WATER SUPPLY ASSESSMENT-AMENDED

KERN COUNTY

THE CROSSINGS PROJECT

FEBRUARY 2022

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THE CROSSINGS PROJECT

Prepared for:

BOMAR Partners, LLC
9810 Brimhall Road
Bakersfield, CA 93312
Contact Person: Anthony Olivieri, Principal
Phone: (661) 969-6600

Consultant:

5080 California Avenue, Suite 220
Bakersfield, CA 93309
Contact: Christopher B. Mynk, AICP
Brian G. Shoener, P.E.
Phone: (661) 616-2600
Fax: (559) 733-7821

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SECTION 1 - INTRODUCTION

1.1 - Regulatory Requirement

Senate Bill 610 (Chapter 643, Statutes of 2001) amended State law, effective January 1, 2002, to improve the link between information on water supply availability and land use decisions made by cities and counties. The statute requires detailed information regarding water availability to be provided to city and county decision-makers prior to the approval of specified large development projects subject to CEQA (the California Environmental Quality Act) approval. These include residential, commercial, and industrial uses. The statute also requires this detailed information to be included in the administrative record that serves as the evidentiary basis for an entitlement action by the city or county on such projects. The statute-required Water Supply Assessment (WSA) must examine the availability and sufficiency of an identified water supply under normal-year, single-dry-year, and multiple-dry-year conditions over a 20-year projection, accounting for the projected water demand of the Project in addition to other existing and planned future uses of the identified water supply.

The State Department of Water Resources "Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001" (Guidebook) and the sample format presented in the Guidebook were used as guides in preparing this Water Supply Assessment. Pertinent excerpts from the law stipulating requirements for water supply assessments precede Sections of this report. The full text of Chapter 643, Statutes of 2001 (SB 610), is included in Appendix A.

1.2 - Project Description and Location

The Project is a 27.18 net acre commercial project to be developed by BOMAR Partners, LLC on a 28.8 gross acre site in southeast Bakersfield. The Project site is located on the southeast corner of Hosking Avenue and South H Street (Figure 1-1). The Project is within Section 36, Township 30S, Range 27E, Mount Diablo Base and Meridian.

The proposed Project site is currently vacant and is bounded by vacant commercial land to the north and east, vacant residential land to the south, and State Route-99 to the west. The Metropolitan Bakersfield General Plan designates the Project site as GC (General Commercial) and LR (Low Density Residential) (Figure 1-2). The Project site has a zone classification of C-2/PCD (Regional Commercial / Planned Commercial Development) and R-1 (One-Family Dwelling) (Figure 1-3).

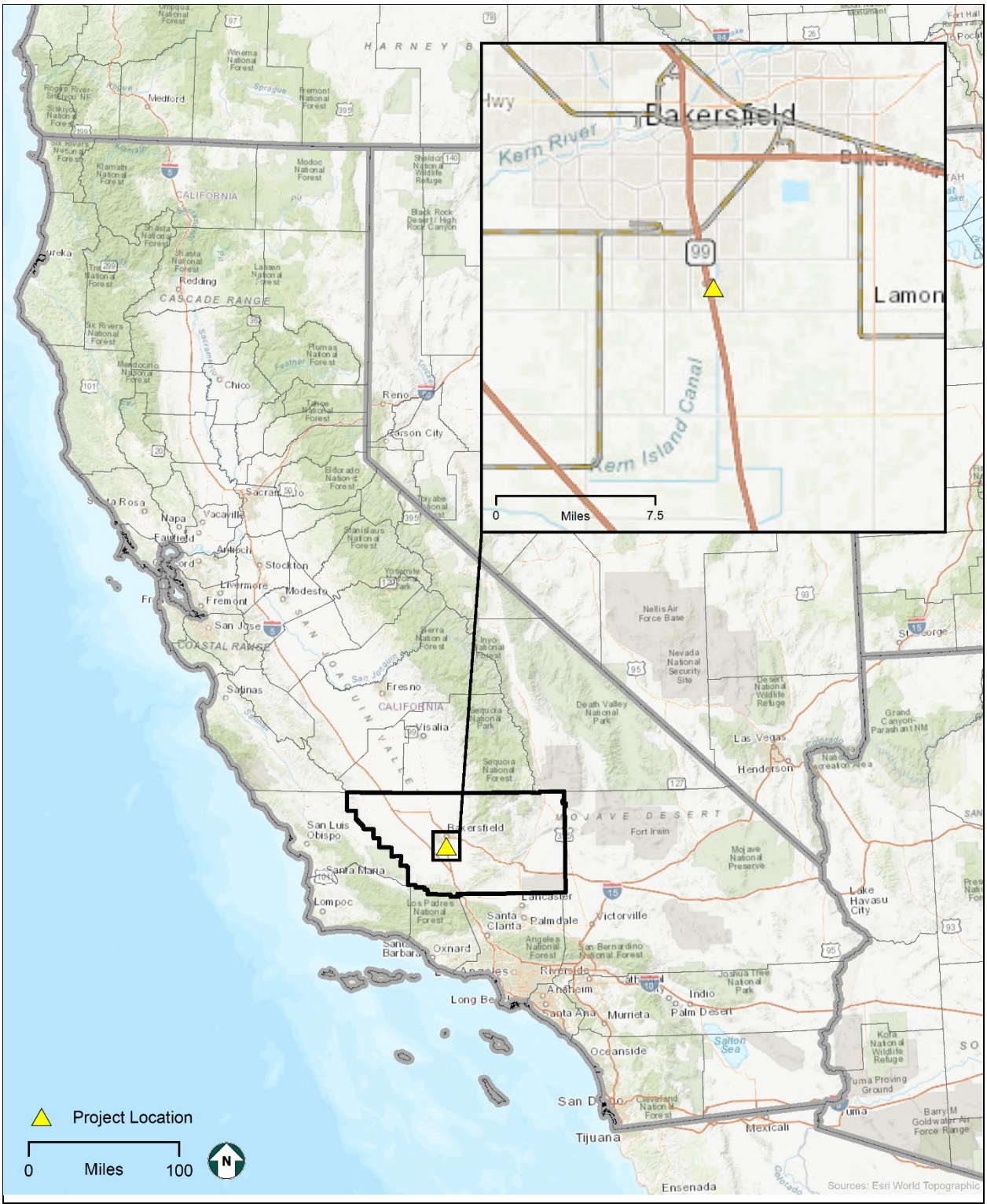

Figure 1-1
Regional Location

Figure 1-2
Project Site

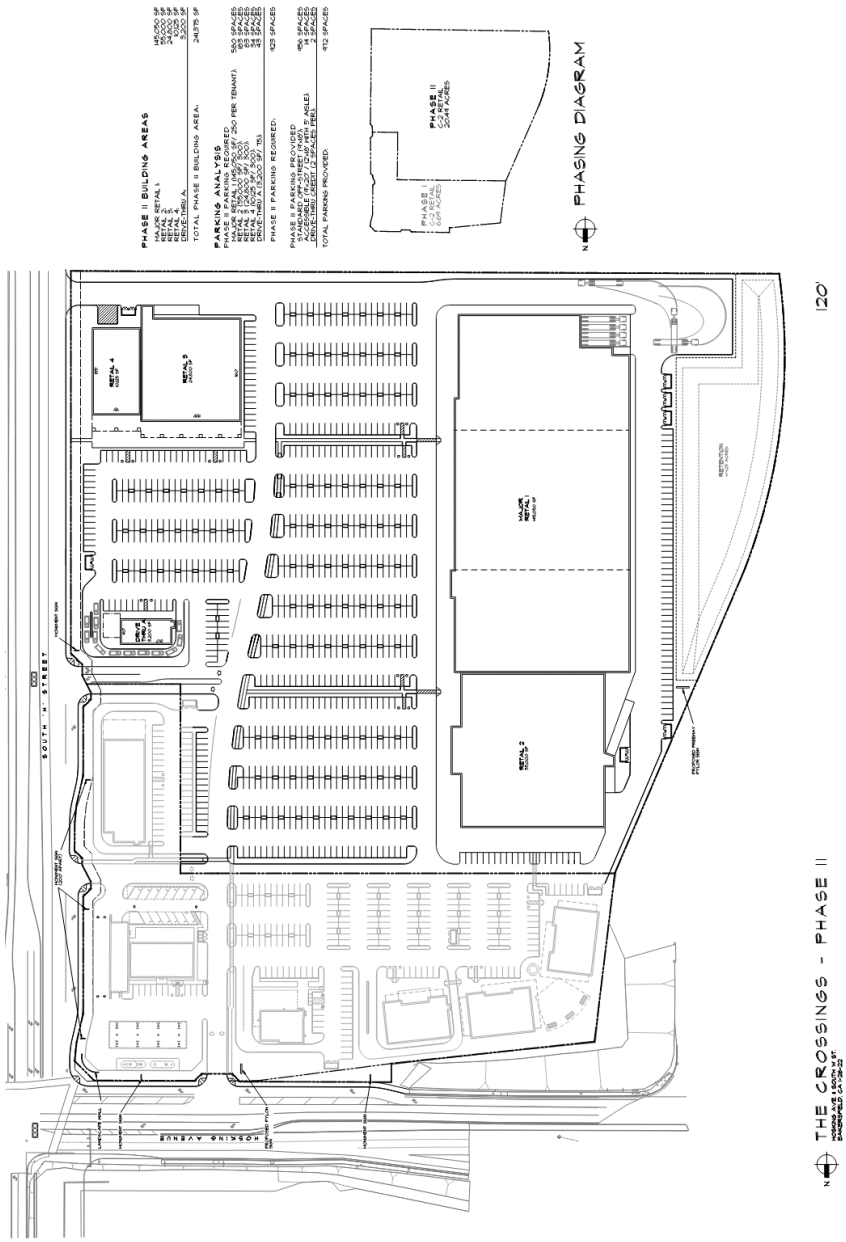

Figure 1-3
Project Site – By Phase

1.3 - Project Water Requirements and Setting

Water needed for construction will be obtained from the Greenfield County Water District, which obtains groundwater from wells located on land within the District, adjacent to the Project site. The construction process is estimated to take approximately 12 months. Construction water demands are estimated to be approximately 19 acre-feet, which is equivalent to approximately 6,190,000 gallons. Bottled drinking water will be provided for crews during construction activities.

Initial construction water usage will be in support of site preparation and grading activities. During earthwork for grading of access road foundations, equipment pads, and project components, the principal use of water would be for compaction and dust control. Smaller quantities would be required for the preparation of the concrete required for foundations and other minor uses. After the earthwork activities, water usage will be used for dust suppression and normal construction water requirements that are associated with the construction of the buildings, internal access roads, and revegetation.

The long-term operational water demand will be for the commercial users and is anticipated to be approximately 6.833 million gallons per year or 20.97 acre-feet per year for the total build-out of the Project. This is based on commercial sites having a water demand of 650 gallons per day/acre across the entire 28.8-acre site. The entire site will be developed in two phases. Both phases will contain commercial users. Phase I will be approximately 7 acres, with Phase II being approximately 21 acres. Phase I water demand is estimated to be 1.59 million gallons per year, with Phase II accounting for 5.24 million gallons per year (6.833 million gallons per year for both phases). Figure 1-3 shows the two phases.

Figures 1-4 and 1-5 illustrate the location of the Project site within the Tulare Lake Hydrologic Region, the San Joaquin Valley Groundwater Basin, the Kern County Subbasin, and the borders of these water resource areas. Construction and operational water for the Project will be from sources pumping groundwater from this Basin. The Kern County Subbasin does not have any adjudicated areas.

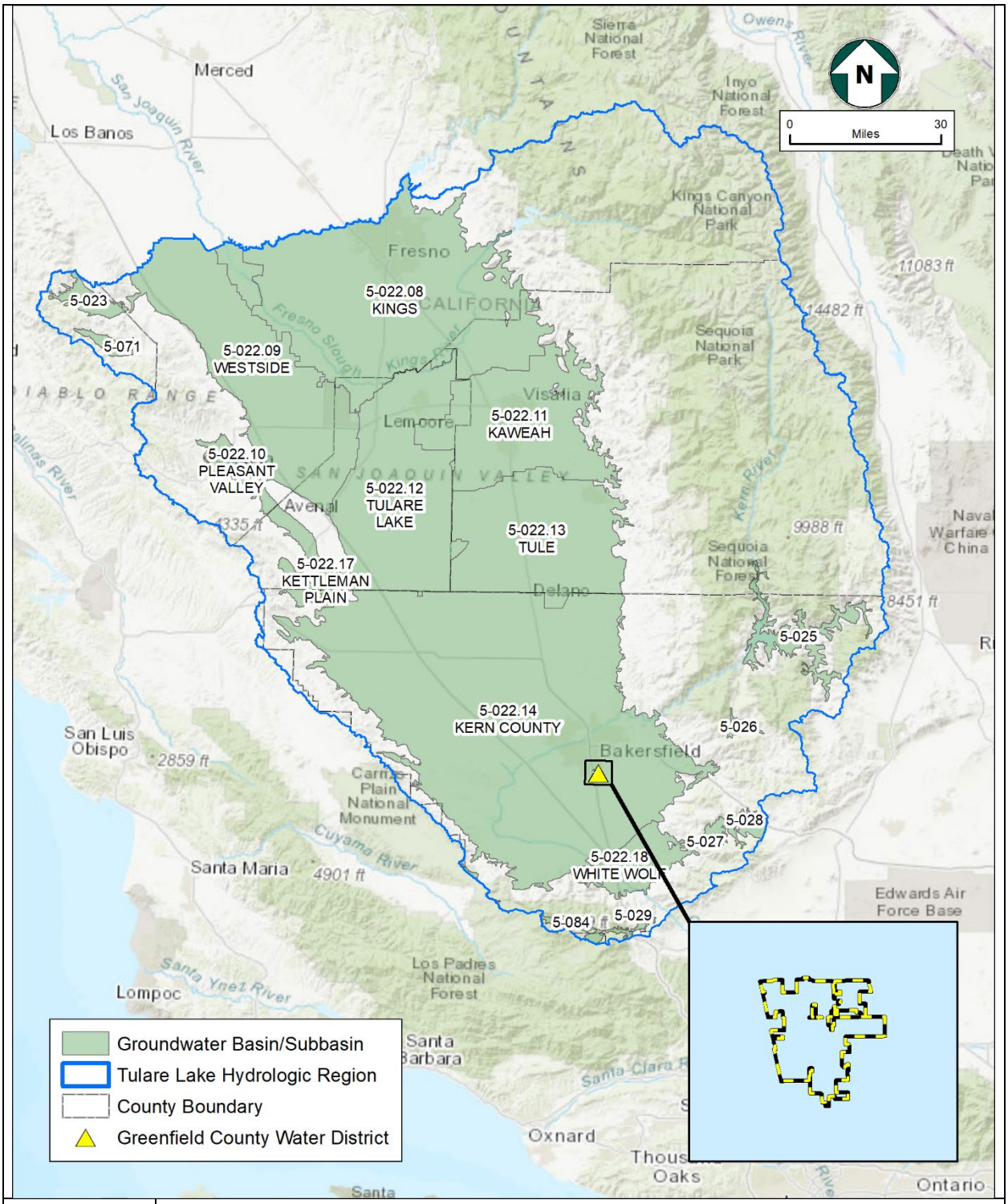

Figure 1-4
Project Location: Tulare Lake Hydrologic Region

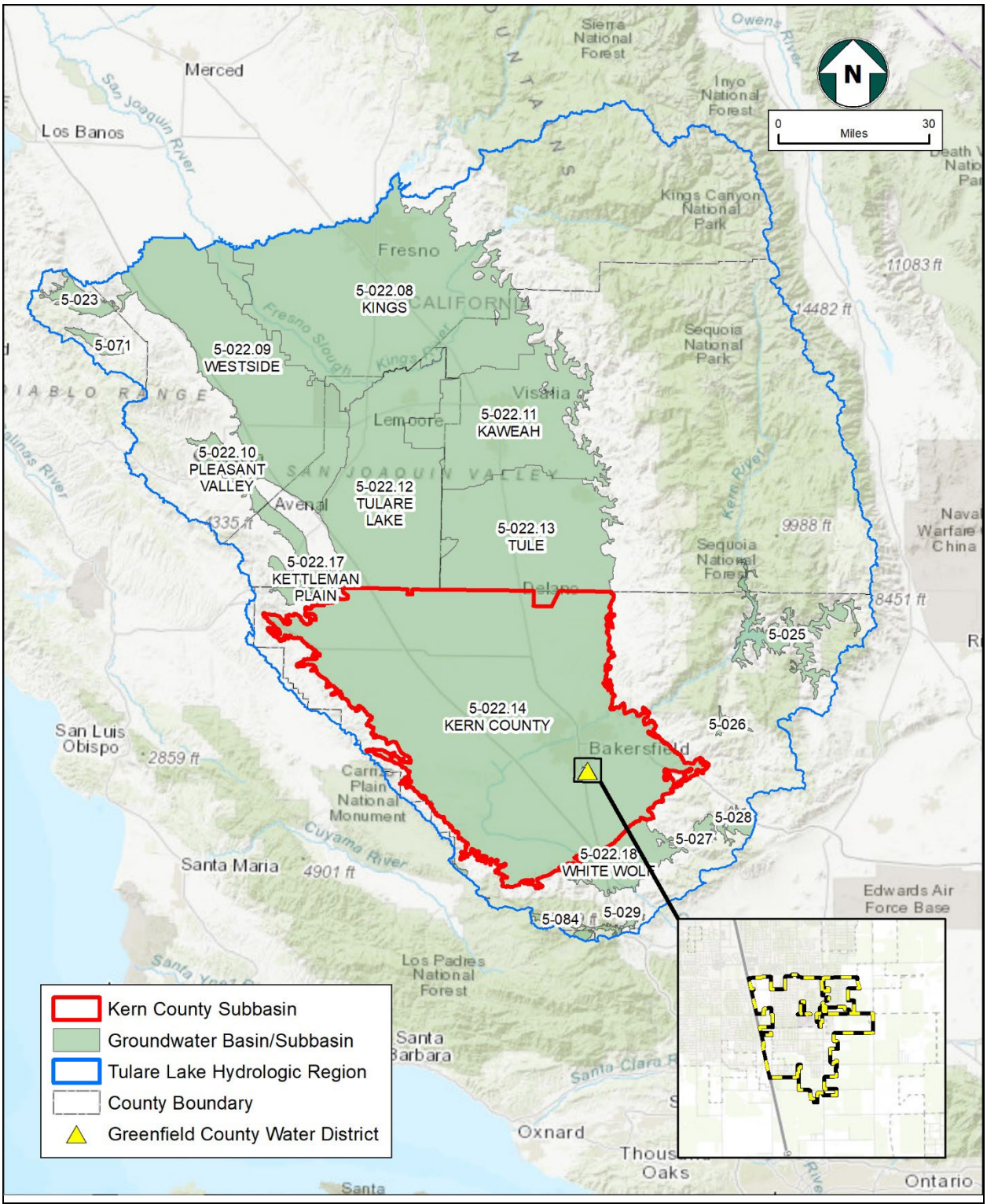

Figure 1-5
Project Location: Kern County Groundwater Subbasin

SECTION 2 - WATER RESOURCES/WATER SUPPLY

2.1 - Proposed Water Supply

The Project will be served by a public water system as required by Water Code section 10910(b). The purpose of the Water Supply Assessment is to determine "If the projected water demand associated with the proposed Project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the Assessment required to comply with subdivisions (d), (e), (f), and (g). If the projected water demand associated with the proposed Project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the Water Supply Assessment for the Project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed Project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses."

The Greenfield County Water District is required to adopt an urban water management plan since the District serves more than 3,000 connections. The 2020 UWMP will be used for this Water Supply Assessment. The 2020 UWMP will be used to obtain the following:

> "a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project."

In making the sufficiency determination, the public water system shall include an assessment of the following. It is assumed that the Greenfield County Water District will supply water during construction and for the developed properties via the District's existing wells.

Water Code Section 10910

> (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.
>
> (b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system whose service area includes the project site and any water system adjacent to the project site that is, or may become as a result of supplying water to the project identified

pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the Assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

The Project site is currently zoned R-1 (One-Family Dwelling), according to the Kern County GIS website. However, the site is vacant and has never been developed. Based on a water demand of 2.03 acre-feet/acre/year for Low Density Residential, the entire Project site could have a potential water usage of 58.46 acre-feet/year (28.8 acres x 2.03 acre-feet/acre/year).

The proposed change from R-1 zoning to C-2 (Commercial) will lower the expected water demand for the parcel from 58.46 acre-feet/year to 20.97 acre-feet/year for Phase I and Phase II.

Project water supply during construction and for the developed properties is proposed to be from the Greenfield County Water District.

2.2 - Hydrologic Region

The Water Supply Assessment evaluates the physical availability of and adequate groundwater supply in all "water years" for a 20-year period.

This Assessment describes the relevant Hydrologic Region, Basin, and Subbasin describes the principal water agency (Greenfield County Water District) serving and regulating Basin water planning and surface water importation and lists water sufficiency and planning documents regarding the Basin. Section 3 includes the latest (2020) Greenfield County Water District projection of water availability (ground) for the Basin for a 20-year period under the normal, single dry, and multiple dry year scenarios, as required by SB 610.

Water Code Section 10910

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2)(A) A description of any groundwater basin or basins from which the proposed project will be supplied.

(B) For those basins for which 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 public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree.

(C) For a basin that has not been adjudicated that is a basin designated as high- or medium-priority pursuant to Section 10722.4, information regarding the following:

(i) Whether the department has identified the Basin as being subject to critical conditions of overdraft pursuant to Section 12924.

(ii) If a groundwater sustainability agency has adopted a groundwater sustainability plan or has an approved alternative, a copy of that alternative or plan.

(D) For a basin that has not been adjudicated that is a basin designated as low- or very low priority pursuant to Section 10722.4, 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 bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city

or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the Basin or basins to eliminate the long-term overdraft condition.

2.2.1 - THE TULARE LAKE HYDROLOGIC REGION

The California Department of Water Resources (DWR) has divided the State into 10 Hydrologic Regions. The Project site is located within the Tulare Lake Hydrologic Region in a Basin ranked as "high priority" in a statewide ranking of groundwater importance. The Region encompasses approximately 16,800 square miles (see Figure 1-4).

2.2.2 - THE KERN COUNTY GROUNDWATER SUBBASIN

The Kern County Subbasin occupies approximately 3,040 square miles within the Tulare Lake Region (see Figure 2-1). The Kern County Subbasin is bounded on the north by the Kern County line and the Tule Groundwater Subbasin, on the east and southeast by granitic bedrock of the Sierra Nevada foothills and Tehachapi mountains, and on the southwest and west by the marine sediments of the San Emigdio Mountains and Coast Ranges.

Groundwater in the Basin is used for both public water supply and irrigation. Groundwater recharge is primarily from stream seepage along the eastern subbasin and the Kern River; recharge of applied irrigation water, however, is the largest contributor (USGS, 2006).

2.3 - Greenfield County Water District

The proposed water for the Project is located within Greenfield County Water District. As such, the Greenfield County Water District has detailed information regarding groundwater in the area.

The District currently has a service population of approximately 10,801 people. In 2020, approximately 2,564 acre-feet of water was delivered to an estimated 3,273 water service connections, of which approximately 3,166 (97%) are residential services. The remainder is for commercial and industrial uses.

The District currently utilizes local groundwater as its sole source of water supply. Groundwater is extracted by seven wells located within the District's sphere of influence. The seven wells include the Bannock, Dublin, McKee, Taft, Panama, Berkshire, and East Berkshire sites. The Panama well is a standby well. The Taft and Panama well sites are in the southern portion of the service area, the McKee and Dublin well sites are located roughly in the middle of the District, and the Berkshire, East Berkshire, and Bannock groundwater wells are located at the northern border of the service area. All seven wells are crucial to meet the demands of District customers. In addition to production wells, the District has six storage tanks: the Panama and Taft sites contain one storage tank each, while the Dublin and Berkshire sites each contain two storage tanks each.

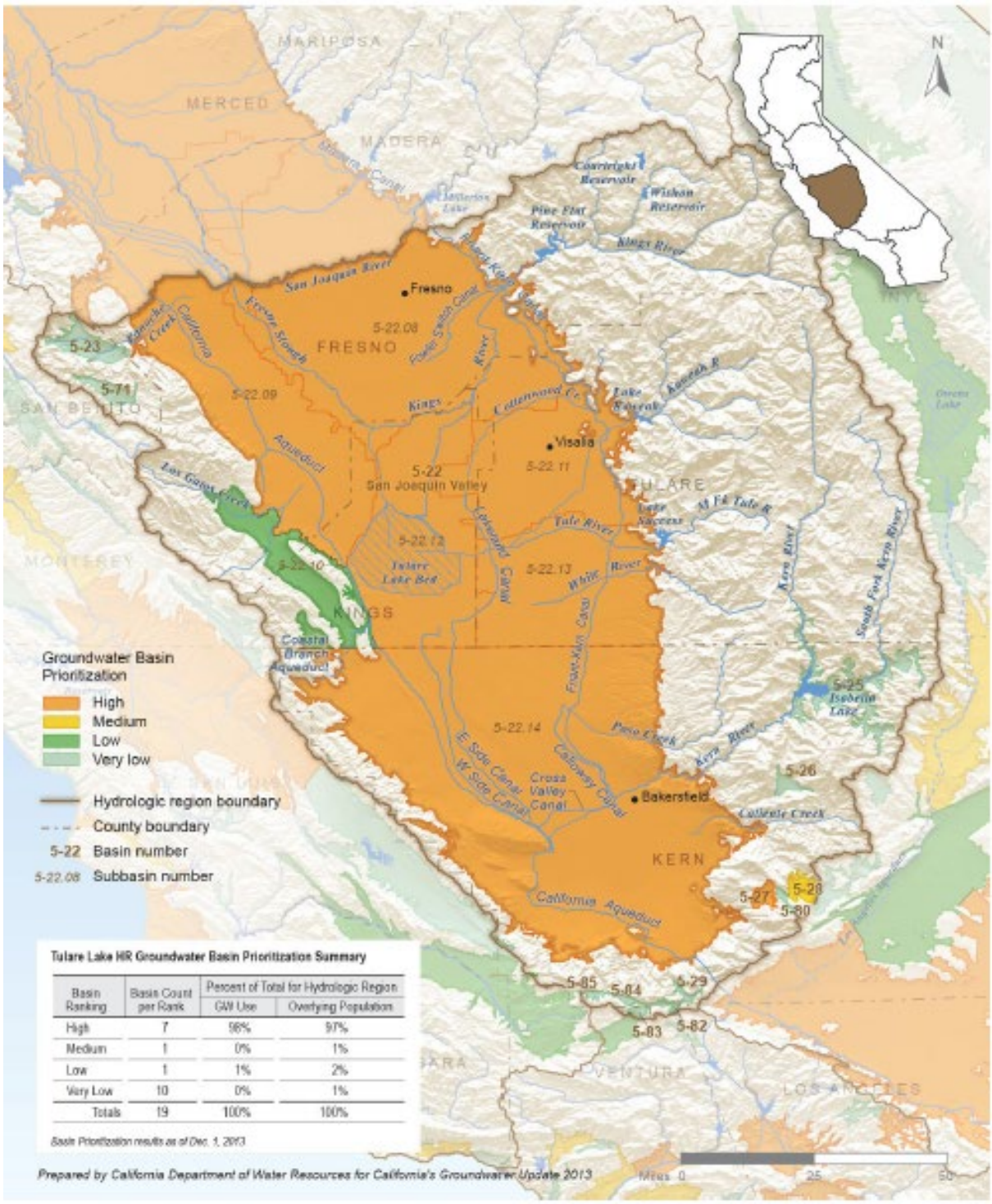

Figure 2-1
Tulare Lake Groundwater Basin Prioritization

The Greenfield County Water District participated in the development of the Kern River Groundwater Sustainability Agency (KRGSA) Groundwater Sustainability Plan (GSP) that was developed in January 2020.

The Planning Documents

The following documents were essential to the development of this report:

- Greenfield County Water District, 2020 Urban Water Management Plan, July 2021
- Kern River Groundwater Sustainability Agency (KRGSA) Groundwater Sustainability Plan (GSP), January 2020
- Department of Water Resources Bulletin 118

SECTION 3 - WATER SUPPLY SUFFICIENCY

Water Code Section 10910, Section 4.5

…(c)(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal, single, dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

The sufficiency of the Project water supply is analyzed on two bases: the physical availability of the District to provide water in the amounts required for Project construction and operation; and the estimates (in the 2020 Greenfield County Water District, Urban Water Management Plan) of normal water years, single dry water year and multiple dry water years, water supply and demand-related water availability with respect to projected water demand during a 20-year projection. The Greenfield County Water District is a participant of the Kern River Groundwater Sustainability Agency (KRGSA) Groundwater Sustainability Plan (GSP) that was developed in January 2020. The 2020 Urban Water Management Plan is in compliance with the KRGSA GSP.

3.1 - Physical Availability

The information regarding the physical availability of water at and near the Project site supports the conclusion that the surface water supply and groundwater aquifer pumping history is sufficient for both Project construction and Project operation and that there will be sufficient water to serve Project needs for 20 years under the water scenarios described below.

3.2 - The 2020 Greenfield County Water District, Urban Water Management Plan – Water Years Adequacy Projections

The following text excerpted from the Urban Water Management Plan illustrates the total groundwater resources available to the District and the projected usage demand on such supplies through 2040. The following text extract explains the District water supply adequacy.

> *The sole source of water for the District is through groundwater pumping. Groundwater pumping via wells is the only planned source of water in the future. The Kern Subbasin is currently a non-adjudicated basin which allows for this pumping, however the groundwater pumping will be subject to the KRGSA Groundwater Sustainability Plan (GSP) thresholds.*

Because there is no current restriction on groundwater pumping, the limit of available water is the pump capacity of the six existing wells to pump groundwater. The pump capacity of the six wells to pump groundwater is shown in the following table.

Table 3-1
Pump Capacity at the Six Well Sites

Well Site	*Pump Capacity (gallons per minute)*	*Pump Capacity (million gallons per year)*[1]
Dublin	*1,120*	*515*
McKee	*865*	*398*
Taft	*946*	*435*
Berkshire	*1,508*	*694*
Bannock	*1,225*	*563*
East Berkshire	*1,225*	*563*
Total	***7,282***	***3,168***

[1] *(Gallons per minute X 60 minutes/hour X 21 hours/day X 365.2425 days/year)/1,000,000*

Source: (Greenfield County Water District, 2021).

Based on the above table, the District has the pumping capacity to produce 3,168 MG per year if the pumps were to run 21hours a day. The assumption of 21 hours of use per day was determined to allow for the pumps to remain idle a portion of the day to extend their useful life and to account for times in the year when pumps will be down for repair or replacement as needed. Therefore, the retail water supply available to the District in 2020 is 3,168 MG (9,722 acre-feet) per year.

The following tables from the 2020 Greenfield County Water District Urban Water Master Plan show the supply and demand comparisons for a normal year, single dry year, and five consecutive dry years.

3.2.1 - AVERAGE (OR NORMAL) YEAR

Normal year supply and demand projections and differences are presented in Table 3-2.

Table 3-2
Retail: Normal Year Supply and Demand Comparison

	2025	2030	2035	2040
Supply totals	3,168	3,168	3,168	3,168
Demand totals	881	927	972	1,020
Difference	2,287	2,241	2,196	2,148

As shown in Table 3-2, future water supplies are anticipated to be met.

3.2.2 - SINGLE DRY YEAR

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

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

	2025	2030	2035	2040
Supply totals	3,168	3,168	3,168	3,168
Demand totals	881	927	972	1,020
Difference	2,287	2,241	2,196	2,148

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

3.2.3 - FIVE CONSECUTIVE DRY-YEAR RELIABILITY ASSESSMENT

Projected supplies were compared to the increased demands for five-consecutive dry-year scenarios and are presented in Table 3-4.

As shown in Table 3-4, anticipated groundwater supplies are sufficient to meet all demands through the year 2040, even under multiple-dry-year drought conditions.

Table 3-4
Retail: Five Consecutive Dry Years Supply and Demand Comparison

		2025	2030	2035	2040
First year	Supply totals	3,168	3,168	3,168	3,168
	Demand totals	881	927	972	1,020
	Difference	2,287	2,241	2,196	2,148
Second year	Supply totals	3,168	3,168	3,168	3,168
	Demand totals	881	927	972	1,020
	Difference	2,287	2,241	2,196	2,148
Third year	Supply totals	3,168	3,168	3,168	3,168
	Demand totals	881	927	972	1,020
	Difference	2,287	2,241	2,196	2,148
Fourth year	Supply totals	3,168	3,168	3,168	3,168
	Demand totals	881	927	972	1,020
	Difference	2,287	2,241	2,196	2,148
Fifth year	Supply totals	3,168	3,168	3,168	3,168
	Demand totals	881	927	972	1,020
	Difference	2,287	2,241	2,196	2,148

The long-term operational water demand will be for the commercial users and is anticipated to be approximately 6.833 million gallons per year or 20.97 acre-feet per year for the total build-out of the Project. The District has a projected 2,148 million gallons of available water when looking at the fifth dry year based on 2040 projections (Table 3-4). The Project long-term Project operational water demand is 0.0032% (6.83 MG/ 2,148 MG) of the available water supply in the District.

The tables and accompanying text indicate that the responsible water agency for the Project area has taken appropriate steps to assure that the total water supply for the service area will be adequate. The Greenfield County Water District has provided a Will-Service letter for the Project (Appendix C).

3.3 - Water Supply Management

The California Water Resources has defined the Kern Subbasin as "critically overdrafted." Overdraft occurs when the average annual amount of groundwater extraction exceeds the long-term average annual supply of water to the Basin. Native yield is defined as the groundwater supply, which is based on the natural, normal, unavoidable recharge that occurs within the Basin. The KRGSA GSP estimates the native yield of the Subbasin at 0.15 acre-ft/acre, which equates to approximately 4.32 acre-feet/year. This results in a shortfall of approximately 16.65 acre-feet/year for the proposed development, i.e., 20.97 acre-feet/year minus 4.32 acre-feet/year. However, the KRGSA is currently in balance and has not yet implemented any pumping restrictions. The District does purchase Kern Island Canal "seepage" water from the Kern Delta Water District, and since 2008, the District has acquired approximately 42,735 acre-feet of water for recharge.

Therefore, the District has a banked water surplus and sufficient water supplies throughout the District to meet the anticipated shortfall of 16.65 acre-feet/year noted above.

SECTION 4 - CONCLUSIONS

This Water Supply Assessment has provided the data and analysis needed to verify that a sufficient Project water supply is physically available (Section 3.1), and that the Project water supply is in accord with SB 610's normal year/dry year/multiple dry year requirements, sufficient (Section 3.2).

It is recommended that the Greenfield County Water District conclude that the proposed water supplies for the Project be found sufficient to meet the projected Project water demands.

SECTION 5 - REFERENCES

2003. Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001. (online): http://www.water.ca.gov/pubs/use/sb_610_sb_221_guidebook/guidebook.pdf. Accessed February 1, 2021

California Department of Water Resources (DWR). 2015. California's Groundwater Bulletin 118.135 p.

Greenfield County Water District, 2020 Urban Water Management Plan

APPENDIX A

CHAPTER 643, STATUTES OF 2001 (SENATE BILL 610)

APPENDIX B

2020 GREENFIELD COUNTY WATER DISTRICT, URBAN WATER MANAGEMENT PLAN

APPENDIX C

GREENFIELD COUNTY WATER DISTRICT, WILL-SERVE LETTER

APPENDIX D

THE CROSSINGS PROJECT WSA – CONSISTENCY WITH DWR GUIDELINES