DESIGN SCENARIOS

This section uses graphics to highlight shade infrastructure in use. Use the numbered site notes and lettered tree callouts to find related guidance in the Tree Guidelines, Recommended Tree List, Water Harvesting Guidelines, and Shade Structure Guidelines.

Site Notes / Considerations

Notes highlight design specifics and where to find related items in the plan.

1 Tree Selection

- References the Site Specific Tree Lists and Guides (see pages 38 - 47)

2 Water Harvesting

- References Water Harvesting systems (see pages 66 - 75)

3 Soil Volumes

- References recommended Soil Volumes (see pages 34 - 35)

4 Pedestrian Focus

- How to provide shade to maximize pedestrian benefits

5 Best Practice

- Site-specific notes and recommendations for the space

A - B - C - D / Tree Guides

Refer to Tree Guides for detailed species attributes that inform tree selection and management.

A Hardscape Buffers

B Planter Dimension

C Distance Between Trees

D Building Distance

YELLOW BIRD OF PARADISE

Caesalpinia mexicana

Ⓑ	Size(hxw)	10' x 10'
	Growth Rate	fast
	Shade Type	medium
	Deciduous	no, evergreen
	Flower	yes, summer
	Fruit	no
	Water	lower
	Litter	medium
	Thorns	no
	Poisonous	no
	Pool-friendly	yes
Ⓒ	Distance Apart	8' O.C.
Ⓐ	Min Sidewalk Dist.	4'
Ⓐ	Min Street Dist.	8'
Ⓓ	Min Building Dist.	4'
	Parking Lot	no
	Utility Notes	-

Figure 4-1. Building frontage with onstreet angled parking.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, NEAR BUILDING - Broad, overhead canopy with adequate clearance
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Trees shade the primary sidewalk and building entrances
5. BEST PRACTICE - Combine tree, structured shade to maximize shade coverage

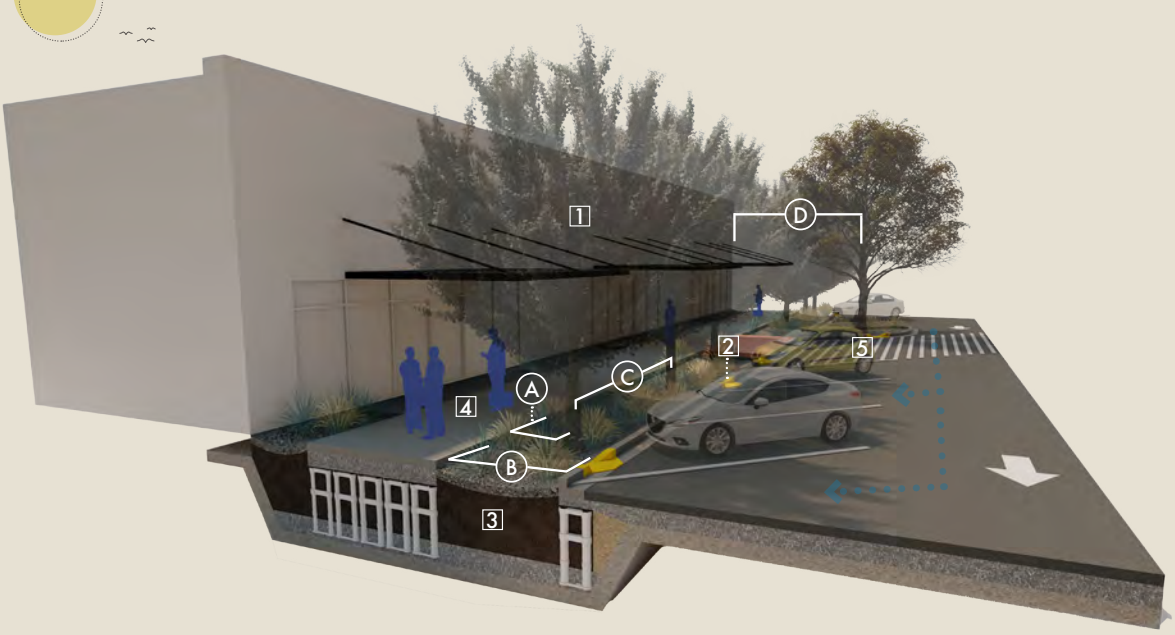

Figure 4-2. Building frontage with on-street parallel parking.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, NEAR BUILDING - Broad, overhead canopy with adequate clearance
2. WATER HARVESTING ELEMENT - Permeable pavement, curb cut, pedestrian bridge
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
4. PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
5. BEST PRACTICE - Use continuous planting strips and structural soil beneath pedestrian and parking areas to expand shared rooting volume

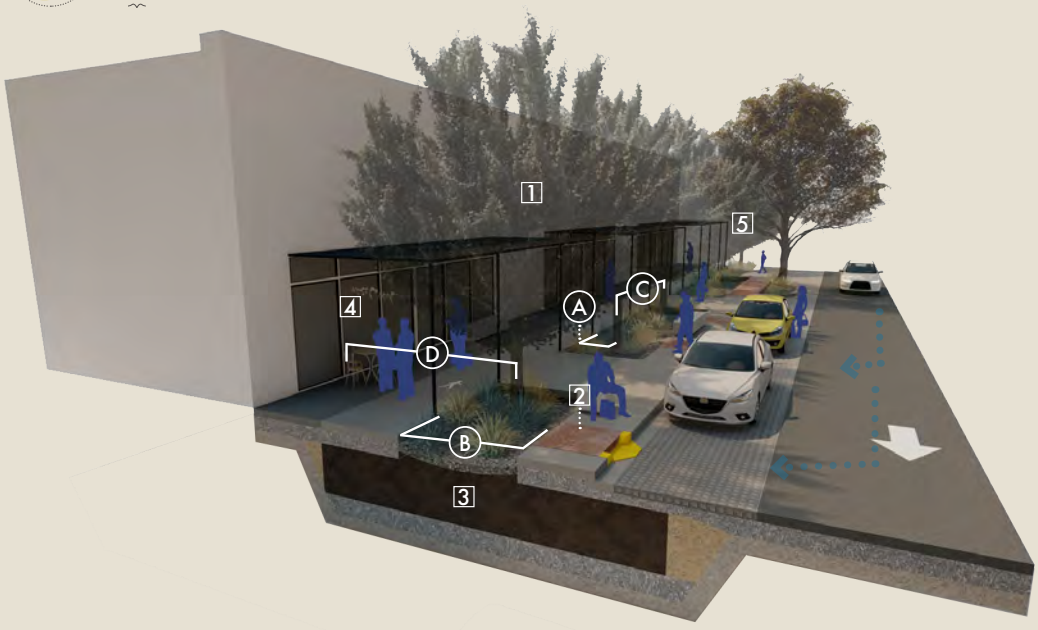

Figure 4-3. Building frontage and parking parking lot.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, rain garden, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Trees shade the primary sidewalk and building entrances
5. BEST PRACTICE - Combine tree, structured shade to maximize shade coverage

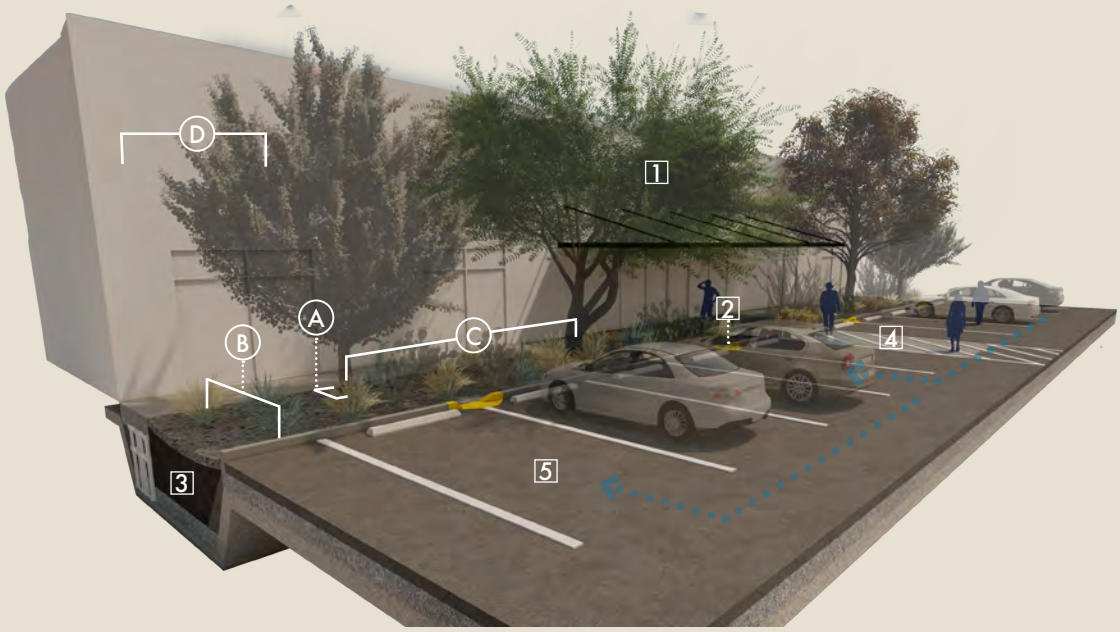

Figure 4-4. Pedestrian path.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PATH/SIDEWALKS - Broad, overhead canopy with adequate clearance
2. WATER HARVESTING ELEMENT - Bioswale, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
5. BEST PRACTICE - Avoid planting trees in lawn areas. Sprinkler irrigation discourages deep root growth

Figure 4-5. Roadway trees back of curb.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, STREET, BACK OF CURB - Prioritize clearance above travel lanes and signage
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Seperate pedestrian areas from vehicular traffic
5. BEST PRACTICE - Use continuous planting strips, furnishings, or low edges to reinforce the separation from traffic while maintaining clear sightlines at driveways and intersections

Figure 4-6. Roadway trees separated by pedestrian path

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, STREET, BACK OF SIDEWALK - Larger trees in wide, back-of-sidewalk planter
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, rain garden, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Pedestrian shade prioritized by tree location
5. BEST PRACTICE - Use continuous planting strips, furnishings, or low edges to reinforce the separation from traffic

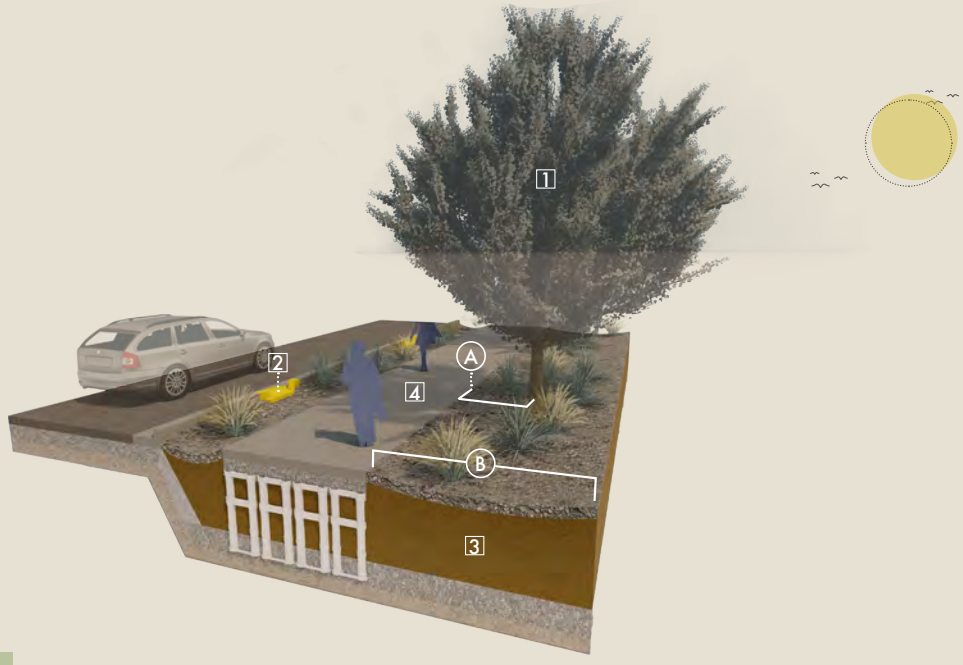

Figure 4-7. Pedestrian trail.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PATH/SIDEWALKS - Broad, overhead canopy with adequate clearance
2. WATER HARVESTING ELEMENT - Bioswale, rain garden, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Continuous shade along high-use trail segments, at rest areas
5. BEST PRACTICE - Use low, desert-adaptive understory plantings that preserve sight lines

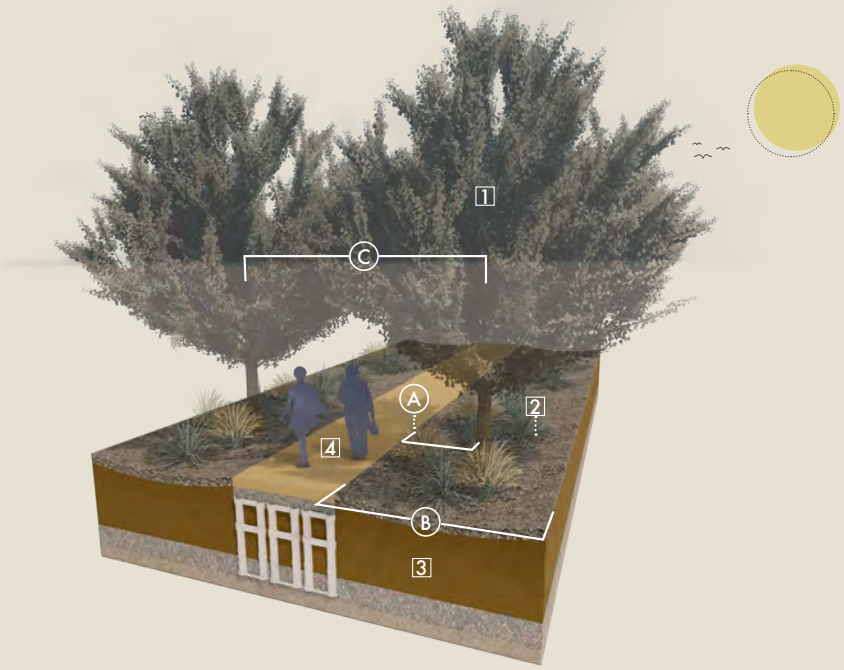

Figure 4-8. Pedestrian path adjacent to roadway and utilities.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, STREET, BACK OF CURB - Prioritize clearance above travel lanes and signage
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Prioritize pedestrian shade while keeping clear of utilities
5. BEST PRACTICE - Coordinate tree placement with utility providers; maintain recommended clearances from boxes, vaults, and poles

Figure 4-9. Parking near a pedestrian path.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
2. WATER HARVESTING ELEMENT - Bioswale, rain garden, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Trees shade walking routes, access points, and seating areas
5. BEST PRACTICE - Use the outer planting strip to frame the path and complete a continuous shaded edge

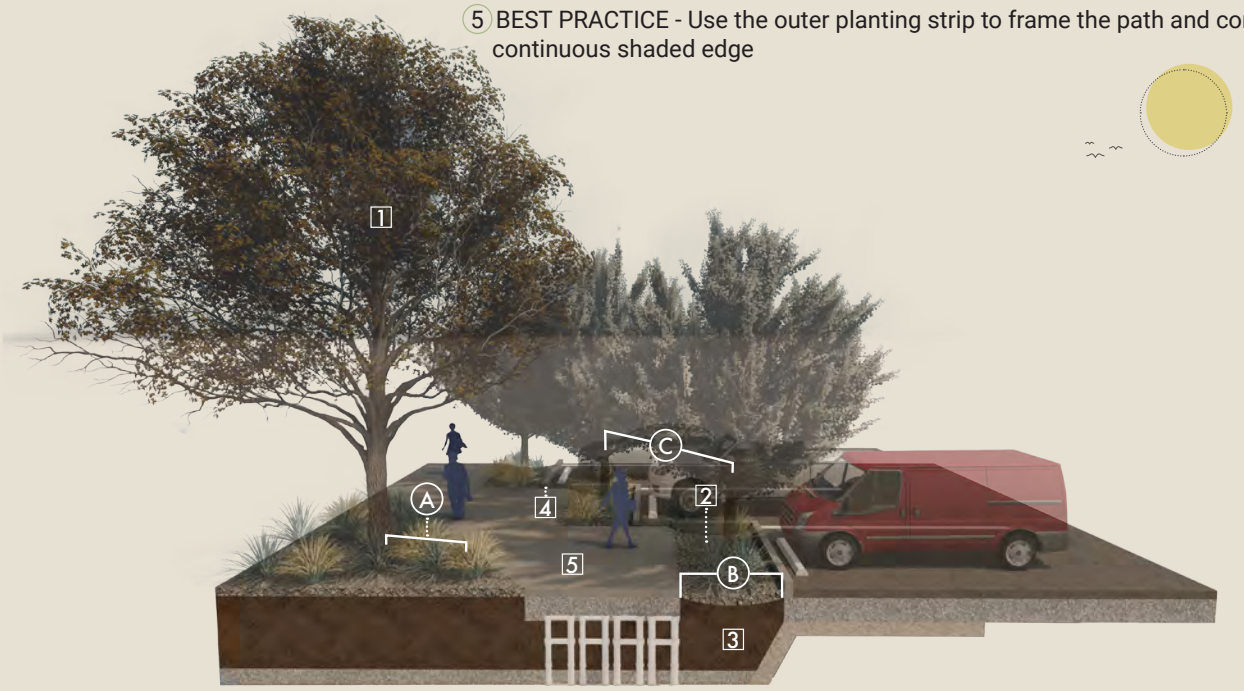

Figure 4-10. Planter in a parking area.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, structural soil
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
4. PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
5. BEST PRACTICE - Use continuous planting strips and structural soil to link individual islands where possible

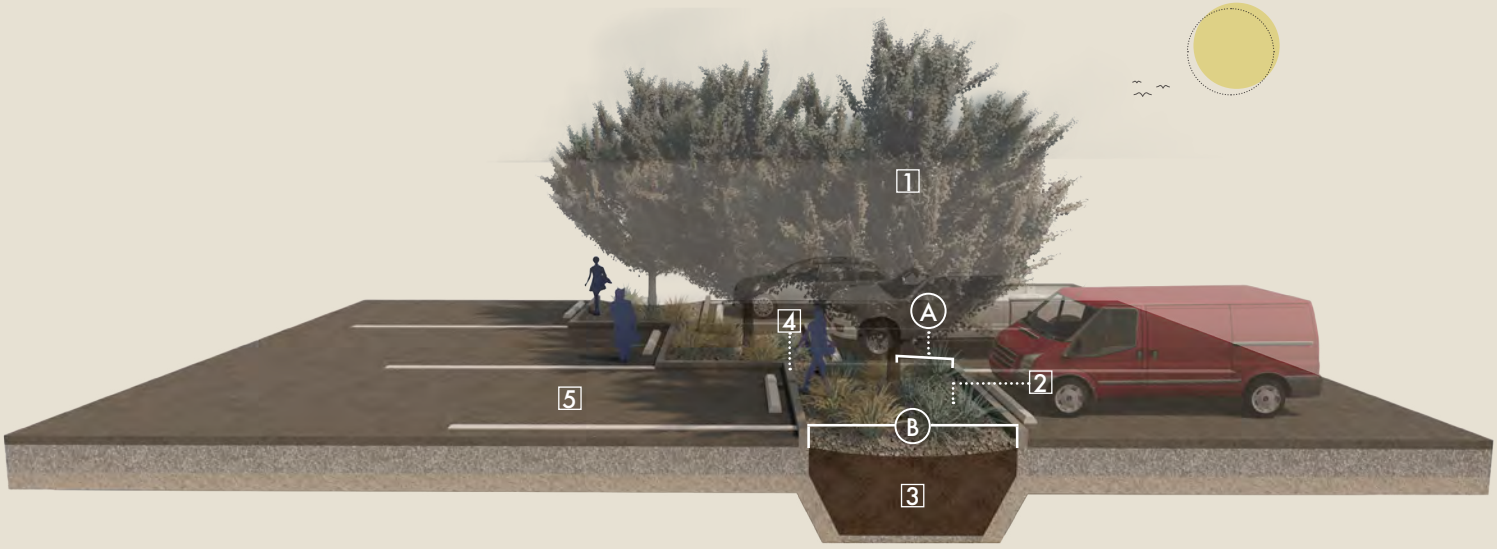

Figure 4-11. Parking dogbone.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, rain garden, structural soil
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
4. PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
5. BEST PRACTICE - Place dogbone islands at regular intervals to break up long rows of parkingand form a continuous shaded spine

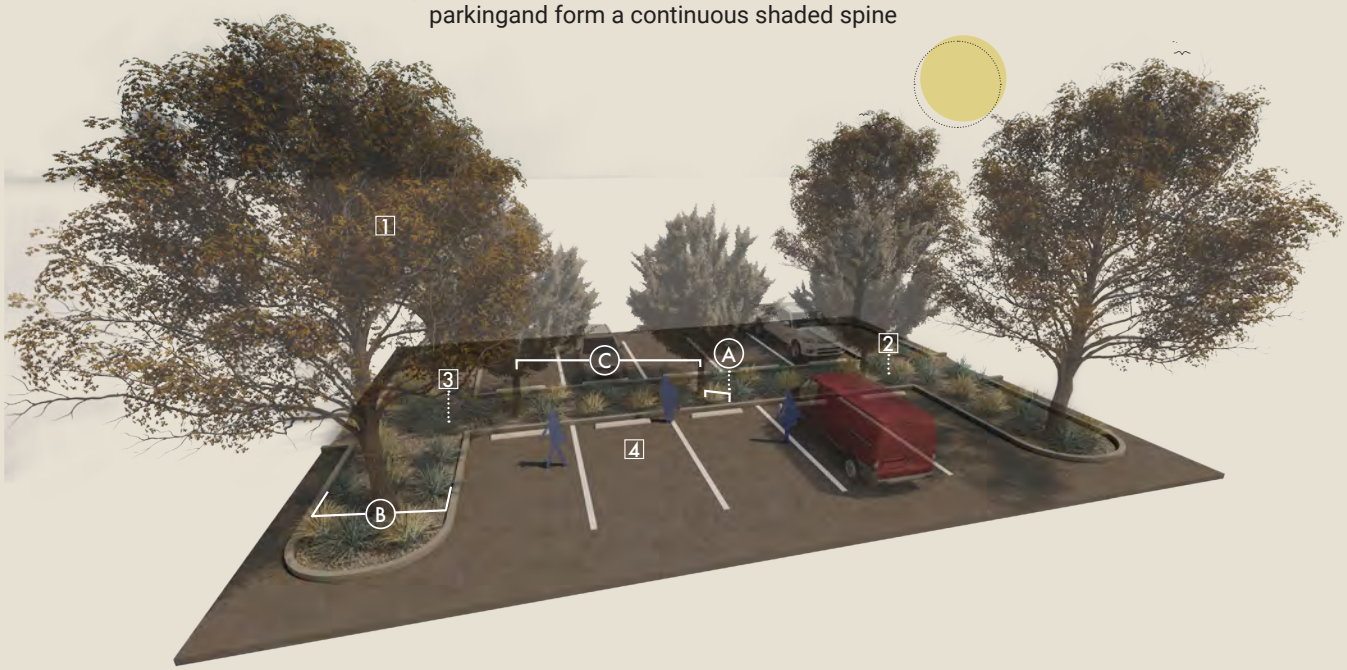

Figure 4-12. Planter islands in a parking area.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
2. WATER HARVESTING ELEMENT - Bioswale, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles and pedestrian paths
5. BEST PRACTICE - Space planter islands so no stall is far from a tree, creating a more continuous canopy along parking rows

Figure 4-13. Parking with alternating planter islands

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Locate trees to shade typical walking routes between parked cars
5. BEST PRACTICE - Stagger planter islands so trees alternate from side to side, creating overlapping canopies and reducing unshaded gaps along the parking rows

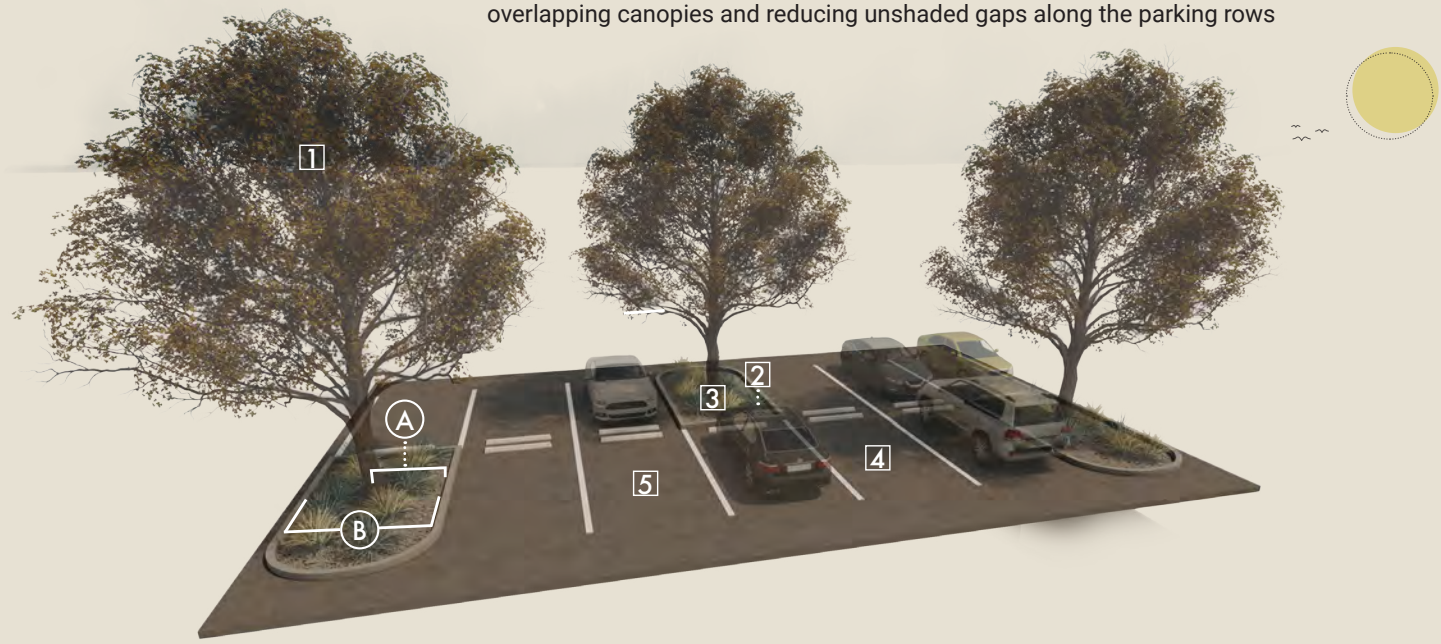

Figure 4-14. Gathering spaces and playgrounds.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE GUIDE, LARGE TREES - Broad canopy, non-thorny trees shade seating and playground
2. WATER HARVESTING ELEMENT - Bioswalk, rain garden suspended pavement
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
4. PEDESTRIAN FOCUS - Prioritize shade along paths, seating areas, and near play equipment
5. BEST PRACTICE - Combine shade structures with trees to provide reliable overhead coverage while extending shade beyond the play area, cooling surrounding hardscape, and offering long-term canopy

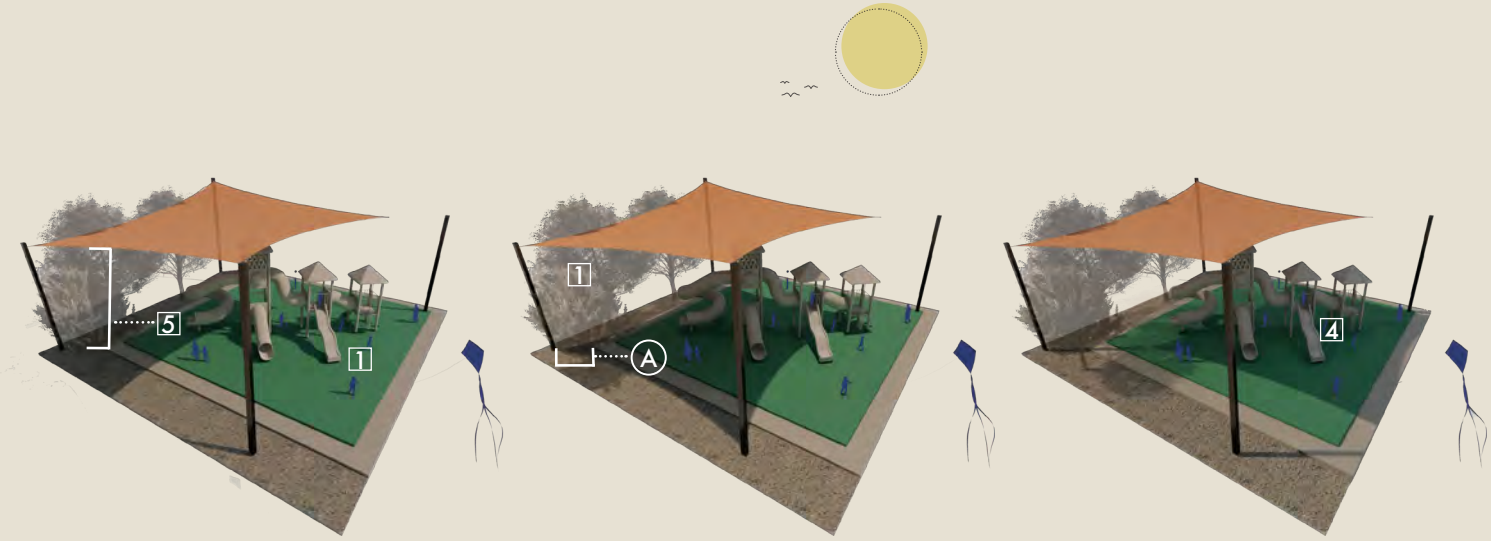

Figure 4-15. Shade structures and trees.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE GUIDE, LARGE TREES - Broad canopy, non-thorny trees shade seating areas
2. WATER HARVESTING ELEMENT - Rain garden, basin, structural soil
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
4. PEDESTRIAN FOCUS - Align trees to shade approach paths, gathering zones
5. BEST PRACTICE - Coordinate tree spacing, column layout, and roof overhangs so tree canopy and structure work together: structures supply reliable core shade, and trees extend shade into surrounding pavement

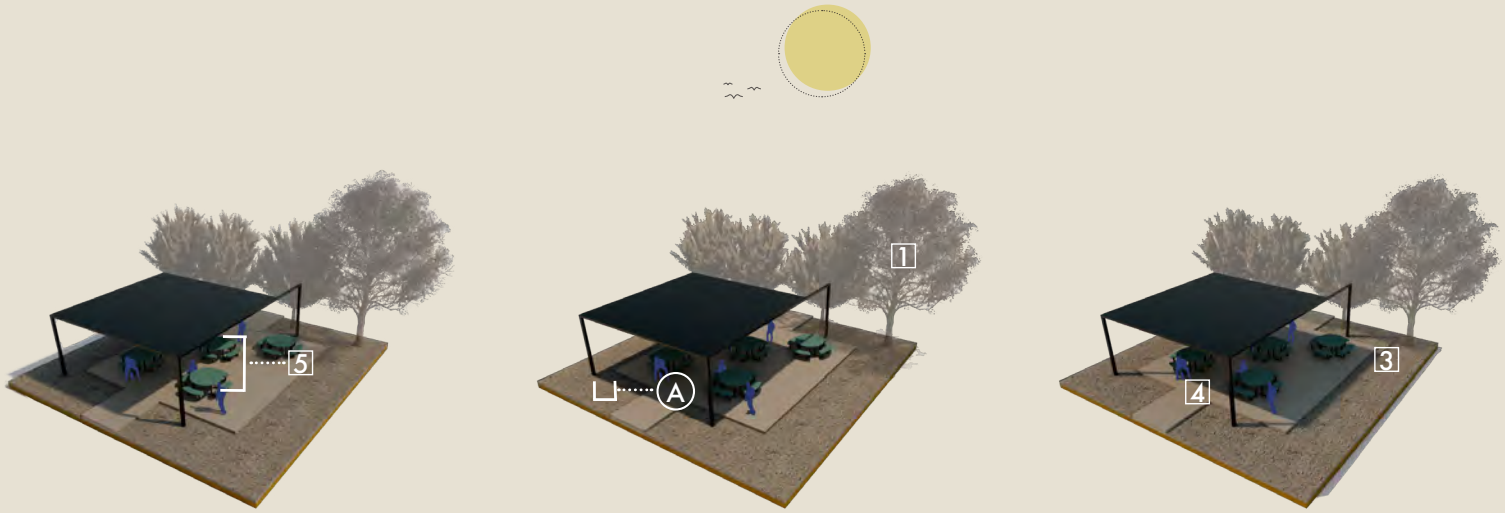

Figure 4-16. Shade structures or trees.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

1. TREE LIST, STREET, BACK OF CURB - Prioritize clearance above travel lanes and signage
2. WATER HARVESTING ELEMENT - Curb cut, bioswale, structural soil
3. SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
4. PEDESTRIAN FOCUS - Align trees or structures so shade falls along pedestrian route
5. BEST PRACTICE - Use trees as the preferred long-term shade solution wherever adequate width, soil volume, and utility clearances exist, and rely on shade structures in street locations where utilities, hardscape constraints, or limited planting space make tree installation impractical