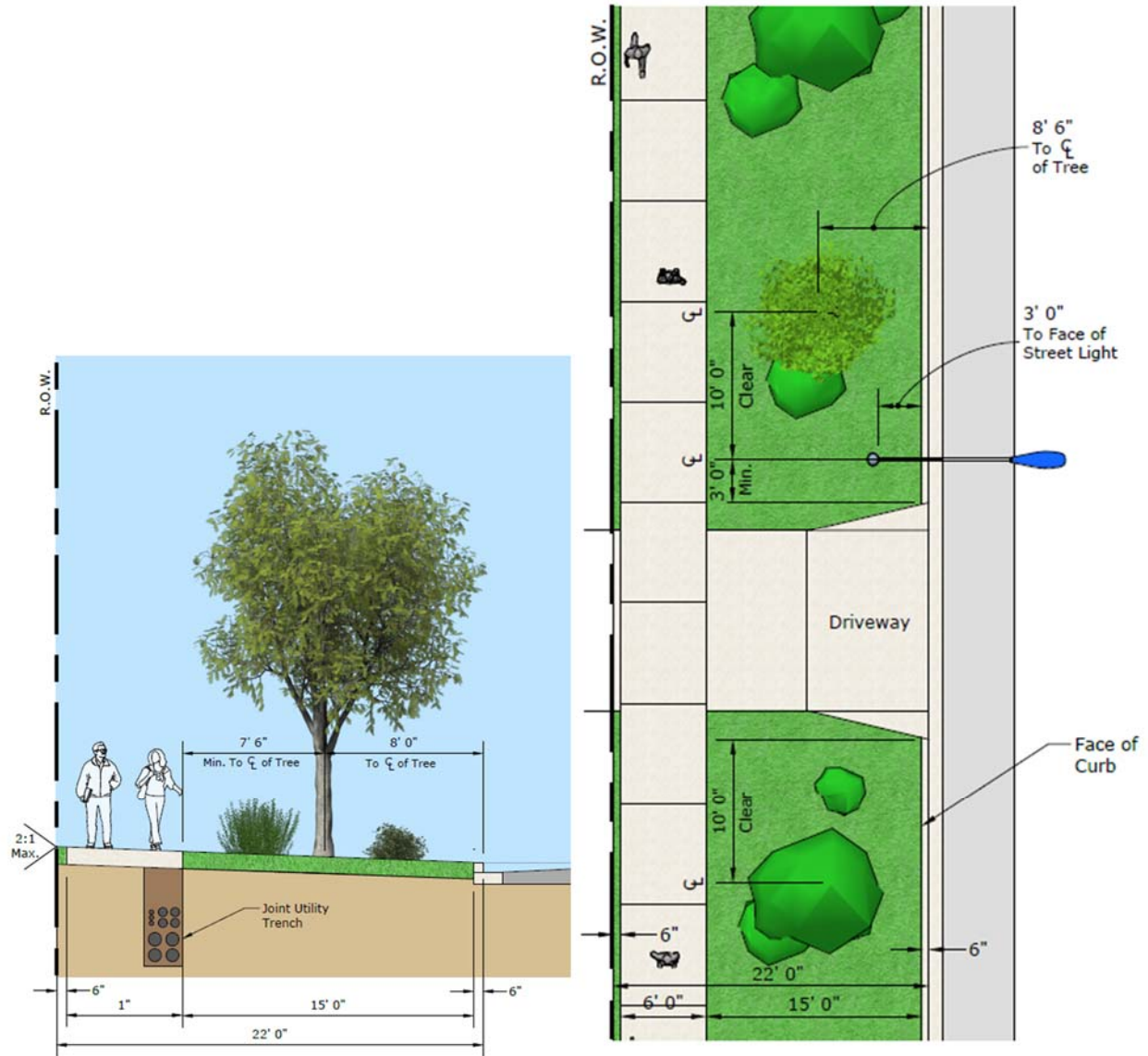
**Notes:**

Reference SDG-164 for required clearance for obstructions near driveways.



**FIGURE 5-4. 15' PARKWAY NON-CONTIGUOUS SIDEWALK**

## Urban Parkway Configurations

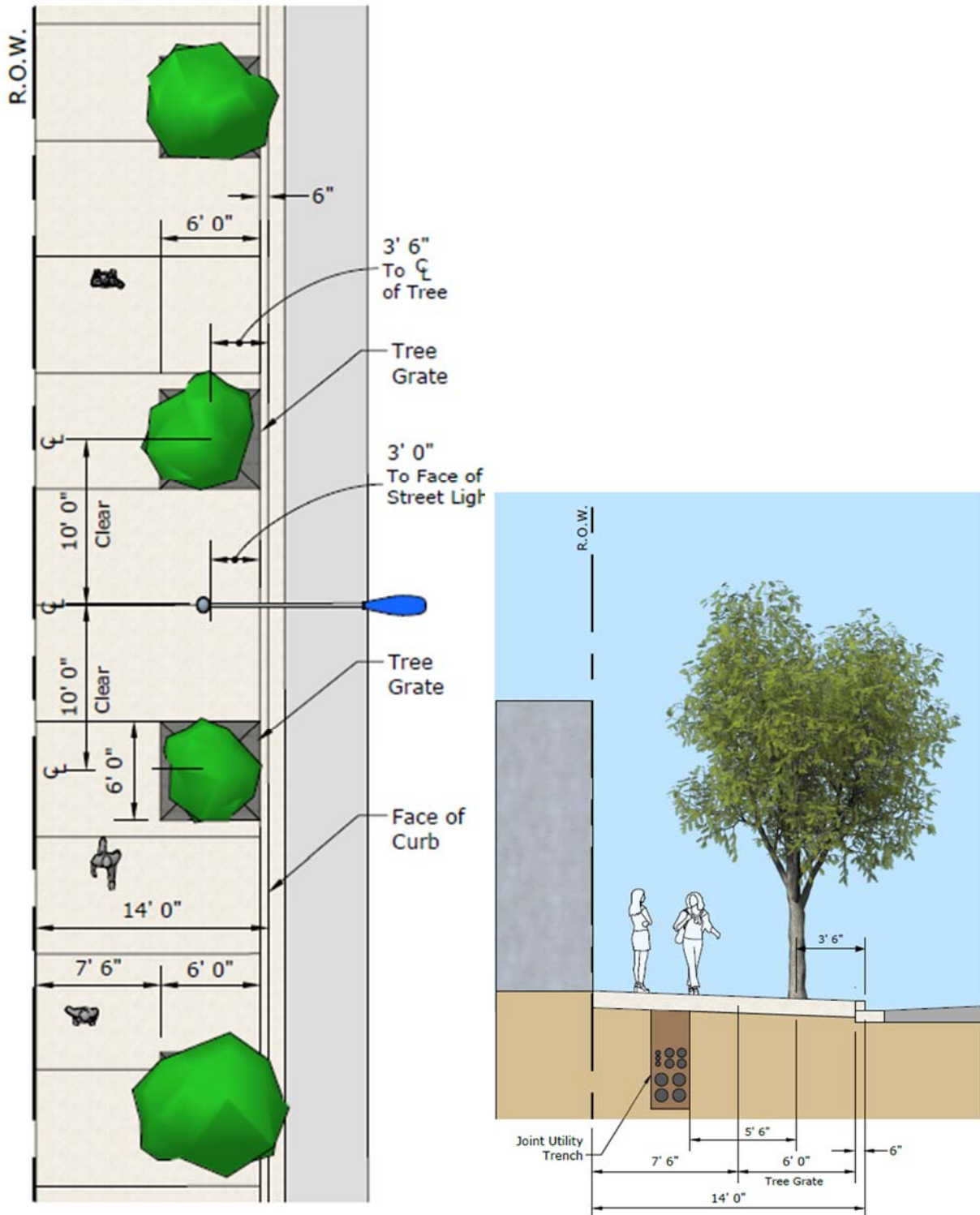


Note:

1. Alternate configuration of sidewalk and landscape strip may be installed subject to approval of the City Engineer.

**FIGURE 5-5. 22' PARKWAY NON-CONTIGUOUS SIDEWALK**



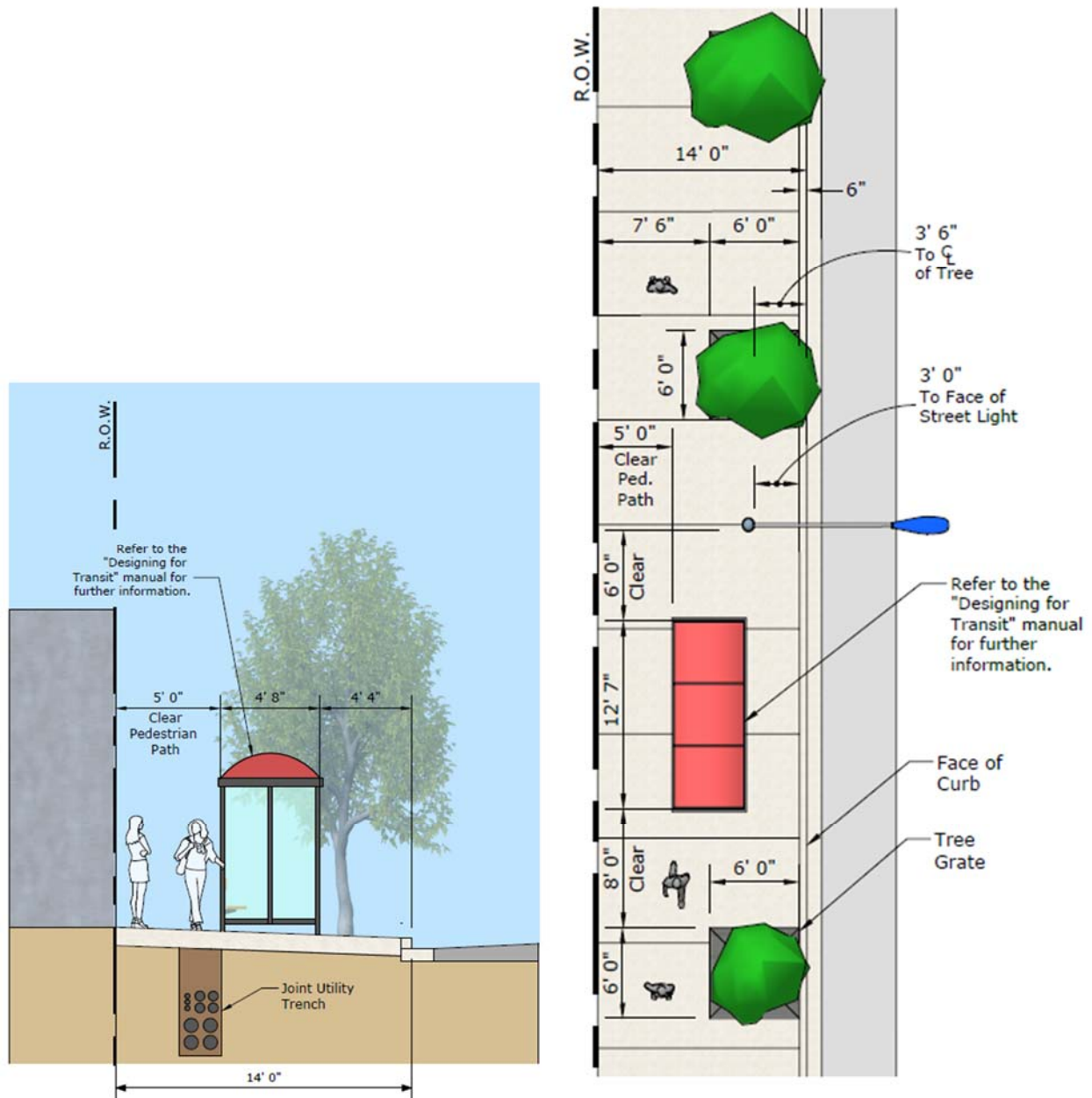


Note:

1. Where storefront furniture is provided, the clear pedestrian passage way shall not be less than 5'-0".
2. All street trees shall conform to SDMC Chapter 14, Article 2, Division 4.

**FIGURE 5-6. 14' PARKWAY WITH TREE GRATES**

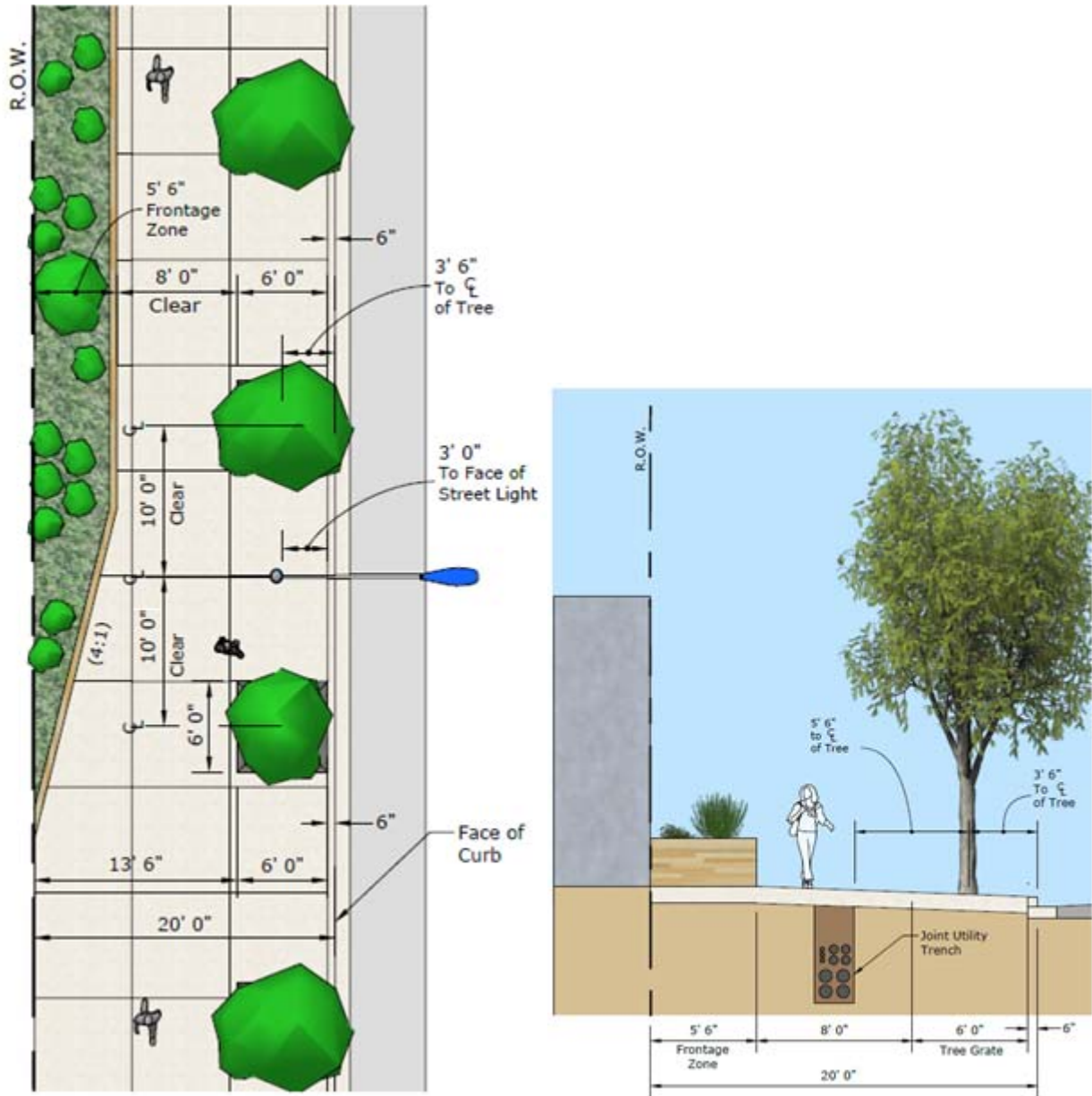
## Urban Parkway Configurations



Note:

1. Where storefront furniture is provided, the clear pedestrian passage way shall not be less than 5'-0".
2. All street trees shall conform to SDMC Chapter 14, Article 2, Division 4.

**FIGURE 5-7. 14' PARKWAY WITH TREE GRATES (TRANSIT AREA)**

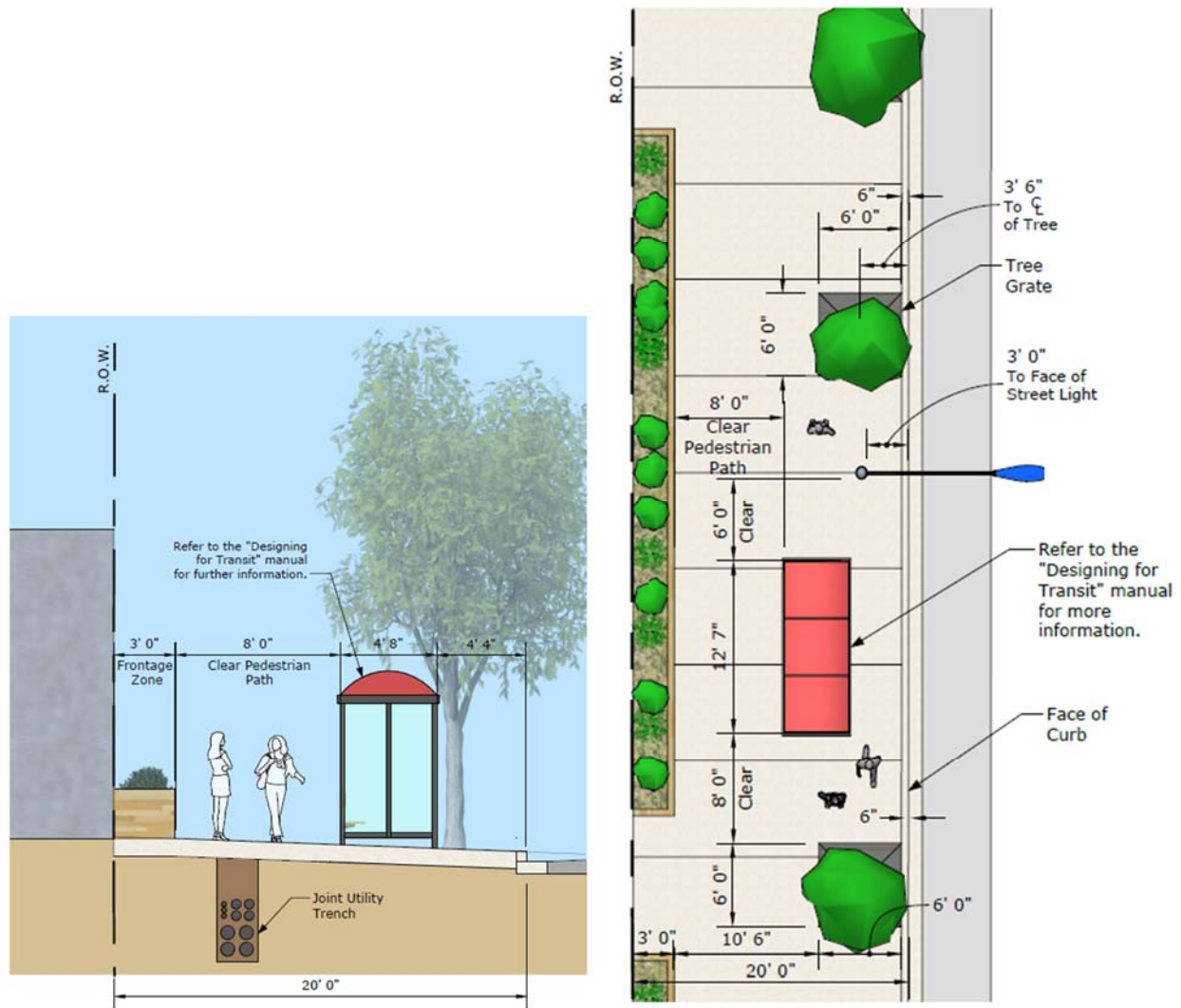


Note:

1. Where storefront furniture is provided, the clear pedestrian passage way shall not be less than 8'-0".
2. All street trees shall conform to SDMC Chapter 14, Article 2, Division 4.

**FIGURE 5-8. 20' PARKWAY WITH TREE GRATES**

## Urban Parkway Configurations



Note:

1. Where storefront furniture is provided, the clear pedestrian passage way shall not be less than 8'-0".
2. All street trees shall conform to SDMC Chapter 14, Article 2, Division 4.

**FIGURE 5-9. 20' PARKWAY (TRANSIT AREA)**



## 5.2. Rural Parkway Configurations

Figures 5-10 through 5-13 illustrate relevant rural parkway configurations.

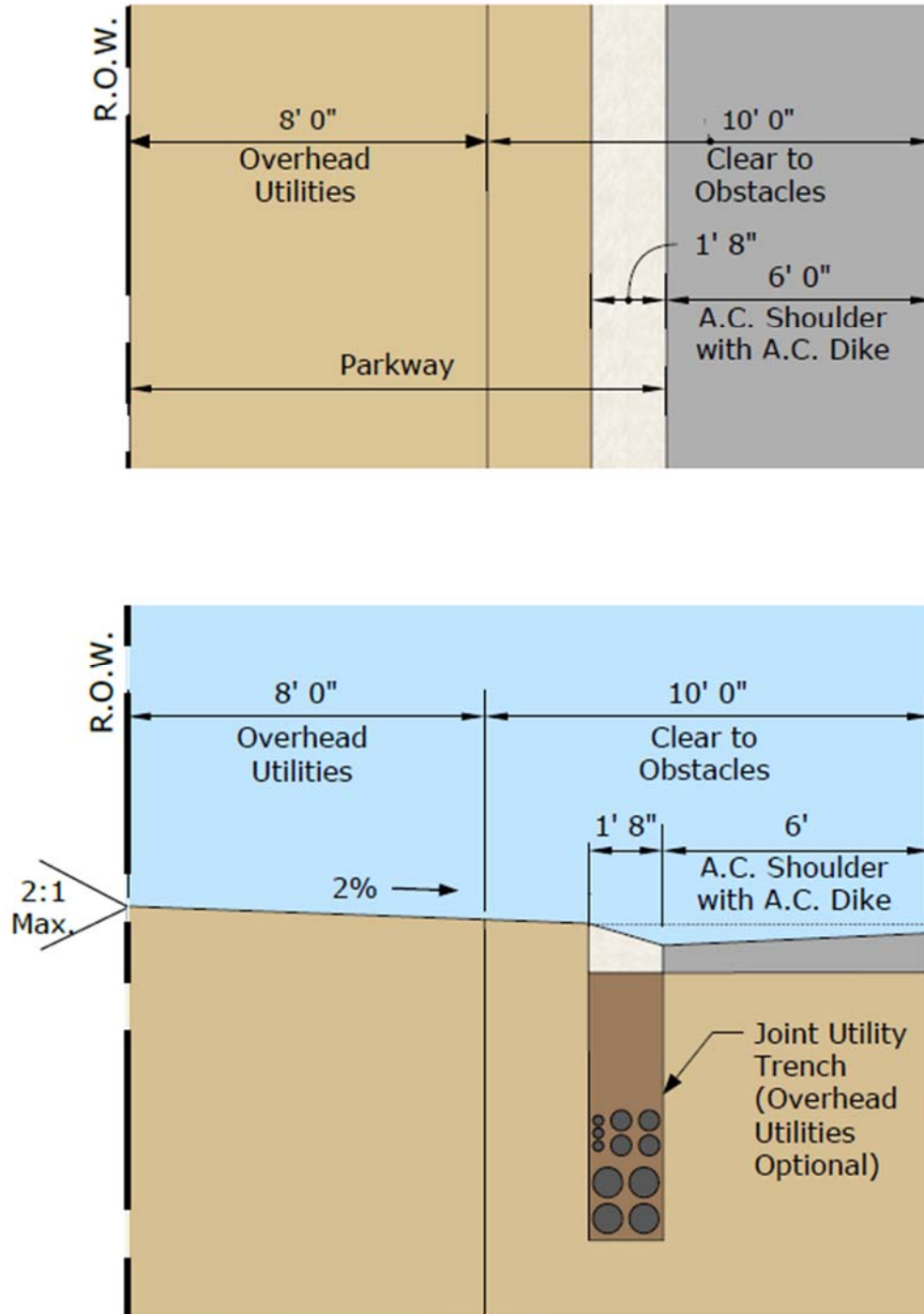


FIGURE 5-10. 12' RURAL PARKWAY

## RURAL PARKWAY CONFIGURATIONS

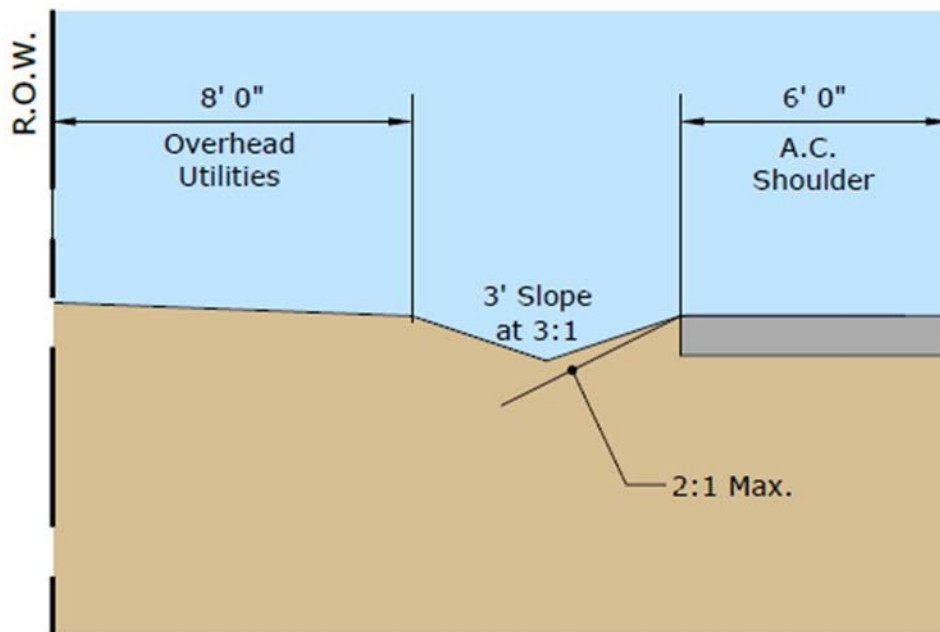
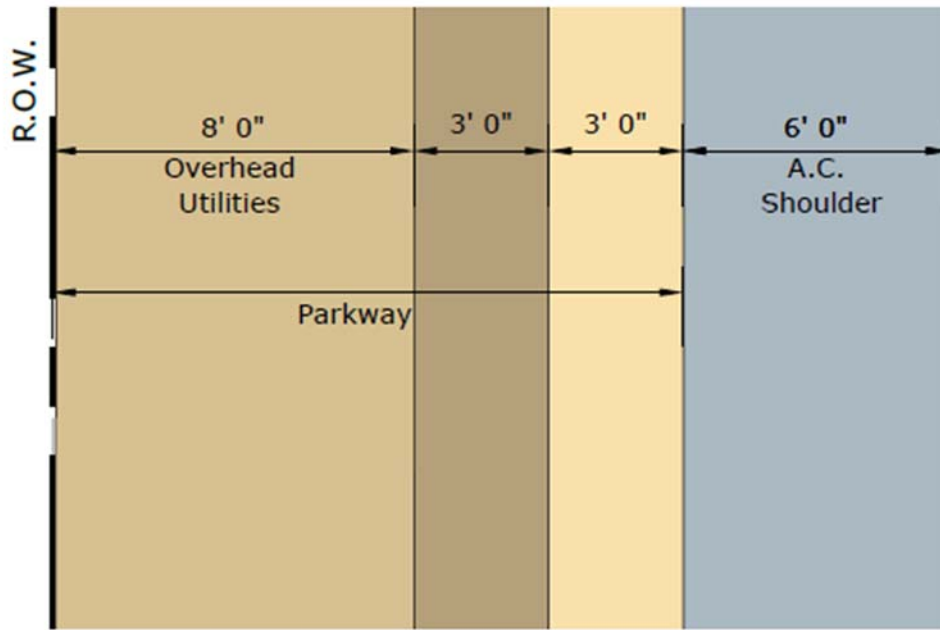


FIGURE 5-11. 14' RURAL PARKWAY

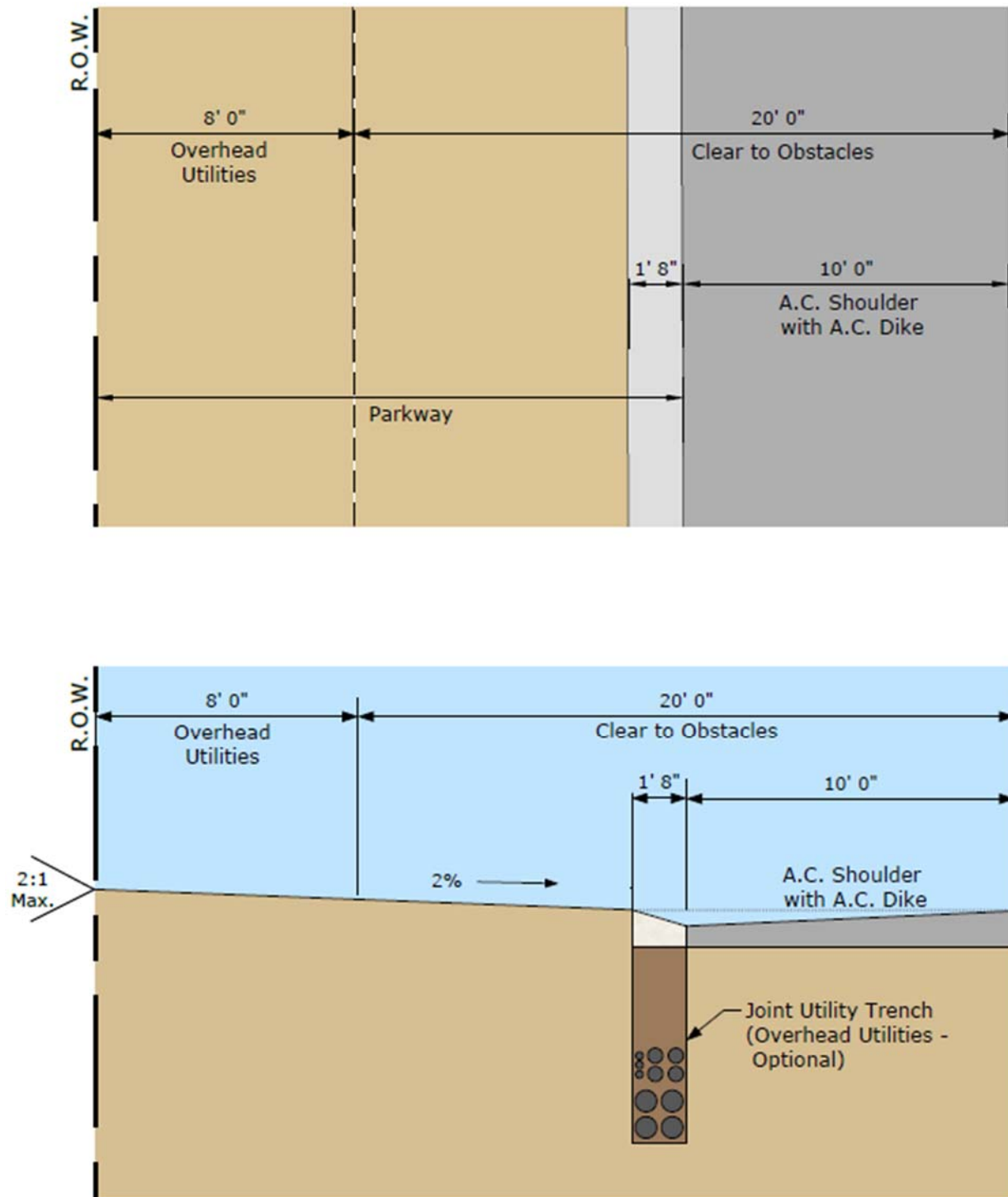


FIGURE 5-12. 18' RURAL PARKWAY

## RURAL PARKWAY CONFIGURATIONS

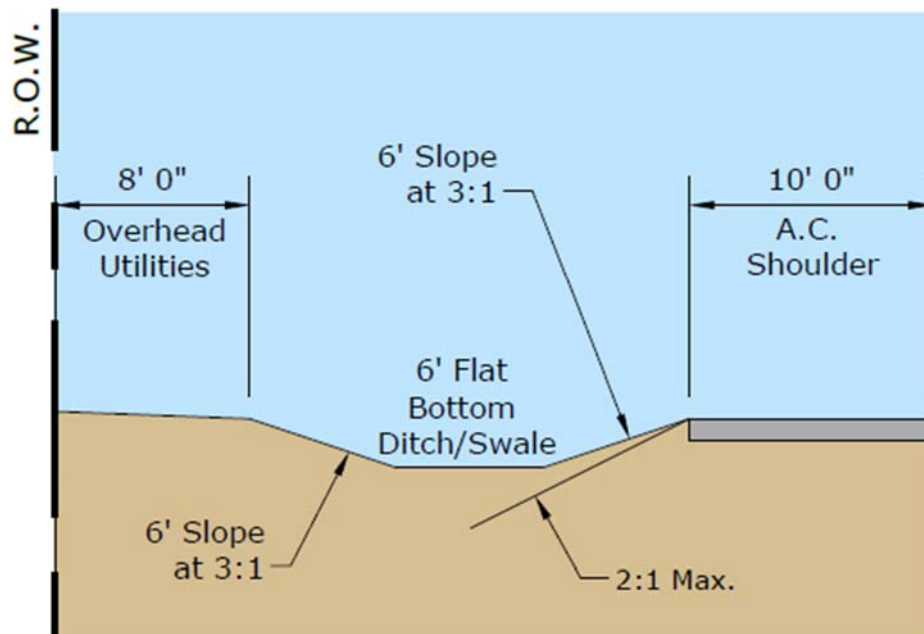
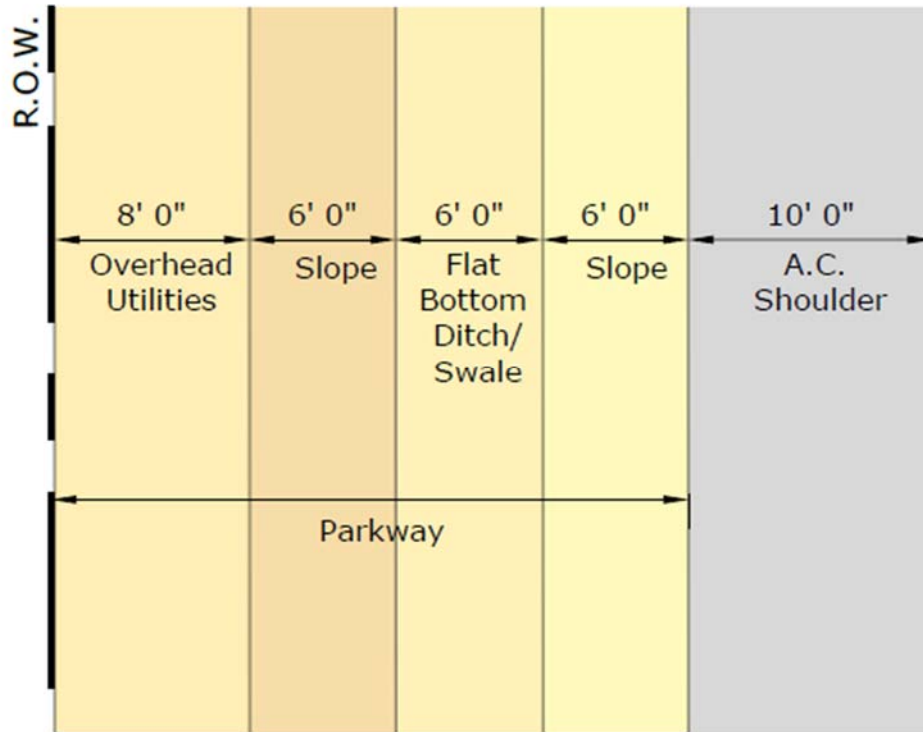


FIGURE 5-13. 26' RURAL PARKWAY