3.13 - Utilities and Service Systems

3.13.1 - Introduction

This section describes the existing public services and utilities and potential effects from project implementation on the site and its surrounding area. Descriptions and analyses in this section are based on information provided by the City of American Canyon General Plan, the Water Supply Assessment (WSA) prepared by Balance Hydrologics on behalf of the City of American Canyon, and the City of American Canyon Sewer Master Plan. Supporting information is provided in Appendix I.

3.13.2 - Environmental Setting

Water

The City of American Canyon Public Works Department provides potable water and non-potable water to customers within the city limits as well as more than 160 customer accounts located outside the city limits.

Water Supply

American Canyon obtains its water supply from a variety of sources, all of which (except for recycled water) are imported from outside of the City. All of the City's imported water comes through the North Bay Aqueduct system. Table 3.13-1 identifies the City's current sources of water, which are discussed in detail after the table.

Table 3.13-1: Current Sources of Water Supply

Source		Contacted Volume/Capacity (Acre-Feet/Year)
State Water Project (Table A Allotment)[1]		5,200
Vallejo Permit Water[2]		500
Vallejo Treated Water	2011-2015	2,074
	2016-2021	2,640
	2021-Onward	3,206
Vallejo Emergency Water[3]		500
Groundwater[4]		0
American Canyon Recycled Water[5]		1,271
Napa Sanitation District-Produced Recycled Water		591

Notes:
1 Includes allotment for American Canyon and additional supply from Kern County Water Agency
2 Non-Table A Water
3 Available only in dry years
4 No groundwater is used for citywide supply
5 As reported 2015 Urban Water Management Plan (UWMP). Maximum capacity of the City's recycled water treatment system by 2035.
Source: City of American Canyon 2021.

State Water Project

A significant portion of the City's supply is obtained through various indirect contracts for water from the State Water Project (SWP). The Napa Flood Control and Water Conservation District is the State Water Contractor with the California Department of Water Resources (DWR), and the City receives its water through subcontracts with the Napa Flood Control and Water Conservation District.

Table A Allocation

In January 1967, the American Canyon County Water Agency[1] entered into an agreement with the Napa Flood Control and Water Conservation District for water supply from the North Bay Aqueduct. In 2010, the agreement allowed for the delivery of up to 5,200 acre-feet of water per year.[2] This contract runs through 2035 with provisions for extension. The actual amount of SWP water available to the City under the "Table A" allocation process (the method used by the DWR to allocate water in the SWP system) varies from year-to-year due to hydrologic conditions, water demands of other contractors, SWP facility capacity, and environmental/regulatory requirements. Deliveries have varied between 5 percent (in 2014) and 100 percent (last occurring in 2006) of the contracted amount.

City of Vallejo

In 1996, the City of American Canyon entered into an agreement with the City of Vallejo to allow the purchase of additional water supply. Vallejo receives its water from a variety of sources, including SWP water and an appropriative water right. Under the Vallejo Agreement, a specific source is identified for Permit Water supply but not for Treated or Emergency Water.

Vallejo Permit Water (Raw)

The City of Vallejo holds an appropriative right for Sacramento Bay-Delta water from the California State Water Resources Control Board (State Water Board) that pre-dates the construction of the SWP. The City of American Canyon has an agreement with the City of Vallejo for delivery of up to 500 acre-feet of water under this permit. This source of water is more reliable than the City's Table A supply, but the Vallejo Agreement still allows for reductions. Addendum 2 to the 1996 Vallejo Agreement states that "In the event the State Water Resources Control Board, or any other agency, restricts Vallejo's diversion of water [under the appropriative pre-SWP contract] for any reason whatsoever, American Canyon's diversions will be reduced in the same proportion." As such, curtailment is typically less than that of the City's Table A supply under environmental or other constraints, but the City may not receive its full allotment during dry years.[3]

Vallejo Treated Water (Potable)

In 1996, the City of American Canyon entered into an agreement with the City of Vallejo to purchase up to 629 acre-feet of potable treated water supply. This agreement included the option for additional (cumulative) purchases in 5-year increments through 2021. Ultimately, this results in a total of 3,206 acre-feet of treated water available for purchase each year by the City from Vallejo for 2021-2040.

[1] A predecessor agency to the City of American Canyon, which was not incorporated until 1992.
[2] A total of 500 acre-feet of this water was obtained through a purchase of water, by the Napa Sanitation District, from Kern County Water Agency in 2000.
[3] Vallejo Permit Water delivery was curtailed in both 2014 and 2015, for example.

A specific source for Treated Water is not identified in the Vallejo Agreement; thus, the ultimate source of this water is a blend of all of Vallejo's water sources. Under certain conditions, the maximum delivery of this supply may be "reduced in the same proportions as any reduction to Vallejo customers inside the Vallejo city limits."[4]

Vallejo Emergency Water (Raw)

When the City's Table A water allotment is curtailed, the City of American Canyon has the option to purchase up to 500 acre-feet of emergency raw water supply from Vallejo under an agreement amended in 1996. The 2015 Urban Water Management Program (UWMP) assumes that this water would be available under dry year and multiple dry year scenarios but not during a normal year.

Groundwater

The City of American Canyon does not currently rely on groundwater as a source of water, though the 2015 UWMP states that the City remains open to the possibility and will consider potential supply opportunities as they present themselves.

Other Sources of Potable Supply

Dry Year Water Bank

In 2009, the City of American Canyon (along with other SWP contractors) entered into an agreement with DWR to obtain emergency supplies if rice farmers in the Sacramento Valley are willing to make their supplies available. The year-to-year availability of this supply is not known, and thus supplies are not factored into long-term planning in the 2015 UWMP.

Turn-Back Water Pool Program

DWR has a program for interested SWP contractors called the Turn-back Water Pool Program. SWP contractors may choose to sell Table A water or purchase turn-back pool water that is available through the program. Water from this pool program was not included in the reliability assessment in the 2015 UWMP because the program operates on an as-available basis and long-term availability is not reliable. The amount of pool water available to the City of American Canyon is not a significant amount. For example, during 2010 the City purchased 17 acre-feet, and in 2012 it purchased 64 acre-feet. However, between 2015-2020 the City did not purchase any water from the Turn-back Pool Program.

Napa Treated Water

The City has an agreement with the City of Napa for the purchase of treated (potable) water under emergency conditions, or when the North Bay Aqueduct system is off-line for maintenance or other reasons. This water source is not a water supply and is not included in the reliability assessment in the 2015 UWMP since it is only available during emergencies. Napa treated water, however, does provide operational flexibility (such as providing water to customers even when the City's water treatment plant is off-line for an extended period of time). During 2010, the City purchased 306 acre-feet of treated water when the plant was off-line for maintenance-related issues. Under this informal arrangement, the Napa treated water purchase counts against the City's SWP Table A allotment and is not an additional supply (and is not included in Table 3.13-1).

[4] Vallejo Water Service Agreement. May 1, 1996 (Appendix E.4 in the 2005 American Canyon UWMP).

Dry Year Transfer Program

During dry years, varying amounts of additional water may be made available to SWP contractors through DWR's Dry Year Transfer Program, which allows for transfers through a combination of crop idling, groundwater substitution, and changes in reservoir operation. For example, in 2015 the City of American Canyon purchased 92 acre-feet of additional supply (for that year) through this program. While this option is available to the City on a per year authorization, the long-term reliability of this supply is not known and included only as potential supplementary supply for the analysis in this WSA.

Yuba Accord

In 2008, the DWR adapted the Lower Yuba River Accord, an agreement to settle issues related to in-stream flows in the Yuba River and fisheries habitat. As part of that agreement, the DWR is able to purchase water from the Yuba River Water Agency to, in part, offer to participating SWP contractors as a transfer during dry years. The Napa County Flood Control and Water Conservation District has authorized the execution of Yuba Accord Dry-year Water Purchase Agreement, and the City of American Canyon has the option to purchase water through this agreement in dry years, though at a cost that is considerably higher than under normal conditions. In 2015, the City authorized the purchase of 124 acre-feet through this program to cover projected water supply shortfalls during the drought. While this option is available to the City in drought conditions, the availability and reliability of such water past 2020 is unknown,[5] and therefore has not been included as long-term reliable supply for the analysis in the WSA.

Recycled Water

American Canyon Recycled Water

In 2010, the City of American Canyon completed the first phase of its Recycled Water Distribution System Project, which included a one-million-gallon reservoir, distribution piping, and associated improvements at the City's water treatment plant. Initially, 13 users were connected to the system and 73 acre-feet of water was delivered in 2010. Ultimately, the Recycled Water Master Plan in 2016 projected over 1,200 acre-feet of water demand at buildout in 2035 for landscaping and agricultural irrigation. However, utilization of this supply is dependent on connection of additional users and completion of additional distribution pipe segments. Currently, the City produces recycled water to meet demand on an as needed basis.

The City is currently taking steps to increase capacity of their system to meet this demand in the future. The analysis in the WSA uses 1,271 acre-feet per year (AFY) as the full system capacity by 2035, as reported in the 2015 UWMP.

Napa Sanitation District Recycled Water

In addition to the City's recycled water supply, Napa Sanitation District (NapaSan) has an existing recycled water supply pipe that extends to northern portions of the Airport Industrial Area (north of Fagan Creek). In 2015, NapaSan provided 210 acre-feet of recycled water to the City's users. The 2015 UWMP projected that NapaSan will provide up to 391 acre-feet of recycled water in 2020, up to 491 acre-feet in 2025, and 591 acre-feet in 2030 and onwards.

[5] The original term of the Napa County Flood Control and Water Conservation District agreement was through the end of 2015, but an amendment in 2014 authorized an extension until the end of 2020.

Wastewater

The City of American Canyon provides wastewater collection and treatment to customers in both the city limits and nearby parts of unincorporated Napa County. The wastewater service area is 6.3 square miles and could potentially be 8.5 square miles in the future.

Collection System

The City's wastewater collection system consists of gravity pipelines (53 miles), force mains (5 miles), and five pump stations that convey wastewater to the City's Water Reclamation Facility located near the Napa River. The City's system operates its collection system to segregate domestic water from high strength industrial wastewater flows. The Kimberly Pump Station and the Sunset Meadows Pump Station collect wastewater from residential areas and deliver 75 percent of the flow to the wastewater treatment plant. The Tower Road and Green Island Sewer Pump Stations transport wastewater from industrial areas in the northern part of the City. These two stations discharge a combination of domestic and industrial wastewater to a common force main and deliver the remaining 25 percent of the flow to the Water Reclamation Facility.

Green Island Pump Station

The project site is located within the Green Island Pump Station sewershed. The pump station's sewershed is 2.3 square miles and has a capacity of 600 gallons per minute (gpm). The City's Sewer Master Plan contemplates replacing the pump station with a new facility sized for 1,455 gpm.

Existing Sewer Facilities

An existing 18-inch diameter force main that connects the Tower Road Pump Station with the Green Island Pump Station crosses the western portion of the project site.

Planned Sewer Facilities

The City's Sewer Master Plan contemplates a new 21-inch diameter gravity sewer line that would follow the planned extension of Devlin Road between Middleton Way (Napa Logistics Park) and Green Island Road. From there, the sewer line would continue west to the new Green Island Pump Station. Once operational, the existing 18-inch diameter force main that crosses the project site would be abandoned, along with the Tower Road Pump Station.

Water Reclamation Facility

The American Canyon Water Reclamation Facility is owned and operated by the City of American Canyon. The facility treats both domestic and industrial wastewater flows and is a secondary/tertiary treatment plant. It began operations in 2002 and employs a Membrane Bio Reactor and ultraviolet light disinfection. The treatment plant has an existing design capacity of 2.5 million gallons per day (mgd). The City has plans to expand the Water Reclamation Facility's treatment capacity to 4.0 mgd.

Approximately 17 percent of total influent inflow received at the Water Reclamation Facility becomes recycled water. In 2019, 282 acre-feet of recycled water were delivered to various users for non-potable use. The remaining effluent is treated and discharged to the Napa River.

Storm Drainage

The City of American Canyon Public Works Department oversees municipal storm drainage within the American Canyon city limits. The municipal storm drainage system consists of ditches, inlets, basins, and underground piping that ultimately discharge flows into the Napa River. The City maintains a Storm Drain Master Plan and engineering standards that guide the development of the municipal storm drainage system.

The City requires stormwater discharges to comply with San Francisco Bay Regional Water Quality Control Board (San Francisco Bay RWQCB) permit requirements and establishes non-point source pollution control measures as required by federal and State law. Stormwater pollution prevention measures for new development projects, such as bioswales, detention ponds, erosion, and sedimentation control, are incorporated in the planning, design, construction, and operation of projects with the potential to create pollutants in stormwater runoff.

Project Site Drainage

The project site does not contain any formal storm drainage facilities. Runoff from the project site either ponds on-site or sheet flows toward No Name Creek in the northern portion of the site.

Solid Waste

American Canyon Recology provides garbage pickup for all residents and businesses pursuant to a franchise waste hauling agreement with the City of American Canyon. Roll-off service is also available.

Devlin Road Transfer Station

American Canyon Recology transports solid waste to the Devlin Road Transfer Station within the Napa County Airport Industrial Area. The Transfer Station is owned by the Napa-Vallejo Waste Management Authority (NVWMA), a joint-powers agency consisting of the cities of American Canyon, Napa, and Vallejo, and the County of Napa. The Transfer Station accepts municipal solid waste and construction and demolition (C&D) debris. The NVWMA has plans to construct an enclosed C&D Debris Recycling Facility on a vacant parcel it owns immediately south of the Devlin Road Transfer Station.

Potrero Hills Landfill

Municipal solid waste and demolition debris from the Devlin Road Transfer Station are landfilled at the Potrero Hills Landfill in Solano County. The Potrero Hills Landfill, located approximately 1 mile south of Suisun City, is a regional facility that serves numerous jurisdictions within a 150-mile radius. In 2005, the County of Solano approved a 260-acre expansion that increased capacity to 83.1 million cubic yards. In 2010, the San Francisco Bay Conservation and Development Commission (BCDC) issued a permit allowing the expansion to proceed. Following the conclusion of litigation, the expansion was cleared to move forward in 2014. Table 3.13-2 summarizes the Potrero Hills Landfill.

Table 3.13-2: Potrero Hills Landfill Summary

Permitted Area	Permitted Daily Throughput	Permitted Disposal Capacity	Remaining Capacity	Permitted Hours of Operation	Permitted Traffic Volume	Estimated Closure Date
525.7 acres (total)	3,400 tons (7-day average)	83.1 million cubic yards	38.8 million cubic yards	Monday-Friday: 24 hours a day	500 inbound daily vehicles (7-day average)	2048
340.0 acres (disposal)	4,330 tons (single day peak)			Saturday-Sunday: 4:00 a.m. to 12:00 a.m.	1,000 inbound daily vehicles (single day peak)	

Note:
Data obtained from Solid Waste Facility Permit No. 48-AA-0075
Source: California Department of Resources Recycling and Recovery (CalRecycle) 2021.

3.13.3 - Regulatory Framework

Federal

National Pollutant Discharge Elimination System

Pursuant to Section 402 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, municipal stormwater discharges in Suisun City are regulated under the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, MS4 Order No. 2013-001 (General Permit). In 1987, Congress amended the Clean Water Act to mandate controls on discharges from Municipal Separate Storm Sewer Systems (MS4s). Acting under the federal mandate and the California Water Code, RWQCBs require cities, towns, and counties to regulate activities that can result in pollutants entering their storm drains. All municipalities prohibit non-stormwater discharges to storm drains and require residents and businesses to use Best Management Practices (BMPs) to minimize the amount of pollutants in runoff. The Municipal Regional Permit is overseen by the San Francisco Bay RWQCB. On February 5, 2013, the State Water Board reissued the Phase II Stormwater NPDES Permit for small MS4s. Provision E.12, "Post-Construction Stormwater Management Program," mandates municipalities to require specified features and facilities–to control pollutant sources, to control runoff volumes, rates, and durations, and to treat runoff before discharge from the site–be included in development plans of projects that create or replace 5,000 square feet or more impervious surface as conditions of issuing approvals and permits. The new requirements continue a progression of increasingly stringent requirements since 1989.

Provision E.12 requires all municipal permittees to implement these requirements by June 30, 2015, to the extent allowed by applicable law. This includes projects requiring discretionary approvals that have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals.

In July of 2014, the Bay Area Stormwater Management Agencies Association (BASMAA), through the BASMAA Phase II Committee, created the BASMAA Manual to assist applicants for development

approvals to prepare submittals that demonstrate their project complies with the NPDES permit requirements. Applicants who seek development approvals for applicable projects should follow the manual when preparing their submittals. The manual is designed to ensure compliance with the requirements and promote integrated Low Impact Development (LID) design.

Section E.12.c of the General Permit pertains to LID and how it relates to hydromodification management. This permit provision requires that stormwater discharges not cause an increase in the erosion potential of the receiving stream over the existing condition. Increases in runoff flow and volume must be managed so that the post-project runoff does not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force.

State

California Urban Water Management Planning Act

The Urban Water Management Planning Act (California Water Code §§ 10610–10656) requires that all urban water suppliers prepare UWMPs and update them every 5 years. In preparing a UWMP, an urban water supplier must describe or identify the following, among other things (as set forth in Water Code § 10631):

- "The service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning."
- "Projected population estimates" based on "data from the State, regional, or local service agency population projections within the service area," in "five-year increments to 20 years or as far as data is available."
- "Past and current water use" and "projected water use."
- "Existing and planned sources of water" for each five-year increment of the 20-year planning period.
- Specific detailed information about groundwater where it is identified as "an existing or planned source of water available to the supplier."
- "All water supply projects and water supply programs" that may be undertaken to meet "total projected water use," including "specific projects" and the "increase in water supply" expected from each project.
- An estimate of "the implementation timeline for each project or program."
- "Plans to supplement or replace" any "water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors" with "alternative sources or water demand management measures, to the extent practicable."
- "The reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable," for (i) an "average water year," (ii) a "single dry water year," and (iii) "[m]ultiple dry water years."

- "Opportunities for exchanges or transfers of water on a short-term or long-term basis."
- "Opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply."
- "Water demand management measures."

Senate Bill 610: Water Supply Assessments

As revised by Senate Bill (SB) 610 (Stats. 2002, ch. 643), Section 10910, *et seq*. of the California Water Code set forth the circumstances in which California Environmental Quality Act (CEQA) lead agencies must seek preparation of, or prepare themselves, "water supply assessments" for defined proposed "projects." At the time a lead agency determines that a proposed project requires an Environmental Impact Report (EIR), the lead agency shall identify any "public water system" that would serve the project site and shall request that any such entity prepare a WSA for the project. In the absence of such a public water system, the city or county lead agency must prepared its own WSA. SB 610 functions together with CEQA, in that a WSA must be included in "any environmental document" for any "project" subject to SB 610 (Water Code Section 10911(b); see also State CEQA Guidelines Section 15155(e); see also *Id*. Section 15361 [defines "environmental documents" to include "Negative Declarations. . . [and] draft and final EIRs"]).

One of the fundamental tasks of a WSA is to determine whether "total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses" (Water Code Section 10910 (c)(3), (c)(4)). In making such a determination, the authors of the WSA must address several factors. Specifically, the WSA must contain information regarding existing water supplies, projected water demand, and dry year supply and demand. In *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 433 ("*Vineyard*"), the California Supreme Court briefly summarized the key content requirements as follows:

> With regard to *existing* supply entitlements and rights, a water supply assessment must include assurances such as written contracts, capital outlay programs and regulatory approvals for facilities construction . . . but as to additional *future* supplies needed to serve the project, the assessment need include only the public water system's plans for acquiring the additional supplies, including cost and time estimates and regulatory approvals the system anticipates needing (Water Code §§ 10910, subd. (d)(2), and 10911, subd. (a)). (Original italics.)

"Existing" water supplies can be based on different kinds of legal rights or arrangements, including entitlements, water rights, and water service contracts. In many cases, these supplies are likely already described in detail in the supplier's UWMP (Water Code § 10631(b)). Suppliers are expressly permitted to rely on information contained in the most recently adopted UWMPs, provided that the water needed for proposed development project was accounted for therein (Water Code § 10910(c)(2)).

In preparing a WSA, the public water system must disclose and document the quantity of water received from these various sources. Such supplies must be demonstrated by providing the following:

> (A) Written contracts or other proof of entitlement to an identified water supply.
>
> (B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.
>
> (C) Federal, State, and local permits for construction of necessary infrastructure associated with delivering the water supply.
>
> (D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(*Id*. subd. (d)(2)).

A finding of insufficiency in a WSA does not require a city or county to deny or downsize a proposed development project. Rather, after identifying a shortfall, the public water system must provide its plans for acquiring "additional supplies" (or what the California Supreme Court called "future" supplies) (Water Code § 10911(a)). These plans should include information concerning the following:

> (1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.
>
> (2) All federal, State, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.
>
> (3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city and county . . . expects to be able to acquire additional water supplies.

These particular Water Code requirements for assessments are action-forcing, in that they require the public water system to lay out a roadmap for obtaining new water supplies once it becomes aware that existing supplies are insufficient for the proposed project together with other foreseeable planned growth.

Regardless of the information provided to a city or county in a WSA, SB 610 stops short of preventing cities and counties from approving the "projects" at issue absent "sufficient" water supplies. But where "existing water supply entitlements, water rights, or water service contracts" are "insufficient" to serve proposed projects, SB 610 does require that, in approving projects in the face of insufficient supplies, cities and counties must "include" in their "findings for the project[s]" their "determination[s]" regarding water supply insufficiency. SB 610 functions together with CEQA, in that a water supply assessment must be included in "any environmental document" for any "project" subject to SB 610. (*Id*. subd. (b); Guidelines, § 15155, subd. (e); see also id. § 15361 [defines "environmental documents" to include "Negative Declarations. . . [and] draft and final EIRs"]).

Recycled Water Policy

On February 3, 2009, by Resolution No. 2009-0011, the State Water Board adopted a Recycled Water Policy in an effort to move toward a sustainable water future. The Recycled Water Policy states "we declare our independence from relying on the vagaries of annual precipitation and move toward sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and the use of stormwater."

The following goals were included in the Recycled Water Policy:

- Increase use of recycled water over 2002 levels by at least 1 million AFY by 2020 and at least 2 million AFY by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and at least 1 million AFY by 2030.
- Increase the amount of water conserved in urban and industrial areas by comparison to 2007 by at least 20 percent by 2020.
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

The Recycled Water Policy provides direction to the RWQCBs regarding issuing permits for recycled water projects, addresses the benefits of recycled water, addresses a mandate for use of recycled water and indicates the State Water Board will exercise its authority to the fullest extent possible to encourage the use of recycled water.

The Recycled Water Policy also indicates that some groundwater basins contain salts and nutrients that exceed or threaten to exceed water quality objectives established in basin plans and states that it is the intent of this Recycled Water Policy that all salts and nutrients be managed on a basin-wide or watershed-wide basis through development of regional or subregional management plans. Finally, the Recycled Water Policy addresses the control of incidental runoff from landscape irrigation projects, recycled water groundwater recharge projects, anti-degradation, control of emerging constituents and chemicals of emerging concern and incentives for use of recycled water.

In accordance with the provisions of the Recycled Water Policy, a Constituents of Emerging Concerns Advisory Panel was established to address questions about regulating constituents of concern (COCs) with respect to the use of recycled water. The Advisory Panel's primary charge was to provide guidance for developing monitoring programs that assess potential COC threats from various water recycling practices, including groundwater recharge/reuse and urban landscape irrigation. On June 25, 2010, the Advisory Panel provided recommendations to the State Water Board and California Department of Public Health in their Final Report "Monitoring Strategies for Chemicals of Emerging Concern in Recycled Water – Recommendations of a Scientific Advisory Panel". The State Water Board used those recommendations to amend the Recycled Water Policy in 2013 (State Water Board Resolution No. 2013-003).

The April 2013 amendment provides direction to the RWQCBs on monitoring requirements for COCs in recycled water. The monitoring requirements pertain to the production and use of recycled water

for groundwater recharge reuse by surface and subsurface application methods, and for landscape irrigation. The amendment identifies three classes of constituents to monitor:

- Human health-based COCs: COCs of toxicological relevance to human health.
- Performance indicator COCs: An individual COC used for evaluating removal through treatment of a family of COCs with similar physicochemical or biodegradable characteristics.
- Surrogates: A measurable physical or chemical property, such as chlorine residual or electrical conductivity, that provides a direct correlation with the concentration of an indicator compound. Surrogates are used to monitor the efficiency of COC treatment.

Only groundwater recharge reuse facilities would be required to monitor for COCs and surrogates. Surface application and subsurface application facilities would have different mandatory COCs and a different monitoring schedule. Monitoring is not required for recycled water used for landscape irrigation projects that qualify for streamlined permitting unless monitoring is required under the adopted salt and nutrient management plan. Streamlined permitting projects must meet the criteria specified in the Policy including compliance with Title 22, application at agronomic rates, compliance with any applicable salt and nutrient management plan, and appropriate use of fertilizers.

Water Conservation Act of 2009

Requirements regarding per capita water use targets are defined in the Water Conservation Act of 2009, which was signed into law in November 2009 as part of a comprehensive water legislation package. Known as SB X7-7, the legislation sets a goal of achieving a 20 percent reduction in urban per capita water use Statewide by 2020. SB X7-7 requires that retail water suppliers define in their 2010 UWMPs the gallons per capita per day targets for 2020, with an interim 2015 target.

Assembly Bill 1881

Assembly Bill (AB) 1881 expanded previous legislation related to landscape water use efficiency. AB 1881, the Water Conservation in Landscaping Act of 2006, enacted landscape efficiency recommendations of the California Urban Water Conservation Council for improving the efficiency of water use in new and existing urban irrigated landscapes in California. AB 1881 required the DWR to update the existing Model Local Water Efficient Landscape Ordinance and local agencies to adopt the updated model ordinance or an equivalent. The law also requires the California Energy Commission (CEC) to adopt performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Assembly Bill 2882

AB 2882 was passed in 2008 and encourages public water agencies throughout California to adopt conservation rate structures that reward consumers who conserve water. AB 2882 clarifies the allocation-based rate structures and establishes standards that protect consumers by ensuring a lower base rate for those who conserve water.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed AB 939, the California Integrated Waste Management Act of 1989, effective January 1990. The legislation required each local jurisdiction in the State to set diversion requirements of 25 percent by 1995 and 50 percent by 2000; established a comprehensive Statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities; and authorized local jurisdictions to impose fees based on the types or amounts of solid waste generated. In 2007, SB 1016, Wiggins, Statutes of 2008, Chapter 343, introduced a new per capita disposal and goal measurement system that moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a per capita disposal rate factor. As such, the new disposal-based indicator (pounds per person per year) uses only two factors: (1) a jurisdiction's population (or in some cases employment) and (2) its disposal as reported by disposal facilities.

Assembly Bill 341 (75 Percent Solid Waste Diversion)

In 2011, the Legislature implemented a new approach to the management of solid waste. AB 341 (Chesbro, Chapter 476, Statutes of 2011) required that the California Department of Resources Recycling and Recovery (CalRecycle) oversee mandatory commercial recycling and established a new Statewide goal of 75 percent recycling through source reduction, recycling, and composting by 2020. This paradigm adds to the policies in AB 939 in several significant ways. First, AB 341 established a Statewide policy goal, rather than a jurisdictional mandate. This places the onus for achieving the goal on the State rather than on the cities and counties that are directly responsible for waste disposal and recycling. Under the law, individual jurisdictions are not required to meet the new policy goal.

AB 341 requires CalRecycle to issue a report to the Legislature that includes strategies and recommendations that would enable the State to divert 75 percent of the solid waste generated in the State from disposal by January 1, 2020, requires businesses that meet specified thresholds in the bill to arrange for recycling services by January 1, 2012, and also streamlines various regulatory processes.

Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings

Title 24, Part 6, of the California Code of Regulations establishes California's Energy Efficiency Standards for Residential and Nonresidential Buildings. The standards were updated in 2013. The 2013 standards set a goal of reducing growth in electricity use by 561.2 gigawatt-hours per year (GWh/y) and growth in natural gas use by 19 million therms per year. The savings attributable to new nonresidential buildings are 151.2 GWh/y of electricity savings and 3.3 million therms. For nonresidential buildings, the standards establish minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC]; and water heating systems), indoor and outdoor lighting, and illuminated signs.

Local

City of American Canyon

General Plan

The City of American Canyon General Plan sets forth the following goals and policies relevant to public services and utilities:

Goal 5 It shall be the goal of American Canyon to establish and maintain a secure water supply and treatment, distribution and storage system to serve the land uses proposed under the general plan.

Policy 5.2.5 In the event that sufficient capacity is not available to serve a proposed project, the City shall not approve the project until additional capacity or adequate mitigation is provided.

Goal 5C Establish and maintain adequate planning, construction, maintenance, and funding for storm drain and flood control facilities to support permitted land uses and preserve the public safety; upgrading existing deficient systems and expanding, where necessary, to accommodate new permitted development and to protect existing development in the City. Pursue public funding sources (i.e., grants) to reduce fiscal impacts of implementation to the City.

Policy 5.10.3 Require that adequate storm drain and flood control facilities be constructed coincident with new development.

Policy 5.10.12 Require that new development be designed to prevent the diversion of floodwaters onto neighboring parcels.

Policy 5.10.18 Require that development projects maximize the use of pervious surface materials (grass, ground cover, and other) that minimize stormwater runoff.

Goal 5D Maintain the quality of surface and subsurface water resources within the City of American Canyon.

Policy 5.12.2 Incorporate features in new drainage detention facilities which enhance the water quality of discharges from the facility.

Policy 5.13.1 Require that development activities comply with the State General Storm Water Permit for Construction Activities with measures that protect surface water quality to the maximum extent practicable.

Goal 6A Maintain a high level of fire protection and emergency services to City/District businesses and residents.

Goal 6B Ensure a high level of police protection for the City's residents, businesses, and visitors.

Policy 6.7.1 Work with the Sheriff's Department to ensure that enough personnel are added to the Department to serve the needs of a growing population and a developing City.

3.13.4 - Methodology

This section is based on the information provided by a number of sources, which are described below.

Balance Hydrologics prepared a WSA that evaluated water supply impacts in accordance with Water Code Section 10910. The WSA is provided in its entirety in Appendix I.

Additionally, FirstCarbon Solutions (FCS) reviewed relevant City documents, including the City of American Canyon General Plan, the Napa County Airport Industrial Area Specific Plan, the American Canyon Municipal Code, the City of American Canyon Sewer Master Plan, and the City of American Canyon Recycled Water Annual Report 2019. FCS also reviewed document and websites produced by the City of American Canyon and CalRecycle.

3.13.5 - Thresholds of Significance

Appendix G to the CEQA Guidelines is a sample Initial Study Checklist that includes questions for determining whether impacts related to utilities and service systems are significant. These questions reflect the input of planning and environmental professionals at the Governor's Office of Planning and Research (OPR) and the California Natural Resources Agency, based on input from stakeholder groups and experts in various other governmental agencies, nonprofits, and leading environmental consulting firms. As a result, many lead agencies derive their significance criteria from the questions posed in Appendix G. The City has chosen to do so for this project. Thus, the proposed project would have a significant effect if it would:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

e) Comply with federal, State, and local statutes and regulations related to solid waste.

On the subject of water supply, CEQA Guidelines Section 15155[f], which codifies the California Supreme Court's decision in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, sets forth additional analytical issues that must be addressed on the specific subject of water supply. "The analysis shall include the following:

(1) Sufficient information regarding the project's proposed water demand and proposed water supplies to permit the lead agency to evaluate the pros and cons of supplying the amount of water that the project will need.

(2) An analysis of the reasonably foreseeable environmental impacts of supplying water throughout all phases of the project.

(3) An analysis of circumstances affecting the likelihood of the water's availability, as well as the degree of uncertainty involved. Relevant factors may include but are not limited to, drought, salt- water intrusion, regulatory or contractual curtailments, and other reasonably foreseeable demands on the water supply.

(4) If the lead agency cannot determine that a particular water supply will be available, it shall conduct an analysis of alternative sources, including at least in general terms the environmental consequences of using those alternative sources, or alternatives to the project that could be served with available water."

Each of these issues is addressed in the following analysis.

3.13.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Water Supply

Impact USS-1:	**The proposed project would not require the City of American Canyon to obtain additional water supplies in order to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.**

Impact Analysis

Phases 1 and 2

Potable water demand for the project was estimated by CBG Engineers based on demand factors contained in the 2016 City of American Canyon Potable Water Master plan and is summarized in Table 3.13-3. These estimates were calculated using an average day demand of 0.015 gallons per day/square foot which is the average water use across all the industrial sector and believed to be an overly high estimate of water use for this project. Therefore, revised potable water use projections for the project were calculated using averages from other similar commercial warehouse projects with more in-depth water demand estimates and/or metered water usage.

Table 3.13-3: Estimated Project Water Demand

Project Feature	Building Floor Area (Square Feet)	Acre-Feet Year			
		Potable Water Use	Revised Potable Water	Recycled Water Use	Total Water Use
Phase 1–Building A	601,383	10.1	6.1	20.8	30.9
Phase 1–Building A	468,521	7.9	4.7	16.2	24.1

Project Feature	Building Floor Area (Square Feet)	Acre-Feet Year			
		Potable Water Use	Revised Potable Water	Recycled Water Use	Total Water Use
Phase 2	1,300,000	21.8	13.1	45.0	66.9
Total	**2,369,904**	**39.8**	**23.9**	**82.1**	**121.9**

Notes:
Revised potable water use estimates based on average day demand of 0.009 gpd/sf. This is an average generated from three commercial water demand estimates.
Source: CBG Engineers 2021.

The Napa Airport Corporate Center (NACC) is an industrial warehouse development just north of the project site in the City of American Canyon. Multiple industrial warehouse buildings are planned in this development (Buildings B, D, E, G, and H). Details of the water demand estimates are reported in the NACC WSA report, with an estimated average day demand of 0.006 gpd/square foot. Similarly, the proposed Suisun Logistics Center is a planned industrial warehouse project in Fairfield, California, which is also owned and operated by Buzz Oates. The proposed Suisun Logistic Center used water meter data from similar Buzz Oates developments in Fairfield to project anticipated potable water demand. Using actual water use from four industrial developments, Suisun Logistics Center average day demand is estimated at 0.01 gpd/square foot (Appendix B). In order to provide a more realistic estimate of potable water demand for the proposed Giovannoni Logistics Center Project, the WSA prepared for the proposed project (see Appendix I) averaged various demand rates described above (CBG, NACC, and Suisun Logistics Center), resulting in an average day demand of 0.009 gpd/square foot. This revised average day demand was used to calculate a revised potable water use for the proposed project and is summarized in Table 3.13-3. The WSA estimates the total potable water demand of the proposed project at buildout to be 23.9 AFY (15.9 AFY less than the usage originally estimated by CBG Engineers).

For the purposes of the WSA, all indoor water demand is assumed to be from potable water. The applicant has not indicated that recycled water would be used for non-potable indoor uses, though that would remain an option to further reduce potable water demand at the site, should the applicant choose. Table 3.13-3 shows the estimated potable water demand for each building of the proposed project.

Recycled Water

The proposed project would use recycled water for all irrigation needs. Estimated recycled water use within the project is summarized in Table 3.13-3. The current project plans do not have estimates for the area of irrigated landscaping. The proposed project irrigation water demand was approximated by applying the average ratio of 0.604 between irrigated area and building footprint from the neighboring NACC project, with a demand factor of 2.5 acre-feet/acre (from Table 3.13 in the 2010 UWMP). These irrigation demand estimates may be high if the proposed project plans to landscape with xeric or native plant species that have lower-than-typical irrigation needs.

The recycled water usage estimates in Table 3.13-3 are intended to be used for environmental planning documentation. Actual use per building may vary based on final site plans, but total use is

expected to be consistent with (or less than) these assumptions. As stated above, all non-potable indoor water use is anticipated to be served by potable supply, though the option remains open to serve with recycled water, should the applicant choose.

Project Demand Comparison to Urban Water Management Plan

Potable Water Demand

In order to project future systemwide water demand for the 2015 UWMP, the standard demand factors from the 2010 UWMP were used along with a variety of growth-rate estimates for various land-use sectors. For the commercial/industrial sector, the City analyzed the acreage of vacant land zoned for those uses, and applied a water use factor of 675 gallons/day/acre (gpd/acre) to each parcel. The project's demand has been incorporated into long-term projections under an assumption of a buildout use of 675 gpd/acre (0.76 AFY per acre).

Table 3.13-4 compares the estimated project demand with the assumptions for the parcel included in the 2015 UWMP. Due to relatively low water use of warehouse space compared to industrial sector averages, the incorporation of recycled water for irrigation purposes, and the designation of a portion of the site for wetland preservation that would not require supplemental water supply, the proposed project is expected to use 133.3 AFY less water than expected under the 2015 UWMP growth scenario. Implementation of the City's Zero Water Footprint Policy would result in an additional 23.9-acre-foot reduction in potable water demand relative to the UWMP systemwide demand analysis.

Table 3.13-4: Comparison of Estimated Water Demand to Urban Water Management Plan

	Acre-Feet Year					
	Potable Water				Recycled Water	
Phase	UWMP	Project	Difference	ZWF Offset	UWMP	Project
1	71.6	10.8	(60.9)	(10.8)	–	37.1
2	85.6	13.1	(72.5)	(13.1)	–	45.0
Total	**157.2**	**23.9**	**(133.3)**	**(23.9)**	–	**82.1**

Notes:
UWMP = Urban Water Management Plan
ZWF = zero water footprint
The UWMP did not project irrigation demand on a parcel-by-parcel basis. Because project irrigation would be supplied by recycled water, comparison against projections in the UWMP is not necessary.
Source: Balance Hydrologics 2021.

Recycled Water

The American Canyon UWMP assumes irrigation use to be 2.5 acre-feet of water per acre of landscaping but (unlike for potable demand) did not project recycled water demand associated with particular parcels anticipated for development. Because recycled water use offsets demand for potable (or raw imported) water and it is in the City's best interest to maximize use of recycled

water, the project's recycled water demand is assessed relative to the recycled water demand goals outlined in the UWMP.

The 2016 Recycled Water Master Plan showed a delivery of 248 acre-feet for an existing 21 users between August 2013 and July 2014. In 2019, 282 acre-feet of recycled water was delivered to customers which is still below the projected 391 acre-feet of recycled water in 2020. The proposed project would add an estimated 82.1 AFY of recycled water demand.

Systemwide Demand

Recent Actual System Demand

The 2015 UWMP provides a comprehensive assessment of anticipated future water demand that included projections for both potable and recycled water for 2015-2040. However, actual water usage between 2015 and 2020 differed from what was projected in the UWMP, suggesting that demand patterns for 2015-2040 may be different as well. Table 3.13-5 shows the actual water usage within the City's distribution area since the 2015 UWMP was completed, as well as the interpolated yearly demand based on the projections in the UWMP. Since 2015, potable water demand has been much lower than that anticipated in the UWMP.

Table 3.13-5: Recent Potable and Recycled Water Usage for American Canyon

Category	Acre-Feet Year					
	2015	2016	2017	2018	2019	2020
Total Potable Water Use	2,968	2,572	2,558	2,667	2,418	2,665
Total Project Water Demand (UWMP)	2,976	3,062	3,148	3,233	3,319	3,405
Total City Recycled Water Use	180	–	–	–	282	–
Total Projected Recycled Water Demand (UWMP)	385	509	634	758	883	1,007
Total Water Usage (Actual)	3,148	2,572	2,558	2,667	2,700	2,665
Total Projected Water Demand (UWMP)	3,361	3,571	3,781	3,992	4,202	4,412

Notes: Actual water usage from Napa County Flood Control and Water Conservation District SWP delivery accounting tables (provided by the City) plus agricultural raw water. Agricultural raw water use estimated to remain at 2015 level (56 AFY) through 2020, then be reduced to zero thereafter.
Source: Balance Hydrologics 2021.

Projected System Demand

The 2015 UWMP projected future demand on a parcel-by-parcel basis relative to expected growth under the City's general plan. The analysis assumed that recycled water would be available to meet a portion of the total demand, with the remainder supplied by potable water. Table 3.13-6 shows the water demand as presented in the 2015 UWMP.

Table 3.13-6: Projected Potable, Recycled, and Total Water Demand for American Canyon

UWMP Reported Value	Acre-Feet Year					
	2015	2020	2025	2030	2035	2040
Projected Potable Water Demand	2,345	3,150	3,350	3,606	3,862	4,131
Projected Potable System Losses	631	255	272	292	313	335
Recycled Water Demand	385	1,007	1,146	1,351	1,862	1,862
Total Water Demand	**3,361**	**4,412**	**4,768**	**5,249**	**6,037**	**6,328**
Source: Balance Hydrologics 2021.						

Unbilled Water Losses

The UWMP assumed that unbilled water losses would be 7.5 percent for each year between 2020-2040. This is consistent with standards adopted by the California Urban Water Conservation Council, which provides that systems that experience greater than 10 percent losses annually undergo a water audit. In 2015, water delivery and water use records indicate that system losses were 22 percent. The City is currently undertaking an aggressive response to the situation by replacing leaky services and water mains to reduce system loss. The City assumed it would reduce system losses to 7.5 percent of the total potable and raw water deliveries by 2020. In 2015, the City replaced more than 120 segments of residential services lines as part of its program to reduce distribution system losses.

Supply and Demand Comparison

The following analysis compares future citywide water demand to anticipated available supply under "normal year," "single dry year," and "multiple dry year" scenarios. The scenarios presented herein have been summarized from the 2015 UWMP analysis for citywide system planning.

This analysis addresses potable and recycled water separately, as recycled water supply is considered reliable (and available at 100 percent of capacity) under all year-types. Reliability of potable water varies by year-type as a percentage of contracted amount, as shown in Table 3.13-7.

Table 3.13-7: Supply Reliability for Various American Canyon Water Sources

Source	2021-2040 Contracted or Available Volume	Year Type				
		Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3
State Water Project (Table A allotment)	5,200	62%	5%	22%	22%	22%
Vallejo Permit Water[1]	500	100%	100%	100%	100%	100%
Vallejo Treated Water[1]	Varies[2]	100%	80%	80%	80%	80%
Vallejo Emergency Water[1]	500	0%	100%	100%	100%	80%
Groundwater[3]	n/a	–	–	–	–	–

	2021-2040	Year Type				
Source	Contracted or Available Volume	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3
American Canyon Recycled Water	n/a [4]	100%	100%	100%	100%	100%

Notes:
UWMP = Urban Water Management Plan
[1] Percentages from 2015 UWMP, Table 7-4, 7-5, 7-6.
[2] Contracted Amount is 2,074 in 2015; 2,640 in 2020; and 3,206 2021-onward.
[3] Groundwater is not a source for citywide supply.
[4] Recycled water is produced to meet demand, ultimately, maximum production capacity of City's recycled water system is expected to be 1,000 acre-feet per year (AFY).

Potable Water

Table 3.13-8 summarizes available potable water supply under 'normal year,' 'single dry year,' and 'multiple dry year' scenarios. The City's potable water supply relies exclusively on imported water, both from the SWP and through the City of Vallejo. A percentage of the full contracted amount is assumed for each source type under each scenario. These percentages are based on guidance by DWR, analysis in the City's UWMP and the Vallejo UWMP. Resulting supply volumes for each source under the various scenarios through 2040 are shown in Table 3.13-8. The supply and demand for potable water for each of the year-types is discussed as follows.

Table 3.13-8: Projected Water Supply for American Canyon for Various Year Types

Source	2021-2040	2015	2020					2025					2030					2035					2040				
	Contracted or Available Volume	Actual	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3
State Water Project Table A allotment	5,200	1,953	3,224	260	1,144	1,144	1,144	3,224	260	1,144	1,144	1,144	3,224	260	1,144	1,144	1,144	3,224	260	1,144	1,144	1,144	3,224	260	1,144	1,144	1,144
State Water Project (Article 21)	Varies	72	189	0	124	124	124	189	0	124	124	124	189	0	124	124	124	189	0	124	124	124	189	0	124	124	124
Vallejo Permit Water	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500	500
Vallejo Treated Water	Varies	102	2,640	2,112	2,112	2,112	2,112	3,206	2,565	2,565	2,565	2,565	3,206	2,565	2,565	2,565	2,565	3,206	2,565	2,565	2,565	2,565	3,206	2,565	2,565	2,565	2,565
Vallejo Emergency Water	500	387	0	500	500	500	400	0	500	500	500	400	0	500	500	500	400	0	500	500	500	400	0	500	500	500	400
Total Potable	6,200	3,014	6,553	3,372	4,380	4,380	4,280	7,119	3,825	4,833	4,833	4,733	7,119	3,825	4,833	4,833	4,733	7,119	3,825	4,833	4,833	4,733	7,119	3,825	4,833	4,833	4,733
American Canyon Recycled Water	n/a[2]	180	616	616	616	616	616	655	655	655	655	655	760	760	760	760	760	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271	1,271
NapaSan Recycled Water	Varies[3]	210	391	391	391	391	391	491	491	491	491	491	591	591	591	591	591	591	591	591	591	591	591	591	591	591	591
Total Recycled	–	390	1,007	1,007	1,007	1,007	1,007	1,146	1,146	1,146	1,146	1,146	1,351	1,351	1,351	1,351	1,351	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
Total Supply	–	3404	7,560	4,379	5,387	5,387	5,287	8,265	4,971	5,979	5,979	5,879	8,470	5,176	6,184	6,184	6,084	8,981	5,687	6,695	6,695	6,595	8,981	5,687	6,695	6,695	6,595

Notes:
1. Contracted amount is 2,074 in 2015, 2,640 in 2020, and 3,206 2021-onward.
2. Recycled water is produced to meet demand; ultimately, maximum production capacity of City's recycled water system is expected to be 1,000 acre-feet per year (AFY).
3. Projected deliveries from NapaSan to the northern Airport Industrial Area. Does not include demand for the Montalcino Resort, as that amount will not affect citywide demand.

Table 3.13-9: Comparison of Potable and Recycled Water Supply and Demand Under Various Year-type Scenarios

	2015	2020					2025					2030					2035					2040				
Source	Actual (AFY)	Normal Year (AFY)	Single Dry Year (AFY)	Dry Year 1 (AFY)	Dry Year 2 (AFY)	Dry Year 3 (AFY)	Normal Year (AFY)	Single Dry Year (AFY)	Dry Year 1 (AFY)	Dry Year 2 (AFY)	Dry Year 3 (AFY)	Normal Year (AFY)	Single Dry Year (AFY)	Dry Year 1 (AFY)	Dry Year 2 (AFY)	Dry Year 3 (AFY)	Normal Year (AFY)	Single Dry Year (AFY)	Dry Year 1 (AFY)	Dry Year 2 (AFY)	Dry Year 3 (AFY)	Normal Year (AFY)	Single Dry Year (AFY)	Dry Year 1 (AFY)	Dry Year 2 (AFY)	Dry Year 3 (AFY)
Total potable supply[1]	3,014	6,556	3,372	4,380	4,380	4,280	7,119	3,825	4,833	4,833	4,733	7,119	3,825	4,833	4,833	4,733	7,119	3,825	4,833	4,833	4,733	7,119	3,825	4,833	4,833	4,733
Potable demand[2]	2,345	3,405	3,405	3,405	3,405	3,405	3,622	3,622	3,622	3,622	3,622	3,898	3,898	3,898	3,898	3,898	4,175	4,175	4,175	4,175	4,175	4,466	4,466	4,466	4,466	4,466
Potable supply minus demand	669	3,148	-33	975	975	875	3,497	203	1,211	1,211	1,111	3,221	-73	935	935	835	2,944	-350	658	658	558	2,653	-641	367	367	267
Recycled water supply[3]	390	1,007	1,007	1,007	1,007	1,007	1,146	1,146	1,146	1,146	1,146	1,351	1,351	1,351	1,351	1,351	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
Recycled water demand[4]	385	1,007	1,007	1,007	1,007	1,007	1,146	1,146	1,146	1,146	1,146	1,351	1,351	1,351	1,351	1,351	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862	1,862
Recycled supply minus demand	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes:
AFY = acre-feet per year
1. From Table 7.
2. Projected potable normal year demand, from Table 5.
3. From Table 7.
4. From Table 5

Normal Year

In a "normal year," the City's 2015 UWMP assumes "Table A" SWP deliveries would be 62 percent of the total contracted amount. Treated water from Vallejo water and raw Vallejo Permit Water are assumed to be 100 percent available in normal years, consistent with the 2015 UWMP.

The UWMP concluded that future supply is available to meet anticipated demand in normal years through buildout in 2035, as does the analysis in the WSA (Table 8). Excess supply in normal years ranges from a low of 2,653 in 2040 to a high of 3,497 AFY in 2025.

Single Dry Year

Under the "single dry year" scenario, the 2015 UWMP assumed SWP Table A deliveries to be curtailed to 5 percent of the contracted amount (see Table 3.13-8 and Table 3.13-9).

All water from Vallejo is considered a more reliable source than the City's SWP supply. The 2015 UWMP assumes that raw Vallejo Permit Water is available at 100 percent and Treated Vallejo Water is available at 80 percent of the contracted amount during single dry years. In addition, the full allotment of raw Vallejo Emergency Water (500 acre-feet) would be available under dry year conditions. The analysis herein uses these same assumptions.

The 2015 UWMP shows that single dry year supply is not significantly currently constrained and the City will be able to reliably meet potable demand until the year 2030. Single dry year deficiencies are anticipated starting in 2035 (Table 3.13-9). The City has several options available to resolve dry-year supply deficiencies.

Multiple Dry Years

The multiple dry year scenario, as described in the UWMP, consists of three consecutive years of reduced water deliveries, though none are reduced to the same degree as the single dry year scenario. The UWMP assumed that SWP Table A water would be reduced to 22 percent of the contracted amount for each of the three years.

Raw Permit Water is assumed to be available at 100 percent, and Treated Water from Vallejo is assumed to be available at 80 percent of the contracted amount for years 1, 2, and 3 of the multi-year drought following the assumptions in the 2015 UWMP. Vallejo Emergency Water is assumed to be available at the full contracted amount (500 acre-feet) for each of the 3 years of a multi-year drought, consistent with the 2015 UWMP.

The 2015 UWMP projects that water supply will exceed demand during a 3-year drought through the full 2040 planning period.

Potable Water Deficiency Resolution

The prior analysis compares potable water supply and normal year demand, and projects supply shortages in several of the "dry year" and "multiple dry year" planning scenarios. This section describes a series of options available to the City to eliminate those shortfalls in order to provide reliable supply. Estimated SWP carryover water would be sufficient to eliminate dry year supply shortfalls and could also be used in combination with drought demand reductions to further improve supply reliability.

State Water Project Carryover Water

If the City does not use its entire allotment of Table A water in a given year, the remaining water will carry over to the following year, assuming there is adequate storage in SWP reservoirs to contain the excess supply.[6] Between 2015 and 2020, the City has stored between 35 and 2,600 acre-feet of carryover water in a given year (Table 3.13-10), which has helped to meet demand during recent dry years. Because of the variability of carryover supply and the periodic "re-set" of the accounting when reservoirs are full, it is not considered a consistent yearly supply for planning purposes, but it does allow the City extra flexibility during droughts. As such, the carryover water has been incorporated into the analysis in the WSA.

Table 3.13-10: Recent State Water Project Carryover Water Supply

	2015	2016	2017	2018	2019	2020	Mean
Table A deliveries (percentage of total contract amount)[1]	25%	75%	100%	50%	85%	20%	59%
Available carryover water (remaining from previous year, in AFY)[1]	876	1,087	127	2,210	35	2,600	1,156

Notes:
AFY = acre-feet per year
[1] From Napa County Flood Control and Water Conservation District SWP delivery accounting tables (provided by the City).

It is assumed that 1,156 acre-feet of carryover water, the average over the last six years, would be available at the beginning of a dry year and the first year of a multi-year drought. Projected excess normal year supply ranges from 2,653 to 3,497 acre-feet for 2020-2040, suggesting that the 1,156 acre-feet is a reasonable and somewhat conservative estimate for planning purposes.[7] In the second and third year of a multi-year drought, the remaining carryover supply (presuming there is any) would continue to carry over to subsequent years to supplement supplies.

For example, in the single dry year scenario for 2035, 1,156 acre-feet would be available to meet the supply deficit of 350 acre-feet. The difference (806 acre-feet) would be available if there was another drought year. Under the above assumptions, the City would be able to meet projected supply deficiencies under all dry and multiple dry year scenarios within the planning period (2015-2040) through the use of available carry-overwater.

Advanced Table A Program

A recent court settlement (Area of Origin Settlement 18, 2014), clarifies another potential mechanism for the Napa County Flood Control and Water Conservation District, the Solano County Water Agency, and Yuba City (along with subcontractors to those agencies, which includes American Canyon) to obtain water during dry periods. The Advanced Table A Program allows these agencies to borrow against future SWP deliveries during times when annual deliveries are not sufficient to meet

[6] In years when SWP reservoirs spill, the carryover water is released, effectively re-setting carryover accounting to zero. Typically, however, ample storage is available in dry years.
[7] By definition, a single dry year would follow a normal or wet year, as would the first year of a 3-year drought

demand. The agreement requires that all Table A and Table A carryover water be used prior to utilizing the Advanced Table A Program, but under those circumstances the City could request an advance of up to 949 acre-feet from future years' Table A allotments.

The projections in Table 3.13-11 do not rely on the use of the Advanced Table A Program water to meet dry year demand, as estimated Table A carryover is enough to cover supply deficiencies for all scenarios. However, this program provides an important tool available to the City should unforeseen circumstances result in significantly lower-than-expected carryover.

Table 3.13-11: Potable Water Deficiency Resolution for Dry- and Multi-dry Year Scenarios

Source	2015	2020					2025					2030					2035					2040				
	Actual	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3	Normal Year	Single Dry Year	Dry Year 1	Dry Year 2	Dry Year 3
	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)	(AFY)
Potable supply minus demand[1]	669	3,403	222	1,230	1,230	1,130	3,769	475	1,483	1,483	1,383	3,513	219	1,227	1,227	1,127	3,257	-37	971	971	871	2,988	-306	702	702	602
Estimated Table A carryover water[2]	–	–	1,156	1,156	2,386	3,616	–	1,156	1,156	2,639	4,122	–	1,156	1,156	2,383	3,610	–	1,156	1,156	2,127	3,098	–	1,156	1,156	1,858	2,560
"Advanced Table A" water[3]	–	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0
Demand savings through drought restrictions[4]	–	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0	0	0	0	0	0
Open market water purchases[5]	–	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0	–	0	0	0	0	0	0	0	0	0
Adjusted supply minus demand[6]	**669**	**3,403**	**1,378**	**2,386**	**3,616**	**4,746**	**3,769**	**1,631**	**2,639**	**4,122**	**5,505**	**3,513**	**1,375**	**2,383**	**3,610**	**4,737**	**3,257**	**1,119**	**2,127**	**3,098**	**3,969**	**2,988**	**850**	**1,858**	**2,560**	**3,162**

Notes:
AFY = acre-feet per year
[1] From Table 3.13-9.
[2] Table A water not used in the prior year may be used in the following year, assuming storage is available; estimated from previous six years of carryover availability. Assume 1,156 acre-feet available in a dry year and the first year of a multi-year drought. Remaining carryover after the first year of a drought is available in the second year, and remaining water after the second year is available in the third year of a drought.
[3] When the City exhausts its supply of carryover water, the City can "borrow" against future State Water Project (SWP) deliveries, up to 949 acre-feet. Projected water shortages can be met solely through carryover supply, so no Advanced water is projected to be needed to meet demand.
[4] The City may choose to offset supply deficiency through demand reduction (drought restrictions) during dry periods. All supply deficiencies are projected to be satisfied through carryover water; restrictions are not likely to be required, but remain an option for the City, if needed; see Table 3.13-12 for projected estimated volume for drought conservation savings.
[5] The City also has the option to purchase additional water on the open market. While not required to meet long-term supply deficiencies the City may choose to use this option during droughts,
[6] Supply minus demand from above, plus additional supply available through carryover, "Advanced Table A," demand savings, and open market purchases

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Drought Year Demand Reductions

It is important to note that the demand projections in the 2015 UWMP (as well as for the analysis in the WSA) were not explicitly adjusted for voluntary or mandatory water use reduction measures that may be implemented in response to drought conditions. The City has a Water Shortage Contingency Plan that outlines four stages of water demand reduction measures that could be utilized when water supply is constrained due to environmental or other conditions. The City projects demand reductions of 10/20/30/50 percent corresponding to each of the tiers, beginning with voluntary actions at Tier 1 and moving to increasingly restrictive mandatory measures for Tiers 2-4.

On June 1, 2021, in response to ongoing Statewide drought conditions, the City declared a Stage 1 drought emergency that called for a voluntary reduction from residential and commercial customers compared to the previous year. On July 20, 2021, the City declared a Stage 2 drought emergency, enacting mandatory water use restrictions, requiring all water customers to reduce their water use by 20 percent. As of the end of August 2021, water conservation measures have resulted in an 18 percent decrease from residential customers and 13 percent decrease from commercial customers.

Because estimated carryover water was sufficient to satisfy projected shortages, the supply and demand analysis in Table 3.13-11 does not account for drought year demand reduction. However, the City may choose to use these measures to provide additional flexibility during droughts. Assuming drought reductions of 13 percent, similar to what was achieved in 2014, the City could be expected to reduce demand in future years ranging between 305 acre-feet in 2015 and 537 acre-feet in 2040 (Table 3.13-12). While these volumes would not solely eliminate projected dry year shortages, these measures could be used in conjunction with the above measures to provide additional buffer, as needed, if other supplies are unexpectedly curtailed. Stronger restrictions (level 3 or 4), could be used to achieve greater reductions if necessary, but are not likely to be needed.

Table 3.13-12: Projected Drought Year Demand Savings

	2015 (AFY)	2020 (AFY)	2025 (AFY)	2030 (AFY)	2035 (AFY)	2040 (AFY)
Projected normal year potable demand[1]	2,345	3,150	3,350	3,606	3,862	4,131
Estimated drought conservation volume[2]	305	410	436	469	502	537

Notes:
AFY = acre-feet per year
[1] From Table 3.13-6.
[2] 13 percent of potable demand.

Open Market Purchases

The City has the option to purchase additional water from a variety of other sources on an as-needed and as-available basis. These potential purchases were not considered as a reliable long-term supply for the purposes of the WSA, though the City could choose to purchase additional supply in dry years when normal supplies are constrained. In fact, the City chose to utilize this option in 2015, and purchased 216 acre-feet of additional supply through the Dry Year Transfer and Yuba Accord Programs. As with the above options, Open Market Purchases can provide additional operational flexibility for the City during dry periods when other supplies are reduced.

Recycled Water

The City's recycled water system has a supply capacity of up to 1,271 AFY by 2035, and NapaSan has agreed to provide up to 591 acre-feet to supply the northern portion of the Airport Industrial Area (which is located within the City's water service area). Practically, however, the City produces recycled water to meet demand, as shown in Table 8 (above). Because recycled water is derived from wastewater that is: (1) less susceptible to fluctuation due to climatic conditions, and (2) available in excess of the capacity of the recycled water system, recycled water is assumed to be 100 percent available during single- and multi-year-drought scenarios. Table 3.13-9 presents recycled water supply versus demand for the 2015-2040 planning period under various year-type scenarios. Because recycled water use offsets water that would otherwise be delivered from limited potable or imported water supply, it is in the City's best interest to maximize recycled water use by way of increasing the number of recycled water users tied into the system.

The projections for recycled water use in the 2015 UWMP were, in effect, operational goals to maximize recycled water use. The UWMP projected 1,862 acre-feet of recycled water use by 2035. Recent recycled water use has been much lower than projected in the UWMP. For example, in 2019 water demand was projected to be about 883 acre-feet, but the City only used 282 acre-feet of recycled water. The City expects a significant expansion in the recycled water delivery system by 2035, allowing full use of the system by that time. Recycled water demand by sector is shown in Table 3.13-13.

Table 3.13-13: Summary of Potential Recycled Water Demand by Sector

Utility land-use classification	Potable offset demand[1] (AFY)	Buildout demand[2] (AFY)
Single-family Residential	–	22.8
Multi-family Residential	–	41.8
Commercial	3.4	49.7
Industrial	4.7	209.9
Institutional/Governmental	101.9	127.4
Landscape	69.4	119.5
Open Space	–	–
Watson Ranch	–	253.2
Recreation	–	204.3
Agricultural	68.1	173.2
Total	24.7	1,201.9

Notes:
AFY = acre-feet per year
[1] Projected demand used in WSA analysis (Table 3.13-7) are lower than the numbers shown here in order to provide a conservative estimate for future demand.
[2] Buildout demand for Institutional/Governmental assumes the American Canyon High School will halve existing demand by fixing suspected leaks in irrigation system.

Conclusion

In summary, the analysis in the WSA shows that the City's water supply is sufficient to meet projected demand, in all years and under all normal-, dry-, and multi-dry-year scenarios. The analysis shows that demand will exceed supply during some dry years, but the City will still be able to meet demand through the use of carryover SWP water or through some combination of carryover SWP water, Advanced Table A Water, demand reductions, and/or additional purchases on the open market. In addition, recycled water supply in the City is available to meet existing and projected demand and available in sufficient volume to support non-potable uses at the project site. Use of recycled water at the site will increase the City's utilization of this supply. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Less than significant impact.

Wastewater

Impact USS-2:	**The proposed project would not create a need for new or expanded wastewater collection or treatment facilities.**

Impact Analysis

Phases 1 and 2

The proposed project would be served by City of American Canyon for wastewater collection and treatment. Table 3.13-14 estimated the proposed project's wastewater generation using rates provided by the City's Sewer Master Plan. The proposed project would generate 402,500 gallons of effluent per day (0.41 mgd) at buildout.

Table 3.13-14: Wastewater Generation Estimate

Developed Area	Wastewater Generation Rate	Daily Wastewater Generation
161 acres	2,500 gallons/day/acre	402,500 gallons (0.41) mgd)

Notes:
mgd = million gallons per day
Sources: GHD 2016; FirstCarbon Solutions (FCS) 2021.

Phase 1 of the proposed project would generate 276,800 gallons per day (0.28 mgd) and Phase 2 would generate 125,700 gallons (0.13 mgd). Wastewater effluent generation would increase incrementally as each building comes online; there would not be a sudden influx of 0.41 mgd into the City's sewer system.

The proposed project would connect to both an existing 12-inch diameter sewer line within Green Island Road and a future sewer line within the Devlin Road extension. Both lines convey effluent to the Green Island Road Sanitary Pump Station and ultimately the City's Water Reclamation Facility.

The Water Reclamation Facility has an existing design capacity of 2.5 mgd. In the 2008 Interim Facilities Plan for the Water Recycling Plant, a phased improvement plan is outlined to increase the plant capacity over time to 4.0 mgd. The proposed project's wastewater generation of 0.41 mgd would represent 16 percent of the existing treatment capacity and 10 percent of the future capacity. The Water Reclamation Facility would treat effluent and either reclaim it for beneficial use or discharge it to the Napa River. As such, existing and planned treatment capacity would be sufficient to serve the proposed project. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Storm Drainage

Impact USS-3:	**The proposed project would not result in a need for new or expanded off-site storm drainage facilities.**

Impact Analysis

Phases 1 and 2

The proposed project would result in the development of 2.4 million square feet of high-cube warehouse uses on 161 acres of the project site. The remaining 44.8 acres would be preserved as open space. Thus, the proposed project would increase the amount of impervious surface coverage on the project site and would create the potential for increased runoff leaving the project site that may create potential flooding conditions in downstream waterways.

The proposed project would provide 110,766 square feet (2.6 acres) of storm drainage retention on-site. A network of underground piping ranging from 12- to 48-inches in diameter would convey runoff to bioretention and detention basins in the northern portion of the property.

In accordance with applicable provisions of Section C.3 of the San Francisco Bay RWQCB Municipal Regional Permit (Order No. R2-2015-0049, NPDES Permit No. CAS612008) (or more recent permit) as required under Mitigation Measure (MM) HYD-1b, the proposed project would implement LID stormwater management methods into the on-site storm drainage system consisting of rainwater harvesting and use, infiltration, evapotranspiration, or biotreatment.

Collectively, these measures would serve to slow, reduce, and meter the volume of runoff leaving the project site and ensure that downstream storm drainage facilities are not inundated with

project-related stormwater such that new or expanded facilities would be required. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Solid Waste

Impact USS-4: The proposed project's solid waste would not create a need for additional landfill capacity.

Impact Analysis

Phases 1 and 2

This impact discussion assesses whether the proposed project would be served by a landfill with adequate capacity or comply with federal, State, and local statutes and regulations related to solid waste. Solid waste would be generated by construction and operational activities. Each is discussed as follows.

Construction Waste

The proposed project would result in the construction of 2.4 million square feet of commercial and industrial uses. Using a nonresidential construction waste generation rate published by the United States Environmental Protection Agency (EPA), an estimate of the total construction debris generated by the proposed project is provided in Table 3.13-15.

Table 3.13-15: Construction Solid Waste Generation

Waste Generation Rate	Square Feet	Construction Waste Generation	
		Tons	Cubic Yards
3.89 pounds/square foot	2.4 million	4,668	6,536

Notes:
1 ton = 2,000 pounds; 1 ton = 1.4 cubic yards
Source: United States Environmental Protection Agency (EPA) 1998; FirstCarbon Solutions (FCS) 2021.

Development of the proposed project would generate an estimated 6,536 cubic yards of construction debris. This waste volume represents less than 0.01 percent of the 38.8 million cubic yards of remaining capacity at the Potrero Hills Landfill. Moreover, the values shown in the table do not adjust construction solid waste generation to account for C&D debris recycling that would serve

to divert waste from the landfill. The Napa Valley Waste Management Authority provides C&D debris recycling at the nearby Devlin Road Transfer Station.

Therefore, short-term construction impacts on landfill capacity would be less than significant.

Operational Waste

Table 3.13-16 summarizes the proposed project's operational waste generation based on rates provided by Cal Recycle.

Table 3.13-16: Operational Solid Waste Generation

Waste Generation Rate	Square Feet	Operational Waste Generation	
		Tons	Cubic Yards
4.8 pounds/square foot	2.4 million	5,760	8,064

Notes:
1 ton = 2,000 pounds; 1 ton = 1.4 cubic yards
Source: California Department of Resources Recycling and Recovery (CalRecycle); FirstCarbon Solutions (FCS) 2021.

The proposed project would generate an estimated 8,064 cubic yards of operational solid waste on an annual basis at buildout. This waste volume represents less than 0.01 percent of the 38.8 million cubic yards of remaining capacity at the Potrero Hills Landfill. Moreover, the values shown in the table do not adjust operational solid waste generation to account for recycling and waste reduction activities that would serve to divert waste from the landfill. Therefore, long-term operational impacts on landfill capacity would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.