

CHAPTER 8 Infrastructure



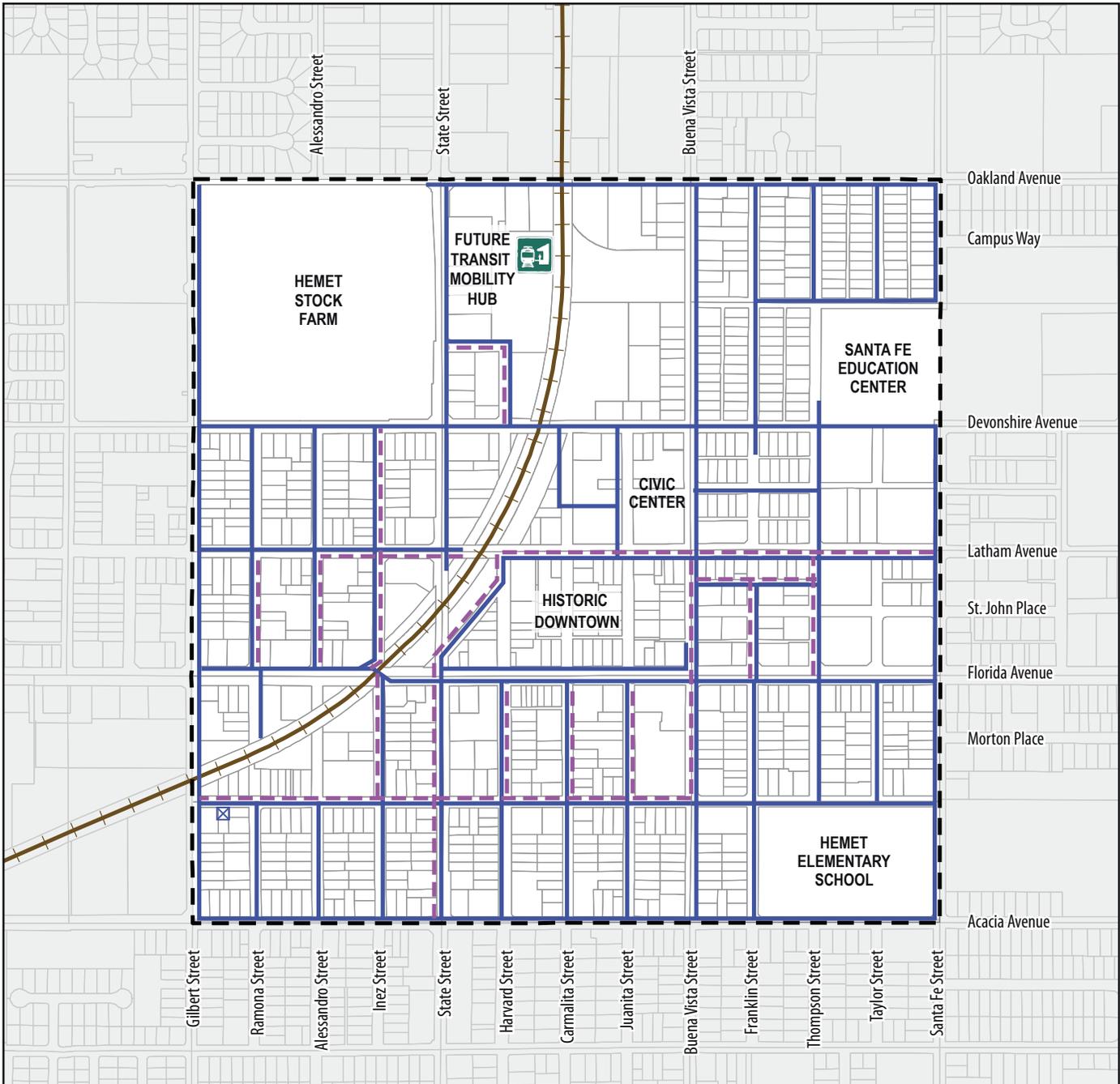
A. Introduction

The purpose of this chapter is to provide an overview of existing and planned infrastructure facilities, and to outline recommended infrastructure upgrades for the Downtown Hemet Specific Plan area. The recommended upgrades are based on analyses of the capabilities and capacities of existing facilities and projected infrastructure needs based on assumed build-out condition of the Specific Plan area under Specific Plan zoning. An analysis was conducted for the existing infrastructure facilities in the Specific Plan area and was presented in the report Existing Infrastructure Baseline Data, prepared in July 2015. It is important to clarify that recommended upgrades would not need to be done until after developers have submitted their building plans and the infrastructure upgrades would be necessary to support new development in that area. The recommendations provided in this chapter serve as a guideline for future improvements to the infrastructure within the Specific Plan area.

B. Water System

The City of Hemet Water / Wastewater Department is the main water service provider of the Downtown Hemet Specific Plan area. The City of Hemet owns and maintains the water supply network within the Downtown area. Water lines are located in almost all streets and alleys within the downtown area. Almost all of the existing water lines are older asbestos cement pipes (ACP), with some relatively new water lines that were installed in recent years, made of C-900¹ pipes. There are also some ductile iron pipes (DIP), steel pipes (ST), and polyvinyl chloride (PVC) pipes. The pipe diameter sizes range from 4-inches to 14-inches.

1. C-900 pipe is PVC pipe that conforms to AWWA C900 Specification.



-  Specific Plan Boundary
-  Rail Right-of-Way/ Future Transit Line
-  Existing Water Main (4" -12" ACP/DIP/PVC/ST)
-  Existing Water Well
-  Recommended Water Improvements (Upgrade to 8" PVC)

FIGURE 8-1
Water System

DOWNTOWN HEMET SPECIFIC PLAN

5 minute walk (1,200') 




Most of the existing water lines in the Specific Plan area generally have the capacity to handle the increase in domestic water demand/load under total build-out of the Specific Plan area. However, in order to meet the full demand of water consumption including water services for both domestic and fire prevention purposes (new fire hydrants and fire sprinkler systems in new developments), the existing 6-inch ACP in the Mixed Use Zones should be upgraded to 8-inch PVC pipe overtime and as new development occurs. In addition, as water pipes need repairing overtime, the City will replace ACPs and eventually phase out all ACPs due to the environmental impacts and health issues associated with asbestos. Figure 8-1 illustrates the existing and recommended water system. Refer to Appendix 2 for a more detailed map of the existing and recommended water system, including specific pipes sizes and their location.

In addition, developers/owners of future commercial/mixed-use building developments that stretch across several lots and draw from one, main meter location will need to provide an analysis to confirm that the existing water infrastructure can meet the water demand generated by that project. Upgrades may be required based on the results of that analysis. At very minimum, each property's water service should be separately metered.

C. Sewer System

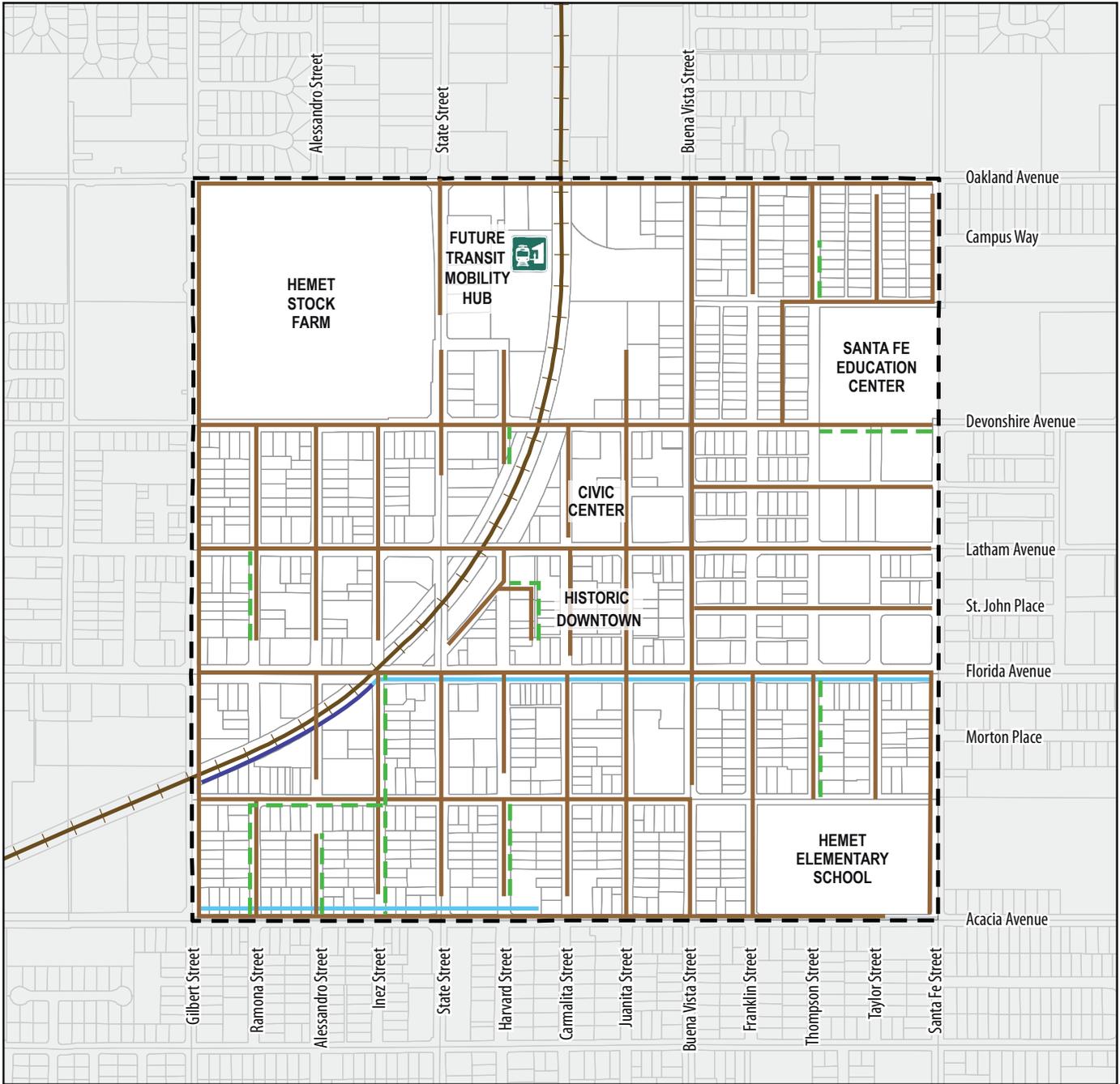
The existing sewer system in the downtown is owned and maintained by the City's Water/Wastewater Department. Currently, there is a comprehensive network of sewer lines in the project area. The sewer mains follow the general topography of the Specific Plan area and flows from east to west, also from north to south. The existing sewer mains in the project are mostly 8-inch Vitrified Clay Pipe (VCP) with some PVC pipes, however the pipe diameter sizes range from 6-inch to 12-inch.

Most of the existing sewer lines will meet future demand. However, all of the 6-inch sewer pipes should be upgraded to 8-inch PVC pipes, which will provide sufficient capacity to meet future demands. Figure 8-2 shows the existing and recommended sewer system. Refer to Appendix 2 for a more detailed map of the existing and recommended sewer system, including specific pipes sizes and their location.

Sewer laterals are pipes that connect buildings to the sewer mains that run in the street. In general, new or upgraded sewer laterals are required for new buildings, with the cost of the installation borne by the developers.

D. Storm Drain System

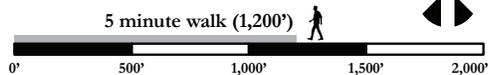
The major "back bone" / main lines of the storm drain system in the project area are owned and maintained by the Riverside County Flood Control District. Most of the stormwater runoff collected in the Specific Plan area is conveyed to the surface streets and collected by curb and gutter along both sides of the streets.



-  Specific Plan Boundary
-  Rail Right-of-Way/ Future Transit Line
-  Existing Sewer System (6" - 14" PVC & VCP)
-  Recommended Sewer Improvements (Upgrade to 8" VCP)
-  Existing Storm Drain Main (48" - 60" RCP)
-  Existing Open Concrete Storm Drain Channel

FIGURE 8-2
Sewer and Storm Drain Systems

DOWNTOWN HEMET SPECIFIC PLAN



The stormwater then sheet flows to an existing flood channel west of the Specific Plan area. There are only two underground existing storm drain pipe lines and one open concrete flood channel within the Specific Plan area. Figure 8-2 shows the existing storm drain system. Refer to Appendix 2 for a more detailed map of the existing storm drain system. In addition, the City does not currently have a master plan but it is an item that should be a priority.

There are no recommendations to upgrade the existing storm drain system within the Specific Plan area. Build-out of the Specific Plan area will generate little or no increase in runoff to the existing drainage system, since the area is mostly developed. Approximately 90% of the existing Specific Plan area is impervious with stock farm and other vacant properties. Additionally, new development will not directly trigger any need for upgrades to the existing storm drain major backbone facilities, mainly due to the Low Impact Development (LID) Ordinance requirements for percolation and on-site detention for new development, which will stabilize and/or even reduce runoff in the area. The following section describes the LID requirements that are currently required for new developments:

Low Impact Development (LID) Practices and Project Requirements

In January 2010, the Santa Ana Regional Water Quality Control Board issued a fourth-term area wide National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Permit (MS4 Permit) to the Riverside County Flood Control and Water Conservation District (RCFCWCD, the Principal Permittee), the County of Riverside and the Cities of Beaumont, Calimesa, Canyon Lake, Corona, Hemet, Lake Elsinore, Moreno Valley, Menifee, Norco, Perris, Riverside, San Jacinto and Wildomar (Permittees). The Santa Ana MS4 Permit is for the portion of the Santa Ana River watershed located within Riverside County (Order No. R8-2010-0033, NPDES Permit No. CAS618033).

This Permit established new Water Quality Management Plan (WQMP) requirements for all new development projects that fall into ten different Project Categories including:

1. Significant redevelopment: The addition or replacement of 5,000 square feet or more of impervious surface on an already developed site. Does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of the constructed facility or emergency redevelopment activity required to protect public health and safety.
2. New developments that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial and industrial projects and residential housing subdivisions requiring a Final Map (i.e., detached single family home subdivisions, multi-family attached subdivisions, condominiums, or apartments, etc.); mixed use and public projects (excluding Permittee road projects). This category includes development on public and private land, which fall under the planning and building authority of the Co-Permittees.

3. Automotive repair shops [Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532, 7533, 7534, 7536, 7537, 7538, and 7539].
4. Restaurants (SIC code 5812) where the land area of development is 5,000 square feet or more.
5. Hillside developments disturbing 5,000 square feet or more which are located on areas with known erosive soil conditions or where the natural slope is 25 percent or more.
6. Developments of 2,500 square feet of impervious surface or more adjacent to (within 200 feet) or discharging directly into ESAs (Environmentally Sensitive Areas). “Directly” means situated within 200 feet of the ESA; “discharging directly” means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
7. Parking lots of 5,000 square feet or more exposed to stormwater, where “parking lot” is defined as a land area or facility for the temporary parking or storage of motor vehicles.
8. Retail gasoline outlets that are either 5,000 square feet or more of impervious surface with a projected average daily traffic of 100 or more vehicles per day.
9. Public projects, other than transportation projects, that are implemented by a Permittee and similar in nature to the priority projects described above and meets the thresholds described herein.
10. Other development projects whose site conditions or activity pose the potential for significant adverse impacts to water quality.

Riverside County has developed and made available several documents on the County’s website to help developers understand and follow their WQMP requirements, including:

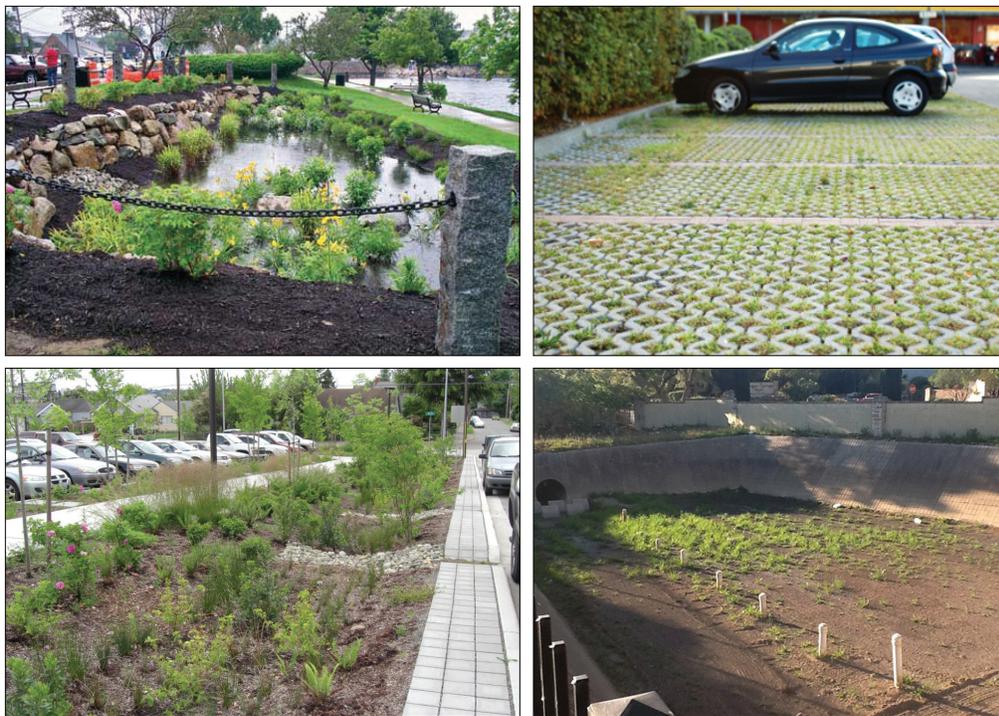
- Water Quality Management Plan, dated October 22, 2012
- Drainage Area Management Plan, dated August 29, 2015
- Local Implementation Plan, dated January 29, 2014
- Report of Waste Discharge, dated April 27, 2007

Unlike traditional stormwater management, which collects and conveys runoff through storm drains, pipes, or other conveyances to a centralized facility, WQMP uses site design and stormwater management to maintain the site’s pre-development runoff rates and volumes. The goal of WQMP is to mimic a site’s pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall.

According to RCFCWCD Low Impact Development Best Management Practices (dated September 2011) there are seven types of stormwater quality control measures:

1. **Infiltration Basins:** shallow artificial pond designed to infiltrate stormwater through permeable soils.

2. **Infiltration Trenches:** shallow excavated areas that are filled with rock material to create a subsurface reservoir layer.
3. **Permeable Pavement:** can be either pervious asphalt and concrete surfaces, or permeable modular block.
4. **Harvest and Use:** collection, accumulation, treatment and storing of stormwater for its eventual reuse.
5. **Bioretention Facilities:** shallow, vegetated basins underlain by an engineered soil media.
6. **Extended Detention Basins:** designed to detain the design volume of stormwater, VBMP, and maximize opportunities for volume losses through infiltration, evaporation, evapotranspiration and surface wetting.
7. **Sand Filter Basins:** a basin where the entire invert is constructed as a stormwater filter, using a sand bed above an underdrain system.



Examples of stormwater quality control measures, including an infiltration basin, permeable pavement, bioretention facility, and sand filter basin.

All new development that requires new grading in the Specific Plan area will require the preparation of a hydrology study to demonstrate that building sites are free from flooding hazard. New development will be required to mimic the site’s pre-development runoff by choosing the appropriate BMP practice most suitable for the site. A proposed project must demonstrate that any proposed improvement, including filling, does not raise the flood level upstream or downstream of the project. As required by the ordinance, developers shall prepare National Pollution Discharge Elimination System (NPDES) reports, such as the Water Quality Management Plan (WQMP) and Stormwater Pollution Prevention Plan (SWPPP), to ensure the quality of water is preserved and adverse environmental impacts are minimized.

E. Electrical System

Southern California Edison (SCE), which is a private utility company, provides electrical power service to the Specific Plan area. SCE sets its own service standards, with oversight from the California Public Utilities Commission (CPUC), and facility improvement strategies. Currently, there is a network of aerial electrical facilities creating a power grid that supplies sufficient electrical service to the Specific Plan area. There is no major deficiency or functional problem in the power supply facilities within the Specific Plan area. The specific locations of the existing underground and overhead electrical lines are illustrated in Figure 8-3. Refer to Appendix 2 for a more detailed map of the dry utilities system.

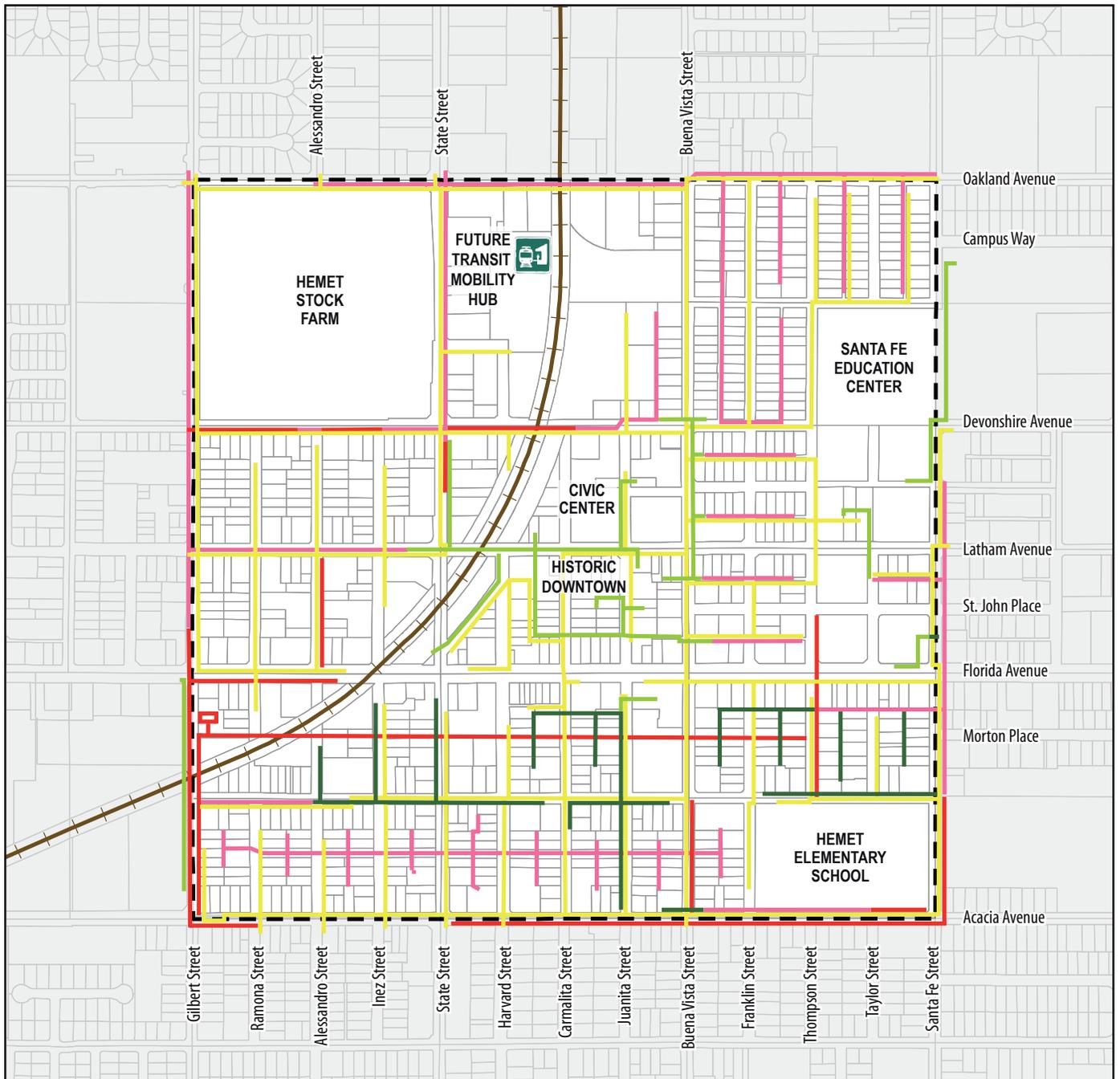
The decision to upgrade the power supply facilities and the number of upgrades to meet the demand of future development will be determined by SCE in coordination with the City after developers have submitted their building plans. Demand for services and the ability to serve new developments are generally determined on a case-by-case basis.

Most of the electrical distribution facilities in the Specific Plan area are aerial facilities. Underground electricity provides higher reliability, is safer in general and is also less unsightly. Many of the overhead wires in the residential neighborhoods run along the rear property lines or in the alleyways – areas where placing underground facilities may not be practical. If undergrounding is a consideration and funding is available, then relocating electrical service lines to the streets abutting the frontage of these properties may be preferred.

One of the potential funding mechanisms is CPUC Rule 20. CPUC Rule 20 is a set of policies and procedures established by the CPUC to regulate the conversion of overhead electric equipment to underground facilities, a process often referred to “undergrounding.” Rule 20 determines the level of ratepayer funding for different undergrounding arrangements. (See box on page 162)

If undergrounding is undertaken, a joint trench with gas lines, cable TV, and telephone cables should also be considered. It is also worth noting that, prior to any undergrounding process, SCE will take the lead in contacting the other low voltage utilities that might be sharing the power poles with SCE aerial facilities, such as the telecommunication provider (Frontier) and cable TV provider (Time Warner Cable) to coordinate and execute a joint trench. During this process, SCE will also reach out to the City of Hemet Public Works Department for their assistance in contacting and coordinating with the aforementioned utility providers.

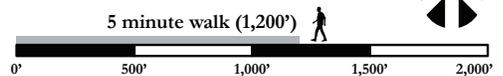
It is recommended that prior to approving new development, the City should contact SCE regional manager in the Riverside County region and set up an inspection in the Specific Plan area to determine whether the existing aerial SCE facilities in the area qualifies for Rule 20A funding.



-  Specific Plan Boundary
-  Existing Electrical, Telecommunication and Cable TV Aerial Facilities (shared poles)
-  Existing Electrical Aerial Facilities
-  Existing Gas (2" - 6" Gas)
-  Existing Cable TV Aerial Facilities
-  Existing Cable TV Underground Facilities
-  Existing Power Plant

FIGURE 8-3
Dry Utilities Systems

DOWNTOWN HEMET SPECIFIC PLAN



CPUC Rule 20

Under Rule 20, undergrounding projects are financed by utility rate money, combined rate funds and local tax proceeds, or private funds, depending on whether Rule 20A, Rule 20B or Rule 20C provisions apply.

Rule 20A: Rule 20A projects are paid for by all SCE customers and ratepayers, not just those who live in locations where facilities will be undergrounded. To qualify for full funding through utility rate proceeds, projects must produce a benefit to the general public, not just customers in the affected area, by satisfying one or more of these criteria:

- The location has an unusually heavy concentration of overhead facilities.
- The location is heavily traveled.
- The location qualifies as an arterial or major collector road in a local government's general plan.
- The overhead equipment must be located within or pass through a civic, recreational or scenic area.

Using CPUC formulas, SCE allocates rate funds to communities for undergrounding based on previous allocations, the ratio of customers served by overhead facilities to all the customers in the community, and the fraction that customers in the community represent of all SCE customers. Local governments use these formulas to project allocations, which allow them to prioritize projects and develop project schedules. Because funds are limited, local governments sometimes must wait and accumulate their allocations before starting an undergrounding project.

Rule 20B: If an area is not eligible for Rule 20A or if local government cannot or chooses not to rely on the Rule 20A allocation process, Rule 20B allows rate funds to subsidize an undergrounding project. The subsidy includes an amount equal to about 5-20% of the total cost. The remaining cost is funded by local governments or through neighborhood special assessment districts.

Rule 20C: Rule 20C enables property owners to pay for undergrounding electric lines and equipment if neither Rule 20A nor 20B applies.

F. Natural Gas System

The Southern California Gas Company/Sempra Utilities (The Gas Company), which is a private utility company, is the gas service provider for the Specific Plan area. The entire Specific area has an extensive natural gas facility network with good comprehensive coverage. Almost every parcel within the project area has access to natural gas. The existing pressured gas lines within the project area

ranges in size from 2-inch to 8-inch. Currently, gas pipelines are in all major streets in the area, specific locations of gas pipelines are illustrated in Figure 8-3. Refer to Appendix 2 for a more detailed map of the dry utilities system.

The analysis on the capacity and capability to meet future demand will be conducted by The Gas Company in coordination with the City upon submittal of building plans by developers.

G. Telecommunications System

The telecommunications system within Hemet is serviced by Frontier Communications as illustrated in Figure 8-3. Refer to Appendix 2 for a more detailed map of the dry utilities system. As mentioned earlier in the Electrical system section, existing telecommunications conduits within the project area are mainly aerial/overhead facilities sharing poles with the overhead electrical conduits; therefore, the location of the telecommunications systems have the identical alignment and coverage as the electrical system.

The telecommunication service purveyor (Frontier Communications) will assess the demand for services and the ability to serve new developments on a case-by-case basis. The capacity and capability analysis for meeting future demands within the Specific Plan area will be conducted by the telecommunication service purveyors after building plans are submitted by developers.

If there is “undergrounding” of existing aerial telecommunication facilities, SCE will reach out to the telecommunication service purveyors and coordinate a joint trench. To save on costs, the telecommunication service purveyors are likely to participate in the joint trench operation. SCE will dictate the layout of the trench, and the telecommunication lines would follow. In most cases, if there is an upgrade of facilities required, the telecommunication service purveyors will be responsible for the construction cost up front, and recoup the cost later on with the additional revenue from added customers.

H. Cable Television System

The cable service provider for this area is Time Warner Cable (TWC), which is a private utility company. Most of the existing cable TV systems within the Specific Plan area are aerial facilities that share power poles with the electrical system, with a few existing underground conduits, as illustrated in Figure 8-3. Refer to Appendix 2 for a more detailed map of the dry utilities system.

New land uses resulting from the Specific Plan will consist of both commercial and residential development; therefore, high speed internet and cable television

services will be in demand. Similar to a telecommunications system, TWC will assess the demand for services on a case-by-case basis and ultimately make the decisions concerning upgrades for the existing cable TV systems to meet the demand of the future developments.

If there is undergrounding of existing aerial telecommunication facilities, SCE will reach out to TWC and coordinate a joint trench. Similar to a telecommunications provider, TWC is likely to participate in the joint trench operation to save on construction costs. In most cases, if there is an upgrade of facilities required, TWC will be responsible for the construction costs up front, and recoup the cost later on with the additional revenue from the added customers.

I. Fiber Optic System

A Master Plan scale entity will provide a fiber optic conduit network to accommodate potential future services such as data, cable, video and voice. Proposed on-site facilities will be placed underground within a duct and structure system that will be installed by the Developer. At the time of development, if the Master Planned Fiber Optics have not been installed, the developer shall be responsible to install (at a minimum) the necessary conduits and fiber for the traffic signal systems communications.