

# CHAPTER 7

## PUBLIC FACILITIES

## 7.1 Introduction

This section of the Specific Plan provides both general and specific guidelines for the development of future infrastructure facilities necessary to serve the Roberts' Ranch development area. The infrastructure facilities covered in this section include water distribution (potable and non-potable), sanitary sewer collection, storm drainage and detention, gas, electric, telephone, and cable TV.

This section's specific purpose is to achieve the following:

1. Ensure that the project incorporates adequate water and sewer facilities to meet the needs of the Roberts' Ranch area.
2. Use non-potable water in Roberts' Ranch to reduce demand for potable water.
3. Utilize the existing detention basin constructed by the Brighton Landing development to mitigate for increased run-off due to development.
4. Present preliminary fundamentals of primary utility components. Final pipe sizes will be based on computer modeling using project specific and/or City wide models maintained by the Utilities Department and funded by the developers and will be subject to the approval by the Director of Utilities prior to design approval. On-site piping and utility facilities shall be sized to accommodate only the development in the Specific Plan area.
5. Identify off-site improvements which are necessary to serve the project.
6. Identify and discuss impacts to adjoining properties, both existing and future.

## 7.2 Water Supply

### 7.2.1 Potable Water Supply

Figure 7-1 shows the Proposed Water Distribution System with existing and proposed water line sizes. In general, Leisure Town Road and Fry Road will have a primary water transmission main. The water main in Leisure Town Road will be relocated by the City of Vacaville Jepson Parkway project. An 18" transmission water main will be installed within Fry Road which will extend from Leisure Town Road east to a proposed future well site installation of the 18" transmission main may be eligible for reimbursement through development impact fees. An additional primary water main will connect from Fry Road northerly within the enhanced two lane minor arterial roadway, connecting to the Brighton Landing development. Additionally, a primary water main will be located within Marshall Road from Leisure Town Road easterly across the enhanced minor arterial following the southern and eastern boundary of the proposed school site, connecting to the 12" water main within the Brighton Landing development. All other streets will contain an 8" or 12" water line with domestic services and fire hydrants as required serving the development.

**Figure 7-1 Proposed Water Distribution**



Per Senate Bill 610, any development which is subject to the California Environmental Quality Act (CEQA) and which meets the definition of "Project" in the Water Code Section 10912, (residential projects of more than 500 dwelling units) are required to prepare a Water Supply Assessment Report (WSAR). The WSAR will be prepared as a part of the development E.I.R., and will compare the citywide projected water demand and the available water supply. The current supply vs demand projections reflect a significant surplus in available supply, but the final determination will be made with the WSAR. With a positive WSAR supply vs demand finding, the project impact on the City water supply will be mitigated through the payment of Water Impact Fees and Water Annexation Fees. The project will additionally install water facilities within and adjacent to the development, as outlined in this Specific Plan.

Final water main sizes and locations shall be per the water modeling study, which will be prepared specific to the Roberts' Ranch Development.

7.2.1a Each phase of development will be responsible for construction of their respective portion of the water system shown on the Proposed Water Distribution System. Each development phase will be required to demonstrate that the proposed phasing of each water line installation, including buildout, will provide for adequate redundancy (looping) and flow to the satisfaction of the Director of Utilities. It may be necessary for a given phase of the development to install infrastructure beyond the limits of the respective phase boundary to achieve the required flow rates and network redundancy.

7.2.1b Developers will comply with the City of Vacaville water conservation ordinance (such as low-flow shower heads and toilets) in the construction of the homes.

7.2.1c Developers will use low-flow irrigation systems and drought-resistant plant materials to the reasonable extent feasible.

### 7.2.2 Non-Potable Water Supply

Figure 7-2 shows the Proposed Non-Potable Water Distribution System Plan with existing and proposed water line sizes. In general, primary non-potable water mains are to be located within Leisure Town Road, Fry Road, two lane minor arterial, Marshall Road from Leisure Town Road to the two lane arterial, and the extension of Marshall Rd and northerly collector road directly adjacent to the future school site, creating a non-potable looped system. The NPW system is expected to interconnect with the NPW system to the west at Leisure Town Road, as well as to Brighton Landing to the north within the two lane arterial, Sunflower Street (collector east of the proposed school site), and Tulip Street (easternmost collector). Secondary non-potable water lines are to be located internally as necessary to serve public

**Figure 7-2 Proposed Non-Potable Water Distribution**



landscaping within their respective developments.

Final design shall conform to the City of Vacaville Reclaimed Non-Potable Water Specifications and City Master Planning. The City shall work with the master developer to ensure that the non-potable system is consistent with the projected delivery infrastructure from the Easterly sewer treatment plant.

### 7.2.3 Abandon Existing Wells

Any existing wells on the property shall be abandoned per the Solano County Health Code.

## 7.3 Sewer

### 7.3.1 Sewer System

**Figure 7-3 Proposed Sewer System**



Figure 7-3 shows the Roberts’ Ranch specific plan area that will be tributary to the existing sewer system. In general, all streets will have a minimum sewer line diameter of 8 inches. It is envisioned that the Roberts’ Ranch development will be under construction prior to the completion of the adjoining Brighton Landing Development. From a sewer connectivity standpoint, the Brighton Landing development located immediately north of the Roberts’ Ranch Specific Plan area is hydraulically separated from Roberts’ Ranch due to the existence of a 72-inch to 84-inch diameter storm drain line serving the Brighton Landing area. As a result, the Roberts’ Ranch Specific Plan area will need to connect to sewer facilities located further south.

The two major trunk sewer facilities in the vicinity of the Roberts’ Ranch Specific Plan area include the following:

- The 24-inch diameter Alamo/Fry Trunk Sewer, which runs east along Fry Road between Leisure Town Road and the railroad tracks, and then north along the west side of the railroad tracks

- The 27-inch diameter CSP-S Trunk Sewer, which runs along the west side of the railroad tracks parallel to and just west of the Alamo/Fry Trunk Sewer

The depth of the sewer line to which the Roberts' Ranch development will connect is critical to ensuring that development can occur without significant importing of soil to raise the property, to maintain adequate sewer cover and slope. The CSP-S Trunk Sewer is the deeper of the two trunk sewers.

The Southtown Area Sewer Plan Evaluation and CSP-S Trunk Sewer Service Area Master Plan, Dated July 29, 2005, prepared by West Yost for the City of Vacaville analyzed the then-current sewer flows, and available capacity within the existing Alamo / Fry trunk and CSP-S trunk sewer systems. That study predicted that a portion of the Roberts' Ranch property, fronting along Leisure Town Road, would be tributary to the Alamo / Fry Trunk Sewer in the developed condition. Based on the current Specific Plan, however, no portion of the Roberts' Ranch project will be tributary to the Alamo / Fry trunk sewer.

Subsequent technical sewer studies have been prepared by West Yost for the City of Vacaville analyzing the current sewer flows, and available capacity within the existing Alamo / Fry trunk and CSP-S trunk sewer systems. In these studies, it was determined that the portion of the existing 27-inch diameter CSP-S trunk sewer from the connection point of Roberts' Ranch project continuing downstream lacks the needed capacity to convey the sewer flows anticipated by the General Plan. As such this existing trunk sewer system will need to be upsized to accommodate the Roberts' Ranch project.

Updated sewer system modeling performed by the City indicates that the Alamo/Fry Trunk sewer lacks capacity to accommodate any significant additional development without upsizing that line. The CSP-S trunk sewer has some capacity remaining, although that capacity will be consumed by approved development in the Southtown/Vanden Meadows area located south of New Alamo Creek on both sides of Leisure Town Road. Any future development activity that increases flows in the CSP-S Trunk Sewer above its design capacity will trigger the need for the upsizing of that trunk sewer. The timing of development will dictate when trunk sewer improvements need to be completed.

The City has already scheduled a sewer system improvement that will replace the downstream end of the CSP-S Trunk Sewer with a new 48-inch diameter line that will also convey flows from the Alamo/Fry Trunk Sewer. The two trunk sewers will combine at a point northeast of the Roberts' Ranch Specific Plan area just upstream of the existing CSP-S Trunk Sewer undercrossing of the railroad. A new, third trunk sewer serving the Brighton Landing area to the north will also combine with the CSP-S and Alamo/Fry Trunk Sewers at the same location. Thereafter, the new 48-inch diameter trunk sewer will follow approximately the same alignment as the existing CSP-S Trunk Sewer to Easterly Wastewater Treatment Plant. This improvement represents Phase 1 of the DIF 54A project.

In addition to Phase 1, DIF 54A is comprised of two additional phases. Phase 2 extends from the proposed connection point for Roberts' Ranch to the upstream end of Phase 1. Phase 3 extends from the CSP-S Trunk Sewer crossing of Fry Road to the Roberts' Ranch connection point.

With Brighton Landing and other development projects in progress, the DIF 54A Phase 1 project design has already been initiated, and construction is expected to start directly following finalization of all the design elements. The timing of the need for construction of Phase 2 depends on the respective schedules for development of both Roberts' Ranch, Southtown/Vanden Meadows, and a few smaller infill properties tributary to the CPC-S trunk sewer system. If Phase 2 of DIF 54A is triggered by the Roberts' Ranch development, the cost of this upsizing would be subject to reimbursement through the existing DIF program.

### **7.3.1 Abandon Existing Septic Tanks and Leach Fields**

Any existing septic tanks and leach fields shall be abandoned per Solano County Health Code.



## 7.4 Storm Drainage

The entire Roberts' Ranch development area is very flat with little grade difference across the property. Generally, the land slopes from west to east with drainage eventually ending up in Old Alamo Creek. Current City Policy requires that all new development be required to mitigate its drainage through detention, such that peak storm water flow after development run-off does not exceed of pre-development run-off. Because the terrain is so flat, in order to develop the property without increasing peak run-offs, a detention basin is required with the use of pumps to discharge the storm water out of the basin at a prescribed rate of flow. With the development of Brighton Landing, a detention Basin was constructed on a portion of the Roberts' Ranch original property adjacent to and east of the PG & E power lines. This basin has been constructed to serve the build-out of both the Brighton Landing and Roberts' Ranch developments (nearly 400 acres+/-) and be located in an area that will not interfere with agriculture or future development.

Figure 7-4 Storm Drain Master Plan



The storm drain pipelines through the Roberts' Ranch development to the detention will range in size starting at the detention basin and gradually decrease in size as the storm drain system extends west to the upper ends of the system. A directional layout of the proposed drainage concept through the Roberts' Ranch development is shown on Figure 7-4 Storm Drain Master Plan. A detailed hydraulic and hydrologic analysis of the proposed development will be performed to determine the appropriate size and location of the developments' storm drain system, as a part of the tentative map and final improvement plan process. Discharge from the basin is through use of a public pump station which discharges into the Frost Spill, a small drainage way paralleling the railroad tracks which conveys storm water north to Old Alamo Creek. The pump station has been constructed by the Brighton Landing development. The final high flow pumps completing the ultimate build-out of the pump station will be installed by the Roberts' Ranch development. This final pump station improvement will provide the capacity to

accommodate the developed flow under the build-out scenario from both the Brighton Landing and Roberts' Ranch developments.

Funding for the maintenance of the detention basin and storm water pump station will be through a Lighting, Landscape, and Maintenance District which was formed by the Brighton Landing development.

## 7.5 Storm Water Quality

### 7.5.1 Introduction

The Brighton Landing development is committed to fulfilling its Clean Water Runoff requirements. As required by the Regional Water Quality Control Board the project will have a Stormwater Pollution Prevention Plan (SWPPP) for the project along with identifying the Best Management Practices (BMPs) planned for implementing and maintaining procedures outlined in the SWPPP.

*7.5.1a Prepare and implement a comprehensive Stormwater Pollution Prevention Plan (SWPPP) for the project.*

*7.5.1b The Project SWPPP and Project Improvement Plans shall identify all Best Management Practices (BMPs) planned for implementation during and following project construction, including Source Control BMPs, Treatment Control BMPs and Post-Construction BMPs. Sediment and other particulates will be controlled utilizing the detention basin as a volume based water quality device. Deposited sediment will be periodically removed by City of Vacaville maintenance crews. Costs to maintain the basin will be through a LLMD funded by the residents of both Brighton Landing and Roberts' Ranch. The Detention Basin constructed by Brighton Landing is intended to serve as a regional detention basin for both Brighton Landing and Roberts' Ranch and as the Post Construction Storm Water Quality BMP device for the same corresponding area.*

*7.5.1c The existing detention basin constructed by the Brighton Landing development has been designed with capacity for storm water detention and storm water treatment as a volume based water quality basin for the combined developed storm water flow from both Brighton Landing and Roberts' Ranch developments.*



7.5.1d Require drainage facilities to minimize any increased potential for erosion or flooding.

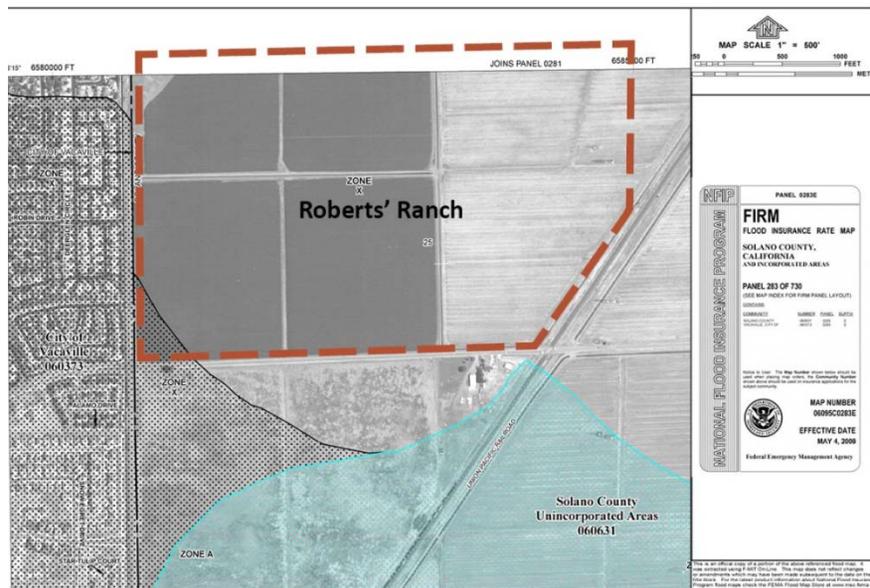
## 7.6 Floodplains

### 7.6.1 Introduction

The Roberts' Ranch development area is within Zone X (Area determined to be outside the 0.2% annual chance floodplain) with the southwest corner in shaded Zone X (Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot), as depicted on FEMA's Flood Insurance Rate Map (FIRM) Community Panel Numbers 06095C0283E dated May 4, 2009, and shown in Figure 7-5.

7.6.1a Ensure that the project continues to remain outside the floodplain in conformance with FEMA standards.

**Figure 7-5 Flood Insurance Rate Map**



## 7.7 Natural Gas, Electricity, Telephone, and Cable TV

### 7.7.1 Introduction

Gas and electric will be provided by Pacific Gas & Electric (PG&E). Telephone will be provided by SBC, and cable television will be provided by Comcast. All new utilities within the Specific Plan area will be underground. The existing overhead lines within the Specific Plan will be placed underground to the limits of the proposed project. See Figure 7-6 for the joint trench master utility plan.

*7.7.1a During the improvement plan design process the City of Vacaville and the developer will work with the utility companies to locate their transmission line corridors within the rights-of-way for streets.*

**Figure 7-6 Joint Trench Master Utility Plan**



*7.7.1b During the improvement plan design process, the City of Vacaville and the developer will work with the utility companies to ensure that all new utilities and utility vault appurtenances will be placed underground in accordance with the Vacaville Municipal Code.*

## 7.8 Impact to Adjoining Properties

### 7.8.1 Brighton Landing

Brighton Landing is a Specific Plan residential subdivision currently under construction, located adjacent to and north of the Roberts' Ranch Specific Plan area. The utilities designed and under construction have been sized and located such that they will interconnect at specific locations.

#### 7.8.1a Water

Brighton Landing Water system is intended to interconnect at public roadway connections, providing a looped redundant water supply the Roberts' Ranch Specific Plan area.

#### 7.8.1b Non-Potable Water

Brighton Landing Non-Potable Water system is intended to interconnect at public roadway connections, providing a looped redundant water supply the Roberts' Ranch Specific Plan area.

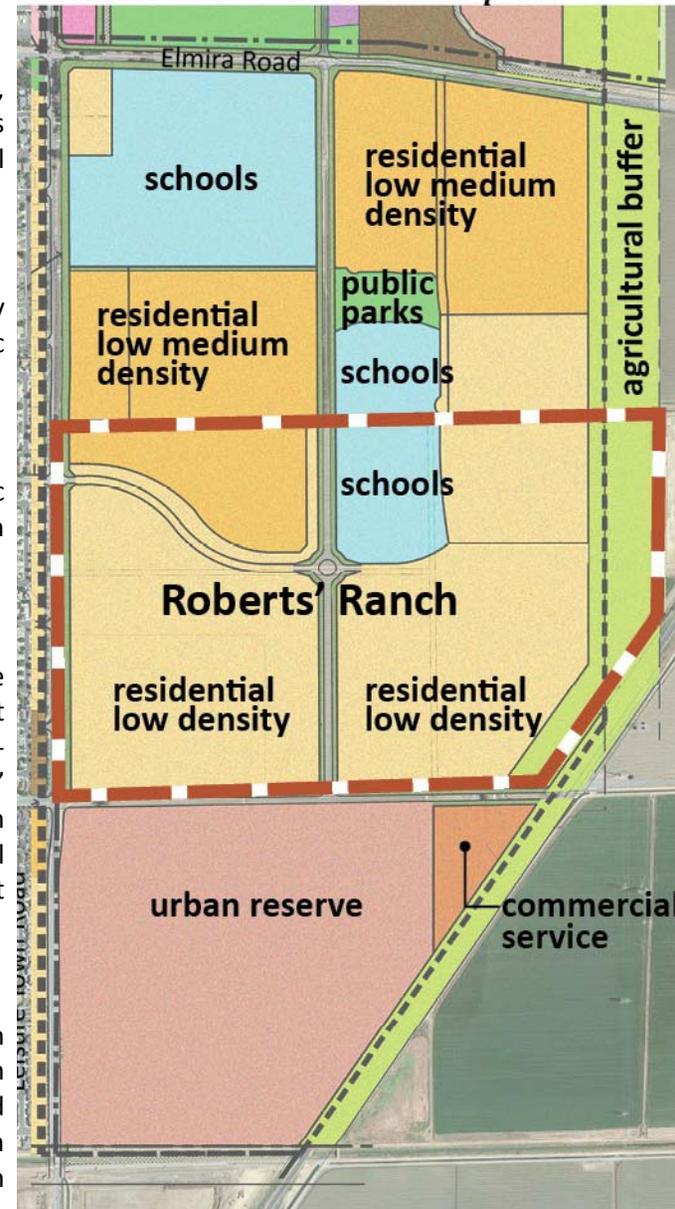
#### 7.8.1c Sewer

Brighton Landing Sewer system was designed to convey the on-site sewer flow to the southeast corner of the development, which approximately coincides with the northeast corner of the Roberts' Ranch Specific Plan area. Due to the existence of a 72-inch to 84-inch diameter storm drain line serving the Brighton Landing area, flow from the Roberts' Ranch Specific Plan area cannot be conveyed northward and tied into the collection system facilities serving Brighton Landing. The flows from Brighton Landing will ultimately be combined with the flows from the CSP-S and Alamo/Fry Trunk Sewers at the upstream end of Phase 1 of the DIF 54A project.

#### 7.8.1d Storm Drain

The Brighton Landing development designed and has constructed a detention basin located adjacent to the northeast corner of the Roberts' Ranch development. This basin was sized to accommodate the developed flows generated by the combined development of Brighton Landing and Roberts' Ranch. The Brighton Landing storm drain system collects the on-site storm water within the on-site storm drain system the storm

Figure 7-7  
Current General Plan Land Use Proposal



water is conveyed to the southeast corner of the development and east into the detention basin. The Roberts' Ranch development will similarly collect its respective on-site runoff within an on-site storm drain system conveying the storm water east discharging into the detention basin with a discharge point separate from Brighton Landing. The storm water discharged into the basin will be combined with the Brighton Landing storm water, stored and collectively discharged through a pump station.

#### *7.8.1e Joint Trench*

The Brighton Landing development had designed their joint trench facilities (i.e. gas, electric, phone, and cable) to serve from Leisure Town Rd. and Elmira Rd. These utilities have been designed to serve the respective project only. Roberts' Ranch will design and construct joint trench facilities to serve the demand of the subject project.

### **7.8.2 A&P Children's Fund Property**

The A&P Children's Fund property will collect its respective on-site sewer flow and convey their flow discharging directly into the existing CSPA trunk sewer line. There is no proposed connection between the Roberts' Ranch and A&P sewer systems.

#### *7.8.2a Water*

Roberts' Ranch Water system is intended to install a water main within Fry Road. The development will interconnect the on-site water with Fry Road at all public roadway intersections proposed by the Roberts' Ranch development. This will set Fry Road up as a looped redundant water supply to Leisure Town Road. This water system will be utilized by the future A&P Children's Fund property, however the proposed improvements will be required regardless of whether the A&P property develops or not.

#### *7.8.2b Non Potable Water*

Roberts' Ranch Water system is intended to install a non-potable water main within Fry Road. The development will interconnect the on-site non-potable water with Fry Road at all public roadway intersections proposed by the Roberts' Ranch development. This will set Fry Road up as a looped redundant non-potable water supply to Leisure Town Road. This water system will be utilized by the future A&P Children's Fund property,



south of the proposed Roberts' Ranch development, however the proposed improvements will be required regardless of whether the A&P property develops or not.

**7.8.2c Sewer**

The A&P Children's Fund property will collect its respective on-site sewer flow and convey their flow discharging directly into the existing CSPS trunk sewer line. There is no proposed connection between the Roberts' Ranch and A&P sewer systems.

**7.8.2d Storm Drain**

The A&P Children's Fund property will collect its respective on-site storm water flow and convey their flow to a point discharging following their existing drainage pattern. They will be required to design and construct a detention facility to mitigate any increase in storm water flow resulting from their development. There is no proposed connection between the Roberts' Ranch and A&P storm drain systems.

**7.8.1e Joint Trench**

The A&P Children's Fund property will design their joint trench facilities (i.e. gas, electric, phone, and cable) to serve from Leisure Town Road and Fry Road. These utilities will be designed to serve the respective project only. The Roberts' Ranch development will relocate the existing joint trench facilities within Fry Road from overhead to underground when required per City ordinances.

**7.8.3 Adjoining Development Planning**

The utility infrastructure which will be designed and installed by the Roberts' Ranch development is consistent with the prior planning of the adjacent Brighton Landing Development to the north. Furthermore, although the public water, non-potable water, and joint trench facilities installed by the Roberts' Ranch development may be utilized by the future adjoining A&P property to the south, all improvements to be installed are required for the development of the Roberts' Ranch project and would be considered growth inducing nor growth prohibitive with respect to the A&P property.