STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Dawning Wu)
MEETING DATE: May 13, 2015

ITEM: **5B**

SUBJECT: **Tomales Village Community Services District, Tomales Village Community Services District Wastewater Treatment Plant, Tomales, Marin County –** Update of Waste Discharge Requirements

CHRONOLOGY: March 1973 – Waste Discharge Requirements adopted
April 1976 - Waste Discharge Requirements updated
November 1986 – Waste Discharge Requirements updated

DISCUSSION: The Revised Tentative Order (Appendix A) would update the Waste Discharge Requirements for the Tomales Village Community Services District Wastewater Treatment Plant (facility). The facility provides secondary treatment, disinfection, and discharge of domestic and commercial wastewater for about 100 residences and the Shoreline Unified School District in the town of Tomales in northern Marin County. The facility has a dry-weather design capacity of 43,000 gallons per day and discharges onto an irrigation field.

The Revised Tentative Order would update the Waste Discharge Requirements by reflecting upgrades to the facility and incorporating the facility's 1998 Winter Irrigation Plan for conditional discharge, among other updates.

We received comments (Appendix B) from Save Our Seashore, the California Department of Public Health, and the District. Our Response to Comments (Appendix C) describes the comments and changes made in the Revised Tentative Order to address the comments. After reviewing the comments, we had conversations with each commenter to ensure that we understood their concerns and that they understood our response. Based on these discussions, we revised the tentative order where appropriate, and we expect this item to remain uncontested.

RECOMMEN-
DATION: Adoption of the Revised Tentative Order

CIWQS PLACE ID: 264662

APPENDICES: A. Revised Tentative Order
B. Comments
C. Response to Comments

Appendix A
Revised Tentative Order

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2015-00XX

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	45 mg/L, maximum
c.	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 [DATE].

_____

BRUCE H. WOLFE
Executive Officer

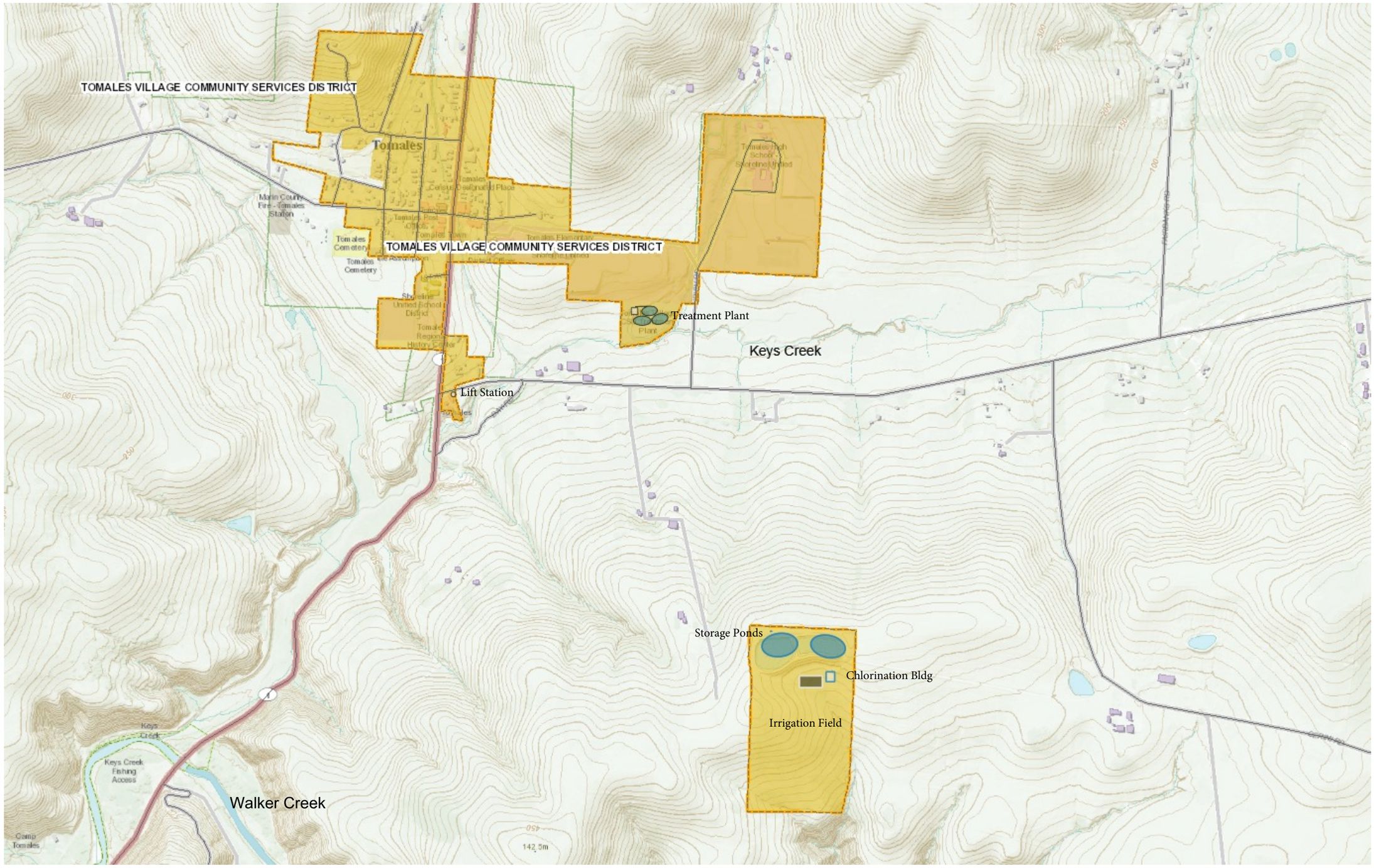
Attachments:

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

Marin Map

ATTACHMENT A: Marin County GIS Map Report - Tomales CSD Overview



Legend

- Road
- Marin County Legal Boundary
- Ocean and Bay
- Pond
- CSD Sphere of Influence
  - TOMALES VILLAGE COMMUNITY SERVICES DISTRICT
- Community Service District (CSD)
  - TOMALES VILLAGE COMMUNITY SERVICES DISTRICT

1: 10,198

0.3 0 0.16 0.3 Miles

NAD_1983_HARN_StatePlane_California_III_FIPS_0403_Feet

© Latitude Geographics Group Ltd.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

ATTACHMENT B

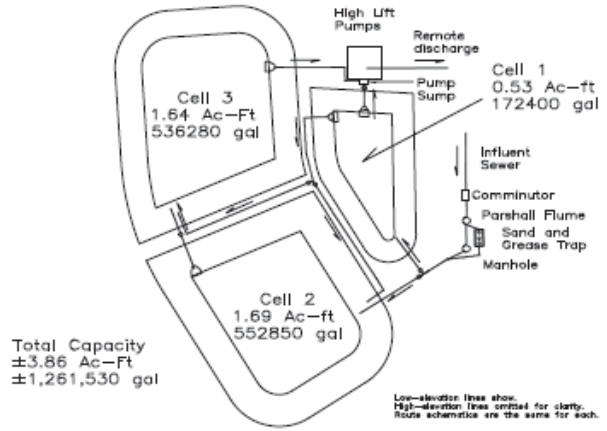
Process flow diagram.

2.6-mile Collection System

Comminutor

Fats, Oils, and Grease Interceptor (Three-chamber 2000-gallon Selvage tank)

Three-stage Treatment Pond System (Attachment D)



Storage Ponds (Total Capacity 10.1 MG)

West

East

Disinfection

Discharge Area

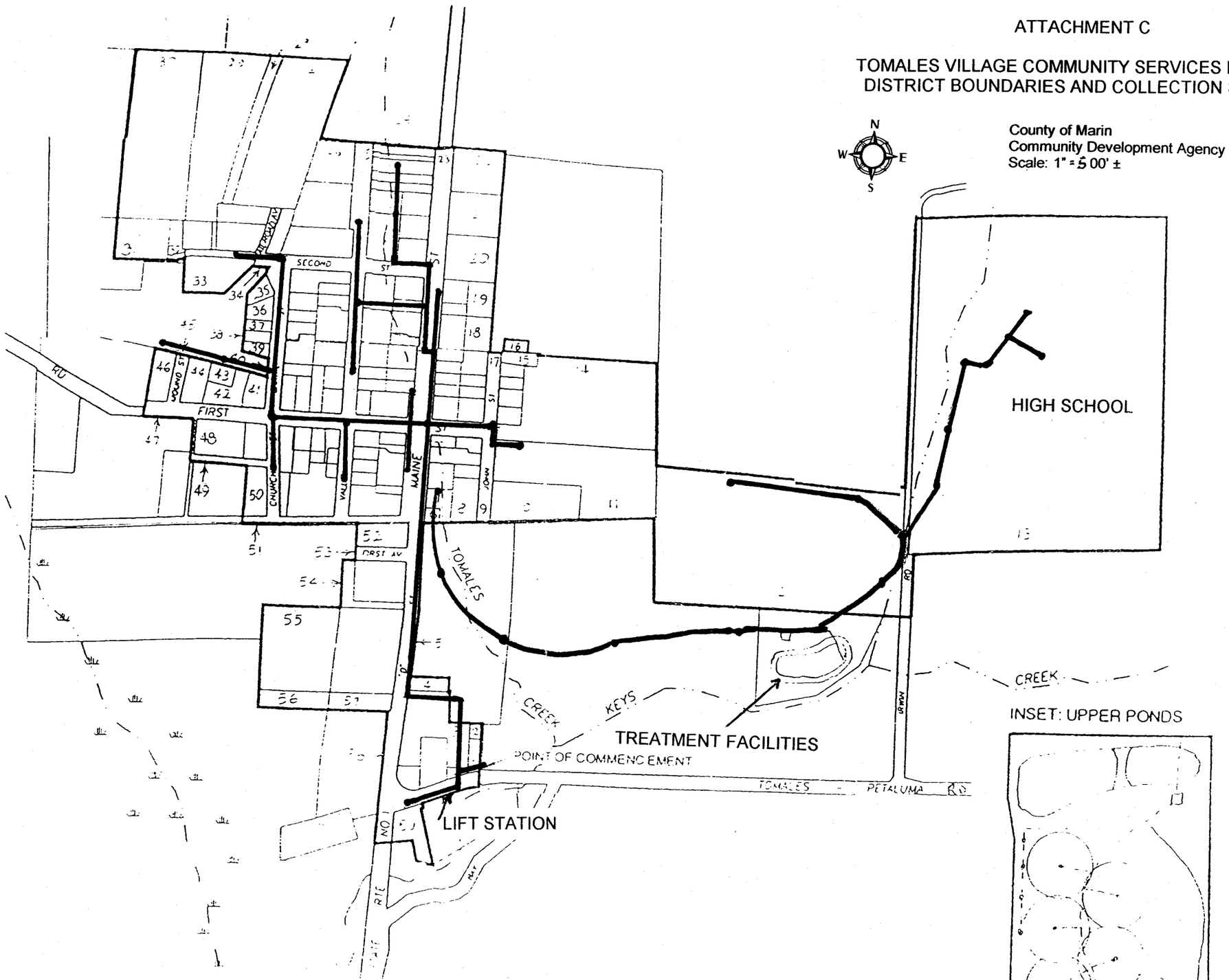
Irrigation Pasture (**21-acre**)

Discharge to Irrigation Pasture (Discharge Area):
Order 86-086 (rescinded): NOT during wet weather: Nov 15-Apr 15
Order R2-2015-00XX: Conditional discharge per Order; wastewater is disinfected in the effluent line to irrigation field

ATTACHMENT C

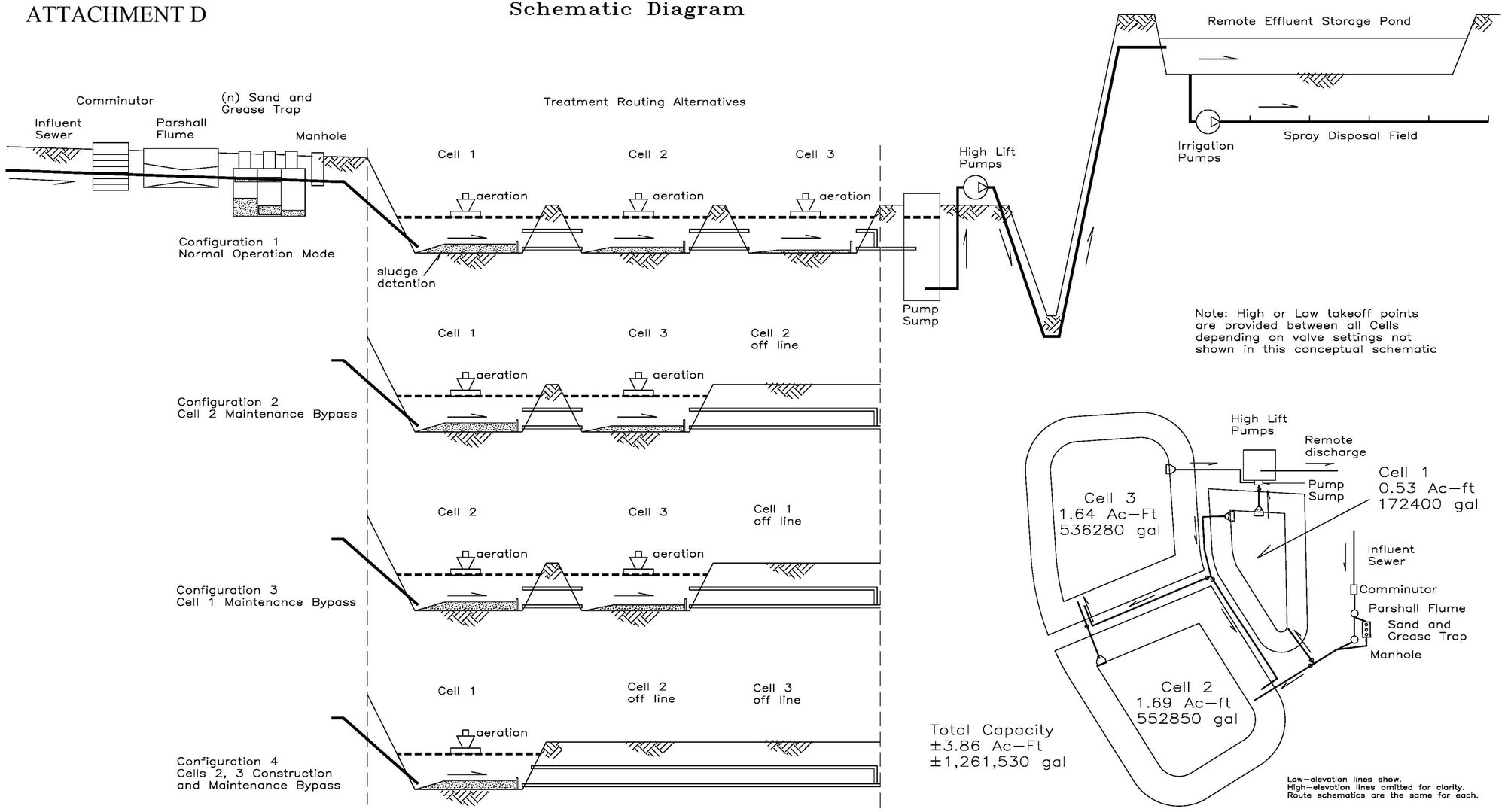
TOMALES VILLAGE COMMUNITY SERVICES DISTRICT
DISTRICT BOUNDARIES AND COLLECTION SYSTEM

County of Marin
Community Development Agency Mapping
Scale: 1" = 500' ±



ATTACHMENT D

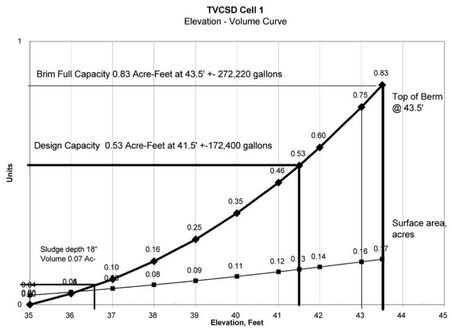
Schematic Diagram

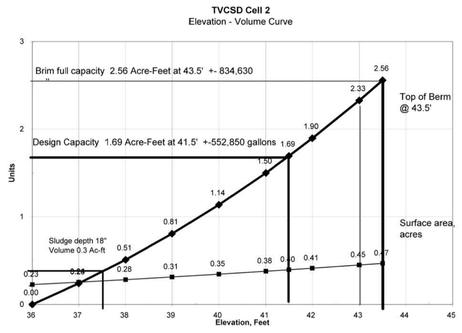


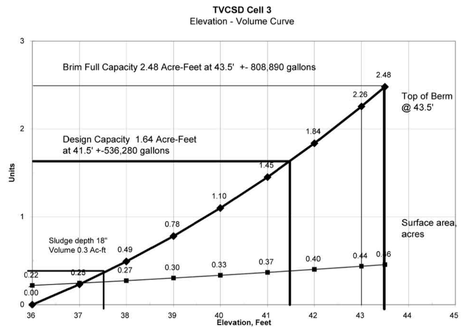
Note: High or Low takeoff points are provided between all Cells depending on valve settings not shown in this conceptual schematic

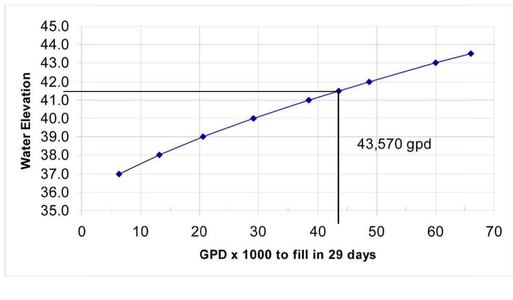
Total Capacity
±3.86 Ac–Ft
±1,261,530 gal

Low–elevation lines show.
High–elevation lines omitted for clarity.
Route schematics are the same for each.









REGISTERED PROFESSIONAL ENGINEER
Lee B Erickson
AE 468
CE 45660
Expires 12/31/2014
Agricultural
Civil
STATE OF CALIFORNIA

REVISIONS
Mar. 28, 2014
2' freeboard volumes, calibration curves

Erickson Engineering Inc.
Valley Ford CA 94972-0446
707/795-2498 Voice/Fax

WASTEWATER TREATEMENT POND
REVISIONS - SCHEMATIC FLOW DIAGRAM

Lands of:
APN 102-130-10
TOMALES VILLAGE
COMMUNITY SERVICES DISTRICT
— Irwin Lane, Tomales CA 94971

40328 C2.dwg

Date:
June 6, 2006

Scale:
none

Sheet
C2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

TENTATIVE
SELF-MONITORING PROGRAM

for the

TOMALES VILLAGE COMMUNITY SERVICES DISTRICT
WASTEWATER TREATMENT FACILITY
at
10 IRVIN ROAD, TOMALES, MARIN COUNTY

for

ORDER No. R2-2015-XXXX

(Attachment E of Order No. R2-2015-XXXX)

CONTENTS

I. PURPOSE

1. This monitoring program is for waste discharge requirements assigned to the Tomales Village Community Services District (Discharger), adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board).

2. The principal purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program (SMP), are:

   a. To document compliance with waste discharge requirements and prohibitions established by the Water Board and
   b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution or potential threats to water quality arising from waste discharges.

3. Reporting responsibilities of waste dischargers are specified in sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code, and Water Board Resolution No. 73-16.

II. SAMPLING and ANALYTICAL METHODS

1. **Approved methods**. Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR 136) or other methods approved and specified by the Executive Officer of the Water Board (Executive Officer).

2. **Approved laboratory**. Water and waste analyses shall be performed by a laboratory approved for these analyses by the California Department of Public Health (CDPH), or by a laboratory waived by the Executive Officer from obtaining a CDPH certification for these analyses, or as otherwise specified in this SMP.

3. **Accountability for analytical work**. The director of the laboratory whose name appears on the certification, or his laboratory supervisor who is directly responsible for the analytical work performed, shall supervise all analytical work including appropriate quality assurance/quality control procedures in his laboratory and shall sign all reports of such work submitted to the Water Board.

4. **Appropriate usage and calibration of equipment**. Measurements by use of portable analytical equipment or other monitoring instruments and equipment shall abide by the following conditions:

   a. The analytical equipment is appropriate for the given analysis of/for water or waste;
   b. The analytical equipment is properly maintained and calibrated to ensure accuracy;
   c. The equipment user is knowledgeable of proper sampling and equipment use practices; and
   d. Written notification of the intended use has been provided in advance to the Water Board, and the Water Board has not stated any objections.

III. DEFINITION of TERMS

The following are definitions and explanations of terms used in this monitoring program; see Appendix A for abbreviation expansions. Additional descriptions are given in the findings of this Order.

A. FACILITY AND WASTEWATER SYSTEM

1. **Facility Site.** The Facility site is the land on which the Facility identified as the Tomales Wastewater Facility is located. This land consists of Marin County Assessor's Parcel Number 102-130-10 and 104-050-18.

2. **Wastewater System.** The wastewater system is comprised of all equipment at the Facility site used for collection, conveyance, treatment, storage, discharge, and management of wastewater and wastewater solids from the community of Tomales, including the Shoreline Unified School District.

3. **Discharge Area.** The discharge area, also called the irrigation field, is a 21-acre vegetated gently sloping hillside field, fenced and gated, with above-grade sprinklers, located downhill of the storage ponds, and about 3,600 feet south of the wastewater treatment ponds.

4. **Discharge System.** The discharge system is the portion of the wastewater system used for conveyance and discharge of treated wastewater to land in the identified discharge area. This includes, but is not limited to, pumps, pipes, sprinklers, and all equipment used to control and monitor the discharge operations.

B. TYPES OF SAMPLES

1. **Flow Measurement.** Flow measurement is the accurate measurement of the flow volume over a given period of time using a properly calibrated and maintained flow measuring device. Use of a properly calibrated and maintained automated pump-use recording device, such as a pump dose event counter, is acceptable.

2. **Grab Sample.** A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples are used primarily in determining compliance with daily or instantaneous maximum or minimum limits, and also for bacteriological limits. Grab samples represent only the condition that exists at the time and location the sample is collected.

3. **Observations.** Observations are primarily visual assessments and inspection of conditions. Observations may include recording measurements from monitoring devices such as freeboard determined from a water level staff gauge, or precipitation determined from a rain gauge.

4. **Pond Water Depth.** Pond water depth is the vertical distance between the free water surface of the water contained in the pond, and the bottom of the water volume contained in the pond.

5. **Pond Freeboard.** Pond freeboard is the vertical distance between the free water surface of the water contained in the pond and the elevation of the lowest point of the top of the water containment structure (i.e., the elevation at which water would overflow from the pond).

C. SAMPLING FREQUENCY

1. **Continuous.** Continuous monitoring.
2. **Daily.** One time each calendar day.
3. **Weekly.** One time per calendar week, with sampling interval of at least five days.
4. **Monthly.** One time per calendar month, with sampling intervals of at least three weeks.
5. **Quarterly** One time per calendar quarter, at intervals of about three months.
6. **Semiannual.** Two times per calendar year, with sampling intervals of about six months.
7. **Annual.** One time per calendar year.
8. **Event.** Each service or discharge event.
9. **Conditional.** Depending on conditions specified in this SMP.

D. MONITORING PERIODS

For purposes of monitoring, reporting and compliance determinations relevant to requirements specified in this Order and SMP, the following time periods apply:

1. **Daily.** 24-hour period associated with a calendar day; may overlap calendar days (e.g., 8 am of one day to 8 am of the next) but shall be consistent from one sampling event to the next.
2. **Weekly.** 7-day calendar week.

3. **Monthly.** Each respective calendar month.
4. **Annual.** Calendar year.

IV. DESCRIPTION of MONITORING STATIONS

A. GENERAL

1. **Monitoring Station Definitions**. Stations to be used for sampling and observations in this SMP are described in this section (IV). Each station is identified by a station code and station description. The Station Code is a reference code for station identification in this SMP and in recording and reporting of monitoring data. The Station Description is a description of the water, wastewater, point of the wastewater system, or land area where specified monitoring is to be conducted.

2. **Monitoring Station Changes.** Changes to the monitoring stations defined in this SMP may be authorized by the Executive Officer in order to accommodate changes in the wastewater system or wastewater system operations or to provide improved monitoring. Requests for changes to the monitoring stations shall be submitted to the Water Board in writing with a detailed explanation of the purpose of the proposed station changes. Proposed changes to monitoring stations shall be approved in writing from the Executive Officer prior to implementation.

3. **Site Plan Showing All Monitoring Stations.** The Discharger shall develop a scaled and legible plan view drawing of the Facility site that clearly shows the locations of all major components of the wastewater system, all monitoring stations identified in this SMP, and relevant land use features such as buildings, access roads, property boundaries, and surface water drainage systems. A copy of this drawing shall be included with each annual monitoring report and with any reports regarding station changes.

B. WASTEWATER SYSTEM MONITORING STATIONS

	Code	Station Name and Description	Station Purpose
1.	INF	Influent: Wastewater at a point in the Wastewater Treatment Facility (Facility) where all wastes upstream of the treatment process are present.	Measurement of the total volume of wastewater flow into the Facility to document compliance with the Authorized Wastewater Flow (annual total flow) limit given in Discharge Specification B.4 of this Order. Sampling and analytical characterization of influent into the Facility.
2.	FOG	Fats, Oils, and Grease Interceptor: Wastewater solids serviced by septic waste hauler.	Record of the service event and measured amount of wastewater solids collected.
3.	TR-1, TR-2, TR-3	Treatment Ponds 1, 2, and 3: Wastewater at a point in each of the three respective treatment ponds, representative of the water in the pond; a physical location suitable for general observations of pond conditions.	Sampling and analytical characterization of pond water for Dissolved Oxygen, pH, Temperature, and Dissolved Sulfides as needed; for standard observations of pond conditions, to document compliance with the requirements of Discharge Specification B.2 of this Order.
4.	EFF- TR	Treatment Pond Effluent: Wastewater at a point in the Facility where all treatment has been completed, except for disinfection by chlorination, prior to discharge to the irrigation field.	Sampling and analytical characterization of final treated effluent prior to discharge to land, to monitor and evaluate treatment system performance and to document compliance with requirements of Discharge Specification B.5.
5.	ST-East, ST-West	Storage Ponds, East and West: Wastewater at a point in each of the two respective storage ponds, representative of the water in the pond, and a physical location at each pond suitable for general observations of pond conditions.	Sampling and analytical characterization of pond water for Dissolved Oxygen, pH, and Dissolved Sulfides as needed; for standard observations of pond conditions, to document compliance with requirements of Discharge Specification B.2.
6.	EFF-D	Disinfected Effluent: Wastewater at a point in the Facility where all treatment has been completed, including disinfection by chlorination, suitable for bacteriological quality analyses.	Sampling and analytical characterization of the bacteriological quality of the final treated effluent, to document compliance with Total Coliform limits given in Discharge Specification B.5.iv.
7.	EFF-Flow	Effluent Flow: Wastewater at a point in the Facility where all treatment has been completed, including disinfection by chlorination, suitable for final effluent flow measurement.	Measurement of the total flow of final treated disinfected wastewater effluent discharged to land at the irrigation field.
8.	FIELD	Irrigation Field: The irrigation field land area used for discharges of treated wastewater to land.	Standard observations of discharge area conditions and to document compliance with requirements of Discharge Specification B.3.

V. MONITORING SCHEDULE and SPECIFICATIONS

A. MONITORING SCHEDULE

1. **Table 1.** The Discharger is required to perform sampling, analyses, and observations according to the schedule tabulated in **Table 1 - Schedule for Monitoring**, which is the last item in this SMP.

2. **Table 1 "SMP References".** Table 1 includes references given in brackets to the right of the Parameter name. These references correspond to Definitions in Section III or Monitoring Specifications in Section V.B. of this SMP.

B. MONITORING SPECIFICATIONS

1. **Flow Monitoring and Reporting.** All flows shall be monitored continuously in a manner sufficient to measure, record, and report the daily flow volume for each day of operation and the monthly flow volume for each calendar month. Flows shall be reported as Daily Flow, in gallons, for each day when flow occurs, and Monthly Flow, in gallons, for each calendar month.

2. **Additional Monitoring May be Necessary.** The monitoring requirements established in this SMP are minimum requirements. Additional monitoring for any parameter may be necessary and prudent to ensure proper wastewater system performance and compliance with WDRs.

3. **Nitrogens**
   a. The parameter 'Nitrogens' in this SMP means all of the following parameters:

   (1) Ammonia Nitrogen,
   (2) Nitrate Nitrogen,
   (3) Total Kjeldahl Nitrogen (TKN), and
   (4) Total Nitrogen.

   b. Analytical results for the above nitrogen parameters shall be reported as: mg/L as Nitrogen.

4. **Precipitation.** Precipitation (rainfall) visual monitoring shall be daily. It shall be recorded and reported as total rainfall for each calendar day and as the total for each calendar month. Precipitation monitoring shall be representative of precipitation falling on the discharge areas.

5. **Standard Observations**
   a. Check (smell) area for odors.
   b. Check area for evidence of any standing water (ponded water).
   c. Check for evidence of mosquitoes breeding within the area due to standing water.
   d. Check all visible distribution system components for proper condition and hydraulic integrity.
   e. Check discharge area runoff containment systems (berms and/or subsurface drains) for proper condition and integrity. Note and record any evidence of wastewater escaping the discharge area.
   f. Check perimeter fences and gates for properly posted warning signs to inform public that discharge area water is wastewater that is not safe for drinking.
   g. Measure and record pond water depth and pond freeboard, in feet and tenths of feet.

C. INCREASED MONITORING FREQUENCY

If any monitoring indicates unstable wastewater system operation or performance, or a violation of waste discharge or monitoring requirements including incomplete sampling or analyses, then monitoring for the parameter(s) and station(s) in concern shall henceforth be conducted at twice the ordinary frequency identified in Table 1 of this SMP. This increased monitoring frequency shall be maintained for at least two sampling events and until such time as the results of monitoring indicate violations are no longer occurring

or the problem has been corrected and the wastewater system has returned to stable operation and performance.

D. MONITORING BY USE OF AUTOMATED INSTRUMENTS

Selected parameters may be monitored by the use of automated analytical instruments, provided such instruments are properly maintained and calibrated to ensure accurate measurements, that these instruments and their use is documented in the Operation and Maintenance Program Manual, and written notification to the Water Board has been provided.

E. MODIFICATION OF MONITORING PRACTICES

Modifications of the monitoring practices specified in this SMP may be authorized by the Executive Officer, in consideration of acceptable accumulated data and acceptable alternate means of monitoring. Factors to be considered include: data quality, adequate characterization of the identified water or wastewater system process, consistency of system performance, compliance with waste discharge requirements, and acceptable means for providing equivalent and adequate monitoring of the identified water or wastewater system process. Requests for modification of monitoring practices must be submitted to the Water Board in writing, with a technical report that includes evaluation of accumulated data, and a complete description of proposed alternate means of monitoring. Proposed modifications of monitoring practices must be accepted in writing by the Executive Officer prior to implementation.

VI. REPORTS to be SUBMITTED to the WATER BOARD

A. MONITORING REPORTS

The Discharger shall submit to the Water Board monitoring reports documenting the wastewater system operation and performance, and compliance with waste discharge requirements, in accordance with the following:

1. Report Schedule

a. Monthly Reports. Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Reports shall be prepared for each calendar month and shall be submitted to the Water Board by the **last day of the month following the monitoring period** (e.g. the February report is due by March 31).

b. Annual Reports. Written reports shall be prepared for each year and shall be submitted to the Water Board by the last day of the second month following the monitoring period (i.e., February 28 or 29).

2. Transmittal Letter

A letter of transmittal shall accompany each monitoring report submitted to the Water Board. The transmittal letter shall include the following:

a. Identification. Identification of the following:

(1) The discharge Facility by name and address;
(2) The monitoring period being reported;
(3) The name and telephone number of a person familiar with the report and the current status of the wastewater system, for follow-up discussions as may be needed; and
(4) The name of the Water Board staff case handler.

b. Operation and Maintenance Activities. Discussion of all significant wastewater system operation and maintenance activities that occurred during the reporting period (e.g., repair or replacement of system equipment), including dates and reasons for such activities.

c. Violations or Problems. Discussion of any violations of waste discharge requirements and any problems or unusual conditions that occurred during the reporting period. This shall include reporting of the following information:

(1) Date and time of occurrence;
(2) Location of occurrence, shown on a scaled or dimensioned plan drawing of the Facility site;
(3) Description of the violation, problem, or unusual condition;
(4) Corrective actions taken or planned to correct the violation, problem, or unusual condition and a time schedule for implementation of these actions. Actions may include increased monitoring and any changes to wastewater system equipment or operations.

If a report describing corrective actions and/or a time schedule for implementation of those actions was previously submitted to the Water Board, then reference to that report is satisfactory. References to other reports shall include the Date, Title or subject, and Author of the referenced report.

d. Transmittal Letter Signature(s). The transmittal letter shall be signed by: (1) the Discharger's principal executive officer, ranking elected official, or duly authorized representative, and (2) the wastewater system chief plant operator, with the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. 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."

3. Results of Analyses and Observations.
Each report shall include results of analyses and observations in accordance with the following:

a. Monitoring Results. Each monitoring report shall include tabulations of results from all required analyses, measurements, and observations specified in this SMP for the reporting period, including:

(1) Date of sampling or observation;
(2) Location of sampling or observation (sample station);
(3) Parameter of analysis (e.g., pH, Dissolved Oxygen, etc.); and
(4) The result of the analysis, measurement or observation.

b. Data Presentation. In reporting monitoring data, the data shall be arranged in tabular form so that the data are clearly discernible. The data shall be summarized in a manner to illustrate clearly whether the discharge is in compliance with waste discharge requirements and this SMP. Reporting shall include maximum, minimum, and monthly average values for each parameter for which more than one sample result is obtained during the monitoring period.

c. Sample Analysis Data. For all sample analyses, include the following:

(1) Date of analysis;
(2) Individual or contract laboratory conducting the analysis;
(3) Analytical procedure or method used, and test method detection level; and
(4) Copies of laboratory analysis result reports for all analyses conducted by a contract laboratory.

d. Reporting Results Below Detection Limits. For all analytical characterizations (laboratory tests) for which results are identified as below limits of detection of the test procedure, data reporting shall include the limit of detection. In other words, reporting a sample test result as only "ND" or "not detected" or similar is not acceptable; the actual numeric value of the detection limit must also be reported. It is acceptable to use notations of non-detection - "ND" or similar - in data tables, provided that the corresponding limit of detection is clearly identified elsewhere in the table or as a footnote of the table.

e. Additional Monitoring Results. If any parameter is monitored more frequently than is required by this SMP, then the results of such monitoring shall be included in the monitoring reports and in any calculations of statistical values.

4. **Monitoring During Wastewater System Modifications.** Whenever any modifications to the wastewater system occur, the monitoring report shall include a description of work that has occurred during the monitoring period, any impacts to wastewater system operations, and, if work is incomplete, the anticipated completion schedule.

5. **Annual Monitoring Reports**
   The annual monitoring report shall include the following:

   a. Data. Tabular and graphical summaries of monitoring data obtained during the period being reported.
   b. Monthly flows. A tabulation of monthly wastewater flows into and out of the Facility, including monthly total flows for monitoring stations within the Facility where flows are recorded.
   c. Performance record. A discussion of wastewater system performance and compliance with requirements specified by this Order.
   d. Monitoring record. A discussion of any data gaps or deficiencies in the monitoring record.
   e. Non-compliance events. For any event of non-compliance with requirements specified by this Order, including monitoring and reporting requirements, the report shall include description of corrective actions taken or planned to achieve full compliance and a time schedule of when those actions were or will be taken.
   f. Monitoring Station Map. A scaled and legible plan view drawing of the Facility site that shows the locations of all monitoring stations specified by this SMP.

B. REPORTS of VIOLATIONS

If the Discharger violates or threatens to violate waste discharge requirements or this SMP due to:

1. Maintenance work, power failure, or breakdown of wastewater system equipment;
2. Accidents caused by human error or negligence; or
3. Other causes such as acts of nature, then:

The Discharger or Discharger's agent(s) shall notify the Water Board office by telephone as soon as the Discharger or Discharger's agent(s) have knowledge of the incident. Written notification shall be submitted within two weeks of the date of the incident, unless directed otherwise by Water Board staff. The written notification shall include pertinent information explaining reasons for the non-compliance and what steps were taken to correct the problem and the dates thereof and what steps are being taken to prevent the problem from recurring.

C. REGIONAL WATER BOARD ADDRESS and PHONE NUMBER

The Water Board's office mailing address, email, fax, and telephone number information are given below. This is the address to be used for submittal of reports and correspondence to the Water Board.

1. **Mail Address:** California Regional Water Quality Control Board, San Francisco Bay Region
   1515 Clay Street, Suite 1400
   Oakland, CA 94612
2. **Email:**

   a. Monitoring Reports.
   Monitoring reports and other related technical reports that are of moderate file size (no more than 10 MB) can be submitted electronically to the Water Board as an attachment to an email submitted to the following email address: **wdr.monitoring@waterboards.ca.gov**.

   b. Email Notification.
   Whenever a report is submitted to the above address, it is advisable to also send a short email notice about that submittal (without the attached report) to Water Board case staff.
   Water Board staff email addresses use this format: <first name>.<last name>@waterboards.ca.gov.

3. Water Board Telephone and Fax: Telephone: (510) 622 - 2300; Fax: (510) 622 - 2460.

VII. REPORTS to be SUBMITTED to OTHER ENTITIES

A. California Department of Public Health

For each monitoring report required to be submitted to the Board, a complete copy of the report shall be submitted at the same time that the report is submitted to the Board to the California Department of Public Health, Preharvest Shellfish Unit, at its current mailing address or email address, at the time of this Order:

California Department of Public Health
Preharvest Shellfish Unit
ATTN: Vanessa Zubkousky-White
850 Marina Bay Parkway, G165
Richmond, CA 94804

E-mail address: Vanessa.Zubkousky@cdph.ca.gov

VIII. MONITORING PROGRAM CERTIFICATION

I, Bruce H. Wolfe, Executive Officer, hereby certify that this Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Water Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements for the subject wastewater systems.
2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.
3. Is effective on the following date: _____.

_____
BRUCE H. WOLFE
Executive Officer

TABLE 1 - SCHEDULE for MONITORING (*)

Monitoring Stations:			INF	FOG	TR-1, 2, 3, ST-East, ST-West	EFF-TR	EFF-D	EFF-Flow	FIELD	
			Influent	FOG Unit Influent	All Treatment and Storage Ponds	Treatment Pond Effluent	Disinfected Effluent	Effluent Flow to Land	Discharge Area	
Sample Parameters		**Type of Sample:**	F	O	G, O	G, O	G	F	O	
Parameter	**(units)**	**[SMP Reference]**								
Flow Volume	(gallons)	[V.B.1]	D&M					D&M		
$BOD_5$20°C	(mg/L)		M			W				
Temperature	(degrees F or C)		M		W	W				
pH	(pH units)		M		W	W				
Dissolved Oxygen	(mg/L)				W	W				
Dissolved Sulfides	(mg/L)	(whenever D.O. < 2 mg/L)			C	C				
Nitrogens	(mg/L as N)	[V.B.3]				M				
Total Dissolved Solids	(mg/L)		M			W				
Total Coliform	(MPN/100 mL)						W | E			
Precipitation	(inches)	[V.B.4]							D	
Standard Observations		[V.B.5]	W		W	W			W	
Water Depth and Freeboard (feet)		[III.B.4 and III.B.5]			W					
Chlorine Tank Level	(inches)						W			
Fats, Oils, and Grease Interceptor Service				Q						

* For explanation of abbreviations used in this table, see **Table 1 Abbreviation Expansions**, on the next page below.

Appendix A
TABLE 1 ABBREVIATION EXPANSIONS

1. Type of Sample Abbreviations

F = Flow measurement
G = Grab Sample
GL = Ground water level measurement
O = Observation

2. Parameter Abbreviations

COD = Chemical Oxygen Demand
BOD_5 20^oC = Biochemical Oxygen Demand, 5-day, at $20^{\circ}C$
Chlorine Level = Chlorine tank level

3. Unit Abbreviations

F or C = Fahrenheit or Celsius
mg/L = milligrams per liter
MPN/100 ml = Most Probable Number, per 100 milliliters of water
N = Nitrogen

4. Sampling Frequency Abbreviations (see III.C for definitions)

D = Daily
W = Weekly
C = Conditional:
For Dissolved Sulfides, sample for Dissolved Sulfides if Dissolved Oxygen < 2.0 mg/L
D&M = Continuous monitoring; record and report Daily & Monthly values
W | E = Weekly monitoring, during each week when discharges to land occur
A = Annual
M = Monthly
Q = Quarterly

Appendix B
Comments

Save Our Seashore

A 501(c)(3) Charitable Organization (EIN 94-3221625)
Founded in 1993 to Protect Marin County's Coastline, Estuaries and Watersheds
PO Box 342, Pt. Reyes Station, CA 94956 gbatmuirb@aol.com 415-663-1881

March 3, 2015

To: California Regional Water Quality Control Board
Attn: Dawning Wu (Dawning.Wu@waterboards.ca.gov)

Re: Tomales Village Community Services District Proposed Waste Discharge Requirements

Dear Ms. Wu:

Save Our Seashore does not believe the Order's monitoring requirements are sufficient.

Paragraph 19 c states: *This Order includes requirements for… 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 3).* And Discharge Specification 3a states: *Discharges of wastewater to the designated discharge area shall not occur under any of the following conditions: a) Rainfall…c) Saturated soils.*

Discharge Specification 3b/c notes: *Spray discharge shall be discontinued whenever wind velocity at the spray field exceeds 10 miles per hour…An anemometer shall be installed at or near the spray discharge area for the purpose of detecting high wind speeds. The anemometer shall be connected to one of the following control systems:(i) A control switch that will automatically shut of the irrigation pumps whenever wind speeds exceed a preset level or (ii) An audible and visual alarm sufficient to notify operating personnel (at any time, day or night, 365 days per year) of wind speeds in excess of a preset level and/or the need to cease spray discharge operations.*

We see no reason why rainfall should not also be monitored in a fashion similar to wind speed. Attachment E notes: "*Precipitation (rainfall) monitoring shall be continuous. It shall be recorded and reported as total rainfall for each calendar day and as the total for each calendar month. Precipitation monitoring shall be representative of precipitation falling on the discharge areas.*" Thus we urge that the Order require that precipitation monitor (like the anemometer) be connected to the control system so that rainfall recorded in the discharge area will automatically shut off the irrigation pumps until reset by the operator.

Further, the specified assessments for soil saturation (visual ponding, mosquitos, etc.) are not anticipatory. Thus we urge that the Order require a system of soil probes calibrated such that the anticipated discharge when added to the measured soil saturation will not in combination exceed the soils ability to absorb. These soil saturation monitors (like the anemometer) should also be connected to the control system so that inadequate soil capacity will not allow the irrigation pumps to operate.

We believe the values protected under the Porter-Cologne Water Quality Control Act far outweigh the comparatively modest cost of our suggestions.

Sincerely, Gordon Bennett President, Save Our Seashore

3/12/15 Addendum to 3/3/15 Save Our Seashore Letter to RWQCB

Re: Waste Discharge Requirements for Tomales Village Wastewater Treatment Plant

Attn: Dawning Wu (Dawning.Wu@waterboards.ca.gov)

Finding 17: Please explain the seeming discrepancy between Finding 17 and the CDPH's 12-Year Sanitary Survey of Tomales Bay. Finding 17 states (emphasis ours): *"A runoff collection ditch surrounding the irrigation field prevents effluent runoff from discharging off-site and also intercepts the rainfall run-on from adjacent fields….the ditch has never overflowed, even during a 50-year storm in 2006."* Yet in seeming contrast the CDPH Survey notes, *"On April 4, 2006 there was an irrigation breach of the berms discharged into a Walker Creek tributary."*

Finding 19 a/c states (emphasis ours): *"The irrigation system at the time of the issuance of this Order is operated under Order 86-086 via an automatic timer during the dry season… This Order rescinds the Winter Irrigation Plan (and Order 86-086) and authorizes a change in the discharge system operation from seasonal discharge to conditional discharge…in accordance with prevailing environmental conditions instead of the former fixed calendar basis."* Yet the CDPH 12-Year Sanitary Survey notes, *"The operator is not on site daily."* In our letter of 3/3/15, we noted, *"We see no reason why rainfall should not also be monitored in a fashion similar to wind speed* [i.e. with an automatic shut-off of discharge pumps should there be an environmental exceedance]. Please explain how an absent operator can be sure that a discharge during any season (wet or dry) is not in fact occurring during a rainfall event.

Finding 22 notes, *"Searching in…the one-mile radius around the Facility returned 41 sampling events conducted at 10 wells* from 1999 to 2014. *The values for nitrate-nitrogen ranged from 0 to 19 mg/L, with a median value of 2.0 mg/L. The drinking water maximum contaminant level for nitrate-nitrogen is 45 mg/L."* Yet the Order does not describe the well locations so that it might be possible to determine whether nitrate of other nitrogen values increase in proportion to proximity to the discharge area or increase in wells down-gradient from the discharge area compared to wells up-gradient. Further, the Order does not provide dates for the well tests such that it could be determined whether results have changed over time due to changes in land use, groundwater gradient or sampling bias. Further still and although the Self-Monitoring Program requires the collection and reporting of nitrate and other nitrogen data, Finding 25 (Discharge Quality) does not list any of the nitrogen measures. Please explain how this Order provides reasonable assurance to the public that beneficial uses adjacent to the discharge area will be safe.

Finding 24 notes that influents varied from 40,000 gal/day average (Dec 2012) to 13,000 gal/day average (Aug 2012). Such a disparity (over 300%) is almost certainly due to rainfall infiltrating the collection system. Yet Findings 7 and 9 make clear that the analysis and permitting of this indivisible Collection/Treatment system is in fact segmented: *"The collection system is permitted not under this Order, but under the General Order for Sanitary Sewer Systems."* Since the Order seeks to prevent

discharges to state waters, please explain why the RWQCB can segment its analysis and fail to require upgrades of the collection system in order to reduce the likelihood that a discharge would occur from the Treatment Facility that is subject to this Order.

Finding 34: Please explain the seeming disparity between Finding 34 and the RWQCB's definition of State waters. Finding 34 notes (emphasis ours): *"This Order permits discharge to groundwaters, and it prohibits discharges to surface waters. Therefore, the waters of the State in the vicinity of the Facility will not be impacted by discharges permitted by this Order."* Yet the State Water Resources Control Board states (emphasis ours) *"Waters of the State* are *defined as any surface water or groundwater…within the boundaries of the state…"* While it may arguably be true that the proposed Order's Discharge Requirements protect the State's groundwater, it does not seem that the mere prohibition of surface discharge by itself protects State waters, as Finding 34 implies. Further, it is well known that claimed "groundwater" especially when proximate to surface waters, are actually hydrologically connected, as noted by the California Department of Water Resources: "*Groundwater and surface water are essentially one resource, physically connected by the hydrological cycle."*

Finding 36 notes: *"In 2007, in response to concerns about the adjacent Keys Creek, the Discharger contracted an engineer to conduct seepage tests* [on the ponds]*…Additionally, in spring 2010, the Facility implemented improvements…The added liner and sub-drain… preclude any unintended discharges from the treatment pond system area into the surface waters of the State."* Yet this test focused only on seepage from the ponds, which are 3600 feet from Keys Creek and use an impervious liner that prevents drainage into groundwater. In contrast, the discharge area is immediately adjacent to Keys Creek and drains directly into groundwater. Finding 34 states: "This Order permits discharge to groundwaters" while Finding 36 states: *"This Order prohibits any discharge to…groundwaters that connect to surface waters to prevent any additional impacts to Tomales Bay."* Yet a mere prohibition written on a piece of paper (the Order) would seem to be an empty promise absent groundwater monitoring. A monitoring well of modest depth at the lower end of the drainage area could might real information in contrast to the engineering study of pond seepage or staff's theoretical conclusions based on the Facility's Self-Monitoring Reports. Please explain the scientific basis on which the Order believes that the groundwater below the discharge area is not hydrologically connected to the surface waters of Keys Creek.

Finding 39 states: *"Water Board staff conclude that based on these groundwater basin characteristics, as well as the discharge volume and final effluent quality, the Facility's authorized discharge is in compliance with the Antidegradation Policy and should not degrade the water quality of the groundwater basin."* But the Order provides no metrics to support compliance. In contrast, Finding 25 notes that the Facility regularly exceeds standards for pH (12 of 12 months) and COD (7 of 12 months) and occasionally exceeds for coliforms (1 of 12 months). And as noted previously, there is no data for Nitrate and no groundwater monitoring. Please explain how these omissions allow the Board to certify compliance with the Antidegradation Policy.

Sincerely, Jordan Gennett President, Save Our Seashore

3/16/15 Addendum to 3/3/15 Save Our Seashore Letter to RWQCB

Re: Waste Discharge Requirements for Tomales Village Wastewater Treatment Plant

Attn: Dawning Wu (Dawning.Wu@waterboards.ca.gov)

Save Our Seashore notes that RWQCB Resolution R2-2007-0010 "*establish*[ed] *new water quality objectives and a total maximum daily load and implementation plan for mercury in the Walker Creek watershed.*" Since the Facility is in the Walker Creek watershed, we suggest that Resolution R2-2007-0010 should be referenced in the Proposed Order.

Further, we note that there is a dental office (Dr. Crispin) located 60 4th Street, which appears to be within the service area of the Facility. According to the Central Marin Sewer Agency's 2008-9 Report, *"dental amalgam (~50% mercury) used to fill cavities in teeth is the largest controllable source of mercury discharged to the sanitary sewer in industrialized areas."* Yet neither the existing Order nor the Proposed Order requires any mercury testing.

Since amalgam separators are inexpensive and the Walker Creek watershed impaired for mercury, we suggest that the Proposed Order should require the Facility to pass an ordinance requiring amalgam separation for dental offices in its service area It may be that Dr. Crispin already has an amalgam separator, but if not, it appears that that a proposed EPA rule will soon require it: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OW-2014-0693-0001

Lastly, We note that the Proposed Order does not have map showing the location of the discharge area and we thus correct our Finding 36 comment in our 3/13/15 addendum as follows: (deleted text struckthrough): "*…Yet this test focused only on seepage from the ponds, which ~~are 3600 feet from Keys Creek and~~ use an impervious liner that prevents drainage into groundwater. In contrast, the discharge area ~~is immediately adjacent to Keys Creek and~~ drains directly into groundwater…*

Sincerely, Gordon Gennett President, Save Our Seashore

State of California—Health and Human Services Agency
California Department of Public Health

MICHAEL WILKENING
Acting Director

EDMUND G. BROWN JR.
Governor

April 2, 2015

Dawning Wu
SF Bay Regional Water Quality Control Board
1515 Clay Street Suite 1400
Oakland, CA 94612

Dear Ms. Wu,

COMMENTS ON THE TOMALES VILLAGE COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT PLANT WASTE DISCHARGE REQUIREMENTS

Thank you for the opportunity to comment on the Waste Discharge Requirements (WDR) for the Tomales Village Community Services District Wastewater Treatment Plant. The California Department of Public Health (CDPH) Preharvest Shellfish Program classifies the shellfish growing waters in Tomales Bay. There is risk of the growing areas being affected if waste is accidentally discharged from the wastewater treatment plant (WWTP) into the adjacent creeks that flow to Tomales Bay.

The WDR change from Seasonal to Conditional Discharge is a concern. It leaves the environmental conditions assessment up to the discharger with no oversight from the Regional Board. The WDR also does not specifically define and set criteria for the conditions under which discharge cannot occur. For example, the terms rainfall and saturated soils do not have a metric for measurement or observation. Another factor that needs to be taken into account for spray operating conditions is weather forecast, as rainfall after spray irrigation may result in runoff of applied wastewater. The disinfection process is not effective for the inactivation of enteric viruses. The short transport time from the spray irrigation site to the outer bay shellfish leases and recreational clam beds is much shorter (<24 hours) than the potential survival of norovirus (~21 days) and other pathogenic enteroviruses. Wet season spray irrigation without appropriate and conservative controls will pose an increased public health threat relative to shellfish harvesting and consumption in outer Tomales Bay.

CDPH prefers that the Seasonal Discharge schedule during the dry season is maintained. This option is most protective of public health relative to shellfish consumption in the outer bay. If Conditional Discharge is accepted, then CDPH recommends that a number of specific criteria be defined to clearly characterize acceptable and unacceptable spray conditions. A sampling and notification requirement should be added for the creek below the spray field for when rainfall occurs within a

certain number of days after spray irrigation. The preferred test parameter would be fecal coliform to detect wastewater runoff entering the creek. There should be specific criteria for what constitutes a rainfall event and when soils in the watershed are deemed to be saturated.

Thank you for including the notification requirement of CDPH and the shellfish growers in case of any non-compliance event that may endanger human health or the environment.

Thank you for considering these comments. If you have any questions, please contact me at 510-412-4631 or vanessa.zubkousky@cdph.ca.gov.

Sincerely,

Vanessa Zubkousky-White
Environmental Scientist
Environmental Management Branch

Wu, Dawning@Waterboards

From: Karl Drexel <karl@tomalescsd.ca.gov>
Sent: Friday, April 03, 2015 12:48 PM
To: Wu, Dawning@Waterboards
Cc: Allen, Blair@Waterboards; Gary Phillips; Steve Phillips
Subject: Tentative WDR and SMP
Attachments: 150309GPWDRTomalesVillageCommunityServicesDistrict_WDR rev.docx; 150309GPSMPTomalesVillageCommunityServicesDistrict_SMP rev.docx

Hi Dawning,
Attached are copies of the Tentative WDR and SMP, listing some of our concerns and comments. The contract operators and I think the Tentative Order as presented is a thorough and fair order and can appreciate all of the time put into them. There are, however, some, what we feel are small yet reasonable revisions we would like you to consider, given the size of our system, the location and the costs of some of the requests. Please take some time to review our requests and maybe we can get together sometime over the next couple of weeks to discuss them. Thanks.

Also, due to some of the restrictive suggestions offered by some "commenters", we would like to be apprised of all of the suggestions to and responses from the Water Board, so that we might have ample time to respond to them and clarify any issues. Thanks again for all your hard work Dawning.

Karl

TOMALES VILLAGE COMMUNITY SERVICES DISTRICT
CWEA Redwood Empire Section 2010 and 2011 Small WWTP Plant of the Year

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. R2-2015-00XX
WASTE DISCHARGE REQUIREMENTS FOR:

TOMALES VILLAGE COMMUNITY SERVICES DISTRICT and the TOMALES VILLAGE COMMUNITY SERVICES DISTRICT WASTEWATER TREATMENT PLANT
10 IRVIN ROAD, 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, California, 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 pond treatment system, installation of a ~~sand~~ fats, oil 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 issued 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 Board 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 waste discharge requirements for the system that is in place and operating at the time of this Order.

5. **Waste Discharge Requirements**. This Order prescribes waste discharge requirements 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. ~~Tomalesis~~ Tomales located in between Stemple Creek, approximately1.5 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 System 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.

   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 maximum inflow rate authorized by this Order, is 43,000 gallons per day.

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 not under this Order, but under the General Order for Sanitary Sewer Systems (see Finding 37). Good to note. GP **Should be under this order so we don't have to pay two permit fees.**
   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 11).

11. **Fats, Oils, and Grease (FOG) Interceptor.** Wastewater is conveyed downstream for further primary treatment in a 2000-gallon Selvage three-chamber ~~sand~~ fats, oil and grease separation unit, after the comminutor and in line before the three-stage treatment pond system influent pipe. The interceptor unit screens and detains solids and fats, oils, and grease, before the influent goes to the first pond of the three-stage treatment pond system. The fats, oils, and grease interceptor is serviced quarterly: a licensed septic waste hauler removes accumulated solids and takes them off-site for disposal (see Discharge Specification 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. **Back-up Aeration System.** The three ponds of the new three-stage treatment pond system are each equipped with an aerator. The system incorporates a back-up 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 wastewater 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 storage ponds are both clay-lined ponds, with a combined maximum storage capacity of 10.1 million gallons. They occupy a 10-acre site south of the Tomales-Petaluma Road, south of the three-stage treatment pond system, 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 wastewater 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 off-site 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. As a result of these operational controls, the ditch has never overflowed, even during a 50-year storm in 2006.

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 shut-down or reconfiguration of irrigation time and cycles.

19. **Discharge Operations.**
    a. **Past Seasonal Operation**. Board Order No. 86-086 authorized seasonal operation of the Facility irrigation field. Under that Order, reclaimed water cannot be applied during the wet weather season (November 15 through April 15, as defined by that Order), when the ground is saturated, or during periods when rainfall or runoff from adjacent land can occur. The irrigation system at the time of the issuance of this Order is operated under Order 86-086 via an automatic timer during the dry season and discharges approximately 25,000 gallons per day 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 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 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 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 3). Good change. GP Thank you. KWD

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. Would be feasible with SRF loans and Grants, but Shoreline and the Community chose not to pursue. KWD

Surrounding Environment of the Facility

21. **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 Pilocene Marine geologic formation, known as "Wilson Grove," overlies the Franciscan complex. The 135 square-mile Wilson Grove Formation Highlands groundwater basin underlies the Facility.

    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 34 for further information on surrounding waters of the State.

22. **Groundwater Quality Characteristics**. A state-wide 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-nitrogen ranged from 0 to 19 mg/L, with a median value of 2.0 mg/L. The drinking water maximum contaminant level for nitrate-nitrogen is 45 mg/L. The underlying Wilson Grove Formation Highlands groundwater basin is listed with existing beneficial use for municipal and domestic water supply, as well as agricultural water supply (see Finding 34). The groundwater basin is listed with potential beneficial use for 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 500-student Shoreline Unified School District located at 10 John Street in Tomales. As described above, secondary effluent is conveyed from the collection system to the three-stage treatment system and then via one four-inch force main connecting the third pond of the three-stage treatment pond system to the two storage ponds located south of the three-stage treatment pond system on the Facility. The secondary effluent is then disinfected and discharged from the storage ponds as irrigation for the adjacent 21-acre pasture. No effluent is discharged via any other system or process, and there is no discharge to surface water(s).

24. **Discharge Quantity.** The current average inflow to the Facility is approximately 16,900 gallons per day, based on 2012-2013 data. The design inflow capacity of the Facility three-stage treatment pond system as provided in the Discharger's Operation and Maintenance Manual and authorized by this Order is 43,000 gallons per day on an annual 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 43,000gallons per day and 366 days. For reference, wastewater flows (influent and effluent, when applicable) from January 2012 through December 2013 are tabulated below.

Month-Yr	Influent MonthTotal (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

-- indicates no effluent discharge occurred during the entire month.

25. Discharge Quality for 2012-2013. Results from routine sampling (per the Self-Monitoring Program of Board 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 Demandrange (mg/L)**	**Total Coliforms range (MPN/100ml H_2O)**
Order 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 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 – 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 the 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.

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.

28. **Chemical Oxygen Demand Effluent Quality Limitation**. When the previous Order (Board Order No. 86-086) was issued, the common constituent for monitoring and measuring wastewater strength was chemical oxygen demand (COD). The Facility has since complied with Order No. 86-086 by measuring COD. More recently, however, biochemical oxygen demand (BOD) has become the standard of choice for measuring wastewater strength.

Authorization to Continue Measuring COD. Correspondence with the Discharger, from May 2014, revealed its preference to continue measuring COD. The Water Board can allow replacement of BOD analysis with COD analysis for measuring wastewater strength, if the Facility demonstrates a long-term correlation (as described in federal effluent guidelines for secondary treatment regulation, 40 CFR 133.104b). Therefore, this Order permits the continuance of the COD limit of 210 mg/L as designated in Order 86-086, during the year-long process of demonstrating a long-term correlation, and afterwards, if Water Board staff determines the correlation to be acceptable. The completed correlation report should be included in the Annual Monitoring Report (see Attachment E, VI.A.5.b). During internal monitoring of BOD and COD, there was no obvious correlation between the two. At times BOD would stay the same and COD would change and vis a versa. KWD

Operation and Maintenance

29. **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.

30. **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. Note: This can be relatively expensive depending on the detail required and the amount of information currently prepared on site. O&M Manuals are time consuming to prepare so sufficient time should be allowed for implementation. GP

Comment [O1]: SSMP contains O&M Program. Does O&M Manual have to as well?

Applicable Plans, Policies, and Other Authorities

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

32. **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, Office of Administrative Law and the U.S. EPA, where required.

33. **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.

34. **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:

    1. Municipal and domestic water supply
    2. Industrial process water supply
    3. Industrial service water supply
    4. 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. Upstream of the irrigation field, the influent undergoes treatment at the three-stage treatment pond system. The treatment pond system is bounded to the South by Keys Creek. Keys Creek is a tributary to Walker Creek, which flows into Tomales Bay. The confluence with Walker Creek lies within 1.5 miles southwest of the system. This Order permits discharge to groundwaters, and it prohibits discharges to surface waters. Therefore, the waters of the State in the vicinity of the Facility will not be impacted by discharges permitted by this Order.

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

36. **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, 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 TMDL 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 any discharge to surface waters or to groundwaters that connect to surface waters to prevent any additional impacts to Tomales Bay.

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 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.

37. **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

38. **Antidegradation Policy.** State Water Board Resolution No. 68-16 (the Antidegradation Policy) requires that the Regional Water Board, in regulating the discharge of waste, must 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 waste discharge requirements 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.

39. **Antidegradation Analysis**. This Order authorizes no significant changes in the Facility's effluent discharge volume or pollutant concentrations. Some changes due to water conservation practices or variable rainfall may occur. Based upon evaluation of Facility self-monitoring reports since the system upgrade in spring 2010, Regional Water Board staff conclude that the Facility's 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.

    a. **Protection of Surface Waters**. This Order prohibits discharges either directly or via migration to surface waters, so existing and potential beneficial uses of nearby surface waters will not be affected. 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 serves domestic and commercial flow with zero industrial flow and discharge to a remote irrigation field, where the influent will infiltrate into the ground. Further, the irrigation field is surrounded by a perimeter ditch to prevent any off-site discharges, in case of runoff from the site. The ditch is also equipped with a collection sump with a water level alarm, which will shut down all Facility operations if the water reaches a level predetermined by the operators. Each pond within the three-stage treatment pond system is lined with an impermeable liner and plumbed to direct any seepage collection into the third pond. The 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. 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.

c. **Groundwaters Listed as "Very Low" Priority Source of Water**. In spring 2014, the California Department of Water Resources evaluated the characteristics of groundwater basins through a statewide assessment of the overall importance of the groundwaters in meeting urban and agricultural demands. The Wilson Grove Formation Highlands groundwater basin is ranked as "very low" priority, indicating that the basin has less than 0.03 acre-feet/acre of groundwater use and less than 0.1% of the statewide total water supply is sourced from the basin. Water Board staff conclude that based on these groundwater basin characteristics, as well as the discharge volume and final effluent quality, the Facility's authorized discharge is in compliance with the Antidegradation Policy and should not degrade the water quality of the groundwater basin.

Safe Drinking Water Act

40. 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)

41. CEQA. The issuance of waste discharge requirements 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

42. Public Notice. The Board has notified the Discharger and interested persons of its intent to prescribe waste discharge requirements 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.

43. Public Hearing. The Board, in a properly noticed public hearing, heard and considered all comments pertaining to these waste discharge requirements.

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 the California Water Code, 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 wastewater collection, treatment, storage, or discharge facilities.

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 ororganic 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. Has this been determined by recent engineering studies? GP

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 (TR) or storage (ST) pond shall not exceed the following limits in any grab sample:

Measured parameter	Quality specifications
(i) Dissolved Oxygen	2.0 mg/L, minimum
(ii) Dissolved Sulfides*	0.1 mg/L, minimum
(iii) pH	6.5 minimum

*sampled only when dissolved oxygen concentration is below 2 mg/L

3. Spray Discharge

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

a) Rainfall
b) Presence of ponded standing water
c) Saturated soils, or
d) Increased potential of ponding or runoff.

b. 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. Spray discharge shall be discontinued whenever wind velocity at the spray field exceeds 10 miles per hour.

Comment [s2]: Wind speed of 10 mile an hour seems too restrictive. Sustainable wind speeds of 15 + MPH before the irrigation shuts down seems more reasonable considering the location SP

c. Anemometer. An anemometer shall be installed at or near the spray discharge area for the purpose of detecting high wind speeds. The anemometer shall be connected to one of the following control systems:

Comment [s3]: New equipment will need to be installed with SCADA communication SP

(i) A control switch that will automatically shut of the irrigation pumps whenever wind speeds exceed a preset levelor
(ii) An audible and visual alarm sufficient to notify operating personnel (at any time, day or night, 365 days per year) of wind speeds in excess of a preset level and/or the need to cease spray discharge operations.

The ***average daytime*** wind speed in Tomales of April to November is 21.4 MPH with maximum speed of 26 MPH. Gusts occur 12-18 days per month and sometimes multiple occasions during the day and reach speeds that average 30.1 MPH with maximum speed of 41. This has been going on for years and will not change. Restrictive wind speeds of 10 miles per hour would FREQUENTLY shut down all irrigation and be cumbersome, overly restrictive and unnecessarily expensive. (http://www.wunderground.com/history) KWD

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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
(i) Dissolved oxygen	2.0 mg/L, minimum Is DO for discharge effluent necessary if we are monitoring the treatment and storage ponds
(ii) pH	6.5 minimum

(iii) Chemical oxygen demand 210 mg/L, maximum Would rather see 240 since higher COD is usually only casued by algae and would give us several additional days of irrigation without a problem.KWD

(iv) Total coliforms 240MPN*/100 ml – max. median from last 5 samples

*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 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 independent of the normal power supply for the wastewater system. We have only one power supply at each facility. Alarm system has UPS system in case of power failure. It is not feasible to add additional power sources to each facility. KWD

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 waste discharge requirements 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. Immediately may not be feasible if we are required to purchase, install, and integrate to our SCADA alarm system new equipment and monitoring devices. KWD All required submittals must be acceptable to the Executive Officer. The Discharger must also comply with all conditions of these waste discharge requirements. 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 waste discharge requirements by the Water Board (California Water Code (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 waste discharge requirements 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 waste discharge requirements 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.** The Discharger shall submit to the Board a technical report, acceptable to the Executive Officer, no later than 30 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. Depending on what information is currently on hand, a longer compliance time may be necessary. 180 to 360 days seems more reasonable? GP

Isn't the "narrative description" of the wastewater treatment and discharge system encompassed in this WDR already? KWD

Water Balance Equation. The as-built plans shall include a water balance equation for the discharge system including the two storage ponds and the discharge area. The water balance equation 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. ??? KWD

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. **As-Built Plans - Future Changes.** 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 30 days of completion of those changes. Depending upon the types and extent of changes, an amendment to this Order may be necessary. Again, 180 days seems more reasonable due to the size of the district and lack of internal staff to do the work. All work would need to be contracted through a technical firm. GP

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 SWRCB 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 waste discharge requirements, 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 30 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. This is a time consuming task. 180 to 360 days seems more reasonable due to the lack of internal staff to perform this work. GP

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. This is a new requirement we have not seen before. O&M Manuals have fallen out of favor over the last several years due to their expense to create and maintain. It looks like the Regional Board wants to reverse this trend. GP

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:

Comment [s4]: Does this mean a call needs to be made even for something like a pH or coliform non-compliance or something more like irrigation run off into a waterway SP

a) A description of the noncompliance and its cause;
b) The period of noncompliance;
c) Actions that were taken in response to the incident;
d) And 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:

e) A description of the noncompliance and its cause;

f) The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected;
g) Actions that were taken in response to the incident;
h) The anticipated time it is expected to continue;
i) And 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. Steve: How does 12 and 13 compare with your current practices at TVCSD? GP

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.

Notification for Modifications to the Order

15. **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 waste discharge requirements, and thus violations of the California Water Code.

16. **Report of Waste Discharge for Change in Discharge Characteristics, Facility.** The Discharger shall file with the Board a Report of Waste Discharge 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.

17. **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.

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

19. **Rescission of Previous Order.** The waste discharge requirements prescribed by this Order supersede those prescribed by this Board's Order No. 86-086 for North Marin County Water District. Order No. 86-086 is hereby rescinded for North Marin County Water District.

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 [DATE].

_____

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

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

TENTATIVE SELF-MONITORING PROGRAM (Attachment E)

for the

TOMALES VILLAGE COMMUNITY SERVICES DISTRICT
WASTEWATER TREATMENT FACILITY
at
10 IRVIN ROAD, TOMALES, MARIN COUNTY

for

ORDER NO. R2-2014-XXXX

CONTENTS:

I. PURPOSE

1. This monitoring program is for waste discharge requirements assigned to the Tomales Village Community Services District (Discharger), adopted by the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board).

2. The principal purposes of a monitoring program by a waste discharger, also referred to as a self-monitoring program (SMP), are
   a. To document compliance with waste discharge requirements and prohibitions established by the Water Board and
   b. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution or potential threats to water quality arising from waste discharges.

3. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code, and Water Board Resolution No. 73-16.

II. SAMPLING and ANALYTICAL METHODS

1. **Approved methods**. Sample collection, storage, and analyses shall be performed according to Code of Federal Regulations Title 40, Section 136 (40 CFR 136), or other methods approved and specified by the Executive Officer of the Water Board (Executive Officer).

2. **Approved laboratory**. Water and waste analyses shall be performed by a laboratory approved for these analyses by the California Department of Public Health (CDPH), or by a laboratory waived by the Executive Officer from obtaining a CDPH certification for these analyses, or as otherwise specified in this SMP.

3. **Accountability for analytical work**. The director of the laboratory whose name appears on the certification, or his laboratory supervisor who is directly responsible for the analytical work performed, shall supervise all analytical work including appropriate quality assurance/quality control procedures in his laboratory and shall sign all reports of such work submitted to the Water Board. – How are we going to monitor a commercial lab? KWD

4. **Appropriate usage and calibration of equipment**. Measurements by use of portable analytical equipment or other monitoring instruments and equipment shall abide by the following conditions:
   a. The analytical equipment is appropriate for the given analysis of/for water or waste;
   b. The analytical equipment is properly maintained and calibrated to ensure accuracy;
   c. The equipment user is knowledgeable of proper sampling and equipment use practices; and
   d. Written notification of the intended use has been provided in advance to the Water Board, and the Water Board has not stated any objections. – Same as above? KWD

III. DEFINITION of TERMS

The following are definitions and explanations of terms used in this monitoring program; see Appendix A for abbreviation expansions. Additional descriptions are given in the findings of this Order.

A. FACILITY AND WASTEWATER SYSTEM

1. **Facility Site.**The facility site is the land on which the facility identified as the Tomales Wastewater Facility is located. This land consists of Marin County Assessor's Parcel Number102-130-10 and 104-050-18.

2. **Wastewater System.** The wastewater system is comprised of all equipment at the facility site used for collection, conveyance, treatment, storage, discharge, and management of wastewater and wastewater solids from the community of Tomales, including the Shoreline Unified School District.

3. **DischargeArea.** The discharge area, also called the irrigation field, is a 21-acre vegetated gently sloping hillside field, fenced and gated, with above-grade sprinklers, located downhill of the storage ponds, and about 3,600 feet south of the wastewater treatment ponds.

4. **DischargeSystem.** The discharge system is the portion of the wastewater system used for conveyance and discharge of treated wastewater to land in the identified discharge-area. This includes, but is not limited to, pumps, pipes, sprinklers, and all equipment used to control and monitor the discharge operations.

B. TYPES OF SAMPLES

1. **Flow Measurement.** Flow measurement is the accurate measurement of the flow volume over a given period of time using a properly calibrated and maintained flow measuring device. Use of a properly calibrated and maintained automated pump-use recording device, such as a pump dose event counter, is acceptable.

2. **Grab Sample.** A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples are used primarily in determining compliance with daily or instantaneous maximum or minimum limits, and also for bacteriological limits. Grab samples represent only the condition that exists at the time and location the sample is collected.

3. **Observations.** Observations are primarily visual assessments and inspection of conditions. Observations may include recording measurements from monitoring devices such as freeboard determined from a water level staff gauge, or precipitation determined from a rain gauge.

4. **Pond Water Depth.** Pond water depth is the vertical distance between the free water surface of the water contained in the pond, and the bottom of the water volume contained in the pond.

5. **Pond Freeboard.** Pond freeboard is the vertical distance between the free water surface of the water contained in the pond, and the elevation of the lowest point of the top of the water containment structure (i.e., the elevation at which water would overflow from the pond).

C. SAMPLING FREQUENCY

1. **Continuous.** Continuous monitoring.
2. **Daily.** One time each calendar day.
3. **Weekly.** One time per calendar week, with sampling interval of at least five days.
4. **Monthly.** One time per calendar month, with sampling intervals of at least three weeks.
5. **Quarterly** One time per calendar quarter, at intervals of about three months.
6. **Semiannual.** Two times per calendar year, with sampling intervals of about six months.
7. **Annual.** One time per calendar year.
8. **Event.** Each service or discharge event.
9. **Conditional.** Depending on conditions specified in this SMP:
   For Dissolved Sulfides, the condition is whenever Dissolved Oxygen < 2.0 mg/L.

D. MONITORING PERIODS

For purposes of monitoring, reporting and compliance determinations relevant to requirements specified in this Order and SMP, the following time periods apply:

1. **Daily.** 24-hour period associated with a calendar day; may overlap calendar days (e.g., 8 am of one day to 8 am of the next), but shall be consistent from one sampling event to the next.
2. **Weekly.** 7-day calendar week.
3. **Monthly.** Each respective calendar month.

4. **Annual.** Calendar year.

IV. DESCRIPTION of MONITORING STATIONS

A. GENERAL

1. **Monitoring Station Definitions**. Stations to be used for sampling and observations in this SMP (self-monitoring program) are described in this section (IV). Each station is identified by a station code and station description. The Station Code is a reference code for station identification in this SMP and in recording and reporting of monitoring data. The Station Description is a description of the water, wastewater, point of the wastewater system, or land area where specified monitoring is to be conducted.

2. **Monitoring Station Changes.** Changes to the monitoring stations defined in this SMP may be authorized by the Executive Officer, in order to accommodate changes in the wastewater system or wastewater system operations or to provide improved monitoring. Requests for changes to the monitoring stations shall be submitted to the Water Board in writing with a detailed explanation of the purpose of the proposed station changes. Proposed changes to monitoring stations shall be approved in writing from the Executive Officer prior to implementation.

3. **Site Plan Showing All Monitoring Stations.** The Discharger shall develop a scaled and legible plan view drawing of the facility site that clearly shows the locations of all major components of the wastewater system, all monitoring stations identified in this SMP, and relevant land use features such as buildings, access roads, property boundaries and surface water drainage systems. A copy of this drawing shall be included with each annual monitoring report, and with any reports regarding station changes.

B. WASTEWATER SYSTEM MONITORING STATIONS

	Code	Station Name and Description	Station Purpose
1.	INF	Influent: Wastewater at a point in the Wastewater Treatment Facility (Facility) where all wastes upstream of the treatment process are present.	Measurement of the total volume of wastewater flow into the Facility. To document compliance with the Authorized Wastewater Flow (annual total flow) limit given in Discharge Specification 4 of this Order.
2.	FOG	Fats, Oils, and Grease Interceptor: Wastewater at a point in the Facility after collection into the comminutor, before the fats, oils, and grease (FOG) interceptor.	Sampling and analytical characterization of influent into the wastewater treatment plant through the FOG interceptor.
3.	TR-1, TR-2, TR-3	Treatment Ponds, 1, 2 and 3: Wastewater at a point in each of the three respective treatment ponds, representative of the water in the pond; a physical location suitable for general observations of pond conditions.	Sampling and analytical characterization of pond water for Dissolved Oxygen, pH, Temperature, and Dissolved Sulfides as needed; for standard observations of pond conditions, to document compliance with the requirements of Discharge Specification 2 of this Order.
4.	EFF- TR	Treatment Pond Effluent: Wastewater at a point in the Facility where all treatment has been completed, except for disinfection by chlorination, prior to discharge to the irrigation field.	Sampling and analytical characterization of final treated effluent prior to discharge to land, to monitor and evaluate treatment system performance and to document compliance with requirements of Discharge Specification 5 of this Order.
5.	ST-East, ST-West	Storage Ponds, East and West: Wastewater at a point in each of the two respective storage ponds, representative of the water in the pond. And a physical location at each pond suitable for general observations of pond conditions.	Sampling and analytical characterization of pond water for Dissolved Oxygen, pH, and Dissolved Sulfides as needed, and for standard observations of pond conditions, to document compliance with requirements of Discharge Specification 2 of this Order.
6.	EFF-D	Disinfected Effluent: Wastewater at a point in the Facility where all treatment has been completed, including disinfection by chlorination, suitable for bacteriological quality analyses.	Sampling and analytical characterization of the bacteriological quality of the final treated effluent, to document compliance with Total Coliform limits given in Discharge Specification 5.iv.
7.	EFF-Flow	Effluent Flow: Wastewater at a point in the Facility where all treatment has been completed, including disinfection by chlorination, suitable for final effluent flow measurement.	Measurement of the total flow of final treated disinfected wastewater effluent discharged to land at the irrigation field.
8.	FIELD	Irrigation Field: The irrigation field land area used for discharges of treated wastewater to land.	Standard observations of discharge area conditions and to document compliance with requirements of Discharge Specification 3 of this Order.

V. MONITORING SCHEDULE and SPECIFICATIONS

A. MONITORING SCHEDULE

1. **Table 1.**The Discharger is required to perform sampling, analyses, and observations according to the schedule tabulated in **Table 1 - Schedule for Monitoring**, which is the last item in this SMP.

2. **Table 1"SMP References".** Table 1 includes references given in brackets to the right of the Parameter name. These references correspond to Definitions in Section III or Monitoring Specifications in Section V.B. of this SMP.

B. MONITORING SPECIFICATIONS

1. **Flow Monitoring and Reporting.** All flows shall be monitored continuously in a manner sufficient to measure, record, and report the daily flow volume for each day of operation, and the monthly flow volume for each calendar month. Flows shall be reported as Daily Flow, in gallons, for each day when flow occurs, and Monthly Flow, in gallons, for each calendar month.

2. **Additional Monitoring May be Necessary.** The monitoring requirements established in this SMP are minimum requirements. Additional monitoring for any parameter may be necessary and prudent to ensure proper wastewater system performance and compliance with WDRs.

3. **Nitrogens.**
   - **a.** The parameter 'Nitrogens' in this SMP means all of the following parameters:
     (1)Ammonia Nitrogen,
     (2) Nitrate Nitrogen,
     (3) Total Kjeldahl Nitrogen (TKN), and
     (4) Total Nitrogen.
   - **b.** Analytical results for the above nitrogen parameters shall be reported as: mg/L as Nitrogen.

4. **Precipitation.** Precipitation (rainfall) monitoring shall be continuous. It shall be recorded and reported as total rainfall for each calendar day and as the total for each calendar month. Precipitation monitoring shall be representative of precipitation falling on the discharge areas.

Unnecessarily expensive. Discharge does not occur during a rain event. KWD

Comment [s1]: This will require a daily data recorder to be installed and updated to the SCADA SP

5. **Standard Observations.**
   a. Check (smell) area for odors.
   b. Check area for evidence of any standing water (ponded water).
   c. Check for evidence of mosquitoes breeding within the area due to standing water.
   d. Check all visible distribution system components for proper condition and hydraulic integrity.
   e. Check discharge area runoff containment systems (berms and/or subsurface drains) for proper condition and integrity. Note and record any evidence of wastewater escaping the discharge area.
   f. Check perimeter fences and gates for properly posted warning signs to inform public that discharge area water is wastewater which is not safe for drinking. Discharge area is behind two locked gates, unaccessible to the public. KWD
   h. Measure and record pond water depth and pond freeboard, in feet and inches. Unnecessarily expensive. Current instruments and integrated SCADA recording measure pond level and freeboard in feet and tenths of feet. KWD

C. INCREASED MONITORING FREQUENCY

If any monitoring indicates unstable wastewater system operation or performance, or a violation of waste discharge or monitoring requirements including incomplete sampling or analyses, then monitoring for the parameter(s) and station(s) in concern shall henceforth be conducted at twice the ordinary frequency identified in Table 1 of this SMP. This increased monitoring frequency shall be maintained for at least two sampling events, and until such time as the results of monitoring indicate violations are no longer occurring

or the problem has been corrected and the wastewater system has returned to stable operation and performance.

D. MONITORING BY USE OF AUTOMATED INSTRUMENTS

Selected parameters may be monitored by the use of automated analytical instruments, provided such instruments are properly maintained and calibrated to ensure accurate measurements, and that these instruments and their use is documented in the Operation and Maintenance Program Manual, and written acceptance by the Executive Officer has been provided. Note "written acceptance" required. GP

E. MODIFICATION OF MONITORING PRACTICES

Modifications of the monitoring practices specified in this SMP may be authorized by the Executive Officer, in consideration of acceptable accumulated data and acceptable alternate means of monitoring. Factors to be considered include: data quality, adequate characterization of the identified water or wastewater system process, consistency of system performance, compliance with waste discharge requirements, and acceptable means for providing equivalent and adequate monitoring of the identified water or wastewater system process. Requests for modification of monitoring practices must be submitted to the Water Board in writing, with a technical report that includes evaluation of accumulated data, and a complete description of proposed alternate means of monitoring. Proposed modifications of monitoring practices must be accepted in writing by the Executive Officer, prior to implementation.

VI. REPORTS to be SUBMITTED to the WATER BOARD

A. MONITORING REPORTS

The Discharger shall submit to the Water Board monitoring reports documenting the wastewater system operation and performance, and compliance with waste discharge requirements, in accordance with the following:

1. **Report Schedule.**
   a. **Monthly Reports.** Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Reports shall be prepared for each calendar month and shall be submitted to the Water Board by the **last day of the month following the monitoring period** (e.g. the February report is due by March 31).

   b. **Annual Reports.** Written reports shall be prepared for each year and shall be submitted to the Water Board by the last day of the second month following the monitoring period (i.e., February 28 or 29).

2. **Transmittal Letter.**
   A letter of transmittal shall accompany each monitoring report submitted to the Water Board. The transmittal letter shall include the following:

   a. **Identification.** Identification of the following:
      (1) The discharge facility by name and address;
      (2) The monitoring period being reported;
      (3) The name and telephone number of a person familiar with the report and the current status of the wastewater system, for follow-up discussions as may be needed; and
      (4) The name of the Water Board staff case handler.

   b. **Operation and Maintenance Activities.** Discussion of all significant wastewater system operation and maintenance activities that occurred during the reporting period (e.g., repair or replacement of system equipment), including dates and reasons for such activities.

c. Violations or Problems. Discussion of any violations of waste discharge requirements, and any problems or unusual conditions, that occurred during the reporting period. This shall include reporting of the following information:

(1) Date and time of occurrence;
(2) Location of occurrence, shown on a scaled plan drawing of the facility site; Scaled Plan Drawing seems excessive for such a small system KWD
(3) Description of the violation, problem, or unusual condition;
(4) Corrective actions taken or planned to correct the violation, problem, or unusual condition and a time schedule for implementation of these actions. Actions may include increased monitoring and any changes to wastewater system equipment or operations.

If a report describing corrective actions and/or a time schedule for implementation of those actions was previously submitted to the Water Board, then reference to that report is satisfactory. References to other reports shall include the Date, Title or subject, and Author of the referenced report.

d. Transmittal Letter Signature(s). The transmittal letter shall be signed by: (1) the Discharger's principal executive officer, ranking elected official, or duly authorized representative, and (2) the wastewater system chief plant operator, with the following certification statement:

"I certify under penalty of law that this document and all attachments have been prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. 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."

3. Results of Analyses and Observations.
Each report shall include results of analyses and observations in accordance with the following:

a. Monitoring Results. Each monitoring report shall include tabulations of results from all required analyses, measurements, and observations specified in this SMP for the reporting period, including:
(1) Date of sampling or observation;
(2) Location of sampling or observation (sample station);
(3) Parameter of analysis (e.g., pH, Dissolved Oxygen, etc.); and
(4) The result of the analysis, measurement or observation.

b. Data Presentation. In reporting monitoring data, the data shall be arranged in tabular form so that the data are clearly discernible. The data shall be summarized in a manner to illustrate clearly whether the discharge is in compliance with waste discharge requirements and this SMP. Reporting shall include maximum, minimum and monthly average values for each parameter for which more than one sample result is obtained during the monitoring period.

c. Sample Analysis Data. For all sample analyses, include the following:
(1) Date of analysis;
(2) Individual or contract laboratory conducting the analysis;
(3) Analytical procedure or method used, and test method detection level; and
(4) Copies of laboratory analysis result reports for all analyses conducted by a contract laboratory.

d. Reporting Results Below Detection Limits. For all analytical characterizations (laboratory tests) for which results are identified as below limits of detection of the test procedure, data reporting shall include the limit of detection. In other words, reporting a sample test result as only "ND", or "not detected" or similar, is not acceptable; the actual numeric value of the detection limit must also be reported. It is acceptable to use notations of non-detection - "ND" or similar - in data tables, provided

that the corresponding limit of detection is clearly identified elsewhere in the table, or as a footnote of the table.

e. Additional Monitoring Results. If any parameter is monitored more frequently than is required by this SMP, then the results of such monitoring shall be included in the monitoring reports, and in any calculations of statistical values.

4. Monitoring During Wastewater System Modifications. Whenever any modifications to the wastewater system occur, the monitoring report shall include a description of work that has occurred during the monitoring period, any impacts to the wastewater system operations and, if work is incomplete, anticipated completion schedule.

5. Annual Monitoring Reports.
The annual monitoring report shall include the following:

a. Data. Tabular and graphical summaries of monitoring data obtained during the period being reported.

b. Long-term BOD:COD correlation report. Report results from concurrently measuring both chemical oxygen demand (COD) and biological oxygen demand (BOD), in order to demonstrate a long-term BOD:COD correlation for approved documentation and validation of COD testing as an acceptable form of wastewater strength reporting for the Facility (as described in federal effluent guidelines, 40 CFR 133.104b).Unnecessarily cumbersome and expensive. We have tested both BOD and COD in anticipation of this and it is my understanding that NOBODY has determined a direct correlation between COD and BOD results. Our tests certainly indicated this. We should do one or the other and leave it at that. KWD

c. Water Balance. A tabulation of monthly wastewater flows into and out of the wastewater Facility, including monthly total flows for monitoring stations within the Facility where flows are recorded.

d. Performance record. A discussion of wastewater system performance and compliance with requirements specified by this Order.

e. Monitoring record. A discussion of any data gaps or deficiencies in the monitoring record.

f. Non-compliance events. For any event of non-compliance with requirements specified by this Order, including monitoring and reporting requirements, the report shall include description of corrective actions taken or planned to achieve full compliance, and a time schedule of when those actions were or will be taken.

g. Monitoring Station Map. A scaled and legible plan view drawing of the facility site which shows the locations of all monitoring stations specified by this SMP.

B. REPORTS of VIOLATIONS

If the Discharger violates or threatens to violate waste discharge requirements or this SMP due to

1. Maintenance work, power failure, or breakdown of wastewater system equipment;
2. Accidents caused by human error or negligence; or
3. Other causes such as acts of nature, then:

The Discharger or Discharger's agent(s) shall notify the Water Board office by telephone as soon as the Discharger or Discharger's agent(s) have knowledge of the incident. Written notification shall be submitted within two weeks of the date of the incident, unless directed otherwise by Water Board staff. The written notification shall include pertinent information explaining reasons for the non-compliance and what steps were taken to correct the problem and the dates thereof, and what steps are being taken to prevent the problem from recurring.

C. REGIONAL WATER BOARD ADDRESS and PHONE NUMBER

This Water Board's office mailing address, email, fax and telephone number information are given below. This is the address to be used for submittal of reports and correspondence to the Water Board.

1. **Mail Address:** California Regional Water Quality Control Board, San Francisco Bay Region
   1515 Clay Street, Suite 1400
   Oakland, CA 94612
2. **Email:**
   a. **Monitoring Reports.**
   Monitoring reports and other related technical reports that are of moderate file size (no more than 10 MB) can be submitted electronically to the Water Board as an attachment to an email submitted to the following email address:**wdr.monitoring@waterboards.ca.gov**.
   b. **Email Notification.**
   Whenever a report is submitted to the above address, it is advisable to also send a short email notice about that submittal (without the attached report) to Water Board casestaff.
   Water Board staff email addresses use this format:<first name>.<last name>@waterboards.ca.gov.

Comment [s2]: Can the Waterboard case staff be CCed? SP

3. **Water Board Telephone and Fax:** Telephone:(510) 622 - 2300; Fax: (510) 622 - 2460.

VII. REPORTS to be SUBMITTED to OTHER ENTITIES

A. California Department of Public Health.
For each monitoring report required to be submitted to the Board, a complete copy of the report shall be submitted at the same time that the report is submitted to the Board, to the California Department of Public Health, Preharvest Shellfish Unit, at its current mailing address, at the time of this Order:

Comment [s3]: Can this be emailed instead of using snail mailing SP

California Department of Public Health
Preharvest Shellfish Unit
ATTN: Vanessa Zubkousky-White
850 Marina Bay Parkway, G165
Richmond, CA 94804

VIII. MONITORING PROGRAM CERTIFICATION

I, Bruce H. Wolfe, Executive Officer, hereby certify that this Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Water Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements for the subject wastewater systems.
2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be ordered by the Executive Officer.
3. Is effective on the following date: _____.

_____
BRUCE H. WOLFE
Executive Officer

DRAFT

TABLE 1 - SCHEDULE for MONITORING (*)

Monitoring Stations:			INF	FOG	TR-1, 2, 3, ST-East, ST-West	EFF-TR	EFF-D	EFF-Flow	FIELD	
			Influent	FOG Unit Influent	All Treatment and Storage Ponds	Treatment Pond Effluent	Disinfected Effluent	Effluent Flow to Land	Discharge Area	
Sample Parameters	**Type of Sample:**		F	G, O	G, O	G, O	G	F	O	
Parameter	**(units)**	**[SMP Reference]**								
Flow Volume	(gallons)	[V.B.1]	D&M					D&M		
COD	(mg/L)			W		W				
$BOD_5$20°C	(mg/L)			W		W				
Temperature	(degrees F or C)			W	W	W				
pH	(pH units)			W	W	W				
Dissolved Oxygen	(mg/L)			W	W	W				
Dissolved Sulfides	(mg/L)(whenever D.O. < 2 mg/L)			C	C	C				
Nitrogens	(mg/L as N)	[V.B.3]				M				
Total Dissolved Solids	(mg/L)			W		W				
Total Coliform	(MPN/100 mL)						W | E			
Precipitation	(inches)	[V.B.4]								
Standard Observations		[V.B.5]		W	W	W			W	
Water Depth and Freeboard	(feet& inches)	[III.B.4 and III.B.5]			W					
Chlorine Tank Level	(inches)						W			

Comment [s4]: Weekly appears to be excessive. Monthly should be sufficient SP

Comment [s5]: Weekly appears to be excessive. Monthly should be sufficient SP

Comment [s6]: Weekly appears to be excessive. Monthly should be sufficient SP

Comment [s7]: Weekly appears to be excessive. Monthly should be sufficient SP

Comment [s8]: D.O. of the FOG influent does not seem to be of any relevance and therefore suggest it be eliminated SP

Comment [s9]: The FOG influent will most likely be < 2.0 mg/L . This need to be clarified as to the intent. SP

Comment [s10]: Weekly appears to be excessive. Monthly should be sufficient sp

* For explanation of abbreviations used in this table, see**Table1Abbreviation Expansions**, on the next page below.

DRAFT

Appendix A
TABLE 1 ABBREVIATION EXPANSIONS

1. **Type of Sample Abbreviations.**
   - F = Flow measurement
   - G = Grab Sample
   - GL = Ground water level measurement
   - O = Observation

2. **Parameter Abbreviations.**
   - COD = Chemical Oxygen Demand
   - BOD_5 20^oC = Biochemical Oxygen Demand, 5-day, at $20^{\circ}C$
   - Chlorine Level = Chlorine tank level.

3. **Unit Abbreviations.**
   - F or C = Fahrenheit or Celsius
   - mg/L = milligrams per liter
   - MPN/100 ml = Most Probable Number, per 100 milliliters of water
   - N = Nitrogen

4. **Sampling Frequency Abbreviations (see III.C for definitions).**
   - D = Daily
   - W = Weekly
   - A = Annual
   - M = Monthly
   - C = Conditional:
     For Dissolved Sulfides, sample for Dissolved Sulfides if Dissolved Oxygen < 2.0 mg/L.
   - D&M = Continuous monitoring; record and report Daily & Monthly values
   - W | E = Weekly monitoring, during each week when discharges to land occur.

Appendix C
Response to Comments

Response to Comments

On Tentative Order for Waste Discharge Requirements for Tomales Village Community Services District Wastewater Treatment Plant, Tomales, Marin County

We received written comments on the Tentative Order from the following entities:

A. **Save Our Seashore (SOS)**
B. **California Department of Public Health (CDPH)**
C. **Tomales Village Community Services District (Discharger)**

We have followed up with each of the commenters to gain clarification and understanding of their concerns and to discuss revisions, where appropriate:

- SOS – we contacted them by phone on March 27, 2015.
- Discharger – we contacted them by phone on March 27 and April 7 and 10, 2015.
- CDPH – we contacted them by email on April 7 and by phone on April 10, 2015.

Please note: the comments from SOS and CDPH came in letter format, and the Discharger's comments were made as annotations to the Tentative Order. This response to comments document is structured in the following manner:

- Reference – we provide the specific section of the Tentative Order or self-monitoring plan to which the comment pertains as well as contextual information, as needed;
- Comment – we summarize or relay each comment in *italics*, (and, in the case of the Dischargers' comments, with the relevant section of the Tentative Order included in regular font);
- Response – we provide our response to the comment and justification for changes made or not made, and we show all revisions to the Tentative Order with <u>underline</u> for additions and ~~strikethrough~~ for deletions.

For the full content and context of each comment, please refer to the original comment documents in Appendix B.

This document also contains staff-imitated revisions.

<u>Save Our Seashore</u>

Save our Seashore (SOS) emailed comments on March 3, 12, and 16, 2015.

SOS Comments of March 3, 2015

1. Reference: Tentative Order Specification B.3.b, Spray Discharge, Operating Conditions, reads: "Discharges of wastewater to the designated discharge area shall not occur under any of the following conditions:

   a) Rainfall
   b) Presence of ponded standing water
   c) Saturated soils, or
   d) Increased potential of ponding or runoff."

Comment: *SOS requests that the discharge specification for spray discharge be modified to require soil saturation monitoring connected to an automatic shutoff system, such that spray irrigation would be stopped automatically if the soil were saturated.*

Response: We disagree that a requirement for an automatic shutoff system tied to soil saturation monitoring equipment is necessary. Specification B.3 prohibits the use of spray irrigation when the soil is saturated, and we have revised it to prohibit spray irrigation within 72 hours following rainfall and within 72 hours of forecast rainfall. It also prohibits runoff from the irrigation field to its surroundings and requires spray irrigation to be stopped at any sign of runoff. Self-Monitoring Program Monitoring Specifications B.4, Precipitation, and B.5, Standard Observations, require observations to ensure compliance with Specification B.3. Based on our best professional judgment, the required visual observations of soil saturation are adequate for monitoring this system's discharges and taking appropriate corrective actions.

Specification B.3.b has been revised as follows:

> Discharges of wastewater to the designated discharge area shall not occur under any of the following conditions:
>
> a) Rainfall <u>within 72 hours before spray discharge</u>,
> b) Rainfall <u>forecast within 72 hours of spray discharge</u>,
> c) Presence of ponded standing water,
> d) Saturated soils, or
> e) Increased potential of ponding or runoff.

2. Reference: Tentative Order Specification B.3, Spray Discharge, included a requirement for an anemometer, a wind monitoring device, connected to an automatic shutoff system. SOS interpreted this to suggest that other monitoring instruments related to spray irrigation conditions be connected to an automatic shutoff system.

   Comment: *In addition to the automatic shutoff for high wind speeds, SOS requests that precipitation (rainfall) monitoring be completed electronically and also connected to an automatic shutoff system so that spray irrigation would stop until the system was reset by the operator.*

   Response: We disagree. The suggested automatic shutoff in the event of precipitation would not significantly impact the Facility's compliance or potential for water quality impacts. The operators are on call and have remote control of the system, so, in the event of precipitation, they can shut off the spray irrigation system or be dispatched to shut it off. For greater clarity, we have revised the Tentative Order to provide a more detailed description of the Discharger's existing control system, the Supervisory Control and Data Acquisition (SCADA) system:

   > **26. Remote System Monitoring.** The Facility includes a remote wastewater monitoring SCADA system. The SCADA system provides continuous monitoring of the 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. <u>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,</u>

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 24/7 on-call operators via voice modem, and alarms are addressed immediately by the operators from their remote location. If the situation cannot be addressed remotely, the operators are dispatched immediately to the site.

SOS Comments of March 12, 2015

3. Reference: Tentative Order Finding 17, Collection Ditch, describes the collection ditch that surrounds the spray irrigation field to prevent spray-irrigated effluent from discharging offsite and to intercept any potential run-on from adjacent fields.

   Comment: *SOS asks Board staff to explain a potential discrepancy between Finding 17 and the CDPH's 12-Year Sanitary Survey of Tomales Bay. Finding 17 states…: "A runoff collection ditch surrounding the irrigation field prevents effluent runoff from discharging off-site and also intercepts the rainfall run-on from adjacent fields….the ditch has never overflowed, even during a 50-year storm in 2006." By contrast, the CDPH Survey notes "[o]n April 4, 2006 there was an irrigation breach of the berms discharged into a Walker Creek tributary."*

   Response: We will remove the sentence in question. Board staff conferred with the Discharger and conducted a thorough review of all reports and documents topically related or submitted around the time of the purported irrigation breach of berms. We were unable to locate evidence of this breach beyond the statement in CDPH's report. We contacted CDPH staff to ask for clarification but did not hear back. Because we have not been able to resolve the discrepancy in accounts of whether or not the system discharged or where it may have discharged, we have revised the Tentative Order as follows:

   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. ~~As a result of these operational controls, the ditch has never overflowed, even during a 50-year storm in 2006.~~

4. Reference: Tentative Order Finding 19, Discharge Operations. Under existing Order No. 86-086, the Facility may discharge during the wet season pursuant to its Water Board staff-approved 1998 Winter Irrigation Plan. By contrast, the Tentative Order would rescind approval for that plan and, instead, allow discharge during the wet season as long as environmental conditions are appropriate (i.e., the discharge will not result in ponding or runoff).

   Comment: *CDPH's Survey says an "operator is not on site daily." How will an absent operator ensure that rainy or dry season discharges don't occur during rainfall events?*

   Response: Please see responses to SOS comments 1 and 2 and Discharger comment 1.

5. Reference: Tentative Order Finding 22, Groundwater Quality Characteristics, reads as follows:

   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 use for municipal and domestic water supply, as well as agricultural water supply (see Finding 34). The groundwater basin is listed with potential beneficial use for industrial process water supply and industrial service water supply.

Comment: *Finding 22 does not include information sufficient to determine whether Facility discharges may be influencing groundwater nitrogen concentrations.*

Response: We agree. Finding 22 provides information about the ambient groundwater quality in the general vicinity of the Facility. None of the 10 wells (installed for other projects) referenced in the finding are located downgradient from the discharge area. As a result, the 41 sampling events cited provide information about the ambient groundwater quality but not about the specific impact of this Facility's operations. Potential facility impacts on groundwater nitrogen concentrations have been considered as part of the antidegradation analysis for the Facility. Also, please see response to SOS comment 10.

6. Reference: Tentative Order Finding 22 references ambient groundwater data in the vicinity of the Facility. Tentative Order Finding 25 presents effluent monitoring data for 2012-13 of the following sampled constituents: pH, DO, COD, and total coliform.

   Comment: *The Order does not describe the well locations so that it might be possible to determine whether nitrates increase in proportion to proximity to the discharge area or increase in wells down-gradient from the discharge area compared to wells up-gradient. Further, the Order does not provide dates for the well tests such that it could be determined whether results have changed over time due to changes in land use, groundwater gradient or sampling bias. Further still and although the self-monitoring program requires the collection and reporting of nitrate and other nitrogen data, Finding 25 (Discharge Quality) does not list any of the nitrogen measures. Please explain how this Order provides reasonable assurance to the public that beneficial uses adjacent to the discharge area will be safe.*

   Response: The ambient groundwater monitoring results cited in Finding 22 show that there is likely no pre-existing concern for nitrogen loading in ambient groundwater in proximity to the Facility because measured values are all below the drinking water quality objective. Order No. 86-086 did not require nitrogen monitoring, so there is no nitrogen data to report in the finding. However, the Tentative Order includes monitoring requirements for nitrogen to provide additional assurance that beneficial uses of adjacent waters will not be negatively impacted by nitrogen in the Facility's final effluent.

   For further discussion of why beneficial uses adjacent to the discharge area will be appropriately protected, please see response to SOS comment 10.

7. Reference: Tentative Order Finding 24 discusses the discharge quantity and presents monthly influent and effluent data for 2012. Tentative Order Finding 7 describes the wastewater system,

as permitted by this Tentative Order, and Tentative Order Finding 9 describes the collection system.

Comment: *Finding 24 notes that influents varied from 13,000 gallons per day (August 2012 average) to 40,000 gallons per day (December 2012 average). Such a disparity (over 300%) is almost certainly due to rainfall infiltrating the collection system. Yet Findings 7 and 9 make clear that the analysis and permitting of this indivisible Collection/Treatment system is in fact segmented: "The collection system is permitted not under this Order, but under the General Order for Sanitary Sewer Systems." Since the Order seeks to prevent discharges to state waters, please explain why the Water Board can segment its analysis and fail to require upgrades of the collection system in order to reduce the likelihood that a discharge would occur from the Treatment Facility that is subject to this Order.*

Response: The Facility has sufficient design capacity to accommodate the full range of dry and wet weather inflows. Therefore, we do not agree that reducing inflows is necessary in order to protect water quality. The collection system is permitted under General Waste Discharge Requirements Order No. 2006-0003-DWQ (Statewide Order), which covers all public collection systems statewide greater than 1 mile in length. This is the standard procedure for regulation of all publically-owned collection systems within the State; this Order and the Statewide Order regulate separate components of the wastewater system. The Statewide Order requires the Discharger to have a sewer system master plan, which includes addressing inflow and infiltration.

8. Reference: Tentative Order Finding 34 discusses the beneficial uses of the groundwater basin beneath the discharge area and the surface waters in the vicinity of the discharge area. The finding emphasizes that beneficial uses of the groundwater basin will not be adversely impacted by the discharge and that the Order prohibits discharge to the surface water bodies in the vicinity of the discharge.

   Comment: *Please explain the seeming disparity between Finding 34 and the Water Board's definition of State waters. Finding 34 notes, "[t]his Order permits discharge to ground waters, and it prohibits discharges to surface waters. Therefore, the waters of the State in the vicinity of the Facility will not be impacted by discharges permitted by this Order." Yet waters of the state include ground waters. While it may arguably be true that the proposed Order's Discharge Requirements protect the State's groundwater, it does not seem that a mere prohibition of surface discharge by itself protects State waters. Further, it is well known that claimed "ground water" especially when proximate to surface waters, are actually hydrologically connected.*

   Response: We agree. We removed the portion of Finding 34 relevant to this comment due to redundancy with Finding 39, Antidegradation Analysis, which includes a more-detailed discussion of why the Facility will operate in a manner protective of both surface and groundwater. Please see response to SOS comment 10.

   The Tentative Order has been revised as follows:

   ~~34~~ 33. Beneficial Uses of Waters of the State. … 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:

1. Municipal and domestic water supply,
2. Industrial process water supply,
3. Industrial service water supply, and
4. 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. ~~Upstream of the irrigation field, the influent undergoes treatment at the three-stage treatment pond system. The treatment pond system is bounded to the South by Keys Creek. Keys Creek is a tributary to Walker Creek, which flows into Tomales Bay. The confluence with Walker Creek lies within 1.5 miles southwest of the system. This Order permits discharge to groundwaters, and it prohibits discharges to surface waters. Therefore, the waters of the State in the vicinity of the Facility will not be impacted by discharges permitted by this Order.~~

9. Reference: Tentative Order Finding 36 references the Tomales Bay Pathogens TMDL and the facility upgrade completed in 2010, which installed controls at the Facility's treatment ponds to prevent discharge from the ponds into groundwater. The comment infers the importance of the protection of Keys Creek, which is adjacent to the Facility, because of the TMDL and the shellfish growing beds in Tomales Bay, to which Keys Creek is tributary, via Walker Creek.

   Comment (as revised by SOS's March 16, 2015, comments): *Finding 36 notes: "In 2007, in response to concerns about the adjacent Keys Creek, the Discharger contracted an engineer to conduct seepage tests [on the ponds]…Additionally, in spring 2010, the Facility implemented improvements…The added liner and sub-drain… preclude any unintended discharges from the treatment pond system area into the surface waters of the State." Yet this test focused only on seepage from the ponds, which are 3600 feet from Keys Creek and use an impervious liner that prevents drainage into groundwater. In contrast, the discharge area is immediately adjacent to Keys Creek and-drains directly into groundwater. Finding 34 states: "This Order permits discharge to groundwaters" while Finding 36 states: "This Order prohibits any discharge to…groundwaters that connect to surface waters to prevent any additional impacts to Tomales Bay." Yet a mere prohibition written on a piece of paper (the Order) would seem to be an empty promise absent groundwater monitoring. A monitoring well of modest depth at the lower end of the drainage area could might real information in contrast to the engineering study of pond seepage or staff's theoretical conclusions based on the Facility's Self-Monitoring Reports. Please explain the scientific basis on which the Order believes that the groundwater below the discharge area is not hydrologically connected to the surface waters of Keys Creek.*

   Response: To clarify the location, Keys Creek is located adjacent to the treatment system, not the disposal area, which is south of the creek and higher in elevation. The groundwater flow direction from the disposal area is in the opposite direction of Keys Creek. Based on the soil and groundwater characteristics in this area, we do not agree that groundwater monitoring is necessary or justified. Refer to Figure 1 below for the relative locations of these features. Please see response to SOS comment 10 for additional clarification.

10. Reference: Tentative Order Finding 38. Antidegradation Analysis.

    Comment: *How does the discharge comply with Antidegradation Policy? How can you claim the discharge is in compliance and should not degrade water quality of groundwater basin,*

when the Facility regularly exceeds standards for pH and COD and occasionally exceeds standards for coliforms, and when there is no data for nitrate or groundwater monitoring?

Response: We conducted an antidegradation analysis in support of the development of Waste Discharge Requirements for the Facility. Based upon the results of the antidegradation analysis, we conclude that the Facility's discharge is in compliance with the Antidegradation Policy pursuant to 40 CFR 131.12 and State Water Board Resolution No. 68-16. We considered groundwater in the vicinity of the Facility's treatment and discharge areas, Keys Creek (located south of the treatment ponds), and an unnamed tributary to Walker Creek (located south of the discharge area). For all of these water bodies, the Facility's discharge would not degrade water quality, as we explain in more detail below.

The Wilson Grove Formation Highlands groundwater basin underlies the discharge area. The groundwater basin is comprised of discontinuous lenses of water that indicate that the movement of groundwater is not homogeneous. Using conservative assumptions, we calculated the travel time for treated effluent applied to the irrigation fields to travel through the soil in the discharge area (calculated either vertically or laterally). This amount of travel time is sufficient to achieve attenuation of pollutants associated with the discharge.

The nearest residence is located approximately 840 feet from the edge of the discharge area. Domestic private wells in the area are typically 60 to 305 feet deep[1]. Furthermore, the Facility's spray irrigation fields are approximately 50 feet higher in elevation from the nearest residence. Thus, due to the attenuation of pollutants being accomplished in the soil, we conservatively conclude that the groundwater of the area will not be degraded by this discharge.

Although the Tentative Order does not authorize direct discharges to a surface waterbody, the groundwater evaluation also illustrates that surface waters will be protected if there are any indirect subsurface discharges from the Facility. We estimated the horizontal groundwater velocity to determine the travel time from the discharge area to an unnamed creek located approximately 1,119 feet south of the discharge area. Based on the soil types and hydraulic gradient between the discharge area and the creek, the estimated horizontal travel time to the unnamed creek is approximately 188 days. The linear distance and the groundwater travel time are sufficient to break down and assimilate wastewater constituents in the soil column prior to reaching the surface waterbody.

The three-stage treatment pond system is lined with a Hypalon (chlorosulfonated polyethylene synthetic rubber) liner and has an underdrain collection system. There is no direct discharge from the treatment system to Keys Creek and this system will also prevent seepage from the ponds to groundwater or indirectly to Keys Creek located south of the treatment system.

Additional assurances that the effluent will not lead to degradation of the water resources in the area include the following:

A. The Tentative Order includes requirements for treatment and disinfection of the wastewater in addition to requiring control measures that prevent runoff from the application area.

[1] Source: Tomales Village Community Services District Wastewater Treatment Plant Water Reclamation and Reuse Tertiary Treatment Feasibility Study. December 8, 2009.

B. The Tentative Order authorizes the application of effluent to land where it is treated further through natural soil processes.

C. The Tentative Order prohibits the application of the effluent to saturated soil since saturated soil conditions reduce the soil treatment processes.

D. The Tentative Order includes conditions that require treatment and disinfection of the wastewater in addition to requiring control measures that prevent runoff from the application area.

E. The Facility is not located within a designated Hydrogeologically Vulnerable Area. In response to Executive Order D-5-99, State Water Board staff determined Hydrogeologically Vulnerable Areas, which indicate soil or rock conditions that may be more vulnerable to groundwater contamination.

Staff's full antidegradation analysis is summarized in a technical memorandum, which is posted online at the Water Board's website and available upon request.

SOS Comments of March 16, 2015

11. Reference: Tentative Order Finding 36 refers to the Tomales Bay pathogen TMDL.

    Comment: *The Tentative Order should be revised to reference Water Board Resolution No. R2-2007-0010, the Walker Creek Watershed Mercury TMDL. Based on this, SOS also raises concerns about mercury in general, specifically pointing out a dentist's office at 40 4th Street in Point Reyes Station.*

    Response: The referenced dentist's office, which is in Point Reyes Station, is about 17 miles away from the Facility and does not discharge into the collection system. Upon further research, we discovered another dentist located in the service area. We verified that the dentist does not use mercury in fillings and has an amalgam separator. We have updated Finding 36 to include a mention of the mercury TMDL. However, we assert that mercury monitoring is not necessary given that there is no discharge to surface waters.

    The Tentative Order has been revised as follows:

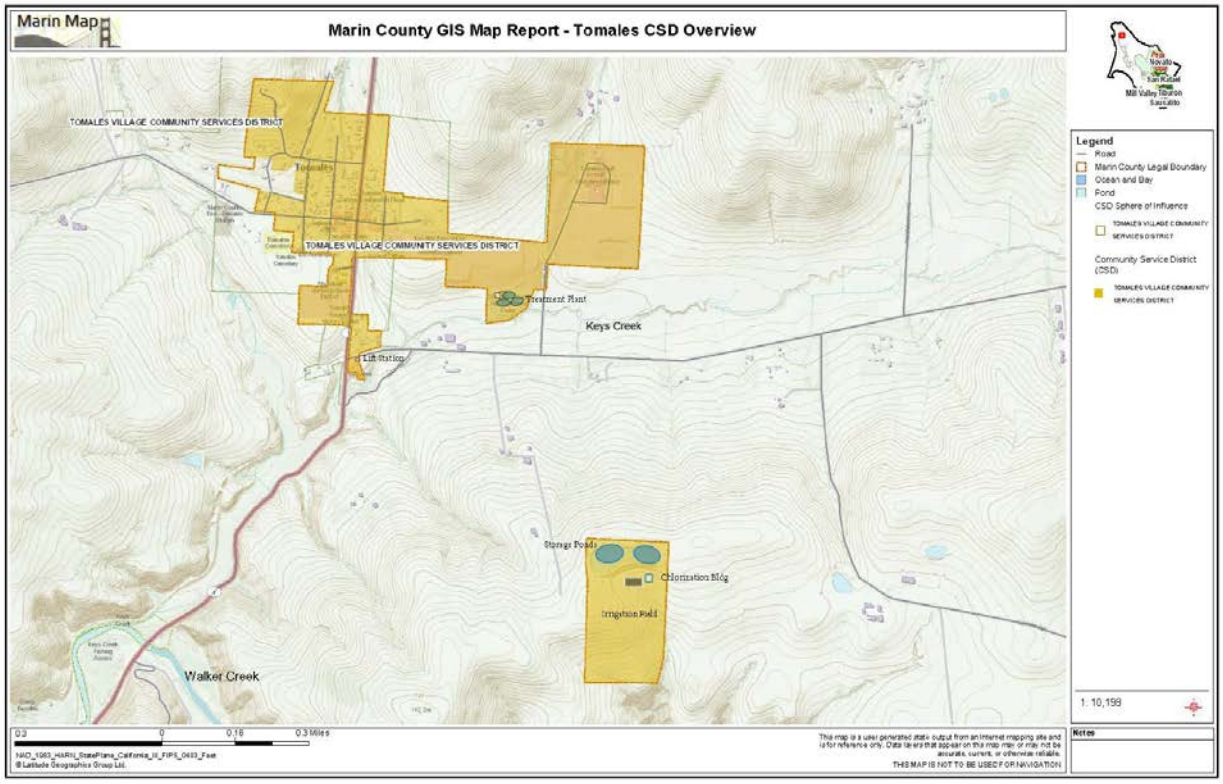
    35~~6~~. **Tomales Bay TMDL.** Tomales Bay and its tributaries have been identified as impaired and have been placed on the federal Clean Water Act 303(d) list of impaired waters for nutrients, sediment, <u>mercury,</u> and pathogens. …

12. Reference: Finding 36 (now Finding 35)

    Comment: We note that the Proposed Order does not have map showing the location of the discharge area, and we thus correct our Finding 36 comment in our 3/13/15 addendum as follows: (deleted text struck through): "…*Yet this test focused only on seepage from the ponds, which ~~are 3600 feet from Keys Creek and~~ use an impervious liner that prevents drainage into groundwater. In contrast, the discharge area is immediately adjacent to Keys Creek and drains directly into groundwater…*

    Response: Please see Figure 1 below that clarifies the relative location of these features.

Figure 1: Facility Layout



California Department of Public Health

The California Department of Public Health commented via email on April 2, 2015.

1. Reference: Tentative Order Finding 19, Discharge Operations, Change from Seasonal to Conditional Discharge, reads as follows:

> **Finding 19. Discharge Operations**
>
> c. **Change from Seasonal to Conditional Discharge**. This Order rescinds the Winter Irrigation Plan (and Order 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 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 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).

Comment: *The WDR change from Seasonal to Conditional Discharge is a concern. It leaves the environmental conditions assessment up to the discharger with no oversight from the Regional Board. The WDR also does not specifically define and set criteria for the conditions under which discharge cannot occur. For example, the terms rainfall and saturated soils do not*

have a metric for measurement or observation. Another factor that needs to be taken into account for spray operating conditions is weather forecast, as rainfall after spray irrigation may result in runoff of applied wastewater. The disinfection process is not effective for the inactivation of enteric viruses. The short transport time from the spray irrigation site to the outer bay shellfish leases and recreational clam beds is much shorter (<24 hours) than the potential survival of norovirus (~21 days) and other pathogenic enteroviruses. Wet season spray irrigation without appropriate and conservative controls will pose an increased public health threat relative to shellfish harvesting and consumption in outer Tomales Bay.

Response: We have not specified a rainfall or saturated soil metric because there are appropriate safeguards in place such that the facility operator can make these calls based on criteria in the O&M Manual. This will assure that these decisions are made in a consistent manner and can be modified based on site-specific observations. Please note that the estimated transport time mentioned by the commenter appears to be an estimate of surface water flow, which is irrelevant to the Facility since direct discharges from the ponds or surface runoff from the irrigation fields are prohibited. To prevent incidental runoff from the irrigation area there is a collection ditch.

If the transport path of concern is through groundwater, based on the soil type and the distance to the outer bay, the estimated groundwater travel time is greater than the enterovirus potential 21-day survival rate. Additional treatment would occur in the soil prior to indirect interaction with surface water, which is discussed further in SOS comment 10 and our supporting technical memorandum. Some viruses contain a positive ionic charge, which allows the soil to attract and hold the viruses. Once caught in the soil, they die-off due to soil conditions.

Various factors and processes affect microbial removal rates in subsurface media, such as the physical and chemical characteristics of the soil, physical filtration, and the groundwater flow paths. In soils with slow flow rates such as the Facility's soils, we would expect significant removal of fecal microbes at the ground surface and removal of viruses prior to the treated wastewater indirectly reaching Tomales Bay via groundwater. We have revised Specification B.3 to include requirements for notification in case of off-season (outside of April 15-November 30) discharges. We also revised associated Finding 19.c. Also, please see response to SOS comment 1.

The Order has been revised as follows:

Specification B.3. Spray Discharge

a. <u>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.</u>

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

   a) Rainfall <u>within 72 hours before spray discharge,</u>
   b) <u>Rainfall forecast within 72 hours of spray discharge,</u>
   c) Presence of ponded standing water,
   d) Saturated soils, or

e) Increased potential of ponding or runoff.

Finding 19. Discharge Operations

c. **Change from Seasonal to Conditional Discharge**. … 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. …

2. Reference: Self-Monitoring Program, general comment

Comment: *CDPH prefers that the Seasonal Discharge schedule during the dry season is maintained. This option is most protective of public health relative to shellfish consumption in outer Tomales Bay. If Conditional Discharge is accepted, then CDPH recommends that a number of specific criteria be defined to clearly characterize acceptable and unacceptable spray conditions. A sampling and notification requirement should be added for the creek below the spray field for when rainfall occurs within a certain number of days after spray irrigation. The preferred test parameter would be fecal coliform to detect wastewater runoff entering the creek. There should be specific criteria for what constitutes a rainfall event and when soils in the watershed are deemed to be saturated.*

Response: Please see response to SOS comment 10 for an analysis of why the Revised Tentative Order is protective of both surface and groundwater beneficial uses. In specific regard to the potential for the discharge to reach Keys Creek, there are two possible pathways that the discharge could take: overland flow and groundwater flow. The Order has several requirements that safeguard against the potential for overland flow (see responses to SOS comments 1, 2, 3, 4, and 10).

As mentioned in CDPH comment 1, the Order was revised to include Specification B.3.b that indicates conditions upon which discharges of wastewater to the designated discharge area shall not occur. The Self-Monitoring Program requires daily monitoring for precipitation in inches that can be determined from a rain gauge. Based upon the protection mechanisms that are in place through requirements in the Order, the risk level for wastewater runoff entering the creek is low. Thus, specific criteria for what constitutes a rainfall event and when soils in the watershed are saturated is not required.

The estimated time that the discharge would take to reach the unnamed tributary of Walker Creek, 1,119 feet south of the discharge area, flowing through the subsurface is approximately 188 days, during which we would expect any pathogens present in the treated effluent to attenuate.

As has been documented through the development of the Tomales Bay Pathogen TMDL, there are various watershed sources of bacteria to the Bay, which are discharged at higher concentrations during rainy weather. Thus, Discharger sampling of Keys Creek following rain events is likely to tell us more about the other sources of bacteria than any source attributable to the Facility. We conclude that requiring ambient monitoring in Keys Creek would not provide substantive information about facility operations and potential impacts. Thus, we have not revised the Tentative Order per this comment.

Tomales Village Community Services District (the Discharger)

On April 3, 2015, the Tomales Village Community Services District emailed written comments consisting of annotations to the Tentative Order. Below, the abbreviation SMP refers to the Self-Monitoring Program, which is Attachment E of the Order. In this section of the Response to Comments, we have combined the Reference and Comment sections to reflect the Discharger's style of commenting.

1. Reference/Comment:
   Tentative Order Finding 2. Purpose of Order, and Finding 11. Fats, Oils, and Grease (FOG) Interceptor.

   In findings 2 and 11, the Discharger requests to change the name of the interceptor from sand and grease interceptor, to fats, oil and grease interceptor (Finding 2) or fats, oil, and grease separation unit (Finding 11).

   Response: We agree. It has been corrected for accuracy in both findings, as follows:

   Finding 2.b 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. …
   b. Facility improvements, including conversion into a three-stage pond treatment system, installation of a ~~sand and~~ fats, oils, and grease interceptor, and upgrade of the discharge system; …

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

2. Reference/Comment: *The collection system, which is described in Finding 9, should be covered under this Order so the Discharger does not have to pay two permit fees.*

   Response: We have not changed the Tentative Order in response to this comment. Please see response to SOS comment 7.

3. Reference/Comment: *Tentative Order Finding 20. Recycled Water Feasibility Study. The implementation of tertiary treatment to produce recycled water to supplement the Shoreline Unified School District school's water needs and to help replenish groundwater in the Tomales Bay Watershed, considered as part of the Discharger's 2009 Recycled Water Feasibility Study, "[w]ould be feasible with SRF loans and grants, but Shoreline and the community chose not to pursue [this project]."*

   Response: Comment noted.

4. Reference/Comment: *Tentative Order Finding 28, Chemical Oxygen Demand Effluent Quality Limitation. The Discharger notes that it completed monitoring of both biological oxygen demand (BOD) and chemical oxygen demand (COD), but did not identify a correlation between the two. This work was done in anticipation of a switch from COD in the current Order, to BOD in the Tentative Order, consistent with a change to BOD as the standard of choice for measuring wastewater strength.*

   (This comment also applies to SMP VI.A.5.b., a requirement for the submission of a long-term BOD:COD correlation report as part of an annual report.)

   Response: The Tentative Order required submittal of a report demonstrating a year-long correlation between BOD and COD measurements if the Discharger wanted to continue to measure COD. The Discharger has already completed this work and found no correlation. Thus, the Revised Tentative Order simply requires BOD measurements, in lieu of COD, because BOD is the standard wastewater strength parameter for the wastewater program. It is consistent with what we require region-wide and thus more comparable across the program as well as with U.S. EPA sampling guidelines.

   Also, please see Staff-Initiated Change 8 and response to Discharger comment 9.

   The Tentative Order has been revised as follows:

   ~~28. Chemical Oxygen Demand Effluent Quality Limitation~~~~. When the previous Order (Board Order No. 86-086) was issued, the common constituent for monitoring and measuring wastewater strength was chemical oxygen demand (COD). The Facility has since complied with Order No. 86-086 by measuring COD. More recently, however, biochemical oxygen demand (BOD) has become the standard of choice for measuring wastewater strength.~~

   ~~**Authorization to Continue Measuring COD**. Correspondence with the Discharger, from May 2014, revealed its preference to continue measuring COD. The Water Board can allow replacement of BOD analysis with COD analysis for measuring wastewater strength, if the Facility demonstrates a long-term correlation (as described in federal effluent guidelines for secondary treatment regulation, 40 CFR 133.104b). Therefore, this Order permits the continuance of the COD limit of 210 mg/L as designated in Order 86-086, during the year-long process of demonstrating a long-term correlation, and afterwards, if Water Board staff determines the correlation to be acceptable. The completed correlation report should be included in the Annual Monitoring Report (see Attachment E, VI.A.5.b).~~

   SMP Section VI.A.5.b has been revised as follows:

   5. Annual Monitoring Reports
   The annual monitoring report shall include the following:

   a. …
   b. ~~Long-term BOD:COD correlation report. Report results from concurrently measuring both chemical oxygen demand (COD) and biological oxygen demand~~

~~(BOD), in order to demonstrate a long-term BOD:COD correlation for approved documentation and validation of COD testing as an acceptable form of wastewater strength reporting for the Facility (as described in federal effluent guidelines, 40 CFR 133.104b).~~ …

5. Reference/Comment: *Tentative Order Finding 30, Operation and Maintenance, and Provision 11.c, Operation and Maintenance Manual Submittal, require development and implementation of an operation and maintenance (O&M) program and preparation and submittal of an O&M manual that fully describes the program for the Discharger's Facility. The Discharger comments that creation of an O&M program can be relatively expensive depending on the detail required and the amount of information currently prepared on site; O&M Manuals are time-consuming to prepare, so sufficient time should be allowed for implementation. Further commenting on O&M manual updates required by Provision C.11.c (submittal of an O&M manual) and C.11.e (O&M manual annual reports), the Discharger states the O&M manual has "fallen out of favor recently due to [its] expense to create and maintain."*

   Response: We disagree. A current O&M manual is necessary for any facility operation. Per the Discharger's request for sufficient time to produce the revised O&M Manual, we have revised the Tentative Order to allow 90 days to submit the complete manual as follows:

   Provision C.11. Operation and Maintenance Program. …

   c. O&M Manual Submittal. The Discharger shall submit to the Board a technical report, acceptable to the Executive Officer, no later than ~~30~~ 90 days from the date of adoption of this Order, comprised of a complete copy of the O&M Manual, … .

6. Reference/Comment: *Tentative Order Discharge Specification B.2.b, Treatment and Storage Ponds, 100-Year Flood, requires that the Facility's ponds be adequately protected from the 100-year flood. The Discharger asks whether the requirement has been determined by recent engineering studies.*

   Response: This has been a standard requirement in Water Board permits since the adoption of the previous order in 1986. It is necessary to prevent the ponds from being washed away in a major flood.

7. Reference/Comment: *Tentative Order Discharge Specification B.3 includes requirements to stop spray irrigation discharges when winds are above specified speeds.*

   The Discharger comments that the average daytime wind speed in Tomales of April to November is 21.4 MPH, with a maximum speed of 26 MPH. Gusts occur 12-18 days per month and sometimes on multiple occasions during the day, reaching speeds that average 30.1 MPH with a maximum speed of 41. This has been going on for years and will not change. Restrictive wind speeds of 10 miles per hour would frequently shut down all irrigation and be cumbersome, overly restrictive and unnecessarily expensive. (See weather website for historical weather records: http://www.wunderground.com/history)

   The discharger further comments that wind speed of 10 miles an hour seems too restrictive. Sustainable wind speeds of 15 + MPH before the irrigation shuts down seems more reasonable considering the location. Further, to meet this monitoring requirement, new equipment will need to be installed with SCADA communication.

Response: Thank you for the information. We will remove this requirement. The requirement was included from a previous order for a different facility, which is in close proximity to neighboring residences. The discharge area of the Facility is remotely located away from any human populations and the wind speed in Tomales is, on average, above 10 miles per hour. We agree that, if implemented, the requirement would significantly restrict spray irrigation. Additionally, the Order already includes requirements for low-trajectory spray irrigators to minimize the potential for any overspray.

The Tentative Order has been revised as follows:

Specification B.3. Spray Discharge …

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. ~~Spray discharge shall be discontinued whenever wind velocity at the spray field exceeds 10 miles per hour~~.

~~c. Anemometer. An anemometer shall be installed at or near the spray discharge area for the purpose of detecting high wind speeds. The anemometer shall be connected to one of the following control systems:~~

~~(i) A control switch that will automatically shut of the irrigation pumps whenever wind speeds exceed a preset level or~~

~~(ii) An audible and visual alarm sufficient to notify operating personnel (at any time, day or night, 365 days per year) of wind speeds in excess of a preset level and/or the need to cease spray discharge operations.~~

8. Reference/Comment: *Tentative Order Discharge Specification B.5, Final Effluent Quality, requires the Discharger to measure water quality parameters including dissolved oxygen (D.O.) in the spray irrigated effluent. The Order also requires the Discharger to measure dissolved oxygen concentrations in the treatment and storage ponds.*

The Discharger asks whether measuring the D.O. level for the discharged effluent is necessary if they are monitoring the treatment and storage ponds.

Response: We concur that the storage pond measurements will be an appropriate indication of final effluent D.O. levels, because D.O. levels will only increase as the effluent moves from the storage ponds onto the discharge area via spray irrigation.

The Tentative Order has been revised to remove D.O. as a final effluent quality parameter specified in Specification B.5.

9. Reference/Comment: *Discharge Specification B.5, Final Effluent Quality, requires that spray irrigated treated wastewater meet a COD limit of 210 mg/L. The Discharger comments that they would rather see a COD limit of 240 since higher COD is usually only caused by algae, and a higher limit would give the Discharger several additional days of irrigation without a problem.*

Response: Comment noted. Due to changes made to the Tentative Order through this process of receiving and responding to comments, this comment is no longer relevant to the Tentative Order: we have changed the wastewater strength measurement requirement parameter from

COD to BOD. Please see response to Discharger comment 4. The Tentative Order has been revised as follows:

Specification B.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. ~~Chemical~~ Biochemical oxygen demand	~~210~~ 45 mg/L, maximum …

10. Reference/Comment:
Tentative Order Discharge Specification 8.c, Pump Stations, requires that the power supply for alarm systems be independent of the normal power supply for the wastewater system. The Discharger comments that it has only one power supply, but that the alarm system has an Uninterrupted Power Supply system in case of a power failure. The Discharger believes it is not feasible to add additional power sources to each wastewater system component of the Facility.

Response: Comment noted. The Facility's current power configuration fulfills the goals of this requirement. We have clarified the requirement as follows:

Specification B.8. Pump Stations. …

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

11. Reference/Comment: *Tentative Order Provision C.1, Order Compliance, requires that the Discharger comply immediately with all Prohibitions, Specifications, and Provisions of this Order. The Discharger comments that it does not think it can immediately comply with the Order if it is required to purchase, install, and integrate into the SCADA alarm system new equipment and monitoring devices.*

Response: Comment noted. The requirements for wind and soil monitoring equipment have been removed from the Tentative Order as described above. As such, we are not proposing to revise Provision C.1, which is a cornerstone to the Order's requirements.

12. Reference/comment: *Tentative Order Provision C.8 requires a Water Balance Equation for the discharge system, including the two storage ponds and the discharge area. The discharger expressed confusion over this requirement, commenting "???"*

Response: Comment noted. A water balance calculation is a standard expectation for all wastewater treatment facilities, and we are not proposing to modify the Tentative Order to eliminate or qualify the requirement.

We revised the Tentative Order by moving the requirement for a Water Balance documentation from Provision C.8, "As-Built Plans - Current System", to Provision C.9., "Future Changes", as new section 9.b, "Water Balance Documentation".

13. Reference/Comment: *Tentative Order Provisions C.8 and C.9 require the submittal of as-built plans for the current system and for future changes. The Discharger requests 180 to 365 days*

to complete this requirement and questions whether the "narrative description" of the wastewater treatment and discharge system is not already encompassed in the Order, which would make submittal of as-built plans duplicative.

Response: We disagree. As-built plans should be already completed, as the system is now in place. However, consistent with our extension of deadlines on other report submittals, we have revised the compliance time to be 90 days in both cases. We expect the description of the Facility and its components to be more detailed and specific than that provided in this Order, which functions more as a broad overview of the system.

14. Reference/Comment: *Tentative Order Provision C.10, Operation and Maintenance Providers, describes how the wastewater system must be operated and maintained. The Discharger requested that we revise Provision C.10.b to state "[…] the Discharger may fulfill this requirement by contracting with a SWRCB certified wastewater treatment plant contract operator […].*

    Response: We concur and have made the requested changes to the Tentative Order.

15. Reference/Comment: *In regard to Tentative Order Provision C.12, Non-Compliance Reporting, the Discharger asks whether a call needs to be made to report non-compliance, even for something like a pH or coliform non-compliance, or only for something more like irrigation run off into a waterway?*

    Response: Telephone notification, followed by written notification, is required in Provision C.12 for noncompliance with any of the conditions of the Order, which includes effluent water quality specifications.

16. Reference/Comment: *In regard to the Self-Monitoring Program (SMP) II, Sampling and Analytical Methods requirements, the Discharger comments that the SMP includes specific requirements for the laboratory the Discharger uses for sampling. How can the Discharger monitor a commercial lab or ensure there is accountability, appropriate usage, calibration, etc.?*

    Response: The requirements for analytical work accountability and appropriate usage and calibration of equipment may be incorporated into the Discharger's contract with the commercial lab.

17. Reference/Comments: *In regard to SMP section V.B.4, Monitoring Specifications, Precipitation, the Discharger comments that continuous monitoring of rainfall will require a daily data recorder to be installed and updated to the SCADA and it seems unnecessarily expensive; discharge does not occur during a rain event.*

    Response: We have clarified the requirement to be a daily visual monitoring requirement; there is no need to integrate the rainfall monitoring into the SCADA system.

18. Reference/Comment: *SMP section V.B.5.f, Monitoring Schedule and Specifications, Monitoring Specifications, Standard Observations, requires checking perimeter fences and*

gates for properly posted warning signs to the public. The Discharger commented that the discharge area is behind two locked gates, inaccessible to the public, and therefore the signage seems unnecessary.

Response: The requirement in question is a monitoring specification, to check the perimeter fence and gates for properly posted warning signs. This specification applies to the treatment ponds, the storage ponds, and the effluent discharge area. Even though the discharge area is gated, the public—e.g., trespassers—may still try to access the area. Therefore, we maintain the specification and have clarified it by stating the warning signs requirement in the Revised Tentative Order as Provision C.15.

The Tentative Order has been revised as follows:

Provision C.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.

19. Reference/Comment: *SMP section V.B.5.h, Monitoring Schedule and Specifications, Monitoring Specifications, Standard Observations, SMP Table 1. Schedule for Monitoring, indicates that monitoring of freeboard should be done in feet and inches.*
The Discharger commented that monitoring freeboard in feet and inches is unnecessarily expensive; they are currently recording pond level and freeboard in feet and tenths of feet.

Response: We agree. Recording in feet and tenths of feet will meet the intent of this item as well as recording in feet and inches.

The Tentative Order has been revised as follows:

5. Standard Observations ...
g. Measure and record pond water depth and pond freeboard, in feet and ~~inches~~ tenths of feet.

20. Reference/Comment: *SMP section V.D, Monitoring Schedule and Specifications, Monitoring By Use of Automated Instruments, reads as follows:*

Selected parameters may be monitored by the use of automated analytical instruments, provided such instruments are properly maintained and calibrated to ensure accurate measurements, and that these instruments and their use is documented in the Operation and Maintenance Program Manual, and written acceptance by the Executive Officer has been provided.

Discharger commented "Note 'written acceptance' required."

Response: Thank you for bringing this to our attention. SMP Section V.E already requires written authorization for modification of monitoring practices, so it is duplicative to require, separately, written authorization for the use of automated instruments. All instruments that are and will be used by the Discharger are permitted under this Order, except in the case of a modification of monitoring practices. We have revised the Order to clarify the requirement.

The Order has been revised as follows:

D. **MONITORING BY USE OF AUTOMATED INSTRUMENTS**
Selected parameters may be monitored by the use of automated analytical instruments, provided such instruments are properly maintained and calibrated to ensure accurate measurements, ~~and~~ that these instruments and their use is documented in the Operation and Maintenance Program Manual, and written ~~acceptance by the Executive Officer~~ notification to the Water Board has been provided.

21. Reference/Comment: *Tentative Order SMP VI.A.2.c. Reports to be submitted to the Water Board, Monitoring Reports, requires a scaled drawing to be submitted when there are violations or problems. The Discharger commented that submission of a Scaled Plan Drawing for reporting violations or problems seems excessive for such a small system.*

Response: Based on subsequent communications with the Discharger, we have revised the language to clarify the requirement. The objective of the requirement is for the report to include a diagram that illustrates relative distances. An accurately-scaled plan of the entire facility site would not be necessary, provided the area in concern is clearly depicted and accurate dimensions are shown.

The Tentative Order has been revised as follows:

c. Violations or Problems. …
(2) Location of occurrence, shown on a scaled or dimensioned plan drawing of the Facility site; …

22. Reference/Comment: *SMP Section VI.C.2, Reports to be Submitted to the Water Board, advises how to submit reports by email to the Water Board. The Discharger asks whether the Water Board case staff may be CCed in the email to wdr.monitoring@waterboards.ca.gov, as opposed to sending a separate email.*

Response: Yes.

23. Reference/Comment: *SMP section VII.A, Reports to be Submitted to Other Entities, California Department of Public Health, requires the Discharger to submit each monitoring report that is submitted to the Water Board also to the California Department of Public Health (CDPH), Preharvest Shellfish Unit. The Discharger asks whether the Self-Monitoring Report may be emailed to CDPH instead of snail mailing?*

Response: Water Board staff contacted CDPH; the answer is yes.

The Tentative Order has been revised as follows:

A. California Department of Public Health
For each monitoring report required to be submitted to the Board, a complete copy of the report shall be submitted at the same time that the report is submitted to the Board, to the California Department of Public Health, Preharvest Shellfish Unit, at its current mailing address or email address, at the time of this Order:

California Department of Public Health
Preharvest Shellfish Unit
ATTN: Vanessa Zubkousky-White
850 Marina Bay Parkway, G165
Richmond, CA 94804

E-mail address: Vanessa.Zubkousky@cdph.ca.gov

24. Reference: *In SMP Table 1. Schedule for Monitoring, the Discharger asks to switch Fats, Oils, and Grease Interceptor (FOG) measurements to monthly instead of weekly, except for the Standard Observations. Also, measuring the D.O. of the FOG seems irrelevant; we suggest that this monitoring requirement be removed. Why do we need to measure D.O. if/when FOG influent >2.0 mg/l?*

    Response: The changes requested were all regarding monitoring to characterize the influent and do not influence final effluent quality monitoring requirements. Based on best professional judgment, we removed the dissolved oxygen and dissolved sulfides monitoring requirements for the influent, and we have decided that monthly monitoring is adequate for influent characterization. We changed the monitoring station for influent sampling from the FOG unit influent to the influent monitoring station, which is more representative of the influent prior to treatment. The Tentative Order Self-Monitoring Program, Table 1 has been revised accordingly. Please see Staff-Initiated Change 8.

Staff-Initiated Changes

In addition to minor editorial and formatting changes, we made the following minor revisions. All revisions to the Tentative Order are shown with underline for additions and ~~strikethrough~~ for deletions. SMP refers to the Self-Monitoring Program, which is Attachment E of the Order.

1. Reference: Finding 7. Wastewater Facility Overview

Revision: We revised this finding to clarify that the Facility includes both the treatment plant area and the discharge area. The Tentative Order has been revised as follows:

> **7. Wastewater ~~System~~ 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 fields (discharge area) located approximately 3,600 feet south and across Tomales-Petaluma Road.

2. Reference: Tentative Order Finding 8. Wastewater Sources and Flows
Tentative Order Finding 24. Discharge Quantity

Revision: We revised the following narrative discussions within Tentative Order findings 8 and 24 to be consistent with the flow volume requirements as authorized by the Specification B.4:

8. Wastewater Sources and Flows. … The design flow capacity of the three-stage treatment pond system, and ~~maximum inflow~~ average dry weather flow rate authorized by this Order, is 43,000 GPD, with two feet of freeboard.

24. **Discharge Quantity**. … The design inflow capacity of the Facility 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 ~~annual~~ average dry weather flow basis.

3. Reference: Tentative Order Finding 22

Revision: We corrected every instance of "nitrate-nitrogen" to "nitrate as nitrate." Nitrate as nitrate is the correct chemical name for the chemical whose drinking water maximum contaminant level is 45 mg/L. The Tentative Order has been revised as follows:

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-nitrogen~~ 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-nitrogen~~ nitrate as nitrate is 45 mg/L. The underlying Wilson Grove Formation Highlands groundwater basin is listed with existing beneficial use for municipal and domestic water supply, as well as agricultural water supply (see Finding ~~34~~ 33). …

4. Reference: Finding 38.b. Protection of Groundwaters

Revision: We revised this finding to clarify the means by which groundwater is protected as follows:

38.b. Protection of Groundwaters. The only permitted effluent discharge is to land via spray irrigation. The wastewater system ~~serves~~ treats domestic and commercial flows. ~~with zero industrial flow and discharges to the irrigation filed, where the effluent will infiltrate into the ground.~~ 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, ~~in case of~~ should runoff occur ~~from the site~~. 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 ~~predetermined by the operators~~ 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.

5. Reference: Tentative Order Provision C.19, Rescission of Previous Order

Revision: The Tentative Order has been revised as follows:

~~19.~~20. Rescission of Previous Order. The WDRs prescribed by this Order supersede those prescribed by ~~this Board's~~ Order No. 86-086 for North Marin County Water District. Order No. 86-086 ~~for North Marin Water District~~ is hereby rescinded, except for enforcement purposes.

6. Reference: Attachment A. Facility Plan

Revision: We replaced Attachment A, the Facility Plan, with an updated map from the Discharger (see Attachment A of Revised Tentative Order).

7. Reference: SMP VI.A.5

Revision: We clarified language as follows:

VI. Reports to be Submitted to the Water Board Annual Monitoring Reports
5.b.~~Water Balance~~ Monthly flows. A tabulation of monthly … .

8. Reference: SMP IV.B, Wastewater System Monitoring Stations, and SMP Table 1, Schedule for Monitoring.

Revisions: Section IV.B is a table that lists the wastewater system monitoring stations and monitoring parameters. We determined that the monitoring station identified for influent parameters, previously identified as the Fats, Oils and Grease Interceptor Unit, is incorrect. The correct influent monitoring station is located upstream of the Fats, Oils, and Grease Interceptor Unit. SMP Section IV.B and SMP Table 1 have been revised accordingly, to identify influent sampling at station "INFLUENT".

We also added an additional requirement for a quarterly FOG Unit service event and edited the schedule in Table 1 to include the label "D" for daily visual precipitation monitoring at the Field. We also delected the requirement to monitor COD as described in Discharger comment 4.

The Order has been revised as follows:

B. WASTEWATER SYSTEM MONITORING STATIONS

	Code	**Station Name and Description**	**Station Purpose**
1.	INF	Influent: Wastewater at a point in the Wastewater Treatment Facility (Facility) where all wastes upstream of the treatment process are present.	Measurement of the total volume of wastewater flow into the Facility, to document compliance with the Authorized Wastewater Flow (annual total flow) limit given in Discharge Specification 4 of this Order. Sampling and analytical characterization of influent into the Facility.
2.	FOG	Fats, Oils, and Grease Interceptor: ~~Wastewater at a point in the Facility after collection into the comminutor, before the fats, oils, and grease (FOG) interceptor.~~ Wastewater solids serviced by septic waste hauler.	~~Sampling and analytical characterization of influent into the wastewater treatment plant through the FOG interceptor.~~ Record of the service event and measured amount of wastewater solids collected.
[…]	[…]	[…]	[…]

Additionally, the Order has been revised as follows (the changes are also highlighted for ease of recognition):

TABLE 1 – SCHEDULE FOR MONITORING (*)

Monitoring Stations:			INF	FOG	TR-1, 2, 3, ST-East, ST-West	EFF-TR	EFF-D	EFF-Flow	FIELD	
			Influent	FOG Unit	All Treatment and Storage Ponds	Treatment Pond Effluent	Disinfected Effluent	Effluent Flow to Land	Discharge Area	
Type of Sample: / **Sample Parameters**			F	~~G,~~ O	G, O	G, O	G	F	O	
Parameter	**(units)**	**[SMP Reference]**								
Flow Volume	(gallons)	[V.B.1]	D&M					D&M		
~~COD~~	~~(mg/L)~~			~~W~~		~~W~~				
BOD_5 20°C	(mg/L)		M	~~W~~		W				
Temperature	(degrees F or C)		M	~~W~~	W	W				
pH	(pH units)		M	~~W~~	W	W				
Dissolved Oxygen	(mg/L)			~~W~~	W	W				
Dissolved Sulfides	(mg/L) (whenever D.O. < 2 mg/L)			~~C~~	C	C				
Nitrogens	(mg/L as N)	[V.B.3]				M				
Total Dissolved Solids	(mg/L)		M	~~W~~		W				
Total Coliform	(MPN/100 mL)						W | E		
Precipitation	(inches)	[V.B.4]							D	
Standard Observations		[V.B.5]	W	~~W~~	W	W			W	
Water Depth and Freeboard (feet~~& inches~~)		[III.B.4 and III.B.5]			W					
Chlorine Tank Level	(inches)						W			
Fats, Oils, and Grease Interceptor Unit Service				Q						