C. Disadvantaged Unincorporated Communities Assessment

1. Context

SB 244 (Wolk, 2011) requires cities and counties to address the infrastructure and service needs of unincorporated disadvantaged communities in their general plans. SB 244 defines an unincorporated disadvantaged community as a place that meets the following criteria:

- Contains 10 or more dwelling units in close proximity to one another;
- Is either within a city Sphere of Influence (SOI), is an island within a city boundary, or is geographically isolated and has existed for more than 50 years; and
- Has a median household income that is 80 percent or less than the statewide median household income.

For cities and counties, SB 244 requires that before the due date for adoption of the next housing element after January 1, 2012, the general plan land use element must be updated to: identify unincorporated disadvantaged communities; analyze for each identified community the water, wastewater, stormwater drainage, and structural fire protection deficiencies and needs; and identify financial funding alternatives for the extension of services to identified communities.

The County is required to analyze infrastructure needs and deficiencies or each community (U.S. Census Designated Places) that has a median household income (MHI) of 80 percent or less of the statewide median and that has existed for at least 50 years. According to the U.S. Census, the statewide median income was $57,708, 80 percent of which was $46,166. Communities that are more than 50 years old include a majority of homes built before 1963.

Based on research using mapping tools available from the Department of Water Resources and U.S. Census data on the age of the housing stock, there are two communities in Yolo County that qualify as "legacy" disadvantaged communities[1] based on a 2010 median household income of less than $46,166 and a housing stock built before 1963:

- Knights Landing – a community in existence since at least 1939 with a population of 900, and 370 households with a MHI of $45,510

[1] The University of California Davis is also identified as a disadvantaged community by the Department of Water Resources; however this area is considered a fringe community of the City of Davis. Additionally, while the community of Madison is a CDP with an MHI that is less than 80 percent of the statewide median ($40,221), it is not considered a legacy community because the first homes were built between 1960 and 1969, and the majority of homes were built after 1970.

- Yolo - a community in existence since at least 1939 with a population of 319, and 139 households with a MHI of $27,891

2. Knights Landing

The infrastructure analysis in this section is based on the information included in the Knights Landing Community Service District (CSD) Final Facility Master Plan Report (December 2011). Much of the infrastructure in Knights Landing is already operating at capacity. The 2030 growth area buildout envisioned in the General Plan expands the developed area of Knights Landing from 151 acres to approximately 407 acres, an increase of approximately 270 percent.

Water

Water services in Knights Landing are provided by the Knights Landing CSD. The water system was constructed in the 1970s and consists primarily of 6-inch diameter pipes. It includes three wells: the School Yard/Railroad Street Well (Well 3), the Ridge Cut Well (Well 4), and the Third Street Well (Well 5). Well 3 was constructed in 1971 and has a capacity of 500 gallons per minute (gpm). Well 4 was constructed in 1981 and has a capacity of 1,000 gpm. Well 5 was constructed in 1999 and has a reported capacity of 1,500 gpm.

The combined pumping capacity from the wells (3,000 gpm) meets both residential and commercial fire flow requirements (1,500 gpm residential, 2,500 gpm commercial), as well as the existing maximum use per day (408 gpm). However, inadequate pipeline diameter sizing throughout the water distribution system constrains the delivery of these flows. Therefore, existing non-residential fire flows do not meet current requirements. The Facility Master Plan recommends that the pipes be expanded to provide adequate pressure for fire flows.

According to the Facility Master Plan, at buildout the water distribution system capacity (3,000 gpm) will need to be significantly expanded to accommodate a maximum demand of 5,453 gpm (1,953.5 gpm maximum use per day, plus an additional 3,500 gpm for industrial fire flow). To achieve this increased capacity, additional facilities including deeper wells, storage facilities, and distribution infrastructure would be required to handle all but a nominal amount of additional development.

<u>Facility Master Plan Recommended Improvements ($9.47 million):</u>

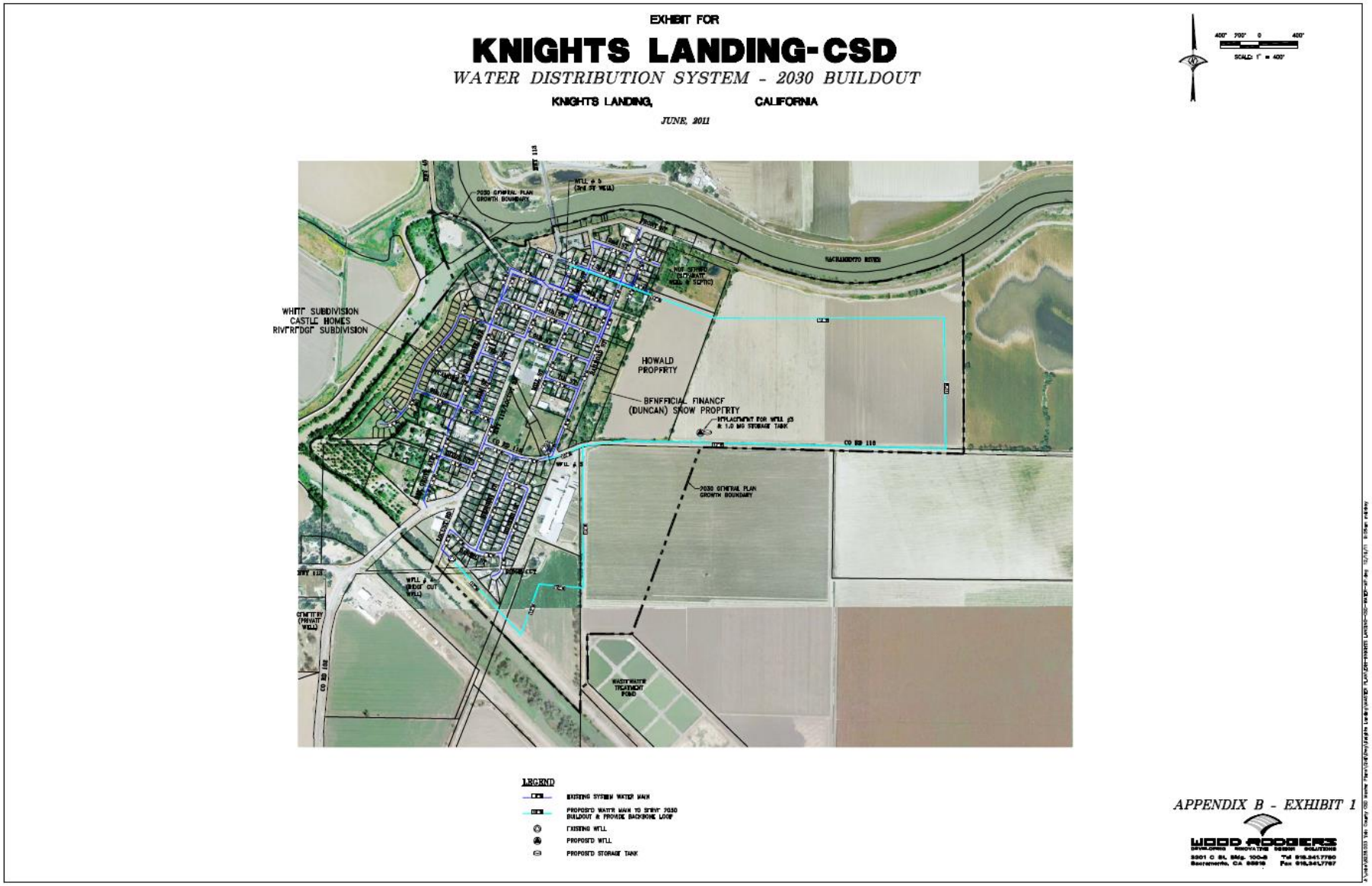
Near-Term

- Upsize 20,985 lineal feet of existing 4 and 6-inch diameter lines

2030 General Plan Buildout

- Install 11,000 feet of 10 and 12-inch diameter lines of new distribution trunks in a transmission main loop
- Replace Well 3 with a new well that has a capacity of 1,000 gpm
- Construct a 1.0 million gallon (MG) storage tank

Figure LU-1C Knights Landing Existing and Proposed Water Distribution System



Wastewater

Wastewater services in Knights Landing are also provided by the Knights Landing CSD. Wastewater in Knights Landing is sent to treatment facilities through a sewer collection system consisting of 4-inch diameter service laterals; 6-, 8-, and 10-inch diameter vitrified clay pipe mains; and a 12-inch diameter trunk sewer. The trunk sewer discharges into a sewer lift station located at the headworks of the treatment facilities. The current collection system has a capacity of 439,344 gallons per day (gpd) average dry weather flow and 1.4 million gallons per day (mgd) peak wet weather flow.

Wastewater from the collection system drains by gravity to the wastewater treatment facility located on 51.5 acres of property, southeast of town. The treatment facility consists of 10 facultative ponds plus a "spreading area" that serves as an emergency holding area to accommodate excess hydraulic flows during years of heavy flooding. The facultative ponds were originally constructed in 1977. In 2008 two ponds were added to the existing eight pond system to increase the treatment capacity to 112,000 gpd.

The wastewater collection and treatment system has the capacity to meet current demand (216,178 gpd average flow and 703,790 peak flow for collection and 86,400 gpd average daily flow for treatment). The Facility Master Plan recommends only minor upgrades for the existing system, since the collection system allows for additional infill connections to the treatment system.

However, according to the Facility Master Plan, development at buildout will require a significant expansion of Knights Landing's wastewater collection and treatment system. Based on the proposed 2030 General Plan land uses, the average sewer flow is expected to increase from 216,768 gpd to 576,662 gpd, which will exceed the existing capacity (439,344 gpd). Additionally, the peak sewer flow generation is expected to increase from 0.704 mgd to 1.94 mgd at buildout – an approximate three-fold increase – which will exceed the existing capacity (1.4 mgd). The Facility Master Plan recommends that the treatment capacity for Knights Landing increase from an existing inflow capacity of 112,000 gpd to 231,000 gpd to meet projected 2030 buildout development flows.

To achieve this increased capacity, the Facility Master Plan recommends additional facilities, including larger collector and trunk pipe upsized treatment pond facilities, to properly treat and dispose of the volume of wastewater generated by development projections at 2030. In addition, a completely new wastewater system should replace the existing facilities and an additional 20 acres of land is anticipated to be required for the 2030 buildout facilities.

<u>Facility Master Plan Recommended Improvements ($3.8 million wastewater collection and $1.12 million wastewater treatment):</u>

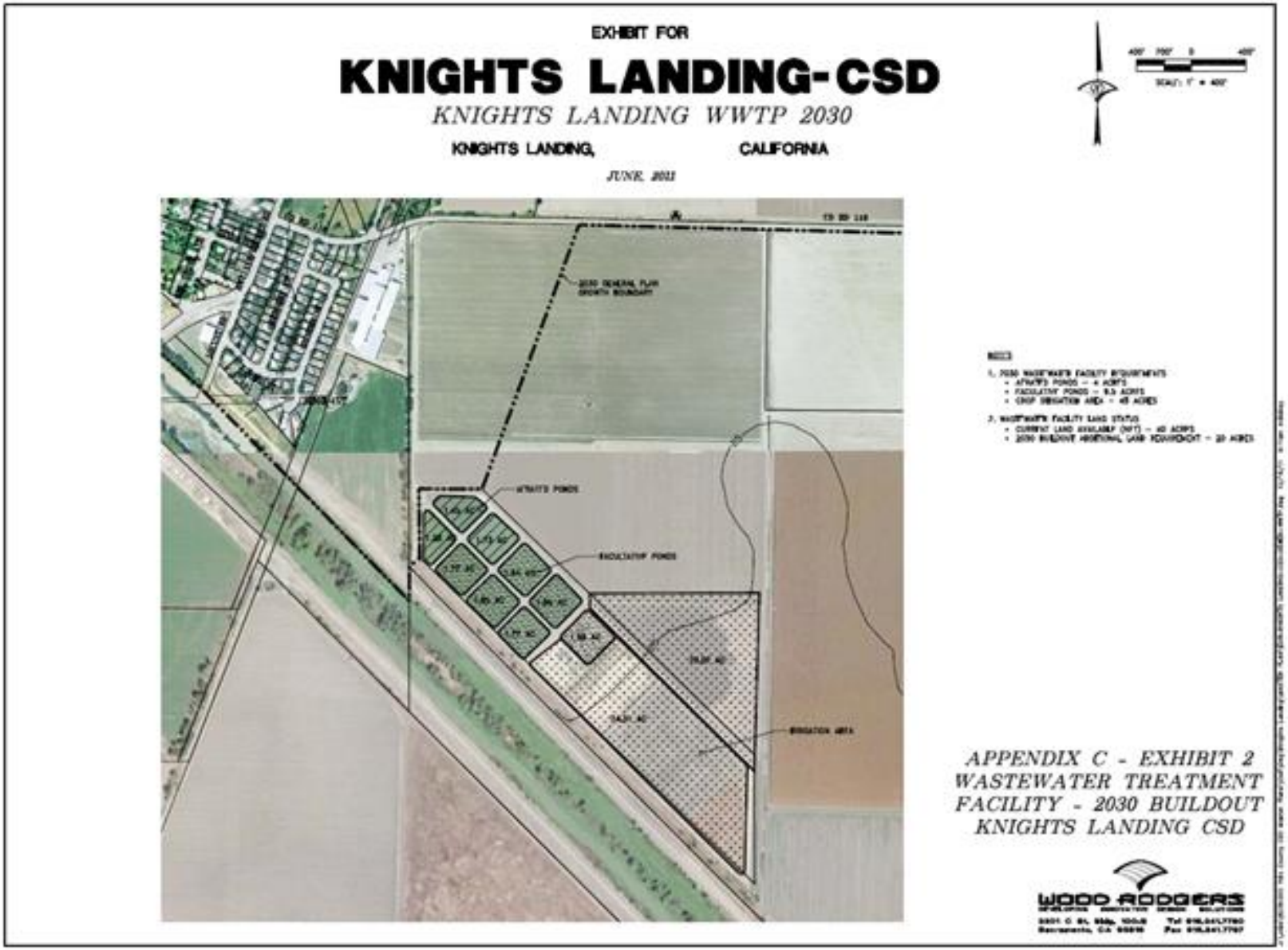
2030 General Plan Buildout

- Install 6,630 lineal feet of 8-inch diameter gravity collector pipe and 1,900 feet of 10-inch diameter gravity collector pipe to covey sewer to treatment ponds

- Replace 1,965 lineal feet of an existing 12-inch diameter trunk with a 18-inch trunk or install a second, parallel 12-inch diameter trunk
- Upsize treatment pond headworks to accommodate an average dry weather flow of 0.401 mgd and a peak flow rate of 1.96 mgd
- Replace lift station at outfall to treatment ponds
- Install 2,500 lineal feet of parallel collector sewer
- New treatment system: an aerated pond (4 acres), a crop-irrigation area (45 acres), and storage ponds (9.5-acres). In addition, the aerated pond would require about three aerators, each equipped with 5 hp motors.

Figure LU-1D Knights Landing Existing and Proposed Sewer System

Figure LU-1E Knights Landing Existing and Proposed Wastewater Treatment Plant Facilities



Storm Drainage

Storm drainage in Knights Landing is primarily provided by the Yolo County Public Works Division. The Yolo County Public Works Department maintains storm drainage facilities for the town, while Reclamation District 730 maintains other drainage facilities in the area. A stormwater system within the town conveys runoff water to irrigation canals and the Sacramento River. Drainage water is also collected in roadside swales and low-lying areas where it gradually dissipates through evaporation.

Flooding in the Knights Landing area is categorized as Zone A flooding on the current FEMA maps. A Zone A area is a special flood hazard area subject to inundation by the 100-year flood (1 percent chance per year). Knights Landing is categorized within this zone due to the possibility of a levee break.

According to the Facility Master Plan, additional residential development in Knights Landing would likely require new storm drain facilities and detention basins. A stormwater collection and conveyance system will be required throughout the developed area including manholes, drain inlets, pipes and possibly on-site water quality treatment. New development would also likely require a basin for flood control and water quality treatment, a pump station, and an outfall to either the Ridge Cut or the Sacramento River. Development on the smaller infill parcels could use existing surface drainage.

The Facility Master Plan also recommends that the existing ditch, pump station, and outfall are suitable for serving existing development, but would need to be replaced or upgraded to serve the development proposed at buildout. The future drainage system would require a significant maintenance effort by a specific drainage and flood control entity. The CSD would need to consider adding this oversight component to its current duties, which will require additional staffing and funding. Additionally, the existing levees would need to be improved to be viable for development in the FEMA flood zone.

3. Yolo

The infrastructure analysis in this section is based on the information included in the Cacheville (Town of Yolo) Community Service District (CSD) Final Facility Master Plan Report (December 2011). Much of the infrastructure in Yolo is deficient or nonexistent. The 2030 growth area buildout envisioned in the General Plan expands the developed area of Yolo from 78 acres to approximately 126 acres, an increase of almost 62 percent.

Water

The community water system in Yolo is based on groundwater, which is owned, operated, and maintained by the Cacheville CSD. The water system was constructed in the 1970s and consists primarily of 4-inch and 6-inch diameter pipes. It includes two wells: the Washington Street Well (Well 1) and the Sacramento Street Well (Well 2). Well 1 has a capacity of 1,000 gallons per minute (gpm). Well 1 is equipped with a 100

hp pump, and is connected to two 5,000 gallon hydropneumatic tanks. Well 2 serves as a backup well with a capacity of 100 gpm.

The water system meets current domestic water demand (118 gpm average per day and 243.5 gpm maximum per day), but additional facilities would be required to handle all but a nominal amount of additional development. In addition, the combined pumping capacity from the wells (1,000 gpm) is not adequate to meet either residential or commercial fire flow requirements (1,500 gpm residential and 2,500 gpm commercial). The Facility Master Plan recommends improving the production and storage capacity and increasing pipeline system conveyance capacity to increase the ability to deliver flows for fire protection and add provisions for emergency backup power to water system pumps. Back-up power is also not available at the wells.

Average daily demand is expected to increase to 270 gpm under 2030 buildout conditions – an increase by a factor of about 2.3 – and maximum daily demand is expected to increase to 539 gpm. Additionally, with industrial development at buildout the fire flow requirements will increase to 3,500 gpm for a total capacity of 4,039 gpm. The capacity of the existing water system (1,000 gpd) will not meet fire flow requirements.

According to the Facility Master Plan, upsizing existing water mains would serve to improve fire flow capacities within the distribution system and benefit the future development areas by providing additional transmission capacity through the existing area. The additional water mains would connect to the existing distribution system and provide increased water circulation to all areas and enable fire flow to come from wells throughout the community with a minimal head loss. To provide improved service and reliability of the existing system, the existing 100 hp pump should be upsized to improve flow through the system and backup power provided to the provide improved system reliability during power outages.

<u>Facility Master Plan Recommended Improvements ($4.83 million):</u>

Near-Term

- Upsize existing 100 hp pump and provide backup power to the existing system

2030 General Plan Buildout

- Install a 12-inch water transmission main loop through the industrial area (2030 General Plan Buildout)
- Replace Well 1 or construct an additional well with a capacity of 500 gpm to augment existing capacity (2030 General Plan Buildout)
- Construct a new 0.4 mgd storage tank at-grade with a pump sufficient to provide system pressure with a 1,500 gpm fire flow well (2030 General Plan Buildout)

Wastewater

Yolo does not have a municipal sewer system. Wastewater in Yolo is disposed of by individual septic systems. According to the Facility Master Plan, additional urban development will require construction or connection to a community wastewater system to conform to County requirements. The Yolo County Municipal Code requires that more than five new homes in a subdivision connect to a dedicated community wastewater system. Similarly-sized communities within the County use facultative ponds for wastewater treatment. Alternatively, the Facility Master Plan recommends that the community could consider connecting to the City of Woodland's wastewater system.

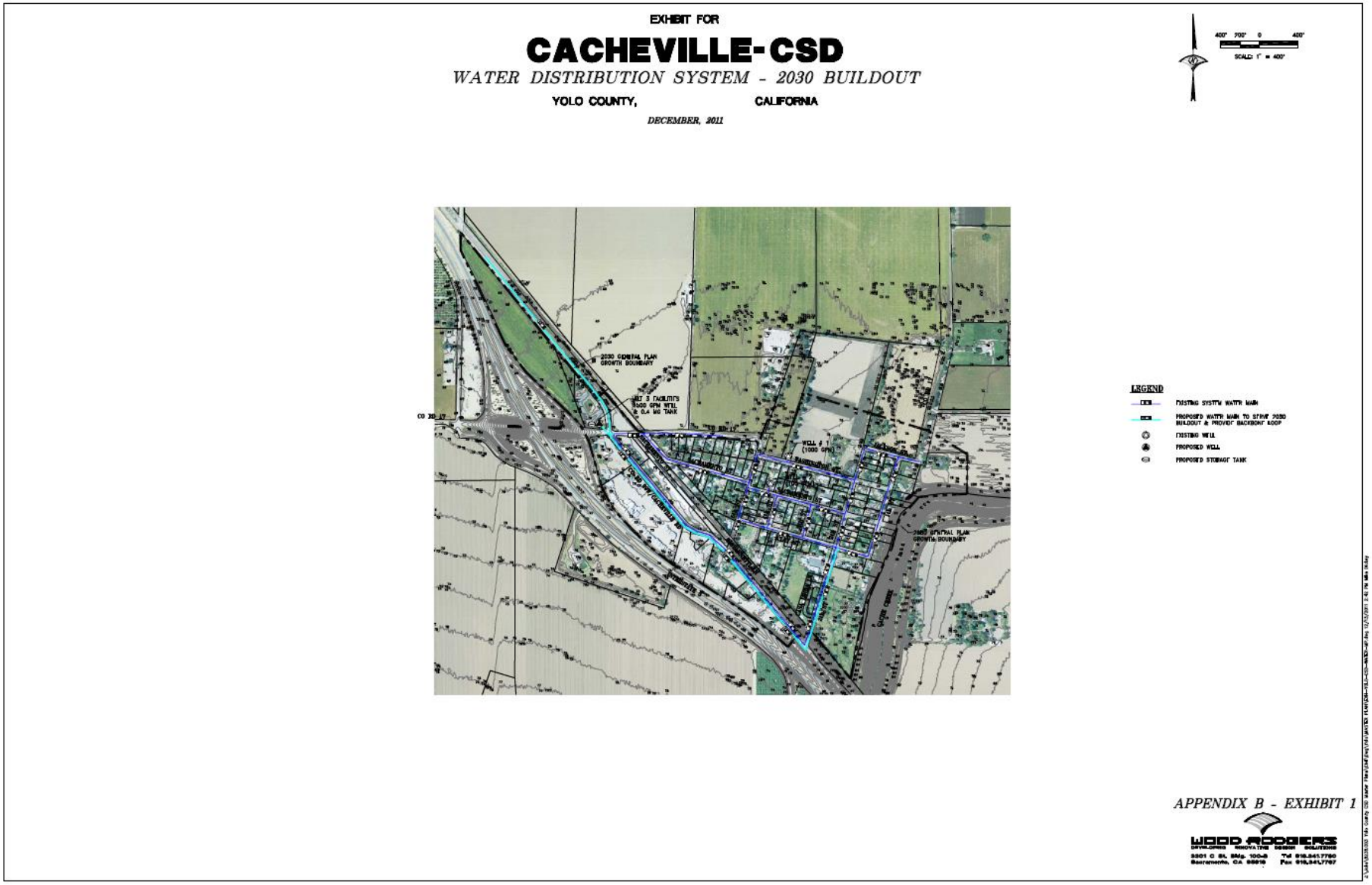
Drainage

Yolo does not have a municipal stormwater drainage system. Yolo lies on the Westerly bank of Cache Creek. There is a levee between Cache Creek and Yolo. The Yolo County Public Works Department maintains storm drainage facilities for the town, which generally consists of roadside ditches and road crossing culverts.

The Yolo area is categorized as Zone A flooding on the current FEMA maps. Zone A area is a special flood hazard area subject to inundation by the 100-year flood (1 percent chance per year) but does not have an established base flood elevation. The source of flooding is assumed to be a breach of Cache Creek either via a levee break or a breach of the creekbank.

According to the Facility Master Plan, a storm water collection and conveyance system may be required throughout the developed area depending on proposed industrial uses and the character and density of other development at buildout. The system could include manholes, drain inlets, pipes, and possibly on-site water quality treatment. The future drainage system could require an increased maintenance effort and require a drainage/flood control entity other than Yolo County to oversee these requirements. Additionally, the existing levees would need to be improved or development would need to be raised to be viable for development in the FEMA flood zone.

Figure LU-1E Yolo Existing and Proposed Water Distribution System



4. Potential Funding Mechanisms

The following analysis of potential funding mechanisms includes information from the Knights Landing CSD Final Facility Master Plan Report (December 2011), the Cacheville (Town of Yolo) CSD Final Facility Master Plan Report (December 2011), the Matrix of Funding Options for Water and Sewer Projects (November 2011), and the Governor's Office of Planning and Research Senate Bill 244 Technical Advisory (February 2013).

Principal funding sources for local government infrastructure usually include taxes, benefit assessments, bonds, and exactions (including impact fees). While increased user rates could be used to make incremental system improvements, grants are often used to reduce the cost burden for rate payers.

Funding Options for Existing Deficiencies

- User Rate Increases—no financing
- User Rate Increases—with loans
- Revenue Bonds
- Tax Allocation Bonds
- Certificates of Participation (COP)
- General Obligation Bonds
- Infrastructure Financing District (IFD)
- Mello-Roos Community Facilities District (CFD)
- Assessment District (AD)

Funding Options for Expansion of Facilities for New Development

- Mello-Roos Community Facilities District
- Infrastructure Financing District (IFD)
- Assessment District (AD)

In addition to the principal infrastructure funding mechanisms, there are State and Federal funding opportunities for both infrastructure planning and implementation. The following table briefly describes potential loans and grants to fund infrastructure improvements.

TABLE LU-7 **FEDERAL AND STATE FUNDING OPPORTUNITIES**

Agency	Program (year passed or created)	Funding Provided	Funding Remaining/Available (2013)	Limitations/Barriers on Use of Funds for Drinking Water Treatment
United States Housing and Urban Development Department (HUD)	Community Development Block Grants (CDBG) (1974) (grants)	Grants of various sizes, generally $250,000 to $100 million, for the construction or reconstruction of streets, water and sewer facilities, neighborhood centers, recreation facilities, and other public works.	Annually	• Not less than 70 percent of CDBG funds must be used for activities that benefit low- and moderate-income persons. In addition, each activity must meet one of the following national objectives for the program: benefit low- and moderate-income persons, prevention or elimination of slums or blight, or address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available.
California Department of Public Health (CDPH)	Safe Drinking Water State Revolving Fund (SDWSRF) (1996) (grants and loans)	Generally $100–$150 million: Low-interest loans and some grants to support water systems with technical, managerial, and financial development and infrastructure improvements.	$130-$150 million (revolving funds) (annually)	• 20 to 30 percent of annual Federal contribution can be used for grants. The remainder must be committed to loans. • Funds can be used only for capital costs. • Cannot be used for operation and maintenance • Only loans (not grants) for privately owned water systems. • Some funds available for feasibility and planning studies for eligible projects/systems. • Can only be used for Public Water Systems (not domestic wells or State Small Systems)
	Proposition 84 (2006) (grants)	$180 million: Small community improvements.	$0 (Over-subscribed)	• Funds can be used only for capital costs. • Cannot be used for operation and maintenance. • Some funding available for feasibility and planning studies for eligible projects/systems. • Can only be used for Public Water Systems not domestic wells or State Small Systems
		$60 million: Protection and reduction of contamination of groundwater sources. $50 million Matching funds for Federal DWSRF	$0 (Fully allocated) Will be fully committed with the current year grant but not yet liquidated	
		$10 million: Emergency and urgent projects.	$7 million	Used to address sudden unanticipated emergency situation such as fires, earthquakes, and mud slides that damage critical water infrastructure. May fund short-term mitigations such as hauled water.
	Proposition 50 (2002) (grants) (fully allocated)	$50 million: Water security for drinking water systems.	$0 (fully allocated)	• Can only be used for capital costs. Cannot be used for operation and maintenance. • Can only be used for Public Water Systems not domestic wells or State Small Systems
		$69 million: Community treatment facilities and monitoring programs.	$0 (fully allocated	

		$105 million: Matching funds for federal grants for public water system infrastructure improvements.	$0 fully allocated, mostly liquidated	
State Water Resources Control Board (State Water Board)	Clean Water State Revolving Fund (Expanded Use Program) (CWSRF) (1987) (loans)	$200–$300 million per year: Water quality protection projects, wastewater treatment, nonpoint source contamination control, and watershed management.	$50million per agency per year; can be waived	Eligible Uses: Stormwater treatment and diversion, sediment and erosion control, stream restoration, land acquisition. Drinking water treatment generally not eligible except under certain Expanded Use scenarios. Capital cost only. Operation and maintenance is not eligible.
	Small Community Groundwater Grants(Prop 40) (2004, amended 2007) (grants)	$9.5 million. Assist small disadvantaged communities (less than 20,000 people) with projects where the existing groundwater supply exceeds maximum contaminant levels, particularly for arsenic or nitrate	$1.4 million remaining - $300,000 available to encumber; $1.1 million available to appropriate	Funding can go to local government or non-governmental organization. Must demonstrate financial hardship. Can only provide alternate water supply. No operation and maintenance costs. Program not currently active due to staff resource limitations
	State Water Quality Control Fund: Cleanup and Abatement Account (2009)	$10 million in 2012 (varies annually): Projects to (a) clean up waste or abate its effects on waters of the state, when there is no viable responsible party, or (b) address a significant unforeseen water pollution problem (regional water boards only). Funds can be allocated to: Public Agencies, specified tribal governments, and not-for profit organizations that serve disadvantaged communities	$10 million, but varies.	Eligible Uses: Emergency cleanup projects; projects to clean up waste or abate its effects on waters of the state; regional water board projects to address a significant unforeseen water pollution problem. Recipient must have authority to clean up waste. Under certain circumstances this fund has been used to provide drinking water operation and maintenance for limited durations.
	Integrated Regional Water Management (IRWM) (2002) (grants) (fully allocated)	$380 million (Prop 50): Planning ($15 million) and implementation ($365 million) projects related to protecting and improving water quality.	$0, fully committed	
	Water Recycling Funding Program (2008) (grants)	$5 million for construction	$0, fully committed	• Provide for treatment and delivery of municipal wastewater to users that replace the use of local water supply with recycled water. • Provide treatment and reuse of groundwater contaminated due to human activity; and provide local water supply benefits. • Provide for the treatment and disposal of municipal wastewater to meet waste discharge requirements imposed for water pollution control. • Projects that do not have identifiable benefits to the State or local water supply.

California Department of Water Resources (DWR)	Integrated Regional Water Management (IRWM) (2002) (grants)	$600 million remaining (Prop 84): Regional water planning and implementation.	$28 million (central coast projects) $33 million (Tulare/Kern projects)	Must be consistent with an adopted Integrated Regional Water Management Plan and other program requirements. For capital investment only
	Contaminant treatment or removal technology pilot and demonstration studies (2002) (grants)	Up to $5 million per grant	$15 million available	Eligible applicants are public water systems under the regulatory jurisdiction of the California Department of Public Health and other public entities. For capital investment only
	Safe Drinking Water Bond Law (Prop 81) (1988)	Up to $74 million to be awarded to current priority list. $25,000 max per project	Remaining balance to be determined.	Provides funding for projects that investigate and identify alternatives for drinking water system improvements
	Drinking water disinfecting projects using UV technology and ozone treatment (2002) (grants)	$5,000 minimum, up to $5 million per grant	$19 million remaining	Eligible applicants are public water systems under the regulatory jurisdiction of the California Department of Public Health. For capital investment only
iBank (CA Infrastructure and Development Bank)	Infrastructure State Revolving Fund (ISRF) Program (2000) (loans)	$250,000 to $10 million per project to finance water infrastructure that promotes job opportunities. Eligible projects include construction or repair of publicly owned water supply, treatment, and distribution systems.	$52.6 million approved to date for Water Supply, Water Treatment and Distribution Applications continually accepted	Finances system capital improvements only. Must show job creation. Special loan tier for DACs was discontinued.