

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2018-0073

WASTE DISCHARGE REQUIREMENTS

FOR  
YOCHA DEHE WINTUN NATION  
YOCHA DEHE GOLF CLUB  
YOLO COUNTY

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) finds that:

1. On 20 February 2018, the Yocha Dehe Wintun Nation (Tribe or Discharger) submitted a Report of Waste Discharge (RWD) to apply for revised Waste Discharge Requirements (WDRs) for the discharge of disinfected tertiary treated wastewater to irrigate the golf course at the Yocha Dehe Golf Club (Golf Club) in Brooks, Yolo County.
2. The Tribe owns and operates a sanitary sewer system and wastewater treatment facility (WWTF or Facility) that serves the Cache Creek Casino Resort (Resort). The Resort comprises of a casino; restaurants; hotel; Golf Club, including clubhouse; mini-mart gas station; fire station; parking garage; tribal offices; generator plant; and other facilities and infrastructure including the water and wastewater treatment facilities owned and operated by the Tribe. The Golf Club includes a golf course, clubhouse, and ancillary facilities.
3. The WWTF and part of the golf course is situated on land held by the U.S. Department of Interior, Bureau of Indian Affairs (BIA) in trust for the Tribe. For the purposes of this Order, this area is referred to as "Trust Land." Other portions of the golf course are located on land which is owned in fee title by the Tribe (Fee Land). The Central Valley Water Board lacks regulatory authority over discharges that occur on Trust Land. However, the Board has the authority to enforce applicable laws, regulations, and policies related to degradation or pollution of surface water or groundwater insofar as such degradation or pollution is detectable outside the confines of Trust Land. Discharges of waste to Fee Land is regulated by Board. The Tribe is responsible for compliance with these WDRs.
4. The Cache Creek Casino Resort, Golf Club, and WWTF are located at 14455 State Highway 16 in the town of Brooks (Section T10N, R2W, R3W, MDB&M). Fee Land portions of the Golf Club are comprised of Assessor's Parcel Numbers (APN) 048-020-18, 048-040-12, 048-040-14 and 048-040-15, as depicted on Attachment A (incorporated herein).
5. WDRs Order No. R5-2006-0121, adopted by the Central Valley Water Board on 26 October 2006, prescribes requirements for waste discharges on portions of the golf course located on Fee Land. Order No. R5-2006-0121 was amended by Resolution R5-2008-0130 on 31 July 2008, to allow the Tribe additional time to comply with the final effluent limits. In a 19 July 2010 letter, the Board agreed to forego enforcement of the

final salinity effluent limits, if the Tribe maintained compliance with Order No. R5-2006-0121 (except for Effluent Limitation C.3) and did not exceed the provisional effluent limits as proposed by the Tribe.

Constituent	Provisional Effluent Limits, mg/L
Chloride	202
Sodium	200
TDS	855

6. A resort expansion is currently underway. Increased flows to the WWTF and an increase in recycled water demands at the Resort are anticipated. In addition, the Tribe anticipates future WWTF connections that would include the existing Tribal Housing, which currently discharges into a septic and leach field system and the Tribe-owned Seka Hills Olive Mill (currently regulated under separate-issued WDRs). This Order rescinds and replaces Order No. R5-2006-0121.

#### Existing Facility and Discharge

7. Three groundwater wells supply potable water to the Resort. Potable water quality data provided in the RWD is shown below.

Constituent	Potable Water Supply Quality, mg/L unless specified otherwise		
	Well 1 (Jan 2018)	Well 2 (Jan 2018)	Well 3 (Jun 2016)
pH, std units	7.1	7.4	7.2
Specific Conductivity, $\mu$ mhos/cm	920	900	800
TDS	450	500	470
Nitrate as N	1.0 <sup>1</sup>	1.9 <sup>1</sup>	7.6
Chloride	120	81	59
Sodium	76	73	85 <sup>2</sup>
<sup>1</sup> Value based on June 2017 data.			
<sup>2</sup> Value based on March 2016 data.			

8. A water desalination treatment facility (WDTF) conditions and softens the water supply prior to distribution. The WDTF consists of an electro dialysis reversal (EDR) for salinity removal and vibratory shear enhanced process (VSEP) water softening system for brine concentration, which replaced the ion exchange water softening system that was decommissioned in 2009. Concentrated brine produced by the WDTF is hauled off-site to a permitted facility. A brine crystallization process is being commissioned to replace the VSEP. The WDTF also includes chemical storage and pumping and a laboratory.
9. Domestic wastewater generated from the casino, hotel, support facilities, and Golf Club is collected and pumped to the WWTF, located northeast of the Resort as shown in Attachment B, which is attached hereto and made part of this Order by reference. Currently, there are no industrial or commercial discharges to the WWTF. Grease

interceptors are located at the Resort to separate the fats, oil, and grease from the wastewater prior to entering the WWTF.

10. The existing treatment system is rated for 405,000 gallons per day (gpd) as a peak day flow (PDF) and consists of the following:
  - a. An influent lift station (ILS) with submersible chopper pumps and a screening facility; screenings are stored in bins on-site and periodically disposed of at a permitted landfill.
  - b. A 234,000-gallon emergency storage basin and 83,000-gallon overflow basin.
  - c. A microfiltration membrane bioreactor (MBR) provides tertiary treatment.
  - d. Disinfection occurs in a chlorine contact basin (CCB 1) using sodium hypochlorite. CCB 1 has a maximum disinfection capacity of 498,000 gpd at 5 mg/L chlorine residual and provides a contact time (CT) value (the product of total chlorine residual and modal contact time measured at the same point) of not less than 450 milligram-minutes per liter (mg-min/L) at all times with a modal contact time of at least 90 minutes. Effluent from CCB 1 flows through a second, out-of-service chlorine contact basin (CCB 2) that serves as a conveyance channel.
  - e. An aerobic digester for solids reduction.
  - f. A belt press dewateres biosolids (greater than 16 percent solids) which is later hauled off-site to a permitted landfill.
11. Treated wastewater meets California Code of Regulations, title 22 (Title 22) requirements for disinfected tertiary recycled water, which is then pumped to the following:
  - a. Storage at the 64,000-gallon recycled water tank for distribution to the Casino for toilet/urinal flushing. Recycled water demand at the Casino is approximately 55,000 gpd.
  - b. Storage at the WWTF recycled water reservoir for distribution to the Golf Club's South Lake. Lined with a high-density polyethylene (HDPE) liner, the reservoir has a storage capacity of approximately 51 acre-feet (AF) at 2 feet of freeboard.
  - c. Storage at the Golf Club's South Lake for distribution to the Golf Club irrigation system. Lined with a HDPE liner, South Lake has a storage capacity of approximately 300 AF at 2 feet of freeboard.
  - d. Disposal to three existing leach fields located on Trust Land. Originally rated for a capacity of 90,000 gpd; the Tribe has conservatively assumed a disposal capacity of 40,000 gpd based on current disposal rates and loss of capacity due to previous construction activities. The leach fields are rarely used.

12. The recycled water distribution system consists of piping and a recycled water pump station, located on Trust Land. Recycled water is used to irrigate the entire Golf Club on both Fee and Trust Land, including irrigation of the turf grass and to fill a decorative pond. Approximately 110 acres of the Golf Club, including the 10-acre driving range is located on Fee Land. Approximately 80 acres of the Golf Club is on Trust Land. Irrigation is applied via fixed spray, pop-up, bubbler, and rotors, generally occurring daily during the summer and less frequently during the other seasons. Golf Club irrigation areas is shown on Attachment B and C, which is attached hereto and made part of this Order by reference.
13. The RWD included an estimated breakdown of the wastewater generated from each existing source as shown below.

<b>Wastewater Source</b>	<b>Avg. Daily Flow<sup>1</sup>, gpd</b>
Casino / Gaming Floor	57,700
Dining	73,900
Club	6,600
Hotel Rooms	38,000
Spa	1,000
<b>Back of House (staff area)</b>	
Employee – Operation, Hotel, and Administration	21,000
<b>Other Facilities</b>	
Dam Warehouse, Mini Mart, WWTP, etc.	18,000
Cooling Tower Blowdown	18,000
Golf Club	4,000
<b>Total Average Daily Wastewater Flow</b>	<b>238,000</b>
<b>Peak Daily Wastewater Flow<sup>2</sup></b>	<b>333,000</b>
<sup>1</sup> Values rounded to the nearest 100 gpd, except for total and peak flow values which were rounded to the nearest 1,000 gpd.	
<sup>2</sup> Value based on a peak factor of 1.4.	

14. WWTF influent flows included in the RWD is shown below. Monthly values were rounded to the nearest 1,000 gpd.

<b>WWTF Influent Flows, gallons</b>			
<b>Month</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
January	7,084,000	6,512,000	7,901,000
February	6,082,000	5,970,000	7,334,000
March	6,635,000	5,660,000	8,008,000
April	6,324,000	5,761,000	5,151,000
May	7,036,000	6,878,000	8,139,000
June	7,082,000	7,668,000	8,269,000
July	7,818,000	8,391,000	7,909,000
August	8,119,000	8,262,000	7,871,000
September	8,215,000	7,958,000	8,109,000
October	7,210,000	7,250,000	7,832,000
November	6,188,000	6,799,000	9,044,000
December	6,374,000	7,322,000	6,611,000

<b>WWTF Influent Flows, gallons</b>			
<b>Month</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Annual Total:</b>	<b>84,167,000</b>	<b>81,431,000</b>	<b>92,178,000</b>

15. As stated in the RWD, inflow and infiltration do not appear to contribute to wastewater flows based on the following:
- The overall length of the existing collection system is short as compared to municipal systems,
  - The collection system is relatively new, and
  - Poor surface drainage and high groundwater are not issues at the Resort.
16. Disinfected tertiary treated wastewater quality provided in the RWD is shown below. Values represent a normal average. Effluent quality has improved in comparison to the effluent quality presented in the 2006 WDRs.

<b>Disinfected Tertiary Effluent Water Quality, mg/L unless specified otherwise</b>						
<b>Constituents</b>	<b>2015</b>		<b>2016</b>		<b>2017</b>	
	<b>Min/Max</b>	<b>Average</b>	<b>Min/Max</b>	<b>Average</b>	<b>Min/Max</b>	<b>Average</b>
Chloride	110 / 135	123	112 / 130	118	106 / 135	119
Sodium	97.5 / 122.2	110	106 / 125	116	95 / 118	107
TDS	504 / 576	537	444 / 530	493	424 / 553	470
Total Nitrogen <sup>1</sup>	4.41 / 7.27	5.92	3.5 / 8.36	6.55	3.16 / 8.66	6.62

<sup>1</sup> Sum of Total Kjeldahl Nitrogen and nitrate as nitrogen.  
 "Min/Max" denotes Minimum / Maximum values.

17. Blended effluent quality (disinfected tertiary treated wastewater and water from Cache Creek) included in the RWD is shown below. Values represent a normal average. Approximately 44 percent of the irrigation water used at the golf course is recycled water. Because irrigation demand exceeds the amount of recycled wastewater produced, raw water is currently the primary supply of irrigation water for the golf course. During a typical water year, water allocation from Cache Creek is for the maximum annual water demand of the golf course. During rare dry years, diversion amounts which exceed the maximum annual water demand of the golf course is allowed.

<b>Blended Effluent Quality for Salinity, mg/L unless specified otherwise</b>						
<b>Constituents</b>	<b>2015</b>		<b>2016</b>		<b>2017</b>	
	<b>Min/Max</b>	<b>Average</b>	<b>Min/Max</b>	<b>Average</b>	<b>Min/Max</b>	<b>Average</b>
Chloride	82 / 140	114	54 / 113	81	58 / 83	73
Sodium	71 / 104	89	57 / 100	79	57 / 79	67
TDS	380 / 563	487	320 / 485	403	306 / 463	353

Min/Max denotes Minimum / Maximum values.

### Proposed Changes to the Facility and Discharge

18. The hotel expansion project (HEP), which is expected to be complete in early 2019, will result in additional wastewater flows to the WWTF and an increase in recycled water demand at the Resort.
  - a. An incremental increase of approximately 128,000 gpd (average flow) and 179,000 gpd (peak flow) of wastewater are anticipated. The HEP will include a 459-room hotel expansion, new lounge bar; 1,325-seat ballroom; expansion of existing restaurant space and new restaurant addition; back-of-house expansion; and meeting space.
  - b. Recycled water demand for toilet/urinal flushing will increase from 55,000 to 70,000 gpd.
19. Improvements to the WWTF to accommodate the additional wastewater flows include the following:
  - a. MBR: Populate existing cassettes with additional membranes and add new cassettes to the existing basins.
  - b. Incorporate the existing, out-of-service CCB 2 to extend and maximize available contact time. Therefore, two CCBs (CCB 1 and CCB 2) will operate in series to provide a disinfection capacity of approximately 576,000 gpd and a CT value of not less than 450 mg-min/L with at least 90 minutes of modal contact time.
20. The Tribe requests that future connections from the following wastewater sources be allowed and regulated where applicable under this Order:
  - a. Tribal housing, located on Trust Land north of the Resort, consists of 35 units with the potential to increase by 15 additional units. Tribal housing discharges to onsite leach field systems. At some later date, the Tribe would like to connect to the WWTF which would result in approximately 10,500 gpd of wastewater at 35 units and up to approximately 15,000 gpd for a total of 50 units.
  - b. Seka Hills Olive Mill is located west of the Resort across Highway 16. Process wastewater is land applied at the mill site and regulated under site-specific WDRs Order R5-2013-0137. At some later date, the Discharger would like to connect to the WWTF, which would result in approximately 30,000 gpd of process wastewater. Pretreatment may be installed at the olive mill prior to connection to the WWTF. Olive mill waste is high strength waste.
    - i. BOD concentrations range from 750 to 69,000 mg/L.
    - ii. FDS concentrations range from 350 to 15,000 mg/L.
    - iii. Total nitrogen concentrations range from 10 to 820 mg/L, where most of the nitrogen is present as total kjeldahl nitrogen.

- iv. Concentrations vary depending on the filter screen size from which wastewater passes through.

- 21. The RWD included a water balance dated January 2018 that was based on reasonable estimates of wastewater flows per month from existing permitted waste sources and the hotel expansion project. The water balance demonstrates adequate storage and disposal capacity during a 100-year return period and average precipitation with a daily average wastewater inflow flow of 366,000 gpd and a peak day wastewater influent flow of 512,000 gpd. Storage and disposal capacity was not evaluated for flows from tribal housing or the olive mill.
- 22. The Tribe proposes effluent limitations as a blended effluent sample (blended disinfected tertiary effluent and Cache Creek water) from the Golf Club's South Lake. The proposed limitations were based on the statistically determined background groundwater quality as presented in the Revised Background Groundwater Quality Report dated December 2011 (Revised Background Report).

Constituent	Proposed Blended Effluent Limitations, mg/L
Chloride	325
Sodium	325
TDS	1,100

- 23. The Tribe has requested that groundwater monitoring not be required. Based on extensive groundwater monitoring (data from 2007 through 2017), the Tribe concludes that there is no correlation between salinity concentrations in groundwater at the application site and in the irrigation water. TDS, sodium, and chloride concentration levels in groundwater near the application areas do not exceed background groundwater concentrations.
- 24. If groundwater monitoring is required, as an alternative, the Tribe proposes that groundwater be limited to background wells MW-10, MW-13, and MW-18 and down-gradient wells MW-11, MW-12, and MW-17. In addition, the Tribe proposes that the wells be monitored for the same constituents as those monitored at the point of discharge (blended effluent from South Lake) so that impacts of the discharge can be directly evaluated.

### Wastewater Collection System

- 25. The overall length of the existing collection system is short as compared to municipal systems. Wastewater sources are located within the vicinity of the WWTF. Eight lift stations are used to pump the sewage from the various facilities (including the fire station lift station, mini-mart lift station, Golf Club lift station, dam warehouse and water treatment building, 3-tier warehouse, and plant drain pump station for the WWTF operational areas) to the ILS. Tribal housing and the olive mill are located approximately 2.0 and 0.5 miles respectively north of the WWTF and will require a collection system to convey their wastewater to the WWTF.
- 26. The sanitary sewer system collects wastewater and consists of sewer pipes, manholes, and/or other conveyance system elements that direct raw sewage to the treatment

facility. A “sanitary sewer overflow” (SSO) is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the treatment facility. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered SSOs, provided that the waste is fully contained within these temporary storage/conveyance facilities.

27. SSOs consist of varying mixtures of domestic and commercial wastewater, depending on land uses in the sewage collection system. The most common causes of SSOs are grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and/or contractor-caused blockages.
28. SSOs often contain pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, suspended solids, and other pollutants. SSOs to surface waters can cause temporary exceedances of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair recreational use and aesthetic enjoyment of surface waters in the area.
29. The Discharger is not required to obtain coverage under State Water Board Order 2006-0003-DWQ because neither the sewer system nor the wastewater treatment plant is publicly owned. Therefore, the Discharger is expected to take all necessary steps to adequately maintain, operate, and prevent overflows from its sanitary sewer system, and to comply with this Order regarding responding to and reporting all SSOs.

### **Industrial Discharge Pretreatment**

30. Industrial discharges to wastewater treatment facilities can cause one or more of the following problems if not adequately controlled:
  - a. *Interference or Upset.* Discharges of high volumes or concentrations of certain pollutants can inhibit or interfere with the proper operation of the wastewater treatment facility, causing it to do an inadequate job of treating wastes. As a result, the facility could be prevented from meeting its permit requirements.
  - b. *Sludge Management.* Industrial pollutants, particularly metals and other toxic pollutants, can limit the sludge management alternatives available to the Discharger and increase the cost of sludge management and disposal. Additionally, biosolids contaminated with toxic pollutants could be rendered unsuitable for as a soil amendment.
  - c. *Pass-through.* Some industrial pollutants may not receive adequate treatment and pass through the treatment system in concentrations that can could unreasonably degrade groundwater quality and/or prevent recycling of domestic wastewater.

Additionally, the discharge of explosive, reactive, or corrosive wastes can cause damage to the wastewater collection system or the treatment works, and may also pose a threat to worker or public safety.



31. The Discharger does not have an industrial pretreatment program to regulate the discharge of industrial wastes into the wastewater collection system or treatment works to prevent damage to the sewer system or treatment works, inhibit or disrupt the treatment process, or cause violation of the effluent or groundwater limits of this Order. However, as described in Finding 20, there is a potential for a significant industrial discharge to the facility. Based on the volume and nature of these discharges, it is appropriate to require that the Discharger evaluate the waste to determine compliance with the WDRs and as appropriate develop and implement source control or an industrial pretreatment program. Therefore, this Order contains provisions that require the Discharger evaluate and report any proposed new industrial discharges for approval by the Executive Officer prior to WWTF connection.

### **Site-Specific Conditions**

32. The Resort is located within a topographically isolated portion of the Capay Valley. Most of the site is constructed on an alluvial Terrace deposit at an approximate elevation of 255 to 280 feet above mean sea level (ft-amsl). The Rumsey Hills form a northwest-to-southwest trending ridge that separates the southern end of the Capay Valley from Cache Creek. Elevations of the Rumsey Hills range from approximately 295 to 550 ft-amsl. Cache Creek, which borders the Resort to the east, is the nearest surface water drainage course.
33. A portion of the Golf Club is located within the 100-year floodplain for Cache Creek. The WDTF, WWTF, and other Resort facilities are not within the floodplain. Inundation of the Golf Club may occur during extreme weather events either from South Lake or direct precipitation/flooding of Cache Creek.
34. Surface soils across the golf course are primarily Tehama loam and Yolo silt loam. The Tehama loam (primarily on the north portion of the Golf Club) is characterized by low permeability, slight erosion potential, with 8 to 10 inches of water holding capacity. The Yolo silt loam (primarily in the south portion of the Golf Club) exhibits moderate permeability, slight erosion potential, and 9 to 11 inches of water holding capacity.
35. Based on the Department of Water Resources Station A00 9781 00 Woodland 1WNW, the average annual rainfall is 18.0 inches and the 100-year return period rainfall is 36.7 inches. Based on the California Irrigation Management Information System (CIMIS), the Resort is in Zone 14, which has an average evapotranspiration (ET<sub>o</sub>) of 57.0 inches.
36. The surrounding land uses and features in the immediate vicinity of the Resort is summarized below:
- a. North: Agricultural land, rural residences, and Tribal governmental uses;
  - b. South: Agricultural land and rural residences;
  - c. East: Cache Creek and range land;
  - d. West: Highway 16, agricultural land, rural residences, and Seka Hills Olive Mill.

### Groundwater Conditions

37. Groundwater flow direction is generally towards Cache Creek in an easterly direction in the northern portion of the golf course and in a northerly direction in the southern portion of the golf course. Groundwater occurs at the site at elevations ranging from approximately 256 to 277 feet amsl (approximately 15 to 38 feet below ground surface).
38. Prior to the Golf Club's construction, treated effluent was discharged to a 20-acre spray field in the general location of the Golf Club's South Pond. In December 2001, monitoring wells MW-3, MW-4 and MW-5 were installed to monitor groundwater at the former spray field; these wells have since been abandoned.
39. Currently, the groundwater monitoring network includes eleven wells and three piezometer clusters. Site piezometers were not required to be monitored in the Monitoring and Reporting Program (MRP), but were used by the Tribe to provide supplemental data for background data, which was generally found to be inconsistent and unreliable. A summary of groundwater monitoring wells is shown below.

Monitoring Well	Function	Location
MW-10	Background Well	Up-gradient
MW-11	Compliance Well	Site boundary condition
MW-12	Compliance Well	Site boundary condition
MW-13	Background Well	Up-gradient
MW-14	Compliance Well	Irrigated area
MW-15	Compliance Well	Irrigated area
MW-16	Compliance Well	Irrigated area
MW-17	Compliance Well	Site boundary condition
MW-18	Background Well	Up-gradient
MW-19 <sup>1</sup>	Compliance Well	Cross-gradient
MW-20	Compliance Well	Cross-gradient

<sup>1</sup> Monitored for groundwater elevation and gradient purposes only.

40. Ambient background groundwater concentrations were determined and provided in the *Revised Background Report*. Background concentrations as shown below were based on nine sample events from wells MW-10, MW-13, and MW-18.

Constituent	Statistically Determined Background Groundwater Concentration, mg/L
Chloride	666
Sodium	684
TDS	1,800

41. For the purpose of characterizing groundwater quality, groundwater data sampled between June 2013 through December 2017 from wells up-gradient and down-gradient of the land application area were evaluated. Semi-annual groundwater monitoring is the current sampling frequency which began in June 2013. Up-gradient wells MW-10 and MW-18 and down-gradient well MW-17 are in the northern portion of the golf course. Up-gradient well MW-13 and down-gradient wells MW-11 and MW-12 are in the southern portion of the golf course. Well locations are shown on Attachment C. Groundwater quality

for the monitoring parameters in accordance with the 2006 MRP is shown below as an average of the data collected between June 2013 and December 2017:

Constituent	Concentrations Protective of Beneficial Uses	Average Groundwater Quality, mg/L unless otherwise noted					
		Up-gradient			Down-gradient		
		MW-10	MW-13	MW-18	MW-11	MW-12	MW-17
TDS	450 <sup>1</sup> - 1,000 <sup>4</sup>	1,091	695	1,550	493	661	941
Nitrate as N	10 <sup>2</sup>	1.1	5.7	0.5	0.9	3.0	1.2
Boron	0.7 <sup>1</sup>	0.3	0.4	12.9	1.6	1.7	1.9
Chloride	106 <sup>1</sup> – 500 <sup>4</sup>	156	73	759	76	109	208
Sodium	69 <sup>1</sup>	49	102	492	51	59	100
Sulfate	250 <sup>3</sup> – 500 <sup>4</sup>	418	87	43	57	65	171
Arsenic, µg/L	10 <sup>2</sup>	1.9	1.2	7.0	1.8	1.8	1.7
Manganese, µg/L	50 <sup>3</sup>	< 20 <sup>5</sup>	< 20 <sup>5</sup>	< 20 <sup>5</sup>	< 20 <sup>5</sup>	< 20 <sup>5</sup>	< 20 <sup>5</sup>

<sup>1</sup> Lowest Agricultural Water Quality Goal.  
<sup>2</sup> Primary Maximum Contaminant Level.  
<sup>3</sup> Secondary Maximum Contaminant Recommended Level.  
<sup>4</sup> Secondary Maximum Contaminant Upper Level.  
<sup>5</sup> Concentration not detected at or above the laboratory reporting limit.

- a. In comparison to the other wells, up-gradient well MW-18 show high groundwater concentrations for TDS; standard minerals including boron, chloride, and sodium; and arsenic.
- b. Boron concentrations in up-gradient wells MW-10, MW-13, MW-18 and down-gradient wells MW-11 and MW-12 have been steady over time. Boron concentrations in down-gradient well MW-17 show an upward trend; however, concentrations do not exceed the concentrations observed in up-gradient well MW-18.
- c. Chloride concentrations in up-gradient wells MW-10, MW-13, MW-18 and down-gradient wells MW-11 and MW-12 have been steady over time. Chloride concentrations in down-gradient well MW-17 show an upward trend; however, concentrations do not exceed the concentrations observed in up-gradient well MW-18
- d. Sodium concentrations have been steady over time.
- e. Sulfate concentrations in up-gradient wells MW-10 and MW-13 and down-gradient wells MW-11 and MW-12 have been steady over time. Groundwater data in up-gradient well MW-18 show sulfate concentrations trending downward. Sulfate concentrations in down-gradient well MW-17 are trending upward; however, concentrations do not exceed 500 mg/L, the secondary maximum contaminant level (MCL) for sulfate.
- f. Manganese concentrations, for the most part, were below the laboratory reporting limit.

- g. TDS concentrations in up-gradient wells MW-10, MW-13, and MW-18 and down-gradient wells MW-11 and MW-12 have been steady over time. Groundwater data in down-gradient well MW-17 show an upward trend; however, concentrations do not exceed the concentrations observed in up-gradient well MW-18.
  - h. Arsenic concentrations in up-gradient wells MW-10 and MW-18 and down-gradient wells MW-11, MW-12, and MW-17 are trending upward. Arsenic concentrations in up-gradient well MW-13 have been steady over time. Concentrations do not exceed 10 µg/L, the secondary MCL for arsenic. Based on the arsenic concentrations observed in the up-gradient wells, the arsenic detections are not likely related to the irrigation practices using recycled water but likely naturally occurring
  - i. Nitrate as nitrogen concentrations have been steady over time and below 10 mg/L, the primary MCL for nitrate.
42. Monitoring wells MW-14, MW-15, MW-16, and MW-20 are located within the irrigated areas of the golf course. For Well MW-20, which is considered cross-gradient of the irrigated area, groundwater concentrations were at much higher levels when compared to MW-14, MW-15, and MW-16. For the most part, concentration levels for each required groundwater monitoring parameter have been steady over time, with the following exceptions:
- a. Arsenic concentrations trending upward.
  - b. Boron concentrations trending upward in MW-14, MW-16, and MW-20.
  - c. Chloride concentrations trending upward in MW-16.
  - d. Sodium concentrations trending upward in MW-20
  - e. Sulfate concentrations trending upward in MW-16.

#### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

43. The Central Valley Water Board's *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins* (Basin Plan) designates beneficial uses; establishes water quality objectives (WQOs) to protect such uses; contains implementation plans and policies for protecting waters of the subject basins; and incorporates by reference plans and policies adopted by the State Water Resources Control Board (State Water Board). Pursuant to Water Code section 13263, subdivision (a), WDRs implement the Basin Plan.
44. Local drainage is to Cache Creek, the beneficial uses of which, per the operative Basin Plan (as of the date of this Order) are: municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); industrial process supply (PRO); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); spawning, reproduction, and/or early development (SPAWN).

45. Per the operative Basin Plan, designated beneficial uses of underlying groundwater are: municipal and domestic supply (MUN); agricultural supply (AGR), industrial service supply (IND); and industrial process supply (PRO).
46. The Basin Plan establishes narrative WQOs for chemical constituents, tastes and odors, and toxicity in groundwater. It also sets forth a numeric WQO for total coliform organisms.
47. The Basin Plan's numeric WQO for bacteria requires that the most probable number (MPN) of coliform organisms over any seven-day period shall be less than 2.2 per 100 mL in MUN-designated groundwater.
48. The Basin Plan's narrative WQOs for chemical constituents, at a minimum, require waters designated for use as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in California Code of Regulations, title 22 (Title 22). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
49. The narrative toxicity WQO requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, animal, plant, or aquatic life associated with designated beneficial uses.
50. Quantifying a narrative WQO requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Central Valley Water Board will adopt numerical limitations to implement the narrative objective on a case-by-case basis.
51. In the absence of specific numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigation water has an EC less than 700  $\mu\text{mhos/cm}$ . There is, however, an eight- to ten-fold range in salt tolerance for agricultural crops and the appropriate salinity values to protect agriculture in the Central Valley are considered on a case-by-case basis. It is possible to achieve full yield potential with waters having EC up to 3,000  $\mu\text{mhos/cm}$  if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop.
52. The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. These programs, once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. For nitrate, dischargers that are unable to comply with stringent nitrate requirements will be required to take on alternate compliance approaches that involve providing replacement drinking water to persons whose drinking water is affected by nitrates. Dischargers could comply with the new nitrate program either individually or collectively with other dischargers. For salinity, dischargers that are unable to comply with stringent salinity requirements would instead need to meet performance-based requirements and participate in a basin-wide

effort to develop a long-term salinity strategy for the Central Valley. This Order may be amended or modified to incorporate any newly-applicable requirements.

53. The stakeholder-led Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative has been coordinating efforts to implement new salt and nitrate management strategies. The Board expects dischargers that may be affected by new salt and nitrate management policies to coordinate with the CV-SALTS initiative.

#### **Antidegradation Analysis**

54. The State Water Board Policy with Respect to Maintaining High Quality Waters of the State, Resolution No. 68-16 (Antidegradation Policy) prohibits degradation of groundwater unless it is demonstrated that:
- a. The degradation is consistent with the maximum benefit to the people of the state.
  - b. The degradation will not unreasonably affect present and anticipated future beneficial uses.
  - c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives, and
  - d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation.
55. Degradation of groundwater by some of the typical waste constituents associated with discharges from a municipal wastewater utility, after effective source control, treatment, and control measures are implemented, is consistent with the maximum benefit to the people of the state. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from reliance on numerous, concentrated individual wastewater systems, and the impact on water quality will be substantially less. The economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and provides sufficient justification for allowing the limited groundwater degradation that may occur pursuant to this Order.
56. The Discharger has been monitoring groundwater quality at the site since 2007. Based on the data available, it is not possible to determine pre-1968 groundwater quality. Therefore, the WWTF's compliance with Antidegradation Policy must be determined based on existing background groundwater quality.
57. For the purposes of determining whether the discharges regulated by this Order have the potential to degrade groundwater, the blended effluent that will be discharged pursuant to this Order has been compared to the groundwater beneath the golf course. Constituents of concern that, when discharged to the land application areas or use areas, have the potential to degrade groundwater include salts (primarily TDS, sodium, and chloride) and nutrients as discussed below.

Constituents	Concentrations Protective of Beneficial Uses	Annual Average Blended Effluent <sup>4</sup>	Average Groundwater Quality <sup>7</sup> , mg/L unless otherwise noted	
			Up-gradient <sup>5</sup> (Min – Max)	Down-gradient <sup>6</sup> (Min – Max)
TDS	450 <sup>1</sup> - 1,000 <sup>3</sup>	350 - 490	700 – 1,550	500 – 940
Nitrate as N	10 <sup>2</sup>	5.3 – 6.2 <sup>8</sup>	0.5 – 5.7	0.9 – 3.0
Chloride	106 <sup>1</sup> – 500 <sup>3</sup>	70 - 110	70 - 760	80 - 210
Sodium	69 <sup>1</sup>	70 - 90	50 - 490	50 - 100
<sup>1</sup> Lowest agricultural water quality goal. <sup>2</sup> Primary Maximum Contaminant Level. <sup>3</sup> Secondary Maximum Contaminant Upper Level. <sup>4</sup> Blended disinfected tertiary treated effluent and Cache Creek water, range of average data 2015-2017. <sup>5</sup> Range of average data from MW-10, MW-13, and MW-18, June 2013 through December 2017. <sup>6</sup> Range of average data from MW-11, MW-12, and MW-17, June 2013 through December 2017. <sup>7</sup> With the exception for nitrate, values rounded to the nearest 10 mg/L. <sup>8</sup> Blended effluent not analyzed for nitrate, value represents disinfected tertiary effluent.				

- a. **Salts.** For the purpose of evaluation, TDS is representative of overall salinity. The best measure for total salinity in groundwater samples is TDS. The Tribe blends disinfected tertiary treated wastewater with water from Cache Creek to meet the Golf Course irrigation water demands. In the past, blending was performed to help improve effluent quality. Although current TDS concentration in the blended effluent are below 500 mg/L, increased recycled water use at the Resort for toilet flushing and connection from the Seka Hills Olive Mill may impact effluent quality. For the protection of groundwater quality, this Order will prescribe a TDS effluent limit similar to the provisional limits, which allows some flexibility for future water conservation efforts and industrial waste connections.
- i. **Chloride.** Effluent chloride concentrations are below concentrations protective of beneficial uses. And for the most part, chloride concentrations in groundwater have been steady overtime. Compliance with the TDS effluent limit will ensure chloride concentrations in the wastewater do not increase significantly.
- ii. **Sodium.** Effluent sodium concentrations exceed the agricultural water quality goal. However, sodium concentrations in groundwater have been steady overtime. Compliance with the TDS effluent limit will ensure sodium concentrations in the wastewater do not increase significantly.
- b. **Nitrate.** For nutrients such as nitrate, the potential for degradation depends not only on the quality of the treated effluent, but the ability of the vadose zone below the land application area to provide an environment conducive to nitrification and denitrification to convert the effluent nitrogen to nitrate and the nitrate to nitrogen gas before it reaches the water table. Most of the nitrogen in the effluent is present as nitrate. Nitrate concentration levels in the recycled water prior to blending range from 5.0 to 6.0 mg/L. Average nitrate concentrations up-gradient of the Golf Course range from 0.5 to 5.7 mg/L, where higher levels of nitrate were observed in well MW-13. Average nitrate concentrations in the down-gradient wells range from 0.9 to 3.0 mg/L, where higher concentration levels were observed in well MW-12. Nitrate concentrations in the recycled water is expected to remain the same,

despite the hotel expansion and future wastewater connections, including Seka Hills Olive Mill which produces process wastewater with nitrate concentrations below 5.0 mg/L. Additional nitrogen removal will occur at the Golf Course through turf grass uptake and denitrification. For the protection of groundwater quality, this Order will prescribe a total nitrogen effluent limit of 10 mg/L, which is the primary MCL for nitrate.

58. The Discharger has implemented the following treatment and control measures to minimize the potential for the waste to degrade groundwater.
  - a. An old ion exchange water softening system was replaced with a desalination water treatment system that utilizes electro dialysis reversal for salinity removal and vibratory shear enhanced reverse osmosis for brine concentration. Brine produced is hauled off-site to a permitted facility.
  - b. The WWTF and associated recycled water facilities are operated by certified operators.
  - c. Wastewater is treated to meet Title 22 disinfected tertiary treated standards.
  - d. Lined storage ponds.
  - e. Availability to draw fresh water from Cache Creek to improve treated wastewater quality prior to irrigation use.
  - f. A computer system controls the operation of the golf course sprinkler heads and monitors and controls flow rates in each irrigation pipe segment to optimize irrigation efficiency and minimize runoff. Evapotranspiration and precipitation data is used by the computerized system to prevent irrigation during periods of precipitation or high wind
  - g. A 100 feet setback is maintained from the irrigated areas of the Golf Club and the channel of Cache Creek.
  - h. The irrigated areas are graded to prevent the escape of incidental amounts of irrigation water from the irrigated area.
  - i. Recycled water is not applied during rain events, when the ground is saturated, or in any manner that would cause runoff outside the irrigated use area.
59. Implementation of above-listed measures is deemed BPTC for discharges of waste authorized under this Order, consistent with Antidegradation Policy.
60. This Order establishes effluent and groundwater limitations to ensure that the authorized discharge will not unreasonably threaten present and anticipated beneficial uses of groundwater.
  - a. For salinity constituents such as TDS, chloride, and sodium, current groundwater monitoring data indicates that groundwater has not been degraded beyond background groundwater quality by the previous discharge and groundwater



concentrations have been steady for the past five years. Although increased recycled water use at the Resort and potential connection to an olive mill may impact effluent quality with respect to salinity, the Tribe implements treatment and control measures to minimize potential threats to groundwater. The provisions of this Order require an evaluation of any new waste discharges to the collection system or WWTF and if appropriate, develop and implement a pretreatment program, prior to wastewater connection. Based on Resolution 68-16, limited degradation is allowed.

- b. For nitrate, current groundwater monitoring data indicates that groundwater has not been degraded beyond background groundwater quality by the previous discharge and groundwater concentrations are below 10 mg/L, the primary MCL for nitrate. No changes to effluent quality with respect to nitrate is anticipated from the hotel expansion or connections from tribal housing or the olive mill. The Basin Plan's numeric WQOs for constituents, at a minimum, requires waters designated as domestic or municipal supply to meet Title 22 primary or secondary MCLs.
61. The discharge authorized under this Order will insure the following benefits:
    - a. Provide approximately 220 acre-feet per year (AF/year) of irrigation water for the Golf Club (based on 44 percent of the total annual average irrigation demand of 495 AF/year for 135 acres of Golf Club area).
    - b. Conserve groundwater resources.
    - c. Make available additional water supplies to support the agricultural economy within the area.
  62. This Order is consistent with *Antidegradation Policy* because it: authorizes discharges that will result in only limited degradation, and not result in water quality less than WQOs, or otherwise unreasonably affecting present and anticipated beneficial uses; requires the Tribe to implement BPTC of the discharged wastes to minimize any resulting degradation; and authorizes limited degradation resulting in maximal benefit to the people of the State.

### **Water Recycling Regulatory Considerations**

63. Undisinfected domestic wastewater contains human pathogens that are typically measured using total or fecal coliform organism as indicator organisms. The State Water Board's Division of Drinking Water (DDW), which has primary statewide responsibility for protecting water quality and the public health, has established statewide criteria in Title 22, section 60301 et seq. for the use of recycled water.
64. On 3 February 2009, the State Water Board adopted Resolution 2009-0011, *Adoption of a Policy for Water Quality Control for Recycled Water* (Recycled Water Policy). The Recycled Water Policy promotes the use of recycled water to achieve sustainable local water supplies and reduce greenhouse gases.

65. On 23 April 2009, the Central Valley Water Board adopted Resolution R5-2009-0028, *In Support of Regionalization, Reclamation, Recycling and Conservation for Wastewater Treatment Plant*. Resolution R5-2009-0028 encourages water recycling, water conservation, and regionalization of wastewater treatment facilities. It requires the municipal wastewater treatment agencies to document:
- a. Efforts to promote new or expanded wastewater recycling opportunities and programs;
  - b. Water conservation measures; and
  - c. Regional wastewater management opportunities and solutions (e.g., regionalization).

The distribution of disinfected tertiary recycled water by the Discharger is consistent with the intent of State Board Resolution 2009-0011 and Central Valley Water Board Resolution R5-2009-0028.

66. The Discharger submitted a *Title 22 Engineering Report* in May 2005 and a revision on 30 March 2006 to the Central Valley Water Board and DDW's predecessor agency pursuant to Title 22 for water recycling of disinfected tertiary recycled water as defined by Title 22, section 60301.230. DDW granted conditional approval of the water recycling program and required that a tracer study be completed prior to irrigating the golf course with recycled water. The *2007 WWTP Chlorine Contact Basin Compliance Report*, which demonstrated the minimum modal chlorine contact time of the disinfection system was approved by DDW on 9 May 2007.
67. On 24 May 2018, DDW received a *Cache Creek Casino Resort Chlorine Contact Basin Tracer Study Work Plan* proposing a tracer study and use of Rhodamine WT red dye in a closed loop system to demonstrate the residence time and performance of the Discharger's two-CCB disinfection system (two CCBs operated in series). The intent of the study is to determine the system's modal contact time and ensure compliance with respect to disinfected tertiary treated recycled water for applicable uses approved under the Title 22 regulations. A *Cache Creek Casino Resort Chlorine Contact Basin Tracer Study Report* dated 28 June 2018 was submitted to DDW for review. DDW issued a letter on 16 July 2018 letter, stating that the findings of the review and conclusion are exclusive to the tracer study and facilities with respect to the intent and extent of the recycled water use at the Cache Creek Resort and are not applicable or transferable to any other proposal and/or project. DDW takes no exception in the report conclusion. The Tracer Study Work Plan and Report were submitted supplementary to the existing revised Title 22 Engineering Report from 2006.

### **Other Regulatory Considerations**

68. Pursuant to Water Code section 106.3, subdivision (a), it is "the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." Although this Order is not necessarily subject to Water Code section 106.3 because it does not revise, adopt or establish a policy, regulation or grant criterion (see § 106.3, subd. (b)), it

nevertheless promotes that policy by requiring discharges to meet MCLs designed to protect human health and ensure that water is safe for domestic use.

69. For the purposes of this Order, the WWTF is classified as “**2B**,” which denotes as follows:

Threat to Water Quality—**Category 2** “Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.”

Complexity—**Category B** “Any discharger not included [as Category A] that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal) or any Class 2 or Class 3 waste management units.”

70. The sewage, wastewater and recycled water discharges authorized herein are exempt from the requirements of Title 27. (Cal. Code Regs., tit. 27, § 20090, subs. (a)-(b).) Moreover, WWTF storage areas are similarly exempt from Title 27.
71. Statistical data analysis methods outlined in the U.S. Environmental Protection Agency’s *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance* (Unified Guidance) are appropriate for determining compliance with Groundwater Limitations of this Order. Depending on the circumstances, other methods may also be appropriate.
72. Because the WWTF is on Trust Land, the Discharger is not required to obtain coverage under the State of California’s *Statewide General Permit for Storm Water Discharges Associated with Industrial Activities*, State Water Board Order 2014-0057-DWQ, NPDES Permit No. CAS000001 (Industrial General Permit).
73. Water Code section 13267, subdivision (b)(1) provides as follows:
- In conducting an investigation ..., the regional board may require that any person who has discharged, discharges, ... or who proposes to discharge waste ... shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.
74. Technical reports required under this Order (and per the separately-issued Monitoring and Reporting Program Order No. R5-2018-0073) are necessary to ensure compliance

with the WDRs prescribed herein. Additionally, the burden of producing such reports, as estimated by Central Valley Water Board staff, is also reasonably related to the need for such reports.

75. Absent promulgation of stricter standards pursuant to Water Code section 13801, Department of Water Resources' standards for the construction and destruction of groundwater wells, per Bulletins 74-90 (June 1991) and 94-81 (Dec. 1981), shall apply to all wells installed or monitored in connection to this Order.
76. A Final Environmental Impact Report (EIR) for the Capay Hill Golf Course was certified by the lead agency for that project, the Yolo County Planning and Public Works Department, and a Notice of Determination (NOD) was issued on 3 May 2005 in accordance with the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Final EIR identified the following potentially significant impacts:
  - a. Non-point source groundwater quality impact from irrigation of the golf course with recycled water.
  - b. Surface water impacts due to erosion and sedimentation associated with construction of the golf course and associated facilities and to surface water and/or groundwater due to polluted runoff from the golf course.

Compliance with the 2006 WDRs implemented mitigation measures designed to minimize or prevent water quality impact.

77. The hotel expansion project is not subject to CEQA; however, a Tribal EIR (State Clearinghouse Number 2016032058) was prepared and certified on 17 January 2017, pursuant to procedures set forth in a compact between the Tribe and the State of California.
78. This Order places additional requirements on the use of recycled water for irrigation of the golf course, which is an exempt from CEQA as an existing operation. (see Cal. Code Regs., tit. 14, § 15301.)
79. The provisions of 40 Code of Federal Regulations part 503 (Standard for the Use or Disposal of Sewage Sludge) establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. Although it is not the implementing agency for part 503, the Central Valley Water Board is using part 503 as guidelines for the purposes of this Order. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the U.S. EPA.
80. The ability to discharge waste to the waters of the State of California is not a right but a privilege. (see Wat. Code, § 13263, subd. (g).) Accordingly, the adoption of this Order shall not be construed as creating a vested right to continue in any discharges otherwise authorized herein.

### Public Notice

81. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
82. The Discharger and interested agencies and persons have been notified of the Central Valley Water Board's intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity to submit written comments and an opportunity for a public hearing.
83. All comments pertaining to the discharge were heard and considered in a public hearing.

**IT IS HEREBY ORDERED** that Order R5-2006-0121 and Resolution Order R5-2008-0130 is rescinded and, pursuant to Water Code sections 13263 and 13267, the Yocha Dehe Wintun Nation, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the Water Code and regulations adopted thereunder, shall comply with the following:

#### A. Discharge Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.
3. Treatment system bypass of untreated or partially treated waste is prohibited, except as allowed by Section E.2 of the Standard Provisions and Reporting Requirements for Waste Discharge Requirements dated 1 March 1991 (SPRRS).
4. Discharge of waste at a location or in a manner different from that described in the findings herein is prohibited.
5. Toxic substances shall not be discharged into the wastewater treatment system in a manner that disrupts biological treatment mechanisms.

#### B. Effluent Limitations and Mass Loading Limitations

1. Disinfected tertiary treated effluent prior to discharge to South Lake shall not exceed the following limits:

Constituent	Units	30-Day Avg.	Daily Max.
BOD <sub>5</sub> <sup>1</sup>	mg/L	10	20
Total Nitrogen <sup>2</sup>	mg/L	10	20

<sup>1</sup> 5-day biochemical oxygen demand at 20°C.  
<sup>2</sup> Sum of total kjeldahl nitrogen and nitrate nitrogen.

2. Recycled water (representative of the blended disinfected tertiary treated effluent and Cache Creek water from South Lake) prior to discharge to the Golf Club irrigation system, shall not exceed the following limits:

Constituent	Units	Limit	Basis of Compliance Determination
TDS	mg/L	855	Flow-weighted annual average

3. The turbidity of the filtered effluent prior to disinfection shall not exceed any of the following:
  - a. 0.2 NTU more than 5 percent of the time within a 24-hour period; and
  - b. 0.5 NTU at any time.
4. Prior to discharge to the Golf Club irrigation system, disinfected tertiary treated effluent shall not exceed the following limits for total coliform organisms:
  - a. The 7-day median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed a most probable number (MPN) of 2.2 per 100 milliliters. Compliance with this requirement will be determined using data for each calendar week.
  - b. The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.
  - c. The number of total coliform bacteria shall not exceed an MPN of 240 per 100 milliliters at any time.

Compliance with this requirement shall be determined based on samples obtained at the sampling locations shown on Attachment D.

5. The chlorine residual contact time (CT) shall not be less than 450-mg-min/L and a minimum chlorine modal contact time of 90 minutes shall be maintained at all times. CT is the product of chlorine residual concentration in mg/L and the chlorine modal contact time in minutes.
6. The total nitrogen mass loading to the LAAs shall not exceed the agronomic rate for the crop grown. Compliance with this requirement shall be determined using published nitrogen uptake rates for the vegetation/crops grown as specified in the Monitoring and Reporting Program.

**C. Discharge Specifications**

1. No waste constituent shall be released, discharged, or placed where it will cause a violation of the Groundwater Limitations specified in this Order.
2. Wastewater treatment, storage, and disposal shall not cause conditions of pollution or nuisance, per Water Code section 13050, subdivisions (l)-(m).

3. The discharge shall remain within the permitted waste treatment/containment structures and recycled water use areas located on Fee Land at all times except as specified in Water Recycling Specification E.5.
4. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
5. All recycled water storage structures/facilities and disposal systems shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency. Portion of the golf course that are within the 100-year flood plain shall not be irrigated with recycled water during periods of flooding or imminent flooding.
6. Public contact with wastewater at the WWTF shall be prevented through such means as fences, signs, or acceptable alternatives.
7. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.
8. As a means of ensuring compliance with Discharge Specification D.7, the dissolved oxygen (DO) content in the upper one foot of any wastewater treatment or storage pond shall not be less than 1.0 mg/L for three consecutive sampling events. Notwithstanding the DO monitoring frequency specified in the monitoring and reporting program, if the DO in any single pond is below 1.0 mg/L for any single sampling event, the Discharger shall implement daily DO monitoring of that pond until the minimum DO concentration is achieved for at least three consecutive days. If the DO in any single pond is below 1.0 mg/L for three consecutive days, the Discharger shall report the findings to the Regional Water Board in accordance with General Reporting Requirement B.1 of the Standard Provisions and Reporting Requirements. The written notification shall include a specific plan to resolve the low DO results within 30 days of the first date of violation.
9. The Discharger shall design, construct, operate, and maintain all ponds sufficiently to protect the integrity of containment dams and berms and prevent overtopping and/or structural failure. The operating freeboard in any pond shall never be less than two feet (measured vertically from the lowest possible point of overflow). As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge with calibration marks that clearly show the water level at design capacity and enable determination of available operational freeboard.
10. Wastewater treatment, storage, and disposal ponds or structures shall have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during the winter while ensuring compliance with all requirements of this Order. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

11. On or about **1 October** of each year, available capacity shall at least equal the volume necessary to comply with Discharge Specifications D.9 and D.10.
12. All ponds and open containment structures that contain recycled water shall be managed to prevent breeding of mosquitoes. Specifically:
  - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
  - d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.
13. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.
14. Wastewater contained in any unlined pond shall not have a pH less than 6.0 or greater than 9.0.
15. The Discharger shall monitor sludge accumulation in the wastewater treatment/storage ponds at least every **five years** beginning in **2019**, and shall periodically remove sludge as necessary to maintain adequate storage capacity. Specifically, if the estimated volume of sludge in the reservoir exceeds five percent of the permitted reservoir capacity, the Discharger shall complete sludge cleanout within 12 months after the date of the estimate.

#### **D. Groundwater Limitations**

Release of waste constituents from any portion of the golf course shall not cause groundwater to:

1. Exceed a total coliform organism level of 2.2 MPN/100 mL over any seven-day period.
2. Contain constituents in concentrations statistically greater than current background groundwater quality or that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations, whichever is greater.
3. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.



## **E. Water Recycling Specifications**

1. For the purpose of this Order, "Use Area" means an area with defined boundaries where recycled water is used or discharged.
2. Notwithstanding the following requirements, the production, distribution, and use of recycled water shall conform to an Engineering Report prepared pursuant to Title 22, section 60323 and approved by the DDW.
3. The recycled water shall be at least disinfected tertiary 2.2 recycled water as defined in Title 22, section 60301.
4. Recycled water shall be used in compliance with Title 22, section 60304. Specifically, uses of recycled water shall be limited to those set forth in Title 22, section(s) 60304(a), 60304(b), 60304(c), and 60304(d).
5. Tailwater runoff and spray of recycled water shall not be discharged outside of the use areas except in minor, incidental amounts that cannot reasonably be eliminated by implementation and good maintenance of best management practices.
6. Application rates of recycled water to the use area shall be reasonable and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by plants. As a means of discerning compliance with this requirement:
  - a. Crops or landscape vegetation shall be grown on the use areas, and cropping activities shall be sufficient to take up the nitrogen applied, including any fertilizers and manure.
  - b. Hydraulic loading of recycled water and supplemental irrigation water (if any) shall be managed to:
    - i. Provide water only when water is needed and in amounts consistent with that need;
    - ii. Maximize crop nutrient uptake;
    - iii. Maximize breakdown of organic waste constituents in the root zone; and
    - iv. Minimize the percolation of waste constituents below the root zone.

The Central Valley Water Board recognizes that some leaching of salts is necessary to manage salt in the root zone of crops for production. Leaching shall be managed to minimize degradation of groundwater, maintain compliance with the groundwater limitations of this Order, and prevent pollution.

7. Irrigation of the use areas shall occur only when appropriately trained personnel are on duty,
8. The Discharger shall conduct periodic inspections of the recycled water use areas to determine compliance with the requirements of this Order. If an inspection reveals noncompliance or threat of noncompliance with this Order, the Discharger shall temporarily stop recycled water use immediately and implement corrective actions to ensure compliance with this Order.
9. Use areas where public access is allowed shall be managed to avoid public contact with recycled water.
10. Discharge to the use areas shall not be performed during rainfall or when the ground is saturated.
11. All storm water runoff from the use areas shall be captured and recycled for irrigation or allowed to percolate within the use areas.
12. The irrigation with recycled water shall be managed to minimize erosion within the use areas.
13. Use areas shall be managed to prevent breeding of mosquitoes or other vectors.
14. Use areas and recycled water impoundments shall be designed, maintained, and operated to comply with the following setback requirements:

<b>Setback Definition</b>	<b>Min. Irrigation Setback (ft).</b>	<b>Title 22 Reference</b>
Edge of use area to domestic water supply well	50 <sup>1</sup>	Tertiary-2.2 (§ 60310, subd. (a))
Toe of recycled water impoundment berm to domestic water supply well	100	Tertiary-2.2 (§ 60310, subd. (b))
Edge of use area to residence when using spray irrigation	100	Tertiary-2.2 (§ 60310, subd. (f))
Edge of use area using spray irrigation to public park, playground, school yard, or similar place of potential public exposure when using spray irrigation	100	Tertiary-2.2 (§ 60310, subd. (f))

<sup>1</sup> Except as allowed pursuant to Water Recycling Specification E.15 below.

15. Irrigation with disinfected tertiary recycled water shall not take place within 50 feet of any domestic water supply well unless all of the following conditions have been met and DDW has approved a variance pursuant to Title 22, section 60310(a):
  - a. A geological investigation demonstrates that an aquitard exists at the well between the uppermost aquifer being drawn from the ground and the surface.

- b. The well contains an annular seal that extends from the surface into the aquitard.
  - c. The well is housed to prevent any recycled water spray from coming into contact with the wellhead facilities.
  - d. The ground surface immediately around the wellhead is contoured to allow surface water to drain away from the well.
  - e. The owner of the well approves of the elimination of the buffer zone requirement.
16. Spray irrigation with recycled water is prohibited when wind speed (including gusts) exceeds 30 mph.
  17. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.
  18. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.
  19. Public contact with recycled water shall be controlled using fences, signs, and other appropriate means.
  20. Use areas that are accessible to the public shall be posted with signs that are visible to the public and no less than four inches high by eight inches wide. Signs shall be placed at all areas of public access and around the perimeter of all use areas and at above-ground portions of recycled water conveyances to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in Attachment E, which is attached and forms part of this Order, and shall include the following wording:  
  
**“RECYCLED WATER – DO NOT DRINK”**  
  
**“AGUA DE DESPERDICIO RECLAMADA – NO TOME”**  
  
Alternative language will be considered by the Executive Officer if approved by DDW.
  21. All recycling equipment, pumps, piping, valves, and outlets shall be marked to differentiate them from potable water facilities. Quick couplers, if used, shall be different than those used in potable water systems.
  22. Recycled water controllers, valves, and similar appurtenances shall be equipped with removable handles or locking mechanisms to prevent public access or tampering.
  23. Hose bibs and unlocked valves, if used, shall not be accessible to the public.
  24. No physical connection shall exist between recycled water piping and any potable water supply system (including domestic wells), or between recycled

water piping and any irrigation well that does not have an approved air gap or reduced pressure principle device.

25. Horizontal and vertical separation between pipelines transporting recycled water and those transporting potable water shall comply with Title 22, section 64572, except to the extent that DDW has specifically approved a variance.
26. No physical connection shall be made or allowed to exist between any recycled water system and any separate system conveying potable water or auxiliary water source system.
27. A public water supply shall not be used as backup or supplemental source of water for a recycled water system unless the connection between the two systems is protected by an air gap separation which complies with the requirements of California Code of Regulations, title 17 (Title 17), sections 7602(a) and 7603(a).
28. All recycled water piping and appurtenances in new installations and appurtenances in retrofit installations shall be colored purple or distinctively wrapped with purple tape in accordance with Health and Safety Code section 116815.
29. Any backflow prevention device installed to protect a public water system shall be inspected and maintained in accordance with Title 17, section 7605.

#### **F. Solids Disposal Specifications**

For the purposes of this Order: “sludge” refers to solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes; “solid waste” refers to grit and screenings generated during preliminary treatment; “residual sludge” refers to sludge that will not be subject to further treatment at the wastewater treatment plant; and “biosolids” refers to sludge that has been treated and tested and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities (pursuant to applicable federal and state regulations).

1. Sludge and solid waste shall be removed from screens, sumps, ponds, and clarifiers as needed to ensure optimal plant operation.
2. Any handling and storage of residual sludge, solid waste, and biosolids at the WWTF shall be temporary (i.e., six months or less) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate the groundwater limitations of this Order.
3. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27, division 2. Removal for further treatment, disposal, or reuse at disposal sites (i.e., landfills, WWTFs, composting sites, soil amendment sites) operated in accordance with

valid waste discharge requirements issued by a Regional Water Board will satisfy this specification.

4. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

#### **G. Other Provisions**

1. The following reports shall be submitted pursuant to Water Code section 13267 and shall be prepared as described in Provision G.4:
  - a. **By 1 February 2019**, the Discharger shall submit a Monitoring Well and Piezometer Destruction Workplan for monitoring wells MW-14, MW-15, MW-16, MW-19, and MW-20 and the three piezometer clusters PC-1-35, PC-1-45, PC-1-55; PC-2-34, PC-2-44, PC-2-54; and PC-3-22, PC-3-32, PC-3-42. The workplan shall describe the procedures and methods of the field activities associated with proper monitoring well and piezometer destruction at the Golf Club site, including at a minimum site preparation and restoration, waste handling, and record keeping. **Upon 90 days after completion of the well destruction activities**, the Discharger shall submit a Monitoring Well and Piezometer Destruction Completion Report. The report shall certify that the well and piezometer destruction activities are complete and include copies of well destruction permits issued by the Yolo County Environmental Health.
  - b. **At least 180 days prior to any change in wastewater treatment or new source of wastewater**, the Discharger shall submit a Salinity Evaluation and Minimization Plan to address any new sources of salinity discharged to the wastewater treatment system, describe additional reduction efforts implemented, and evaluate the existing salinity minimization program. At a minimum, the plan shall meet the following requirements outlined in Water Code section 13263.3, subdivision (d)(3):
    - i. An estimate of all new sources of pollutants contributing, or potentially contributing, to the loadings of salinity in the treatment plant influent including change in water supply and new residential, commercial and industrial salinity sources.
    - ii. Implementation of new preventative measures to prevent discharge of salinity into the facility, such as codes or ordinances on salinity limits for industrial or commercial dischargers,
    - iii. Evaluation of the current methods used to prevent discharge of salinity into the facility, including but not limited to evaluation of the existing salinity pollution prevention program; progress update in reducing the concentration and/or mass of salinity in the discharge; description of any adverse environmental impacts as a result of the existing pollution prevention program; and a summary of the salinity load reduction to date.

- iv. Progress update of the Discharger's salinity pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the intended pollution prevention activities for the immediate future.
- c. At **least 120 days** prior to new waste discharge connections to the wastewater collection system or WWTF, the Discharger shall submit a Request for a New Waste Discharge Connection Report for approval by the Executive Order. The report shall identify the waste source and anticipated wastewater flows, characterize the waste, and propose an implementation plan to minimize salinity, nutrients, BOD and other constituents of concern that may disrupt treatment at the WWTF, change the overall wastewater character, or result in non-compliance with the WDRs. Include a description of source control measures to be implemented. If a pretreatment system or program is proposed, provide a description of the treatment system or pretreatment program. A water balance shall be included confirming sufficient storage and disposal capacity at the WWTF, including use areas to accommodate the additional flows. The water balance shall provide the following hydraulic capacity information.
- i. Average daily dry weather flow for the months of July through September, inclusive;
  - ii. Maximum monthly average flows based on a reasonable allowance for sewer system inflow and infiltration (I/I) during the 100 year, 365-day precipitation event, and
  - iii. Total annual flow volume.

The water balance shall include documentation of, and technical support for, all data inputs used and shall consider at least the following.

- i. The as-built geometry of all ponds and effluent recycling areas;
- ii. A minimum of two feet of freeboard in each pond at all times;
- iii. Historical local pan evaporation data (monthly average values) used to estimate pond evaporation rates;
- iv. Local precipitation data (for the 100-year 365-day event distributed in accordance with mean monthly precipitation patterns) applied as direct precipitation onto all ponds and effluent recycling areas;
- v. Proposed wastewater generation rates based on historical flows and new development to be served by the expansion distributed monthly in accordance with expected seasonal variations;

- vi. Estimated I/I flows for the 100-year 365-day event based on historical flows, new development, and age and type of sewer pipes;
- vii. Recycling area crop evapotranspiration rates, including consideration of the required setbacks; and
- viii. Projected long-term percolation rates (including consideration of percolation from unlined ponds and the effects of solids plugging on all ponds).

The report shall be approved by the Executive Officer before connection is made.

- d. At **least 60 days** upon completion of the wastewater connection construction work, the Discharger shall submit a Waste Discharge Connection Completion Report. The report shall certify that the conveyance system from the new waste source to the WWTF is complete and fully functional, including any pretreatment system if proposed in the Request for a New Waste Discharge Connection Report.
2. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain any waste constituents in concentrations statistically greater than the Groundwater Limitations of this Order, **within 120 days** of the request of the Executive Officer, the Discharger shall submit an Action Workplan that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent that exceeds a Groundwater Limitation. The workplan shall contain a preliminary evaluation of each component of the WWTF and effluent disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.
  3. A discharger whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment, collection, and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the discharger shall notify the Central Valley Water Board by **31 January**.
  4. In accordance with Business and Professions Code sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly

stated. Each technical report submitted by the Discharger shall bear the professional's signature and stamp.

5. The Discharger shall submit the technical reports and work plans required by this Order for consideration by the Executive Officer, and incorporate comments the Executive Officer may have in a timely manner, as appropriate. Unless expressly stated otherwise in this Order, the Discharger shall proceed with all work required by the foregoing provisions by the due dates specified.
6. The Discharger shall comply with Monitoring and Reporting Program R5-2018-0073, which is part of this Order, and any revisions thereto as ordered by the Executive Officer. The submittal dates of Discharger self-monitoring reports shall be no later than the submittal date specified in the MRP.
7. Except as otherwise provided herein, the Discharger shall comply with the attached SPRRs (incorporated herein).
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports. On or before each report due date, the Discharger shall submit the specified document to the Central Valley Water Board or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharger shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board in writing when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
9. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger when the operation is necessary to achieve compliance with the conditions of this Order.
10. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with this Order.
11. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23, division 3, chapter 26.
12. Per the SPRRs, the Discharger shall report promptly to the Central Valley Water Board any material change or proposed change in the character, location, or volume of the discharge.
13. Upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow, the Discharger shall take any necessary remedial action



to (a) control or limit the volume of sewage discharged, (b) terminate the sewage discharge as rapidly as possible, and (c) recover as much as possible of the sewage discharged (including wash down water) for proper disposal. The Discharger shall implement all applicable remedial actions including, but not limited to, the following:

- a. Interception and rerouting of sewage flows around the sewage line failure.
  - b. Vacuum truck recovery of sanitary sewer overflows and wash-down water.
  - c. Use of portable aerators where complete recovery of the sanitary sewer overflows are not practicable and where severe oxygen depletion is expected in surface waters.
  - d. Cleanup of sewage-related debris at the overflow site.
  - e. In the event that the Discharger reports toxic chemical release data to the State Emergency Response Commission (SERC) pursuant to section 313 of the Emergency Planning and Community Right to Know Act (42 U.S.C. § 11023), the Discharger shall also report the same information to the Central Valley Water Board within 15 days of the report to the SERC.
14. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.
  15. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or recycling areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Central Valley Water Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
  16. In the event of any change in control or ownership of the WWTF and use areas, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
  17. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall

be considered a discharge without requirements, a violation of the Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

18. A copy of this Order (including Information Sheet, Attachments and SPRRs) and the MRP Order, shall be kept at the Facility for reference by operating personnel. Key operating personnel shall be familiar with their contents.
19. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to \$10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and Title 23, section 2050 et seq. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet (at the link below), or will be provided upon request.

[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality)

I, PATRICK PULUPA, Executive Officer, do hereby certify that the foregoing is a full true, and correct copy of an Order adopted by the California Regional Water Quality Control Board on 5 October 2018.

*- Original signed by -*

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PATRICK PULUPA, Executive Officer

Ila: 082118

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2018-0073

FOR  
YOCHA DEHE WINTUN NATION  
YOCHA DEHE GOLF CLUB  
YOLO COUNTY

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. Except as specified in this MRP, grab samples will be considered representative of water, wastewater, soil, solids/sludges, and groundwater.

The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991 (Standard Provisions). Field test instruments (such as those used to measure pH, electrical conductivity, dissolved oxygen, wind speed, and precipitation) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated at the frequency recommended by the manufacturer;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

Laboratory analytical procedures shall comply with the methods and holding times specified in the following (as applicable to the medium to be analyzed):

- *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA);
- *Test Methods for Evaluating Solid Waste* (EPA);
- *Methods for Chemical Analysis of Water and Wastes* (EPA);
- *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA);
- *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and
- *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125).

Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program (ELAP). The Discharger may propose alternative methods for approval by the Executive Officer. Where technically feasible, laboratory reporting limits shall be lower than the applicable water quality objectives for the constituents to be analyzed.

If monitoring consistently shows no significant variation in a constituent concentration or parameter after at least 8 consecutive monitoring events, the Discharger may request this MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency. The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP.

A glossary of terms used in this MRP is included on the last page.

The Discharger shall monitor the following locations to demonstrate compliance with the requirements of this Order:

Monitoring Location Name	Monitoring Location Description
<b>EFF-001</b>	Location where a representative sample of Effluent 001 (disinfected tertiary recycled water) can be obtained prior to discharge to South Lake.
<b>EFF-002</b>	Location where a representative sample of Effluent 002 (blend of disinfected tertiary treated recycled water and Cache Creek water) can be obtained prior to discharge to the golf course irrigation system.
<b>SPL-001</b>	Location where a representative sample of the supplemental (fresh) water supply can be obtained.
<b>MW-10, MW-11, MW-12, MW-13, MW-17, MW-18</b>	Groundwater monitoring well locations.

### TERTIARY EFFLUENT MONITORING

The Discharger shall monitor tertiary effluent in accordance with the following. Tertiary effluent samples shall be taken downstream of the chlorine contact basin at the chlorine residual analyzer (except for the purpose of turbidity monitoring). Samples for turbidity analysis shall be obtained upstream of the disinfection system and shall be representative of the filtered effluent prior to disinfection. Except as specifically noted below, grab samples will be considered representative of tertiary effluent. Tertiary effluent monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow	gpd	Continuous	Daily	Quarterly
Turbidity <sup>1</sup>	NTU	Continuous	Daily	Quarterly
Total Coliform Organisms <sup>2</sup>	MPN/100 ml	Grab	Daily	Quarterly
pH	pH units	Grab	Monthly	Quarterly
BOD <sub>5</sub> <sup>3</sup>	mg/L	Grab	Monthly	Quarterly
Electrical Conductivity	µmhos/cm	Grab	Monthly	Quarterly
TDS	mg/L	Grab	Monthly	Quarterly
Chloride	mg/L	Grab	Monthly	Quarterly
Sodium	mg/L	Grab	Monthly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Quarterly
TKN	mg/L	Grab	Monthly	Quarterly
Total Nitrogen <sup>4</sup>	mg/L	Calculated	Monthly	Quarterly

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Total Chlorine Residual <sup>5</sup>	mg/L	Grab	Daily	Quarterly
Chlorine Residual Contact Time <sup>6</sup>	mg-min/L	Calculated	Daily	Quarterly

<sup>1</sup> For each day, report the minimum and maximum recorded turbidity, the total amount of time that turbidity exceeded 5 NTU, and the total amount of time that turbidity exceeded 10 NTU.

<sup>2</sup> Using a minimum of 15 tubes or three dilutions.

<sup>3</sup> 5-day biochemical oxygen demand.

<sup>4</sup> The sum of TKN and nitrate as nitrogen.

<sup>5</sup> Samples shall be taken at the outlet of the chlorine contact basin.

<sup>6</sup> The product of chlorine residual concentration and the chlorine modal contact time.

### SUPPLEMENTAL (FRESH) WATER SUPPLY MONITORING

The Discharger shall monitor supplementary (fresh) water used at the golf course in accordance with the following. Samples shall be taken from the fresh water supply pipeline that was in use at, or just prior to, the sampling date. Grab samples will be considered representative. Supplemental water supply monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow to South Lake	gpd	Continuous	Daily	Quarterly
pH	pH units	Grab	Monthly	Quarterly
Electrical Conductivity	µmhos/cm	Grab	Monthly	Quarterly
TDS	mg/L	Grab	Monthly	Quarterly
Chloride	mg/L	Grab	Monthly	Quarterly
Sodium	mg/L	Grab	Monthly	Quarterly

### RECYCLED WATER MONITORING

The Discharger shall monitor recycled water in accordance with the following. Samples shall be collected from an established sampling station(s) from South Lake and shall be representative of the blended disinfected tertiary treated effluent and supplemental (fresh) water. Freeboard at South Lake shall be measured vertically from the water surface to the lowest possible point of overflow (or spillway/overflow pipe invert) and shall be measured to the nearest 0.10 feet. Monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Freeboard <sup>1</sup>	0.1 feet	Measurement	Weekly	Quarterly
Odors	---	Observation	Daily	Quarterly
Dissolved Oxygen <sup>2</sup>	mg/L	Grab	Weekly	Quarterly

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Electrical Conductivity	µmhos/cm	Grab	Monthly	Quarterly
TDS	mg/L	Grab	Monthly	Quarterly
Chloride	mg/L	Grab	Monthly	Quarterly
Sodium	mg/L	Grab	Monthly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Quarterly
TKN	mg/L	Grab	Monthly	Quarterly
Total Nitrogen <sup>3</sup>	mg/L	Calculated	Monthly	Quarterly

<sup>1</sup> Report date(s) and estimated volume of overflows to fee land and/or surface water, if any.

<sup>2</sup> Samples shall be collected opposite the pond inlet at a depth of one foot between 0700 and 0900 hours.

<sup>3</sup> The sum of TKN and nitrate as nitrogen.

### RECYCLED WATER USE AREA MONITORING

The Discharger shall monitor recycled water activities at the golf course or any use area in accordance with the following. Monitoring shall be performed daily and the results shall be included in the quarterly monitoring report. Recycled water monitoring shall include the following:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Flow from South Lake to irrigation areas	gpd	Continuous	Daily	Quarterly
Rainfall	inches	Measurement	Daily	Quarterly
Acreage Applied <sup>1</sup>	acres	Calculated	Daily	Quarterly
Water Application Rate:				
Recycled water	gal/ac	Calculated	Daily	Quarterly, Annually
Supplemental Fresh water	gal/ac	Calculated	Daily	Quarterly, Annually
Total Nitrogen Loading Rate <sup>2</sup>	lbs/ac	Calculated	Monthly	Quarterly, Annually
TDS Loading Rate	lbs/ac	Calculated	Monthly	Quarterly, Annually

<sup>1</sup> Specific irrigation areas shall be identified.

<sup>2</sup> Including chemical fertilizers.

In addition, the Discharger shall inspect the golf course or any use area following irrigation events as needed to identify any equipment malfunction or other circumstance that might allow recycled water to runoff the application area and/or create ponding conditions that violate the Waste Discharge Requirements. Evidence of erosion, field saturation, irrigation runoff, or the presence of nuisance conditions (if any) shall be noted. A log of these inspections shall be kept at the facility and made available for review upon request.

### GROUNDWATER MONITORING

The Discharger shall maintain the groundwater monitoring well network. If a groundwater monitoring well is dry for more than four consecutive sampling events or is damaged, the Discharger shall submit a work plan and proposed time schedule to replace the well. The well shall be replaced following approval of the work plan.

Prior to construction and/or sampling of any groundwater monitoring well, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval. Once installed, all new wells shall be added to the compliance monitoring network. The following table lists all existing monitoring wells and designates the purpose of each well.

Well	Well Location with Respect to Golf Course
MW-10 <sup>1</sup>	up-gradient
MW-13 <sup>1</sup>	up-gradient
MW-18 <sup>1</sup>	up-gradient
MW-11 <sup>2</sup>	down-gradient
MW-12 <sup>2</sup>	down-gradient
MW-14 <sup>3</sup>	within the golf course irrigated area
MW-15 <sup>3</sup>	within the golf course irrigated area
MW-16 <sup>3</sup>	within the golf course irrigated area
MW-17 <sup>2</sup>	down-gradient
MW-19 <sup>3</sup>	down-gradient
MW-20 <sup>3</sup>	cross-gradient

<sup>1</sup> Existing background well used for compliance monitoring.

<sup>2</sup> Existing well, used for compliance monitoring.

<sup>3</sup> Existing well, planned for well destruction/abandonment.

Monitoring wells used to monitor the golf course or any use area shall not be disinfected except as expressly approved pursuant to submittal of an appropriate disinfection protocol.

Prior to sampling, depth to groundwater shall be measured in each monitoring well to the nearest 0.01 feet. Groundwater elevations shall then be calculated to determine groundwater gradient and flow direction. Low or no-purge sampling methods are acceptable, if described in an approved Sampling and Analysis Plan. Otherwise, each well shall be purged of at least three casing volumes until temperature, pH, and electrical conductivity have stabilized. Samples shall be collected and analyzed using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituent	Units	Type of Sample	Sampling Frequency <sup>2</sup>	Reporting Frequency <sup>3</sup>
Depth to groundwater	0.01 feet	Measurement	Annual	Annual
Groundwater elevation <sup>1</sup>	0.01 feet	Calculated	Annual	Annual

Constituent	Units	Type of Sample	Sampling Frequency <sup>2</sup>	Reporting Frequency <sup>3</sup>
Gradient	feet/feet	Calculated	Annual	Annual
Gradient direction	degrees	Calculated	Annual	Annual

<sup>1</sup> Groundwater elevations shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

<sup>2</sup> The Discharger shall establish a sampling schedule for groundwater monitoring such that samples are obtained during the third quarter of each calendar year.

<sup>3</sup> Groundwater monitoring data shall be reported in the Annual Report.

In addition, the Discharger shall conduct routine monitoring well inspections, including at a minimum the following:

- Inspect the well cap or seal to ensure it is intact and securely attached,
- Survey area around the well for slumping and settlement, and
- Remove any vegetation growth with root systems within 10 feet of any well.

### REPORTING

All regulatory documents, submissions, materials, data, monitoring reports, and correspondence should be converted to a searchable Portable Document Format (PDF) and submitted electronically. Documents that are less than 50MB should be emailed to:

[centralvalleysacramento@waterboards.ca.gov](mailto:centralvalleysacramento@waterboards.ca.gov)

Documents that are 50 MB or larger should be transferred to a CD, DVD, or flash drive and mailed to the following address:

Central Valley Regional Water Quality Control Board  
 ECM Mailroom  
 11020 Sun Center Drive, Suite 200  
 Rancho Cordova, California 95670

To ensure that your submittals are routed to the appropriate staff, the following information block should be included in any correspondence used to transmit documents to this office:

Yocha Dehe Wintun Nation, Yocha Dehe Golf Club, Yolo County		
Program: Non-15 Compliance	Order: R5-2018-0073	CIWQS Place ID: 655108

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Central Valley Water Board.



As required by the California Business and Professions Code sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Professional Engineer or Geologist and signed by the registered professional.

### A. Quarterly Monitoring Reports

Quarterly Monitoring Reports shall be all be submitted to the Regional Water Board on the **1<sup>st</sup> day of the second month after the calendar quarter**. Therefore, monitoring reports are due as follows:

First Quarter Monitoring Report	<b>1 May</b>
Second Quarter Monitoring Report	<b>1 August</b>
Third Quarter Monitoring Report	<b>1 November</b>
Fourth Quarter Monitoring Report	<b>1 February</b>

The Quarterly Monitoring Report shall include:

1. Results of the tertiary effluent monitoring for each month during calendar quarter.
  - a. Chlorine residual contact time shall be calculated using the following formula:

$$CT = C \times T$$

Where:	<i>CT</i>	= Chlorine residual contact time in mg-min/L.
	<i>C</i>	= Chlorine residual concentration in mg/L.
	<i>T</i>	= Chlorine modal contact time in minutes.

When sodium hypochlorite is used as the disinfectant in production of disinfected tertiary recycled water, the lowest CT value shall be calculated for each 24-hour period. To calculate the lowest value, first record the following data for the 24-hour period:

- i. Modal contact time under highest flow and corresponding total chlorine residual at that time.
- ii. Lowest chlorine residual and corresponding modal contact time.
- iii. Highest chlorine residual and corresponding modal contact time.
- iv. Modal contact time under lowest flow and corresponding chlorine residual at that time.

Calculate CT values for each of the four conditions above. The lowest of the four calculated CT value is the lowest CT for the period and shall be compared to Effluent Limitation B.5.

2. Results of the supplemental (fresh) water supply monitoring for each month in the calendar quarter.
3. Results of the recycled water monitoring for each month in the calendar quarter.
4. Results of the recycled water use area monitoring for each month in the calendar quarter.

- a. Calculate total nitrogen mass loading for each use area using the following formula.

$$M = \frac{8.345(CV) + M_x}{A}$$

Where:	<i>M</i>	=	mass of nitrogen applied to use area in lb/ac/month
	<i>C</i>	=	recycled water total nitrogen concentration for the calendar month in mg/L
	<i>V</i>	=	volume of recycled water applied to the use area during the calendar month in million gallons
	<i>A</i>	=	area of the use area irrigated with recycled water in acres
	<i>M<sub>x</sub></i>	=	nitrogen mass from other sources (e.g., fertilizer and compost) applied to the use area during the calendar month in lbs
	8.345	=	unit conversion factor

- b. Calculate TDS mass loading for each use area using the following formula.

$$M = \frac{8.345(CV) + M_x}{A}$$

Where:	<i>M</i>	=	mass of TDS applied to use area in lb/ac/month
	<i>C</i>	=	recycled water TDS concentration for the calendar month in mg/L
	<i>V</i>	=	volume of recycled water applied to the use area during the calendar month in million gallons
	<i>A</i>	=	area of the use area irrigated with recycled water in acres
	<i>M<sub>x</sub></i>	=	TDS mass from other sources applied to the use area during the calendar month in lbs
	8.345	=	unit conversion factor

5. A comparison of monitoring data to the effluent limitations and discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format.
6. Copies of laboratory analytical report(s) shall be maintained by the discharger and provided upon request by the Regional Water Board.

## **B. Annual Report**

The Annual Report shall be submitted to the Regional Water Board by **1 February** each year and shall include the following:

1. The Fourth Quarter Monitoring Report.

2. Results of the groundwater monitoring.
  - a. In tabular format, groundwater monitoring data for the annual monitoring period in the calendar year.
  - b. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDRs, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
  - c. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends, if any;
  - d. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum;
3. The monthly and annual discharge volume applied to the use area during the reporting year expressed in million gallons and inches for the following:
  - a. Disinfected tertiary treated wastewater water;
  - b. Supplemental (fresh) water; and
  - c. Recycled water.
4. The annual mass of total nitrogen applied to each use area, as calculated from the sum of the monthly loadings. Total mass shall be calculated using the following formula and compared to published crop demand for the crop grown.

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

- Where:
- $M$  = mass of nitrogen applied to the use area in lb/ac/yr
  - $C_i$  = monthly average recycled water total nitrogen concentration for month  $i$  in mg/L
  - $V_i$  = volume of recycled water applied to the use area during month  $i$  in million gallons
  - $A$  = area of the use area irrigated with recycled water in acres
  - $i$  = the number of the month (e.g., January = 1, February = 2, etc.)
  - $M_x$  = nitrogen mass from other sources (e.g., fertilizer and compost) in lbs/yr
  - 8.345 = unit conversion factor

5. The annual mass of TDS applied to each use area, as calculated from the sum of the monthly loadings. Total mass shall be calculated using the following formula.

$$M = \sum_{i=1}^{12} \frac{(8.345(C_i V_i) + M_x)}{A}$$

- Where:
- $M$  = mass of TDS applied to the use area in lb/ac/yr
  - $C_i$  = monthly average recycled water TDS concentration for month  $i$  in mg/L
  - $V_i$  = volume of recycled water applied to the use area during month  $i$  in million gallons
  - $A$  = area of the use area irrigated with recycled water in acres
  - $i$  = the number of the month (e.g., January = 1, February = 2, etc.)
  - $M_x$  = TDS mass from other sources in lbs/yr
  - 8.345 = unit conversion factor

6. The flow-weighted annual average recycled water concentration for TDS. The flow-weighted annual average shall be calculated using the following formula and compared to the Effluent Limitation of the WDRs to determine compliance.

$$C_a = \frac{\sum_i^{12} C_{ri} V_{ri}}{\sum_i^{12} V_{ri}}$$

- Where:
- $C_a$  = flow-weighted average annual TDS concentration in mg/L
  - $C_{ri}$  = monthly average recycled water TDS concentration for month  $i$  in mg/L
  - $V_{ri}$  = volume of recycled water applied to the use area during month  $i$  in million gallons
  - $i$  = the number of the month (e.g., January = 1, February = 2, etc.)

7. An evaluation of the performance of the WWTF which demonstrates the facility's ability to consistently meet treatment standards for recycled water use on a public golf course specified in Title 22, Division 4, CCR (Section 60301, et seq.), as well as a forecast of the flows anticipated in the next year.
8. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
9. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.



## GLOSSARY

BOD <sub>5</sub>	Five-day biochemical oxygen demand
CaCO <sub>3</sub>	Calcium carbonate
DO	Dissolved oxygen
EC	Electrical conductivity at 25° C
FDS	Fixed dissolved solids
NTU	Nephelometric turbidity unit
TKN	Total Kjeldahl nitrogen
TDS	Total dissolved solids
TSS	Total suspended solids
Continuous	The specified parameter shall be measured by a meter continuously.
24-hr Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots over a 24-hour period.
Daily	Every day except weekends or holidays
Twice Weekly	Twice per week on non-consecutive days
Weekly	Once per week.
Twice Monthly	Twice per month during non-consecutive weeks
Monthly	Once per calendar month.
Bimonthly	Once every two calendar months (i.e., six times per year) during non-consecutive months.
Quarterly	Once per calendar quarter.
Semiannually	Once every six calendar months (i.e., two times per year) during non-consecutive quarters.
Annually	Once per year.
mg/L	Milligrams per liter
mL/L	Milliliters [of solids] per liter
µg/L	Micrograms per liter
µmhos/cm	Micromhos per centimeter
gpd	Gallons per day
mgd	Million gallons per day
MPN/100 mL	Most probable number [of organisms] per 100 milliliters
MTF	Multiple tube fermentation

## INFORMATION SHEET

ORDER R5-2018-0073  
YOCHA DEHE WINTUN NATION  
YOCHA DEHE GOLF CLUB  
YOLO COUNTY

### **Background**

The Yocha Dehe Wintun Nation (Tribe or Discharger) owns and operates a sanitary sewer system and wastewater treatment facility (WWTF) that serves the Cache Creek Casino Resort (Resort), which includes a Golf Club. The WWTF consists of a membrane bioreactor (MBR) system and chlorine contact basin using sodium hypochlorite. Disinfected tertiary treated wastewater (recycled water) is used to irrigate the golf course at the Golf Club and for toilet/urinal flushing at the Resort. Before construction of the Golf Club (May 2003 to July 2005), treated wastewater was discharged to a 20-acre spray field in the general location of what is now the Golf Club's South Pond.

The WWTF and part of the golf course is situated on land held by the U.S. Department of Interior, Bureau of Indian Affairs in trust for the Tribe (Trust Land). South Lake and the southern portion of the golf course is on Trust Land. The Central Valley Water Board lacks regulatory authority to enforce applicable laws, regulations, and policies related to degradation or pollution of surface water or groundwater insofar as such degradation or pollution is detectable outside the confines of Trust land. The clubhouse, ancillary facilities, and the northern portion of the golf course is situated on land owned in fee title by the Tribe (Fee Land). Approximately 135 acres of Fee Land is irrigated with recycled water. WDRs Order R5-2006-0121 regulates waste discharged to Fee Land.

### **Permitting and Compliance History**

1. Order R5-2006-0121 was amended by Resolution R5-2008-0130 on 31 July 2008, which allowed the Tribe additional time to comply with the final effluent limits. Additional time was granted so that the Tribe could complete the following:
  - Replace the existing ion exchange system with a new desalinization water treatment system, which combines electro dialysis reversal and vibratory shear enhance process reverse osmosis. Supply water is groundwater that is very hard.
  - Characterize background groundwater quality.
2. A *Background Groundwater Quality Report* was submitted on 30 June 2009 in accordance with Provision G.1.e of WDRs R5-2006-0121.
3. In a 30 April 2010 letter, the Tribe requested that the Water Board establish site-specific salinity effluent limitations for the recycled water used to irrigate the golf course based on the performance of the new water treatment system and background groundwater quality. Although the new water treatment system has reduced the salinity in the water by approximately 65 to 75 percent, the Tribe is unable to meet the final effluent limits.
4. In a 3 June 2010, the Tribe proposed provisional salinity effluent limits.
5. In response to the Tribe's request for site-specific salinity limits for the blended effluent and based on their efforts to reduce salinity concentrations, the Water Board in a 19 July 2010 letter agreed to forego enforcement of the final salinity effluent limits, if the Tribe maintains compliance with Order R5-2006-0121 (except for Effluent Limitation C.3) and does not exceed the provisional effluent limits as proposed by the Tribe.

<b>Constituents</b>	<b>Provisional Effluent Limits <sup>1</sup></b>	<b>Effluent Limitation C.3 <sup>1,2</sup> as amended by Resolution R5-2008-0130</b>
TDS	855	650
Chloride	202	106
Sodium	200	69
<sup>1</sup> Blend of Cache Creek water and reclaimed water as a 30-day flow-weighted average. <sup>2</sup> Or background groundwater concentrations, whichever is greater, effective 30 July 2010.		

6. In 2011, additional wells were installed to further characterize groundwater quality at the site and a *Revised Background Groundwater Quality Report* was submitted in December 2011.

### **Changes to the Facility and Discharge**

The hotel expansion will result in the following:

- An additional 128,000 gpd (average flow) and 179,000 gpd (peak flow) into the WWTF.
- Recycled water demand (for toilet/urinal flushing) at the Resort will increase from 55,000 to 70,000 gpd.
- Improvements to the WWTF (including the MBR and CCB) to accommodate the additional flows.

The Tribe requests that future connections from the following wastewater sources be allowed:

- 10,500 – 15,000 gpd (average daily flow) from Tribal Housing (35 units with the potential to expand to 50 units), which currently discharges to on-site septic and leach field systems.
- 30,000 gpd (average daily flow) from the Tribe-owned Seka Hills Olive Mill, which currently land applies process wastewater under site-specific WDRs Order R5-2013-0137. The Tribe may install pretreatment at the Olive Mill prior to discharges to the WWTF.

### **Groundwater Conditions**

Depth to groundwater range from 15 to 38 feet below ground surface. Groundwater flow direction is generally towards Cache Creek in an easterly direction in the northern portion of the golf course and in a northerly direction in the southern portion of the golf course.

Monitoring wells MW-3, MW-4, and MW-5 were constructed in December 2001 to monitor groundwater at the former spray field (in the general location of the Golf Club's South Pond). MW-3 and MW-4 were abandoned in December 2005 to facilitate the Golf Club construction. MW-5 was abandoned in early 2011.

Monitoring wells MW-10, MW-11, and MW-12 were constructed in February 2007.

Monitoring wells MW-13 to MW-20 were constructed between December 2010 and February 2011.

Current groundwater monitoring data indicates that groundwater has not been degraded beyond up-gradient groundwater quality. Evaluation of groundwater quality at the application site indicates salinity and nitrate concentrations in groundwater have been steady over time. Based on the high arsenic concentrations observed in the up-gradient wells, arsenic is likely naturally occurring and not likely related to the discharge activities at the golf course. Based on effluent and groundwater



quality, the discharge has minimal potential to degrade groundwater quality if properly managed. Implementation of the treatment and control measures specified in the WDRs and compliance with the effluent limits prescribed in this Order is protective of groundwater quality. Therefore, groundwater monitoring is not required at this time.

### **Basin Plan, Beneficial Uses, and Regulatory Consideration**

The Central Valley Water Board adopted Basin Plan amendments incorporating new programs for addressing ongoing salt and nitrate accumulation in the Central Valley at its 31 May 2018 Board Meeting. These programs, once effective, could change how the Central Valley Water Board permits discharges of salt and nitrate. The Salinity Control Program currently being developed would subject dischargers that do not meet stringent salinity numeric values (700 umhos/cm EC as a monthly average to protect the AGR beneficial use and 900 umhos/cm as an annual average to protect the MUN beneficial use) to performance-based salinity requirements, and would require these dischargers to participate in a Basin-wide Prioritization and Optimization Study to develop a long-term strategy for addressing salinity accumulation in the Central Valley.

The level of participation required of dischargers whose discharges do not meet stringent salinity requirements will vary based on factors such as the amount of salinity in the discharge, local conditions, and type of discharge. The Central Valley Water Board anticipates that the CV-SALTS initiative will result in regulatory changes that will be implemented through conditional prohibitions and modifications to many WDRs region-wide, including the WDRs that regulate discharges from the Facility. More information regarding this regulatory planning process can be found at the following link: [https://www.waterboards.ca.gov/centralvalley/water\\_issues/salinity/](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

### **Legal Effect of Rescission of Prior WDRs or Orders on Existing Violations**

The Board's rescission of prior waste discharge requirements and/or monitoring and reporting orders does not extinguish any violations that may have occurred during the time those waste discharge requirements or orders were in effect. The Central Valley Water Board reserves the right to take enforcement actions to address violations of prior prohibitions, limitations, specifications, requirements, or provisions of rescinded waste discharge requirements or orders as allowed by law.

### **Effluent Limitations**

This Order contains a TDS effluent limit that ensures the discharge will not unreasonable threaten present and anticipated beneficial uses of groundwater. The best measure for total salinity is TDS. Therefore, a TDS effluent limit is appropriate to ensure chloride and sodium concentrations in the wastewater do not increase significantly.

### **Groundwater Limitations**

This Order contains groundwater limits that do not allow groundwater degradation that of Primary and Secondary MCLs or that of current groundwater quality, whichever is greater.

### **Water Recycling Specifications**

Treated wastewater meets Title 22 requirements for disinfected tertiary recycled water. This Order includes specifications for water recycling.

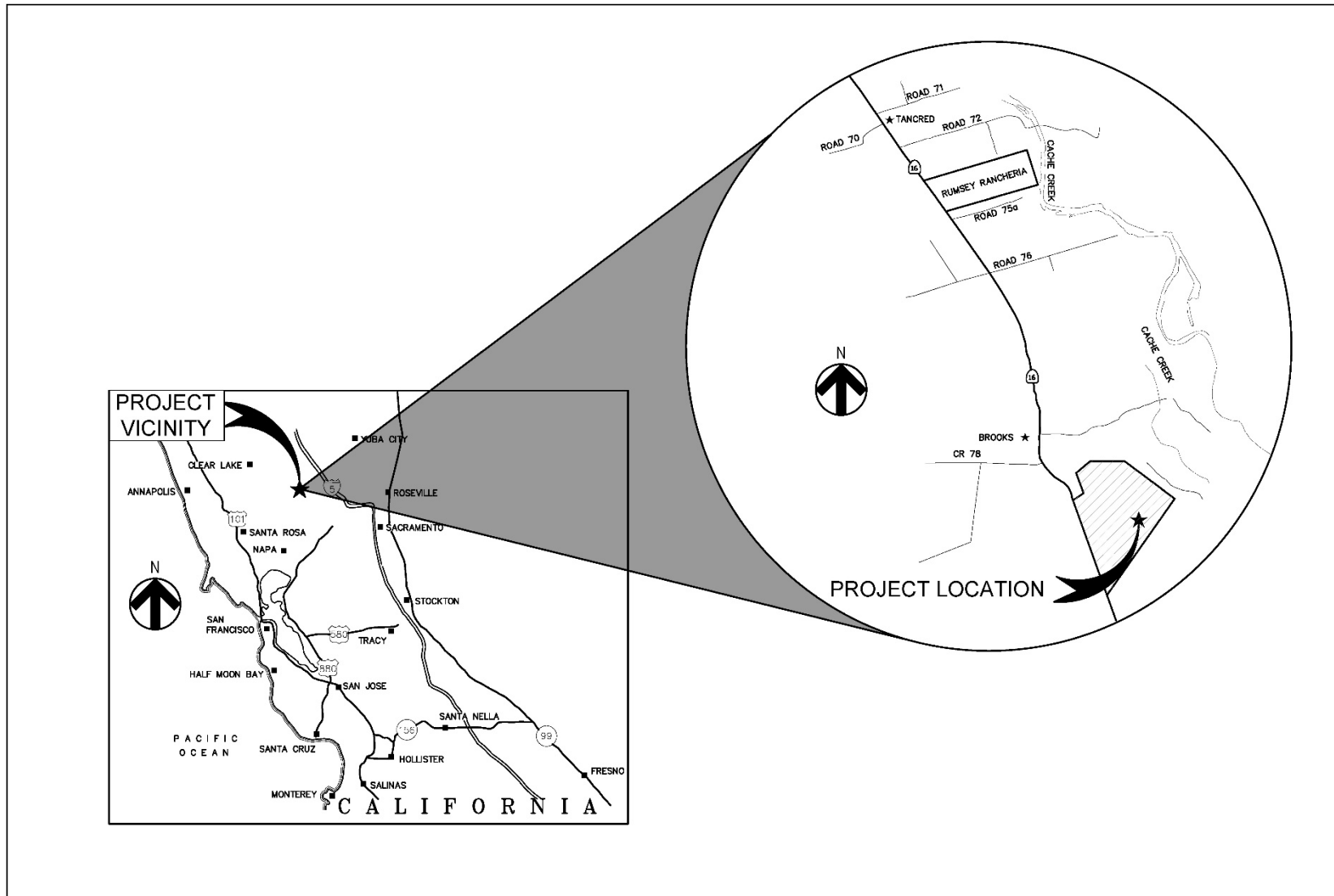
**Monitoring and Reporting Program**

The Monitoring and Reporting Program is designed to verify compliance with effluent limitations, groundwater limitation, and operational requirements of the WDRs.

**Reopener**

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if new technical information is received or if applicable laws and regulations change.

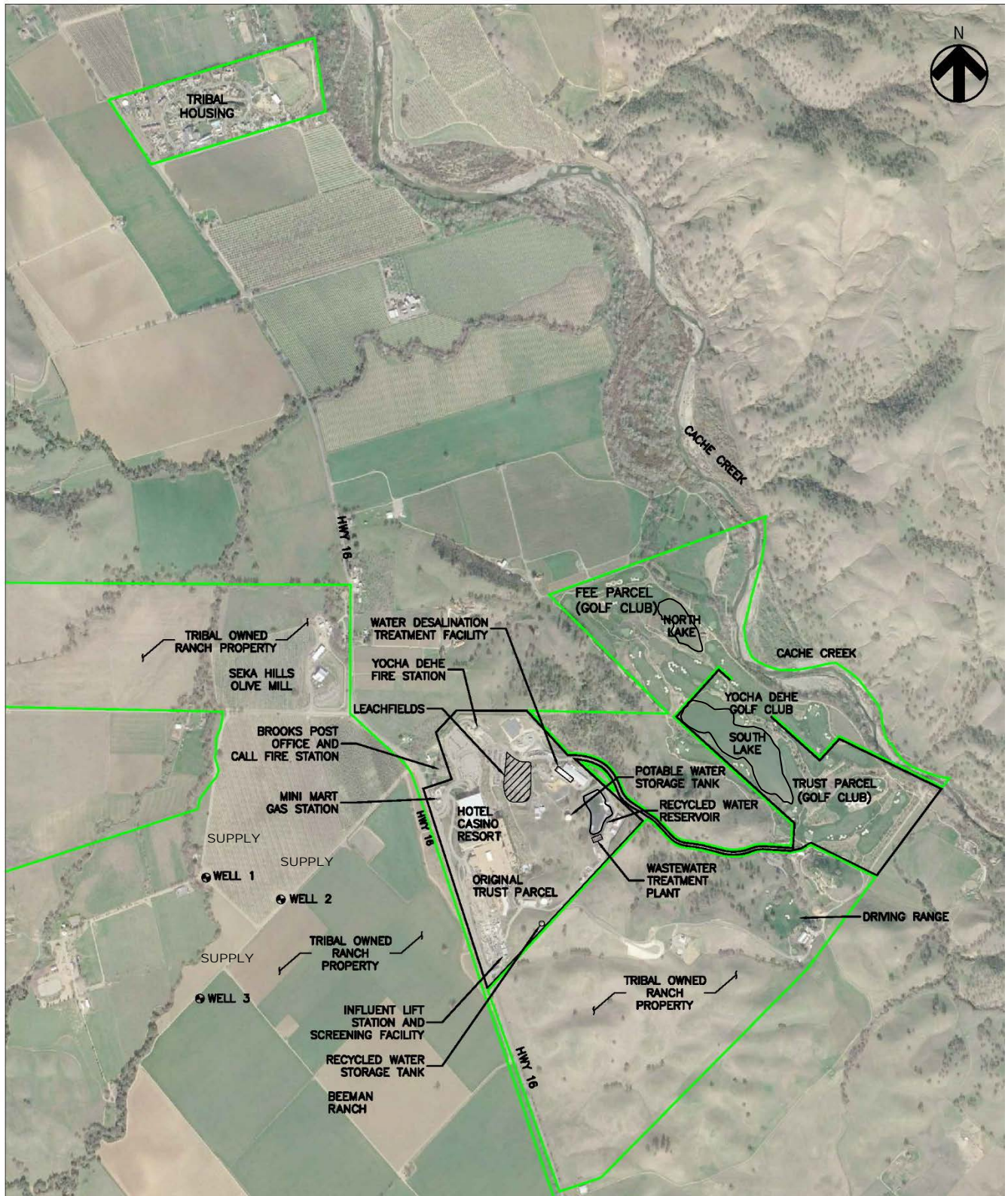
Ila: 082118



Approximate Scale:  
Not to Scale

Drawing Reference:  
RWD 2017

**SITE VICINITY MAP**  
YOCHA DEHE WINTUN NATION  
YOCHA DEHE GOLF CLUB  
YOLO COUNTY

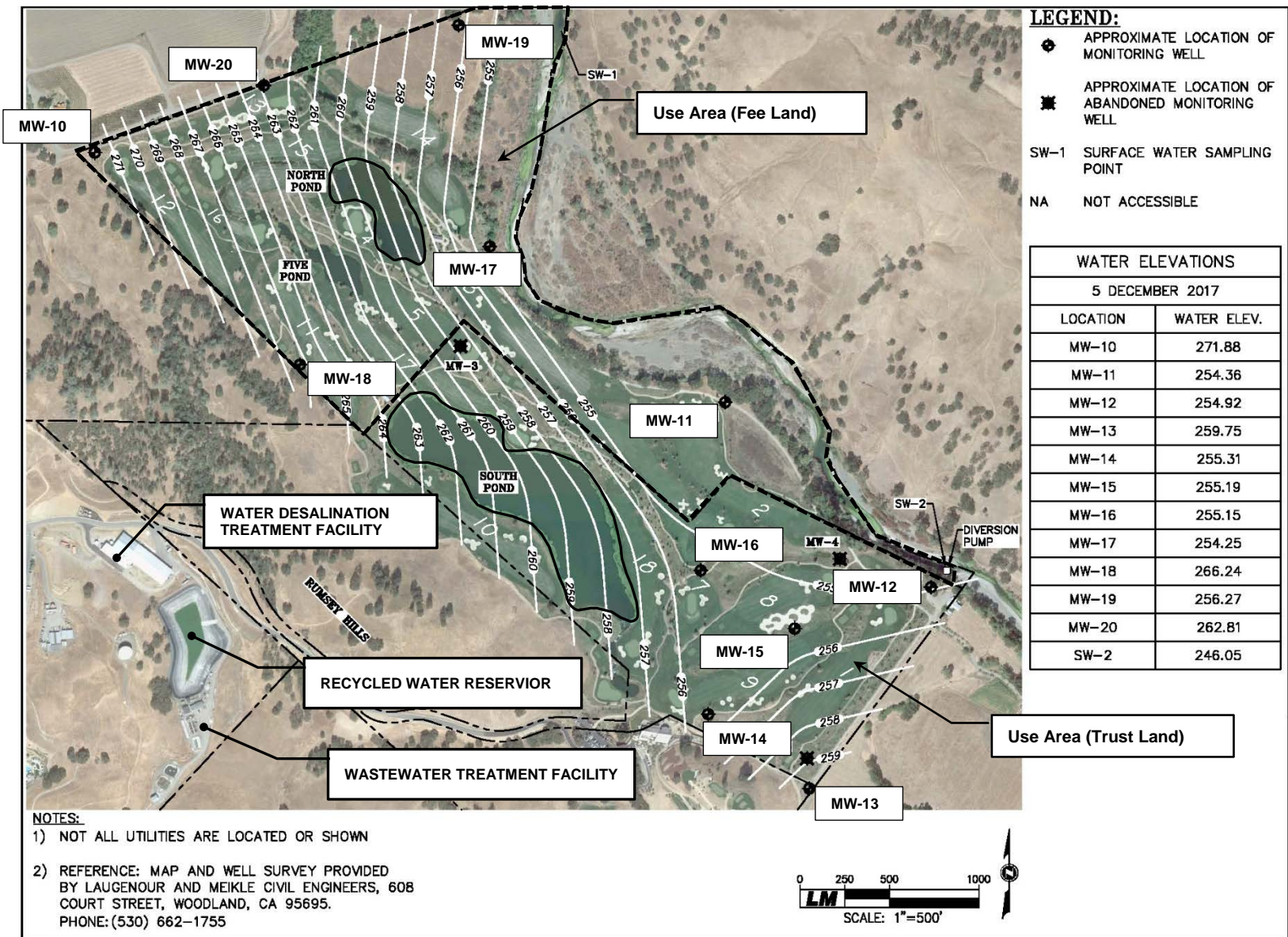


Drawing Reference:  
RWD 2017

**AERIAL SITE VIEW**  
YOCHA DEHE WINTUN NATION  
YOCHA DEHE GOLF CLUB  
YOLO COUNTY

Approximate Scale:  
Not to Scale

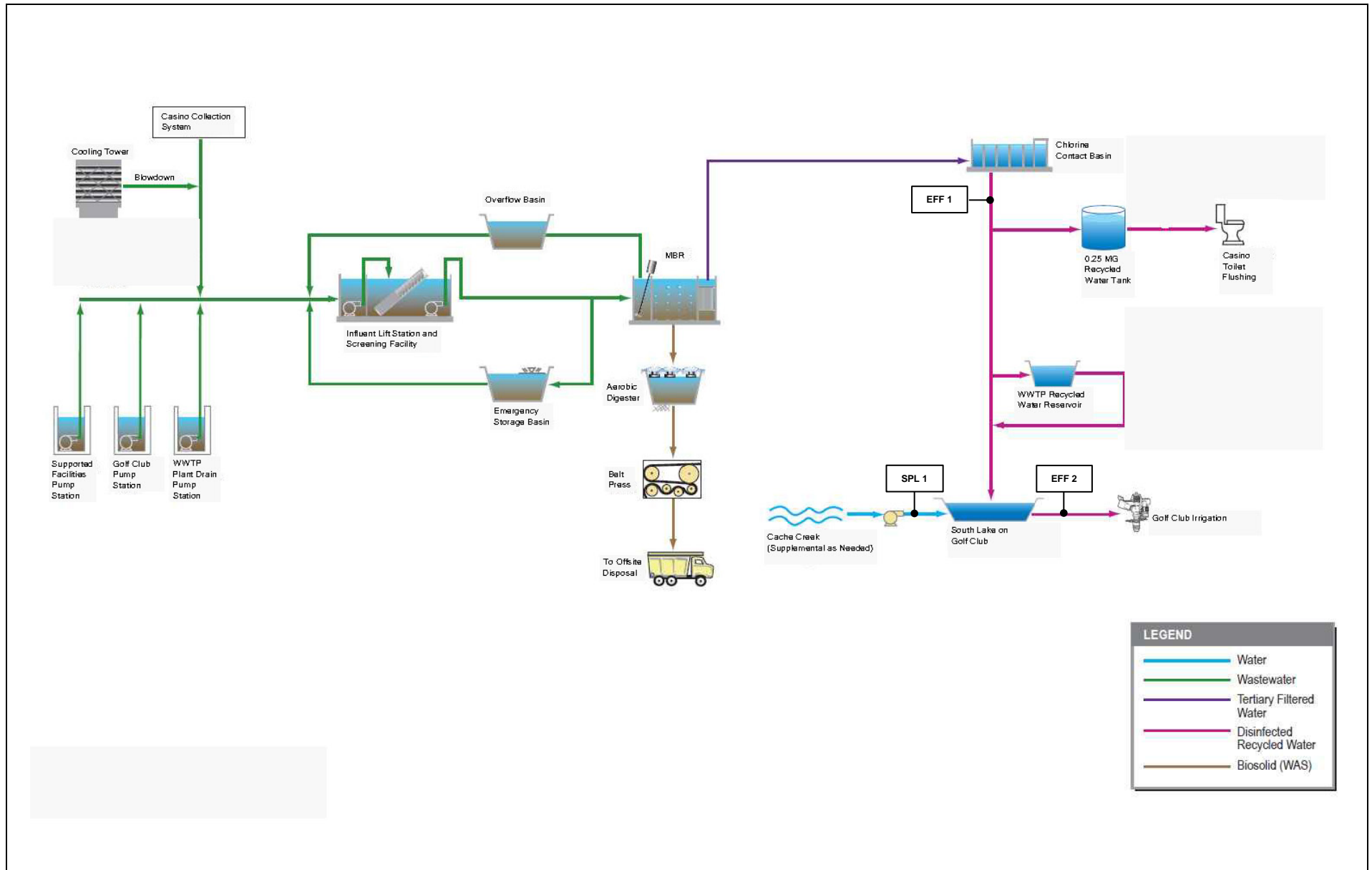




Approximate Scale:  
As Noted Above

Drawing Reference:  
Semiannual Report 2017

**GOLF COURSE SITE AND MONITORING WELL LOCATION MAP**  
 YOCHA DEHE WINTUN NATION  
 YOCHA DEHE GOLF CLUB  
 YOLO COUNTY



Approximate Scale:  
Not to Scale

Drawing Reference:  
RWD 2017

**PROCESS FLOW DIAGRAM**  
 YOCHA DEHE WINTUN NATION  
 YOCHA DEHE GOLF CLUB  
 YOLO COUNTY



**INTERNATIONAL SYMBOL FOR NONPOTABLE WATER**

**ORDER R5-2018-0073**  
WASTE DISCHARGE REQUIREMENTS  
YOCHA DEHE WINTUN NATION  
YOCHA DEHE GOLF CLUB  
YOLO COUNTY

**ATTACHMENT E**