Project Description

UP 20-92
Bar X Farms, LLC
APN's 014-250-05, 07, 10 and 14
18655, 19395, 20103, and 20333 S Hwy 29, Middletown

Prepared for:

Lake County Community Development Department
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Supersedes Project Descriptions prior to December 27, 2022

Environmental Setting and Existing Conditions

The Bar X Ranch (Ranch) is located at 18655 and 20333 S State Highway 29 approximately 1.8 miles northeast of Middletown and approximately 2.3 miles southwest of the Hidden Valley Lake community (Township 11N, Range 6W, 7W, Unsectioned Guenoc, in the Middletown 1993 USGS quadrangle). The cumulative parcel acreage of the Bar X Ranch is 1594.6 acres. The proposed project is located in the Middletown Planning Area.

Bar X Ranch is an existing cattle ranch that has been actively farmed for over 100-years for cattle grazing and hay production. The Ranch is bounded by Putah Creek to the west and State Highway 29 to the east. The surrounding land uses are rural land, residential, and agriculture with existing ranches and vineyards to the north and west and an existing heavy industrial area adjacent to the Ranch to the northeast. The topography of the Ranch is rolling and consists of mountain ridges and valleys ranging from 1,000 feet to 1,500 feet above sea level. The Ranch is located within the Upper Putah Creek watershed (HUC-1802016203). Putah Creek, a Class I watercourse, bounds the western edge of the property and flows in the northerly direction and then turns east approximately 1.7 miles north of the Ranch. Crazy Creek, a Class II watercourse that is tributary to Putah Creek, flows east towards its confluence with Putah Creek located approximately 3.5 miles east of Bar X Ranch. Several Class III watercourses are located throughout Bar X Ranch, draining to Putah Creek or Crazy Creek (Figure 1). The climate of the site is characterized by a Mediterranean-type climate, with distinct seasons of hot, dry summers and wet, moderately cold winters. The wet season is typically October through May.

The Ranch's vegetation is comprised of annual grasses and weeds, with scattered oak trees, shrubs, star thistle, and blackberry brambles. Much of the vegetation and trees were burned during the 2015 Valley Fire.

Existing conditions on the Ranch include an existing reservoir ("lake" in Figure 1) for storage of 245 acre-feet from an existing appropriative water right (Division of Water Rights Permit for Diversion and Use of Water #20993), a number of internal compacted dirt and gravel roads, fenced and cross fenced pastures, a trenched irrigation system, an approximately 16,250 sq. ft. (65 ft x 250 ft) pole barn, two groundwater wells (one for domestic, one for irrigation), and a residential area with several houses, barns, garages, shops, storage buildings, and septic systems. The residential area would not be utilized by the proposed project and would remain as is. The Ranch is currently accessed off of State Highway 29 via three (3) existing driveways (north, center, and south (Figure 2). The center driveway is the main driveway used to access the residential area.

The existing appropriative water right allows the Ranch to divert (directly from Putah Creek) and store water up to 245 acre-feet per annum to be collected from December 1 to April 15 of each year at a rate not to exceed 5 cubic feet per second. This right would continue to be used annually to divert and store water for the purpose of irrigation on the Ranch. The water rights permit requires, for the protection of fish and wildlife, that the permittee bypass a minimum of 100 cfs in Putah Creek. The Ranch is required to maintain records of the amount of water diverted.

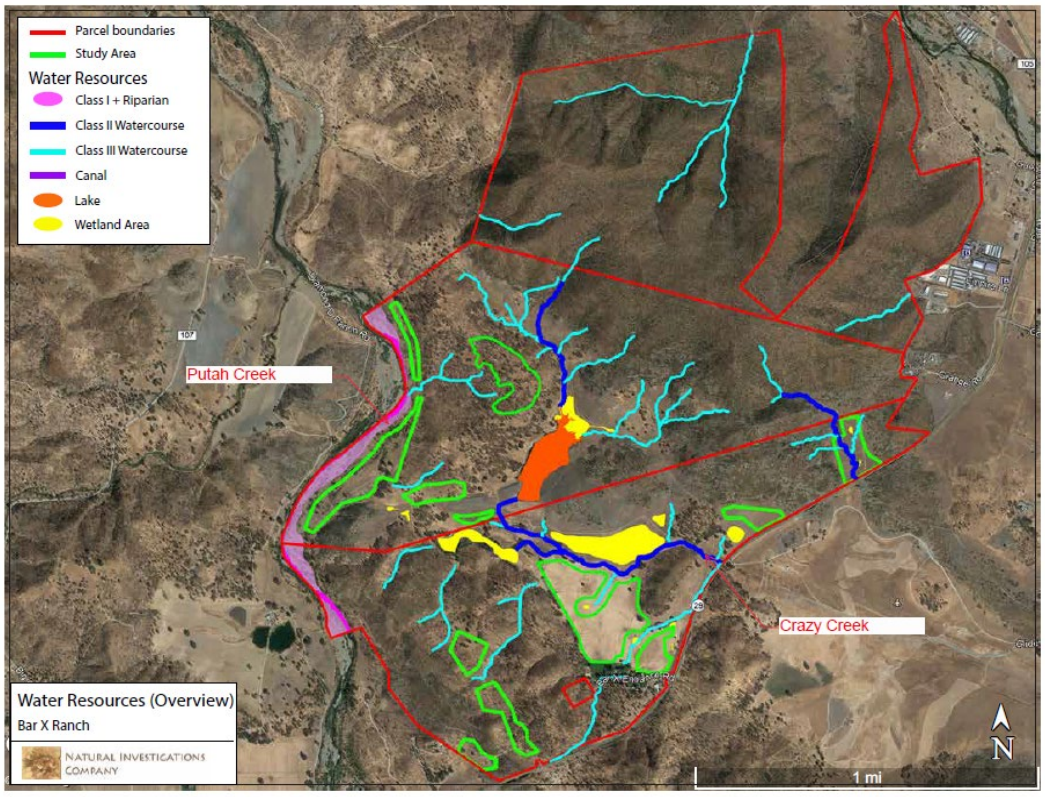

Figure 1. Bar X Ranch Water Resources (Source: Biological Resources Assessment, dated February 1, 2021)

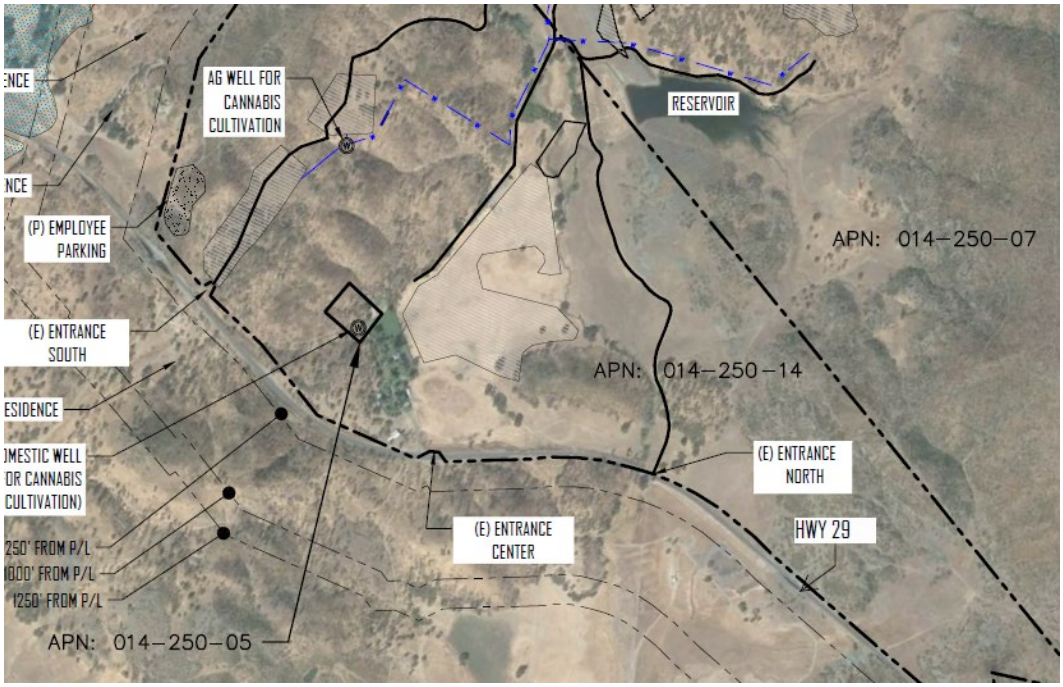

Figure 2. North, Center, and South Entrances off of State Highway 29

Proposed Project

Bar X Farms LLC, is seeking discretionary approval from Lake County for a Major Use Permit, UP 20-92, for commercial cannabis operations at 18655 and 20333 S State Highway 29, Middletown (APNs 014-250-07 and 14, respectively), in two phases as follows:

Phase 1

Fifty-nine (59) A-Type 3: "Outdoor" licenses: Outdoor cultivation for adult-use cannabis without the use of light deprivation and/or artificial lighting in the canopy area at any point in time. The applicant proposes 1,410,000 sq. ft. (32.4 acres) of commercial cannabis canopy area on APN 014-250-07 and 1,160,000 sq. ft. (26.6 acres) of commercial cannabis canopy area on APN 014-250-14, for a total of 59.0 acres of canopy within a cultivation area of approximately 71.6 acres (3,120,000 sq. ft.). Phase 1 of the proposed project would include retrofitting an existing 16,250 sq. ft. (65 ft x 250 ft) barn for drying and curing of cannabis grown onsite.

A-Type 13 Self Distribution license

The proposed project would include the retrofitted 16,250 sq. ft. pole barn for drying and curing. Retrofitting of the existing barn would not occur until the appropriate grading and building permits have been obtained from Lake County.

Phase 2

Including Phase 1 activities, Phase 2 will include:

One (1) Cannabis Processor License: Processing for adult-use cannabis within a new 60,000 sq. ft. commercial processing building on APN 014-250-14. Construction of the proposed processing building would not occur until the appropriate grading and building permits have been obtained from Lake County.

The project proposes the construction of a left-turn lane for access to the project. Prior to the construction of the left-turn lane, left-turn access to the site will be controlled using temporary traffic control measures. This is discussed in the "Access, Parking, and Traffic" section below.

At full buildout, the proposed cannabis operation would utilize approximately 75 acres (~5%) of the 1594.6 acre Ranch. The remainder of the Ranch would continue to operate as it has operated in the past, including cattle ranching and hay production.

A Biological Resources Assessment for the Ranch, updated September 30, 2021, and Botanical Survey Report, dated April 16, 2021, were prepared by Natural Investigations Co. (Natural Investigations Co., 2021). Natural Investigations Co. identified 87.6-acres, represented by ten (10) distinct sites, that are suited for the proposed project. These sites, referred to as "gardens", were selected to occur within active agricultural areas and to avoid all wetlands and channels, setbacks from watercourses and other natural resources, sensitive terrestrial habitats (serpentine soils, riparian, chaparral habitats), sensitive plant areas, steep slopes, and dense oak stands. The

proposed cannabis cultivation areas have been designed so that they are setback a minimum 150 ft. from the top of bank of Class I watercourses and a minimum of 100 ft. from wetlands and from the top of bank of all Class II and Class III watercourses.

The project is proposed in two phases. Phase 1 would consist of development of outdoor cannabis gardens for cultivation of 59 acres of outdoor canopy within seven (7) of the garden areas. Phase 2 would consist of constructing a 60,000 sq. ft. commercial processing building within the East Garden area on APN 014-250-14. The proposed cannabis activities are to be co-located on the subject parcels in compliance with Lake County regulations. Details are summarized in Table 1 and Figure 3.

Table 1. Summary of cannabis cultivation canopy areas for each garden

Site Plan Sheet #	APN	Name	Cultivation Type	Canopy Area (sq. ft.)	Cultivation Area (acres)
7	014-250-07	Center Garden	Outdoor	60,000	1.2
7	014-250-07	West Center Garden	Outdoor	110,000	3.4
8 & 9	014-250-07	Riverside Garden	Outdoor	785,000	19.0
11	014-250-07	East Center Garden	Outdoor	455,000	11.4
10	014-250-14	Pasture Garden	Outdoor	845,000	25.8
10, 10.1, 10.2	014-250-14	Employee Parking & Processing Building (East Garden)	N/A	N/A	N/A
5	014-250-14	Southwest Garden #1	Outdoor	150,000	5.7
6	014-250-14	Southwest Garden #2	Outdoor	165,000	5.1
			Total	2,570,000	71.6

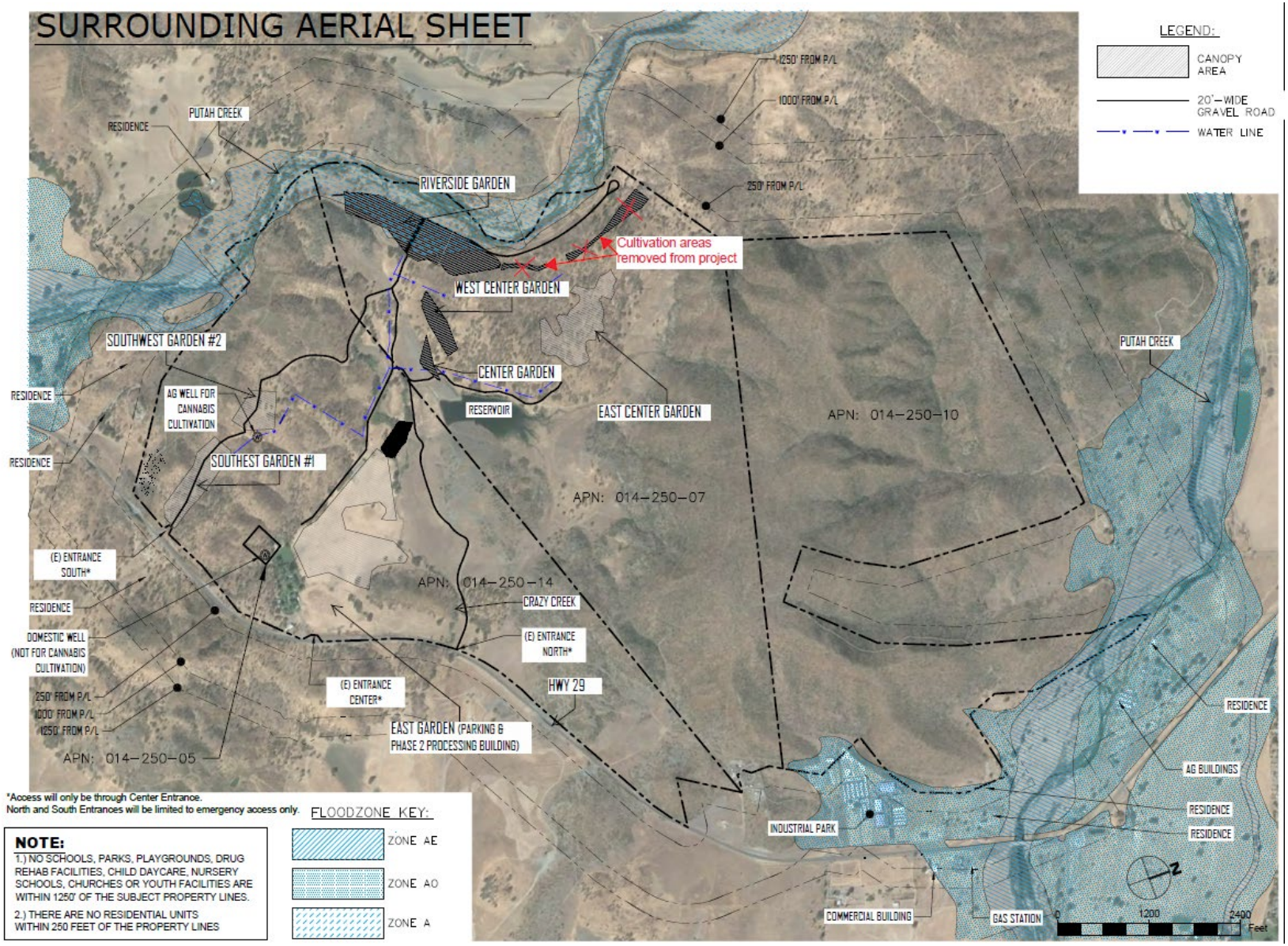

Figure 3. Proposed project garden areas and surrounding area

Outdoor cultivation would occur in full sun, with imported soil and amendments, in planter boxes or smart pots (grow bags) placed on top of the existing grade utilizing natural contours in open areas. During Phase 1, some vegetation clearing and minor grading (clearing and grubbing) is proposed for the outdoor cultivation activities to create level areas, on contour, for the planter boxes or smart pots, the cultivation employee parking area, and a flat for the water tanks near the Southwest Garden #2. No tree removal of living trees is proposed. An existing 16,250 sq. ft. barn would be retrofitted and used for storage, drying, and curing of cannabis; no cultivation would occur in this building. Employees would use the parking area located at the East Garden and the existing onsite access roads for parking and staging and accessing cultivation areas. Employees would have access to portable chemical toilets located at the employee parking area and at each of the cultivation areas.

During Phase 2, a new 60,000 sq. ft. commercial processing building, with parking, would be constructed at the East Garden. The processing building would include ADA accessible restrooms. Wastewater would be treated via a new, onsite septic system. No cultivation would occur at the East Garden. Grading would be required to create the processing building pad. The area is relatively flat, so grading would be minor.

Since both phases require grading, the applicant has submitted, to Lake County, an application for a Grading Permit. The application includes a Grading Plan that depicts the areas of vegetation removal and grading, including earthwork quantities. No grading or building would occur until the appropriate grading and building permits have been obtained from Lake County.

Power Source and Generator Use: During Phase 1, power for security cameras, security lights, and the dry barn would be powered using small, localized solar power at each cultivation area and on/or adjacent to the barn.

The processing building would be powered using "on grid" power provided by PG&E. An existing PG&E power service exists at the residential area near the proposed processing building.

During both Phase 1 and Phase 2, water from the irrigation well would be pumped to approximately 27, 5,000 gallon water storage tanks using a 75 Horse Power (HP) pump. The tanks are located at a high point on the property so that water from the tanks would gravity feed through an above ground pipe system (aka, irrigation lines) to each cultivation area. The pump would be powered by a 120 kilowatt diesel generator that would be housed in a sound dampening enclosure.

Article 27, Section (at)1.iii lists prohibited activities associated with commercial cannabis cultivation and does not prohibit the use of generators for irrigation or outdoor cultivation, specifically, the section states, for electrical generators, that, "*The indoor or mixed-light cultivation of cannabis shall not rely on a personal gasoline, diesel, propane, or similar fuels, powered generator as a primary source of power and shall only allow properly permitted (when applicable) generators for temporary use in the event of a power outage or emergency that is beyond the permittee's control*".

The generator use proposed here is solely to operate the 75 HP well pump and for backup power to the commercial processing building in case of power outages. The cultivation of cannabis would not rely on the use of a generator.

Water Use: Plants would be watered using an above ground, drip-irrigation system. Water for cultivation activities would be supplied from an existing groundwater well on APN 014-250-14 (a Well Completion Report was submitted to Lake County Department of Environmental Health on January 15, 2021). The well, drilled in January 2021, is approximately 215 feet in depth, and has an approximate yield of 800 gallons per minute (GPM). Water would be pumped from the well, using an existing 75 HP variable speed pump, to approximately twenty-seven (27), 5,000-gallon water tanks adjacent to Southwest Garden #2 on APN 014-250-14, where it would gravity feed through, new, above ground irrigation lines to each of the proposed garden areas. Fertigation (addition of liquid fertilizers and other amendments to the irrigation water) at each garden would be done using a mobile mixing tank and injected directly into the drip-irrigation system.

The CalCannabis Environmental Impact Report (CDFA, 2017) uses 6.0 gallons per day per plant as an estimated water demand for cannabis cultivation. This is 1.0 gallon (gpd) per plant more than reported by Bauer et al. (2015), who reported up to 5.0 (gpd) per plant (18.9 Liters/day/plant). Using the largest demand estimate of 6.0 gpd reported by the CDFA (CDFA, 2017), the estimated demand is 3,000 gpd (2.1 gallons per minute [gpm]) per acre of canopy; however, this is an average daily demand over the cultivation period which is lower during seedling/vegetative states and higher during the flowering period. To account for these different states, and use a more conservative estimate, the estimated demand been revised to utilize a higher estimate of 6,970 gpd (0.16 gallons per sq ft) per acre of canopy during the flowering period and 4,180 gpd (0.096 gallons per sq ft) per acre of canopy during the vegetative period is used herein. Assuming 35% of the time the cultivation is in the flowering state and 65% it is in the vegetative state, the average daily demand per acre of canopy is 5,160 gpd per acre of canopy.

The total estimated irrigation water demand is as follows:

- Average Daily – 304,234 gallons (211.3 gpm)
- Maximum Daily (during the flowering period) – 411,230 (285.6 gpm)
- Yearly (based on a typical 150-day outdoor cultivation season) – 140.0 AF

The estimated monthly demand is summarized in Table 2.

Table 2. Estimated projected monthly water use based on vegetative (65% or 97.5 days) and flowering (35% or 52.5 days) periods.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Irrigation (10,000 gal)	0	0	0	0	518	740	765	1,020	1,234	288	0	0	4,563.5

The well yield is approximately 800 GPM. The well pump is a variable speed pump that can pump from 350 to 750 GPM. Using the existing well pump at 625 gpm, the well can supply the average daily irrigation needs in under 9-hours.

A Groundwater Availability Analysis was prepared for the project by Chico Environmental on April 21, 2021 and an Hydrology Report was prepared for the project by NorthPoint Consulting

Group on September 8, 2021. The purpose of the Hydrology Report is to meet the requirement of Urgency Ordinance 3106 passed on July 27, 2021 by the Lake County Board of Supervisors.

Employees: The approximate number of employees for the proposed project, which are based on employee numbers from similar operations, are summarized in Table 3. Seasonal employees would be contracted through a local company during planting, harvesting, and processing.

Since the proposed project is agricultural and seasonal in nature, seasonal employees would be served by temporary facilities, which would include portable toilets, onsite food service catering or onsite food catering truck, and bottled water.

Table 3. Employee counts for the proposed project

Employees	**Phase 1**	**Phase 2**
Fulltime Cultivation	10	10
Seasonal Cultivation	120	120
Fulltime Processing	N/A	10
Seasonal Processing	N/A	75
Total Fulltime	10	20
Total Seasonal	120	195

Access, Parking, and Traffic: A Focused Transportation Analysis (FTA) for the Bar X Ranch Cultivation Project was prepared by W-Trans on October 6, 2021. The purpose of the FTA is to address the comments from Caltrans dated July 2, 2021 and September 1, 2021. The FTA determined that a left-turn lane would be warranted during the p.m. peak hour (occurs weekdays between 4 p.m. and 6 p.m.) traffic under existing conditions and would continue to be warranted with the proposed project and recommended that a single left-turn lane be constructed at the center driveway. The FTA recommended that internal access connections be provided on-site so that the proposed cultivation areas could be reached from the center driveway and that the north and south driveways should facilitate emergency access only. These features have been incorporated into the proposed project. (Refer to the Site Plans, Sheets C0 through C2 of the Bar X Farms On-Site Parking and Traffic Circulation Plan, and Left Turn Channelization Concepts Sheets C0 through C4)

The Ranch is currently accessed off State Highway 29 via three (3) existing driveways (north, center, and south [Figure 2]). The center driveway is the access entrance for the proposed project during both Phase 1 and Phase 2. The northern and southern driveways would be used for emergency access only. The gates at these two driveways would be locked and include signage stating, “Emergency Access Only” (Refer to Sheets C0 through C2 of the Bar X Farms On-Site Parking and Traffic Circulation Plan).

The project proposes constructing a left-turn lane for access to the center driveway. Preliminary design concepts have been developed and incorporated into the proposed project. The left-turn lane will be designed and constructed to Caltrans’ Design Standards. Design parameters were provided in the FTA. Construction of the left-turn land will not begin until full approval from Caltrans has been obtained through the State of California Encroachment Permit Process. Prior to construction of the left-turn lane, left-turn access to the site via the center driveway will be

controlled using temporary traffic control measures. A Temporary Traffic Control Plan to accommodate left turns will be prepared and submitted to Caltrans for approval prior to operation of the project.

Seasonal laborers would be contracted through a company that specializes in seasonal labor for cultivation, harvesting, and processing periods. Seasonal laborers would be required to vanpool to the site. Parking for fulltime employees and vans used by the seasonal laborers would be provided at the East Garden. Seasonal laborers would be transported to the cultivation areas using golfcart type utility vehicles (or similar) via existing internal ranch roads. The employee parking area would have approximately ten regular parking spaces and fifteen van parking spaces (including one ADA space) during Phase 1 and twenty regular parking spaces and twenty-five van parking spaces (including two ADA spaces) during Phase 2.

Trip generation rates during operation were provided in the FTA. The project is expected to result in an average of 63 trips per day at buildout during typical operation by fulltime, permanent employees. During peak harvest and processing seasons, with required vanpooling for seasonal laborers, the project is expected to result in an average of 115 trips per day during the peak harvesting and processing periods. The FTA assumed that vans would have an occupancy of eight seasonal laborers each, which equates to 25 vans needed to transport seasonal laborers to and from the site at buildout. Fulltime employees not living onsite would be encouraged to carpool.

Construction traffic would occur over approximately 4 to 8 weeks during Phase 1 and 3 to 6 months during Phase 2. Larger equipment would be mobilized once at the beginning of the construction season, and out and the end of the construction season for each phase. During construction, it is expected that there would be approximately 10 to 15 construction employees, with up to approximately 30 round trips per day. Assuming an average of one (1) delivery per day, the total construction trips would be approximately 31 trips per day.

Operation Details: Operations would occur up to seven days per week with cultivation operations occurring approximately from April to November every year.

Once operational, the commercial facility would operate up to seven days per week, with peak operations occurring after harvest processing. During the peak harvest and processing season, onsite food service catering or an onsite food catering truck would be offered to all employees.

Hours of operation for the proposed activities would typically be between approximately 6 a.m. and 8 p.m. daily. The Lake County Zoning Ordinance restricts deliveries and pickups for cannabis cultivation operations from 9 a.m. to 7 p.m. Monday through Saturday and Sunday from 12 p.m. to 5 p.m. Prior to construction of the left-turn lane, temporary left-turn traffic control would be provided during the weekday p.m. peak period to control left-turns into the Ranch.

Fertilizers, pesticides, and petroleum products would be stored with compatible chemicals and outside of riparian setbacks in the existing barn or stormproof sheds or, as needed, storage containers installed at each cultivation area. All waste would be kept in secured areas, located

at each cultivation site, and regularly hauled off-site to be disposed of properly at an appropriate waste disposal facility. Any plant waste would be chipped/mulched and spread around the cultivation areas. A trash enclosure, soil stockpile, and compost pile would be established at each cultivation area.

Each cultivation area would be fully secured with 8-foot wire deer fencing and a minimum 14-foot wide locked gate that is wide enough to allow access for emergency vehicles.

The following erosion control measures would be followed:

- Preserve existing vegetation where required and when feasible;
- Apply temporary erosion control to exposed areas. Reapply as necessary to maintain effectiveness;
- Implement temporary erosion control measures at regular intervals throughout the defined rainy season to achieve and maintain stability. Implement erosion control prior to the defined rainy season; and
- Control erosion in concentrated flow paths by applying erosion control devices.

Bar X Ranch is enrolled with the State Water Resources Control Board (SWRCB) for Tier 2, Low Risk coverage under Order No. WQ 2019-0001-DWQ (Cannabis Cultivation General Order). The Cannabis Cultivation General Order implements Cannabis Policy requirements with the purpose of ensuring that the diversion of water and discharge of waste associated with cannabis cultivation does not have a negative impact on water quality, aquatic habitat, riparian habitat, wetlands, or springs. The site was assigned WDID No. 5S17CC429135. The Cannabis Cultivation General Order requires the preparation of a Site Management Plan (SMP), a Nitrogen Management Plan (NMP), and the submittal of annual technical and monitoring reports demonstrating compliance. The purpose of the SMP is to identify Best Practicable Treatment or Control (BPTC) measures that the site intends to follow for erosion control purposes and to prevent stormwater pollution. The purpose of the NMP is to identify how nitrogen is stored, used, and applied to crops in a way that is protective to water quality. The SMP and NMP are required prior to commencing cultivation activities and were submitted with the application materials.

Construction: Proposed grading activities would include vegetation removal and minor grading (clearing and grubbing) to prepare the outdoor cultivation areas, grading of the cultivation employee parking area, and grading the building pad for the commercial processing building and parking. A grading permit application, Grading Plan and Dust Mitigation Plan have been submitted to Lake County. No grading would occur until an approved grading permit has been obtained from the County. Normal means and methods would be used to retrofit the barn, construct the proposed processing building, and proposed left-turn lane.

Phase 1 construction is expected to begin in the spring of 2023, with the exact start date dependent on permits, dry weather, and suitable soil conditions. Construction would include building fences, preparing the cultivation areas, installing the above ground irrigation system, retrofitting the existing barn, developing the employee parking area, and preparing flats for the water tanks. Activities would include some vegetation clearing and minor grading to create level areas, on contour, for the planter boxes or smart pots, to develop the cultivation employee parking area, and the water tank area. No tree removal is proposed. The existing 16,250 sq. ft. barn would

be retrofitted and used for storage, drying, and curing of cannabis; no cultivation would occur in this building. A building permit is required and would be obtained from Lake County prior to retrofitting the barn. Phase 1 construction is expected to take approximately 4 to 8 weeks. During construction, there would be approximately 15 to 30 workers. Truck deliveries would be expected to occur, on average, every two days throughout the construction season. Construction staging would occur in the proposed employee parking area and existing onsite access roads.

Phase 2 construction is expected to begin in spring of 2024, with the exact start date dependent on permits, dry weather, and suitable soil conditions. Construction of the processing building would include grading to create building pads. Phase 2 would also include construction of the proposed left-turn lane. Building permits are required and would be obtained from Lake County prior to construction. A permit from the Lake County Environmental Health Department would be obtained prior to developing the onsite septic system for the processing building. An encroachment permit is required and would be obtained from Caltrans for construction of the left-turn lane. Activities would include vegetation clearing and grading to create building pads, parking, and the septic system. Phase 2 construction is expected to take approximately 3 to 6 months. During construction, there would be approximately 10 to 15 workers. Truck deliveries would be expected to occur, on average, every 1 to 2 days throughout the construction season. Construction staging would occur in the proposed processing building parking area.

During construction, Best Management Practices (BMPs) would be used to minimize erosion and control dust within the cultivation areas. These are detailed in the Property Management Plan, Erosion Control Plan, and Dust Management Plan for the proposed project. BMPs for erosion control during construction include preserving natural vegetation whenever possible, stabilize loose soil. Sediment control BMPs include vegetated swales, buffer strips, sediment traps, straw wattles, silt fences, or fiber rolls.

Dust control measures include installing weed barriers, maintaining existing vegetation outside cultivation areas, watering exposed surfaces (e.g. parking areas, staging areas, soil piles, graded areas, and unpaved access roads), and restrict onsite speeds to 15 mph or less.

Since, the project would disturb more than one acre in preparing the cultivation areas, constructing the parking area, the processing building, and the left-turn lane, the project would be subject to the requirements State Water Resources Control Board (SWRCB) Construction General Permit (CGP, 2009-009-DWQ). The SWRCB CGP would require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan which documents the stormwater dynamics at the site, the Best Management Practices (BMPs), and water quality protection measures that are used, and the frequency of inspections. BMPs are activities or measures determined to be practicable, acceptable to the public, and cost effective in preventing water pollution or reducing the amount of pollution generated by non-point sources. Obtainment of a CGP is also a BPTC Measure for compliance with the SWRCB General Order. The Construction General Permit does not cover disturbances of land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.