

## Chapter 9 UTILITIES

This Chapter reviews the existing utility infrastructure and addresses the conceptual infrastructure improvements necessary to serve the proposed Specific Plan Area at full build-out. As the phasing of development is currently unknown, the proposed infrastructure improvements shown were developed based on the full Plan Area build-out in accordance with the proposed Conceptual Plan, land uses, and densities. Final development, project phasing and changes in the proposed land uses or densities will require the re-evaluation of the proposed infrastructure improvements at the final engineering design phase.

The Area is served by a variety of utility providers including:

- Water - East Bay Municipal Utility District (EBMUD)
- Sewer – Central Contra Costa Sanitary District (CCCSD)
- Drainage – City of San Ramon (City)
- Franchise Utilities
  - Pacific Gas and Electric (PG&E)
  - AT&T, Verizon
  - Comcast

### WATER SUPPLY

#### Potable Water Supply

The East Bay Municipal Utility District (EBMUD) is the service provider for the Specific Plan Area. EBMUD provides potable water supply and operates and maintains the existing potable water infrastructure within the Area. Potable water provided to the City of San Ramon is treated at the Walnut Creek Water Treatment Plant, and conveyed south via transmission lines through Alamo and the Town of Danville. There are several existing large diameter water transmission lines within the right-of-way for Fostoria Way, Camino Ramon and Norris Canyon Road. Figure 9.1: *Existing Potable Water* depicts the existing potable water infrastructure within the specific plan area.

Based on the existing EBMUD potable water infrastructure within the area, the need for new water infrastructure will be based on new roadway alignments and required fire flow. The San Ramon Valley Fire Protection District has reviewed the proposed land use plan and, based on an assumed 150,000 square foot building with Type III construction and fire sprinklers, indicated that a maximum 4,000 gpm fire flow would be required. Although different pressure zones exist in the area, EBMUD has modeled the existing system, and shown that the existing water mains 12" or greater can provide the maximum 4,000 gpm fire flow. Due to EBMUD's velocity criteria, the existing 8" water mains will only provide approximately 3,000 gpm. All modeled fire flows noted were at a minimum of 20 psi residual pressure. Figure 9.2: *Proposed Water Supply (Potable and Recycled)* illustrates the proposed potable water infrastructure within the specific plan area. The pipeline sizes shown on Figure 9.2 are approximate sizes only. Final pipe sizes will be determined by EBMUD based on the actual development scenario and densities to be constructed.

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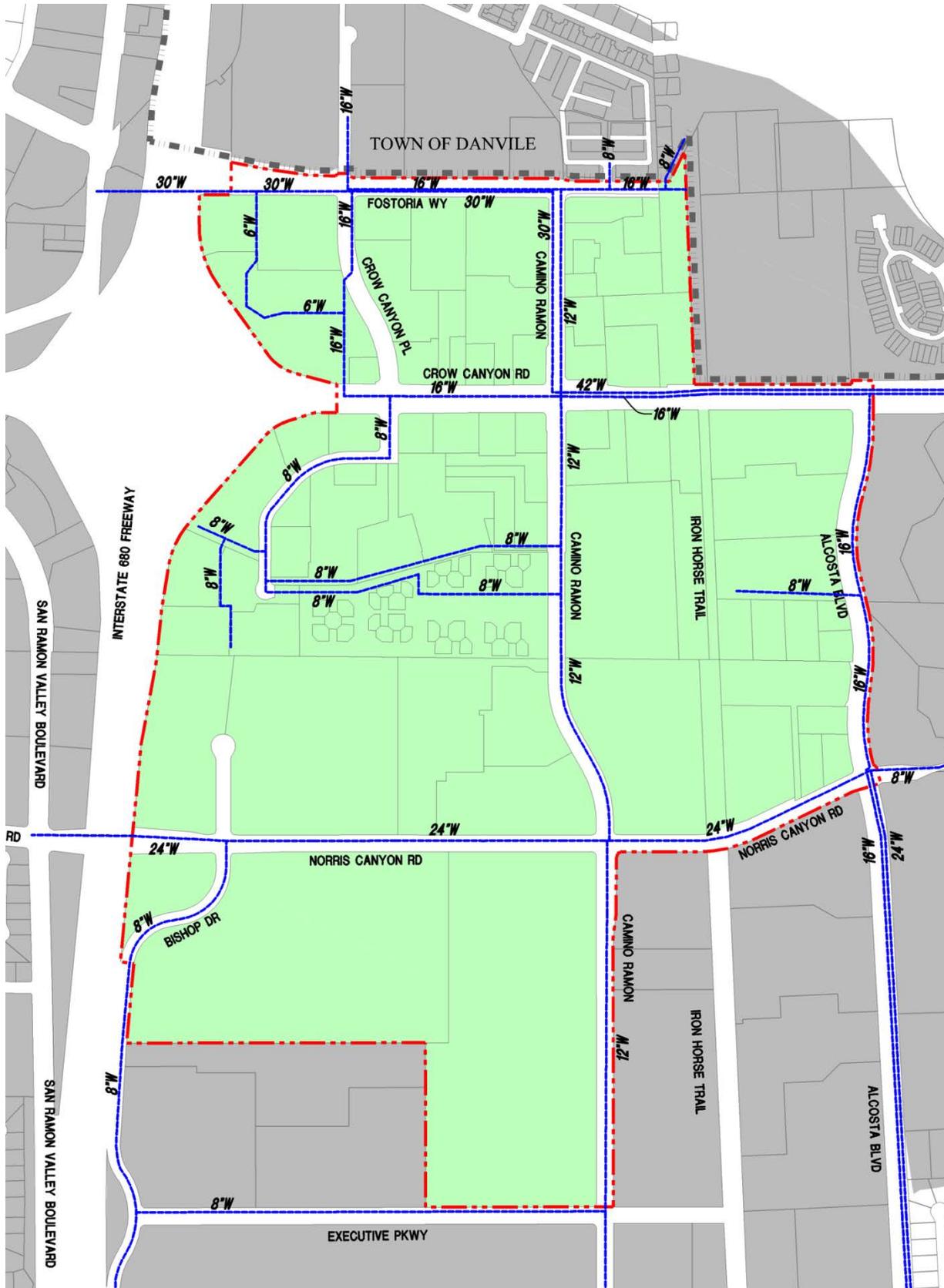


Figure 9.1: Existing Water Supply

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Per California Water Code, Sections 10910-10915, EBMUD performed a Water Supply Assessment (WSA) dated November 24, 2010. EBMUD indicated in the WSA that the North Camino Ramon Specific Plan Area water demands are accounted for in EBMUD's 2005 Urban Water Management Plan and there is allocated/adequate water supply for the Specific Plan.

New development and redevelopment within the Area will be required to adhere to the City's Ordinance No. 218 (Water Conservation and Landscape Ordinance) and the EBMUD/DERWA development standards and requirements for Recycled Water. In addition, per the WSA, the project should comply with the California Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490-495).

### **Recycled Water**

EBMUD and the Dublin San Ramon Services District (DSRSD) jointly provide and distribute recycled municipal water in the City of San Ramon through the San Ramon Valley Recycled Water Program. The program is administered by a joint powers authority - DSRSD-EBMUD Recycled Water Authority (DERWA). Treated effluent at the R1 tertiary treatment plant in Pleasanton is filtered and disinfected for appropriate irrigation reuse. Recycled water is conveyed to Camino Ramon via a backbone line located within the Iron Horse Trail right-of-way. In 2010, DERWA completed construction of a backbone recycled water line that extends north to Bollinger Canyon Road then runs east into the Dougherty Valley. Additionally, in 2011, a recycled water line was extended from Bollinger Canyon Road north to Fire Station 34 on Alcosta Blvd.

DERWA does not currently have recycled water infrastructure within the area. Future plans identify a network of recycled water lines serving both the Bishop Ranch Business Park and the North Camino Ramon Specific Plan Area. DERWA is currently planning/designing recycled water pipelines in the roadways and locations within the area listed below. When completed, all proposed recycled water mains will be operated and maintained by DERWA.

- Camino Ramon from Bollinger Canyon Road north to Crow Canyon Road.
- Crow Canyon Road from the Camino Ramon Intersection east to the El Capitan Drive intersection.
- Executive Parkway from Camino Ramon west to Bishop Drive.
- Norris Canyon Road from Camino Ramon west to the Bishop Drive/Annabel Lane Intersection.
- From Camino Ramon thru the existing private office development to Crow Canyon Place.

Since the existing roadway network for the specific plan area will be modified, additional reclaimed water infrastructure will likely be required. See Figure 9.2, Proposed Water (Potable and Recycled) for anticipated reclaimed water lines in addition to those currently planned by DERWA.

As the Plan Area develops, continued coordination with DERWA will be required for proper planning of the future recycled water system. New development and redevelopment within the area will be required to adhere to the City's Ordinance No. 218 (Water Conservation and Landscape Ordinance) and DERWA's development standards for Recycled Water.

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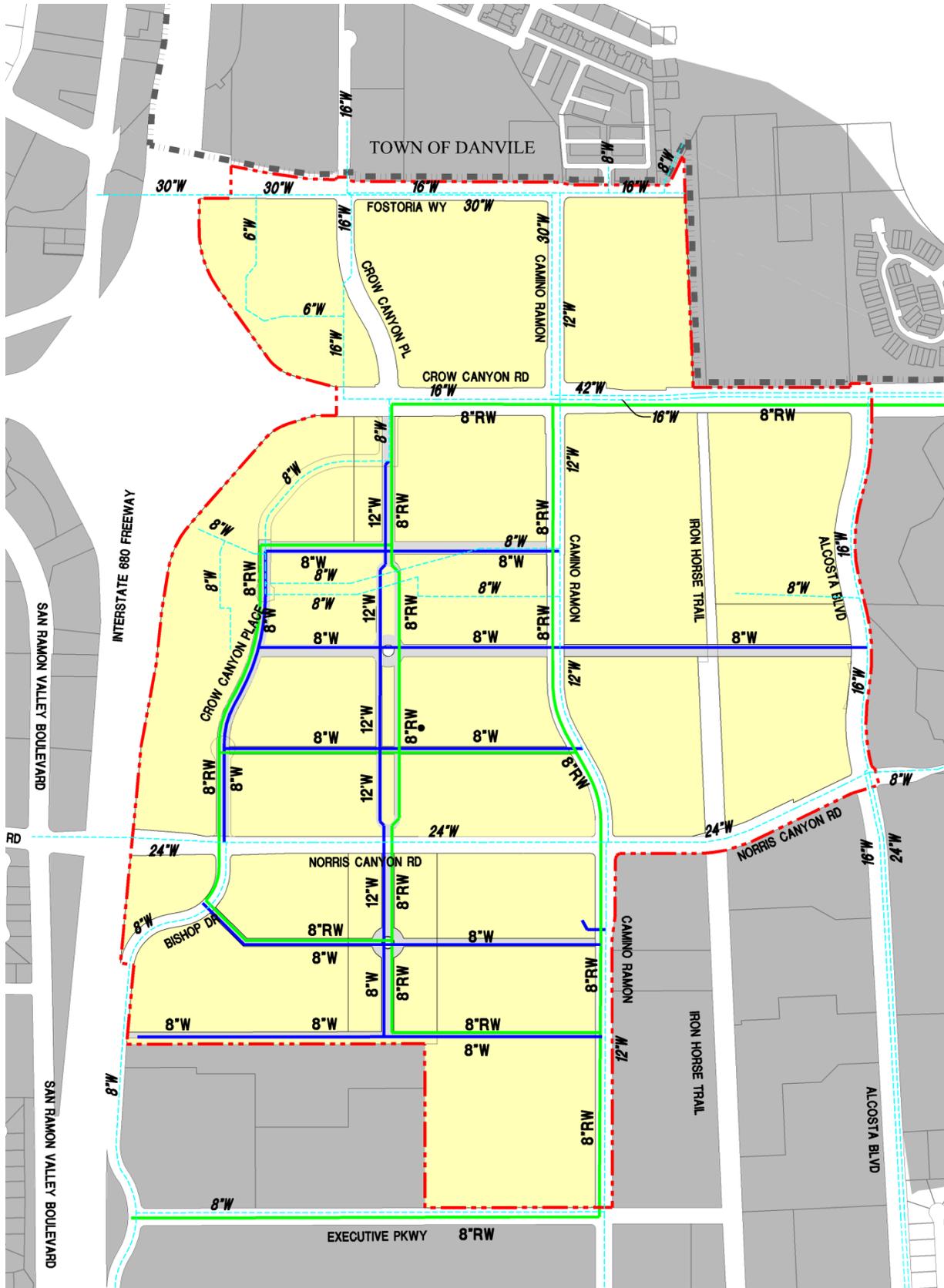


Figure 9.2: Proposed Water Supply (Blue-Potable Green-Recycled)

**GOAL UTL-1: Provide a safe and adequate supply of water for the development of the Specific Plan Area.**

**Policy UTL-1.1:** Incorporate water conservation and low impact development Best Management Practices (BMPs) into all public improvement and private development projects in the specific plan area.

**Policy UTL-1.2:** Incorporate drought resistant landscaping, low volume irrigation systems, and the use of recycled water into the landscaping plans for all public improvement and private development projects.

*All new development projects are required to demonstrate compliance with MWELO and EBMUD requirement for water efficient landscapes.*

**SANITARY SEWERS**

Central Contra Costa Sanitary District (CCCSD) provides wastewater collection and treatment to the northern portion of the City of San Ramon. Wastewater flows from San Ramon are conveyed north to CCCSD's wastewater treatment plant via the San Ramon Interceptor located within the Iron Horse Trail corridor. In 2003, CCCSD initiated a capacity improvement project for the interceptor between Norris Canyon Road in San Ramon and St. James Court in Danville in anticipation of increased wastewater flows from planned growth in San Ramon. The sewer analysis associated with the project identified a capacity deficiency in the interceptor for the 2040 20-year design event. As of 2011, a new 36" interceptor is planned to be constructed adjacent to the existing San Ramon Interceptor within the Iron Horse Trail corridor. CCCSD anticipates that the new 36" interceptor will be built sometime before 2015. All upgrades to the backbone interceptor will be paid for by fees collected on a CCCSD system-wide basis.

In addition to the San Ramon Interceptor within the Iron Horse Trail corridor, there are various existing collection mains ranging from 8" to 15" that provide sewer service to existing users within the project area. In general, wastewater flows in an east or west direction via the existing sewer mains in Executive Parkway, Norris Canyon Road, Crow Canyon Road and Fostoria Way to the existing 15" trunk main or 24" to 30" interceptor where it flows in a northerly direction to the treatment plant. The attached Figure 9.3: *Existing Sanitary Sewer* depicts the existing sewer facilities within the specific plan area.

The proposed Specific Plan (development densities, land uses, etc.), CCCSD has modeled their existing system capacity serving the Area. In November 2010, CCCSD issued a letter stating that the Area would not create capacity deficiencies in the existing trunk system through a 2040 20-year design event assuming the aforementioned 36" interceptor is complete and operational. Additional discussions with CCCSD confirmed that adequate treatment plant capacity is available, but further modeling would be necessary to evaluate the capacity of the smaller sewer collection mains within the existing streets.

In January 2011, CCCSD modeled multiple points within the existing sewer system based on Figure 9.4 "Proposed Sanitary Sewer" and the ultimate build-out densities proposed for the Area. Based on the analysis there were no deficiencies identified within the sanitary system and the existing sewer system will accommodate the proposed Plan Area build out. As the

Plan Area develops, continued coordination with CCCSD will be required for proper planning of the future sewer system.

**GOAL UTL-2: Provide adequate sanitary sewer services for development of the Specific Plan Area.**

**Policy UTL-2.2:** Connect new projects to the sanitary sewer system and require system improvements where necessary when triggered by proposed development.

*Consider the use of improvement agreement to address necessary off sited improvements associated with phased development.*

**Policy UTL-2.3:** Require restaurants and other uses with specialized sewer demands to implement Best Management Practices (BMPs) such as grease interceptors and or rain shut off devices as required by the service provider and C-3 stormwater requirements to minimize impacts to the sanitary sewer system.

*All new public improvement and private development projects within the Plan Area shall be designed to avoid rain water and ground water runoff from entering the sanitary sewer system in order to maximize sewer capacity and minimize the cost of wastewater treatment.*

**SOLID WASTE**

Solid waste collection and disposal in San Ramon is provided by Valley Waste Management (VWM), which is part of Waste Management Inc. Valley Waste Management provides solid waste collection services under an exclusive franchise agreement with the City of San Ramon. These services include collection of solid waste from commercial, industrial, and residential customers, collection of residential recyclables and yard trimmings. Commercial Recycling Services are currently provided by several companies that have been granted permits by the City of San Ramon, and are available to all San Ramon businesses on a competitive basis. With the State adoption of mandatory commercial recycling, the City will be looking at future options for franchise recycling services in addition to or as a replacement for the competitive process currently in place.

VWM transports solid waste to the Vasco Road Sanitary Landfill in Livermore. Currently the landfill has capacity until 2025. As residential development typically generates more solid waste than commercial uses, development of new residential land uses with the specific plan area should include a City approved recycling plan.

**GOAL UTL-3: Reduce the quantity of solid waste generated in the specific plan area through increased recycling.**

**Policy UTL-3.1:** Require new development to provided adequate interior and exterior facilities for the collection and storage of recyclable solid waste.

**Policy UTL-3.2:** Incorporate separate recyclable waste containers into pedestrian walkways within the specific plan area.

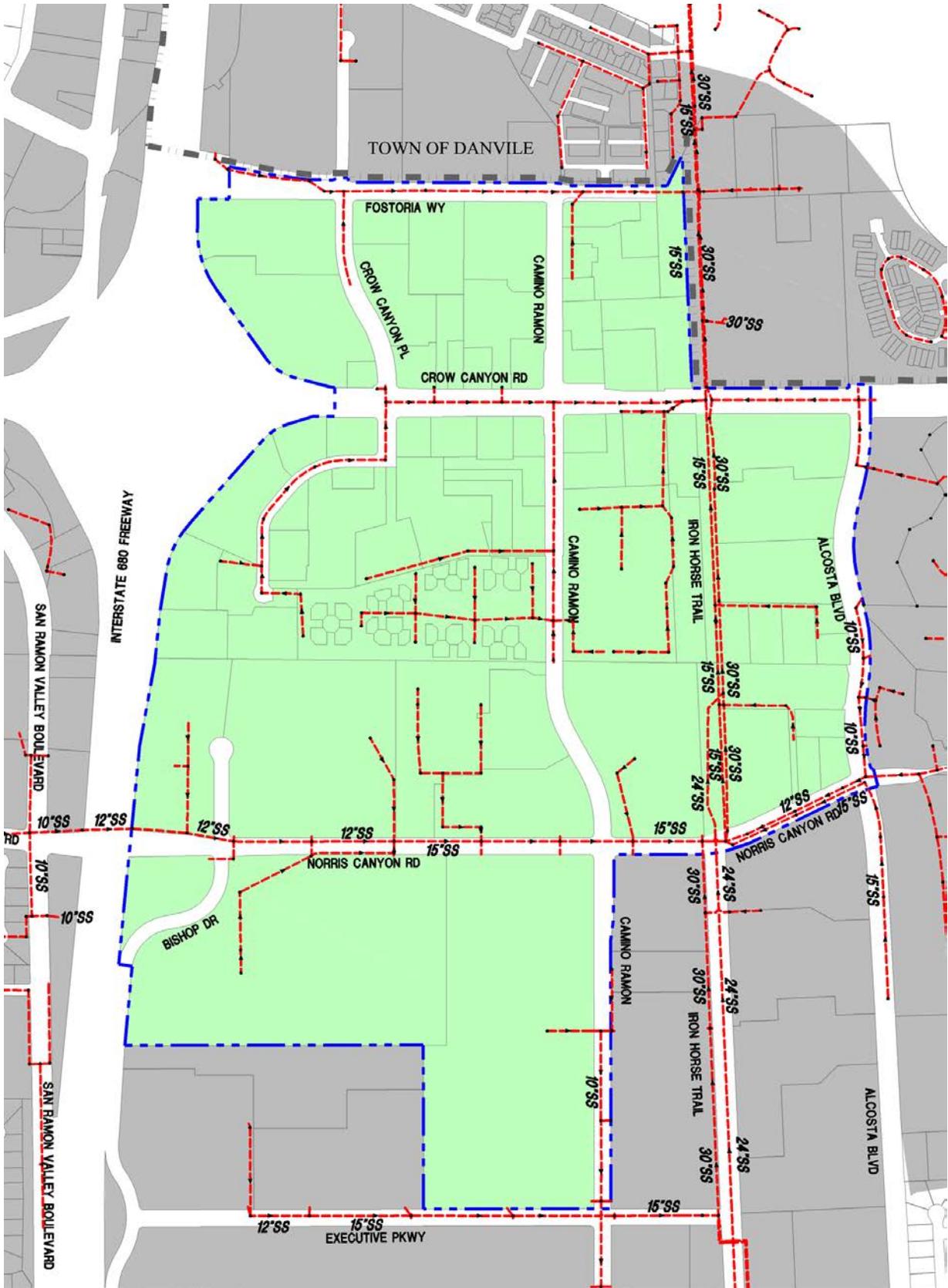


Figure 9.3: Existing Sanitary Sewer

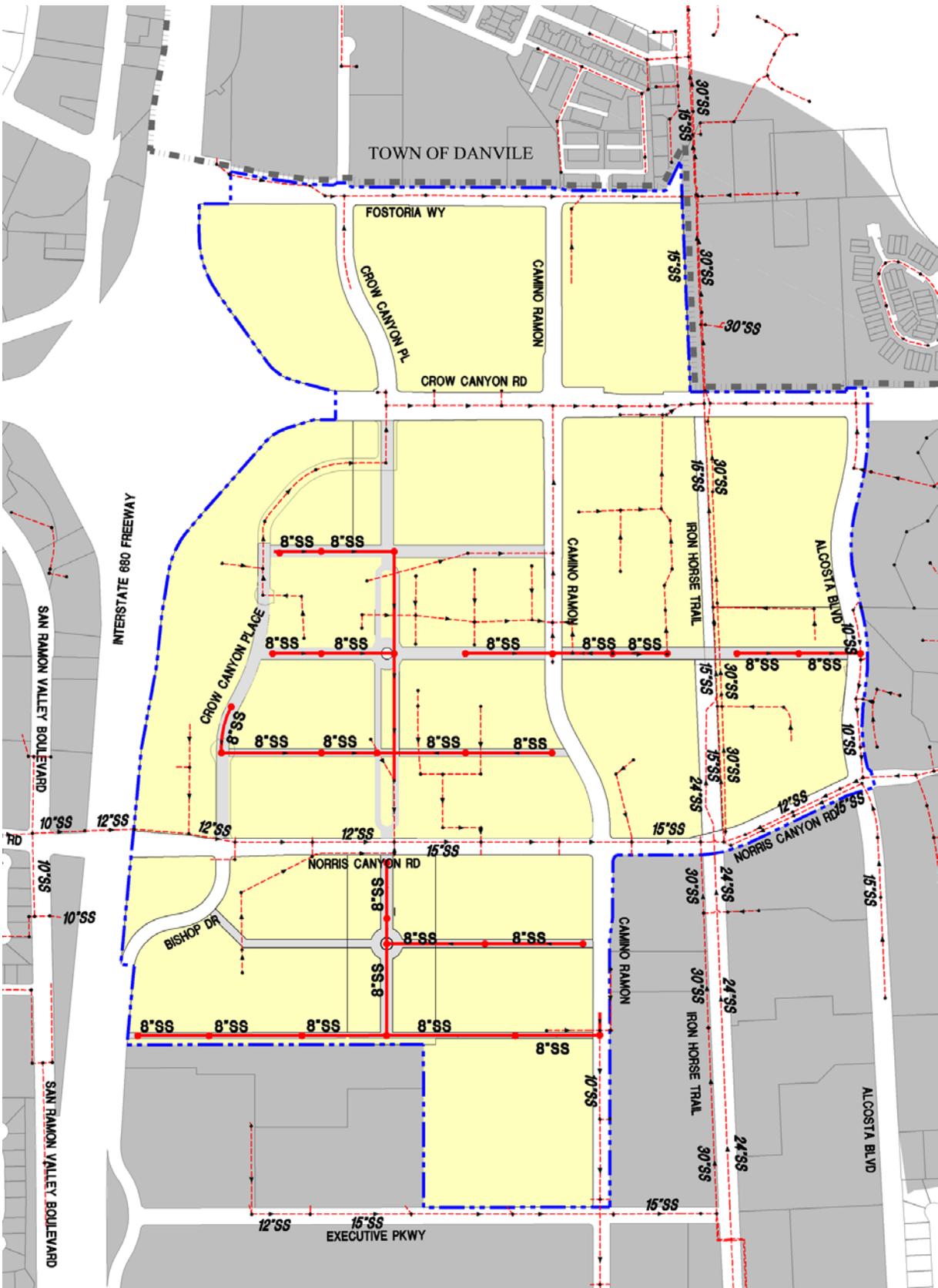


Figure 9.4: Proposed Sanitary Sewer

## STORM DRAINAGE

The City of San Ramon owns and maintains drainage facilities within the City limits. The project Area is divided into two major drainage basins. The northern portion of the site is drained by a network of storm drain pipes ranging from 15" to 48". All runoff from this portion of the site eventually flows to a 60" storm drain located within the Iron Horse Trail corridor. This 60" storm drain pipe conveys runoff in a northerly direction into the drainage systems of Danville, Alamo and Walnut Creek ultimately discharging into Suisun Bay. The southern portion of the project area drains to the south via a network of storm drain pipes into a 72" storm drain located under Camino Ramon that transitions to an 84" diameter pipe south of Bollinger Canyon Road and, ultimately, to a 96" diameter pipeline located under the Bishop Ranch 1 surface parking areas. The 96" diameter pipeline crosses Bishop Ranch 1 to the Iron Horse Trail corridor discharging into South San Ramon Creek and ultimately flows to the Lower San Francisco Bay.

Based on discussions with City staff, there are no known deficiencies within the existing drainage system. Figure 9.5 Existing Storm Drain depicts the existing storm drainage infrastructure within the specific plan area.

The existing specific plan area is highly developed with a significant footprint of impervious surfaces (buildings, parking lots, and roadways). The proposed specific plan will alter development types in the area, but it is not anticipated to increase the quantity of impervious surfaces. In September 2009, the California Regional Water Quality Control Board, San Francisco Bay Region, implemented a new regional municipal permit. One key element of this permit is Provision C.3. In general, this Provision will require new development to employ Low Impact Development techniques to minimize site runoff and to treat said runoff for improved water quality. As the specific plan area develops, each "project" will be required to demonstrate that it:

- Adequately treats any site runoff to insure the proper quality of the runoff leaving the site.
- Does not increase the quantity, duration or peak flow of runoff from each site.
- Employs proper construction management techniques through the construction process to insure sediment and erosion control. This will be addressed through the required State NPDES requirements.

The new permit provides guidelines and direction for calculating and selecting treatment and flow discharge techniques. Per Provision C.3, the goal of Low Impact Development (LID):

*"is to reduce runoff and mimic a site's predevelopment hydrology.....by infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create a functional and appealing site drainage that treats stormwater as a resource, rather than a waste product."*



Figure 9.5: Existing Storm Drainage



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While there are multiple LID measures currently preferred, there should be no limit to the creativity of the ultimate designer. Alternatives may include the use of bio-treatment through rain gardens, permeable pavements, landscape bio-retention areas, green roofs, planter/tree boxes, rain barrels and cisterns, etc.

Based on the new permit criteria, new development within the Area will not increase flows within the existing drainage system. Therefore, new drainage infrastructure required by the proposed specific plan will be limited to that required for new roadways within the specific plan area. Figure 9.6: Proposed Storm Drainage depicts the backbone storm drainage infrastructure anticipated within the specific plan area. In the design phase, these new drainage systems will be appropriately sized and modeled through the existing drainage system to insure proper sizing and no diversion of flows.

### **GOAL UTL-4: Provide adequate storm drainage for the development of the Specific Plan Area.**

***Policy UTL-4.1:*** Require public and private projects to implement Stormwater Best Management Practices (BMP's) on a project by project basis including, but not limited to:

- Minimize increases in the amount of impermeable surfaces in new development.
- Encourage the utilization of vegetated roofs (green roofs) in new development.
- Encourage the use of permeable paving for parking lot and landscape paving.
- Encourage the utilization of rainwater capture systems in new development.
- Incorporate bio-retention landscaping into the design of all public improvement and private development streets and surface parking lot projects.

## **ENERGY AND FRANCHISE UTILITIES**

Pacific Gas and Electric (PG&E) provides natural gas and electricity to the City of San Ramon and the specific plan area. Franchise utilities also provide telephone, cable, and communications to the existing users. Roadways within the specific plan area contain a variety of backbone joint utility trench infrastructure providing service to the individual parcels and users. Currently, there are no known capacity deficiencies that will significantly affect the redevelopment of the area. Intensification of land uses may require additional facility infrastructure. This will need to be evaluated with the utility providers as development progresses.

In an effort to responsibly develop the specific plan area, future development should incorporate energy conservation measures. The proposed high density, mixed use components of the specific plan will result in reduced vehicle miles traveled (VMT) and consolidation of services. Future development will be required to adhere to California's Green Building Standards including the use of state of the art building construction, mechanical and electrical systems.

**GOAL UTL-5: Conserve energy associated with new and existing development within the Specific Plan Area.**

**Policy UTL-5.1:** Require new residential and commercial development to demonstrate compliance with the San Ramon Climate Action Plan's Energy Conservation and Alternative Energy strategies including, but not limited to:

- Encourage LEED certification or other project rating system as a tool for quantifying a project energy use and programmed reductions.
- Encourage the use of photovoltaic panels for new development.
- Evaluate the potential for incorporating photovoltaic panels on the roof of the public parking structure.
- Reduce the energy used in the transport and treatment of water through water conservation and sustainable design.

**Policy UTL-5.2:** Require new residential and commercial development to demonstrate a 15% increase in energy efficiency when compared to Title 24 standards.

*Energy reductions above T-24, in addition to saving on energy costs, will count toward meeting the required GHG's reductions associated with energy production as defined in the San Ramon Climate Action Plan and consistent with AB 32.*

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