

## 7.1 WATER SUPPLY AND DISTRIBUTION

This section evaluates the water supply and distribution impacts associated with the proposed plan, including whether the proposed plan would: (1) have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements; or (2) require or result in the construction of new water facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects. Impacts of the proposed plan on the Eel River Groundwater Basin are evaluated in Section 5.1 of this PEIR, Hydrology and Water Resources.

This section is based, in part, on the 2007 City of Fortuna Background Report, Section 7.2, Water Supply and Distribution. The Background Report is included in as Appendix G of this PEIR.

### Environmental Setting

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The City of Fortuna provides water to approximately 11,351 individuals within its service area, which amounts to approximately 4,381 water service connections (City of Fortuna, 2008). Approximately 90% of these connections are residential, and 10% are commercial (City of Fortuna, 2005). The City also supplies water for fire protection.

The City of Fortuna relies on the Eel River Valley Groundwater Basin as its municipal water source. Groundwater is extracted using five City-owned groundwater extraction wells (four active and one emergency stand-by) located at the Corrosion Control Facility near the southwest corner of the City, on Eel River Drive between Kenmar Road and Drake Hill Road. In 2009, approximately 457 million gallons (MG) or 1,402 acre-feet of potable water was extracted from these wells (DWR, 2009).

Groundwater from the City's wells is pumped through an aeration tower (to raise pH and make water less corrosive) at the Corrosion Control Facility into a 120,000-gallon tank, where the water is also chlorinated for disinfection. The tank contains three booster pumps that pump water through a single 12-inch main transmission line below Eel River Drive that connects the water supply at the Corrosion Control Facility with the City's distribution system.

The City's water distribution system is divided into eight separate pressure zones. Each zone is pressurized by a series of pumps, reservoirs, water tanks and/or hydropneumatic tanks<sup>1</sup>. The estimated combined storage capacity of the City's water distribution system is approximately 7.5 MG (City of Fortuna, 2008). Some pressure zones do not have adequate storage, but can be provided water through booster stations with portable generators on site. The City's distribution system consists of approximately 37 miles of PVC, asbestos cement, and cast iron pipe ranging in size from 2 inches to 10 inches.

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<sup>1</sup> Hydropneumatic tanks are pressure tanks partially full of compressed air which boost the hydraulic grade line higher than the tank's water surface elevation.

The City continually updates its five-year Capital Improvement Program (CIP) to coordinate the financing and timing of needed infrastructure improvements. The identified water system improvement projects include maintenance and replacement of tanks/ reservoirs, pump stations, and distribution system improvements. The City funds water system improvements using bonds and water revenues.

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## Applicable Plans, Policies, Codes and Regulations

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### Federal

**Safe Drinking Water Act.** Adopted in 1974, the Safe Drinking Water Act (SDWA) authorizes the United States Environmental Protection Agency (US EPA) to set national drinking water standards for public water systems. Drinking water quality is based on two general standards: (1) organic and inorganic water contaminants that may have detrimental effects on health and safety, and (2) aesthetic qualities of water that may make water unpalatable or unpleasant to customers. The EPA has set national water quality standards for over 80 contaminants in drinking water. The National Primary Drinking Water Standards establish the maximum allowable contaminant levels (MCLs) allowed in public distribution systems. The National Secondary Drinking Water Standards establishes the MCLs that apply to potable water supplies at the point of delivery to the customer. While the EPA and State governments enforce water quality standards, local governments and private water suppliers are ultimately responsible for the quality of water supplies.

### State

**Porter-Cologne Water Quality Control Act.** Adopted in 1969, the Porter-Cologne Water Quality Control Act established the SWRCB and the nine RWQCBs in the State of California, as the primary State agencies with regulatory authority over water quality. Under the act, the SWRCB has the ultimate authority over State water rights and water quality policy, and the RWQCBs are responsible for overseeing water quality on a day-to-day basis, at the local and regional levels.

**Water Supply Regulations.** There are laws in California regarding planning for water supply and ensuring adequate water availability for new planned, and approved, growth. Senate Bill (SB) 901 was passed in 1995 requiring local planning agencies to consider the availability of water when approving a new project. To reduce the numerous loopholes and lawsuits from SB 901, Senate Bills 221 and 610 were approved in October of 2001. SB 610 primarily affects the Water Code and SB 221 principally applies to the Subdivision Map Act. Legislation that took effect in January 2002 requires an increased effort to identify, and assess, the reliability of anticipated water supplies, and envisions an increased level of communication between municipal planning authorities and local water suppliers. The 2002 Kuehl-Costa Act amended Water Code (SB 610-Costa) and Subdivision Map Act (SB 221-Kuehl), and requires water supply assessments for both the California Environmental Quality Act (CEQA) and Map Act approvals. SB 901, 221, and 610 apply to development projects rather than to General Plan Updates, and thus do not apply to the proposed plan. However, as indicated in the *General Plan Policy Response* subsection below, policies are proposed in the proposed plan requiring the

preparation of SB 610 water supply assessments for new development, which demonstrate that adequate water supplies are available to serve this development.

**Urban Water Management Planning Act.** Adopted in 1983, the Urban Water Management Planning Act requires each urban water supplier (a public or private supplier that provides water to more than 3,000 customers or supplies more than 3,000 acre-feet of water annually) to submit an Urban Water Management Plan (UWMP) to the Department of Water Resources (DWR). The UWMP must summarize existing and planned sources of water supply, current and projected water usage or demand, and include a discussion of 14 specified water conservation measures. The City of Fortuna prepared an UWMP in 2000.

## Local

**County of Humboldt Code.** Humboldt County Code provides minimum requirements for construction, reconstruction, repair, and destruction of water wells, cathodic protection wells, and monitoring wells in Title VI, Division 3 – Wells.

**City of Fortuna General Plan and Municipal Code.** Construction of water supply facilities within the City's service area is subject to review for consistency with the City of Fortuna General Plan and the Fortuna Municipal Code (FMC). The FMC, including various ordinances, provides the regulatory framework for implementing the City's General Plan policies and programs. The FMC includes provisions covering; well permitting and construction; water conservation and landscape water usages; storm water quality management; and the design and construction of on-site wastewater disposal systems, such as septic tank and leachfield systems.

## Methodology

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### Policy Background

The following policy background is used to assess the water supply impacts of the proposed plan:

- Water system infrastructure deficiencies within the Planning Area are described in the City's 2005 Water System Hydraulic Study. Reviews and updates of this plan will continue and the policies will be implemented.
- In general, this PEIR assumes a continuation of the regulatory policies affecting the City's water system, which are currently in effect. Current discussions within the state and federal regulatory agencies will continue; however, regulatory programs may change substantially and may be unpredictable during the time frame of this proposed General Plan.

## Thresholds of Significance

Proposed General Plan implementation would have significant water supply services impacts if it would:

- Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements; or
- Require or resulted in the construction of new water facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.

## Implications of the Draft Land Use Diagram

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Proposed General Plan implementation would have the potential to impact the City's water system. The potential impacts are primarily associated with increased water demand and adequate water system capacity. With respect to system capacity, development would increase in underdeveloped and/or underutilized areas, particularly within the proposed Focus Areas and Annexation Areas. This could potentially exacerbate existing system deficiencies. With respect to water infrastructure, development permitted under the proposed plan will be distributed to all areas of the City thus requiring some new water infrastructure, with most of this infrastructure likely required in the proposed Annexation Areas and Focus Areas.

## General Plan Policy Response

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The proposed General Plan includes the following policies and programs relevant to water supply and distribution.

**Policy PFS-1.1 Public Facility Monitoring.** The City shall monitor water, wastewater and storm drain system capacities on an annual basis, and make capacity improvements as needed.

**Policy PFS-1.2 Adequate Public Facilities to Serve New Development.** The City shall ensure through the development review process that adequate public facilities and services are available to serve new development when required. The City shall not approve new development where existing facilities are inadequate to support the project, unless the applicant can demonstrate that all necessary public facilities (including water, sewer, storm drainage, transportation, police and fire protection services) will be installed or adequately financed and maintained (through fees, special taxes, assessments, or other means).

**Policy PFS-1.3 Infrastructure Coordination.** The City shall ensure that the provision of streets, sewer, water, drainage, and other necessary infrastructure is coordinated in a logical manner, so as to reduce design, construction, and maintenance costs.

**Policy PFS-1.4 Ultimate Capacity Needs.** The City shall ensure through the development review process that public facilities and infrastructure are designed and constructed to meet ultimate capacity needs, pursuant to a master plan, to avoid the need for costly retrofitting.

**Policy PFS-1.5 Necessary Infrastructure.** The City shall require all new development and major modifications to existing development to construct necessary on-site infrastructure to serve the project in accordance with City standards.

**Policy PFS-1.6 Project Impacts on Infrastructure.** When reviewing applications for land use designation changes (i.e., General Plan amendments, specific plan amendments), the City shall analyze the impacts of the proposed land use designation changes on all aspects of the infrastructure system within the city and require mitigation as legally required. This shall include consultation with other service providers who have infrastructure within the city.

**Policy PFS-1.8 Water Rights Allocation.** The City of Fortuna shall monitor its water use on an annual basis. At such time as annual water use equals annual permitted water allocation, additional water supply must be obtained by the city prior to approving new development in the city.

**Policy PFS-1.9 City Service Extensions to Annexation Areas.** Upon LAFCo approval, City water, wastewater conveyance and treatment, storm drainage and police service shall be extended to the Riverwalk, Strongs Creek, Carson Woods, and Rohnerville annexation areas. The City shall not approve new development in these areas until services are available.

**Policy PFS-3.1 Water Main Extensions.** The City will comply with State law regarding extension of water utilities beyond the City's boundaries.

**Policy PFS-3.2 Efficient Water Use.** The City shall promote efficient water use and reduced water demand by:

- Requiring all new construction to comply with State and local water conservation requirements;
- Encouraging water-conserving landscaping and other conservation measures; and
- Encouraging retrofitting of existing development with water-conserving devices.

**Policy PFS-3.3 Regulatory Compliance.** The City shall construct, operate, and maintain its municipal water system to meet County Department of Environmental Health regulatory requirements including the employment of certified operators.

**Policy PFS-3.4 Completion of Water System Improvements.** The City, through its Capital Improvements Program (CIP), shall complete the recommended water system improvements as identified and prioritized in the most recent Water System Improvements Study.

**Policy PFS-3.5 Water System Production, Treatment and Distribution Facilities and Components.** The City shall continue to identify through its Capital Improvement Program, significant components of the water system that will require replacement or improvement during their useful lifecycle.

**Policy PFS-3.6 Water System User Rate Structure.** The City shall continue to review and analyze the full operational, maintenance, and capital improvement costs as well as the cost of developing future capacity of the municipal water system. The City shall maintain a rate and fee

structure that is sufficient to generate sufficient revenues to offset these costs, thereby assuring future viability of the system.

**Policy PFS-3.7 Water System Capacity.** The City shall maintain an adequate water system capacity to meet domestic and commercial water demands, including adequate fire flow capacity and water storage reserves.

**Policy PFS-3.8 Water Rights Allocation.** The City shall renew or amend existing permitted water right allocations to accommodate existing and projected future municipal water usage.

**Program PFS-1** The City shall prepare and annually review public facility master plans (e.g., water, wastewater, drainage). Every five years, the City shall update those plans to ensure compliance with appropriate State and Federal laws, use of modern and cost effective technologies, and compatibility with current land use policy.

**Program PFS-2** The City shall continue to update its Capital Improvement Program to address the city's existing and projected public facility needs.

**Program PFS-3.** At such time as any water, wastewater or storm drain element (pipes, pump stations, treatment facilities, etc.) reaches 90% of capacity, increased capacity shall be programmed.

**Program PFS-4.** New subdivisions, PUDs, and other large development projects (e.g., residential projects over 20 units, commercial/ office/industrial projects over 10,000 sq. ft.) shall demonstrate that adequate water, fire flow, wastewater collection, wastewater treatment/disposal, and storm drainage can be provided without adversely impacting service to existing uses.

**Program PFS-5.** The City shall require that a SB 610 Water Supply Assessment be prepared for proposed development projects that meet the State Assessment threshold (e.g.,  $\geq 500$  EDUs). The Assessment shall demonstrate there are adequate potable water supplies to serve the proposed project along with existing and cumulative development within the City in 5-year increments over a 20-year projection, under average normal, single-dry, and multi-dry years.

**Program PFS 6.** The Fortuna Public Works Department shall establish and implement a fair-share fee program applicable to new development to help pay for system-wide water, wastewater conveyance, wastewater treatment, and storm drainage

**Program PFS-8.** The City shall prepare an Urban Water Management Plan (UWMP) and update the plan once every five years. The UWMP shall address the City's projected municipal supply and fire protection needs, water conservation practices, and management measures, as required by State law.

**Program PFS-9.** The City shall review the most cost-effective urban water conservation management practices, based as appropriate on recommendations of the California Urban Water Agencies, the California Department of Water Resources, or other appropriate agencies.

**Program PFS-10.** The City shall implement its Emergency Response Plan to reduce its water system vulnerabilities, and to upgrade its water security program.

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## Impacts and Mitigation

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### Impact 7.1-1: Water Supply

*Proposed General Plan implementation will not require new or expanded water supply entitlements to meet the incremental increase in water demand.*

#### Discussion

The City currently extracts approximately 457 MG or 1,402 acre-feet of potable groundwater annually using five wells that draw water from the Eel River Valley Groundwater Basin (City of Fortuna, 2008).

Under proposed buildout, the service population within the Planning Area will increase from 11,351 to 24,904 persons. Assuming an annual per capita water consumption rate of 40,260 gallons (e.g., 457 MG/11,351 persons), annual water consumption under the proposed plan will increase to 1,003 MG (3,078 acre-feet).

The groundwater basin contains a volume of approximately 136,000 acre-feet that is recharged by percolation at a rate of 100,000 acre-feet per year. Although the storage capacity is about 136,000 acre feet, the usable yield of this groundwater storage basin is estimated to be 40,000 to 60,000 acre-feet annually. A little more than 10,000 acre- feet of ground water is currently being pumped from the basin for use in agricultural purposes (Winzler and Kelly, 1973). California has no statewide water right permit process for regulating the use of percolating groundwater.

Between the vast reservoir of water available and unregulated access to the groundwater, projected water demand at buildout will not affect the City's ability to provide potable water.

In addition to this groundwater supply, the City has a vested surface-water right (Permit No. 12390) issued by the California Division of Water Rights on August 2, 1960 for 1,642 acre-feet of water from the Eel River. The City no longer uses surface water and retains the permitted right as an emergency backup.

During the life of this General Plan the State may increase or initiate new controls in response to water quality, effects of global warming, and impacts of increased development. For this reason, the proposed plan includes the following policies and programs designed to minimize water supply impacts:

- Policy PFS 1.1 requires the City to monitor water system capacities on an annual basis and make capacity improvements as needed;
- Policy PFS-1.2 which the City to ensure that adequate public facilities and services are available to serve new development;

- Policy PFS-1.8 requires the City to monitor its water use on an annual basis to determine when additional water supply must be obtained prior to approving new development in the City;
- Policy PFS-3.2 which the City to promote efficient water use in new development and redevelopment to reduced water demand;
- Policy PFS-3.7 requires the City to maintain an adequate water system capacity to meet domestic and commercial water demands, including adequate fire flow capacity and water storage reserves;
- Policy PFS-3.8 requires the City to renew, or amend, existing permitted water right allocations to accommodate existing and projected municipal water usage;
- Program PFS-3 requires the City to program increased water capacity when 90% of capacity (e.g., 90% of its existing water right) is reached;
- Program PFS-4 requires large development projects to demonstrate that adequate water can be provided without adversely impacting service to existing uses;
- Program PFS-5 requires that an SB 610 Water Supply Assessment be prepared for proposed development projects (i.e. 500 or more EDUs) to demonstrate there is adequate potable water supplies to serve the proposed project;
- Program PFS-8 requires the City to prepare and regularly update an Urban Water Management Plan (UWMP) to address the City's projected municipal water supply and fire protection needs, water conservation practices, and management measures.

In addition to the large reserve of groundwater available, these policies and programs will ensure that additional development is not approved without the availability of an adequate water supply.

### **Determination of Level of Significance**

Less-Than-Significant

### **Impact 7.1-2: Water Distribution Facilities**

*General Plan implementation would require the construction of new or expanded water distribution facilities, the construction of which could cause significant environmental effects.*

### **Discussion**

The proposed General Plan would increase development in underdeveloped and/or underutilized areas, particularly within the proposed Focus Areas and Annexation Areas. Additional development under the proposed plan would connect to the City's water system infrastructure and could exacerbate existing system deficiencies. The City's five-year CIP prioritizes the completion of water system improvement projects within the Planning Area. Water storage tank and reservoir improvements are being planned, such as the Stewart Street Reservoir Replacement project, along with pumping and hydropneumatic systems, and newer, larger water transmission lines.

The proposed plan includes the following policies and programs designed to reduce impacts associated with new or expanded water supply and distribution facilities: (1) Policy PFS-3.4 which requires the City, through its CIP, to complete recommended water system improvements identified and prioritized in the most recent Water System Improvements Study; (2) Policy PFS-3.5 which requires the City to identify, through its CIP, significant components of the water system that will require replacement or improvement during their useful lifecycle; (3) Policy PFS 1.1 which requires the City to monitor water system capacities on an annual basis, and make capacity improvements as needed; (4) Policy PFS-1.2 which requires the City to ensure that adequate public facilities and services are available to serve new development; (5) Policy PFS-1.4 which requires the City to ensure that public facilities and infrastructure are designed and constructed to meet ultimate capacity needs, pursuant to a master plan; (6) Program PFS-1 which requires the City to prepare, annually review, and update (every five years) water facility master plans; (7) Program PFS-2 which requires the City to update its Capital Improvement Program every five years; (8) Program PFS-3 which requires the city to program increased capacity at such time as any water facilities reach 90% of capacity; and (9) Program PFS-8 which requires the City to prepare an Urban Water Management Plan (UWMP) and update the plan once every five years.

With implementation of the above policies and programs, and with completion of improvement projects identified in the City's five-year CIP as required by these policies and programs, the proposed project would not significantly impact the City's water system. A less-than-significant impact would occur.

The proposed plan would facilitate new development within the Planning Area. Some of this development would likely require the construction of new or expanded water supply and distribution facilities, the construction of which could cause environmental effects. However, no specific development projects or water system improvements are proposed under the proposed plan, so the specific environmental effects associated with constructing any new or expanded water system facilities cannot be identified at this time. Not speculating with respect to potential environmental effects is permitted under the State CEQA guidelines, including: (1) Section 15145 which states that, if after evaluation a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact; and (2) Section 15146(b) which states that an EIR on a plan should focus on the secondary effects that can be expected to follow from its adoption, but that the EIR need not be as detailed as an EIR on a specific construction project that might follow. At the time that specific improvements are proposed, the environmental effects of those improvements will be evaluated by the City in accordance with CEQA.

### **Determination of Level of Significance**

Less-Than-Significant

### **Mitigation**

No Mitigation Necessary

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