CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. R2-2015-0019

WASTE DISCHARGE REQUIREMENTS for:

TOMALES VILLAGE COMMUNITY SERVICES DISTRICT
TOMALES VILLAGE COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT PLANT
TOMALES, MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board or Board), finds that:

1. **Discharger.** Tomales Village Community Services District (the Discharger) is a government agency dedicated to operating and maintaining the Tomales Village Community Services District Wastewater Treatment Plant (Facility) that serves approximately 100 residences in Tomales, less than ten commercial businesses and restaurants within the community, and the Shoreline Unified School District located in Tomales. The Discharger is legally responsible for the wastewater system and the discharges of wastewater to land regulated by this Order and for compliance with this Order. The wastewater system is managed and operated by wastewater treatment operators employed by the Discharger.

2. **Purpose of Order.** The purpose of this Order is to update Waste Discharge Requirements (WDRs) to reflect current conditions at the Facility, including, but not limited to, the following:

   a. Updated regulatory requirements;
   b. Facility improvements, including conversion into a three-stage treatment pond system, installation of a fats, oils, and grease interceptor, and upgrade of the discharge system;
   c. Permitted change from seasonal to conditional discharge to the discharge area (by this Order);
   d. Discontinued discharge of wastewater to the school district irrigation ponds; and
   e. Changes to the self-monitoring program since the WDRs were last updated in 1986.

   This Order also rescinds previous Water Board Order No. 86-086.

3. **History of the Order.** The Discharger previously treated and discharged wastewater pursuant to Order No. 86-086, Water Reclamation Requirements for North Marin County Water District - Tomales Sewage Treatment Plant, Town of Tomales, Marin County, adopted on November 19, 1986. The previous owner and operator of the Facility, the North Marin County Water District, transferred ownership of the Facility to the Discharger on April 20, 1999.

4. **Report of Waste Discharge**. The Discharger submitted a renewed Report of Waste Discharge (ROWD) for the Facility, dated September 28, 2001, to apply for reissuance of the WDRs to reflect the operational changes in the Facility's wastewater system. The Facility operated in compliance with the renewed ROWD under California Water Code (CWC) section 13264. This Order addresses the changes described in the 2001 ROWD and subsequent changes and upgrades to the original system. This Order authorizes WDRs for the system that is in place and operating at the time of this Order.

5. **Waste Discharge Requirements**. This Order prescribes WDRs for the current, upgraded Facility and supersedes Order No. 86-086.

Site Description and Location

6. **Discharge Origin and Facility Location**
   a. **Tomales**. The 0.33 square-mile town of Tomales (Tomales), including the Shoreline Unified School District, is situated in the Coast Range of northwest Marin County, approximately three miles northeast

of Tomales Bay. Tomales is located in between Stemple Creek, approximately 1.5 miles to the north, and Keys Creek immediately to the south.

b. **Facility Location**. The Facility is located northeast of the intersection of State Route 1 and Tomales-Petaluma Road, in northwestern Marin County, within Tomales.

Attachment A of this Order is a plan view drawing depicting the location and boundaries of the Facility.

Wastewater System Design, Construction, and Operation

7. **Wastewater Facility Overview**. For purposes of this Order, the wastewater system is comprised of all equipment, control, and monitoring systems located on the Facility that provide collection, conveyance, treatment, storage, and discharge of wastewater entering the Facility. For purposes of this Order, the Facility includes both the parcel where the three-stage treatment pond system is located and the storage ponds and spray irrigation field (discharge area) located approximately 3,600 feet south and across Tomales-Petaluma Road.

   Attachment B of this Order is a flow diagram illustrating the current wastewater treatment and discharge processes and flows.

8. **Wastewater Sources and Flows**. Wastewater is generated from the Tomales residences and the Shoreline Unified School District as sanitary wastewater. The design flow capacity of the three-stage treatment pond system, and average dry weather flow rate authorized by this Order, is 43,000 gallons per day (GPD).

9. **Collection System**. The collection system consists of approximately 2.6 miles of six- and eight-inch-diameter gravity sewer mains. The collection system includes one lift station equipped with two grinder sewage pumps capable of delivering 22 gallons per minute of influent. One pump acts as a standby unit and is used in the event that the primary pump becomes inoperable. The collection system is permitted under the General Order for Sanitary Sewer Systems (see Finding 36).

   Attachment C of this Order is a map of the district boundaries and collection system.

10. **Comminutor.** Collected wastewater influent flows first into the comminutor for screening of larger solids as primary treatment. The comminutor cuts and shreds particles in the influent, reducing the material to a size that will pass through ¼-inch wide slots. On a weekly basis, operators manually remove the larger solids screened out by the comminutor (see Discharge Specification B.11).

11. **Fats, Oils, and Grease Interceptor.** Wastewater is conveyed downstream for further primary treatment in a 2000-gallon Selvage three-chamber fats, oils, and grease (FOG) interceptor unit, after the comminutor and in line before the three-stage treatment pond system. The FOG interceptor screens and detains solids and FOG before the influent goes to the first pond of the three-pond system. The FOG interceptor is serviced quarterly: a licensed septic waste hauler removes accumulated solids and takes them offsite for disposal (see Discharge Specification B.11).

12. **Three-stage Treatment Pond System**
    a. **Facility Upgrade**. In spring 2010, the Discharger completed improvements to the treatment facilities, resulting in three lined and mechanically-aerated ponds. The Discharger converted the original sand filter in existence in 2010 into the first treatment pond. The treatment lagoon in existence in 2010 was divided into two additional treatment ponds, plumbed in series with the first pond. All three ponds were lined with a 30-year Hypalon (chlorosulfonated polyethylene synthetic rubber) liner. The combined capacity of the three ponds is approximately 1.3 million gallons, with two feet of freeboard.

b. **Pond Order**. The first pond receives the primary influent from the FOG interceptor. The first pond is the first stage of the treatment pond system and provides secondary treatment through aeration and settling. The second pond increases the secondary treatment through further aeration and settling. The third pond, though also equipped with an aerator, is usually not aerated: it passively functions as the settling and polishing pond before conveyance of the secondary effluent to the storage ponds.

c. **Backup Aeration System.** The three ponds of the new three-stage treatment pond system are each equipped with an aerator. The system incorporates a backup aeration system: in the event that an aerator becomes inoperable, the order of the ponds may be reconfigured such that the remaining functioning aerators in the pond can provide optimal mixing characteristics and oxygen to prevent the pond from becoming anaerobic and causing an odor problem. Further, the stage order of all three ponds may be reconfigured according to Attachment D to accommodate for any temporal dysfunctions or non-operation in any part of the system.

Attachment D of this Order is an illustration of the components and specifications and an overview of the permitted configurations of the three-stage treatment pond system.

13. **Lift Station**. The Facility has one lift station, located at the intersection of State Route 1 and Tomales-Petaluma Road. The lift station pumps secondary effluent from the three-stage treatment pond system to the storage ponds. The Facility uses two Gould 5CLC 15 horsepower pumps, which are set to operate on a rotating basis for equal wear and redundancy, and can be used in tandem if necessary.

14. **Storage Ponds**. The Facility pumps treated secondary effluent from the three-stage treatment pond system to the two storage ponds: West Pond and East Pond. The effluent may be directed into either or both ponds at any time. The two ponds are both clay-lined ponds, with a combined maximum storage capacity of 10.1 million gallons. The storage ponds occupy a 10-acre site south of the Tomales-Petaluma Road, south of Keys Creek and the three-stage treatment pond system, and directly north of the discharge area.

15. **Disinfection.** A diffuser located in the discharge pipe mixes liquid sodium hypochlorite into the secondary effluent, conveyed from the storage pond(s), for disinfection before discharge. The secondary effluent and chlorine solution are mixed in the discharge pipe for a contact period of approximately twenty-seven minutes. The disinfected secondary effluent is then pumped onto the discharge area via spray irrigation.

16. **Discharge Area.** Disinfected secondary effluent is discharged to land via spray irrigation onto a 21-acre vegetated gently sloping hillside field, fenced and gated, located downhill of the storage ponds, and about 3,600 feet south of the wastewater treatment ponds. This irrigation field is also known as the discharge area for the Facility. The irrigation field is occasionally grazed by neighboring steers.

17. **Collection Ditch**. A runoff collection ditch surrounding the irrigation field prevents effluent runoff from discharging offsite and also intercepts the rainfall run-on from adjacent fields. A collection sump at the base of the irrigation field will send an alarm to the programmable logic controller to automatically shut off the irrigation pumps if the water level reaches a level predefined by the operators and specified in the Operation and Maintenance Manual.

18. **Discharge System**. The irrigation system has eight zones fitted with seven large nozzle type guns, with one converted to two lines with an array of 35 Rain Bird sprinklers. Each of the eight zones is rated to deliver 80-100 gallons per minute, spreading the effluent over a large area. Each zone can be programmed to run multiple cycles. The entire irrigation system is integrated into the system-wide Supervisory Control and Data Acquisition (SCADA) system with predefined alarm call-out points and remote access for emergency shutdown or reconfiguration of irrigation time and cycles.

19. Discharge Operations

a. **Past Seasonal Operation**. Order No. 86-086 authorized seasonal operation of the Facility's irrigation field. Under that order, reclaimed water could not be applied during the wet weather season (November 15 through April 15, as defined by that order), when the ground was saturated, or during periods when rainfall or runoff from adjacent land could occur. The irrigation system was operated under Order No. 86-086 via an automatic timer during the dry season and discharged approximately 25,000 GPD on average, for the months when discharge occurred, based on 2012-2013 daily and weekly effluent discharge data.

b. **"1998 Winter Irrigation Plan" for Emergency Discharges.** In 1998, Water Board staff approved the Facility's "1998 Winter Irrigation Plan," which allowed for the release of emergency discharges via spray irrigation from the storage ponds to the irrigation field during the wet weather season (November 15 through April 15). These releases have allowed for the maintenance of safe water levels in the storage ponds from 1998 until the time of this Order.

c. **Change from Seasonal to Conditional Discharge**. This Order rescinds the Winter Irrigation Plan (and Order No. 86-086) and authorizes a change in the discharge system operation from seasonal discharge to conditional discharge to preclude uncontrolled runoff and the need for emergency discharge during rainfall periods and to maintain appropriate holding capacity for the storage ponds. The conditional discharge operation allows the Discharger to manage discharges of treated wastewater in accordance with prevailing environmental conditions and notification requirements instead of the former fixed-calendar basis. This Order includes requirements for control of all discharges, including complete treatment, final effluent quality in compliance with the Order, and assessment of soil, weather, and discharge conditions to prevent ponding or runoff. Discharge from the storage ponds to the irrigation field is not authorized if it is determined that ponding or runoff from the site would occur (see Discharge Specification B.3).

20. Recycled Water Feasibility Study. In 2009, the Discharger conducted a Wastewater Treatment Plant Water Reclamation & Reuse Tertiary Treatment Feasibility Study. The study was initiated to assess the feasibility for a proposed Tertiary Treatment and Recycling Project, a joint plan with the Shoreline Unified School District to construct a filtration and disinfection system to produce tertiary treated water for recycling and reuse to supplement the school's water needs and to help replenish the groundwater in the Tomales Bay watershed. The Discharger concluded, based on the results of the study, that the project is infeasible given the project capital outlay.

Surrounding Environment of the Facility

21. a. Facility Characteristics. The Facility is located on property that is primarily characterized by agricultural or rural land use, consisting of chaparral, oak and bay woodland, and coastal scrub vegetation types. The geology of the 0.33 square-mile Tomales area is referred to as the "Franciscan Complex," which is generally described as an overlying 10- to 15 foot-thick layer of unconsolidated materials and soil with colluvium accumulation in the valleys and hillsides. In the proximity of Tomales, an undifferentiated Pliocene Marine geologic formation, known as "Wilson Grove," overlies the Franciscan Complex. The 135 square-mile Wilson Grove Formation Highlands groundwater basin underlies the Facility.

b. Climate and Surroundings. Tomales lies within the Walker Creek watershed, which receives approximately 35 inches of precipitation per year, consistent with the Mediterranean climate of the central coast of California. The watershed receives higher-intensity rain from November through March, comprising 85 percent of the annual rainfall within the watershed. Walker Creek, a tributary to Tomales Bay, is located 1.5 miles from the southwestern boundary of the Facility. Keys Creek, a

tributary to Walker Creek, lies immediately south of the three-stage treatment pond system. See Finding 33 for further information on surrounding waters of the State.

22. **Groundwater Quality Characteristics**. A statewide groundwater ambient monitoring and assessment program (GAMA) collects data for local and area-wide groundwater quality characterization. Searching in GAMA for the one-mile radius around the Facility returned 41 sampling events conducted at 10 wells from 1999 to 2014. The values for nitrate as nitrate ranged from 0 to 19 mg/L, with a median value of 2.0 mg/L. The drinking water maximum contaminant level for nitrate as nitrate is 45 mg/L. The underlying Wilson Grove Formation Highlands groundwater basin is listed with existing beneficial uses of municipal and domestic water supply as well as agricultural water supply (see Finding 33). The groundwater basin is listed with potential beneficial uses of industrial process water supply and industrial service water supply.

Discharge Characteristics

23. **Discharges**. The waste discharges to land addressed by this Order consist of domestic and commercial wastewater from the approximately 100 residences of Tomales and the 500-student Shoreline Unified School District located at 10 John Street in Tomales. As described above, secondary effluent is conveyed from the three-stage treatment pond system to the two storage ponds located to the south. The secondary effluent is then disinfected and discharged from the storage ponds as irrigation for the adjacent 21-acre vegetated field. No effluent is discharged via any other system or process, and there is no discharge to surface water.

24. **Discharge Quantity**. The current average inflow to the Facility is approximately 16,900 GPD, based on 2012-2013 data. The design inflow capacity of the three-stage treatment pond system as provided in the Discharger's Operation and Maintenance Manual and authorized by this Order is 43,000 GPD on an average dry weather flow basis.

    This Order authorizes an annual wastewater flow limit of 15,738,000 gallons per year, based on an average dry weather flow value of 43,000 GPD and 366 days. For reference, wastewater flows (influent and effluent, when applicable) from January 2012 through December 2013 are tabulated below:

Month-Yr	Influent Month Total (gallons)	Influent Average Day (gallons)	Influent Peak Day (gallons)	Effluent Month Total (gallons)
Jan-12	534,000	17,200	46,000	0
Feb-12	417,000	14,900	18,000	0
Mar-12	696,000	23,200	61,000	0
Apr-12	649,400	21,600	35,600	0
May-12	474,000	15,300	20,000	784,000
Jun-12	407,000	13,600	17,000	990,000
Jul-12	436,000	14,000	18,000	1,229,000
Aug-12	389,000	13,000	16,000	751,000
Sep-12	426,000	14,200	18,000	508,000
Oct-12	513,000	16,500	19,000	0
Nov-12	611,000	20,400	76,000	0
Dec-12	1,240,400	40,000	87,000	0
Jan-13	621,000	20,000	30,000	0
Feb-13	380,000	13,600	21,000	0

Mar-13	415,000	13,400	21,000	0
Apr-13	459,000	15,300	25,000	262,000
May-13	424,000	13,700	16,000	761,000
Jun-13	414,000	13,800	19,000	753,000
Jul-13	759,000	24,500	28,000	979,000
Aug-13	426,000	13,700	17,000	1,006,000
Sep-13	411,000	13,700	17,000	428,000
Oct-13	432,000	13,900	17,000	561,000
Nov-13	393,000	13,100	15,000	0
Dec-13	428,000	13,800	15,000	0

"0" indicates no effluent discharge to land occurred during the entire month.

25. **Discharge Quality for 2012-2013.** Results from routine sampling (per the Self-Monitoring Program of Order No. 86-086) of the final effluent discharged into the irrigation field are summarily presented below:

Month-Yr	**pH range**	**Dissolved Oxygen range (mg/L)**	**Chemical Oxygen Demand range (mg/L)**	**Total Coliforms range (MPN/100ml H_2O)**
Order No. 86-086 limits	*≤ 6*	*≥ 1.0*	*≤ 210*	*≤ 240*
May-12	8.1 - 8.9	2.1 - 3.2	120.0 – 170.0	< 2 – 4
Jun-12	7.9 - 8.5	3.0 - 30.0	130.0 – 220.0	< 2
Jul-12	8.2 - 9.1	2.0 - 3.7	170.0 – 250.0	14 – 240
Aug-12	7.9 - 9.0	3.0 - 3.6	190.0 – 270.0	< 2 – 22
Sep-12	6.0 - 9.7	NA	130.0 – 220.0	4 – 170
Apr-13	8.4 - 8.9	2.2 - 2.3	88	< 2
May-13	8.8 - 9.6	2.3 - 4.8	120.0 – 130.0	< 2 – 240
Jun-13	8.7 - 9.2	2.0 - 4.6	120.0 – 130.0	120 – 130
Jul-13	8.4 - 9.5	1.0 - 4.3	3.5 – 130.0	2 – 50
Aug-13	8.5 - 9.5	2.0 - 2.8	170.0 – 290.0	< 2 – 59
Sep-13	8.7 - 9.6	2.0 - 2.1	185.0 – 470.0	4 – 900
Oct-13	9.7 – 9.9	3.5 – 5.8	230.0 – 510.0	< 2 - 26

NA denotes 'not available' because the information is missing in the monthly Self-Monitoring Report.

Exceedances. These sampling results indicate several instances of exceedances. For the sampling period of January 2012 to December 2013, the Discharger commented on and addressed the exceedance, as a component of the monthly Self-Monitoring Report, citing the sampling date and location, specific non-compliance event, probable cause (if determined by the Discharger), and the corresponding corrective action. Since the upgrade to the entire wastewater system in spring 2010, there has been no evidence of repeating patterns of either violations or violations without corrective actions. Water Board staff reviewed the self-monitoring reports, found the corrective actions taken to be acceptable, and determined that no further regulatory actions are necessary.

Monitoring

26. **Remote System Monitoring.** The Facility includes a remote wastewater monitoring SCADA system. The SCADA system provides continuous monitoring of three site locations: the three-stage treatment pond system, the lift station, and the irrigation field and storage ponds. The SCADA system monitors and controls the pond levels, the starting and stopping of aerators and lift pumps, the timing of the irrigation, and transmits notification of any pre-set alarms to the operators. SCADA alarms include, but are not limited to, high/low pond levels for each pond, pump fail, aerator fail, lift station high/low level, power fail, low pressure force main and discharge pipes, irrigation station fail, and others. The SCADA dialer will continue phoning the alarm through a series of priority numbers until the alarm is acknowledged. The alarms are called out to the operators that are on-call full time, 24-hours per day, via voice modem, and alarms are addressed immediately by the operators from their remote location. If the situation cannot be addressed immediately, the operators are dispatched immediately to the site.

27. **Wastewater Monitoring.** Wastewater flows are currently monitored for total daily flow into the stage one treatment pond and daily effluent discharge (when applicable) from the storage ponds into the irrigation field. This Order contains a Self-Monitoring Program (see Attachment E) that requires wastewater quantity and quality monitoring at defined points throughout the wastewater system in order to ensure proper operation and performance of the system and to document compliance with these requirements.

Operation and Maintenance

28. **Operation and Maintenance.** At the time of this Order, the wastewater system is managed by operators employed by the Discharger. This Order requires the wastewater system to be operated and maintained by certified wastewater treatment plant operators that are experienced in and knowledgeable of the wastewater system design and proper operation. The certified wastewater treatment plant operator may be an employee of the Discharger or a contract employee.

29. **Operation and Maintenance Program.** An Operation and Maintenance (O&M) Program is needed in order to ensure that all aspects of the wastewater system are properly operated and maintained. The O&M Program must include descriptions of all wastewater system components and equipment, accurately dimensioned site plans identifying the locations of all components and relevant site features (e.g., buildings, wells, drainage ways, roads, etc.), recommended strategies and procedures for system operations in accordance with system designs and discharge requirements, procedures and criteria for process control monitoring, maintenance activities necessary to ensure continuous proper operation of the wastewater system, and identification of persons responsible for operation and maintenance of the wastewater system and how these persons can be contacted. This Order requires development and implementation of an O&M Program acceptable to the Executive Officer and preparation and submittal of an O&M Manual that fully describes the O&M Program for the current system.

Applicable Plans, Policies, and Other Authorities

30. **California Water Code.** This Order serves as WDRs pursuant to CWC Division 7, Chapter 4, Article 4 (commencing with section 13260).

31. **Basin Plan.** The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law and the U.S. EPA, where required.

32. **Basin Plan Implementation.** The Basin Plan contains water quality objectives and beneficial uses for waters of the State within the San Francisco Bay Region and an Implementation Plan. This Order includes prohibitions and discharge requirements to protect existing and potential beneficial uses of waters of the State, in the surrounding area of the Facility and its operations, as well as to protect public health and the environment.

33. **Beneficial Uses of Waters of the State.** The Discharger discharges the final effluent onto land, not into surface water(s). The final effluent is discharged onto the irrigation field via spray irrigation. The irrigation field is located over the Wilson Grove Formation Highlands groundwater basin. The existing and potential beneficial uses of Wilson Grove Formation Highlands groundwaters, underlying the area of Tomales, as set forth in the Basin Plan include the following:

    a. Municipal and domestic water supply,
    b. Industrial process water supply,
    c. Industrial service water supply, and
    d. Agricultural water supply.

    At the time of this Order, there are no known domestic water supply wells less than or equal to 100 feet from any point of the discharge area.

34. **Shellfish Protection Act.** In Water Board Resolution No. 94-018, as a result of the 1993 Shellfish Protection Act, the Board identified Tomales Bay as an area where commercial shellfish growing areas are threatened. This Order is consistent with upholding the Shellfish Protection Act in authorizing WDRs for a facility that is configured for zero discharge to surface waters and to protect water quality for the preservation of shellfish and shellfish habitats.

35. a. **Tomales Bay TMDL.** Tomales Bay and its tributaries have been identified as impaired and have been placed on the federal Clean Water Act 303(d) list of impaired waters for nutrients, sediment, mercury, and pathogens. The Water Board is required to establish a Total Maximum Daily Load (TMDL) for these pollutants. The U.S. EPA approved the TMDL for pathogens in the Tomales Bay watershed on February 8, 2007. The basis for the pathogen listing includes exceedances of the numeric water quality objectives for fecal and total coliforms for the shellfish and recreational beneficial uses. Tomales Bay supports the third largest shellfish harvesting area in the State. The waste material at this Facility could potentially be a source of nutrients and pathogens to the watershed if an unintended release occurred (e.g., as a result of flooding or a mechanical failure). The Discharger is aware of the TMDL, and the Facility is configured to have zero discharge to surface waters. This Order prohibits discharges of treated wastewater to surface waters to prevent any additional impacts to Tomales Bay.

    b. **Facility Upgrade Addresses Historical Concern for Surface Water Quality Impacts**. The Facility is configured for zero discharge to surface waters. In 2007, in response to concerns about the adjacent Keys Creek, the Discharger contracted an engineer to conduct seepage tests on the treatment lagoon area (converted to two treatment ponds in 2010) to evaluate the present and future effects of the natural migration of Keys Creek. The results of the third-party observation-based assessment indicated no significant level of seepage impact from the natural migration of Keys Creek to the treatment pond system for another 80-100 years if nothing changes. Additionally, in spring 2010, the Facility implemented improvements to the Facility that included conversion to the three-stage treatment pond system and lining all three treatment ponds with a manufactured, impermeable 30-year Hypalon liner. Improvements also included installing a sub-drain below each treatment pond, with plumbing to direct any pond or external water collection into the third pond of the three-stage treatment pond system. The added liner and sub-drain prevent the natural erosion of Keys Creek from impacting the stability of the treatment pond system. These improvements also preclude any unintended discharges from the treatment pond system area into the surface waters of the State.

36. **General Order for Sanitary Sewer Systems.** Order No. 2006-0003-DWQ, "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems" (General Order), applies to all public agencies that own or operate sanitary sewer systems greater than one mile in length. This finding serves to acknowledge that the Discharger's collection system is enrolled and regulated under the General Order.

Antidegradation Policy Analysis

37. **Antidegradation Policy.** State Water Board Resolution No. 68-16 (the Antidegradation Policy) requires that the Regional Water Board, in regulating the discharge of waste, maintain the high quality of waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies (e.g., quality that exceeds water quality objectives). Resolution No. 68-16 also requires that any activity which produces wastes and discharges waste to existing high quality water(s) be required to meet WDRs that will result in the best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained. Resolution No. 68-16 prohibits degradation of water quality as it existed in 1968, or at any time thereafter that water quality was better than in 1968, other than degradation that was previously authorized. An antidegradation analysis is required for regulatory actions that result in a significant increase in pollutant loadings.

38. **Antidegradation Analysis**. Board staff completed an analysis of the potential for the Facility to degrade surface water and groundwater. The analysis is summarized here and presented in full in a separate technical memorandum that is available at the Board's website. Board staff concluded that the authorized discharge to land will not unreasonably affect present and anticipated beneficial uses of the groundwater or nearby surface waters and will not result in water quality less than that prescribed in the Antidegradation Policy.

    The analysis considered permitted treatment plant wastewater flows of 43,000 GPD, soil characteristics, groundwater and effluent water quality data, groundwater level data, and pollutant loading rates. The analysis determined that the effluent may produce localized, minor effects that can be assimilated in the subsurface soils of the discharge area and that the discharges conducted in compliance with this Order will adequately protect water quality and the beneficial uses of the receiving waters.

    a. **Protection of Surface Waters**. This Order prohibits discharges either directly or via subsurface migration to surface waters, so existing and potential beneficial uses of nearby surface waters will not be affected. The Facility's three-stage treatment pond system is fitted with a manufactured, impermeable 30-year Hypalon (chlorosulfonated polyethylene synthetic rubber) lining for all three treatment ponds and a sub-drain system. The sub-drain is plumbed to direct any pond or external water collection into the third pond of the three-stage treatment pond system. The final disinfected effluent is discharged to land via spray irrigation at the irrigation field. Based on the Facility's configuration to prevent any direct discharges to surface waters, there is no reason to believe that existing water quality of nearby surface waters will be reduced due to the implementation of this Order. Therefore, no antidegradation analysis is required for surface waters.

    b. **Protection of Groundwaters**. The only permitted effluent discharge is to land via spray irrigation. The wastewater system treats domestic and commercial flows. There are no industrial sources discharging to the collection system. Treated effluent is discharged to the spray irrigation field where it either infiltrates into the ground, evaporates, or is taken up by plants. The subsurface soils in the discharge area have the assimilative capacity to sufficiently attenuate the wastewater constituents as the effluent travels through the soils, prior to reaching groundwater. Further, the irrigation field is surrounded by a perimeter ditch to prevent any offsite discharges, should runoff occur. The ditch is also equipped with a collection sump with a water level alarm, which will shut down all facility discharge operations if the water reaches a specified level of concern. The prior reported monthly monitoring data for the Facility

demonstrate that the Facility supports existing and potential beneficial uses of the waters of the State adjacent to and underlying the Facility site. This antidegradation analysis, as it relates to the protection of groundwaters, also illustrates that surface waters will be protected, in the event of any indirect subsurface discharges from groundwaters into surface waters. Due to the nature of the discharge (to land via irrigation) and the measures established for pollution prevention, the operations of this Facility under this Order are not expected to reduce existing high quality waters.

Safe Drinking Water Act

39. It is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order upholds that policy by requiring limits on discharges that will ensure groundwater does not exceed maximum contaminant levels designed to protect human health and that water is safe for domestic use.

California Environmental Quality Act (CEQA)

40. CEQA. The issuance of WDRs for the subject discharges is exempt from the provisions of CEQA pursuant to Title 14, Division 6, Chapter 3, Section 15301 (existing facilities) and Section 15302 (replacement or reconstruction) of the California Code of Regulations.

Notification and Public Meeting

41. Public Notice. The Board has notified the Discharger and interested persons of its intent to prescribe WDRs for the subject wastewater system and discharges and has provided them with an opportunity for a public hearing and to submit written views and recommendations.

42. Public Hearing. The Board, in a properly noticed public hearing, heard and considered all comments pertaining to these WDRs.

IT IS HEREBY ORDERED, that the Discharger, pursuant to the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The treatment, storage, or discharge of wastes shall not create a nuisance or pollution as defined in CWC section 13050.

2. Discharges of waste into or from the wastewater system other than as described in and authorized by this Order are prohibited.

3. There shall be no direct or indirect discharge to surface waters.

4. There shall be no discharge of waste that has not undergone the full treatment process, according to the flow schematic in Attachment B and the permitted treatment pond configurations as described in Attachment D, to groundwaters of the State from the Discharger's Facility.

5. The discharge of waste shall not degrade the quality of any groundwater used for domestic purposes or cause an increase or decrease in any quality parameter that would make groundwater unsuitable for any listed existing or potential beneficial use(s).

6. Wastewater shall not be allowed to flow from the discharge area via surface flow, airborne spray, or surfacing after percolation.

7. Discharge of treated wastewater to any land other than the designated discharge area is prohibited.

8. Migration of pollutants through subsurface transport from the discharge area(s) to waters of the State is prohibited.

9. Discharges of wastewater to the wastewater system in excess of the system operating hydraulic capacity or organic loading treatment capacity are prohibited.

B. DISCHARGE SPECIFICATIONS

1. Source Wastewaters. The only wastewater authorized by this Order to be discharged into the wastewater system consists of wastewater from commercial and residential domestic use in the Tomales area and the Shoreline Unified School District. The Discharger must apply for amended WDRs before accepting any other kind of wastewater.

2. Treatment and Storage Ponds

a. Freeboard. A minimum freeboard of two feet shall be maintained in the ponds at all times.

b. 100-Year Flood. The ponds shall be adequately protected from erosion, washout, and flooding from the maximum flood having a predicted frequency of once in 100 years.

c. Treatment Pond Lining. The treatment ponds shall be lined with a geotextile fabric or other materials with a permeability of no more than 10^{-6} cm/sec.

d. Treatment Pond Aerators. Each of the three aerated ponds (within the three-stage treatment pond system) shall be equipped with one or more aerators in order to provide sufficient aeration capacity to achieve biological stabilization of the wastewater discharged to the ponds, and to prevent the creation of anaerobic or nuisance conditions.

e. Treatment and Storage Ponds. Wastewater at any place about two feet from the water's edge of a treatment or storage pond shall not exceed the following limits in any grab sample:

	Measured parameter	Quality specification
1)	Dissolved Oxygen	2.0 mg/L, minimum
2)	Dissolved Sulfides*	0.1 mg/L, maximum
3)	pH	6.5 minimum

*Dissolved sulfides sampling is required only when dissolved oxygen concentration is below 2 mg/L.

3. Spray Discharge

a. Notification for "Off-season" Discharges. The Discharger shall provide e-mail notification to the Water Board and the California Department of Public Health prior to discharges outside the window of time between April 15 and November 30. These discharges are known as "off-season" discharges.

b. Operating Conditions. Discharges of wastewater to the designated discharge area shall not occur under any of the following conditions:

1) Rainfall within 72 hours before spray discharge,
2) Rainfall forecast within 72 hours of spray discharge,
3) Presence of ponded standing water,

4) Saturated soils, or
5) Increased potential of ponding or runoff.

c. Sprinklers. All sprinklers used in spray discharge shall be of the low trajectory type in order to minimize the potential for transmission of airborne spray beyond the perimeter of the spray field.

4. Authorized Wastewater Flows

a. **Wastewater System**. Collection of wastewater from the Tomales area into the Facility shall not exceed an average dry weather flow of 43,000 gallons per day or a peak wet weather flow of 240,000 gallons per day.

5. Final Effluent Quality. Treated wastewater used for irrigation of the pasture shall meet the following quality limits at all times, in any grab sample:

	Measured Parameter	Quality Specifications
a.	pH	6.5 minimum
b.	Biochemical oxygen demand	65 mg/L, maximum
c.	Biochemical oxygen demand	45 mg/L, monthly average
d.	Total coliform	240 MPN*/100 ml, maximum median from last 5 samples (* MPN means most probable number)

6. Discharge Discontinuation. Discharges of effluent to the discharge area are prohibited during any period when the limits specified in B.5 (Final effluent quality) above are not being met. The discharges shall not resume until all conditions which caused the specified limits to be violated have been corrected.

7. Wastewater System Operation and Maintenance

a. The Discharger shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This discharge specification requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order.

b. The wastewater system shall be operated and maintained in accordance with the procedures identified in the Operations and Maintenance (O&M) Manual required by this Order (Provision C.11.b).

8. Pump Stations

a. All pump stations shall be designed, constructed, operated, and maintained to prevent the occurrence of a sewage spill or spills resulting from mechanical breakdown or power failure.

b. All pump stations shall be equipped with reserve hydraulic capacity sufficient to provide storage of wastewater during a pump failure condition for at least 24 hours, and water level monitoring and alarm system(s) to provide notification of high water level conditions. The alarm system shall include audible and visual alarms sufficient to notify operating personnel of an alarm condition. If operating personnel are not present at the Facility, the alarm system shall include an automated telephone dialer or other telecommunication system capable of notifying on-call operating personnel of the alarm condition.

c. The power supply for alarm systems shall be sustained in the case of a loss of power, in order to ensure notification to the operators.

9. Pipe Separations

a. There shall be no cross-connection between potable domestic water supply pipes and pipes containing treated wastewater.

b. There shall be at least a 10-foot horizontal and a one-foot vertical separation between all pipes transporting wastewater and pipes transporting potable domestic water, with the potable domestic water pipes above the wastewater pipes.

10. Discharge Area Separation from Wells. The discharge area shall be designed, constructed, and maintained such that a horizontal separation distance of at least 100 feet is maintained between any future domestic water supply wells and the nearest point of the discharge area.

11. Wastewater Solids. All solid materials removed from any stage of the liquid waste stream of the wastewater system shall be disposed of at a legal point of disposal, and in accordance with the provisions of Title 27 of the California Code of Regulations. This includes solids accumulated in septic tanks, grease traps or pump tanks. For the purpose of this requirement, a legal point of disposal is defined as a facility for which WDRs have been prescribed or waived by a Regional Water Board and which facility is in full compliance therewith. This Order does not authorize disposal of wastewater solids anywhere on the Facility.

C. PROVISIONS

1. Order Compliance. The Discharger shall comply immediately with all Prohibitions, Specifications, and Provisions of this Order. In the event that the Discharger is unable to comply immediately, the Discharger has 30 days from the time of the adoption of this Order to submit a required time schedule demonstrating that compliance will be reached within 6 months of the adoption of this Order. All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these WDRs. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Water Board (CWC sections 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, and 13350).

2. Self-Monitoring Program. The Discharger shall comply with the Self-Monitoring Program (Attachment E) for this Order as adopted by the Board and as may be amended by the Executive Officer.

3. Order Availability. A copy of these WDRs shall be maintained by the Discharger and shall be made available by the Discharger to all employees or contractors performing work (maintenance, monitoring, repair, construction, etc.) at the Facility.

4. Vested Rights. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the Discharger from liability under federal, State, or local laws, nor do they create a vested right for the Discharger to continue the waste discharge.

5. Severability. Provisions of these WDRs are severable. If any provisions of these requirements are found invalid, the remaining requirements shall not be affected.

6. Requirements for Technical Reports. All technical and monitoring reports required by this Order are required pursuant to CWC section 13267. Failure to submit reports in accordance with schedules

established by this Order or failure to submit a report of sufficient technical quality acceptable to the Executive Officer may subject the Discharger to enforcement actions pursuant to CWC section 13268.

7. **Electronic Reporting Format.** In addition to print submittals, all reports submitted pursuant to this Order shall be submitted as electronic files in PDF format. All electronic files shall be submitted via the Water Board's file transfer protocol (FTP) site or the centralized email address: WDR.monitoring@waterboards.ca.gov. Email notification shall be provided to Water Board staff whenever a file is uploaded to the Water Board's FTP site.

8. **As-Built Plans - Current System**
   a. **As-Built Plans.** The Discharger shall submit to the Board a technical report, acceptable to the Executive Officer, no later than 90 calendar days from the date of adoption of this Order, comprised of as-built plan drawings, and narrative descriptions as appropriate, of the completed- to-date wastewater treatment and discharge system.

   b. **Tank Specifications.** For all tanks, the as-built plans shall include complete tank specifications (e.g., location, material, total and operating capacities, dimensions, date of installation, number of compartments, access openings, risers and riser lids), and results of watertight verification tests. All plan drawings shall be of a scale of at least one inch equals 40 feet, properly labeled, and clearly legible.

9. **Future Changes**
   a. **As-Built Plans.** In the event of any changes to wastewater system components in the future, updated as-built plans of the portion of the system affected by such changes shall be submitted to the Board within 90 days of completion of those changes. Depending upon the types and extent of changes, an amendment to this Order may be necessary.

   b. **Water Balance Documentation**. If there are plans to increase the operations to 80% of the Facility capacity or more, the Discharger shall submit a Water Balance Documentation for the discharge system including the two storage ponds and the discharge area. The water balance documentation shall demonstrate adequate capacity for the wastewater treatment and discharge system to treat and discharge according to seasonal weather patterns in the vicinity of the Facility and the authorized wastewater inflow volume discharge specifications in this Order.

10. **Operation and Maintenance Providers**
   a. The wastewater system shall be operated and maintained by persons that are experienced in and knowledgeable of proper wastewater treatment and discharge practices. Such persons shall be wastewater treatment plant operators possessing a current and valid certification from the State of California.

   b. If the Discharger does not have this expertise within its own staff, the Discharger may fulfill this requirement by contracting with a State Water Board-certified wastewater treatment plant contract operator for operation and maintenance of the wastewater system.

   c. The Discharger shall submit to the Board, within ten days of adoption of this Order, copies of signed service contracts with operators for operation and maintenance of the wastewater system.

   d. In the event of any changes in contracted service providers, the Discharger shall notify the Board in writing of such changes prior to the effective date of such changes, and submit copies of the new or revised contracts within ten working days from the effective date of those changes.

11. **Operation and Maintenance Program.** The Discharger shall develop and implement an Operations and Maintenance (O&M) Program for the wastewater system, in accordance with the following:

    a. **O&M Program.** The O&M Program shall include all procedures necessary to properly operate the wastewater system in accordance with design parameters, to achieve compliance with WDRs, and to maintain the system in good working condition.

    b. **O&M Manual**. The O&M Program shall include an O&M Manual documenting all aspects of the program and it shall be readily accessible at all times for the system operators. The O&M Manual shall include, but not be limited to, the following:

        1) Description of the overall wastewater system;
        2) Scaled plan drawings of the wastewater system, including pipes, valves and control equipment;
        3) Description of the wastewater flow through the system, from sources to final discharge;
        4) Descriptions and specifications of all system components and equipment;
        5) Routine procedures for operation of the wastewater system;
        6) Routine procedures for management and disposal of wastewater solids removed from the wastewater streams;
        7) Procedures for maintenance of all system components;
        8) Procedures for operation of the wastewater system during emergency conditions such as power outage, major equipment failure, extreme wet weather conditions, or other emergencies; and
        9) Copies of all applicable regulatory permits for the wastewater system, or specific references of those permits and identification of a location at the Facility where those permits are available for review and reference by operating personnel, other service providers, or regulatory agency staff.

    c. **O&M Manual Submittal.** The Discharger shall submit to the Board a technical report, acceptable to the Executive Officer, no later than 90 calendar days from the date of adoption of this Order, comprised of a complete copy of the O&M Manual, identification of person(s) responsible for implementation of the O&M Program, and contact information for those persons.

    d. **O&M Manual Review and Updates.** The Discharger shall periodically review and update, as necessary, the O&M Manual in order to ensure that the manual remains current and applicable to the wastewater system and its proper operation.

    e. **O&M Manual Annual Reports.** Annually, the Discharger shall submit a report to the Board containing any revisions or updates of the O&M Manual that have been made, or a letter stating that the O&M Manual remains adequate and no revisions are necessary. This report shall be submitted as part of the Annual Monitoring Report.

12. **Non-Compliance Reporting**. In the event the Discharger is unable to comply with any of the conditions of this Order, the Discharger shall notify the Board by telephone as soon as the Discharger or the Discharger's agents have knowledge of the incident. Written confirmation of this notification shall be submitted within five working days of the telephone notification. The written notification shall include the following information:

    a. A description of the noncompliance and its cause;
    b. The period of noncompliance;
    c. Actions that were taken in response to the incident; and
    d. The steps taken or planned to prevent recurrence of the noncompliance.

13. **Endangerment of Human Health or the Environment**. The Discharger shall report any noncompliance that may endanger human health or the environment. Any such information shall be provided orally to the

Executive Officer, or an authorized representative, and the California Department of Public Health (CDPH), Environmental Management Branch, Preharvest Shellfish Unit, within 24 hours from the time the Discharger becomes aware of the circumstances. In addition, the Discharger shall notify the property owners of the adjacent residential properties and commercial facilities by telephone as soon as the Discharger or Discharger's agents have knowledge of the incident. A written submission to the Water Board and CDPH shall be provided within five days of the time the Discharger becomes aware of the circumstances. The written submission shall contain the following:

a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected;
c. Actions that were taken in response to the incident;
d. The anticipated time it is expected to continue; and
e. The steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

14. Entry, Access, and Inspection. The Discharger shall permit the Board or its authorized representatives, in accordance with CWC section 13267(c):

a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
b. Access to and copy of, at reasonable times, any records required by conditions of this Order;
c. Inspection, at reasonable times, of any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; or
d. Photography, sampling, or monitoring, at reasonable times, for the purpose of assuring compliance with this Order.

15. Warning Signs. The Discharger shall clearly identify the wastewater discharge area, and other wastewater system components as necessary, with warning signs to inform the public that wastewater is present, and that this water is unfit for human consumption.

Notification for Modifications to the Order

16. Change in Control or Ownership. In the event of any change in control or ownership of land or wastewater systems presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this Board. The succeeding owner or operator, in order to obtain authorization for discharges regulated by this Order, must apply in writing to the Water Board, requesting transfer of the Order. This request shall include complete identification of the new owner or operator, the reasons for the change, and the effective date of the change. Discharges conducted without submittal of this request will be considered discharges without WDRs and thus violations of the CWC.

17. Report of Waste Discharge for Change in Discharge Characteristics, Facility. The Discharger shall file with the Board a ROWD at least 180 days before making any material change in the character, location, or volume of the discharges or discharge facilities, or any changes to the wastewater system equipment as described in this Order, except for emergency conditions. In the event of implementing changes in response to emergency conditions, the Board shall be notified immediately by telephone, and in writing within five calendar days of such changes.

18. Order Review and Update. The Board will review this Order periodically and may revise the requirements as necessary to comply with changing State and federal laws, regulations, policies, or guidelines; changes in this Board's Basin Plan; or changes in the discharge characteristics.

19. Order Termination. After notice and public meeting, this Order may be terminated or modified by the Board for any reason.

20. Rescission of Previous Order. The WDRs prescribed by this Order supersede those prescribed by Order No. 86-086 for North Marin County Water District. Order No. 86-086 is hereby rescinded, except for enforcement purposes.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on May 13, 2015.

Digitally signed by Bruce H. Wolfe
DN: cn=Bruce H. Wolfe, o=SWRCB, ou=Region 2, email=bwolfe@waterboards.ca.gov, c=US
Date: 2015.05.18 16:27:40 -07'00'

BRUCE H. WOLFE
Executive Officer

Attachments:

A. Facility Plan
B. Wastewater Treatment and Discharge System Flow Schematic
C. Collection System Map
D. Three-stage Treatment Pond System Configuration and Specifications Schematic
E. Self-Monitoring Program

CIWQS Place Number: 264662