

Water Study Update for Boonville Planners and AVCSD Meeting

This update contains information from the Draft Project Evaluation and Pre-design Engineering Report that will be submitted to AVCSD, Division of Financial Assistance, and Division of Drinking Water by June 1, 2017.

Service Area Characteristics

Alternative 1:

- Size: 348 acres
- Population: 650-700 people
- Median Household Income: \$37,865
- Land Use Breakdown:
 - 10 Institutions (fairgrounds, churches, school, fire station, etc.)
 - 26 Commercial
 - 1 Health Facility
 - 175 Residential (single and multi-family units)

Alternative 2:

- Encompasses Alternative 1 and includes Anderson Valley Elementary School

Existing Water Facilities

- Private Wells
- Meadow Estates Mutual Water Company: 35 connections, 85 persons
- Anderson Valley High School: 300 persons
- Anderson Valley Elementary School: 350 persons
- Pending Public Water Systems (Total of 8)

Water Quality/Quantity Issues

- Well Yields (generally 10 gpm or less)
- Bacteriological/nitrate contamination (densely populated areas)
- Iron/manganese/aluminum
- Existing Contamination Sites
 - Caltrans Maintenance Yard
 - Former fuel stations (2)
 - Anderson Valley Elementary School Bus Yard

Water Supply Criteria

- Residential Demands:
 1. Reviewed five systems (Hopland, Laytonville, Spring Valley, Upper Lake, Middletown)
 2. Water production range: 260-620 gallons per day per connection
 3. Proposed Residential Demand: 250 gpd (single-family residences) and 200 gpd (multi-family residences)
- Non-residential Demands:
 1. Schools – Historical Water Use Data
 2. Fairgrounds – Employee/Visitor Data
 3. Others – Employee/Visitor/Restroom Counts

- Service Area Demand Summary
 1. Service Area Alternative 1:
 - a. Average Day Demand – 56,000 gallons
 - b. Maximum Day Demand – 126,000 gallons (90 gpm)
 2. Service Area Alternative 2:
 - a. Average Day Demand – 57,000 gallons
 - b. Maximum Day Demand – 128,000 gallons (90 gpm)

Fire Demands

- Residential Structures < 3,600 sq. ft – flow required: 1,000 gpm for 1 hour
 - If automatic sprinklers installed, flow/duration requirement is reduced by 50%
- Non-residential Structures < 20,600 sq. ft – flow required: 3,750 gpm for 3 hours
 - If sprinklered, fire flow may be reduced to 25% (1,000 gpm minimum, same duration)
- Fire Chief has discretion to reduce fire flow requirement
- Proposed Fire Flow – 2,000 gpm
- Proposed Fire Storage – 180,000 gallons (1,000 gpm for 3 hours)

Storage Requirements

- Maximum Day Demand – 140,000 gallons (Minimum Allowed; includes 10% growth allowance)
- Average Day Demand Maximum Month plus Fire Storage – 280,000 gallons (Recommended; includes 10% growth allowance)

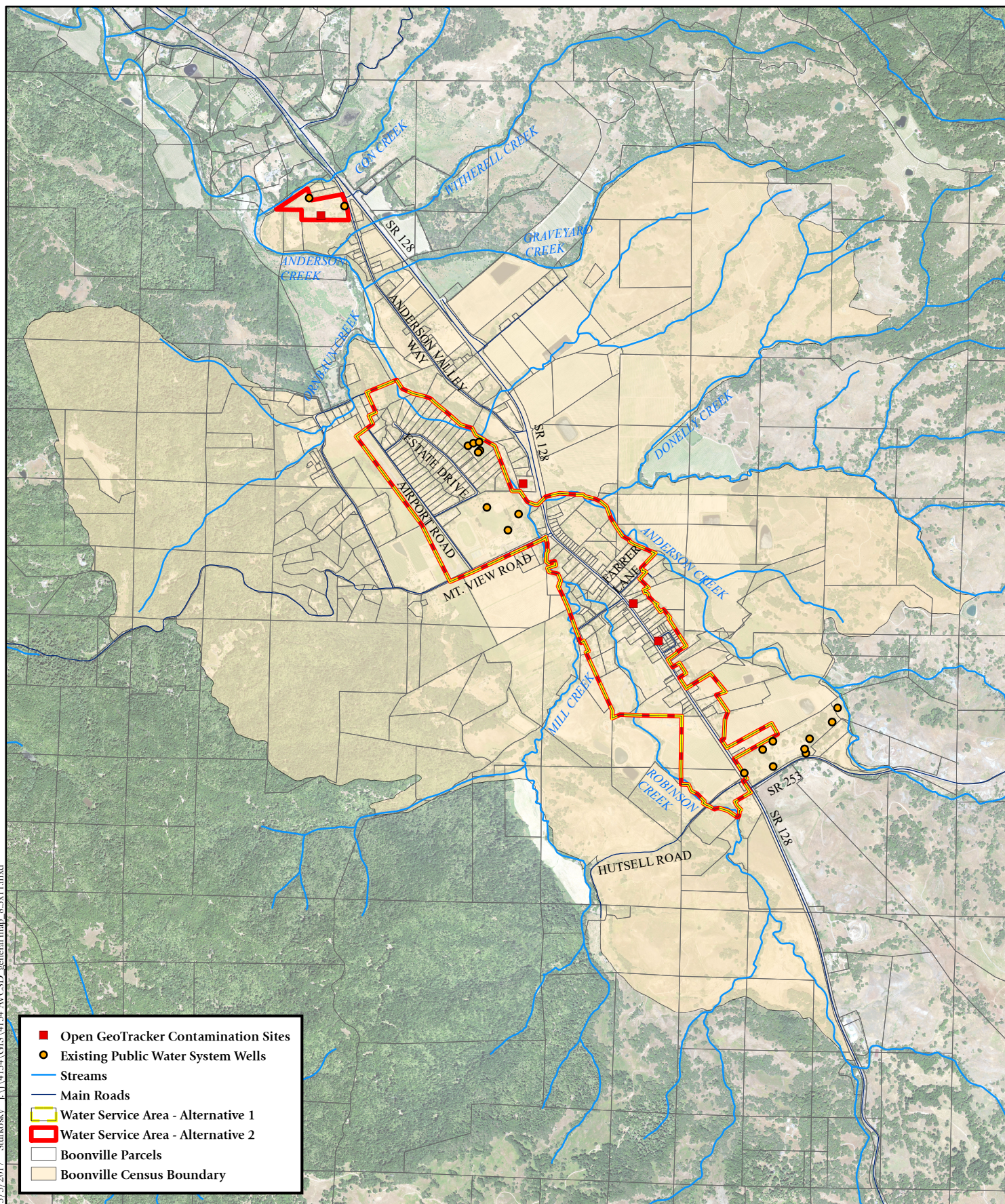
Water Supply/Treatment Requirements

- Supply must satisfy maximum day demand with the largest source out-of-service
- Service Area Alternative 1 – 100 gpm (includes 10% growth allowance)
- Service Area Alternative 2 – 100 gpm (includes 10% growth allowance)
- Proposed Source – multiple groundwater wells (4 minimum)
- Anticipated Treatment
 1. Disinfection (Recommended)
 2. Iron/Manganese (Likely)

Distribution System Alternatives

- Deferred Fire Facilities
 1. Storage – 1 Tank @ 140,000 gallons (includes 10% growth allowance)
 2. 6"-12" Transmission/Distribution Mains
 3. Minimum 1" Water Services
 4. Deferred fire hydrant laterals and hydrants
- Complete System
 1. Storage – 2 Tanks @ 140,000 gallons each (includes 10% growth allowance)
 2. 6"-12" Transmission/Distribution Mains
 3. Minimum 1" Water Services
 4. Fire Hydrants @ 500' Spacing (in service area)
 5. Fire Hydrants @ 1,000' Spacing (outside of service area)

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Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Parcels, zoning, and road data source: County of Mendocino, Information Services Division
Census Boundary source: US Census Bureau
Stream data source: CA Department of Fish and Wildlife
Aerial Imagery: US Dept. of Agriculture, NAIP series

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0 625 1,250 2,500 Feet

1 inch = 2,500 feet

FIGURE 1

BOONVILLE VICINITY

**ANDERSON VALLEY
COMMUNITY SERVICES DISTRICT**
APRIL 2017

04-25-17 stufkoaly \\415A\\dwg\\4154 11\\4151.11 DISTRIBUTION SYSTEM.dwg TAB: 1- PROPOSED DIST. SYSTEM - 11x17

