



SB 610 WATER SUPPLY ASSESSMENT

Lacey Ranch Area Master Plan

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INTRODUCTION AND BACKGROUND

This Water Supply Assessment (WSA) has been prepared pursuant to the requirements of Senate Bill 610 (Costa; Chapter 643, Stats. 2001) ("SB 610"), which requires public water agencies, parties or purveyors that may supply water to certain proposed development projects to prepare a WSA for use in environmental documentation for such projects, pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000, *et seq.*). The City of Lemoore is conducting an environmental review under the requirements of CEQA for the proposed Lacey Ranch Area Master Plan Project (Project) in the City of Lemoore, California. See Section 2.0 for a description of the Project.

The WSA will evaluate whether the total water supply determined to be available during normal, single dry and multiple dry years will meet the water demand associated with the Project, in addition to existing and planned future uses in the City.

This WSA contains information from the City of Lemoore 2015 Urban Water Management Plan (2015 UWMP); from more recent water use information from the City of Lemoore Water Master Plan (2020 WMP) which was adopted by the City in August 2021; as well as the Tulare Lake Subbasin Groundwater Sustainability Plan (January 2020). Other source documents were used to support the analysis and are cited as applicable within this document.

A WSA is required for any "project" that is subject to CEQA and proposes, among other things, a residential development of more than 500 dwelling units. Therefore, since the Lacey Ranch Area Master Plan Project is proposing a development of up to 825 dwelling units, a WSA is required.

Water Agencies and Providers

The City of Lemoore is within the boundaries of the South Fork Kings Groundwater Sustainability Agency (South Fork GSA). The Project is proposed for annexation into the City of Lemoore. Upon annexation, the Project area would be added to the City's water service area.

The City produces all its water supply through pumping groundwater using City facilities and does not purchase water from any other source. There are no current plans to purchase wholesale water in the near future. Thus, the City does not:

- Purchase or import water;
- Use surface water;
- Reuse stormwater, wastewater, or recycled water;

- Desalinate water; or
- Enter into water exchanges or transfers.

Therefore, the discussion in this WSA focuses on groundwater as the City's only existing water supply.

Water System

The City provides water distribution to approximately 26,000 residents, industrial and commercial users. The water distribution system consists of approximately 115 miles of active water pipelines, ranging from 1 to 18 inches, 10 active wells, 5 storage tanks and 4 pump stations.¹ See Section 3.0 – Project Water Supply Sources for more information.

¹ City of Lemoore – 2020 Water Master Plan, page 1-1.

1.0 PROJECT DESCRIPTION

PROJECT LOCATION AND SETTING

The proposed Project is located on approximately 156 acres immediately north of the City of Lemoore in Kings County and is bounded by W. Lacey Blvd to the north and 18th Avenue to the west. The Project is on assessor parcel number 021-030-057-000. See Figure 1-1 – Regional Location, Figure 1-2 – Project Vicinity and Figure 1-3 – Site Aerial. The site lies within a portion of the NW quarter of Section 35, Township 18 South, Range 20 East, Mount Diablo Base and Meridian.

The proposed Project site is located in an area that is dominated by farmland / agricultural operations and scattered rural residential housing to the north, east and west, and residential development to the south. The site is partially designated by the City of Lemoore General Plan for future residential uses and is currently zoned as Limited Agricultural-10 District (AL-10) by Kings County. Approximately one-third of the site (the southern one-third) is within the City's Sphere of Influence (SOI) while the remaining two-thirds are currently outside the SOI. The entire site is proposed for annexation into the City limits of Lemoore. As of Spring 2021, the land is being farmed for alfalfa. Table 1-1 shows land uses and zoning designations of adjacent parcels surrounding the site.

Table 1-1: Surrounding Land Use and Zoning

Location	Existing Land Use	Current Zoning Classification
North	Agriculture	AL-10 (Limited Agricultural-10 District) – County
South	Residential	Low Density Residential (RLD) - City
West	Agriculture/City Water tank and treatment facility	AL-10 (Limited Agricultural-10 District) – County / PR (Parks and Recreation/Ponding Basin) - City
East	Agriculture	AL-10 (Limited Agricultural-10 District) - County

DESCRIPTION OF PROPOSED PROJECT

The proposed Project includes the following components:

- Annex approximately 156 acres from Kings County into the City of Lemoore
- Approve a General Plan Amendment
- Approve a Zone Change
- Adopt the Lacey Ranch Area Master Plan through a Planned Unit Development
- Approve the Project's Tentative Tract Map
- Amend Sphere of Influence

Within the Lacey Ranch Area Master Plan, the Project Applicant is proposing to subdivide and develop approximately 156 acres of land into a planned residential community with a mix of single-family and multi-family housing units. The Project will be constructed in four phases, as outlined below. The exact numbers of each housing type may vary slightly, depending on final density. However, there will be a maximum of 825 housing units in total (see Figure 1-4: Site Plan). Specific housing types include:

- ±164 compact lots with an average lot size of 4,500 square feet
- ±310 medium lots with an average lot size of 6,500 square feet
- ±73 estate lots with an average lot size of 9,500 square feet
- ±145 multifamily units at 20 units per acre
- ±59 multifamily units at 12 units per acre

Table 1-2 depicts the proposed land use designations and zone districts of the proposed Project.

Table 1-2: Proposed Land Use and Zoning Designations

Proposed Land Use	Proposed Land Use Designation	Proposed Zone District
Single Family lots	Low Density Residential	RLD – Low Density Residential
12 unit per acre multifamily	Medium Density Residential	RMD – Medium Density Residential
20 unit per acre multifamily	High Density Residential	RHD – High Density Residential
Parks	Parks/Recreation	PR – Parks/Recreation
Storm drainage basin	Greenway/Detention Basin	PR – Parks/Recreation

Figure 1-1 - Regional Location

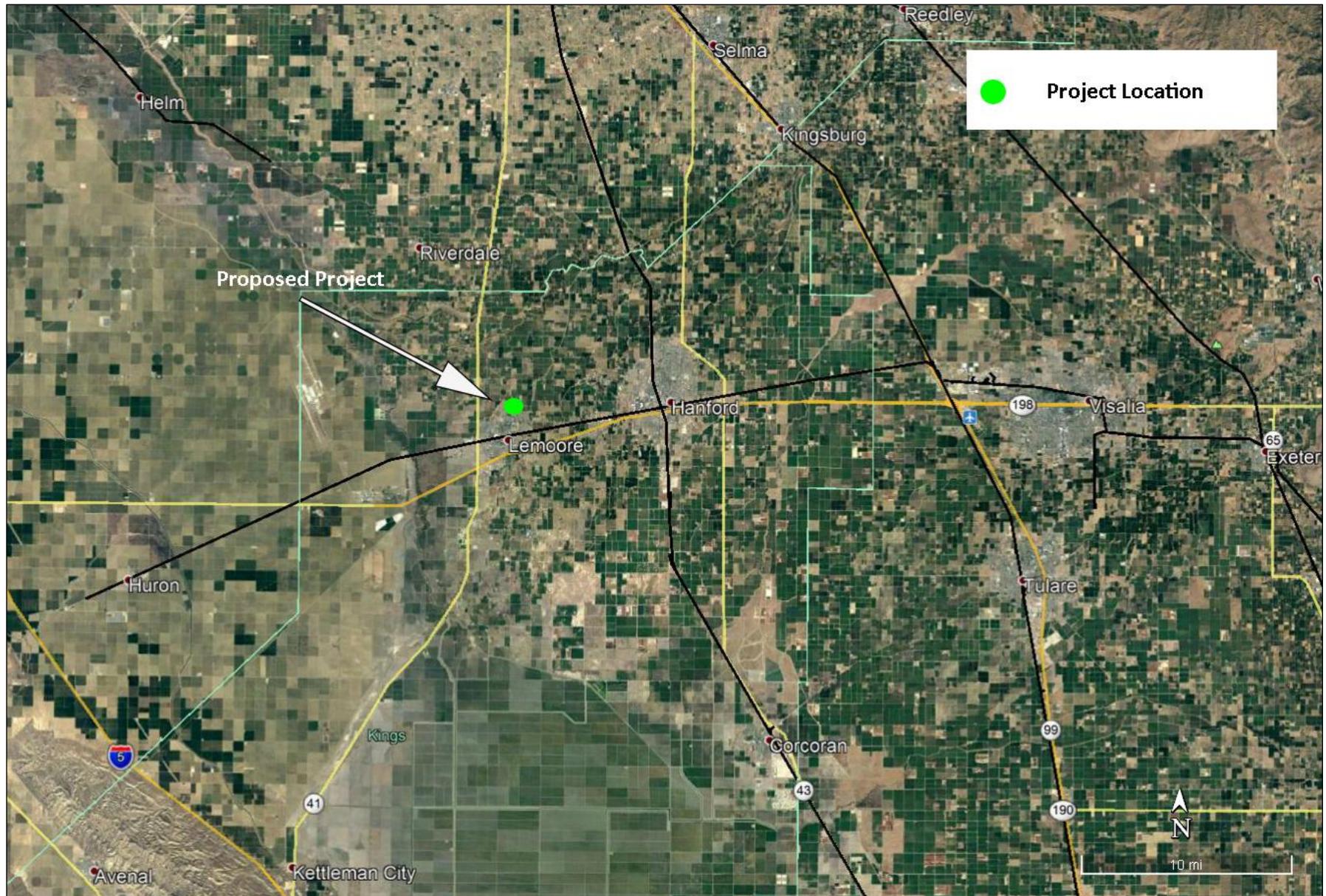


Figure 1-2 - Project Vicinity

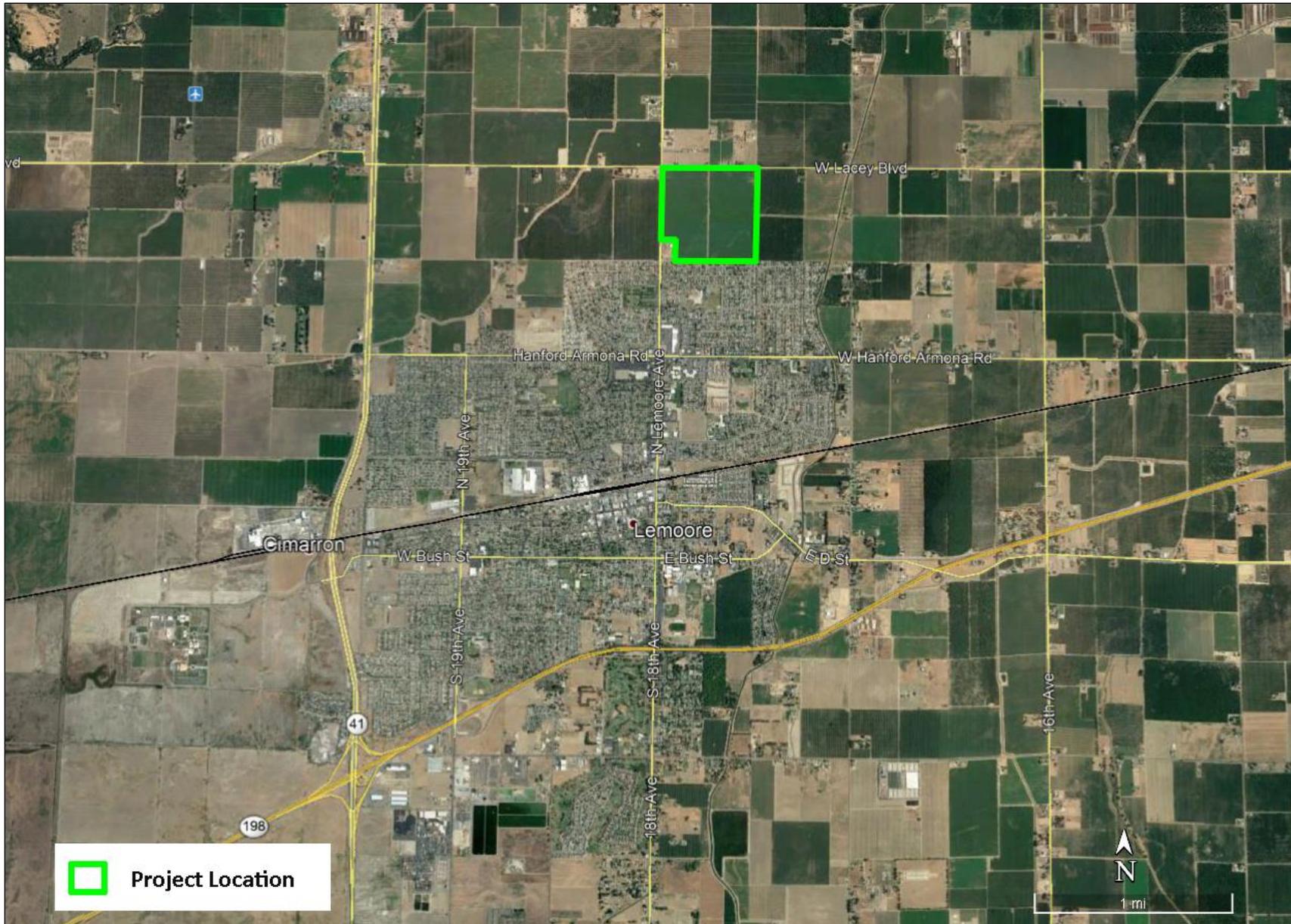


Figure 1-3 - Site Aerial

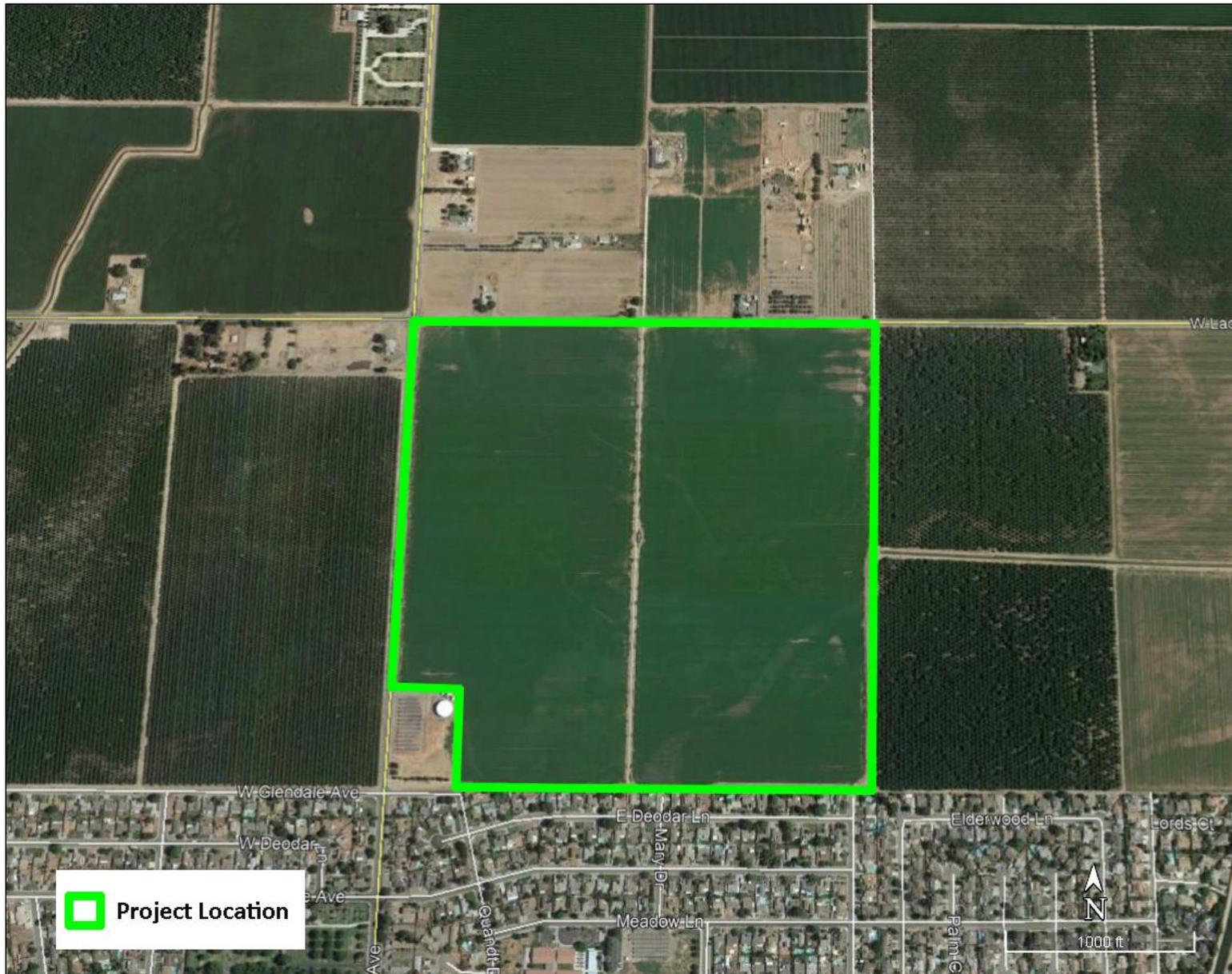
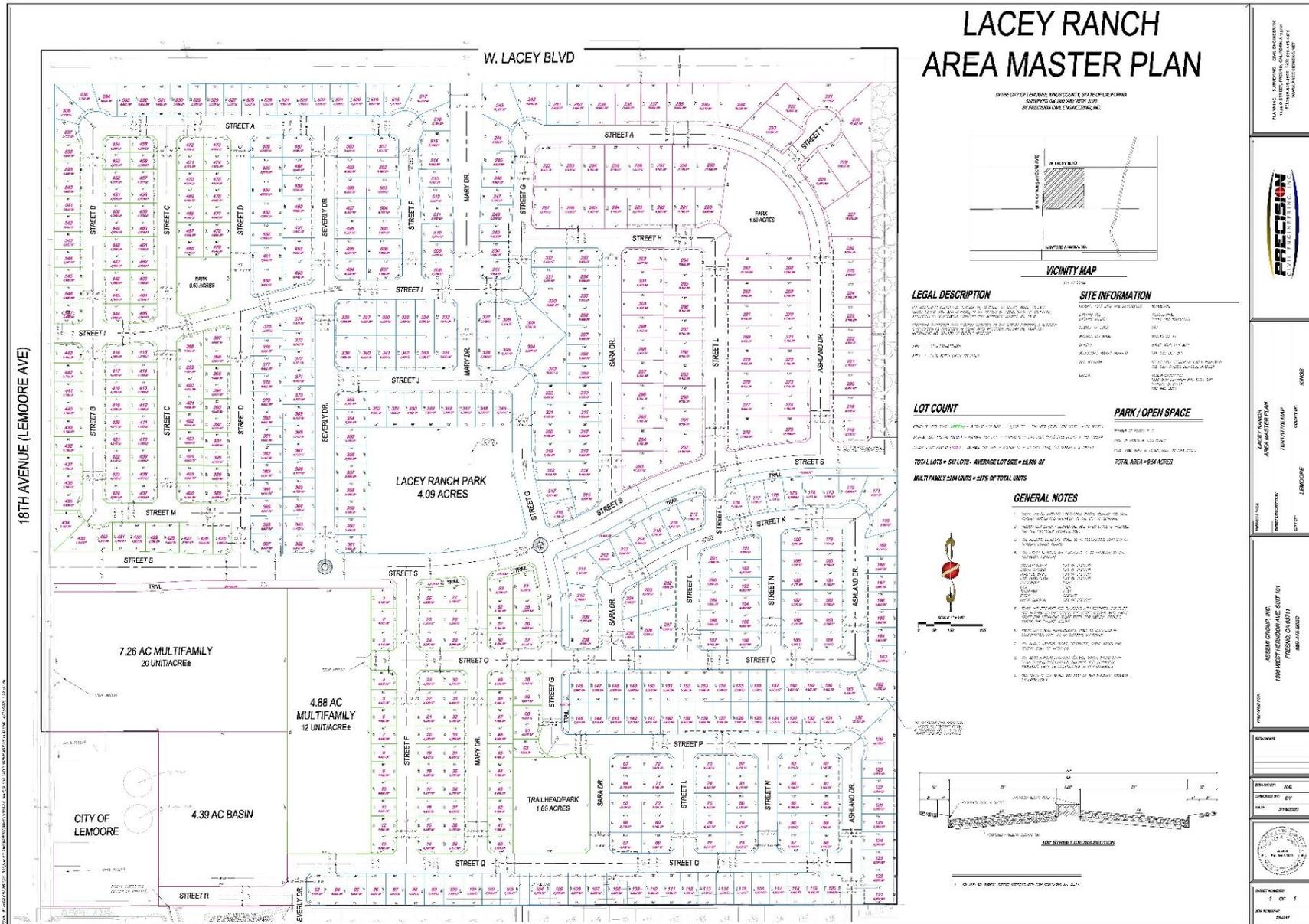


Figure 1-4 - Site Plan



Parks and Open Space

The Project includes a total of four parks for a total of 7.9 acres and 1.64 acres of trail area, as depicted on Figure 1-4: Site Plan. The 1.64 acres of trail area will be designated and zoned consistent with the designations and zoning of their adjacent parcels.

Site Circulation and Access

The site has been designed with seven points of ingress and egress. One of these points connects at W. Lacey Blvd along the northern edge of the Project; three access points connect at 18th Avenue on the western edge; two access points are along the southern edge; and one access point is along the eastern edge. The Project will be responsible for construction of internal roadways as well as for potential improvements to surrounding roadways to accommodate the Project.

Infrastructure

The Project includes the construction of a 4.39-acre storm drain basin and will require connection to various City-operated systems such as sewer, water and storm drain facilities. The Project will be responsible for construction of connection points to the City's existing infrastructure. The Project also includes improvements and landscaping along the frontage roads and within the site itself.

The Project will require a 50-foot-wide easement for irrigation water to Lemoore Canal & Irrigation District Co. as the canal along a portion of the western and southern boundary will be abandoned and relocated.

Phasing / Construction Schedule

Proposed Project construction will require site preparation activities such as demolition to remove the existing alfalfa crop and site grading activities. Construction is expected to occur over 16 years as determined by market demands and will be constructed over four phases, broken down as follows:

- Phase 1 – 125 single family lots and 90 multifamily lots
- Phase 2 – 125 single family lots and 100 multifamily lots
- Phase 3 – Dependent on market conditions
- Phase 4 – Dependent on market conditions

It is anticipated that the Project would begin development in 2022.

2.0 PROJECT WATER DEMANDS

ASSUMPTIONS

Project water demand is estimated using information from the City's adopted 2015 Urban Water Management Plan (2015 UWMP), as well as from a more recent water use information from the City's Water Master Plan (2020 WMP) that was adopted by the City in August 2021. Project water demand is calculated on the following assumptions:

- Residential: The Project is proposing 825 residential units (see Table 1-2 for the breakdown of housing types).
- Public Parks / Public Areas / Landscaping: The Project includes approximately 9.54 acres of park space distributed among four parks and a trail throughout the proposed development. To be conservative, it is assumed that approximately eight (8) acres of the total park space acreage will have irrigated landscaping and will require approximately 3.5 acre-feet of water per acre per year, for a total of 28 afy. This figure is based on information pertaining to water requirements for irrigated urban landscaping in the region.²
- Per Capita Water Use: The City's "gallons per capita per day" (GPCD) has ranged from a high of 228 GPCD in 2004 to 124 GPCD in 2016.³ The reduction in per capita demand can be attributed to increased conservation by the City's customers, as well as additional conservation associated with recent drought conditions. The City's 2015 UWMP identifies a target of 175 GPCD for Year 2020.⁴ However, based on more recent information from the City's 2020 WMP, a demand of 171 GPCD was used to project future flow projections in the City.⁵ This value was chosen because it is based on more recent historical usage in the City. The 171 GPCD is inclusive of water used for outdoor landscaping.
- Household Size: According to the City's General Plan, the City averages 3.1 persons per household. Although some of the housing products / floor plans proposed by the Project would likely result in fewer than 3.1 persons per residence, the figure is being used to conservatively estimate Project water demand.

² <https://www.ppic.org/publication/groundwater-and-urban-growth-in-the-san-joaquin-valley/> (accessed Oct. 2021).

³ City of Lemoore – Water Master Plan (Feb. 2020), page 103.

⁴ City of Lemoore – Urban Water Management Plan (2015), page 31, table 5-1.

⁵ City of Lemoore – Water Master Plan (Feb. 2020), page 4-4.

PROJECT WATER DEMANDS

Based on the above assumptions, Project water demand is calculated as follows:

Residential: 825 dwelling units X 3.1 persons per dwelling unit = 2,558 persons X 171 GPCD = 437,418 total gallons per day X 365 days per year = 159,657,570 gallons per year (or **~490 afy**)

Parks/Public Landscaping: 8 acres X 3.5 afy = **~28 afy**

Total Water Demand: 490 afy for Residential
28 afy for Parks
518 afy

Based on these assumptions, the Project would require approximately **518 afy** of water. The section below outlines applicable measures to reduce potable water use.

MEASURES TO REDUCE POTABLE WATER USE

As identified above, the proposed Project would require approximately 518 afy of water based on the calculations broadly applicable to residential developments. The Project is subject to water use reduction methods as follows:

1. The Project is subject to the Model Water Efficient Landscape Ordinance (MWELO) which encourages more efficient irrigation systems, onsite stormwater capture, limiting turf, etc.
2. In addition, California's Title 20 Water Efficiency Standards are applicable to the Project. These standards include:
 - i. Toilets and urinals: Toilets must have a maximum water use of 1.28 gallons per flush and urinals are limited to 0.125 gallons or less per flush.
 - ii. Residential lavatory faucets: Maximum flow can't exceed 1.2 gallons per minute.
 - iii. Kitchen faucets: Maximum flow rate is 1.8 gallons per minute.
 - iv. Shower devices: Maximum flow rate is 1.8 gallons per minute.

These measures will help reduce Project-related demand for potable water.

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In addition, The City of Lemoore is part of the South Fork Kings Groundwater Sustainability Agency (South Fork GSA), which is under the purview of the Tulare Lake Subbasin Groundwater Sustainability Plan. According to the Sustainability Plan, the following projects and management actions were chosen for the South Fork GSA:

Project	Annualized Benefit (AF/Y)	Priority
Groundwater Measurement and Report	1,500	High
Surface Water Delivery Improvement	5,000	High
On-Farm Improvements	2,500	Medium
Conservation Reuse	1,000	Medium
Cropping/Fallowing Program	13,000	High
Demand Reduction Sub-Total	23,000	
Aquifer Storage and Recovery	13,000	High
Surface Storage	2,000	Low
Mid-Kings Recharge Basin	7,000	Medium
Supply Enhancement Sub-Total	22,000	
Total	45,000	

The City of Lemoore, as a member of the South Fork GSA, will work with the GSA to implement the projects and management actions identified by the GSA. Upon Project approval and annexation into the City of Lemoore, the Project will be subject to the requirements of the Sustainability Plan of the South Fork GSA.

COMPARISON TO “NO-PROJECT” / EXISTING WATER DEMANDS

The 155-acre site has been actively farmed with alfalfa hay for at least the past five years. Of the 155-acres, approximately 154 acres are used for growing with approximately 1 acre used for dirt access roads. Alfalfa requires at least 4 acre-feet per year per acre in the San Joaquin Valley of

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California.⁶ Based on 154 acres of alfalfa production, the site uses approximately 616 AF of water per year (154 acres X 4 AFY = 616 AFY). Compared to the proposed Project water demand of 518 AFY, the existing alfalfa production uses approximately 98 AFY more water per year than the proposed Project. It should be noted that the proposed Project site is currently irrigated from on-site agricultural wells and none of the existing agricultural water use on the site is from the City's water system. Once approved, the Project will require connection to the City's water system and will not utilize the existing agricultural wells. This information is being provided to show how the proposed Project water demand compares to the existing water demand on the site. However, water for the proposed Project would ultimately come from the City's water system.

⁶ https://alfalfa.ucdavis.edu/irrigatedalfalfa/pdfs/ucalfalfa8287prodsystems_free.pdf, page 12 (accessed Oct. 2021).

3.0 PROJECT WATER SUPPLY SOURCES

This section provides an overview of water supply sources for the City of Lemoore. The City produces all of its water supply through pumping groundwater using City facilities. The City does not purchase or import water from water suppliers or other entities.⁷

Water Code Section 10910 (f)(1) – Inclusion in Urban Water Management Plan

The proposed Lacey Ranch Project site is currently adjacent to the City limits of Lemoore and is proposed for annexation into the City. Upon annexation, the site will be included within the City's potable water service boundaries and will be subject to the City's most recently adopted Urban Water Management Plan. The Project's estimated increase in population (2,558 residents) was included within the future population projections of the City's 2015 Urban Water Management Plan (2015 UWMP). See Section 5.0 – Inclusion in Adopted Urban Water Management Plan for more information.

Water Code Section 10910(f)(2) - Description of Groundwater Basin

The groundwater subbasin underlying the City of Lemoore is the Tulare Lake Subbasin (Groundwater Basin No. 5-022.12). The Tulare Lake Subbasin is one of eight subbasins within the Tulare Lake Hydrologic Region that transport, filter, and store water. The major rivers in the Subbasin that provide most of the surface water runoff for the Region is the Kings River. The Tulare Lake Subbasin is a non-adjudicated basin, meaning there are no restrictions on groundwater pumping.

Of the 5.1 million acres of the San Joaquin Valley Basin, the Tulare Lake Subbasin has a surface area of approximately 524 thousand acres (818 square miles). The Tulare Lake Subbasin is bounded on the south by the Kings-Kern county line, on the west by the California Aqueduct, the eastern boundary of Westside Groundwater Subbasin, and Tertiary marine sediments of the Kettleman Hills. It is bounded on the north by the southern boundary of the Kings Groundwater Subbasin, and on the east by the westerly boundaries of the Kaweah and Tule Groundwater Subbasins. The southern half of the Tulare Lake Subbasin consists of lands in the former Tulare Lake bed in Kings County. The San Joaquin River Groundwater Basin is not an adjudicated groundwater basin.⁸

⁷ City of Lemoore 2015 UWMP, page 32.

⁸ City of Lemoore 2015 UWMP, page 33.

The Tulare Lake Subbasin Groundwater Sustainability Plan (Groundwater Sustainability Plan) (January 2020) provided historical information related to groundwater in the Subbasin. The Subbasin groundwater model and Department of Water Resources (DWR) estimates were used to calculate groundwater in storage for the principal aquifers within the Subbasin boundaries based on 2016 conditions. The unconfined aquifer has an average specific yield of 8.5% and an average saturated thickness of 451 feet over the 535,869 acres of the Subbasin. This yields an estimated 20.5 million AF of groundwater in storage in the unconfined aquifer. The confined aquifer has an estimated average specific yield of 4.91% and an average saturated thickness of 2,294 feet over the 535,869 acres of the Subbasin. This yields an estimated 60.4 million AF of groundwater in storage in the confined aquifer zone. Total estimated groundwater in storage as of 2016 is approximately 80.9 million AF, which is slightly less than the DWR estimate of 82.5 million AF.⁹

According to the Groundwater Sustainability Plan, the estimated groundwater in storage in the Subbasin above the base of fresh groundwater is roughly 82.5 million AF while groundwater use in the Subbasin is in overdraft by an average of roughly 0.07 million AF/Y. Although the reductions in groundwater storage will be addressed through the Groundwater Sustainability Plan implementation period, the long-term regional overdraft could continue for many years without significant risk to the beneficial uses and users of groundwater in the Subbasin.¹⁰

The Groundwater Sustainability Plan also indicated that for the areas covered by the South Fork Kings Groundwater Sustainability Agency (includes the City of Lemoore), the average annual storage change for this area is estimated at a negative 37,840 AF.

Water Code Sections 10910(f)(3) and (4) – Description and Analysis of Amount and Location of Groundwater Pumped

Based on the most recent information available in the City’s 2015 UWMP, the amount of groundwater pumped by the City from years 2011 – 2015 is shown below.¹¹

<u>Year</u>	<u>Groundwater Volume Pumped</u>
2011	2,289 AF
2012	2,471 AF

⁹ Tulare Lake Subbasin Groundwater Sustainability Plan (Jan. 2020), page 3-30.

¹⁰ Ibid, page 4-13.

¹¹City of Lemoore – 2015 UWMP, page 37, table 6-1.

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2013	2,579 AF
2014	2,422 AF
2015	2,076 AF

Additional information is provided below from the 2020 WMP regarding historical groundwater use in the City and is shown in gallons per capita per day (GPCD). The figures used for years 2017 – 2020 are based on the baseline average of 171 GPCD identified in the City’s 2020 WMP.¹²

<u>Year</u>	<u>Per Capita Demand</u>
2011	166 GPCD
2012	174 GPCD
2013	191 GPCD
2014	157 GPCD
2015	128 GPCD
2016	124 GPCD
2017	171 GPCD*
2018	171 GPCD*
2019	171 GPCD*
2020	171 GPCD*

*indicates baseline average

The City provides water distribution to approximately 26,000 residents, industrial and commercial users. The water distribution system consists of approximately 115 miles of active water pipelines, ranging from 1 to 18 inches, 10 active wells, 5 storage tanks and 4 pump stations.¹³

The City’s existing groundwater wells and capacity are summarized as follows:¹⁴

<u>Well Name</u>	<u>Current Status</u>	<u>Well Capacity (GPM)</u>
Well 2	Inactive	--
Well 3	Abandoned	--
Well 4	Active	1,850
Well 5	Active	1,850
Well 6	Active	1,100
Well 7	Active	1,200
Well 8	Abandoned	--
Well 9	Emergency	1,200
Well 10	Seasonal	2,000

¹² City of Lemoore - 2020 Water Master Plan, page 4-5, table 4.3.

¹³ Ibid, page 1-1.

¹⁴ Ibid, page 3-1.

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Well 11	Active	800
Well 12	Backup	1,150
Well 13	Active	1,000
Well 14	Active	<u>1,000</u>
Total:		13,150

Based on the capacity of the existing wells, the City is capable of producing of up to 6,912 MG per year (13,150 GPM @ 24 hours/day X 365 days per year = 6,912 MG).

Refer also to Section 7.0 – Water Supply Rights and Entitlements; Historic Water Usage for more information from the City’s 2015 UWMP.

Water Code Section 10910(f)(5) – Analysis of the Sufficiency of the Groundwater from the Basin from which the Proposed Project will be Supplied to Meet Projected Water Demand Associated with the Project.

Please refer to Section 4.0 – Comparison of Project Demand to Water Supply Sources for the analysis under Water Code Section 10910(f)(5).

4.0 COMPARISON OF PROJECT DEMAND TO WATER SUPPLY SOURCES

As discussed herein, the sole source of water for the City is through groundwater pumping. The 2015 UWMP indicates there are 17.1 million AF to a depth of 300 feet and 82.5 million AF to the base of fresh groundwater within the Tulare Lake Subbasin. However, the City's groundwater wells are located within the boundary of the City and much of the groundwater located in the Subbasin is not accessible to the City. Using the acreage of the existing City and a conservative estimate of 100 vertical feet of groundwater as the volume of groundwater accessible to City wells at various depths, it was calculated that the existing groundwater water supply available to the City is 178,228 million gallons (MG). It should be noted that the City has not yet determined a safe yield, but it is assumed in the 2015 UWMP that the projected groundwater supply through year 2040 is also 178,228 MG. The 2015 UWMP's projections of reasonably available water are as follows:¹⁵

<u>Year</u>	<u>Reasonably Available Volume</u>
2020	178,228 MG
2025	178,228 MG
2030	178,228 MG
2035	178,228 MG
2040	178,228 MG

It should be noted that the 178,228 MG is the estimated total volume of groundwater that is available. However, based on the City's existing water infrastructure, the City is capable of producing up to 6,912 MG per year (13,150 GPM @ 24 hours/day X 365 days per year = 6,912 MG).

The City's 2015 UWMP assumed a City growth rate of 3.1% and provided population projections that were used for the 2015 UWMP's analysis as follows:

<u>Year</u>	<u>2015 UWMP Population Assumptions</u>
2020	29,804
2025	34,719
2030	40,445
2035	47,115
2040	54,885

More recent population projection information was provided in the City's Water Master Plan (2020 WMP). The Lacey Ranch Project was identified specifically in Figure 2.2 of the 2020 WMP

¹⁵ City of Lemoore – 2015 Urban Water Management Plan, page 42.

as a “known future development” and was included in the 2020 WMP projections. The 2020 WMP provided the following population projections:

<u>Year</u>	<u>2020 WMP Population Assumptions</u>
2020	27,089
2025	28,332
2030	29,633
2035	30,993
2040	32,416

The proposed Project would result in the development of up to 825 residential units. The City averages 3.1 persons per household, which could result in an increase of approximately 2,558 people at full Project buildout. Using the information from the 2020 WMP, the City’s current population of 27,089 residents would be increased by approximately 9.5% to 29,647 from the Project alone. Table 4-1 shows the City’s existing population (per the City’s 2020 WMP), the increase in population from the proposed Project, and the City’s 2020 WMP projected population in Year 2040. The last column shows the additional population that could be accommodated under the City’s 2020 WMP even with full buildout of the proposed Project.

Table 4-1: WMP Population Estimates

Year 2020 Population	Proposed Project Population	Existing Plus Project Population	WMP 2040 Projected Population	Additional Population That Could Be Accommodated Under the 2020 WMP Assuming Lacey Ranch Full Buildout
27,089	2,558	29,647	32,416	2,769

While other future residential developments are also likely to occur in the City, it is likely that many of the newer residents would populate the Lacey Ranch Project, as it would provide a variety of housing needs (multi-family and single-family). The City’s 2020 WMP anticipated a population of up to 32,416 people by 2040. Given the City’s current population as identified in the 2020 WMP (27,089 persons), the City could accommodate the proposed Project plus an additional 2,769 persons according to the underlying assumptions of the City’s 2020 WMP. The 2015 UWMP assumed a much larger population in 2040 of 54,885. Under that scenario, the City could accommodate another 25,238 people (in addition to Year 2020 population + Lacey Ranch population). Based on this information, it is reasonable to assume that the Project is within the

population growth projections (and associated water availability) identified in both the City's 2015 UWMP and the City's 2020 WMP.

As previously stated, the Project would require 518 AF (or approximately 169 MG) of water per year from the City's water system. The City can produce up to approximately 6,912 MG per year of potable water. The projected 2040 demand in the City is 4,830 MG, leaving a difference of 2,082 MG. At 169 MG, the Project would account for approximately 8.1% of the projected 2040 demand in the City. Since the City's 2015 UWMP has projected sufficient reasonably available volumes of water and because the Project is within the population growth assumptions (and associated water availability) identified in both the City's 2015 UWMP and 2020 WMP, there is sufficient water to serve the Project.

The City's General Plan provides policies related to annexation of agricultural properties. Specifically, General Plan Policy PU-I-10 states the following: "Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City." The Project Applicant currently has 100 water shares (equivalent to 150 AFY) that are subject to this Policy.

5.0 INCLUSION IN ADOPTED URBAN WATER MANAGEMENT PLAN (Water Code Section 10910(C)(1))

The proposed Lacey Ranch Project site is currently adjacent to the City limits of Lemoore and is proposed for annexation into the City. Upon annexation, the site will be included within the City's potable water service boundaries and will be subject to the City's most recently adopted Urban Water Management Plan. The Project's estimated increase in population (2,558 residents) was included within the population projections of the City's 2015 Urban Water Management Plan (2015 UWMP). Pages 10 through 15 of the 2015 UWMP show the location and population projection estimates that were assumed in the 2015 UWMP.

The following pages are extracted directly from the adopted 2015 UWMP (Pages 10 through 15) in satisfaction of Water Code Sections 10910(A)(1) and 10910(D)(2).

SECTION 3 - SYSTEM DESCRIPTION

3.1 - Service Area

10631(a). Describe the service area of the supplier.

The City is located within the northern portion of Kings County, in the center of the San Joaquin Valley, approximately 200 miles north of Los Angeles and 210 miles south of San Francisco. The City is situated at the junction of State Highway (SR) 198 and SR-41 (Figure 3-1). The City is surrounded by agricultural development, with smaller parcels north and east of the community and large holdings west and south. A major economic factor in the community's economy is Lemoore Naval Air Station located west of the City. The City of Lemoore's water system serves the incorporated area of the City (see Figure 3-2).

3.2 - System

The City does not sell water to any other agencies nor to any water users outside the City limits. Information about the water system comes from the *2030 Lemoore General Plan Draft Environmental Impact Report* (City of Lemoore, 2007).

The City currently utilizes local groundwater as its sole source of municipal water supply. The City's municipal water system extracts its water supply from underground aquifers via six active groundwater wells within the City limits (see Figure 3-3) and two in a wellfield approximately 5 miles north of the City. Water is conveyed from the wells to the consumers via a distribution system with pipe sizes between 6 and 16 inches in diameter. The City maintains four ground-level storage reservoirs within the distribution system, with a total capacity of 4.4 million gallons (MG). The City's main water distribution plant is located along G Street west of Lemoore Avenue. In addition to the main domestic water supply, the City operates a separate system to supply industrial water to the Olam tomato processing plant. The two water systems can be connected in case of an emergency such as a major fire or natural disaster.

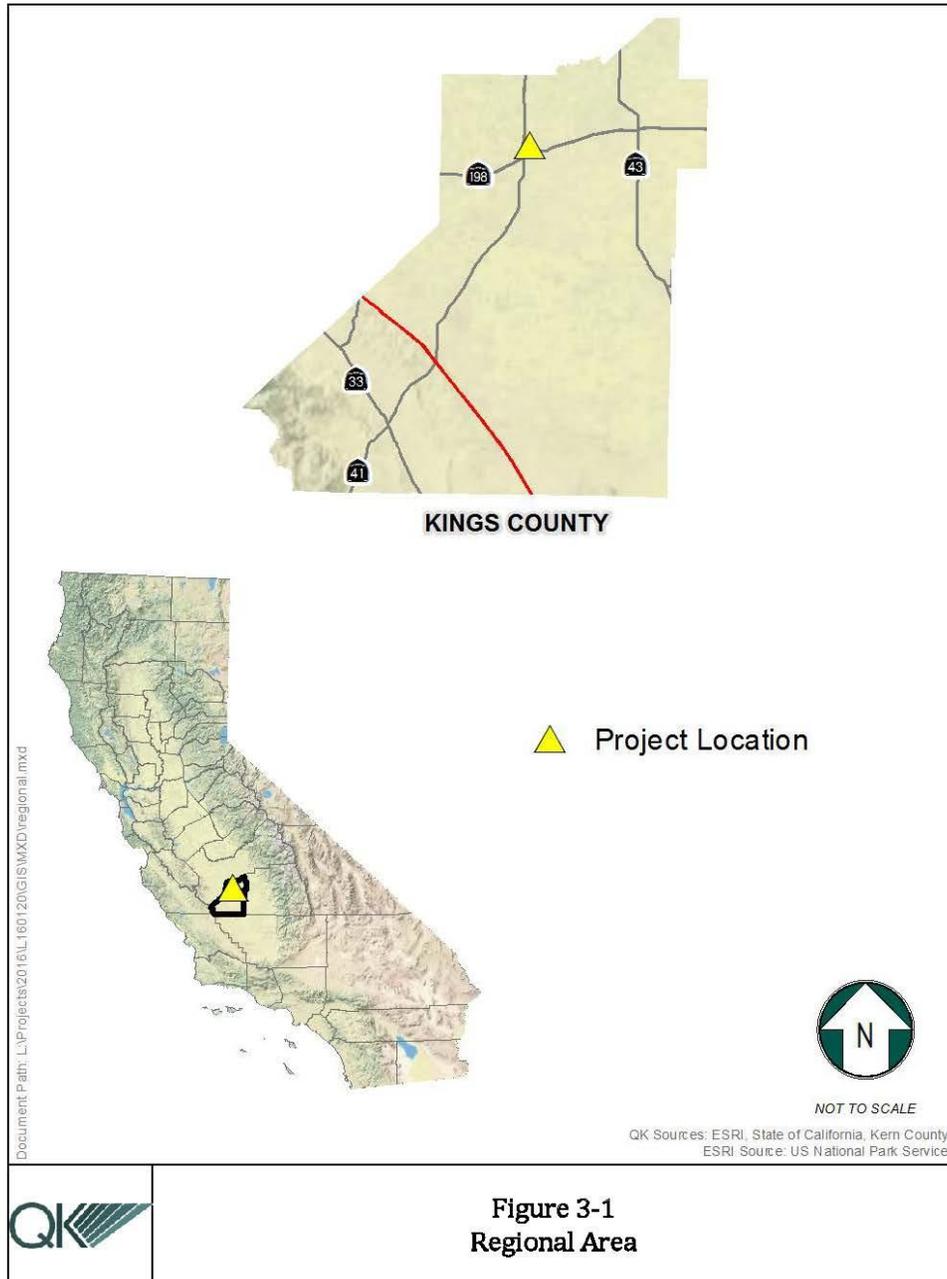
3.3 - Climate

10631(a). Describe the climate of the service area of the supplier.

The climate of the Lemoore area is characteristic of that of the Southern San Joaquin Valley. The summer climate is hot and dry, while winters are cool and periodically humid. Mean daily maximum temperatures range from a low of approximately 40 degrees Fahrenheit (°F) in February to a high of about 96°F in August. Rainfall is concentrated during the six months from October to May. December and January typically experience heavy fog, mostly nocturnal, caused when moist cool air is trapped in the valley by high pressure systems. In

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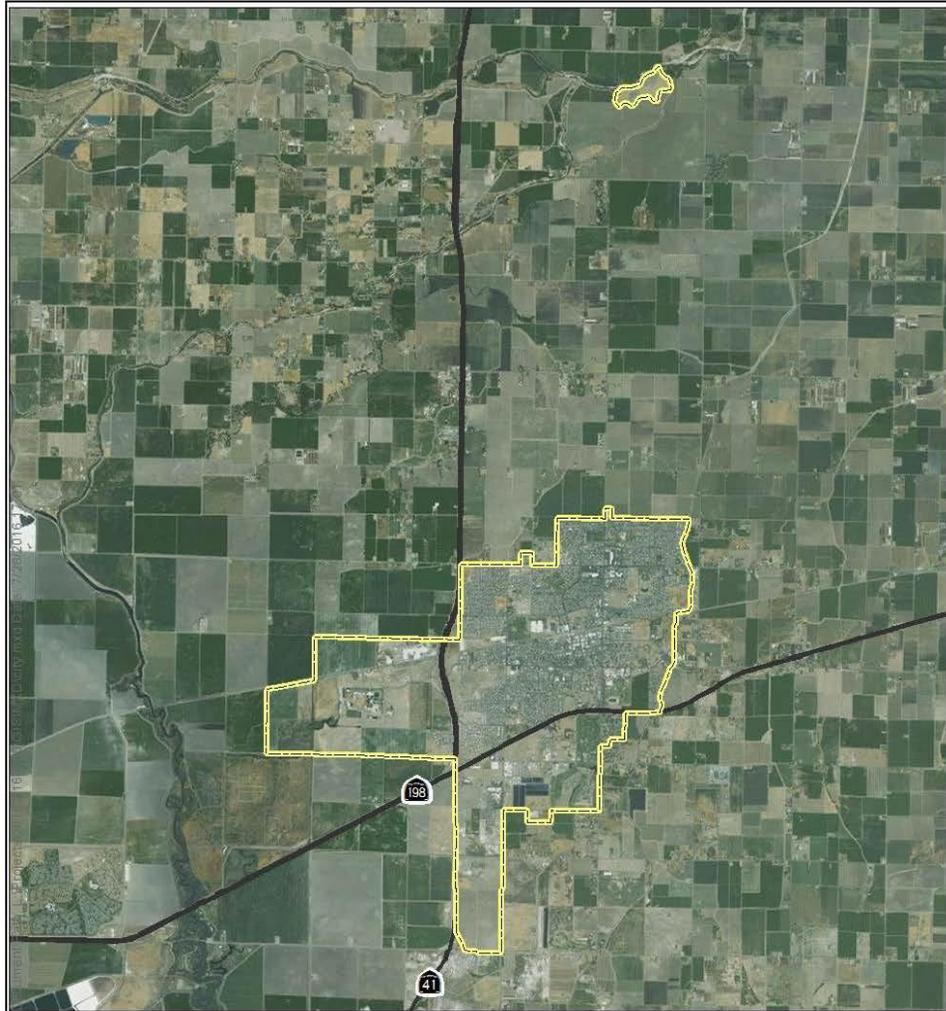
System Description



**Figure 3-1
Regional Area**

Final

System Description



 City of Lemoore



ESRI Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics,



Figure 3-2
City Limits

Final

System Description



Final

System Description

extreme cases, this fog may last continuously for two or three weeks. Its depth is usually less than 3,000 feet.

The Valley area is subject to characteristic seasonal air flows. During the summer, air currents from the Pacific Ocean enter the Valley through the San Francisco Bay and Delta region and are forced down the valley. These air movements are primarily to the southeast at velocities of 6 to 10 miles per hour (mph). During the winter, cold air flowing off the surrounding mountains results in currents toward the northwest and velocities ranging from 0 to 5 mph. These airflows result in extensive horizontal mixing of air masses in the Valley. However, vertical dispersion is constrained by temperature inversions, an increase in air temperature in a stable atmospheric layer, which may occur throughout the year.

Climatic data of the Lemoore area is summarized as follows:

2015-2016 Stratford Station Climate Data

Month	Average Evapotranspiration (ETo) (inches)	Average Temperature (Fahrenheit)	Average Total Precipitation (inches)	Average Relative Humidity (%)
January	1.30	49.4	2.43	85
February	2.80	53.5	0.04	75
March	4.37	58.2	0.62	66
April	6.23	64.5	0.69	51
May	7.86	70.6	0.60	48
June	9.67	80.3	0.00	33
July	8.72	82.9	0.03	41
August	8.42	80.6	0.00	40
September	6.57	76.3	0.00	36
October	4.36	69.2	0.40	52
November	2.33	49.1	0.61	67
December	1.47	44.1	1.20	78
2015 Annual	64.1	64.9	6.6	56

3.4 - Service Area Population and Demographics

16031(a). Indicate the current population of the service area.

16031(a). Provide population projections for 2020, 2025, 2030, and 2035.

Recognized as a community in 1873 the town was initially called Latache. In 1893 the small settlement was renamed Lemoore, and by the turn of the century, Lemoore reached a population of just less than 1,000 residents. Incorporated in July of 1900, the City prospered as a small agricultural service center.

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System Description

Lemoore has experienced increases in population in every decade since 1970. Between 1970 and 1980 the population increased 109% reflecting the expansion of the Lemoore Naval Air Station and industrial development in northern Kings County.

Anticipating increased water demand from population growth is an important aspect of an UWMP. Lemoore’s 2015 UWMP analyzes the effects of increased demand on water resources arising from sustained population growth, which will be important information for decision makers as they plan for the anticipated growth. Currently, the City Limits contain 1,059 acres of undeveloped land, with 4,371 acres already developed (City of Lemoore, 2012).

Per the California Department of Finance (DOF), the City’s population in 2015, was 25,585. Table 3-1 shows the calculated population projection based on the 2030 General Plan’s estimated 3.1% annual increase. These projections will be used as a basis for this Plan’s analysis. (Continued expansion of Lemoore Naval Air Station, as a principal employer near the community, is assumed.)

Table 3-1 Retail: Population - Current and Projected

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	25,585	29,804	34,719	40,445	47,115	54,885
NOTES: Based on California Department of Finance estimates and an annual projected growth rate of 3.1%						

3.5 - Other Demographic Factors

16031(a). Describe other demographic factors affecting the supplier’s water management planning.

There are no unique or pertinent community demographic characteristics which will influence future population growth or water usage.

6.0 DRY YEAR WATER SUPPLY ADEQUACY (Water Code Section 10910(C)(4))

The following dry year water supply adequacy is excerpted from the adopted 2015 UWMP for the City-served area.

The following pages are extracted directly from the adopted 2015 UWMP (Pages 43 through 48) in satisfaction of Water Code Sections 10910(A)(1) and 10910(D)(2).

SECTION 7 - WATER SUPPLY RELIABILITY ASSESSMENT

CWC 10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

All UWMPs must include an assessment of the reliability of their water supplies. The water supply and demand assessment must compare the total projected water use with the projected water supply, in 5-year increments, through the next 20 years. This section presents a comparison of the water demands and supplies within the City's service area, and assesses supply versus demand during normal years, single dry water years, and multiple dry water years. This section describes the long-term reliability of Lemoore's water supply while *Section 8 - Water Shortage Contingency Planning* provides short-term reliability planning that may require immediate action, such as a drought or a catastrophic supply interruption.

7.1 - Constraints on Water Sources

CWC 10631(c)(2). For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

The City obtains 100% of its potable water supply from groundwater pumping. Regardless of climatic conditions, there is approximately 82.5 million AF of water to the base of fresh groundwater within the Tulare Lake Subbasin. Using the acreage of the existing City and a conservative estimate of 100 vertical feet of groundwater as the volume of groundwater accessible to City wells at various depths, it was calculated that the existing groundwater water supply available to the City is 178,228 MG (see Table 6-8). This water supply is available to the City regardless of the climatic conditions related to average, single-dry, and multiple-dry years.

However, because the City relies entirely on groundwater wells, the drawdown will be more severe in drought years and high mean temperature years. Since the entire central San Joaquin Valley has been experiencing severe drought conditions over the last four years, the groundwater drawdown may eventually reach a critical point particularly in depth of wells. Groundwater would still be available to the City over the UWMP planning horizon, but the need to deepen wells may become necessary in the future in the event of prolonged drought. The City has watering regulations in place to ensure water conservation and provide education to all customers. These regulations can be found on the City's website. Additionally, future SGMA regulations will mandate safe yields within the Tulare Lake Subbasin, which will further alleviate the possibility of requiring the deepening of wells in the future. Compliance with SGMA may require the City to come up with alternative sources of water in the future based on the result of the Groundwater Sustainability Plan to be

developed, but now the City can pump as much water as is required to supply the needs of the City.

From a water quality perspective, the City's water system includes six active groundwater wells within the City limits (see Figure 3-3) and two in a wellfield approximately 5 miles north of the City. The City produces an annual water quality report required by the California State Department of Health Services. The report summarizes the water quality sampling results for 2015 for all water customers. The data collected, though representative, is more than one-year-old with data that ranged from 2013 to 2015.

Based on the *2015 City of Lemoore Water Quality Consumer Confidence Report* (City of Lemoore, 2016), the City's water system recently failed a drinking water monitoring requirement. Prior to October 2013, Stage 1 compliance with the total trihalomethane (TTHM) maximum contaminant level (MCL) was based on a running annual average of four sample locations. The MCL for TTHMs is 0.080 mg/L. Testing results prior to Oct. 1, 2013 show that the system exceeded the TTHM MCL. As of October 2013, the Stage 2 Rule went into effect, in which compliance is based on a locational running annual average (LRAA), calculated individually for each sample site. The City is continuing to collect new data to determine compliance with the MCL using the LRAA. The City is currently running pilot testing at well site 7 to determine potential treatment processes that will lower the TTHM level of the water. During the transition period, the City remains in violation of the Stage 1 MCL until a Stage 2 MCL compliance determination can be made.

7.2 - Reliability by Type of Year

CWC 10620(f). An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

CWC 10631(c)(1). Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(A) An average water year.

(B) A single-dry water year.

(C) Multiple-dry water years.

There are two aspects of supply reliability that can be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second aspect is climate related, and involves the availability of water during mild or severe drought periods. This section compares water supplies and demands during three water scenarios: average or normal water year, single-dry water year, and multiple-dry water years. These scenarios are defined as follows:

- Average year – a year, or an averaged range of years, that most closely represents the median runoff levels and patterns. The supply quantities for this condition are derived from historical average yields. Within this document the terms “normal” and “average” are used interchangeably;
- Single-dry year – the year with the lowest water supply availability. Generally considered to be the lowest annual runoff for a watershed since the water-year beginning in 1903; and
- Multiple-dry years – the lowest average water supply availability to the agency for a consecutive multiple year period (three years or more). Generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Drought years for the hydrologic region can be determined by referencing DWR’s Chronological Reconstructed Sacramento and San Joaquin Valley Water Year Hydrologic Classification Indices 1995 to 2015 (WSIHIST) (California Department of Water Resources, 2016). The City is currently experiencing a multiple dry year cycle, which started in 2012 and has continued through 2015. Within this multiple dry year period, the City still could meet all its water demands without the need to implement water management tools. Also, the impact of an extreme single dry year such as 2015 did not impact the ability of the City to meet all its water demands. Supply reliability for average water years such as 2010 and multiple and single dry years is shown in Table 7-1. The reliability of water service, which is subject to proper operation and maintenance of the City’s water distribution system and its ability to deliver the water, is discussed in *Section 6 – System Supplies*.

Table 7-1 Retail: Basis of Water Year Data

Table 7-1 Retail: Basis of Water Year Data			
Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2010	N/A	100%
Single-Dry Year	2015	N/A	100%
Multiple-Dry Years 1st Year	2012	N/A	100%
Multiple-Dry Years 2nd Year	2013	N/A	100%
Multiple-Dry Years 3rd Year	2014	N/A	100%
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			

Therefore, the City has a reliable water supply and is not vulnerable to seasonal and climatic shortages. There is no current need for plans to supplement or replace the existing groundwater source available to the City with alternative sources or water demand management measures.

7.3 - Supply and Demand Assessment

10635(a). Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

7.3.1 - AVERAGE (OR NORMAL) YEAR

Normal year supply and demand projections and differences are presented in Table 7-2.

Table 7-2 Retail: Normal Year Supply and Demand Comparison

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	178,228	178,228	178,228	178,228	178,228
Demand totals (autofill from Table 4-3)	2,324	2,745	3,351	3,830	4,530
Difference	175,904	175,483	174,877	174,398	173,698

As shown in Table 7-2, future water supplies are anticipated to not only meet, but far exceed demands in normal year conditions through year 2040.

7.3.2 - SINGLE DRY YEAR

Projected supplies were compared to the increased demands for a single-dry year and are presented in Table 7-3.

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	178,228	178,228	178,228	178,228	178,228
Demand totals	2,324	2,745	3,351	3,830	4,530
Difference	175,904	175,483	174,877	174,398	173,698

As shown in Table 7-3, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under single-year drought conditions.

7.3.3 - MULTIPLE DRY YEARS

Projected supplies were compared to the increased demands for various multiple dry-year scenarios and are presented in Table 7-4.

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	178,228	178,228	178,228	178,228	178,228
	Demand totals	2,324	2,745	3,351	3,830	4,530
	Difference	175,904	175,483	174,877	174,398	173,698
Second year	Supply totals	178,228	178,228	178,228	178,228	178,228
	Demand totals	2,324	2,745	3,351	3,830	4,530
	Difference	175,904	175,483	174,877	174,398	173,698
Third year	Supply totals	178,228	178,228	178,228	178,228	178,228
	Demand totals	2,324	2,745	3,351	3,830	4,530
	Difference	175,904	175,483	174,877	174,398	173,698
Fourth year <i>(optional)</i>	Supply totals	178,228	178,228	178,228	178,228	178,228
	Demand totals	2,324	2,745	3,351	3,830	4,530
	Difference	175,904	175,483	174,877	174,398	173,698
Fifth year <i>(optional)</i>	Supply totals	178,228	178,228	178,228	178,228	178,228
	Demand totals	2,324	2,745	3,351	3,830	4,530
	Difference	175,904	175,483	174,877	174,398	173,698
Sixth year <i>(optional)</i>	Supply totals	178,228	178,228	178,228	178,228	178,228
	Demand totals	2,324	2,745	3,351	3,830	4,530
	Difference	175,904	175,483	174,877	174,398	173,698

As shown in Table 7-4, anticipated groundwater supplies are sufficient to meet all demands through the year 2040 even under multiple-dry year drought conditions.

7.0 WATER SUPPLY RIGHTS AND ENTITLEMENTS; HISTORIC WATER USAGE (Water Code Section 10910(A)(1) and 10910(D)(2))

The City of Lemoore utilizes only groundwater for its potable water. The following pages are extracted directly from the adopted 2015 UWMP (Pages 32 through 42) in satisfaction of these Code sections. This information is applicable to the entire City of Lemoore municipal water service area.

The following pages are extracted directly from the adopted 2015 UWMP (Pages 32 through 42) in satisfaction of Water Code Sections 10910(A)(1) and 10910(D)(2).

SECTION 6 - SYSTEM SUPPLIES

CWC 10631(b). Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

This section describes and quantifies sources of water available to the City. As discussed in *Section 4 – System Water Use*, the City of Lemoore produces all its water supply through pumping groundwater using City facilities. The City does not purchase water from any other source. There are no current plans to purchase wholesale water in the near future. Thus, the City does not:

- Purchase or import water;
- Use surface water;
- Reuse stormwater, wastewater, or recycled water;
- Desalinate water; or
- Enter into water exchanges or transfers.

Therefore, the following discussion focuses on groundwater as the City's only existing water supply. This section also discusses future water projects and provides a summary of existing and planned sources of water.

6.1 - Purchased or Imported Water

The City does not purchase or import water from other water suppliers or other entities. There are no plans for the City to purchase or import water as part of its water supply.

6.2 - Groundwater

CWC 10631(b). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

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(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

6.2.1 - BASIN DESCRIPTION

The groundwater subbasin underlying the City of Lemoore, and thus the service area, is the Tulare Lake Subbasin (Groundwater Basin No. 5-22.12). The Tulare Lake Subbasin is one of eight subbasins within the Tulare Lake Hydrologic Region that transport, filter, and store water (see Figure 6-1). The major rivers in the Subbasin that provide most of the surface water runoff for the Region is the Kings River.

Of the 5.1 million acres of the San Joaquin Valley Basin, the Tulare Lake Subbasin has a surface area of 524 thousand acres (818 square miles). The Tulare Lake Subbasin is bounded on the south by the Kings-Kern county line, on the west by the California Aqueduct, the eastern boundary of Westside Groundwater Subbasin, and Tertiary marine sediments of the Kettleman Hills. It is bounded on the north by the southern boundary of the Kings Groundwater Subbasin, and on the east by the westerly boundaries of the Kaweah and Tule Groundwater Subbasins. The southern half of the Tulare Lake Subbasin consists of lands in the former Tulare Lake bed in Kings County. (Department of Water Resources, 2006).

Basin Levels and Storage

Per Bulletin 118, the estimated water storage capacity of the Tulare Lake Subbasin is estimated to be 17.1 million acre-feet (AF) to a depth of 300 feet and 82.5 million AF to the base of fresh groundwater. The average subbasin water level was reported to decline nearly 17 feet from 1970 to 2000. The period from 1970 through 1978 showed moderate declines with many fluctuations, totaling about 12 feet. The 10-year period from 1978 to 1988 saw more fluctuations and a general increase of about 24 feet, bringing water levels up to 12 feet above the 1970 water levels. 1988 through 1993 showed steep declines, bottoming out in 1993 at 23 feet below 1970 water levels. Water levels rose from 1993 to 1999 to about 10 feet below the 1970 level. From 1999 to 2000, water levels dropped another 7 feet, bringing the water levels to about 17 feet below 1970 water levels. Fluctuations in water levels have been most exaggerated in the lakebed area of the Subbasin. This area has the steepest decreases in water levels as well as some of the strongest increases in water levels. (Department of Water Resources, 2006).

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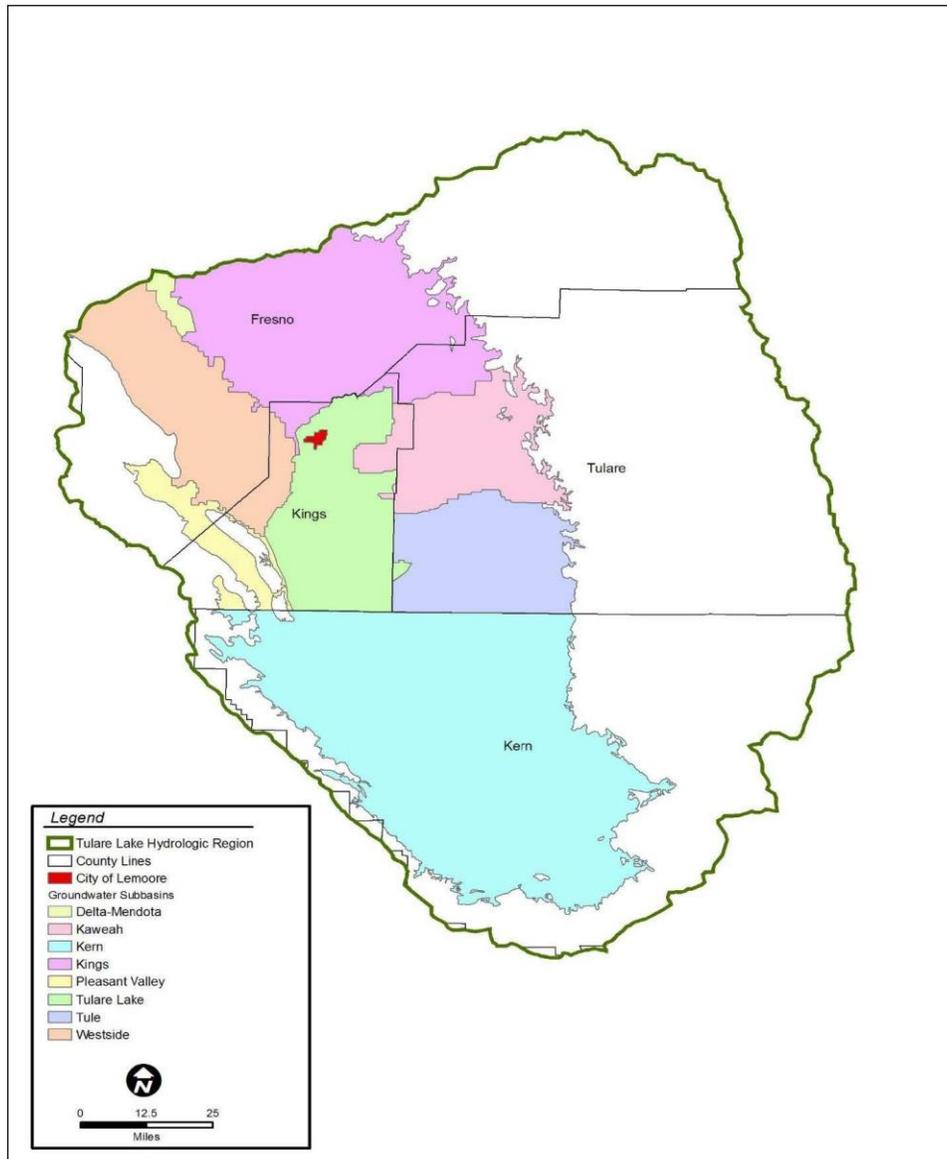


Figure 6-1
Tulare Lake Hydrologic Region

Basin Water Quality

The water in this groundwater subbasin is generally a calcium bicarbonate type in the northern portion. This trends towards sodium bicarbonate as it approaches the Tulare Lakebed. Total dissolved solids (TDS) values typically range from 200 to 600 milligrams per liter (mg/L). TDS values of shallow groundwater in drainage problem areas are as high as 40,000 mg/L. The Department of Health Services, which monitors Title 22 water quality standards, reports TDS values in 36 wells ranging from 150 to 820 mg/L, with an average value of 342 mg/L. The City of Hanford reports electric conductivity values in 14 wells ranging from 210 to 820 micromhos per centimeter ($\mu\text{mhos/cm}$), with an average value of 554 $\mu\text{mhos/cm}$. (Department of Water Resources, 2006).

There are areas of shallow, saline groundwater in the southern portion of the Subbasin and localized areas of high arsenic. The City of Hanford reports odors caused by the presence of hydrogen sulfide. (Department of Water Resources, 2006).

6.2.2 - GROUNDWATER MANAGEMENT

An adjudicated groundwater basin refers to when, because of a lawsuit, the court decides who extracts from the basin, how much they extract, and who will manage the basin. The San Joaquin River Groundwater Basin is not adjudicated, as defined by the *California Water Plan Update - Bulletin 160-98*, Figure 3-28 (p. 3-54) and Table 3-16 (p. 3-55) (California Department of Water Resources, 1998). Therefore, there are no limitations placed on groundwater pumpage volumes.

The City has not adopted a groundwater management plan. The *Lower Kings Basin Groundwater Management Plan Update* (GWP Update) has been adopted by the Kings River Conservation District, which includes the area of the groundwater subbasin in which the City underlies (Kings River Conservation District, 2005). The GWP Update includes goals and objectives for groundwater management and financing, governance options, and management and implementation plans.

The overall goal of the GMP Update is:

To document the local approach to stopping overdraft, sustaining the local economy, and ensuring a sustainable groundwater system through development of specific projects and facilities to capture unallocated floodwater for groundwater storage and conjunctive use, whenever and wherever such water is available consistent with existing agreements, rights, and entitlements.

The objectives were crafted to reflect the District's values and priorities for meeting the GMP Update goal.

- Identify and build near-term groundwater recharge projects within each Water Management Area to capture flood flows; begin to stabilize the basin; and demonstrate project feasibility, benefits, and cost effectiveness;

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- Establish rational and attainable Best Management Objectives, both regionally and for specific Water Management Areas, to measure and track progress;
- Formulate long-term regional strategies to take advantage of groundwater storage space in the Lower Kings Basin;
- Maintain local control of the groundwater basin by developing agreements and institutional arrangements that promote the responsible management of groundwater resources by overlying cities, water districts, agencies, companies, and landowners;
- Continue to track progress, and coordinate, GWP Update implementation;
- Research and define financing strategies and program oversight to implement the GWP Update projects and programs;
- Implement monitoring programs that increase the understanding of Lower Kings Basin operations, track progress toward meeting goals, and evaluate and forecast conditions; and
- Prevent degradation of groundwater quality.

The City is under no obligation to effectuate any of the goals, objectives, or plans outlined in the GWP Update.

The City will be involved in the formation and management of a locally-controlled Groundwater Sustainability Agency (GSA) under the Sustainable Groundwater Management Act (SGMA). However, as stated in the *2015 UWMPs Guidebook for Urban Water Suppliers* (California Department of Water Resources, 2016), “new requirements for groundwater management under SGMA will not apply to the 2015 UWMPs.” Therefore, these requirements will not be further discussed in this 2015 UWMP.

6.2.3 - OVERDRAFT CONDITIONS

As required by CWC 10631(b)(2), for basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted, an UWMP must include a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

The Tulare Lake Subbasin and greater San Joaquin Valley Groundwater Basin (Groundwater Basin No. 5-22) have been in a state of overdraft for many years. The estimated average overdraft in the San Joaquin Valley Basin was estimated to be 239,000 AF in 1995 (California Department of Water Resources, 1998).

The City is located within an area defined by the Kings River Conservation District as Water Management Area (WMA) C in the GWP Update (see Figure 6-2). Within the WMA C, 20 representative wells show that average groundwater levels have fallen from above 190 feet above mean sea level (msl) to about 120 feet above msl between 1950 and 2005 (Kings River Conservation District, 2005). The following table provides cumulative and average annual overdraft within the WMA C area.

Final	System Supplies			
Cumulative and Average Annual Overdraft in the WMA C Area (1950 – 2005)				
Area (acres)	Total Overdraft 1950 to 2005 (AF)	Annual Overdraft 1950 to 2005 (AF/yr)	Total Overdraft 1965 to 2005 (AF)	Annual Overdraft 1965 to 2005 (AF/yr)
57,328	501,000	9,000	243,000	6,000

Source: (Kings River Conservation District, 2005).

6.2.4 - GROUNDWATER PUMPING

The City currently utilizes local groundwater as its sole source of municipal water supply. The City's municipal water system extracts its water supply from underground aquifers via six active groundwater wells within the City limits (see Figure 3-3) and two in a wellfield approximately 5 miles north of the City. The City maintains four ground-level storage reservoirs within the distribution system, with a total capacity of 4.4 MG. In addition to the main domestic water supply, the City operates a separate system to supply industrial water to the Olam tomato processing plant. The two water systems can be connected in case of an emergency such as a major fire or natural disaster. A detailed discussion of water quality is contained in *Section 7 – Water Supply Reliability Assessment*.

The amount of groundwater pumped by the City over the last 5 years is shown in Table 6-1. The amount of groundwater projected to be pumped in 5-year increments over the next 20 years is shown in Table 4-2 in *Section 4 – System Water Use*. The projected retail demands for potable and raw water shown in the table are supplied solely by groundwater pumping.

Table 6-1 Retail: Groundwater Volume Pumped

Table 6-1 Retail: Groundwater Volume Pumped						
<input type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2011	2012	2013	2014	2015
<i>Add additional rows as needed</i>						
Alluvial Basin	Subbasin 5-22.14 of the Tulare Lake Hydraulic Region	2,289	2,471	2,579	2,422	2,076
TOTAL		2,289	2,471	2,579	2,422	2,076

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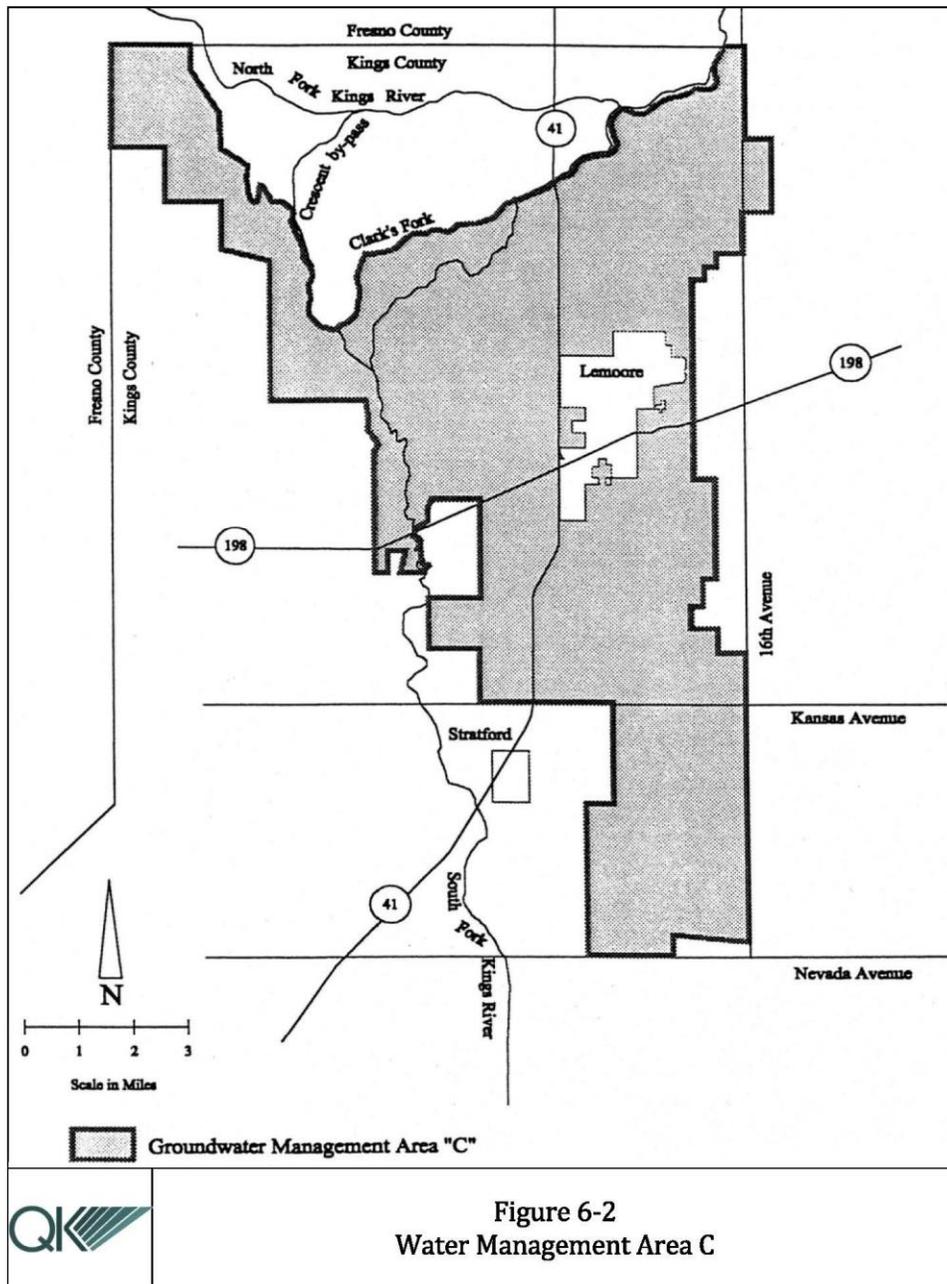


Figure 6-2
 Water Management Area C

6.3 - Surface Water

The City does not draw water from streams, lakes or reservoirs for use in its potable water distribution system. There are no plans for the City to use surface water as part of its water supply.

6.4 - Stormwater

The City does not intentionally divert stormwater for beneficial use within its potable water distribution system. There are no plans for the City to use stormwater to offset water supply.

6.5 - Wastewater or Recycled Water

CWC 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

The City of Lemoore Public Works Department operates a comprehensive wastewater collection, treatment, and disposal system that serves the City. The City's wastewater collection system is comprised of plastic pipelines and 17 pump stations. The City's wastewater treatment plant (WWTP) and Leprino Food's wastewater facilities are in the southwestern portion of the City. The City's WWTP is a secondary treatment facility with disinfection system that includes a headworks, aerated lagoons, and effluent chlorination. The Leprino Food's wastewater facilities include secondary-treatment level reactors and effluent ponding facilities; the effluent is routed through the City's lagoons and chlorinated prior to discharge with the rest of the City's treated effluent (City of Lemoore, 2007).

Final

System Supplies

Wastewater from the City's WWTP is transported through a 6-mile outfall to a discharge point in the Westlake Canal, which transports water from the Kings River to Westlake Farms for row crop irrigation (City of Lemoore, 2007). Discharge into the canal is allowed by the Central Valley Regional Quality Control Board under Waste Discharge Requirements Order No. 96-050. There are currently no actions being taken to encourage the use of recycled water in the City.

The City is not using and does not plan to use wastewater or recycled water within the planning horizon of the 2015 UWMP and therefore, per the Guidebook, only Tables 6-2, 6-3, and 6-6 need to be completed.

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
<input type="checkbox"/> There is no wastewater collection system. The supplier will not complete the table below.						
Percentage of 2015 service area covered by wastewater collection system <i>(optional)</i>						
Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
<i>Add additional rows as needed</i>						
City of Lemoore Public Workd Department	Metered	689	City of Lemoore	Lemoore WWTP	Yes	No
Total Wastewater Collected from Service Area in 2015:		689				

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015										
<input type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
<i>Add additional rows as needed</i>										
Lemoore WWTP	Westlake Canal	Irrigation canal	WDR No. 96-050	River or Creek Outfall	No	Secondary, Disinfected - 2.2	689	1,414	0	0
Total							689	1,414	0	0
NOTES: Effluent totals include 537 MG from Lemoore WWTP and 877 MG from Leprino Foods wastewater facilities.										

Table 6-6 Retail: Methods to Expand Future Recycled Water Use

Table 6-6 Retail: Methods to Expand Future Recycled Water Use	
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.

6.6 - Desalinated Water Opportunities

CWC 16031(h). Describe desalinated water project opportunities for long-term supply.

The City has no feasible opportunity for the development of a water desalination system as a long-term supply. With no nearby or convenient sources of saline water to desalinate, the cost of providing the water and then treating would outweigh the benefits.

6.7 - Exchange and Transfer Opportunities

CWC 10631(d). Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The City does not have any planned or potential future water exchanges or transfers.

6.8 - Future Water Projects

CWC 10631(g). Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

As shown in Table 6-7 below, the City is not expecting future water supply projects or programs in the future.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs

Table 6-7 Retail: Expected Future Water Supply Projects or Programs	
<input checked="" type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.

6.9 - Summary of Existing and Planned Sources of Water

As discussed above, the sole source of water for the City is through groundwater pumping. Continued groundwater pumping is also the only planned source of water in the future. Since

the Tulare Lake Subbasin is a non-adjudicated basin, there are currently no restrictions on groundwater pumping. The passage of SGMA may change this reality in the future, but the requirements of SGMA do not apply to 2015 UWMPs.

Per Bulletin 118, there are 17.1 million AF to a depth of 300 feet and 82.5 million AF to the base of fresh groundwater within the Tulare Lake Subbasin. However, the City's groundwater wells are located within the boundary of the City and much of the groundwater located in the Subbasin is not accessible to the City. Using the acreage of the existing City and a conservative estimate of 100 vertical feet of groundwater as the volume of groundwater accessible to City wells at various depths, it was calculated that the existing groundwater water supply available to the City is 178,228 MG (see Table 6-8). Please note that safe yield has not been calculated, but it is assumed that a quantification of safe yield will become mandatory during the next UWMP cycle in response to SGMA compliance.

Table 6-8 Retail: Water Supplies – Actual

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
<i>Drop down list</i> <i>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Actual Volume	Water Quality <i>Drop Down List</i>	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>				
Groundwater		178,228	Drinking Water	
	Total	178,228		0

For the same reasons discussed above, it is assumed that the projected groundwater water supply available to the City is also 178,228 MG for each of the projected years (see Table 6-9). Actual projected groundwater water supply may change during the next UWMP cycle in response to the results of Groundwater Sustainability Plans developed in the Tulare Lake Subbasin to comply with SGMA.

Table 6-9 Retail: Water Supplies – Projected

Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report to the Extent Practicable</i>									
		2020		2025		2030		2035		2040 <i>(opt)</i>	
<i>Drop down list</i> <i>May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>	Reasonably Available Volume	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>											
Groundwater	Tulare Lake Subbasin (S-22,12)	178,228		178,228		178,228		178,228		178,228	
	Total	178,228	0	178,228	0	178,228	0	178,228	0	178,228	0

8.0 CONTINGENCY ANALYSIS APPLICABILITY (Government Code Section 66473.7 (2)(b))

The City's adopted 2015 Regional Urban Water Management Plan provides a full spectrum of Water Shortage Contingency Plan measures (pages 49 through 64). These water supply contingency measures, applicable to the entire City of Lemoore municipal water service area, would be fully applicable to the Project and protective of the adequacy of the Project's water supply.

The following pages are extracted directly from the adopted 2015 UWMP (Pages 49 through 64) in satisfaction of Government Code Section 66473.7 (2)(b).

SECTION 8 - WATER SHORTAGE CONTINGENCY PLANNING

CWC 10632(a). The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

- (1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.*
- (2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.*
- (3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.*
- (4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.*
- (5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.*
- (6) Penalties or charges for excessive use, where applicable.*
- (7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.*
- (8) A draft water shortage contingency resolution or ordinance.*
- (9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.*

CWC 10632(b). Commencing with the urban water management plan update due July 1, 2016, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

The Urban Water Management Planning Act of 1983 requires water agencies to incorporate a water shortage contingency plan (WSCP) focusing on the allocation of water supplies and the management of water consumption during periods of shortage due to extended drought or a water emergency. This section describes the City's policies and ordinances to deal with water shortages. The City's water supply comes solely from groundwater pumping. As discussed in *Section 7 - Water Supply Reliability Assessment*, the City has a reliable water supply and is not vulnerable to seasonal and climatic shortages for the normal, dry-year, and multiple dry-year scenarios through year 2040. This reliability conclusion is caveated by the fact that future compliance with SGMA may require the City to come up with alternative sources of water in the future based on the result of the Groundwater Sustainability Plan to be developed. However, the City can now pump as much water as is required to supply its needs.

The City's WSCP illustrates specific water supply conditions that trigger the activation of voluntary and mandatory rationing efforts. It explains what the ability is to meet projected short-term demands during extended dry periods and emphasizes some of the significant proactive measures that enhance the City's ability to respond to interruptions in water supply should a natural or manmade disaster occur. The contingency plan outlines the planned response to failures in the infrastructure of the water system in the event of an earthquake, extensive power outage, or another catastrophic event. Finally, this section provides details about prohibitions and penalties against specific water uses during water shortages, and evaluates potential impacts to the water funds should water sales decrease because of supply shortages.

The City has enacted standard water conservation measures per Title 7 (Public Ways and Property), Chapter 7 (Water and Sewer Regulations), Article E (Water Conservation) of the City's Code. Specifically, Article E of the City's Code states:

7-7E-1: STANDARD WATER CONSERVATION MEASURES:

- A. Definitions: Unless the context requires otherwise, the following definitions shall be used in the interpretation and construction of this section:

DIRECTOR: The director of public works of the city of Lemoore.

PERSON: Any individual, firm, partnership, association, corporation or political entity.

WATER: Any water obtained from the water department of the city of Lemoore.

- B. Application Of Regulations: The provisions of this section shall apply to all persons using city supplied water, both inside and outside of the city limits.
- C. Regulations: In the use of water supplied by the city of Lemoore, the following requirements shall apply:

1. No person shall keep, maintain, operate, or use any water connection, hose, faucet, hydrant, pipe, outlet or plumbing fixture which is not tight and free from leakage, dripping or waste of water.
2. No person shall allow excessive water to run or waste from his property onto streets, highways or adjacent property.
3. No person shall willfully or negligently waste water in any manner.
4. Outdoor watering for those with even numbered addresses will be permitted on Tuesday, Thursday and Saturday, while odd numbered addresses may water on Wednesday, Friday and Sunday. Monday will be a day on which no outdoor watering is allowed.
5. The public works director may grant a thirty (30) day exception for new lawns not yet established.
6. Prohibition of draining of swimming pools with a capacity in excess of five thousand (5,000) gallons more than once every two (2) years, except for structural repairs or to comply with public health standards determined by the county health officer. Residents with private swimming pools shall file a written application for a permit prior to draining their pools with the public works department. The application shall include information as to reason for draining the pool and in case of repairs, the nature and duration of repairs to be made and the date on which the pool will be drained.
7. Washing of exterior asphalt or concrete areas is prohibited except for those businesses that are governed by the food and drug administration or state or county health department requirements that require these areas to be washed for health purposes. Documentation indicating such regulations must be provided to the director.
8. The use of water for washing cars, boats or other vehicles is prohibited without the use of a quick acting positive shutoff nozzle on the hose and the use of buckets for washing with water from the hose used for light rinsing. These regulations apply to residential customers. Car washes for fundraising events are prohibited.
9. Sprinkle, irrigate or otherwise apply water to any yard, ground, premises or vegetation on any day of the week between the hours of ten o'clock (10:00) A.M. and seven o'clock (7:00) P.M. during periods designated as "daylight savings time" (generally occurring between March and November).
10. Operate water fountains or other decorative water fixtures without recirculation pumps.
11. All new construction and remodeling or additions to habitable areas with a valuation in excess of five thousand dollars (\$5,000.00) will be required to install

or replace existing faucets and showerheads with low flow devices and toilets with ultra low flow units. (Ord. 2015-06, 7-7-2015)

7-7E-2: WATER EFFICIENT LANDSCAPE ORDINANCE ADOPTED:

This section should be known as "an ordinance of the city of Lemoore adopting the California model water efficient landscape ordinance, California code of regulations, title 23, division 2, chapter 2.7" and any amendments thereto by reference. (Ord. 2015-06, 7-7-2015)

7-7E-3: FINDINGS OF NECESSITY:

It is necessary to minimize the potential for water shortage through the practice of water conservation pursuant to the provisions of California Water Code section 375 et seq. It is further necessary to reduce the potential effect of a water shortage on the residents, businesses and visitors of Lemoore and to adopt provisions that will significantly reduce the inefficient consumption of water, thereby extending the available water resources necessary for the domestic, sanitation, and fire protection of the community to the greatest extent possible. Nothing in this chapter shall prevent the city from also declaring a water emergency pursuant to California Water Code section 350, if circumstances warrant such a declaration. (Ord. 2015-06, 7-7-2015)

7-7E-4: WATER CUSTOMER:

"Water customer", for the purposes of this chapter, shall mean any person, partnership, business, corporation, special district, public agency, or association or legal entity to which the city of Lemoore (city) supplies water or "user" of water supplied by the city. (Ord. 2015-06, 7-7-2015)

7-7E-5: APPLICATION:

This article shall be applicable to all water customers. (Ord. 2015-06, 7-7-2015)

7-7E-6: EXCEPTIONS AND EXEMPTIONS:

- A. Exceptions: The city manager or his or her designee shall grant an exception from the requirements of this chapter for any of the following reasons:
1. Water use is necessary to public health and safety or for essential government services; or
 2. Recycled water is being used; or
 3. Water use is necessary due to the medical needs of the water customer; or
 4. An alternative water source/supply is available for use.

B. Exemptions: The city council may grant an exemption to the requirements of this chapter, with or without conditions, if it determines that a water customer would otherwise experience extreme financial hardship that cannot be mitigated. The city council shall review any requests for an exemption from compliance with this chapter. A written request for an exemption must be submitted to the city clerk a minimum of two (2) weeks prior to the regularly scheduled council meeting at which the exemption is to be considered. If appropriate, the city council may require the customer granted an exemption to reduce water use by other appropriate alternative methods. Notwithstanding any other provision of this code, there shall be no right to further administrative review or appeal of the determination of exemption of the city council. The city council may establish an "exemption processing fee" by resolution. (Ord. 2015-06, 7-7-2015)

7-7E-7: AUTHORIZATION:

The city council may declare the conservation stage based on a determination made by the city manager, or based upon any reduction in water supply or delivery that the city council determines in its sole discretion necessitates water conservation pursuant to this chapter. The city council may determine and order water prohibitions and restrictions as outlined herein in the following levels:

Voluntary compliance

Level I conservation measures

Level II conservation measures

Level III conservation measures

(Ord. 2015-06, 7-7-2015)

7-7E-8: VOLUNTARY COMPLIANCE:

At this level of the conservation plan, the goal is to inform the public of the pressing need to conserve water. This can be done through information and education measures, which can directly affect water use habits of the city's customer base. While education alone may not produce sustained water savings like other measures, it can enhance the effectiveness of other measures. Water bill inserts, pamphlets upon request, partnering with local schools to encourage water conservation practices, creating workshops for local plumbers, plumbing fixture suppliers, and builders or landscape and irrigation service providers are all examples of education and information measures the city can implement.

The goal of this measure is to have residents and businesses voluntarily comply with best practice water conservation measures, with the goal of reducing average water consumption by twenty percent (20%). Water tanks and wells will be monitored by the water department.

Final

Water Shortage Contingency Planning

Additionally, landscape watering for municipal parks will be reduced from six (6) to four (4) days or less per week. (Ord. 2015-06, 7-7-2015)

7-7E-9: LEVEL I CONSERVATION MEASURES:

When pumping water levels drop twenty percent (20%) below the baseline measurement, the following restrictions shall apply in addition to or supersede the standard water conservation measures listed in section 7-7E-1 of this article:

- A. Reduce the number of days for landscape watering to two (2) days per week. Even numbered addresses would be allowed to water on Tuesday and Saturday while odd numbered addresses would water on Wednesday and Sunday. No watering would be allowed on Monday, Thursday or Friday. Additionally, landscape watering would only be authorized before ten o'clock (10:00) A.M. and after seven o'clock (7:00) P.M. on designated days.
- B. Hotels, restaurants, and bars shall only provide drinking water to customers upon request.
- C. No water customer shall permit water to leak on his or her premises. Such leak shall be repaired in a timely manner after written notification by the city, but in no case in excess of seventy two (72) hours after notification.
- D. Reduce landscape watering for municipal parks to two (2) days or less per week. (Ord. 2015-06, 7-7-2015)

7-7E-10: LEVEL II CONSERVATION MEASURES:

The following restrictions shall be applicable during a high water conservation alert as declared by the city council and whenever a recommendation has been made by the city manager in conjunction with the chief plant operator of the water treatment plant based upon a significant reduction or interruption in water supply or delivery that necessitates increased water conservation efforts:

- A. All prohibitions and restrictions in level I (section 7-7E-9 of this article) shall be in effect.
- B. Reduce the number of days for landscape watering to one day per week, depending upon the type of irrigation and the address. The city would be divided into three (3) sections: one section would be all of the area on the east side of Lemoore Avenue, another section would be the area north of Cinnamon Drive from 191/2 Avenue to Lemoore Avenue and the third section would be the area south of Cinnamon Drive to the west city limits. Watering between the hours of ten o'clock (10:00) A.M. and seven o'clock (7:00) P.M. is still prohibited.

- C. The washing of personal vehicles is restricted to once per week, only on permitted watering days, and only with the use of the required quick acting positive shutoff nozzle.
- D. Hotels are encouraged to implement laundry conservation measures by encouraging patrons to reuse linens and towels.
- E. Landscape watering for municipal parks is restricted to one day per week and restrictions shall be implemented on golf course watering. (Ord. 2015-06, 7-7-2015)

7-7E-11: LEVEL III CONSERVATION MEASURES:

In the event of a major earthquake, large scale fire, or other so called "act of nature" which has or could have serious impacts on the city's total available water storage or delivery capacity, whether storage capacities have been reduced or not, or in the case of an unanticipated significant reduction in city water supply, a severe water conservation alert shall be declared by the city council.

- A. All previous restrictions noted above in level I and level II shall be in effect.
- B. Irrigation of landscapes is prohibited between the hours of eight o'clock (8:00) A.M. and eight o'clock (8:00) P.M.
- C. Landscape watering for municipal parks shall be limited to one day per week.
- D. Swimming pool refilling or new construction swimming pool filling is not authorized.
- E. The city shall discontinue washing city vehicles or equipment except for health, safety or critical maintenance reasons.
- F. Restrictions on golf course watering shall be increased. (Ord. 2015-06, 7-7-2015)

8.1 - Stages of Actions

In compliance with CWC 10632(a)(1), all water agencies are required to administer a strategy – an adopted ordinance or terms of service – to outline “stages of action” in response to water supply shortages. For compliance, Article E of the City’s Code outlined above includes stages of action based on conservation measure level, namely:

- Voluntary compliance;
- Level I conservation measures;
- Level II conservation measures; and
- Level III conservation measures.

Table 8-1 provides a summary of the standard water conservation measures and four stages of action that may be enacted by the City Council.

Table 8-1 Retail: Stages of Water Shortage Contingency Plan

Table 8-1 Retail: Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction¹ <i>Numerical value as a percent</i>	Water Supply Condition <i>(Narrative description)</i>
<i>Add additional rows as needed</i>		
Standard Water Conservation Measures	N/A	Fixtures free from leakage; no excessive water; watering days; possible new lawn exemption; swimming pool draining prohibitions; asphalt/concrete washing prohibitions; vehicle washing prohibitions; watering hours; recirculation pumps requirement; and low-flow requirements for new construction, remodeling, and additions
Voluntary Compliance	up to 20%	Inform public about water conservation need and reduce landscape watering in municipal parks from six to four days or less per week
Level I Conservation Measures	up to 30%	Reduce landscape watering to two days per week (before 10 AM and after 7 PM); hotels, restaurants, and bars provide water only upon request; customers prohibited from allowing water to leak from premises and such leaks shall be repaired after written notice within 72 hours; and reduce landscape watering in municipal parks to two days per week
Level II Conservation Measures	up to 40%	All Level I prohibitions in effect; reduce landscape watering to one day per week (before 10 AM and after 7 PM); personal vehicle washing restricted to one per week on permitted days with shutoff nozzle; laundry conservation measures encouraged at hotels; and reduce landscape watering in municipal parks to one day per week; and implement golf course watering restrictions
Level III Conservation Measures	greater than 40%	All Level I and II prohibitions in effect; landscape watering prohibited between 8 AM and 8 PM; landscape watering in municipal parks limited to one day per week; prohibit swimming pool refilling and new construction of swimming pools; City shall discontinue washing City vehicles or equipment except for health, safety, or critical maintenance reasons; golf course watering restriction shall be increased
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: The percent supply reduction are just guesstimates because the reductions are not codified in the City's Code except for Voluntary Compliance.		

Title 7 (Public Ways and Property), Chapter 7 (Water and Sewer Regulations), and Article E (Water Conservation) of the City's Code was implemented in response to Governor Brown's

Executive Order No. B-29-15, directing that the State Water Resources Control Board to develop and impose restrictions on urban water users to achieve a statewide 25% reduction in potable urban water use.

8.2 - Prohibition on End Uses

In compliance with CWC Section 10632(a)(4) and CWC Section 10632(a)(5), prohibitions on end users are defined in Title 7 (Public Ways and Property), Chapter 7 (Water and Sewer Regulations), Article E (Water Conservation) of the City's Code shown above. Table 8-2 summarizes the mandatory restrictions and prohibitions placed on end users.

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
<i>Add additional rows as needed</i>			
SWCM	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
SWCM, I, II, III	Landscape - Limit landscape irrigation to specific times		Yes
SWCM, VC, I, II, III	Landscape - Limit landscape irrigation to specific days		Yes
II	CII - Lodging establishment must offer opt out of linen service		Yes
I	CII - Restaurants may only serve water upon request		Yes
SWCM	Water Features - Restrict water use for decorative water features, such as fountains		Yes
SWCM, III	Other water feature or swimming pool restriction		Yes
SWCM, I	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
SWCM	Other - Require automatic shut of hoses		Yes
SWCM	Other - Prohibit use of potable water for washing hard surfaces		Yes
SWCM, I, II, III	Other		Yes
NOTES: SWCM = Standard Water Conservation Measures (7-7E-1) and VC = Voluntary Compliance (7-7E-8)			

8.2.1 - LANDSCAPE IRRIGATION

The following summarizes landscape irrigation restrictions by stages:

- Standard Water Conservation Measures – Prohibit excessive runoff from property, prohibit willful and negligent water waste, limit outdoor watering to certain days based on address, limit irrigation to certain times;
- Voluntary Compliance – Reduce municipal park watering from six to four days per week;
- Level I Conservation Measures – Reduce landscape watering to two days per week and increase time of day restrictions and municipal park watering to two days per week;
- Level II Conservation Measures – Reduce landscape watering to one day per week and increase time of day restrictions and municipal park watering to one day per week as well as impose golf course watering restrictions; and
- Level III Conservation Measures – Increase time of day restrictions, reduce municipal park watering to one day per week, and increase golf course watering restrictions.

8.2.2 - COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL (CII)

The following summarizes CII restrictions by stages:

- Standard Water Conservation Measures – None;
- Voluntary Compliance – None;
- Level I Conservation Measures – Hotels, restaurants, and bars will only serve water if requested;
- Level II Conservation Measures – Encourage hotels to implement laundry conservation measures; and
- Level III Conservation Measures – None.

8.2.3 - WATER FEATURES AND SWIMMING POOLS

The following summarizes restrictions on water features and swimming pools by stages:

- Standard Water Conservation Measures – Prohibit swimming pool draining greater than 5,000 gallons more than once every two years except for repair or public health reasons and prohibit fountains or other decorative features without recirculating pumps;
- Voluntary Compliance – None;
- Level I Conservation Measures – None;
- Level II Conservation Measures – None; and
- Level III Conservation measures – Prohibit swimming pool filling and new construction.

8.2.4 - OTHER RESTRICTIONS

The following summarizes other restrictions by stages:

- Standard Water Conservation Measures – Ensure fixtures, etc. tight and free from leakage, prohibit washing hard surfaces except for public health reasons, prohibit washing vehicles without use of buckets and shutoff nozzles, and require all new construction as well as remodels and additions greater than \$5,000 to install or replace faucets and showerheads with low-flow devices and toilets with low-flow units;
- Voluntary Compliance – None;
- Level I Conservation Measures – Prohibit outdoor water from leaving property and leak shall be repaired after written notification within 72 hours;
- Level II Conservation Measures – Restrict personal vehicle washing to once per week with shutoff nozzle; and
- Level III Conservation Measures – Prohibit City vehicle washing except certain reasons.

8.3 - Penalties, Charges, Other Enforcement of Prohibitions

In accordance with CWC Section 10632(a)(6), Title 7 (Public Ways and Property), Chapter 7 (Water and Sewer Regulations), Article E (Water Conservation) of the City's Code also includes penalties for violations of the standard water conservation measures and each of the four stages. These penalties are as follows:

7-7E-12: PENALTIES:

- A. Use Of Water: No water customer of the city shall knowingly use, or permit the use of, water in a manner contrary to any provisions of this article, or in an amount in excess of that use permitted by the provisions of this article.
- B. Violation; Infraction: Unless otherwise provided, any water customer violating any provision of this article shall be guilty of an infraction, and each day or portion thereof such violation is in existence shall be a new and separate offense.
- C. Violations: Any water customer determined to be guilty of a first time violation shall be given a written reminder for compliance. Second and subsequent violations shall be punishable as follows:
 1. Standard Conservation Measures And Level I Conservation Measures: A written notice of such a violation shall be given and a charge shall be added to the water bill of such person as a onetime penalty as follows:
 - a. Second violation: Twenty five dollars (\$25.00).
 - b. Third violation: Fifty dollars (\$50.00).
 - c. Fourth violation: One hundred dollars (\$100.00).

- d. Fifth violation: A written notice will be given of a fifth violation and the consumer shall have a flow restrictor placed in their service until such time that they can assure the public works director that no more waste will occur. All costs, including overhead, for this installation shall be billed to the customer.
2. Level II Conservation Measures: A written notice of such a violation shall be given and a penalty shall be added to the water bill of such person as a onetime penalty as follows:
 - a. Second violation: Forty dollars (\$40.00).
 - b. Third violation: Seventy five dollars (\$75.00).
 - c. Fourth violation: One hundred fifty dollars (\$150.00).
 - d. Fifth violation: A written notice will be given of a fifth violation and the consumer shall have a flow restrictor placed in their service until such time that they can assure the public works director that no more waste will occur. All costs, including overhead, for this installation shall be billed to the customer.
3. Level III Conservation Measures: A written notice of such a violation shall be given and a penalty shall be added to the water bill of such a person as a onetime penalty as follows:
 - a. Second violation: Fifty five dollars (\$55.00).
 - b. Third violation: One hundred dollars (\$100.00).
 - c. Fourth violation: Two hundred dollars (\$200.00).
 - d. Fifth violation: A written notice will be given of a fifth violation and the consumer shall have a flow restrictor placed in their service until such time that they can assure the public works director that no more waste will occur. All costs, including overhead, for this installation shall be billed to the customer.
- D. Determination Of Number Of Offenses: To determine whether a violation is other than a first offense, only notices issued within one year after the date of the first notice will be considered.
- E. Enforcement Of Penalties: In addition to the above remedies, the city manager or his or her designee is empowered to enforce any or all of the following penalties:
 1. Place a flow restricting device upon the water service;
 2. Lock off of a water meter;
 3. Remove a water meter;
 4. Shut off the service connection.
- F. Costs Borne By Customer: All costs or expenses incurred by the city for enforcement of this section shall be borne by the water customer. No water service shall be limited

or discontinued until the city manager or his or her designee provides a written notice of intent to so limit or discontinue such service and the reasons for such decision, and further, provides such water customer notice of the right to request an administrative review and hearing pursuant to the procedures set forth in title 1, chapter 10 of this code. (Ord. 2015-06, 7-7-2015)

7-7E-13: COMPLIANCE:

The city manager or his or her designee shall enforce the provisions of this article. (Ord. 2015-06, 7-7-2015)

7-7E-14: WAIVER:

To apply for a full or partial waiver of the mandatory water conservation requirements to accommodate your disability, you must submit a letter explaining your need for additional water use based on your disability. Send your letter requesting a waiver of the mandatory water conservation requirements to the city manager.

The city will consider each application for a full or partial waiver of the water restrictions on an individual basis. The city may request that you provide medical information to support your need for an exemption to the current water restrictions. Responses to waiver requests will be provided in thirty (30) days. All waiver requests that have been granted are subject to review and cancellation. If any waivers are obtained based on inaccurate information, applications may be subject to fines and additional charges. (Ord. 2015-06, 7-7-2015)

8.4 - Consumption Reduction Methods

In compliance with CWC Section 10632(a)(5), consumption reduction methods are actions that are taken by the City to reduce water demand within the service area whereas the prohibitions (see Section 8.2) limit specific uses of water. DWR allows water agencies, such as the City, to make their own determinations as to which methods and which stages for employing the methods are most appropriate for a service area.

8.4.1 - CONSUMPTION REDUCTION GOALS

The consumption reduction goals for the various stages are:

- Standard Water Conservation Measures – Not applicable;
- Voluntary Compliance – up to 20% reduction;
- Level I Conservation Measures – up to 30% reduction;
- Level II Conservation Measures – up to 40% reduction; and
- Level III Conservation Measures – greater than 40% reduction.

8.4.2 - CATEGORIES OF CONSUMPTION REDUCTION METHODS

The following consumption reduction methods listed in the Guidelines have been implemented by the City:

- Expand Public Information Campaign – Examples include enlarge media campaign; create bill inserts with conservation information; articles submitted to local newspapers; conduct water efficiency workshops for different customer sectors; and
- Other – any other method that does not fall in to the categories listed in the Guidelines.

Table 8-3 provides a summary of the consumption reduction methods currently employed by the City.

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan – Consumption Reduction Methods

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>		
VC	Expand Public Information Campaign	7-7E-8 (Voluntary Compliance)
N/A	Other	7-7E-2 (Water Efficient Landscape Ordinance Adopted)
NOTES: VC = Voluntary Compliance		

Expand Public Information Campaign

In accordance with 7-7E-8 of the City’s Code, the primary goal of Voluntary Compliance is to inform the public of the pressing need to conserve water. This can be done through information and education measures, which can directly affect water use habits of the City’s customer base. While education alone may not produce sustained water savings like other measures, it can enhance the effectiveness of other measures. Water bill inserts, pamphlets upon request, partnering with local schools to encourage water conservation practices, creating workshops for local plumbers, plumbing fixture suppliers, and builders or landscape and irrigation service providers are all examples of education and information measures the city can implement.

Other

CALIFORNIA MODEL WATER EFFICIENT LANDSCAPE ORDINANCE ADOPTION

In accordance with 7-7E-2 of the City's Code, the City adopted the California Model Water Efficient Landscape Ordinance (23 CCR Division 2, Chapter 2.7 and any amendments) (see Appendix B).

WATER CONSERVATION WEBSITE

The City will be making public a website dedicated to water conservation. This website will include tips on how to conserve water, provide information on rebates and other opportunities to incentivize customers to save water, and provide useful contact information and links.

PUBLIC OUTREACH

The City Water Department recently adopted a water conservation mascot named "AquaBob" that will be performing public outreach to school-age children at events throughout the school year. AquaBob will educate and inform the children about the need for water conservation and provide simple steps to implement water conservation strategies at home and school.

8.5 - Determining Water Shortage Reductions

The following discussion is provided to comply with CWC Section 10632(a)(9). The City's water system is supplied by groundwater wells. Each well has a flow meter that records the amount of water entering the City's distribution system. The City use these meters to monitor actual reductions in water use within the service area. The City is using the SWRCB emergency regulation method to measure and determine actual water savings made from implementing the WSCP. The SWRCB uses 2013 water production data and requires water agencies to report monthly water production as compared to 2013. The City has maintained more than a 19% reduction as compared to 2013.

8.6 - Revenue and Expenditure Impacts

The following discussion is provided to comply with CWC Section 10632(a)(7). Most operating costs for most water agencies are fixed rather than a function of the amount of water sold. Thus, when conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the costs, and resulting revenue required, are basically fixed. Typically, water rates need to be increased by the percentages listed in Table 8-1 when the indicated stages are implemented. However, reductions in water demands, especially peak demands, can delay the need to develop costly new water sources in growing communities. The City currently charges water customers a flat fee based on meter size plus a volumetric charge for water use.

Currently, the City does not have an emergency fund but will consider establishing such a fund to mitigate the impacts of a water shortage. The fund would then be used to stabilize water rates during periods of water shortage. Excess water revenues collected because of rate adjustments would be used to enhance the emergency fund.

8.7 - Resolution or Ordinance

In compliance with CWC Section 10632(a)(8), Title 7 (Public Ways and Property), Chapter 7 (Water and Sewer Regulations), Article E (Water Conservation) of the City’s Code is discussed above. This adopted City Code provides a water shortage contingency solution.

8.8 - Catastrophic Supply Interruption

The following discussion is provided to comply with CWC Section 10632(a)(3). The Act refers to catastrophic interruptions as regional power outages, natural disasters, and other disasters that stop the water supply. The Level III Conservation Measures have been developed in the event of a “major earthquake, large scale fire, or other so called ‘act of nature’ which has or could have serious impacts on the city’s total available water storage or delivery capacity, whether storage capacities have been reduced or not, or in the case of an unanticipated significant reduction in city water supply.” If such an act of nature occurs, “a severe water conservation alert shall be declared by the city council.” Additionally, during a catastrophic interruption, the City will activate a water shortage response team. The response team will coordinate with applicable City departments and emergency services. Other actions and procedures to be followed during catastrophic events will be developed.

8.9 - Minimum Supply Next Three Years

As required by CWC Section 10632(a)(2), an UWMP must include an estimate of the minimum water supply available to the City during each of the next three years. The District’s water supply is derived completely from groundwater wells. Table 8-4 provides an estimate of the minimum water supply available during the next three years.

Table 8-4 Retail: Minimum Supply Next Three Years

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	178,228	178,228	178,228

9.0 ASSESSMENT FINDINGS

As previously stated, the Project would require 518 AF (or approximately 169 MG) of water per year from the City's water system, which is reliant on groundwater pumping. The City can produce up to approximately 6,912 MG per year of potable water. The projected 2040 demand in the City is 4,830 MG, leaving a difference of 2,082 MG. At 169 MG, the Project would account for approximately 8.1% of the projected 2040 demand in the City. Since the City's 2015 UWMP has projected sufficient reasonably available volumes of water and because the Project is within the population growth assumptions (and associated water availability) identified in both the City's 2015 UWMP and 2020 WMP, there is sufficient water to serve the Project.

The City's General Plan provides policies related to annexation of agricultural properties. Specifically, General Plan Policy PU-I-10 states the following: "Require that developers of agricultural land to be annexed to the City offer the water rights associated with this land to the City." The Project Applicant currently has 100 water shares (equivalent to 150 AFY) that are subject to this Policy.

Therefore, it is recommended that the City of Lemoore approve this assessment for inclusion in the CEQA documentation for the proposed Lacey Ranch Area Master Plan Project.