
Lahontan Regional Water Quality Control Board

July 11, 2017

TO: ATTACHED MAILING LIST

Tentative Revised Waste Discharge Requirements for the Helendale Community Services District, Silver Lakes Wastewater Treatment Plant, San Bernardino County, WDID No. 6B361111001

Enclosed is the Tentative Revised Waste Discharge Requirements for the above subject. The California Regional Water Quality Control Board (Water Board) requests that you review the enclosed documents and provide us with your written comments no than **August 11, 2017**. Please send your comments to the Water Board's email address at Lahontan@waterboards.ca.gov and include **Helendale Community Services District, Silver Lakes WTP - 6B361111001 comments** in the subject line. If you do not have access to the internet, you may mail your comments to the Water Board's Victorville office at the address shown on this letter, to the attention of Tom Browne.

The Water Board will consider adopting the revised Waste Discharge Requirements at its regular meeting scheduled for September 13-14, 2017 in Apple Valley, California. You can view the Water Board's meeting agenda 10-days before the meeting on our web site at: www.waterboards.ca.gov/lahontan (click on Agenda). If you need further information regarding this meeting, please contact our office at (760) 241-6583.

If you have any questions regarding this letter or the enclosed documents, please contact Tom Browne, Water Resources Control Engineer at (760) 241-7391, email Thomas.browne@waterboards.ca.gov or Jehiel Cass, Senior Engineer at (760) 241-2434, email jehiel.cass@waterboards.ca.gov.



Robin Coale
Office Technician

cc: mailing list

Enclosure: Tentative Revised Waste Discharge Requirements

Notice
Submittal of Written Material for Regional Board Consideration

In order to ensure that the State of California Lahontan Regional Water Quality Control Board has the opportunity to fully study and consider written material, it is necessary to submit it at least ten (10) days before the Regional Board Meeting. Pursuant to Title 23 of the California Code of Regulations, Section 648.2, the Regional Board may refuse to admit written testimony into evidence unless the proponent can demonstrate why he or she was unable to submit the material on time or that compliance with the deadline would otherwise create a hardship. If any other party demonstrates prejudice resulting from admission of the written testimony, the Regional Board may refuse to admit it.

COMPLETE FORM AND RETURN

To: CA Regional Water Quality Control Board, Lahontan Region
15095 Amargosa Road, Bldg 2, Ste 210
Victorville, CA 92394
ATTN: Tom Browne
RB6-Lahontan@waterboards.ca.gov

Revised Tentative Waste Discharge Requirements for the Helendale Community Services District, Silver Lakes Wastewater Treatment Plant, San Bernardino County, WDID No. 6B361111001

_____ We concur with tentative requirements

_____ We concur; comments attached

_____ We do not concur; comments attached

_____ (Sign)

_____ (Type or print name)

_____ (Organization)

_____ (Address)

_____ (City and State)

_____ (Telephone)

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**BOARD ORDER NO. R6V-2017-(TENTATIVE)
WDID NO. 6B361111001**

**REVISED WASTE DISCHARGE REQUIREMENTS
FOR**

**HELENDALE COMMUNITY SERVICES DISTRICT
SILVER LAKES WASTEWATER TREATMENT PLANT**

San Bernardino County

The California Regional Water Quality Control Board, Lahontan Region, (Water Board) finds:

1. Discharger

The Helendale Community Services District provides domestic wastewater collection and treatment services for the Silver Lakes planned unit development and adjacent areas west of the Mojave River. For purposes of this Board Order (Order), Helendale Community Services District is referred to as the “Discharger.”

2. Facility

The Facility is the Discharger’s system of domestic wastewater collection, transport, treatment and disposal works. The Facility is a publicly owned treatment works (POTW), as defined under the Federal Clean Water Act. As a POTW, the Discharger must manage biosolids in compliance with federal regulations.

In this Order, the treatment works of the Facility are called the “treatment plant,” and the “treatment plant site” consists of the treatment plant and existing discharge sites. The treatment plant design flow is 1.2 million gallons per day.

3. Existing Orders

- a. On June 13, 2001, the Water Board adopted Board Order No. 6-01-39 for the Facility. This Order replaces Board Order No. 6-01-39.
- b. Sanitary sewer system overflows are regulated under this Order and as an enrollee under the State Water Quality Control Board (State Water Board) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Order No. 2006-0003-DWQ (WDID No. 6SSO11506, CW-705097).
- c. The Discharger filed a No Exposure Certification according to the State Water Board’s General Permit for Storm Water Discharges Associated with Industrial Activities Order No. 2014-0057-DWQ; consequently, the Discharger will not be

enrolled in that permit. The Facility's identification number in the Storm Water Multi-Application and Reporting Tracking System (SMARTS) is 6B36NEC02512, application number 476974.

4. Order History

The Water Board previously adopted waste discharge requirements for the Facility under Board Order No. 6-90-13, which was adopted on February 8, 1990. The Water Board adopted amended Board Order No. 6-90-13A1 on August 11, 1994, to eliminate a requirement for tertiary treatment since a proposed golf course reclamation project was canceled. The Water Board adopted amended Board Order No. 6-90-13A2 on September 9, 1999, at the Discharger's request to authorize the discharge of recycled, un-disinfected, secondary-level treated wastewater effluent to a sod farm water recycling irrigation site and a proposed adjacent animal fodder/fiber crop pasture/field; and to allow for future construction of an additional percolation pond. On June 13, 2001, the Water Board adopted Board Order No. 6-01-39 for the Facility.

5. Reason for Action

The reasons, or objectives, for this action are to achieve and verify agronomic rates for recycled water application. The Order includes a time schedule to implement the Phase 1 expanded agricultural site. The Monitoring and Reporting Program includes a time schedule order to provide sufficient monitoring of discharges to the percolation ponds and the expanded agricultural site and potential effects on groundwater.

6. Discharge

Non-disinfected secondary effluent is discharged to the two percolation ponds and a 60-acre agricultural field (existing). In the future, effluent will also be discharged to the 35 acre agricultural sites (expanded). Discharges of sludge occur to the biosolids drying beds, which are then disposed of offsite.

7. Authorized Discharge Location

The size of the treatment plant site is 80 acres, with 20 acres for treatment facilities and 60 acres for alfalfa. An additional 35 acres of alfalfa will be added for a total of 95 acres of agricultural fields for wastewater reuse. The legal description of the treatment plant site is western half of northwestern quarter of section 20, Township 8 North (T8N), Range 4 West (R4W), San Bernardino Baseline and Meridian (SBB&M). With this Order are a schematic of the treatment processes (Attachment A), maps showing the treatment plant site (Attachment B), well and reuse area locations (Attachment C) and receiving groundwater basin (Attachment D).

8. Report of Waste Discharge

The Discharger submitted a complete revised Report of Waste Discharge. The Report of Waste Discharge documents included the following:

- Report of Waste Discharge for Helendale CSD Wastewater Treatment Plant, September 23, 2015. This document includes a Form 200.
- Helendale Wastewater Treatment Plant Water Quality Impact Analysis, dated October 21, 2015.
- Report of Waste Discharge Addendum and Revised Water Quality Impact Analysis for the Helendale CSD Wastewater Treatment Plant, dated January 20, 2016.
- Helendale CSD Antidegradation Overview, dated September 12, 2016.
- Email from the Discharger's consultant, Larry Walker and Associates (LWA), discussing options for an expanded monitoring well network to address expanded agriculture operations, dated February 2, 2017.

9. Treatment Plant and Discharge Description

The treatment plant is a secondary treatment facility employing a trickling filter. The plant has redundant primary and secondary clarifiers and trickling filters. Final effluent is measured, and discharged into two percolation ponds. Chlorine is no longer used to disinfect effluent; however effluent still flows through the chlorine contact chamber. Some of the final effluent is pumped from the percolation ponds to irrigate 60 acres of alfalfa crop. The remaining final effluent percolates and recharges groundwater.

Biosolids consisting of sludge and scum from the primary and secondary clarifiers are pumped to the aerobic digester for stabilization. Following aerobic digestion, the biosolids are dewatered in 12 solar drying beds that have synthetic plastic liners. All the drying beds have sludge liquid collection drains. Liquids drained from each drying bed are combined into a common line and sent to the trickling filter pump station.

Dewatered biosolids are stored in bins and hauled to Liberty Composting in Bakersfield or other authorized disposal locations. Grit and screenings from the headworks are disposed into a local authorized lined Class III landfill.

The Discharger treats an average of 172 million gallons (Mgal) each year (0.47 million gallons per day [mgd]). The Discharger's 2010 California Code of Regulations (CCR), title 22, Engineering Report and Farm Management Plan estimated a total annual recharge value of 27 Mgal (0.075 mgd based on an irrigation water balance and average pond recharge rate from 2005 to 2008. (Helendale CSD, 2010).

Based on 2012 – 2014 data, the annual effluent water balance is shown in the following table.

Location	Amount (Mgal)	Percent
Percolation pond groundwater infiltration	27.0	15.7%
Percolation pond evaporation	13.2	7.7%
Crop irrigation	131.8	76.6%
Annual wastewater volume	172.0	100.0

10. Proposed Projects

The Discharger proposes two projects to address disposal of the wastewater effluent. The names and descriptions of each project are presented below.

- a. Phase 1, Agriculture Site Expansion project. In Phase 1, the current crop irrigation area of 60 acres, located on the wastewater treatment facility site, will be increased by 35 acres to include the Discharger-owned land south of the wastewater treatment facility (Figure 2). Upon completion of the Phase 1 project, the total irrigation area will be 95 acres. The intent of the proposed new use area is to apply effluent near the crop agronomic rate and minimize the amount of effluent that goes to groundwater.
- b. Phase 2, Tertiary Upgrade project. The Discharger is considering a project upgrade to produce disinfected tertiary recycled water. The objective of the project is to supply recycled water where possible to reduce reliance on existing groundwater supplies. This Order does not include requirements for this project.

11. Time Schedule

As provided in California Water Code, section 13263(c), this Order specifies a time schedule for the Discharger's proposed agriculture site expansion project to ensure water quality is protected by achieving agronomic application rates for wastewater re-use or disposal in a timely manner. A time schedule is not included in this Order for the tertiary upgrade project because the project is not necessary for water quality protection and is contingent on the Discharger's completion of a financial feasibility study of the project.

12. Regulation of Recycled Water

The Discharger uses treated wastewater to grow crops that are harvested and transported offsite for use. This includes crops grown on the existing 60-acre site and the planned 35 acre expansion site, for a total of 95 acres. Therefore, the entire 95-acre site must be covered under an approved title 22 Engineering Report. This Order contains a requirement that reuse at the 35 acre expansion site is conditioned upon the Executive Officer's acceptance of the CCR's, title 22

Engineering Report and State Water Board, Division of Drinking Water (DDW) recommendations on the Engineering Report.

In the previous Order, the Water Board considered the recycled water use on the existing 60-acre site exempt from obtaining water recycling requirements pursuant to CCR, title 22, section 60303, because the use adjacent to the treatment plant occurred on land owned by the Discharger. DDW has recently clarified that this exemption applies only to operational uses of recycled water at a treatment plant site and not for use in producing a commodity. However, the Water Board has determined that recycled water use on the existing 60-acre site may continue because this Order incorporates a similar level of controls as DDW is expected to recommend at the planned 35-acre site.

Nonetheless, this Order requires the Engineering Report submitted for the planned 35-acre expansion area to address and include the existing 60-acre area for the full 95-acre area. Should DDW recommend additional controls, the Discharger may be asked to provide an amended reuse plan for Executive Officer acceptance. If needed, the Executive Officer may amend the Monitoring and Reporting Program (MRP).

To proceed with the Phase 2 tertiary upgrade project, the Discharger must:

- Submit a separate or revised Engineering Report to DDW and the Water Board;
- Obtain recycled water requirements for production and use; or
- Enroll in the State Board's Water Reclamation Requirements for Recycled Water Use, Order WQ 2016-0068-DDW.

13. Authorized Discharge Site and Recycled Water Sites

- a. This Order authorizes the Discharger to discharge waste to the existing percolation ponds and the existing 60-acre agriculture areas at the treatment plant site. The legal description of the authorized discharge site is western half of northwestern quarter of section 20, Township 8 North T8N, Range 4 West R4W, San Bernardino Baseline and Meridian SBB&M.
- b. Once the Discharger completes the Phase 1 agriculture site expansion project and the Executive Officer accepts the Engineering Report following DDW's review, the Executive Officer can make a determination that the discharge of waste to the expanded 35-acre agriculture site can occur under the requirements of this Order. The location of the expanded agricultural reuse site, as well as discharge locations, is shown on Attachment C.

14. Expanded Agriculture Site Compliance Groundwater Monitoring Wells

There are currently four monitoring wells located at the treatment plant owned by Helendale CSD. Three United States Geological Survey (USGS) wells are also

located in the vicinity of the plant and are multi-screened wells. The MRP requests the Discharger to include groundwater levels from the shallowest screened interval of the USGS wells for groundwater contouring. These wells are listed in the table below.

Wells Owned by the Discharger	Screen Length (ft)	Total Depth (ft)
MW-1	45	unknown
MW-2	50	130
MW-3	50	130
MW-4	50	130
Wells Owned by the USGS, Used for Groundwater Contouring ¹	Screen Length (ft)	Depth of Shallow Screen Interval below ground surface (ft)
8N4W29E06	10	30 – 40
8N4W21M04	10	30 – 40
8N4W19G04	20	80 - 100

¹ Note that only the shallowest screen interval of each USGS well is included; the deeper intervals are not used for groundwater contouring.

This Order requires the Discharger to expand the groundwater monitoring network around the treatment plant and the expanded agriculture site. For each well, the Discharger must determine the background water quality from a statistically significant number of independent sampling events (at least eight). Background water quality sampling must occur before effluent is discharged at the expanded agriculture site. These data will be used to establish pre-discharge background water quality conditions in groundwater. This Order includes requirements for well installation and determination of background water quality before discharge of the effluent at the expanded site. Additionally, this Order requires soil moisture sensors to be installed at the agricultural sites at various locations and depths to provide data to ensure water is applied at the expected agronomic rate, or the Discharger may propose an alternative method to ensure agronomic rates are achieved.

15. Agronomic Rates

The Discharger provided water irrigation and nitrogen balance calculations for agriculture use at the treatment plant site and the expanded agriculture site. The calculations show that effluent can be applied to crops, primarily alfalfa, at near agronomic rates. Seasonal and month-to-month fluctuations in climate and actual crop demand for the use of water show that with the expanded agricultural site, the Discharger will apply effluent slightly above agronomic rates in the winter. As a result, the expanded agricultural site will improve irrigation site nitrogen removal over existing practices.

16. Effluent Limitations

The Discharger's treatment plant produces secondary treated wastewater. For this reason, the Water Board selects the federal secondary treatment standards as the effluent limitations for the discharge. Achieving close to the crop agronomic rate precludes the need to establish a nitrogen effluent limitation.

17. Receiving Water

The receiving water is groundwater within the Middle Mojave River Valley groundwater basin (California Department of Water Resources Groundwater Basin 6-41).

18. Lahontan Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan), which became effective on March 31, 1995. Subsequent amendments to the Basin Plan have been adopted. This Order implements the Basin Plan, as amended.

19. Beneficial Uses

The beneficial uses of the receiving groundwater are the following:

- Municipal and domestic supply (MUN),
- Agricultural supply (AGR),
- Industrial service supply (IND),
- Freshwater replenishment (FRSH), and
- Aquaculture (AQUA).

20. Geology and Hydrogeology

The geological and hydrogeological features that affect the requirements of this Order are the following:

- a. The treatment plant site lies above the flood plain aquifer of the Middle Mojave River Valley groundwater basin. The flood plain aquifer is comprised of Mojave River fluvial deposits. Transmissivity values range from 1,000 to 60,000 square feet per day.
- b. The northwest to southeast trending Helendale fault intersects the northeast corner of the treatment plant site. The fault is important because the Mojave Water Agency defines this fault as the groundwater flow boundary in the deep zones between the Alto and Centro water management subareas and may influence both groundwater flow and quality.

21. Receiving Water Quality

The 2012 to 2016 range of depths to groundwater, total dissolved solids (TDS) concentrations, and nitrate-nitrogen concentrations at each of the treatment plant site's compliance groundwater monitoring wells, are presented in the following table:

Location	Range	TDS (mg/L)	Nitrate-Nitrogen (mg/L)	Depth to groundwater (ft) ¹
MW-1	Minimum	435	1.6	10.0
	Maximum	510	7.1	13.1
MW-2	Minimum	3330	2.6	12.3
	Maximum	3820	7.8	18.5
MW-3	Minimum	1040	1.5	22.0
	Maximum	1190	6.2	32.4
MW-4	Minimum	1930	2.1	40.8
	Maximum	2700	6.9	59.1

¹ Values were from quarterly Self-Monitoring Reports submitted by the Discharger from measurements from 2012-2016.

The Basin Plan adopts the maximum contaminant levels (MCL) as the water quality objectives for groundwater designated as municipal or domestic supply. The MCL for nitrate-nitrogen is 10 mg/L. The MCL for TDS is not a health-based limit, but rather based upon taste and odor. It is a three part standard, with a "recommended" (500 mg/L), "upper" (1,000 mg/L), and "short-term" (1,500 mg/L) limit.

The data from the four monitoring wells listed above indicate that the receiving groundwater has levels of TDS that exceed the "upper" limit in three of four groundwater monitoring wells. Wells MW-2 and MW-4 have exceeded the "short-term" limit. Wells MW-2 and MW-4 have TDS at much higher concentrations than the upper drinking water standard (secondary maximum contaminant level) of 1,000 mg/L. Although well MW-3 has a more modest TDS concentration, the quality is still greater than 1,000 mg/L upper limit. The source of the high TDS values, particularly the value of 3,820 mg/L at well MW-2, is unknown. Groundwater quality in the Discharger's monitoring wells contains constituents associated with wastewater, particularly biochemical oxygen demand (BOD) and ammonia. However, the effluent TDS concentration disposed in these ponds had an average concentration of 783 mg/L (years 2012-2014), lower than the observed groundwater concentration. The fact that USGS well 008N004W19G004S, in the 80-100 foot screen interval and located upgradient of the site, has a TDS concentration of about 2,000 mg/L, provides some evidence that historical agriculture land use upgradient of the treatment plant site may also be a contributor to high TDS values. Well MW-2 is adjacent to an area where effluent may have been over-applied and may have contributed elevated TDS to groundwater. The unusually high TDS in well MW-2, the presence of BOD and ammonia in other

wells, and the groundwater mounding observed at well MW-2, suggest a combination of previous agricultural use and effluent disposal as elevated TDS sources. This Order contains a requirement for the Discharger to submit a workplan for additional monitoring wells to improve the monitoring network and to track movement of these contaminant plumes toward sensitive receptors.

The receiving groundwater quality for nitrate-nitrogen shown in monitoring wells during the years 2012 to 2016 meets the Basin Plan water quality objective of 10 mg/L. Nevertheless, because background nitrate-nitrogen levels in this area are approximately 5.5 mg/L, and some monitoring well nitrate concentrations exceed background, it appears that groundwater quality has already been degraded (LWA, January 2016). There is concern that continued discharges of treated water from the Facility may cause nitrate concentrations to increase to effluent concentration levels, which averaged 7.85 mg/L (years 2012-2016), resulting in groundwater degradation. Therefore, this Order requires implementing a project that will increase nitrate-nitrogen removal through increased crop uptake; and monitoring requirements with the objective of maintaining, and possibly reducing, nitrate concentration levels in groundwater.

22. Policy for Maintaining High Quality Waters

State Water Board Resolution No. 68-16 "Statement of Policy with Respect to Maintaining High Quality Waters in California," is called the non-degradation objective in the Basin Plan. Resolution 68-16 states:

1. *"Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that a change will be consistent with the maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.*
2. *Any activity which produces or may produce a waste...and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) pollution or nuisance will not occur, and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*

This policy prohibits discharges of treated wastewater and biosolids that will cause a pollution or nuisance and limits degradation by requiring the highest water quality consistent with maximum benefit to people of the State.

As part of the Report of Waste Discharge, the Discharger submitted two technical reports: *Helendale Wastewater Treatment Plant Water Quality Impact Analysis*, by LWA, January 20, 2016, and *Helendale CSD Anti-degradation Overview*, September 12, 2016, also prepared by LWA. In the water quality impact analysis, the Discharger calculated the effect of future discharges of nitrate and TDS on the quality of the receiving groundwater. In the analysis, the Discharger calculated groundwater quality for TDS and nitrate-nitrogen at various distances from the center of the treatment plant percolation ponds using a simplified model. The model assumed a homogenous, isotropic aquifer of constant thickness into which the TDS and nitrate-laden water is discharged; the model assumed constant groundwater recharge rates from the percolation ponds and from the irrigated fields; and the model assumed a steady flow of groundwater passing through the model boundaries, using background concentrations of TDS and nitrate-nitrogen at 1,700 mg/L and 5.5 mg/L, respectively. The analysis assumed no evaporation, adsorption, biodegradation, or physical chemical reactions that may consume TDS or nitrate. The model accounted for recharge from their percolation ponds, using a very conservative value of 0.47 MGD. The model predicted long-term nitrate-nitrogen and TDS concentrations at distances of 600, 1,200, and 3,000 feet from the recharge pond; the results are presented below:

Constituent	Long-Term Average Effluent Water Quality (mg/L)	Background Average Water Quality ¹ (mg/L)	Long-Term Average Predicted Water Quality (mg/L) at Various Distances from Percolation Ponds ²		
			600 ft	1,200 ft	3,000 ft
NO ₃ -N ³	7.85 ⁴	5.5	7.06	6.66	6.09
TDS	783	1700	1093	1246	1468

¹Measured at Helendale CSD Supply Well No. 9, State well no. 008N004W29D03, located approximately 4,400 feet south of the plant.

²Obtained from Table 5-7 and Figure 8 of LWA January 2016 report.

³NO₃-N = Nitrate-nitrogen.

⁴The corresponding value for Total Kjeldahl Nitrogen (TKN) in the 2012-2014 time period is 4.3 mg/L based on self-monitoring reports submitted to the Water Board. Total nitrogen, which is the sum of TKN and NO₃-N, is 12.15 mg/L.

The background groundwater monitoring well selected by the Discharger is a supply well ½ mile south of the treatment plant site.

In the report titled *Helendale CSD Anti-degradation Overview*, the anti-degradation analysis shows that applying all the effluent to the current 60-acre crop land, with the exception of that discharged to the percolation ponds, exceeds the agronomic rate for alfalfa when averaged over a year. The analysis shows that when the crop area is expanded to 95 acres, as required by this Order, applying that same flow rate of effluent to the crops will be *less than* the agronomic rate for alfalfa when

averaged over a year. Thus, when the crop area is expanded, no further recharge to groundwater is expected to come from irrigating the fields.

The LWA analysis predicts nitrate-nitrogen uptake rate by 60 acres of alfalfa crop exceeds the application rate. When the crop area is expanded to 95 acres, the nitrate-nitrogen uptake will be even greater. The increased nitrate uptake by the additional crop area will prevent nitrate-nitrogen concentrations from exceeding the MCL of 10 mg/L, and groundwater quality will likely improve from current conditions.

(a) *“Water quality changes are consistent with the maximum benefit of people of the state”*

The Basin Plan establishes water quality objectives based on the beneficial uses. Although some of the monitoring wells indicate that the receiving water limits for TDS are not being met, it is unlikely that this discharge is the cause of those exceedances. The TDS levels of the effluent are actually less than the TDS level of the existing water quality and will have a beneficial effect over time. The nitrate levels too are expected to stay below the MCL. The Discharger will be implementing a project that will increase nitrate-nitrogen removal through increased crop uptake; the Discharger will be monitoring nitrate uptake by the crops and nitrate concentrations in the effluent, with the objective of maintaining, and possibly reducing, nitrate concentration levels in groundwater. This Order also requires the Discharger to monitor receiving groundwater to verify these expectations.

This Order is consistent with the maximum benefit to the people of the State because: (1) it allows continued operation of an existing wastewater treatment system; and (2) it requires monitoring of impacts from the treated wastewater, and (3) will reduce groundwater nitrate concentration levels due to decreased mass loading because of decreased effluent percolation as more effluent is applied to crops.

(b) *“Water quality changes do not unreasonably affect beneficial uses”*

The TDS concentrations exceed the drinking water standard in three onsite monitoring wells and are less than the drinking water standard in one onsite monitoring well. Two onsite monitoring wells contain less than the upgradient background concentration for TDS. The effluent TDS concentration is less than the drinking water standard, and therefore, with respect to TDS, continued discharges from the percolation ponds are not expected to unreasonably affect beneficial uses, and will, in fact, reduce TDS levels over time. With respect to nitrate, all beneficial uses are currently met and will continue to be met in the future with the inclusion of a larger agricultural area, which will increase the nitrate removal by crops. Therefore this criterion is satisfied.

- (c) *“Water quality changes do not result in water quality less than the Basin Plan objectives”*

Because the TDS concentration in the effluent is less than the receiving water quality, continued discharge through percolation will reduce TDS concentrations over time. In addition, the additional 35 acres will allow irrigation at levels that are closer to agronomic rates, which will improve water quality through reduction of nitrate-nitrogen draining below the root zone of crops. This Order requires monitoring in the expanded agriculture area to indicate if irrigation in the winter time (slowest growth season) is in excess of crop uptake. Any excess water in the winter will be taken up in the spring and summer, when the alfalfa grows denser and their roots grow deeper. The Discharger presented an analysis of nitrogen uptake by alfalfa and fodder crops that used conservative uptake values for nitrogen, water, and TDS. Based on this analysis, Water Board expects that properly managed crop farming on the 95 acre area will be protective of groundwater quality.

Thus, the Discharger’s agricultural site expansion project will maintain or improve water quality and not result in receiving groundwater quality less than the Basin Plan objectives.

- (d) *“Best practicable treatment or control is used to avoid pollution or nuisance and maintain the highest water quality consistent the maximum benefit of the people of the state”*

The proposed project to expand the agriculture site from 60 acres to 95 acres will result in less nitrogen draining below the root zone and thereby provide some improvement in water quality compared to the present. There are two conceptual projects that would provide the highest quality of water: (1) improved treatment to reduce effluent total nitrogen to near the background level of 5.5 mg/L nitrate-nitrogen or (2) constructing lined storage reservoirs to contain winter effluent followed by irrigating crops at the full agronomic rate in the summer season. It is not possible to alter or improve the existing operation of primary clarification, secondary clarification, followed by a trickling filter to guarantee an effluent of less than 5.5 mg/L nitrate-nitrogen. Nitrate removal would require installation of a denitrification unit capable of treating 1.2 MGD, which would result in substantial capital and operational costs that would be passed on to the Discharger’s rate payers. Construction of lined storage ponds would also result in substantial capital costs, which would also be passed on to the Discharger’s rate payers. As such, the additional cost for nitrate removal is not commensurate with the improved water quality, and the maximum benefit to the state is through implementation of the proposed project.

In addition, the Discharger will conduct effluent and groundwater monitoring as part of the MRP. This will ensure that the best management treatment or control is effective; water quality objectives will not be exceeded, and confirms that water quality will be maintained at a level that is protective of beneficial uses.

Therefore, this Order is consistent with the Antidegradation Policy, and includes specific requirements and conditions of discharge to minimize water quality degradation.

24. California Water Code, Section 13241 Considerations

Under California Water Code, section 13241, the Order requirements must take into consideration the following:

(a) Past, present, and probable future beneficial uses of water.

The findings of this Order identify past, present, and probable future beneficial uses of water, as described in the Basin Plan. This Order does not authorize alteration of the beneficial uses of the groundwater from discharges authorized by this Order. The discharge area shall be monitored for degradation, and an impact analysis conducted by the Discharger states that the present and planned discharges will not degrade the groundwater to levels that would adversely affect the beneficial uses of the groundwater.

Additionally, if the Discharger cannot demonstrate that agronomic application of water and nutrients is achieved over a long-term period, then the Discharger must submit a plan to increase the area of crop application, construct winter storage reservoirs, upgrade treatment processes, or demonstrate an alternative acceptable to the Executive Officer.

(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

The findings of this Order concerning geology, hydrogeology, and hydrology provide general information on the hydrographic unit. Information on the groundwater around the area of the disposal indicates the upgradient groundwater and groundwater beneath the percolation ponds have substantially higher concentrations of TDS compared to the discharge. The Water Board has considered the environmental characteristics of the hydrographic unit, including the water quality available.

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.

Factors that could affect water quality in the area include: 1) the current use of onsite septic systems downgradient of the Facility, 2) other discharges to the groundwater basin, 3) the ongoing and increased discharge to the Discharger's percolation ponds, 4) historical and current agriculture practices, and 5) activities (golf course and lakes) at adjacent Silver Lakes development.

The Discharger performed an impact analysis on potential degradation that may occur due to the proposed discharge. The analysis examined the impact of various flow rates on TDS and nitrate-nitrogen concentrations. The analysis predicts that, with respect to background nitrate and TDS, these constituent concentrations will remain below water quality objectives downgradient of the treatment plant site with increasing effluent flow and increasing distance. Hence, future effluent application to the expanded agricultural fields should not contribute to water quality degradation.

(d) Economic considerations.

The purpose of Discharger's Phase 1 project is to decrease the application rates at agriculture areas to near-agronomic rates, reduce nitrogen loading to the groundwater, and decrease the recharge to the aquifer. The Discharger has the financial resources to implement Phase 1, and there is no unnecessary financial burden being placed on the Discharger. The cost is modest because the Discharger does not need to upgrade their treatment plant. Phase 2 is optional, and the Discharger will complete a feasibility study before proceeding with design and construction of the tertiary treatment facility.

(e) The need for developing housing within the region.

The Discharger has capacity at the treatment plant to handle an extra 7,000 people, assuming that the average person generates 100 gallons per day of sewage. Thus, current capacity allows for additional housing. The expanded agricultural re-use area is sufficient for current plant flow. If additional housing is developed and plant flow increases within existing plant capacity, then additional agricultural land may be required or some other alternative implemented to ensure groundwater degradation does not result.

(f) The need to develop and use recycled water.

Both Phase 1 and Phase 2 projects provide recycled water resources.

25. California Environmental Quality Act

This project is subject to the provisions of the California Environmental Quality Act (CEQA, Public Resources Code, section 21000 et seq.) in accordance with Public Resources Code, section 21065. Helendale CSD is the Lead Agency for this project under CEQA guidelines.

On March 1, 2017, Helendale CSD filed a Notice of Determination (NOD). Helendale CSD determined that environmental impacts from this project will be less than significant with mitigation measures described in their final CEQA document; these mitigation measures address potential impacts to air quality, biological resources, and cultural resources that may occur or be discovered during grading. The Board of Helendale CSD adopted a Mitigated Negative Declaration in a meeting held May 18, 2017, to satisfy provisions of CEQA.

The Water Board is a responsible agency under CEQA (Public Resources Code, section 21069). The Water Board has reviewed and considered the mitigated negative declaration prepared by Helendale CSD and finds that it addresses the Project's water resource impacts. (CCR, title 14, section 15096, subdivision [f]).

26. California Code of Regulations, title 27

CCR, title 27, section 20090(a) and (b) states the discharges are exempt from Title 27 requirements for waste disposal provided the activity meets and continues to meet the following pre-conditions:

“(a) Sewage – Discharges of domestic sewage or treated effluent which are regulated by WDRs issued pursuant to Chapter 9, Division 3, Title 23 of this code, or for which WDRs have been waived, and which are consistent with applicable water quality objectives, and treatment or storage facilities associated with municipal wastewater treatment plants, provided that residual sludges or solid waste from wastewater treatment facilities shall be discharged only in accordance with the applicable SWRCB-promulgated provisions of this division.”

“(b) Wastewater – Discharges of wastewater to land, including but not limited to evaporation ponds, percolation ponds, or subsurface leachfields if the following conditions are met:

- (1) the applicable RWQCB has issued WDRs, reclamation requirements, or waived such issuance;
- (2) the discharge is in compliance with the applicable water quality control plan; and
- (3) the wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22 of this code as a hazardous waste.”

In this case, discharges will continue to meet the conditional exemption for discharges of domestic sewage because: 1) the discharge is regulated by WDRs, 2) the discharge is expected to be consistent with applicable water quality objectives, 3) the Facility is a municipal wastewater treatment plant, and 4) all residual biosolids are disposed off-site in an authorized manner as required in CCR, title 27, section 20220 (c).

27. Disinfection Byproducts Controls

Although the treatment plant has capability for chlorine disinfection, disinfection is not part of these WDRs. Therefore, the Water Board is not specifying disinfection byproduct controls. If the Discharger decides to reactivate the disinfection system, or construct and operate a new chlorination disinfection system, it will change the character of the discharge. This is because disinfection byproducts, which are carcinogens, may be discharged to land and then, ultimately, to groundwater. As required under California Water Code, section 13260 (c), the Discharger must submit a revised report of waste discharge for this change.

28. Right to Safe, Clean, Affordable, and Accessible Water

California Water Code, section 106.3, establishes a state policy that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes and directs state agencies to consider this policy when adopting regulations pertinent to those uses of water. This Order promotes that policy by prohibiting the discharge from causing degradation to the groundwater above drinking water standards. The groundwater in the area includes a municipal beneficial use. The nearest water supply well is located two miles from the treatment plant site and is not expected to be affected by this discharge. The Water Board has considered this requirement in adopting this Order.

29. Classification and Annual Fees

The Threat to Water Quality from the Facility is Level 2 because water quality degradation may result from the discharge and improper plant operation could cause short-term violations of water quality objectives. The Complexity is Level B because the Facility has a biological treatment process. This classification is subject to change based on treatment or discharge method modifications or revised state regulations. Annual fees are based on this classification.

30. Monitoring and Reporting

California Water Code, section 13267, authorizes the Water Board to require technical and monitoring reports. The MRP is necessary to determine compliance with the conditions of this Order and to determine the discharges impacts, if any, on groundwater. As such, the burden, including costs of this monitoring, bears a reasonable relationship to the need for that information and the benefits to be obtained from that information.

31. Notification of Interested Parties

The Water Board has notified the Discharger and interested persons of its intent to revise waste discharge requirements for the discharge.

32. Consideration of Public Comments

The Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to California Water Code, sections 13263 and 13267, that the Discharger will comply with the following:

I. DISCHARGE SPECIFICATIONS

A. Effluent/Discharge Limitations

1. The flow of untreated wastewater to the secondary treatment plant must not exceed a monthly average of 1.2 million gallons per day (mgd).
2. The authorized discharge sites are the following:
 - a. Percolation pond 1 (east) and percolation pond 2 (west),
 - b. The existing plant agriculture site of 60 acres, and
 - c. The expanded agriculture site of 35 acres (following Executive Officer acceptance of final expansion area plans, acceptance of DDW recycled water use recommendations and establishment of background water quality).
3. All wastewater discharged from the secondary treatment plant to the authorized discharge sites must not contain concentrations of constituents in excess of the following limitations.

Constituent	Units	Average Monthly	Average Weekly	Minimum	Maximum
BOD ¹	mg/L	30	45		
Total suspended solids	mg/L	30	45		
pH	pH units			6.0	9.0
Dissolved Oxygen	mg/L			1.0	

¹Biochemical oxygen demand of an unfiltered sample for 5-day analysis at 20 degrees Celsius.

B. Receiving Groundwater Limitations

The discharge shall not cause a violation of the following receiving water quality objectives in groundwater of the Middle Mojave Groundwater Basin.

1. Bacteria – Groundwaters designated as MUN, the median concentration of coliform organisms over any seven-day period shall be less than 1.1/ milliliters. Most probable number per 100 milliliters (MPN/100 mLs)

2. Chemical Constituents – Groundwaters designated as MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant level (MCL) or secondary maximum contaminant level (SMCL) based upon drinking water standards specified in the following provisions of CCR, title 22, of CCR which are incorporated by reference into the Basin Plan: Table 64431-A of Section 64431 (Inorganic Chemicals), Table 64431-B of Section 64431 (Fluoride), Table 64444-A of section 64444 (Organic Chemicals), Table 64449-A of section 64449 (Secondary Maximum Contaminant Levels – Consumer Acceptance Levels), and Table 64449-B of section 64449 (Secondary Maximum Contaminant Levels – Ranges). This incorporation-by-reference is prospective including future changes to the incorporated provisions as the changes take effect.

Waters designated as AGR shall not contain concentrations of chemical constituents in amounts that adversely affect the water for beneficial uses (i.e. agricultural purposes).

Groundwater shall not contain concentrations of chemical constituents that adversely affect the water for beneficial uses.

3. Radioactivity – Groundwaters designated as MUN shall not contain concentrations of radionuclides in excess of the limits specified in CCR, title 22, section 64442, Table 64442, and section 64443, Table 64443, including future changes as the changes take effect.
4. Taste and Odors – Groundwaters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For groundwater designated as MUN, at a minimum, concentrations shall not exceed adopted secondary maximum contaminant levels specified in Table 64449-A of Section 64449 (Secondary Maximum Contaminant Levels – Consumer Acceptance Limits), and Table 64449-B of Section 64449 (Secondary Maximum Contaminant Levels - Ranges) of California Code of Regulations, title 22.

C. Recycling Water Treatment Requirements

1. Secondary effluent produced by the treatment plant and use of the effluent at the agriculture site(s) must at least meet the undisinfected secondary recycled water levels defined in title 22, CCR, section 60301.900. The use is restricted to fodder and fiber crops and pasture for animals not producing milk for human consumption, as provided under CCR, title 22, section 60304(d)(4).

2. Secondary effluent produced by the treatment plant and use of the effluent at the agriculture site must comply with the Uniform Statewide Reclamation Criteria, which are contained in CCR, title 22, sections 60301 through section 60355.
3. **Before use of the 35-acre expanded crop site**, the Discharger must not apply recycled water to the expanded 35 acre crop site until the Discharger obtains approval of the Engineering Report from the Water Board's Executive Officer.

D. Recycled Water Use Requirements

1. The Discharger must comply with the use area requirements of the Uniform Statewide Reclamation Criteria, which are contained in CCR, title 22, section 60310.
2. Effluent applied as irrigation water to crops shall not exceed the agronomic crop water or nutrient demand as determined by a certified agronomist.

E. General Requirements and Prohibitions

1. There shall be no discharge, bypass, or diversion of untreated or partially treated sewage, sewage sludge, grease, or oils from the collection, transport, treatment, or disposal facilities to adjacent land areas or surface waters.
2. Surface flow or visible discharge of sewage or treated wastewater from the authorized disposal/recycling sites to adjacent land areas or surface waters is prohibited.
3. All facilities used for collection, transport, treatment or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage, or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.
4. The vertical distance between the liquid surface elevation and the lowest point of a pond dike or the invert of an over flow structure shall not be less than 2.0 feet.
5. Neither the treatment nor the discharge shall cause pollution, threatened pollution, or nuisance as defined in the California Water Code.
6. The discharge of wastewater except to the authorized disposal/recycling sites is prohibited.

7. The discharge of waste, as defined in the California Water Code, which causes violation of any narrative water quality objective contained in the Basin Plan is prohibited.
8. The discharge of waste that causes violation of any numeric water quality objective contained in the Basin Plan is prohibited.
9. Where any numeric or narrative water quality objective contained in the Basin Plan is already being exceeded, the discharge of waste that causes further degradation or pollution is prohibited.
10. The Discharger shall comply with all existing federal and state laws and regulations that apply to sewage biosolids use and disposal practices.

II. PROVISIONS

A. Rescission of WDRs

Board Order No. 6-01-39 is rescinded, along with subsequent amendments.

B. Operator Certifications

The Facility must be supervised by persons possessing a wastewater treatment plant operator certificate of appropriate grade pursuant to CCR, title 23, section 3670 et seq.

C. Standard Provisions

The Discharger must comply with the "Standard Provisions for Waste Discharge Requirements," dated September 1, 1994, in Attachment E, which is made part of this Order.

D. Monitoring and Reporting

The Discharger must comply with the MRP contained in this Order. Effluent and groundwater monitoring are required to determine if plant discharges are impacting waters of the State from known or suspected discharges of waste. Discharges include releases of treated wastewater or treated wastewater regulated by this Order.

E. Crop Plan

As authorized under the California Water Code, section 13267, the Discharger must submit an Agriculture Crop Plan for each upcoming year for both the treatment plant site and the expanded irrigation site. The reporting requirements for the plan are specified in the MRP.

F. Failure to Achieve Agronomic Rates

The Discharger submitted an anti-degradation analysis that shows that the current practice of irrigating crops on the 60-acre field is above an agronomic rate (over-watering), averaged over the year. In their analysis, they show that irrigation of the expanded 95-acre field with the same effluent flow rates will be slightly below the agronomic rate, averaged over a year.

If the effluent flow applied to the full 95-acre area exceeds the agronomic application rate appropriate for the crops on the Discharger's property, averaged over the year, the Discharger must submit to the Water Board a plan to do one of the following:

- Increase the area of crop application;
- Construct additional flow storage reservoirs of sufficient capacity;
- Upgrade the treatment process to full nitrogen removal; or
- Propose an alternative acceptable to the Water Board Executive Officer, unless revised WDRs are necessary because the Discharger proposes a substantial change in the manner or method of disposal.

G. Time Schedule

The Discharger must meet the following time schedule for the agriculture site expansion project.

Milestone	Milestone Type ¹	Schedule
Start of construction	Target	December 4, 2017
Completion of construction	Target	December 31, 2018
Operational level discharging effluent to the full 95-acre fields	Compliance	<u>June 1, 2019</u>

¹Missing target milestones are subject to enforcement if the compliance milestone is not achieved.

I, Patty Kouyoumdjian, 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, Lahontan Region, on September 13, 2017.

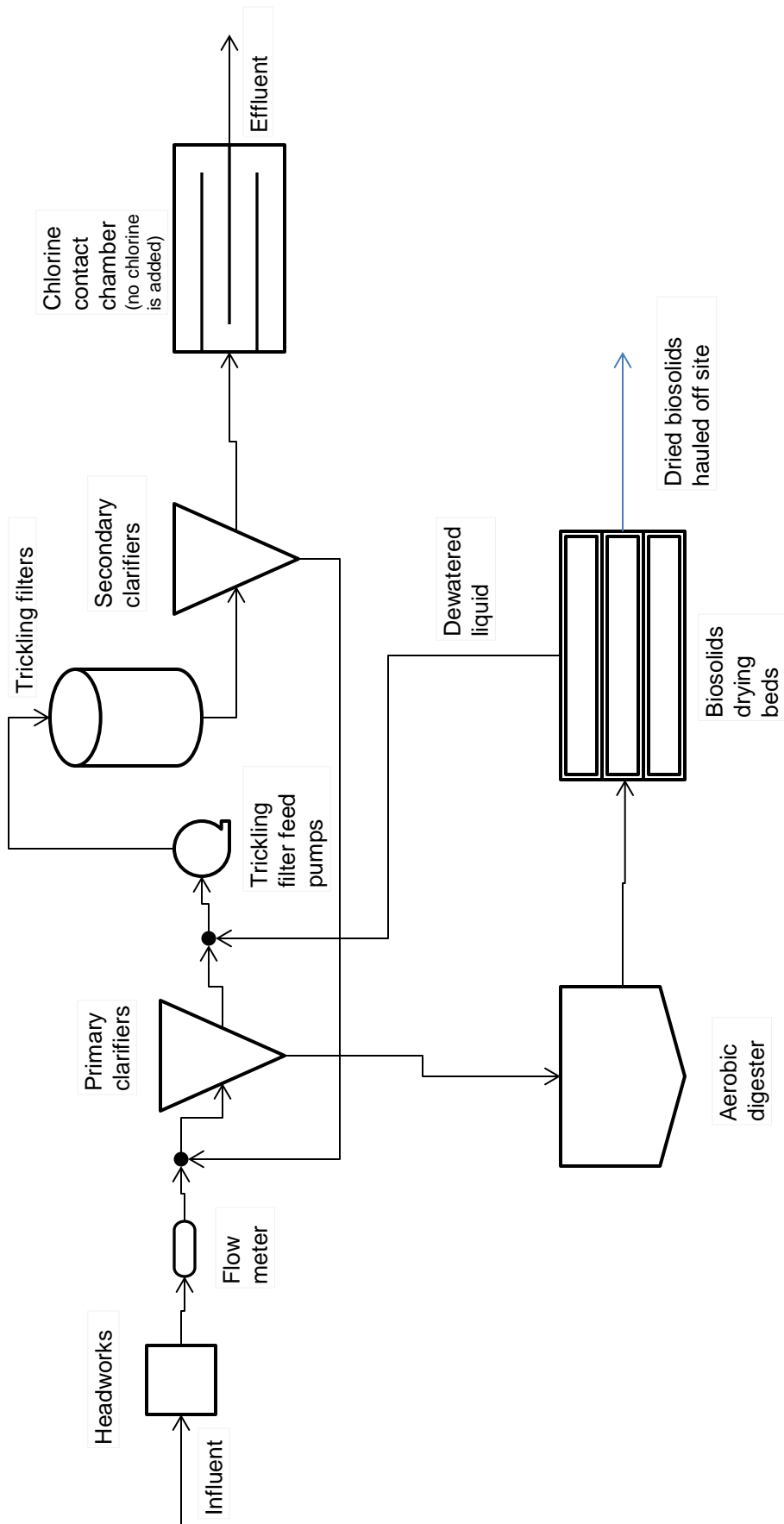
PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Attachments: A. Treatment Plant Schematic
 B. Treatment Plant Site Plan View
 C. Well and Reuse Area Locations
 D. Receiving Groundwater Basin
 E. Standard Provisions for Waste Discharge Requirements

R:\RB6VVL\Shared\PUB\Board Orders 2017\HelendalePlant\HelendaleWDR

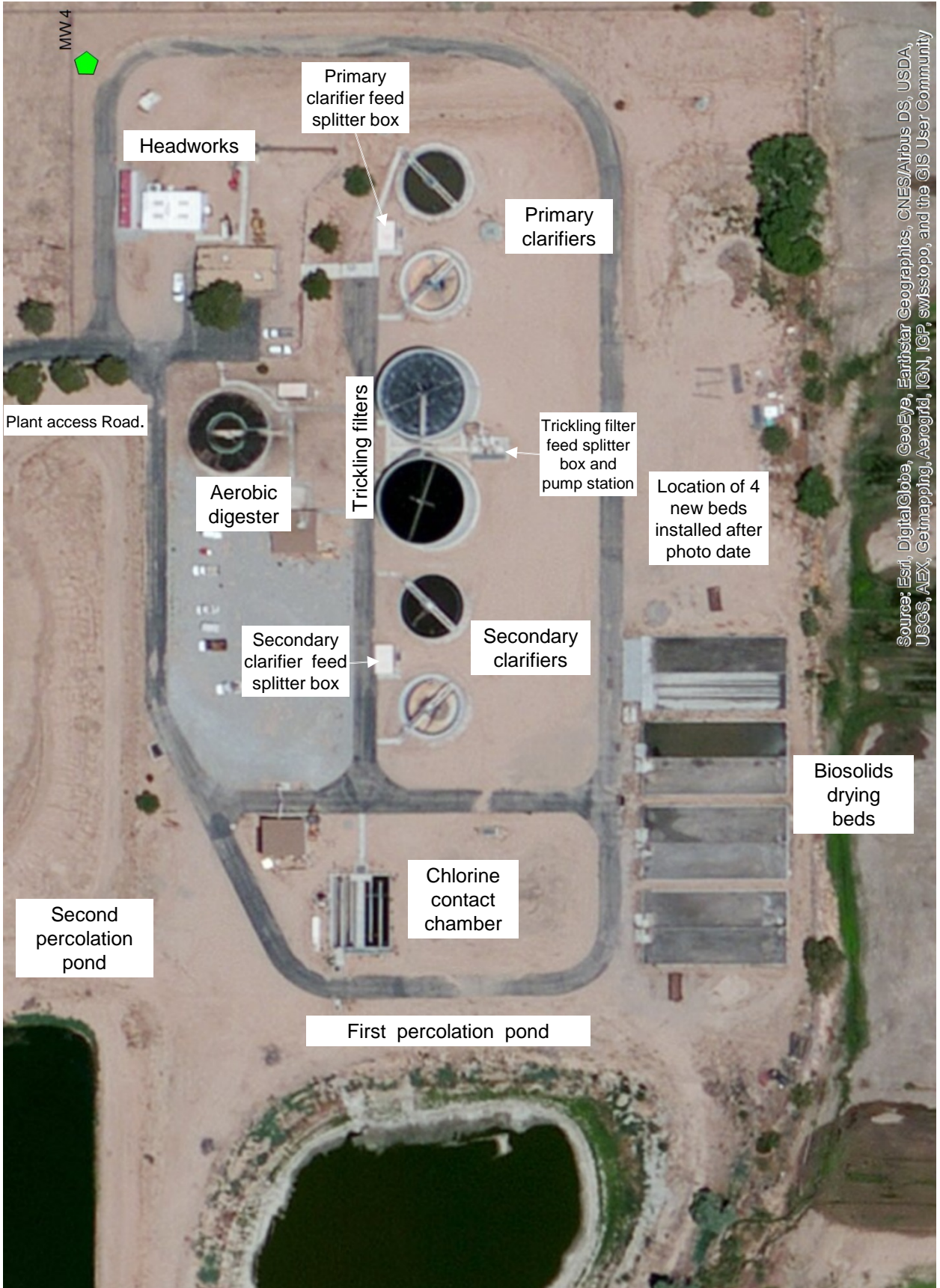
TENTATIVE

Attachment A. Treatment Plant Schematic



Helendale Wastewater Treatment Plant — Process Schematic
As of March 2016

Attachment B. Treatment Plant Site Plan View



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

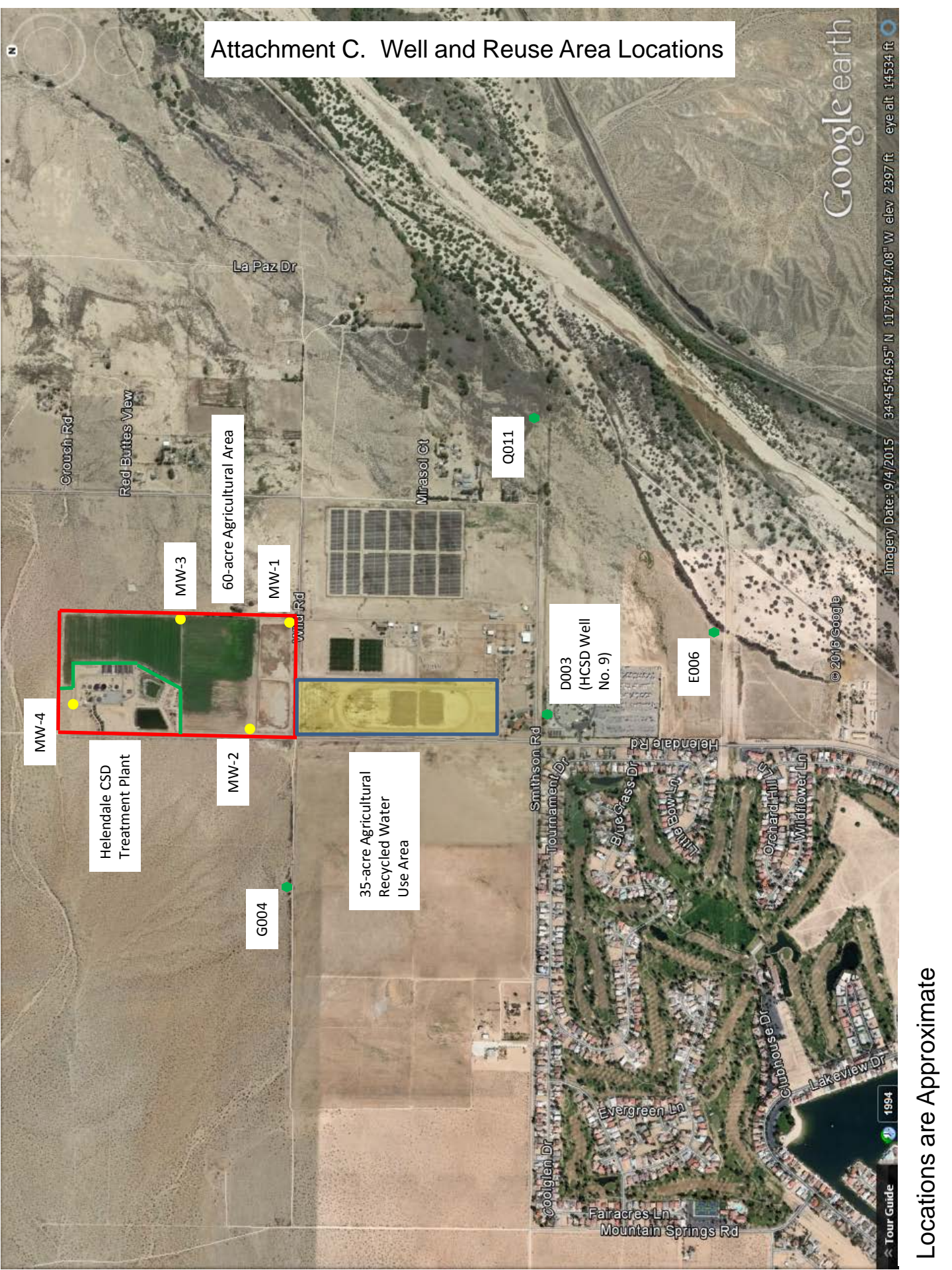


North

Scale:
1:1200
1 in =
100 ft

Monitoring wells are located using Water Board collected GPS Coordinates.

Attachment C. Well and Reuse Area Locations



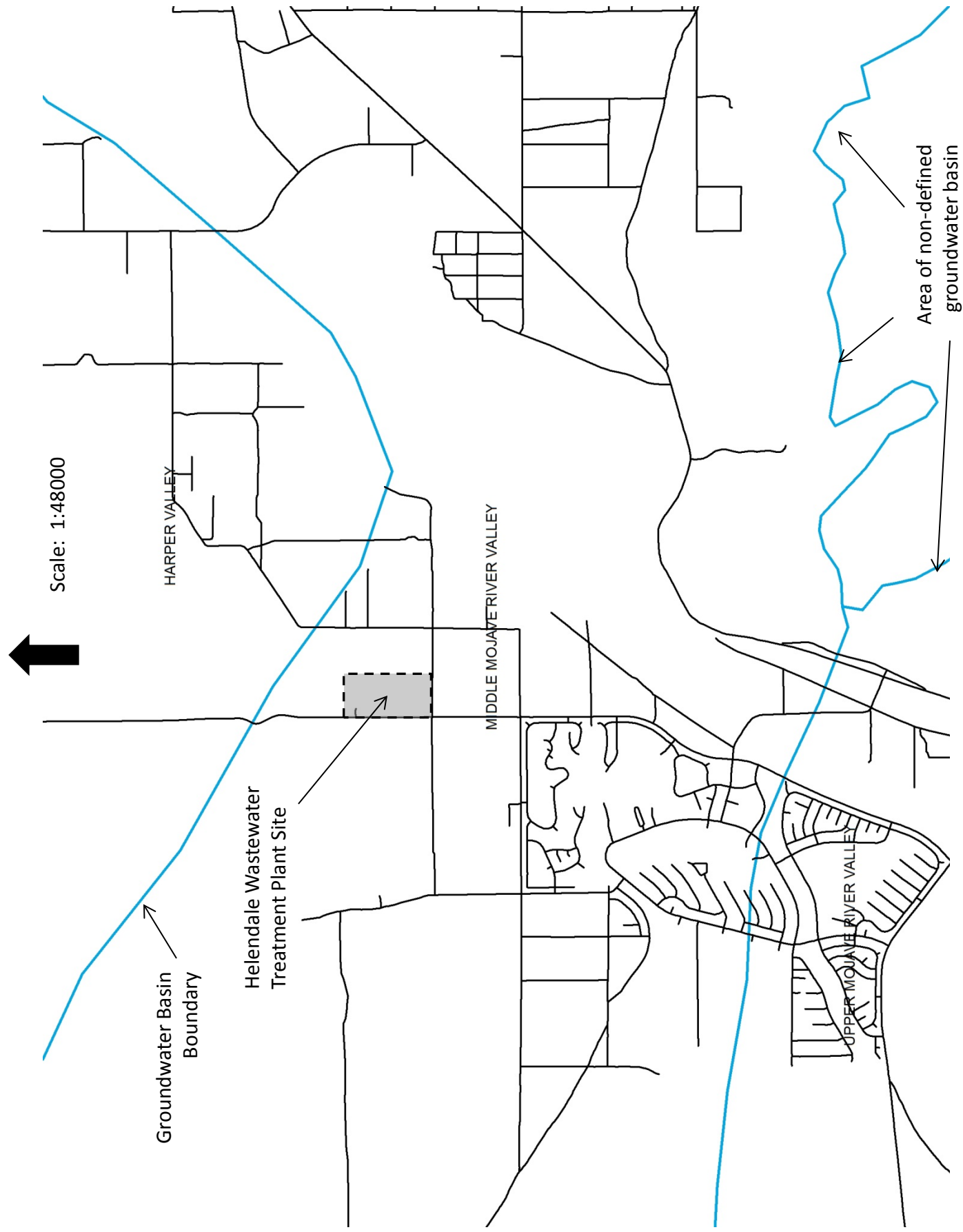
Google earth

Imagery Date: 9/4/2015 34°45'46.95" N 117°18'47.08" W elev 2397 ft eye alt 14534 ft

Tour Guide 1994

Locations are Approximate

Attachment D. Receiving Groundwater Basin



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

- a. to enter upon premises in which an effluent source is located or in which any required records are kept;
- b. to copy any records relating to the discharge or relating to compliance with the Waste Discharge Requirements (WDRs);
- c. to inspect monitoring equipment or records; and
- d. to sample any discharge.

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.
- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.

- f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

The Regional Board reserves the privilege of changing all or any portion of the WDRs upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the WDRs may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and re-issuance, or modification.

5. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the WDRs which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

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 WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

The WDRs may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for waste discharge requirement modification, revocation and re-issuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the WDRs conditions.

8. Property Rights

The WDRs do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the WDRs including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the WDRs shall be kept and maintained by the Discharger and be available at all times to operating personnel.

11. Severability

Provisions of the WDRs are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board's Executive Officer.

14. Definitions

- a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.
- b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MONITORING AND REPORTING PROGRAM
NO. R6V-2017-(TENTATIVE)
WDID NO. 6B361111001**

FOR

**HELENDALE COMMUNITY SERVICES DISTRICT
SILVER LAKES WASTEWATER TREATMENT PLANT**

_____ San Bernardino County _____

I. GENERAL REQUIREMENTS

A. Authorization Basis

The California Regional Water Quality Control Board, Lahontan Region's (Water Board's) authorization for this Monitoring and Reporting Program (MRP) is California Water Code, section 13267.

B. Reports Required

Reports required under this program are as follows:

Report Name	Period	Report Due Date
Routine self-monitoring reports	Quarterly – due the first day of the second month following the quarter: January 1 – March 31 April 1 – June 30 July 1 – September 30 October 1 – December 31	May 1 August 1 November 1 February 1 of following year
Annual report	Annual: January 1 – December 31 of prior year	March 31
Agricultural crop plan and nitrogen removal assessment	Annual – plan for agricultural crop water and nutrient demand for the next year (January 1 – December 31) and assessment of nutrients applied versus removed for the prior year (October 1- September 30)	November 1
Sampling and Analysis Plan	One time, updated as necessary	December 15, 2017
Phase 1 Agricultural area groundwater monitoring well and soil moisture sensor or alternate work plan	One time	December 15, 2017
Phase 1 Agricultural area groundwater monitoring well and soil moisture sensor or approved alternate plan completion report	One time	30 days after well and sensor installation is complete
Baseline and Background water quality concentrations for new monitoring wells and baseline soil moisture for new soil moisture sensors	One time, 8-data minimum over at least one year; soil moisture profile must be obtained from soil moisture sensors.	30 days after obtaining the baseline and background water quality samples from wells and soil moisture sensors

C. Report Submission Mailbox

The Discharger must submit reports in searchable portable data format (pdf) files to Lahontan Water Board's electronic mailbox:

Lahontan@waterboards.ca.gov

In the email subject line, the Discharger must include information that identifies the facility name (Helendale CSD), monitoring period, waste discharge identification number 6B361111001, and electronic mail facility name index "CW-230011."

D. GeoTracker

The Discharger must upload groundwater monitoring data to the State's GeoTracker system. The GeoTracker Global Identification number is WDR100031399. The routine monitoring reports must include a statement that all required GeoTracker data has been uploaded. Information on how to upload data is found at the following State Board internet address:

http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml

E. General Provisions

The Discharger must comply with the "General Provisions for Monitoring and Reporting," dated September 1, 1994, which is made part of this MRP as Attachment A.

F. Reports

1. Data Tables

- a. The Discharger must place the following data into data tables that are a function of date:
 - Flow into the plant;
 - Flow from the plant to the percolation ponds and from the plant to the agriculture sites;
 - Groundwater monitoring data (including field parameters); and
 - Percolation pond freeboard data.
- b. In addition to the .pdf monitoring report submission, the Discharger must submit the data tables to the Water Board in one or more Microsoft Excel® files or one or more comma delimited formatted file.

2. Laboratory Reports

- a. The Discharger must include in the monitoring report all original data sheets from the analytical laboratory.

- b. For sample results greater than or equal to the laboratory's reporting limit (RL), the Discharger must report the results as measured by the laboratory (i.e., the measured chemical concentration in the sample). When sample results are less than the reported RL, yet greater than or equal to the laboratory's Method Detection Limit (MDL), the Discharger must report the results as "Detected, but Not Quantified (DNQ)." The Discharger must also report the estimated chemical concentration of the sample using an appropriate data qualifier (e.g., "J" flag).

3. Compliance Self-Assessment

- a. The Discharger must use Attachment B, or other form with the same information, as a cover letter for all reports provided to the Water Board associated with this program.
- b. The Discharger must provide a written explanation for all numerical and narrative plant effluent violations, including measures to prevent violation reoccurrence, in each report.
- c. The Discharger must provide a written explanation for all numerical and narrative receiving water quality violations, including measures to prevent violation reoccurrence, in each report. Please state whether any data indicate a violation of receiving water quality objectives as a result of the discharge

4. Graphs and Charts

Quarterly reports must include graphs and/or charts covering the monitoring period, where appropriate, to illustrate trends (e.g., effluent and groundwater results). Annual reports must include graphs and/or charts covering at a minimum the three prior years, where appropriate, to illustrate trends (e.g., effluent and groundwater results).

II. MONITORING

A. Flow, Operations, and Pond Conditions Monitoring

The Discharger must record the following:

1. The total volume, in million gallons, of wastewater flow to the treatment facility for each day.
2. The average flow rate, in million gallons per day (mgd), of wastewater to the treatment facility calculated for each month.

3. The maximum daily flow into the facility per month.
4. The total volume of wastewater flow from the plant to the percolation ponds each month.
5. The total volume of wastewater flow from the plant to agriculture fields and other recycled water uses each month.
6. The total volume of wastewater flow from the percolation pond to agriculture fields and other recycled water uses each month.
7. The freeboard (vertical distance from the lowest point of a dike or invert of an overflow structure to the water surface in a pond) of each pond on the last day of the month, to the nearest ¼ foot. If a pond does not contain wastewater, the Discharger must report that the pond is empty.
8. Report of any operational problems and maintenance activities affecting plant performance, effluent discharges, or compliance with waste discharge requirements, and proposed corrective actions, if needed, and a schedule for completion.
9. Report of monthly visual inspections of the Facility, including but not limited to treatment plant area, percolation ponds, monitoring well locations, and agricultural areas. If there is nothing noteworthy for a given month, then that must be noted.

B. Influent Monitoring

The Discharger must monitor plant influent as follows:

Constituent	Units	Sample Type	Frequency
pH	pH Units	Grab	Quarterly
Total suspended solids	mg/L	Grab	Quarterly
Total Kjeldahl nitrogen	mg/L	Grab	Quarterly
Ammonia nitrogen	mg/L as nitrogen	Grab	Quarterly
Nitrate nitrogen	mg/L as nitrogen	Grab	Quarterly

mg/L = Milligrams per liter.

C. Effluent Monitoring

The Discharger must monitor plant effluent as follows:

Constituent	Units	Sample Type	Frequency
Dissolved oxygen	mg/L	Grab	Daily
pH	pH Units	Grab	Daily
Biochemical oxygen demand ¹	mg/L	Grab	Monthly
Total suspended solids	mg/L	Grab	Monthly
Total Kjeldahl nitrogen	mg/L	Grab	Quarterly
Ammonia nitrogen	mg/L as nitrogen	Grab	Quarterly
Nitrate nitrogen	mg/L as nitrogen	Grab	Quarterly
Nitrite nitrogen	mg/L as nitrogen	Grab	Quarterly
Total nitrogen	mg/L as nitrogen	Calculated	Quarterly
Total dissolved solids ²	mg/L	Grab	Quarterly
General minerals series	(varies)	Grab	Annually
Metals series	ug/L	Grab	Annually

¹ The 5-day biochemical oxygen demand at 20°C.

² Annual general minerals includes this constituent.
ug/L = Micrograms per liter.

D. Groundwater Monitoring

There are currently four compliance groundwater monitoring wells at the Facility as noted below. This MRP requires a work plan for constructing additional wells that must be monitored as specified herein, after baseline and background water quality are established.

Well ¹	Top of Casing ²	Top of Screen	Bottom of Screen	Screen Length
MW-1	2404.999	2374.99	2229.99	145 (sic) ³
MW-2	2408.241	2328.24	2278.24	50
MW-3	2424.380	2341.38	2291.38	50
MW-4	2450.284	2370.28	2320.28	50

¹ Survey by Randy Coleman, CA Registered Surveyor, dated March 23, 2016, datum WGS 1984, EPSG: 4326.

² Feet above mean sea level.

³ Water Board staff believe the bottom of screen value to be in error and should be 2329.99 ft, resulting in a screen length of 45 ft.

The Discharger must collect samples from each groundwater monitoring well (existing and new) and analyze the samples as follows:

Constituent	Units	Sample Type	Frequency
Ammonia nitrogen	mg/L as nitrogen	Grab	Quarterly
Chloride ¹	mg/L	Grab	Quarterly
Nitrate nitrogen	mg/L as nitrogen	Grab	Quarterly
Total dissolved solids ¹	mg/L	Grab	Quarterly
Total Kjeldahl nitrogen	mg/L	Grab	Quarterly
Fecal coliform organisms	MPN/100 mL ²	Grab	Semi-Annually, collected in the 2 nd and 4 th Quarter
General minerals series	(varies)	Grab	Annually, collected in the 4 th Quarter
Metals series	ug/L	Grab	Annually, collected in the 4 th Quarter
Volatile organic compounds	ug/L	Grab	Annually, collected in the 4 th Quarter

¹ Annual general minerals typically includes this constituent.

² Most probable number per 100 milliliters.

E. Soil Moisture Monitoring in the Expanded Crop Area

The Discharger will monitor the irrigation of the expanded 95-acre crop area by one of the following means:

- 1) Preferred, install soil moisture sensors in the expanded 95-acre crop area, two soil moisture probes in the 60-acre area and two soil moisture probes in the 35-acre area, at depths of 2.5 feet, 5.0 feet, and 7.5 feet, for a total of 12 soil moisture sampling locations;
- 2) Alternatively, propose a methodology to monitor downward movement of the soil moisture front and to demonstrate and establish that the crops are being irrigated at an agronomic rate averaged over the year; or
- 3) Propose an alternate technology to soil moisture sensors that will monitor movement of the soil moisture front and that will demonstrate the crops are being irrigated at an agronomic rate averaged over the year.

The sampling schedule for the 12 soil moisture sensors is as follows:

Constituent	Recording	Reporting
Soil tension	Continuous	Quarterly

F. United States Geological Survey (USGS) Wells Monitoring

The Discharger must collect groundwater elevation data from the following USGS wells as close to the same day as the fourth quarterly monitoring well sample

event, report the values in each annual report, and utilize these values to produce the annual groundwater surface elevation map. Continuous groundwater elevation data may be obtained by accessing the USGS website.

- USGS Well No. 008N004W19G004
- USGS Well No. 008N004W29Q011
- USGS Well No. 008N004W29E006

G. General Minerals Series Constituents

Whenever the MRP specifies the general minerals series, the Discharger must monitor and report each of the following constituents:

General Minerals Constituents	Units
Cations	
Ammonium	mg/L and meq/L
Calcium	mg/L and meq/L
Magnesium	mg/L and meq/L
Potassium	mg/L and meq/L
Sodium	mg/L and meq/L
Total Cations sum	Meq/L
Anions	
Bicarbonate	mg/L and meq/L
Carbonate	mg/L and meq/L
Chloride	mg/L and meq/L
Fluoride	mg/L and meq/L
Nitrate	mg/L and meq/L
Sulfate	mg/L and meq/L
Total Anions sum	Meq/L
Other Measured Constituents	
Specific conductance	uS/cm
Total alkalinity	mg/L as calcium carbonate
Total dissolved solids	mg/L
Total hardness	mg/L as calcium carbonate

Meq/L – Milli-equivalents liter.
uS/cm – Microseimens per centimeter.

H. General Metals Series Constituents

Whenever the MRP specifies the general metals series, the Discharger must monitor and report the following constituents in the dissolved phase:

Constituent	Units
Antimony	ug/L
Arsenic	ug/L
Barium	ug/L
Beryllium	ug/L
Cadmium	ug/L
Chromium	ug/L
Cobalt	ug/L
Copper	ug/L
Lead	ug/L
Mercury	ug/L
Molybdenum	ug/L
Nickel	ug/L
Selenium	ug/L
Silver	ug/L
Thallium	ug/L
Vanadium	ug/L
Zinc	ug/L

I. Groundwater Sampling Events

1. Field Parameters

The Discharger must collect and record field parameters during each groundwater monitoring well sampling event. The parameters are the following:

Parameter	Units
Static water depth	Feet below ground surface
Electrical conductivity	µS/cm
pH	pH units
Temperature	° Celcius
Dissolved Oxygen	mg/L
Turbidity	NTU
Color	Visual

NTU – Nephelometric turbidity units.

2. Well Purging Methodology

The Discharger must describe the well purging methodology for each groundwater monitoring well sampling event. The recommended method is low flow purging and sampling procedures, as described by the United States Environmental Protection Agency (USEPA) to minimize drawdown when collecting samples. See: <https://www.epa.gov/sites/production/files/2015-06/documents/EQASOP-GW001.pdf>

3. Groundwater Maps

In each annual report, the Discharger must submit a scaled groundwater contour elevation map showing groundwater level elevations from the previous quarterly sampling event to the nearest 1 foot. A California State licensed professional civil engineer or professional geologist must prepare and/or approve the contour map.

J. Semi-Annual and Annual Sampling Schedules

1. The Discharger must collect semi-annual samples in two months of the calendar year that are six months apart, e.g. April and October, March and September, February and August, etc. consistent sampling events are preferred in the Spring and Fall periods.
2. The Discharger must collect samples with an annual frequency during the last quarter of the calendar year (October to December).

K. Biosolids Monitoring

The plant is a publicly owned treatment plant under the Clean Water Act. Therefore, the Discharger must sample, report, and otherwise manage biosolids in compliance with the Code of Federal Regulations, title 40, Part 503, as required by the USEPA.

L. Annual Crop Plan

The Discharger must submit an annual crop plan by **November 1** for the upcoming year (Jan 1 – Dec 31). The Discharger must include the following items in the plan, for each agricultural field, on a month-to-month basis:

1. Agricultural field location using a USGS 7.5-minute topographic quadrangle map or other appropriately scaled map.
2. Acreage, crop names, and types of crop (i.e. fodder, seed, or other).
3. Approximate planting dates.
4. Approximate harvest dates.
5. Irrigation method(s).
6. Expected volume of water applied to each field based on crop needs, irrigation efficiency, evapotranspiration and need for maintenance leaching, and the basis for calculations including field data or references.
7. Expected amount of nitrogen applied to each crop from all sources including estimates of nitrogen available in the root zone.

8. Expected amount of nitrogen in each harvested crop per harvest and expected total amount of nitrogen removed from each field per year.
9. Assessment regarding whether nitrogen will be over or under applied to the agricultural fields to supply crop demand.

M. Annual Nitrogen Removal Assessment

The Discharger must submit a nitrogen removal assessment for the prior water year (October 1 – September 30) by **November 1** each year. This annual nitrogen removal assessment must contain the following information on a month-by-month basis for the calendar year.

1. The Discharger must have a certified soil scientist or qualified agronomist calculate the amount of water and nitrogen applied to fields or is available to the crops per field through fixation. The appropriate certifications and/or qualifications of the soil scientist or agronomist must be included with each annual report. The analyses must compare the actual water and nitrogen applications to those predicted in the previous year's annual crop plan and discuss any significant differences.
2. For each field harvest, the Discharger must include in the assessment the total amount of nitrogen harvested based on the results of site-specific plant tissue analyses. The Discharger may use conservative estimates in lieu of site-specific plant tissue analysis provided the Discharger justifies the estimate using literature references. The Discharger may determine field production using the product of the number of bales and average bale weight. The Discharger must compare the results of this calculation to the total amount of nitrogen applied to the crop from all sources (plant effluent, other water, fertilizer, and fixation). The Discharger must address any significant differences between actual water use and predicted annual crop plan use.
3. The Discharger must derive the water and nutrient balance for the year and crop cycle. The balance must include the amount of water and nutrients that are applied to each field, water losses due to irrigation inefficiency, evapotranspiration, and the amount of water in storage in the vadose zone or available for percolation below the root zone. The Discharger must compare these values to the values proposed in the annual crop plan.

If Facility effluent is blended with irrigation-supplied water to meet an increased water demand during warmer seasons, or for other reasons, the Discharger must determine and report the quantity of both Facility effluent and irrigation-supplied water. The Discharger must also determine and report the nitrogen content of irrigation-supplied water.

If Facility effluent is applied to crops in excess of an appropriate agronomic rate, averaged over the year, the Discharger will state this fact in their annual

crop plan and propose corrective measures and an implementation schedule that may include, but are not limited to:

- Increase the area of crop application;
- Construct additional flow storage reservoirs of sufficient capacity; or
- Upgrade the treatment process to full nitrogen removal.

III. ROUTINE REPORTS

A. Quarterly Reports

Each quarterly report must provide information on: (1) general operations, (2) operational problems, (3) compliance assessment, (4) data from the monitoring section of this program, and (5) agriculture use data. Quarterly reports must be submitted to the Water Board in accordance with the following schedule:

Report Designation	Period	Due Date
First Quarterly Monitoring Report	January 1 – March 31	May 1
Second Quarterly Monitoring Report	April 1 – June 30	August 1
Third Quarterly Monitoring Report	July 1 – September 30	November 1
Fourth Quarterly Monitoring Report	October 1 – December 31	February 1

The reports must bear the certification and signature of the Discharger's authorized representative.

B. Annual Report

The Discharger must submit an **annual report by March 31** of each year that covers the period from January 1 through December 31 of the previous calendar year. The information that must be submitted to complete the report is the following:

1. Facility site map showing treatment plant, disposal and recycled water components, and monitoring well locations.
2. Graphs and tables of groundwater elevations versus time for each monitoring well.
3. Graphs and tables showing long term trends in effluent concentrations for the following constituents: ammonia, biochemical oxygen demand, total dissolved solids, total Kjeldahl nitrogen, total nitrogen, and total suspended solids.
4. Compliance record and corrective actions taken or planned to bring the discharge into full compliance with waste discharge requirements.

5. Modifications or additions, or major maintenance conducted on flow measuring equipment, treatment facilities, or disposal facilities during the past year. If none, then so state.
6. Analysis of groundwater quality trends with respect to receiving water quality objectives comparing upgradient and downgradient wells.
7. Description of the soil moisture wetting front depth as reported from the soil moisture sensor data or other approved alternate methods.
8. Names and grades of all certified operators.

IV. MONITORING WELL AND SOIL MOISTURE SENSOR REPORTS

A. Groundwater Monitoring Well and Soil Moisture Sensors Installation (or Alternate Methods) Work Plan

By **December 15, 2017**, the Discharger must submit a proposed Work Plan for installing additional groundwater monitoring wells and soil moisture sensors in the crop fields (or alternate methods). The Discharger must submit the Work Plan within a reasonable amount of time prior to use of the Phase 1 expanded agricultural area. The Discharger should also allow sufficient time for establishing background water quality.

A California licensed professional geologist or professional civil engineer must prepare and sign the Work Plan and Well Completion Report.

At a minimum, the Work Plan and Well Completion Report must include the following proposed information:

1. Proposed locations of groundwater monitoring wells and soil moisture sensors;
2. Construction details for each well and sensor installed;
3. Installation methods for wells and sensors;
4. Investigation-related waste disposal;
5. Well and soil moisture sensors (or alternate method) sampling procedures; and
6. Geologic cross-sections showing the subsurface and groundwater table elevation that include wells MW-1, MW-2, MW-3, MW-4, the three USGS wells sampled for groundwater elevation listed in the WDRs (8N4W19G04, 8N4W29E06, 8N4W21M04), and all of the new monitoring wells installed to

meet the requirements of this section. All wells may be projected onto one cross-section, or may be shown on several different cross-section maps, provided the appropriate cross-section line is included on a site map.

7. The Work Plan must include a time schedule for installing additional groundwater monitoring wells in appropriate locations and screened across an appropriate interval to collect groundwater samples to satisfy these objectives:
 - a. Establish and monitor background groundwater quality changes over time at a location upgradient of the 35-acre expanded agricultural area;
 - b. Establish baseline groundwater quality, and monitor changes over time at a location downgradient of the 35-acre expanded agricultural area;
 - c. Include a Work Plan to replace groundwater monitoring well MW-1, reported damaged by the Discharger;
 - d. Establish baseline groundwater quality, and monitor changes over time at a location approximately mid-way between the 60-acre existing agricultural area and the nearest downgradient residential drinking water well; and
 - e. Establish baseline groundwater quality and monitor changes over time at a location hydraulically upgradient of existing monitoring well MW-2, located south of the percolation ponds, containing elevated total dissolved solids concentrations. This well should be established in an appropriate location to establish background water quality for the Facility.
8. The Work Plan must include a proposal and time schedule for installing a minimum of two soil moisture sensors in the existing 60-acre field and two soil moisture sensors in the new 35-acre field at depths of 2.5 feet, 5.0 feet, and 7.5 feet. The purpose of installing soil moisture sensors is to determine if excess watering is occurring during the winter months, and if so, to track its downward movement. If the Discharger proposes an alternative method to monitor soil moisture or establish the crop agronomic application rates in the Work Plan, please describe this methodology.

B. Well Construction and Soil Moisture Sensor Completion Report

Within **30 days of well completion**, the Discharger must submit a Completion Report for the groundwater monitoring wells and soil moisture sensors (or approved alternate method). The Completion Report must include the following:

1. As-built construction details, including protective vault details, for each well and sensor.

2. A copy of the well completion report and evidence that the Discharger has submitted the well completion report to the California Department of Water Resources to comply with Water Code section 13750 et seq.
3. Boring logs or other relevant geological information, including narrative interpretation of the boring logs.
4. Map showing locations and identifiers of all the soil moisture sensors and groundwater monitoring wells.
5. Professionally surveyed well and sensor locations reported to six significant digits beyond the decimal point (e.g. N 34.123456, W117.123456) for the X and Y coordinates, as determined by a California registered land surveyor.
6. Well elevation for the Z coordinates to the nearest 0.01 foot, as determined by a California registered land surveyor.
7. Well depths as referenced to the surveyed ground surfaces or well measuring point elevation (top of casing).
8. Well screened intervals as referenced to the surveyed top of casing elevations.

C. Baseline and Background Water Quality Report

The Discharger must submit a Baseline and Background Water Quality Report for background groundwater monitoring well(s) within **30 days following the last water quality sampling event**. The report must present the baseline and background water quality constituent values based on analysis of the values in the baseline and background water quality constituent data set. The Discharger must use either of the following two methods in determining baseline and background values:

1. Using the following prescriptive method, at least 8 data sets must be obtained, then

When the number of baseline and background water quality results are:	Then the baseline and background water quality value is:
8 to 29 per well	Either: the maximum value of the data set, or the value at the upper 99% confidence interval using the Student "t" test.
30 or more per well	Either: the maximum value of the data set, or the value at the upper 99% confidence interval using the normal distribution.

2. An alternative method for determining the baseline and background water quality value may be used, providing the Discharger explains the alternative method and is approved by the Executive Officer.
3. Background values must be established for the following constituents as a minimum: chloride, nitrate, pH, sulfate, and total dissolved solids.
4. Samples must be collected within a one-year period across all four seasons. The purpose is to collect a statistically significant number of independent measurements that span at least one year and four seasons to observe any seasonal variability in constituent concentration.
5. For newly installed groundwater monitoring well data, complete a trend analysis after at least eight samples have been collected from newly installed wells to calculate background water quality. Submit the results 30 days after the last sample is collected. In subsequent reports, provide a comparison of the groundwater constituent concentrations to background water quality using any of the parametric or non-parametric trend analysis methods described in the USEPA *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance*, (March 2009) or the latest edition.

VI. SAMPLING AND ANALYSIS PLAN

By **December 15, 2017**, pursuant to General Provisions No. 1.d of the General Provisions for Monitoring and Reporting, submit a revised Sampling and Analysis Plan (SAP). The SAP must be stamped and signed by a California professional geologist or a professional civil engineer and accepted by the Water Board's Executive Officer. The SAP must include a detailed description of procedures and techniques for all sampling and analysis of all media, including effluent, soil moisture samples, plant tissue, and groundwater.

1. Sample collection, sample locations, including purging techniques, sampling equipment, and decontamination of sampling equipment;
2. Groundwater well purging methods;
3. Groundwater well sample collection methods;
4. Sample preservation and shipment;
5. Analytical methods and procedures;
6. Copy of chain of custody forms;
7. Quality assurance and quality control (QA/QC) methods; and
8. Frequency of calibration for any onsite field equipment or flow meters.

As described in General Provision No. 1.d, the Discharger must keep the most recent version of the SAP at the treatment plant.

HELENDALE CSD
SILVER LAKES
WASTEWATER TREATMENT PLANT
SAN BERNARDINO COUNTY

- 16 -

MONITORING AND REPORTING PROGRAM
NO. R6V-2017-(TENTATIVE)
WDID No. 6B361111001

Ordered by: _____ Dated: _____
PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

- Attachments: A. General Provisions for Monitoring and Reporting, dated
September 1, 1994
B. Lahontan Monitoring Report Cover Letter Form

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TENTATIVE

Attachment A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. SAMPLING AND ANALYSIS

- a. All analyses shall be performed in accordance with the current edition(s) of the following documents:
 - i. Standard Methods for the Examination of Water and Wastewater
 - ii. Methods for Chemical Analysis of Water and Wastes, EPA
- b. All analyses shall be performed in a laboratory certified to perform such analyses by the California State Department of Health Services or a laboratory approved by the Regional Board Executive Officer. Specific methods of analysis must be identified on each laboratory report.
- c. Any modifications to the above methods to eliminate known interferences shall be reported with the sample results. The methods used shall also be reported. If methods other than EPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board prior to use.
- d. The Discharger shall establish chain-of-custody procedures to insure that specific individuals are responsible for sample integrity from commencement of sample collection through delivery to man approved laboratory. Sample collection, storage, and analysis shall be conducted in accordance with an approved Sampling and Analysis Plan (SAP). The most recent version of the approved SAP shall be kept at the facility.
- e. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and equipment to ensure accuracy of measurements, or shall insure that both activities will be conducted. The calibration of any wastewater flow measuring device shall be recorded and maintained in the permanent log book described in 2.b, below.
- f. A grab sample is defined as an individual sample collected in fewer than 15 minutes.
- g. A composite sample is defined as a combination of no fewer than eight individual samples obtained over the specified sampling period at equal intervals. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever period is shorter.

2. OPERATIONAL REQUIREMENTS

a. Sample Results

Pursuant to California Water Code Section 13267(b), the Discharger shall maintain all sampling and analytical results including: strip charts; date, exact place, and time of sampling; date analyses were performed; sample collector's name; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

b. Operational Log

Pursuant to California Water Code Section 13267(b), an operation and maintenance log shall be maintained at the facility. All monitoring and reporting data shall be recorded in a permanent log book.

3. REPORTING

- a. For every item where the requirements are not met, the Discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.
- b. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- c. The Discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.
- d. Monitoring reports shall be signed by:
 - i. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;
 - ii. In the case of a partnership, by a general partner;
 - iii. In the case of a sole proprietorship, by the proprietor; or

- iv. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official, or other duly authorized employee.
- e. Monitoring reports are to include the following:
 - i. Name and telephone number of individual who can answer questions about the report.
 - ii. The Monitoring and Reporting Program Number.
 - iii. WDID Number.
- f. Modifications

This Monitoring and Reporting Program may be modified at the discretion of the Regional Board Executive Officer.

4. NONCOMPLIANCE

Under Section 13268 of the Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

x:PROVISIONS WDRS

file: general

Date _____

California Regional Water Quality Control Board
Lahontan Region
14440 Civic Drive, Suite 200
Victorville, CA 92392

Facility Name: _____

Address: _____

Contact Person: _____

Job Title: _____

Phone: _____

Email: _____

WDR/NPDES Order Number: _____

WDID Number: _____

Type of Report (circle one): **Monthly** **Quarterly** **Semi-Annual** **Annual** **Other**

Month(s) (circle applicable month(s)*): **JAN** **FEB** **MAR** **APR** **MAY** **JUN**
JUL **AUG** **SEP** **OCT** **NOV** **DEC**

*annual Reports (circle the first month of the reporting period)

Year: _____

Violation(s)? (Please check one): _____ **NO** _____ **YES***

*If YES is marked complete a-g (Attach Additional information as necessary)

a) Brief Description of Violation: _____

b) Section(s) of WDRs/NPDES Permit Violated: _____

c) Reported Value(s) or Volume: _____

**d) WDRs/NPDES
Limit/Condition:**

**e) Date(s) and Duration of
Violation(s):**

f) Explanation of Cause(s):

g) Corrective Action(s)
(Specify actions taken and a schedule
for actions to be taken)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision following a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my knowledge of the person(s) who manage the system, or those directly responsible for data gathering, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

If you have any questions or require additional information, please contact _____ at the number provided above.

Sincerely,

Signature: _____

Name: _____

Title: _____