



# Infrastructure

## DUARTE TOWN CENTER SPECIFIC PLAN

CITY OF DUARTE

6

Infrastructure

**A cost-efficient** and reliable infrastructure network is essential to serve the needs of residents and businesses without compromising the character of the Town Center. Duarte's health, safety, livability, and economic prosperity are dependent on its network and availability of wet and dry utilities that serve the community. As the Town Center continues to change in density and intensity of development, the City's focus will be on providing adequate levels of services to accommodate existing uses and projected growth while using fewer resources. This infrastructure chapter puts forth recommendations to support the overall development consistent with the vision.

## 6.1 OVERARCHING OBJECTIVES

The following overarching objectives support the vision of the Specific Plan and provide guidance about long-term infrastructure needs as the Town Center develops.

- Promote efficient, effective, and equitable provision of high-quality utilities and infrastructure throughout the Town Center.
- Maximize existing infrastructure resources and plan for future demands.
- Work with utility providers to coordinate future infrastructure improvements to address potential utility deficiencies.
- Coordinate future improvement projects in the Town Center to maximize the use of public and private funding for infrastructure improvements.

To ensure the long-term prosperity of the Town Center, a balance must be achieved between water use and available water supply. Planning for such a





*The City of Duarte relies upon water sources that include water from imported water (Upper San Gabriel Valley Water District, such as Morris Dam, above), local groundwater, and water from the San Gabriel River.*



*Duarte's Encanto Park Bridge connects residents to the San Gabriel River Trail.*

## 6.2 WATER

balance must consider climate variability, supply, and demand. Duarte, like many California cities, has limited water resources that cannot easily be expanded and must be carefully managed to serve existing development and provide for future planned development.

### 6.2.2 DOMESTIC WATER SOURCE

Water service in Duarte is provided by California American Water. Local water supplies come from three major sources: Upper San Gabriel Valley Municipal Water District (USGVMWD) imported water, Main San Gabriel Basin (MSGB) groundwater, and MSGB surface water from the San Gabriel River. In periods of high demand, additional water is purchased from a wholesaler for direct potable use, or untreated raw water is used as replacement water for the groundwater basin to remediate over-pumping. Water is distributed via 12-inch water mains located along the major streets. In general, water system standards require that areas such as the Town Center contain water mains of approximately eight- to 12-inches in diameter to meet fire-flow demands of existing and anticipated future development. New development within the Town Center is expected to be served by existing water lines through a series of lateral connections.

**Table 6-1 Cal Water Southern District - Duarte System Water Supplies (Acre-Feet per Year)**

SOURCE	2015	2020	2025	2030
Main San Gabriel Basin (MSGB) Groundwater	4,062	4,062	4,062	4,062
MSGB Surface Water	1,672	1,672	1,672	1,672
Upper San Gabriel Valley Municipal Water District (USGVMWD)	1,648	1,307	1,471	1,628
<b>TOTAL</b>	<b>7,382</b>	<b>7,041</b>	<b>7,205</b>	<b>7,362</b>
Percent of all Cal Water Southern District	31%	31%	31%	31%

Source: California American Water, 2010 Urban Water Management Plan for the Southern Division - Los Angeles County District.

### 6.2.3 POTABLE DRINKING WATER SUPPLY

Table 6-1 Cal Water Southern District - Duarte System Water Supplies shows the current and projected local water supply. Between 2015 and 2030, California American Water projects a decrease of 0.3 percent in water demand within the Duarte System due to water conservation measures, even with a population increase of approximately seven percent.

Impacts from climate change, including drought, may have a significant effect on regional water supply. However, through requirements set forth in the Urban Water Management Plan (UWMP) and state-wide drought management requirements, California American Water's supply is expected to be highly reliable through 2035. Furthermore, the California Public Utilities Commission has approved a fee increase that will allow Cal Water to provide a \$33.1 million infrastructure upgrade to the Duarte System to accommodate future development projects or growth. The 2015 UWMP and subsequent updates will take into account any increases in demand resulting from the Town Center Specific Plan development plan.

### 6.2.4 FIRE-FLOW REQUIREMENTS

Fire-flow requirements are based upon building size and building construction type. Fire regulations require all buildings to be equipped with a fire sprinkler system, including certain

residential uses. Fire-flow requirements that were previously provided for existing structures and uses may increase due to new regulations, in addition to the increase in building size that may be associated with the Specific Plan development allowances. Site plans for proposed projects must be submitted to the Los Angeles County Fire Department to obtain a fire-flow requirement based upon the tenant type, building size, and building type. The Fire Authority also determines the flow and time period requirements based upon building and tenant type.

### 6.2.5 WATER POLICIES

The following policies will guide improvements as new development is integrated into the existing Town Center network:

- Maximize efficient use of water resources within the Town Center through conservation, demand reduction, and water recycling.
- Ensure existing water systems are adequate to provide fire protection.
- Encourage projects to incorporate water conservation best management practices, including but not limited to low-flow showers and toilets, low-flow and gray-water irrigation systems, and the use of drought-tolerant landscaping.
- Replace aging water lines.

## 6.3 SANITARY SEWER FACILITIES

Wastewater – commonly referred to as sewage – is the water that drains from our sinks, toilets, and showers into the sewer system. The Consolidated Sewer Maintenance District (District), managed by the Los Angeles County Department of Public Works (LACDPW) Sewer Maintenance Division (SMD), provides wastewater collection, treatment, and disposal for the unincorporated County areas and 37 member cities, including Duarte.

Local sewer lines within Duarte are owned by the City. LACDPW operates and maintains Duarte's local wastewater conveyance infrastructure, which connects to the County Sanitation Districts of Los Angeles County (CSDLAC) District 22 regional trunk sewer pipelines, which lead to the San Jose Creek Water Reclamation Plant (SJCWRP) located in unincorporated Los Angeles County (adjacent to the City of Industry) and the Whittier Narrows Water Reclamation Plant (WNWRP) located in South El Monte. The SJCWRP is the largest of the District's water reclamation plants, with a capacity of 100 million gallons per day.

Existing sewer lines are located throughout the Specific Plan area in public street rights-of-way. From east to west, the general pipeline sizes are:

- Highland Avenue: 8-inch diameter
- Huntington Drive: 8-inch diameter
- Buena Vista Street: 8-inch diameter



*Bioretention swales and planters collect, absorb, and filter rainwater and storm water runoff from streets, houses, and commercial development before the water goes into storm drains.*

- Santo Domingo Avenue: 15-inch diameter

The District collects and administers funds for the ongoing health of sewer infrastructure, including repairs to the sewer collection system and pump stations. The District's Condition Assessment Program follows a 10-year cycle which includes closed circuit television inspection of the sanitary sewer lines to identify maintenance and structural issues. The District's Condition Assessment Program identified approximately 90 percent of existing pipelines in the Duarte system are in adequate shape, while the other 10 percent will need additional maintenance or replacement in the future.

New major development projects are reviewed by the City to determine if local sewer lines have sufficient capacity to accommodate an increase in effluent. To account for changes in the existing pipeline network, the City charges new development a fee to upgrade or extend local sewer lines. New development is also required to pay fees to mitigate local wastewater conveyance impacts.

### 6.3.1 SANITARY SEWER POLICIES

The following policies will guide improvements as new development is integrated into the existing Town Center network:

- Facilitate cross-agency review of infrastructure budgets and upcoming projects by the City, the Consolidated

Sewer Maintenance District, and Los Angeles County Department of Public Works.

- Track planned infrastructure improvements and, as feasible, coordinate these with improvements associated with implementation of this Specific Plan to minimize costs, street closures, and disturbances associated with construction.
- Support ongoing monitoring and maintenance of local sewer lines.

## 6.4 STORM DRAINAGE FACILITIES

The continuous maintenance and improvement of storm water quality is imperative for the protection of public health, wildlife, and watersheds. Through management and appropriately designed development, water pollution can be dramatically reduced.

The Town Center's location at the base of the San Gabriel Mountains exposes the area to storm flows from the canyons. Duarte's storm drainage system is largely administered by the Los Angeles County Flood Control District, which manages 500 miles of open channel, 2,800 miles of underground storm drains, and an estimated 120,000 catch basins. The District encompasses approximately 3,000 square miles, 85 cities, and approximately 2.1 million land parcels. The storm drain system represents critical infrastructure in the Specific Plan area's highly developed and impervious environment.

The drainage system in the Specific Plan area is made up of a network of reinforced concrete pipe storm drains located beneath the public street rights-of-way. Storm water drainage from individual properties is collected by lateral lines that connect to the larger storm drain system. Catch basins located throughout the Specific Plan area prevent clogging of storm drains by sediment and debris washed off of streets and other surfaces. Most catch basins are maintained by the Los Angeles County Flood Control District or the City of Duarte.

#### 6.4.1 WATER QUALITY

Low-Impact Development (LID) principles can be applied to manage, reduce, and re-use storm water runoff. These LID elements provide water quality treatment and delay storm water runoff while enhancing the urban landscape. Reducing the amount of storm water runoff that enters underground drainage systems can decrease infrastructure upgrade costs, eliminate potential capacity deficiencies, and mitigate storm water runoff pollution. Development projects within the Town Center are required to comply with the urban runoff pollution control provisions of Chapter 6.15 of the City's Municipal Code, which regulates the treatment of storm water runoff. Development projects are encouraged to incorporate Best Management Practices (BMPs) into site design to improve local storm water quality and decrease runoff. Examples of storm water treatment controls/LID techniques are

addressed through design approaches such as bioretention areas, flow-through planter boxes, vegetated buffer strips, infiltration trenches, green roofs, green streets, permeable pavements, and rainwater harvesting/use. These elements should be incorporated on individual sites as well as within streetscapes in the public right-of-way. Other BMPs may be approved by the City of Duarte or the county-wide program in the future to address National Pollution Discharge Elimination System (NPDES) Permit requirements.

#### 6.4.2 STORM WATER POLICIES

The following policies will guide storm water improvements as new development is integrated into the existing Town Center network:

- Encourage storm water mitigation improvements in both the public and private realms through the development of storm water planters and green infrastructure such as storm water chambers, detention basins, bioretention areas, and flow-through planter boxes.
- Work with developers to promote, approve, and implement designs that include the integration LID strategies.
- Encourage site designs that maximize permeable surface cover and infiltration potential.



*Drought-tolerant landscaping enhances the built environment while providing additional space to filter and store storm water runoff.*

## **6.5 UTILITIES**

This section describes the capacity of dry utilities in the Town Center area and potential opportunities for improvements.

### **6.5.1 ELECTRICITY AND NATURAL GAS**

Electrical power is provided by Southern California Edison (SCE). SCE serves over 14 million people and covers an area of approximately 50,000 square miles across 180 cities. Natural gas is provided by the Gas Company (SoCal Gas), which serves 21.4 million customers in more than 500 cities. The area is currently fully served with electricity and natural gas. Periodic upgrades are funded by the service provider.

### **6.5.2 BROADBAND AND TELECOMMUNICATIONS**

Cable television service is provided by Charter Communications. Charter Communications also offers internet and telephone service. Telephone is also available to Duarte residents through Verizon, which also offers cable and internet services in some areas. It is anticipated that these providers or any other future franchisees would provide cable, internet, and telephone service to the Specific Plan area.

### **6.5.3 SOLID WASTE**

The City contracts with a private hauler for residential and commercial solid waste and recycling pickup and disposal. All solid waste is disposed of and sent to a landfill once a week, and recycling materials are sorted at local processing facilities.

### **6.5.4 DRY UTILITY POLICIES**

The following policies will guide dry utilities improvements as new development is integrated into the existing Town Center network:

- Work with utility companies to determine timelines and phasing programs for new infrastructure to meet future demand.
- Track planned dry utility improvements and, as feasible, coordinate these with improvements associated with implementation of this Specific Plan to minimize costs, street closures, and disturbances associated with construction.