

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

**MEETING OF JULY 16-17, 2014
SOUTH LAKE TAHOE**

ITEM: 12

**SUBJECT: WASTE DISCHARGE REQUIREMENTS FOR TAHOE KEYS
PROPERTY OWNERS ASSOCIATION (TKPOA), EL DORADO
COUNTY**

CHRONOLOGY:

- March 27, 1975 Board Order No. 6-75-048 (NPDES Permit No. CA0102750) allowed water circulation and treatment.
- July 10, 1987 Board Order No. 6-87-077 (NPDES Permit No. CA0102750) allowed water circulation and treatment.
- Sept. 10, 1992 Board Order No. 6-92-082 (NPDES Permit No. CA0103021) allowed water circulation and treatment.
- June 4, 1998 Board Order No. 6-98-035 (NPDES Permit No. CA0103021) allowed water circulation and treatment.
- August 1998 Water Board alleged discharge of alum flocculent to waterways from operation of TKPOA treatment facility.
- April 27, 1999 Cleanup and Abatement Order No. 6-1999-0008 required TKPOA to submit a Facility Compliance Plan to prevent future violations of effluent limitations for discharge from operation of the treatment plant.
- Sept 30, 1999 Settlement Agreement between TKPOA and Water Board, where TKPOA agreed to spend \$198,000 to perform water quality improvement projects.
- June 9, 2004 Board Order No. R6-2004-0024 (NPDES Permit No. CA0103021) allowed water circulation.

April 19, 2005 TKPOA completed all terms of the Settlement Agreement

ISSUES: Should the California Regional Water Quality Control Board, Lahontan Region (Water Board) rescind the existing NPDES permit and approve the proposed Water Quality Certification, Waste Discharge Requirements, and prohibition exemption for TKPOA?

DISCUSSION: In 1975, the Water Board issued a permit to TKPOA which allowed operation of a water treatment facility and a circulation system for the lagoons. These systems were state-of-the-art at that time and their purpose was to keep the waterways clear. By the late 1970s, a few residential homes had been constructed on the private lots, and construction of the homes significantly increased after the building moratorium was lifted in 1985. Most homes at the Keys were built in the late 1980s through the 1990s. Throughout this time, TKPOA operated the circulation and treatment facilities intermittently as needed to reduce turbidity and prevent stagnation and the Water Board updated the permit periodically. Though the treatment and circulation systems were being operated, the lagoons were experiencing exponential growth of aquatic weeds.

The treatment system has not been operated following an incident in August 1998 where TKPOA allegedly discharged alum flocculent from to the waterways. To resolve the alleged violation, the Water Board and TKPOA entered into a settlement agreement whereby TKPOA agreed to spend \$198,000 performing water quality improvement projects. These projects included a bioassessment study, installation of filters in storm drain inlets, and increased harvesting removal of aquatic weeds.

By 2005, TKPOA completed all terms of the settlement agreement, yet the lagoon aquatic weeds had not been controlled. Since then, TKPOA has been exploring options for controlling the invasive aquatic weeds and has been consulting with Water Board staff on understanding the viable options.

The proposed Waste Discharge Requirements (WDR) are a result of intensive collaboration over many months between TKPOA and Water Board staff. The purpose of this new WDR is to require TKPOA to develop and implement management control measures to prevent the discharge of pollutants from non-point source activities.

The WDR will allow TKPOA to operate its water circulation system and place bottom barriers in the lagoons to suffocate invasive aquatic weeds. Specific orders in the WDR require TKPOA to develop and implement a Non-Point Source Management Plan for land-based activities, and an Integrated Management Plan for Aquatic Invasive Species for all water-based activities.

Under a Municipal NPDES Stormwater Permit, the City of South Lake Tahoe (CSLT) is responsible for all stormwater within its jurisdiction, which includes TKPOA. The CSLT and TKPOA have agreed to coordinate operation and maintenance of shared stormwater facilities. To strengthen TKPOA's involvement in stormwater management and to comply with the Lahontan Basin Plan, the WDR requires TKPOA to either document coordination with the CSLT to demonstrate that shared stormwater treatment facilities treating private property discharges and public right-of-way stormwater are sufficient to meet the CSLT's average annual fine sediment and nutrient load reduction requirements, or meet the surface water numeric effluent limits.

As part of developing the draft WDR, Water Board staff consulted with representatives from the Tahoe Regional Planning Agency, the California Department of Fish and Wildlife, the City of South Lake Tahoe, and the US Army Corps of Engineers. Adoption of the WDR will include rescission of the 2004 NPDES permit, and issuance of a Clean Water Act Section 401 Water Quality Certification and Basin Plan prohibition exemption for the bottom barrier placement.

A tentative WDR was circulated for public review which ended July 3, 2014. TKPOA, US EPA, and the Tahoe Water Suppliers Association (TWSA) each submitted a comment letter by the deadline. The Tahoe Regional Planning Agency and Steve Bridges (a Tahoe Keys resident) submitted comments on July 7, 2014. Enclosure 3 contains a copy of all comments received.

In the comments received, TKPOA appreciated that Water Board staff were helpful and maintained an excellent level of communication during the preparation of the tentative documents. TKPOA hopes that, in addition to voluntary actions taken by TKPOA over the last several years, the requirements contained in the WQC and WDR will facilitate an effective aquatic invasive weed control program. US EPA Region 9 strongly supports the proposed WDR focus on the invasive weed problem in the TKPOA lagoons, which previous permits have not addressed directly and encouraged the Water Board to strengthen these measures by enhanced monitoring and reporting. The TWSA supported the required Non-Point Source Plan's strong emphasis in fertilizer and nutrient management with mandatory public education, water

quality monitoring and specific goals and deadlines for a management plan for nutrient reduction. TWSA also supported the provisions of the Integrated Weed Management Plan and the non-chemical control of aquatic weeds.

All five comment letters provided suggested text to correct minor errors and to clarify certain items. The Proposed WDR incorporates appropriate changes in the Proposed WDR to address these comments and strengthens the effectiveness of AIS and NPS nutrient control. One significant change in the Proposed WDR is an added requirement for TKPOA to meet the surface water numeric effluent limits for discharges from shared stormwater facilities if TKPOA fails to document coordination with the CSLT on the functionality of the specific facility for meeting the CSLT's load reduction requirements. Enclosure 4 contains the specific responses to the individual comment letters

RECOMMENDATION:

Adoption of the Water Quality Certification and WDR as proposed.

ENCLOSURE	Item	Bates Number
1	Proposed Water Quality Certification and Waste Discharge Requirements	12-7
	Attachment A: General Location Map	12-37
	Attachment B: Facility Map; Monitoring Locations	12-39
	Attachment C: Standard Provisions for WDR Permits	12-41
	Attachment D: Guidelines for Development of the Non-Point Source Management Plan for Fertilizer and Irrigation of Landscaped Areas	12-45
	Attachment E: Best Management Practices for Bottom Barrier Installation for Invasive Weed Control	12-47
2	Proposed Monitoring and Reporting Program	12-51
	Attachment 1: General Provisions for Monitoring and Reporting	12-57
3	Comments from Interested Parties	12-63
4	Response to Comments (will be sent under separate cover)	12-127

ENCLOSURE 1

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

BOARD ORDER NO. R6T-2014-(Proposed)

**WDID NO. 6A090089000
FOR**

**WATER QUALITY CERTIFICATION AND WASTE DISCHARGE REQUIREMENTS
FOR TAHOE KEYS PROPERTY OWNERS ASSOCIATION**

_____ El Dorado County _____

FINDINGS of the California Regional Water Quality Control Board, Lahontan Region (Water Board):

1. Dischargers

The Tahoe Keys Property Owners Association (TKPOA) submitted a complete Report of Waste Discharge and National Pollutant Discharge Elimination System (NPDES) application on January 22, 2014 for the Tahoe Keys properties in the Main Lagoon and Marina Lagoon. For the purposes of these Waste Discharge Requirements (WDR), the TKPOA is referred to as either TKPOA or the "Discharger" and its properties are referred to as the "Facility." General Location of the Facility is depicted in Attachment A, and Tahoe Keys Main Lagoon and Marina Lagoon monitoring stations are given in Attachment B.

2. Permit History

The first permit established for the Facility was Board Order No. 6-75-048 (NPDES Permit No. CA0102750) adopted on March 27, 1975. The permit has been updated three times: Board Order No. 6-87-077 (NPDES Permit No. CA0102750) adopted on July 10, 1987; Board Order No. 6-92-082 (NPDES Permit No. CA0103021) adopted on September 10, 1992; and, Board Order No. 6-98-035 (NPDES Permit No. CA0103021) adopted on June 4, 1998. Cleanup and Abatement Order No. 6-1999-0008 was issued on April 27, 1999 that required TKPOA to abate future violations of effluent limitations for aluminum. All previous permits addressed the lagoon and marina circulation system as well as its treatment plant that was constructed primarily to reduce lagoon turbidity post-construction, but is no longer used. The Water Board issued an NPDES permit (Board Order No. R6-2004-0024; NPDES Permit No. CA0103021) for a five-year term, as allowed by federal law, on June 9, 2004, addressing the main lagoon and marina lagoon circulation system and requiring TKPOA to submit and implement a nonpoint source management plan. This Permit did not allow use of the water treatment plant.

3. Reason for Action

In 2008 the United States Environmental Protection Agency (USEPA) added a new rule to the Code of Federal Regulations (CFR) on “water transfers.” 40 CFR section 122.3 states the following:

“The following discharges do not require NPDES permits:

(i) Discharges from a water transfer. Water Transfer means an activity that conveys or connects waters of the United States without subjecting the transferred water to intervening industrial, municipal or commercial use. The exclusion does not apply to pollutants introduced by the water transfer activity itself to the water being transferred.”

The new rule made an NPDES permit unnecessary for the discharge of water from the lagoon and marina to Lake Tahoe. Because of this rule change, the Water Board is replacing the NPDES permit with a WDR under the California Water Code. The WDR addresses waste discharges related to operating the circulation system and require implementation of a new non-point source pollution reduction strategy.

The objective of this WDR is to protect the beneficial uses of receiving waters by requiring both water- and land-based management actions to reduce all potential sources of pollutants. Water-based sources are to be covered primarily in the Integrated Management Plan (IMP). Land-based sources include (i) stormwater discharges through shared stormwater collection and treatment facilities system, which are maintained by TKPOA yet the discharge is covered by the CSLT General Municipal Stormwater NPDES Permit, and (ii) surface flows and percolating groundwater that may flow directly to Tahoe Keys Lagoon or Marina. The Nonpoint Source Water Quality Management Plan (NPS Plan), which is required by this Order, will focus on the latter land-based direct sources not captured by the stormwater system (item ii above).

4. Description of Facility and Discharge

The Tahoe Keys residential development is situated on 372 acres of land and inland waterways accessible to Lake Tahoe. Common properties include private beaches, clubhouse, swimming pools, tennis courts, basketball court, navigable waterways, boat docks, pier, and park lands. Public service facilities include administrative offices, water wells and distribution system, corporation yard, and a lagoon water treatment and circulation facility (located at 2100 Texas Avenue in the City of South Lake Tahoe).

The Tahoe Keys Lagoons are comprised of three principal man-made water features: the Main Lagoon, the Lake Tallac Lagoon, and the Marina Lagoon. The Facility location is shown in Attachments A and B. Information regarding each of the three lagoons is shown Table 1 (from TKPOA Report of Waste Discharge (ROWD)). TKPOA harvests aquatic weeds in the TKPOA Lagoon, the areas of the

Marina Lagoon owned by TKPOA, the California Tahoe Conservancy (CTC), Tahoe Keys Marina (TKM), and the Tahoe Keys Beach and Harbor Association (TKB&HA) under the provisions of a settlement agreement.

Tahoe Keys is a non-profit 1,529 member common interest residential subdivision development in the City of South Lake Tahoe, (City), El Dorado County, encompassing 1,194 single family residential units and 335 townhouse residential units, headquartered at 356 Ala Wai Boulevard, South Lake Tahoe, CA. The Tahoe Keys property owners are represented by the Tahoe Keys Property Owners Association (TKPOA) which is also responsible for the common properties. TKPOA operates and maintains the Tahoe Keys lagoons, which are located on TKPOA member's private property and its common properties.

The TKPOA area of jurisdiction is unique at Lake Tahoe because the entire area has a dense development of residential uses on land that is a man-modified, former wetland situated within the edge of Lake Tahoe. All properties within the TKPOA area drain to waters that are directly connected to Lake Tahoe.

Table 1 Tahoe Keys Lagoons

Lagoon	Surface Area, Acres	Lagoon Property Ownership (listed in order of area owned)	Connection to Lake Tahoe
Main Lagoon	110	<ul style="list-style-type: none"> • ≈ 700 private owners • TKPOA Common Area 	West Channel
Marina Lagoon	32	<ul style="list-style-type: none"> • Tahoe Keys Marina • TKPOA Common Area • Tahoe Keys Beach and Harbor Association • California Tahoe Conservancy 	East Channel
Lake Tallac Lagoon	30	<ul style="list-style-type: none"> • 1 Major private owner (Lagoon Partners, Inc.) • ≈ 120 private owners • TKPOA Common Area 	Via Pope Marsh

The lagoon water treatment and water circulation facilities were built for water quality improvements following construction of the Tahoe Keys project. The lagoon water treatment facility using chemical coagulation and clarification is no longer operated, and its operation is not included in this permit, though the water circulation facility is operational and is included in this permit. The lagoon water circulation system is depicted in Attachment B, and consists of an intake (W) from the Main Lagoon, 17 outfalls in the Main Lagoon (C1-C6 and 1-5; 8-13), two outfalls into the Marina Lagoon (6 and 7) and one intake from Marina Lagoon (D). The Monitoring and Reporting Program has provisions to increase the frequency of monitoring if and when the circulation system is operated.

Management actions are needed to reduce the potential discharge from non-point sources, such as landscaping irrigation runoff, fertilizers, pesticides, herbicides, rodenticides, mechanical aquatic weed harvesting and maintenance of private stormwater facilities.

Chapter 5.18 of the Lahontan Basin Plan, Total Maximum Daily Load for Sediment and Nutrients, Lake Tahoe, El Dorado and Placer Counties states:

Introduction: *Lake Tahoe is designated an Outstanding National Resource Water by the State Water Resources Control Board and the United States Environmental Protection Agency due to its extraordinary deep water transparency. However, the lake's deep water transparency has been impaired over the past four decades by increased fine sediment particle inputs and stimulated algal growth caused by elevated nitrogen and phosphorus loading.*

The Lake Tahoe TMDL Implementation Plan has a goal to “reduce fine sediment particle, phosphorus, and nitrogen loads to Lake Tahoe.” This permit is consistent with the goals of minimizing inputs of nitrogen, phosphorus, and sediments into Lake Tahoe and its tributaries.

Constituents of concern in the Tahoe Keys lagoons include sediment, water temperature, dissolved oxygen, ammonia, nitrate, total nitrogen, total phosphorus, soluble reactive phosphorus, and aquatic invasive species. Water temperature is an important parameter for rates of internal loading of nitrogen and phosphorus and for growth of aquatic invasive species and native plants that interfere with navigation (NAV) beneficial uses. Ammonia, nitrate, total nitrogen, total phosphorus, soluble reactive phosphorus are important sources of plant-available nitrogen and phosphorus nutrients in the water column.

The high rates of aquatic plant growth within the Tahoe Keys lagoon and marina suggest that these constituents of concern are present at relatively high concentrations within its sediments and indigenous waters. Some potential sources of nutrients include natural and upstream sources of nutrients and pollutants, which can contribute to surface water pollution via nonpoint source (NPS) runoff, irrigation practices, pet waste, and lawn and home care practices such as fertilizer use. Sources of sediment may include eroded and exposed soils; road deicers and traction abrasives; vehicle use, washing and maintenance. Therefore, plans to address these potential sources and associated monitoring requirements are established in this Order.

5. Authorized Disposal Site

TKPOA disposes of harvested aquatic weeds outside the Lake Tahoe Basin for recycling at Full Circle Compost in Gardnerville, Nevada. This is done to avoid additional nutrient loading in the Lake Tahoe Basin. Other disposal sites are acceptable so long as they are outside the Lake Tahoe Basin.

6. Disposal Practice

Aquatic plants are harvested summer through fall. Harvested plants are temporarily placed in windrows for drying at the TKPOA corporation yard, and then are taken to the disposal site outside of the Lake Tahoe basin. The temporary harvested plant storage will not exceed 90 days for each batch harvested to meet waste disposal requirements and to not create a nuisance from odors. Harvested aquatic plants will be properly contained on site and while in transport to prevent the dispersal of propagules.

7. Stormwater

The City of South Lake Tahoe (CSLT) operates a series of storm drains and drop inlets that discharge to Tahoe Keys Main Lagoon, Lake Tallac Lagoon and the Marina Lagoon. Stormwater enters local waters on an intermittent basis and the Water Board authorizes stormwater discharges within the CSLT city limits under the Municipal Stormwater permit (Order No. R6T-2011-0101) issued to the CSLT. Under its Municipal Stormwater permit, the CSLT is responsible for all stormwater within its jurisdiction, which includes the stormwater from private properties in the TKPOA area.

TKPOA maintains some stormwater facilities which drain directly to the lagoons and these are hereafter referred to as “shared stormwater facilities.” One such facility is the shared stormwater collection and drainage system located in the Cove 3C parking lot, draining 0.3 acre, which drains both CLST stormwater and TKPOA Cove 3C parking lot stormwater into the Marina Lagoon via a common drain pipe. TKPOA and the CSLT have chosen to coordinate to ensure the shared stormwater facilities are sufficient to meet the CSLT’s average annual fine sediment and nutrient load reduction requirements. Should any private or shared stormwater facility be identified within the TKPOA facility, it is responsibility of CSLT under its Municipal Stormwater permit and it is the responsibility of TKPOA to coordinate with CLST as above.

Other storm water and irrigation runoff from both TKPOA common area properties and private properties discharge to CSLT storm drains via city streets, run off directly to surface water, or percolate into groundwater. Nonpoint source discharges from private properties and common areas may affect surface and groundwater. In private backyards, this may occur without entering the frontage storm drain systems (CSLT storm drains).

8. Site Hydrology

Under normal weather, precipitation, and stormwater flow conditions, no upland tributaries to Lake Tahoe directly enter the Tahoe Keys Main Lagoon or the Marina Lagoon, though under flood conditions, the gates may be opened to allow flow from Lake Tallac Lagoon into the Main Lagoon for flood prevention purposes. Lake Tahoe is directly connected to Tahoe Keys Main Lagoon via the West Channel and the Marina Lagoon via the East Channel. When lake level is rising,

Lake Tahoe waters enter the lagoons, and the opposite occurs when lake level is dropping; surface water from the lagoon and marina flows out into Lake Tahoe. The estimated annual average water balance for the Tahoe Keys Lagoons is shown on Table 2 (from TKPOA ROWD).

Table 2: Tahoe Keys Lagoon Water Balance

	Source/Cause	Area, Acres	Average Annual Amount, Feet	Runoff Factor	Quantity Ac. Ft.	Portion of Total
Inflows	TK Precipitation ¹	372	1.7	0.4	254	45%
	Upland Precipitation ²	0	1.7	0.5	0	0%
	Lake level rise ³	100	2.5	NA	250	45%
	Irrigation Runoff ⁴	82	6.7	NA	54	10%
	Inflow Subtotal				558	
Outflows	Evaporation ⁵	100	3.3	NA	325	58%
	Discharge to Lake Tahoe	NA	NA	NA	233	42%
	Outflow Subtotal				558	
Net					0	

1. Annual average precipitation for South Lake Tahoe.
2. Lake Tallac intercepts upland runoff and discharges to Pope Marsh.
3. Annual average change in Lake Tahoe lake level (2003-2009).
4. Assumes 0.1 inch of irrigation runoff per watering, 4 watering events per week, 5-month watering season. Note that the portion of irrigation runoff reaching the lagoons via the City of South Lake Tahoe stormwater system is unknown.
5. Annual average pan evaporation is 36 inches for the Lake Tahoe Basin. 10% has been added to account for higher surface temperatures in the Tahoe Keys Lagoons.

9. Site Hydrogeology

Anecdotal recounts of historic lot construction report the Tahoe Keys land was created by a combination of excavating and pushing up wetland soils to form base for lots and capping the lots with a sand layer to provide a stable pad for building construction. The Tahoe Keys residential and townhouse lots no longer exhibit a natural wetland, though groundwater levels within the Tahoe Keys land substrate have been observed to fluctuate in response to changes in groundwater gradients caused by deep percolation of precipitation or irrigation, or lake elevation variations.

10. Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan) on March 31, 1995, and adopted Basin Plan Amendments on July 12, 2000. The Basin Plan recognizes Lake Tahoe as Outstanding National Resource Water (ONRW). This Order implements the Basin Plan, as amended.

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface and ground waters within the Lahontan Region. The State Water Board adopted a policy to protect existing the high quality waters. (SWRCB Resolution No. 68-16.) The federal regulations contain a similar anti-degradation policy. (40 Code of Federal Regulations § 131.12.)

11. Receiving Waters

The Main Lagoon and the Marina Lagoon are hydrologically connected to Lake Tahoe via the West and East Channels, respectively. Groundwaters within the facility also may receive discharge of wastes by infiltration from non-point sources such as fertilizer nutrients from landscaping activities.

12. Beneficial Uses - Surface Waters

The receiving waters for flows originating from the Facility are the surface and ground waters of the Lake Tahoe Hydrologic Unit, South Tahoe Hydrologic Area (Ca. Dept. of Water Resources HU No. 634.10). The TKPOA Main Lagoon and the Marina Lagoon are hydrologically connected to Lake Tahoe and associated minor surface waters of the United States via constructed navigational channels and ground water flow.

Lake Tahoe is designated as an Outstanding National Resource Water (ONRW), for which no permanent or long-term degradation in water quality is allowable. The beneficial uses of Lake Tahoe and its associated minor surface waters and wetlands, as set forth and defined in the Basin Plan, include:

- a. Municipal and domestic supply;
- b. Agricultural supply;
- c. Ground water recharge;
- d. Freshwater replenishment;
- e. Water-contact recreation;
- f. Non-water-contact recreation;
- g. Navigation;
- h. Commercial and sport fishing;
- i. Cold freshwater habitat;
- j. Wildlife habitat;
- k. Preservation of biological habitats of special significance;
- l. Migration of aquatic organisms;
- m. Spawning, reproduction and development of fish and wildlife;
- n. Preservation of rare and endangered species;
- o. Water quality enhancement; and
- p. Flood peak attenuation/flood water storage.

13. Title 27 Exemption

Wastes consisting of harvested aquatic weeds are temporarily held at the TKPOA corporation yard, but are disposed of permanently off-site (see Finding 5). As no

wastes are disposed of on-site, the Facility does not meet the definition of a "disposal site"¹ in California Public Resources Code Section 40122 and is therefore exempt from Title 27 dealing with land disposal of wastes. (California Water Code Section 13172).

14. Water Quality Baseline Data

The baseline data given in Table 3 is needed for comparison with future operations during use of the circulation system, when monitoring is required under the Monitoring and Reporting Program. The overall purpose is to assess the effectiveness of landscape and other management practices within the NPS Plan on achieving improvements in water quality relative to applicable Water Quality Objectives.

Table 3: TKPOA Annual Average Water Quality, 2007-2013¹

Year	Total Nitrogen (TN), mg/L	Total Phosphorous (TP), mg/L	Total Dissolved Solids (TDS) (mg/L)	pH	Turbidity (NTU)
2007	0.28	0.030	74	9.16	0.75
2008	0.15	0.033	84	7.67	1.46
2009	0.33	0.043	87	9.15	7.97
2010	0.20	0.019	101	8.87	1.20
2011	0.18	0.023	71	8.31	1.72
2012	4.57	0.019	no data	8.88	no data
2013	0.24	0.026	81	7.97	1.88
WQO	0.15	0.008	60	7.0 - 8.4	3.00

¹ Data from TKPOA Self-Monitoring Reports under prior NPDES Permit. WQO = Lahontan Basin Plan Water Quality Objectives, Chapter 5 including Table 5.1-3. TN is the sum of nitrate nitrogen + nitrite nitrogen + Total Kjeldahl Nitrogen. Lake Tahoe is Clean Water Act Section 303(d) listed as impaired for Total Nitrogen (TN), Total Phosphorus (TP), and sediment.

Tahoe Keys Lagoon and Marina Lagoon are physically connected to Lake Tahoe and have no site-specific water quality objectives (WQOs) of their own, so Lake Tahoe WQOs apply.

Annual Average TN, TP, and TDS equal or exceed WQOs in all years; Annual Average pH exceeds the WQO in 4 of 7 years, but all samples were taken during daylight hours when actively photosynthesizing plants remove carbon dioxide from the water, raising the pH. Turbidity is below the WQO in all years except 2009, which resulted from one unusually high turbidity reading of 99 NTU among 16 samples.

¹ "Disposal site" or "site" means the place, location, tract of land, area, or premises in use, intended to be used, or which has been used, for the disposal of solid wastes.

15. Aquatic Plant Growth

The Lahontan Basin Plan water quality objectives for “Biostimulatory Substances” states that:

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

Aquatic Invasive Species (AIS) have affected aquatic ecosystems and caused economic damage across the United States:

- The US Environmental Protection Agency (USEPA, 2012)² reports the following concerning AIS:

“Invasive species are one of the largest threats to our terrestrial, coastal and freshwater ecosystems, as well as being a major global concern. Invasive species can affect aquatic ecosystems directly or by affecting the land in ways that harm aquatic ecosystems. Invasive species represent the second leading cause of species extinction and loss of biodiversity in aquatic environments worldwide. They also result in considerable economic effects through direct economic losses and management/control costs, while dramatically altering ecosystems supporting commercial and recreational activities.”

- The National Oceanic and Atmospheric Administration (NOAA, 2011)³ likewise states:

“Non-native species - including plants, animals, and pathogens - are considered to be one of the greatest threats to coastal ecosystems. They have adversely impacted local economies, important fisheries, sensitive coastal ecosystems, and human health. Invasive species can aggressively spread in coastal ecosystems causing considerable impacts.”

Excessive growth of aquatic plants within the Facility impairs beneficial uses of water, such as Cold Freshwater Habitat (COLD), Navigation (NAV), Water Contact Recreation (Rec-1), Non-contact Water Recreation (Rec-2) and possibly Rare, Threatened, or Endangered Species (RARE). The excessive aquatic plant growth has caused several adverse effects to cold water ecosystems: impaired navigation of vessels, potential health and safety risk associated with entanglement of swimmers in aquatic vegetation and lack of visibility of submerged swimmers, impairment of fishing and aesthetic quality, and increased predation of native fish species by invasive fish species.

² Web Link: http://water.epa.gov/type/oceb/habitat/invasive_species_index.cfm

³ Web Link: <http://stateofthecoast.noaa.gov/invasives/welcome.html>

Terms Defined:

Aquatic Invasive Plant Species-non-native aquatic plants, such as Eurasian Milfoil and Curly Leaf Pondweed

Aquatic Weeds-includes aquatic invasive plant species and other, unwanted, native species such as Coontail.

Aquatic Plants-includes all native, non-native, and invasive aquatic plant species.

Harvested Aquatic Weeds: TKPOA removes significant quantities of N and P from the system by harvesting aquatic weeds and disposing them outside the Lake Tahoe Basin.

Recalcitrant (or Stable) Organic N and P: A small fraction of aquatic vegetation dies and settles to the lagoon bottom becoming stable sediment organic matter, effectively immobilizing its N and P. Rates of N and P immobilization depend on a number of site-specific environmental factors such as parent organic source, temperature, and dissolved oxygen.

As part of this Order, TKPOA will increase its institutional control, education and outreach measures to reduce inputs of N and P from landowner activities.

Non-Chemical Control of Aquatic Invasive Plant Species

TKPOA has been proactively assessing the efficacy of non-chemical controls of AIS such as use of jute mats to suppress aquatic plant growth. The Tahoe Keys lagoons were the site of a three-year Tahoe Resource Conservation District Study, "Tahoe Keys Aquatic Plant Management Research Project," which began in 2011. The goal was to determine efficacy and feasibility of currently available non-chemical methods for management of *Myriophyllum spicatum* (Eurasian watermilfoil) and *Potamogeton Crispus* (Curlyleaf pondweed) in typical infestations within the Tahoe Keys lagoon areas. The approach was to monitor benthic invertebrate communities in areas of the Tahoe Keys targeted for aquatic plant management pre- and post- non-chemical treatment to evaluate changes after non-chemical treatments. Jute and synthetic barriers to aquatic plant growth were placed on the bottom in six locations to restrict aquatic growth. Synthetic barriers were removed after 7-9 weeks. The jute barriers were left in place until they decomposed. Final results for this study are pending.

Installation of bottom barriers by TKPOA on common areas or by private parties on privately-owned properties (the "project") may continue under this permit in compliance with the requirements of Attachment E, "Best Management Practices for Bottom Barrier Installation for Invasive Weed Control." As part of this Order the Water Board grants TKPOA Water Quality Certification, provided requirements in this Order, including Attachment E are followed. This project is eligible for a California Environmental Quality Act (CEQA, Finding 22) categorical exemption under California Code of Regulations title 14, section 15333, "Small Habitat

Restoration Projects."

Hand-pulling of invasive aquatic weeds is encouraged. If continued use of mechanical aquatic weed harvesting is proposed, then TKPOA must develop and implement best management practice control measures to limit the spread of viable plant fragments. This Order requires submission and implementation of an Integrated Management Plan (IMP) to address aquatic invasive plant species management.

Chemical Control of Aquatic Invasive Plant Species

This permit does not authorize the use of chemical control for aquatic invasive or nuisance plants.

16. Water Quality Certification for using Bottom Barriers to perform Small Habitat Restoration

Pursuant to California Code of Regulations (CCR) Title 23, Section 3831, "Water Quality Certification" is a certification that any discharge or discharges to waters of the U.S., resulting from an activity that requires a federal license or permit, will comply with water quality standards and other appropriate requirements. "Activity" means any action, undertaking, or project-including, but not limited to, construction, operation, maintenance, repair, modification, and restoration-which may result in any discharge to a water of the United States in California. "Water quality standards and other appropriate requirements" means the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act (33 USC Sections 1311, 1312, 1313, 1316, 1317), and any other appropriate requirements of state law. Based upon the information provided by TKPOA and the requirements of this Order, it is our determination that the CWA Section 401 Water Quality Certification for bottom barrier installation for aquatic weed control provided under this Order would ensure that bottom barrier projects proposed by TKPOA would comply with water quality standards and other appropriate requirements.

The Army Corps may issue a federal permit for installation and maintenance of bottom barriers under Section 10 of the Clean Harbors Act. Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.) regulates aquatic activities - not discharges (such as installation or removal of pilings and buoys), and requires authorization from the U.S. Army Corps of Engineers (Army Corps) for the construction of any structure in or over any navigable water of the United States, the excavation/dredging or deposition of material in these water or any obstruction or alteration in a "navigable water." Structure or work outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body.

Army Corps may permit the bottom barrier work proposed by TKPOA with a Nationwide 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities) permit or Nationwide 3 (issued for maintenance type activities) permit. The Army Corps has previously issued nationwide permit (NWP) 27 for AIS control projects that involved bottom barriers in Lake Tahoe. .

17. Justification for Granting a Prohibition Exemption for the Bottom Barrier Placement below the High-Water rim of Lake Tahoe\

To protect beneficial uses and achieve water quality objectives for the waters of Lake Tahoe and its tributaries, the Water Quality Control Plan for the Lahontan Region (Basin Plan) contains the following discharge prohibition:

“The threatened discharge, attributable to human activities, of solid or liquid waste materials including soil, silt, clay, sand, and other organic and earthen materials, due to the placement of said materials below the high-water rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe, is prohibited.”

An exemption to the prohibition may be obtained if the project makes all of the required findings:

a. *The project is necessary for environmental protection;*

The primary purpose of the bottom barrier placement is to control aquatic invasive species and aquatic weeds. Removal of the invasive species has been shown to re-establish the natural, pre-existing conditions.

b. *There is no reasonable alternative, including relocation which avoids or reduces the extent of encroachment in the below the highwater rim of Lake Tahoe; and*

Since the bottom barrier placement by its very nature is located at the bottom of the Tahoe Keys Main Lagoon or Marina Lagoon, there is no reasonable alternative. Hand-pulling, suction dredged-assisted removal, and cutting by marine harvesters may not be as effective as bottom barrier placement in areas similar to the Tahoe Keys Lagoons.

c. *Impacts are fully mitigated.*

To minimize impacts generated from the project area, the project proponent will implement Best Management Practices (BMPs) given in Attachment E, which are designed to fully mitigate impacts.

Projects allowed by this Order must not exceed a total of five acres of bottom barriers.

18. Integrated Management Plan for Aquatic Invasive Weeds (IMP) Objectives

TKPOA contracted with a consultant to develop an outline of the Integrated Management Plan for Aquatic Invasive Weeds (IMP) within an Interagency stakeholder group process. The IMP is to address the control and monitoring of aquatic invasive weeds in the Tahoe Keys Main Lagoon, Lake Tallac Lagoon, and Marina Lagoon. The IMP may address terrestrial and internal nutrient loading issues directly, or these may be addressed in separate documents, such

as the Nonpoint Source Water Quality Management Plan (see Finding 18 and Order No II.B).

Objectives of the IMP are to:

- a. Eliminate spreading of aquatic invasive species from the Tahoe Keys to greater Lake Tahoe.
- b. Enhance overall water quality of the Keys Lagoons and Keys Marina, thereby improving Lake Tahoe water quality and associated clarity.
- c. Reduce habitat for non-native fish and enhance habitat for native fish in the Keys Lagoons and Keys Marina.
- d. Restore and maintain established beneficial recreational uses, including water contact safety, in the Keys Lagoons and commercial uses in the Keys Marina.
- e. Implement a combination of cost-effective control measures that are feasible for long-term management of aquatic invasive plants.

The general approach of IMP implementation, adaptive management and public education and outreach is to:

1. Determine priority areas for control work and implement adaptive management by:
 - a. Surveying Tahoe Keys Main Lagoon and Marina Lagoon initially and thereafter annually for weed types and biomass. Creating accurate maps and summarize findings initially and thereafter in annual reports.
 - b. Obtaining initial input from Water Board staff, thereafter annually evaluating effectiveness of management practices, and modifying the IMP accordingly.
 - c. Adjusting implemented maintenance operations based on annual evaluations.

Inform and engage the homeowners through education and outreach by:

- a. Developing educational brochures and press releases about the IMP.
- b. Promoting best management practices for homeowners on reducing nutrient loading, preventing re-introduction of aquatic invasive weeds.
- c. Informing the homeowners about TRPA's required best management practices for all properties
- d. Promoting the boat inspection program.

The Monitoring and Reporting Program contains the requirements for the Aquatic Plant Monitoring Plan, which are consistent with the IMP. The general approach used in the Aquatic Plant Monitoring Plan is to survey Tahoe Keys Lagoon and Marina Lagoon annually for weed types and biomass, create accurate maps and

summarize findings in annual report.

19. NPS Water Quality Management Plan (NPS Plan) Approach & Objectives

The NPS Plan approach consists of developing and implementing BMPs in TKPOA common areas and an outreach and education program for the private property owners to implement BMPs.

The objectives of the NPS Plan are: 1) to identify and evaluate land-based activities being conducted in the Tahoe Keys community that may be sources of pollutants (including nutrients) that have the potential to be discharged into surface waters and 2) to identify and implement site-specific management practices to reduce or prevent pollutants (including nutrients) associated with activities being conducted in the Tahoe Keys community from discharging into surface waters. To achieve these objectives, this Order requires TKPOA to develop and implement a NPS Plan to minimize impacts to the water quality of the receiving water.

TKPOA is currently employing the following Landscape Best Management Practices:

- Installed TRPA-approved runoff control BMPs at TKPOA Common Areas and approximately 30% of single-family properties TKPOA will continue to conduct outreach to encourage increased BMP implementation with a goal of 100% compliance.
- Using low or no phosphorus fertilizers on the common area and townhouse landscaping and using a minimum amount of fertilizers necessary to maintain landscaping.
- Managing the irrigation of common area and townhouse landscaping to limit runoff and deep percolation.
- Educating members regarding the impact of over fertilizing and over watering on water quality through articles in the Keys Breeze newsletter each spring.
- Implementing a voluntary water conservation program where landscape irrigation on single- family properties is recommended to every other day.

The NPS Plan formalizes these and other BMPs to minimize controllable NPS nutrient loading to surface and ground waters. \

Attachment D lists types of management practices that should be considered for control and reduction of pollutants from the Tahoe Keys common areas. Additional considerations for private residential neighborhoods include, but are not limited to, the following:

1. Develop and annually disseminate educational materials to residential property owners addressing the following topics:
 - a. Water-conserving landscape irrigation techniques to reduce individual water usage and to maximize efficiency and water uptake by plants (e.g. drip irrigation).

- b. Proper fertilization practices.
 - c. Pursue institutional changes (such as modification of Covenants, Conditions & Restrictions (CCRs)) to provide more options for landscape practices or turf alternatives that may reduce residential NPS N and P sources.
 - d. Implementation of hydrologic source controls (aka BMP retrofit) in the BMP toolkit⁴ such as pervious pavement, infiltration basins, infiltration trenches, subsurface infiltration, rain barrels and cisterns, rain gardens, and filter strips.
2. Reporting on success of education and outreach efforts by follow-up survey.

20. Antidegradation Requirements

In 1980, pursuant to federal antidegradation regulations (40 Code of Federal Regulations § 131.12), the State Water Resources Control Board designated Lake Tahoe as an Outstanding National Resource Water (ONRW). The Water Board has considered state and federal antidegradation requirements pursuant to 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16. In accordance with these requirements, this Order does not allow permanent or long-term degradation of surface waters.

21. California Water Code Section 13241 Relating to Water Quality Objectives

When issuing a WDR, Water Code section 13263 requires that the Regional Board must, after a hearing, prescribe requirements as to the nature of any proposed discharge, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made. The requirements must implement the Basin Plan, and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of California Water Code Section 13241. This Order has met all these requirements, and has taken into consideration the following factors, as specified in Water Code section 13241:

(a) Past, present, and probable future beneficial uses of water. The findings of this Order identify past, present, and probable future beneficial uses of water, as described in the Basin Plan. This Order does not authorize alteration of the beneficial uses of the surface and ground water from discharges authorized by this Order.

(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. The findings of this Order concerning geology, hydrogeology, and hydrology provide general information on the hydrographic unit. This Order does not authorize actions that are likely to negatively affect local ground water quality in the area of the facility.

⁴ Tahoe Regional Planning Agency (TRPA), 2012. Best Management Practices Handbook. Web link: <http://www.tahoebmp.org/bmphandbook.aspx>

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area. Factors that could affect water quality within the Facility include: 1) discharge of stormwater from TKPOA common areas; 2) nonpoint source discharges from private properties and common areas to surface- and groundwater; and 3) internal loading of N and P from sediments to surface waters of Tahoe Keys Lagoon and Marina. This Order in conjunction with the CSLT Municipal Stormwater Permit and other voluntary measures will result in improved water quality conditions within the Tahoe Keys Lagoons, Lake Tahoe and groundwater.

(d) Economic considerations. TKPOA will be required to perform limited water quality monitoring of stormwater discharges and ambient water quality within the Tahoe Keys Lagoons if the water circulation system is activated. Monitoring costs are expected to be lower than under the prior NPDES permit because the prior permit monitoring established the background water quality conditions.

(e) The need for developing housing within the region. Build-out of housing within the Facility is essentially complete, though environmental impacts of any additional building will be subject to review and approval by the Tahoe Regional Planning Agency, El Dorado County, and the Water Board.

(f) The need to develop and use recycled water. This provision does not apply to this Facility.

22. Protection of Drinking Water

Lake Tahoe has a designated Municipal and Domestic Supply (MUN) beneficial use and is used as a source of drinking water by local municipalities and lakefront homeowners.

Water Code section 106.3 states that:

“It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”

The discharges authorized under this permit will not adversely affect drinking water quality.

23. CEQA Compliance

This WDR involves operation of an existing facility and, as such, is exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code 21000, et seq.) in accordance with Title 14, California Code of Regulations, Chapter 3, Section 15301. There is no expansion of the permit beyond what was previously allowed.

Non-chemical control of aquatic invasive species and weeds, such as the use of

bottom barriers, is categorically exempt from the provisions of CEQA under 14 CCR § 15333, Small Habitat Restoration Projects.

The “project” consists of installation and maintenance of bottom barriers that is principally carried out with hand labor and not mechanized equipment, and is “not to exceed a lifetime total of five acres in size to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife...”

24. Notification of Interested Parties

The Water Board has notified the permittee and other interested agencies and persons of its intent to issue a Waste Discharge Requirement permit for the discharge, and has provided them an opportunity to attend a public meeting and to submit written comments and recommendations regarding this matter.

25. Consideration of Public Comment

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

IT IS HEREBY ORDERED, that TKPOA, to meet the provisions contained in Division 7 of the California Water Code, and regulations adopted thereunder, and the provisions of the Federal Clean Water Act of 1977, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

I. DISCHARGE SPECIFICATIONS: This WDR addresses waste discharges related to operating the circulation system and require implementation of a new non-point source pollution reduction strategy.

A. General Requirements and Prohibitions

1. The discharge of any toxic chemical as defined in USEPA's National Toxics Rule (40 CFR Part 131, and section 303(c)(2)(B) of the Clean Water Act (CWA)) or hazardous waste as defined in Section 311(b)(2) of the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.) is prohibited.
2. Discharges from the Facility shall not cause a pollution or nuisance, as defined in Section 13050 of the California Water Code.
3. The operation of the Lagoon Water Treatment Plant (LWTP) for chemical treatment is prohibited under this WDR. No chemicals or amendments shall be added to the circulation system; and the discharge of chemicals or amendments are prohibited from the circulation system when it is in operation. If TKPOA determines that it will test or utilize the LWTP, the Discharger must obtain approval from the Water Board under a separate Order.

B. Prohibited Non-Stormwater Discharges

Illicit discharges, such as paint or waste oil and the following categories of non-storm water discharges are prohibited from being discharged to surface waters from the storm drain/culvert at the parking lot located at Cove 3C, 439 Ala Wai Blvd, South Lake Tahoe, CA. This storm drain discharges directly into surface waters of the Marina Lagoon.

1. Discharges from residential car washing containing detergents are prohibited because they have the potential to contain nutrients, such as phosphorus and other additives.
2. Discharges of chlorinated or de-chlorinated swimming pool and spa discharges are prohibited because this water contains constituents that are prohibited from being discharged into Lake Tahoe and these waters also are usually of a higher temperature than the cold waters of Lake Tahoe and discharging warm water to cold waters of Lake Tahoe is prohibited in the Basin Plan.

TKPOA is to promote compliance with the Municipal stormwater permit (Order No. R6T-2011-0101) for stormwater draining into CLST storm drains, and to promote compliance with the NPS Plan for stormwater discharges directing entering surface waters or percolating among private homeowners within the Facility by means of education and outreach activities, which will be detailed in the NPS Plan.

C. Shared Stormwater Treatment Facilities

For the shared stormwater treatment facilities, TKPOA must either meet the surface water numeric effluent limits, as specified below, or document coordination with the CSLT to demonstrate that shared stormwater treatment facilities treating private property discharges and public right-of-way stormwater are sufficient to meet the CSLT's average annual fine sediment and nutrient load reduction requirements. Should any private or shared stormwater facility be identified within the TKPOA facility, it is responsibility of CSLT under its Municipal Stormwater permit and it is the responsibility of TKPOA to coordinate with CLST as above.

To document coordination with the CSLT, TKPOA is to provide to the Water Board a Shared Stormwater Treatment Facility report documenting evidence of cooperation with CSLT. This report shall be submitted by **October 1, 2014**, and must include but not be limited to:

- Notes from meeting and phone conversations concerning maintenance activities and management of stormwater from the shared stormwater facilities;
- Plans for water quality improvement projects or management actions, including management of snow storage and parking lot runoff.

If TKPOA does not submit the Shared Stormwater Treatment Facility report by the due date, then TKPOA must meet the surface water numeric effluent limits for stormwater runoff that cannot be infiltrated to a facility capable of infiltrating the runoff from a 20-year, one hour storm. The numeric effluent limits are as follows:

<u>Constituent</u>	<u>Maximum Concentration</u>
Total Nitrogen as N	0.5 mg/l
Total Phosphorus as P	0.1 mg/l
Total Iron	0.5 mg/l
Turbidity	20 NTU
Grease and Oil	2.0 mg/l

D. Notification Requirements

TKPOA shall notify the Water Board Executive Officer by telephone as soon as the TKPOA or the TKPOA's agents have knowledge of any unauthorized discharge or discharge in violation of this permit and shall confirm this notification in writing within one week of the telephone notification. The written notification shall contain pertinent information explaining reasons for the discharge, and indicate steps taken or planned, and dates thereof, to correct the problem and prevent it from reoccurring. An estimate of the amount of flow discharged shall be included.

E. Other Prohibitions

1. Unless specifically granted, authorization pursuant to this Permit does not constitute an exemption to applicable discharge prohibitions prescribed in the Basin Plan.
2. Discharges from the TKPOA stormwater collection, conveyance, and stormwater treatment facilities that cause or contribute to a violation of narrative or numeric water quality standards or objectives are prohibited.
3. Discharges from the TKPOA stormwater collection, conveyance, and stormwater treatment facilities shall not cause or contribute to a condition of "nuisance," which is defined in the Lahontan Basin Plan as:

"Anything which meets all of the following requirements:

- *Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.*
- *Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.*
- *Occurs during or as a result of the treatment or disposal of wastes."*

4. Stormwater discharges regulated by this Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.
5. For grading or construction projects on TKPOA common land areas, the removal of vegetation or disturbance of ground surface conditions between October 15 of any year and May 1 of the following year is prohibited. Where it can be shown that granting a variance would not cause or contribute to the degradation of water quality, a variance to the dates stated above may be granted in writing by the Executive Officer.
6. The discharge attributable to human activities of any waste or deleterious material to surface waters of the Lake Tahoe HU is prohibited.

An exemption to this prohibition may be granted whenever the Water Board finds all of the following:

- a. The discharge of waste will not, individually or collectively, directly or indirectly, unreasonably affect the water for its beneficial uses, and
 - b. There is no reasonable alternative to the waste discharge, and
 - c. All applicable and practicable control and mitigation measures have been incorporated to minimize potential adverse impacts to water quality and beneficial uses.
7. The discharge attributable to human activities of any waste or deleterious material to land below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited.
 8. The discharge attributable to human activities of any waste or deleterious material to Stream Environment Zones (SEZs) in the Lake Tahoe HU is prohibited.
 9. The discharge of garbage or other solid waste to lands within the Lake Tahoe Basin is prohibited.
 10. The discharge of industrial waste within the Lake Tahoe Basin is prohibited. Industrial waste is defined as any waste resulting from any process or activity of manufacturing or construction. Stormwater discharges from industrial facilities are not prohibited when wastes in the discharge are controlled through the application of management practices or other means and the discharge does not cause a violation of water quality objectives.
 11. Use of aquatic herbicides is prohibited in the current Lahontan Basin Plan. Once the Basin Plan Amendment is in effect, a separate NDPES permit is still required for application of aquatic herbicides directly to the water, and is subject to the requirements of the Basin Plan Amendment.

12. Each batch of harvested aquatic weeds shall not be stored in excess of 90 days.

II. PROVISIONS

A. Explanatory Provisions

1. Surface waters, as used in this WDR, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial watercourses, natural lakes, and artificial impoundments of waters within the State of California. The Tahoe Keys lagoons are considered surface waters of the State of California.
2. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect TKPOA from liability under federal, state, or local laws, nor guarantee TKPOA a capacity right for waste load assimilation, flow, or storage in the receiving waters.

B. NPS Plan Requirements

1. This WDR requires TKPOA to develop a NPS Plan to control and prevent impacts to the receiving waters from sources of pollution within the TKPOA jurisdiction. TKPOA is required to submit the NPS Plan to the Water Board for Executive Officer review and acceptance **by January 31, 2016, and annually thereafter**. The NPS Plan may be part of the Integrated Management Plan for Aquatic Weeds or may be developed separately. This approach provides TKPOA the flexibility necessary to establish appropriate management practices for the different types of operations, activities, and pollutant sources that may impact the surface waters at the Facility. The NPS Plan must include site-specific management practices for minimizing and preventing pollution from stormwater and other nonpoint sources.
2. The NPS Plan is a written document that must contain drawings, maps, and copies or references to parts of other relevant plans and at a minimum, address the following elements:
 - a. A schedule for regular monitoring of activities and management actions, including inspections.
 - b. A description of existing and planned management and education/outreach activities to reduce potential source loading of nutrients, including irrigation and fertilizer practices. This is to include a plan to track the number of households reached and success of outreach efforts annually.
 - c. Map drainage of stormwater path(s) which enters the Facility

from outside the Facility boundaries; map “sensitive areas” that drain directly to waterways from both common and private areas. This mapping shall identify these areas that may be potential nutrient (nitrogen and phosphorus), sediment and other pollutant sources and locations (including snow storage areas), and these areas may be suitable for application of localized management practices to reduce or prevent discharge of pollutants.

- d. An adaptive management process that assesses the effectiveness of the management activities that were undertaken during the last season, and identifies management activities that are planned to be undertaken the next season to further address water quality impairments.
- e. An annual tally of the cumulative number of properties which have received a Tahoe Basin Best Management Practices Certificate of Completion for installing and maintaining best management practices (BMPs). This section must include a short narrative describing the types of BMPs installed and a rough estimate of the total acres retrofitted compared to the acres needing a BMP retrofit.
- f. An evaluation of TKPOA irrigation and fertilizer practices and existing rules relating to TKPOA property owners maintenance of private properties. The written evaluation must explain rationale for choosing to implement certain elements and not all elements that are listed in Attachment D, including drought-related water conservation measures to prevent overwatering and runoff).
- g. TKPOA’s pursuit of institutional changes (such as modification of Covenants, Conditions & Restrictions (CCRs)) to provide more options for landscape practices or turf alternatives that may reduce residential NPS N and P sources.

3. The NPS Plan must be readily available for review by TKPOA employees or Water Board inspectors. A copy of any requirements incorporated by reference into the NPS Plan must be kept at the Facility. Through this plan TKPOA shall assure that discharges would neither cause, nor contribute to, an exceedance of water quality standards and objectives, nor create conditions of nuisance in the receiving water.

C. Integrated Management Plan for Aquatic Invasive Weeds

TKPOA is to prepare an Integrated Management Plan for Aquatic Invasive Weeds in cooperation with Water Board, TRPA, Tahoe Resource Conservation District, and other appropriate regulatory agencies and submit it to Water Board staff by **January 31, 2016** and begin implementation of the plan after acceptance by Water Board Executive Officer. The Aquatic Plant Monitoring Plan, required in the Monitoring and Reporting Program, may be part of the IMP or may be developed separately. The IMP must include best

management practice control measures to limit the spread of viable plant fragments during aquatic weed harvest operations. This permit does not authorize or cover the use of aquatic herbicides.

The IMP document is to include, at a minimum:

1. The purpose of the Integrated Management Plan.
2. A description of the aquatic invasive weed problem, including detailed maps of infestations and problem areas.
3. TKPOA is to certify that any bottom barriers installed under this permit meet the conditions given in Attachment E. A report of bottom barrier implementation is to be prepared annually, and is to include the location, and dimensions of all installed bottom barriers and a summary of acres of bottom barrier installed to date.
4. A discussion of the problems associated with management of aquatic plants in the Keys including the beneficial role of aquatic plants compared to negative impacts of uncontrolled growth of aquatic weeds, and the effect of aquatic plants on beneficial uses in the Tahoe Keys (e.g. impairment of navigation and recreational use of the waters), including non-native Eurasian watermilfoil and curly leaf pondweed.
5. A discussion of other problematic aquatic invasive species in the Tahoe Basin such as warm-water fishes, Asian clam, signal crayfish as well as species that could invade Lake Tahoe such as quagga mussels.
6. A history of non-chemical aquatic weed control efforts to date, including mechanical harvesters, Solar Bees, and bottom barriers.
7. Proposed integrated weed management and control methods. These control methods should include an evaluation of current mechanical harvesters, design improvements to the mechanical equipment, and an assessment of other mechanical methods such as rototilling. The proposed methods should consider best management practices for weed fragment control, boat inspections; and public involvement and education. Biological control methods such as weevils or grass carp, should be evaluated.

D. Annual Reports and Updates

1. Pursuant to Section 13267(b) of the California Water Code, TKPOA shall comply with Monitoring and Reporting Program requirements of Order No. R6T-2014-XXXX and with the "General Monitoring and Reporting Provisions."

- 2 An adaptive management approach shall be implemented by use of annual updates of the NPS plan and the IMP. TKPOA shall submit an annual updated NPS Plan, IMP, and updated Aquatic Plant Monitoring Plan, including a summary of the success of bottom barrier implementation, by no later than January 31 of each year covering the previous 12 months from October 1 through September 30 (except the first period will be from January 31 through September 30, 2016), beginning in January 31, 2016, and based on these observations, revise the NPS plan for the upcoming season as appropriate. The NPS Plan shall including these minimum updates:
- a. Management Practices Planned – Include a schedule listing specific management practices planned to address the identified problems and describe the details of each BMP and explain how the BMP implementation will adequately address the problem. Show the anticipated BMP implementation date on the schedule. For education and outreach activities, this is to include a list of planned outreach activities or events sponsored. Education and outreach activities considered should include, at a minimum those issues identified in Attachment D concerning irrigation and fertilization, and BMP retrofitting of homes with a goal of 100% compliance. For issues involving modifying institutional constraints to allow a larger suite of effective BMPs for NPS nutrient control, report planned actions such as proposed amendments to CCRs. Actions to remove institutional constraints should include, at a minimum, water conservation and turf removal.
 - b. Management Practices Implemented – Describe the management practices that were implemented for the reporting period. Discuss constraints, obstacles, and other problems noted during the reporting period. For education and outreach activities, this is to include a list of outreach activities or events sponsored, the number of individuals or households reached, and how many homeowners who attended workshops or received outreach information implemented the BMPs. For BMP retrofits, this is to include an annual tally of the cumulative number of properties which have received a Tahoe basin BMP Retrofit Certificate of Completion and an estimate of the total acres covered by those BMP retrofits. For issues involving modifying institutional constraints to allow a larger suite of effective BMPs for NPS nutrient control, results of actions (such as member votes) and the implications of adopted modifications shall be reported.
 - c. TKPOA is to develop the Aquatic Plant Monitoring Plan by January 31, 2016 and implement it beginning **January 31, 2016** and annually thereafter, as updated. This may be part of the IMP, or a separate monitoring plan.
 - d. Water Quality Certification Status – TKPOA is to report no later than **January 31, 2015** and annually thereafter, the following concerning the status of the WQC project:

- Total square feet or acres treated,
 - Locations of treatment
 - Success of bottom barrier installation project - document improvements in beneficial uses (navigation and recreation) such as critical areas clear of weeds, reductions in invasive aquatic species.
3. In the event TKPOA is unable to comply with any of the conditions of this WDR due to:
- a. Breakdown or serious malfunction of lagoon water circulation equipment;
 - b. Accidents caused by human error or negligence;
 - c. Other causes such as acts of nature;

TKPOA shall notify the Executive Officer by telephone as soon as TKPOA or TKPOA's agents have knowledge of the incident or noncompliance and confirm this notification in writing within one week of the telephone notification. The written notification, pursuant to Section 13267(b) of the California Water Code, shall contain pertinent information explaining reasons for the incident or noncompliance, and indicating steps taken or planned, and dates and times thereof, to correct the problem and prevent it from reoccurring.

4. TKPOA shall file a Report of Waste Discharge with the Water Board at least 180 days before making any material change or proposed change in the character, location, or volume of the discharge.

E. Administrative Provisions

1. Board Order No. R6-2004-0024(NPDES Permit No. CA0103021) expired on June 9, 2009, and is hereby rescinded.
2. TKPOA shall comply with "Standard Provisions for WDR Permits," as shown on Attachment "C", which is made a part of this WDR.
3. The California Regional Water Quality Control Board, Lahontan Region, hereby reserves the right to change all or any portion of this WDR upon legal notice to all concerned parties, and after an opportunity to be heard is given to all concerned parties.

III. WATER QUALITY CERTIFICATION

THE REGIONAL WATER BOARD HEREBY CERTIFIES that projects in compliance with the conditions given below will comply with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic

and Pretreatment Effluent Standards), and Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.). TKPOA will develop rules, applications, and permits to control the number and quality of installation of bottom barriers. This Certification Order authorizes TKPOA to administer a project for bottom barrier installation for control of aquatic invasive species and aquatic weeds within TKPOA common areas and within TKPOA member properties given the following conditions apply:

A. Water Quality Certification Requirements

1. Project Description – The project consists of not more than five acres total of non-chemical aquatic weed control, using bottom barriers. Installation is allowed in TKPOA common areas or on TKPOA member properties as administered by TKPOA covered under this water quality certification.
2. BMP Implementation – TKPOA must comply with the conditions of Attachment E “Best Management Practices for Bottom Barrier Installation for Invasive Weed Control.”
3. Project Size- The project size shall not exceed a total of five acres covered by bottom barriers.
4. Compensatory Mitigation is not required nor applicable for this project because it is a small habitat restoration project.
5. Primary Project Purpose - This Order authorizes activities whose primary purpose is habitat restoration. The project shall not be for restoration and enhancement conducted as part of a larger project whose primary purpose is not habitat restoration. e.g., land development or flood management.
6. Individual Project Plans with Monitoring Plan – TKPOA must develop rules, application processes, permits, and an inspection and monitoring program to regulate and oversee individual homeowner’s installation of bottom barriers. However, TKPOA will retain ultimate responsibility of all bottom barrier installation and removal under this Water Quality Certification. Bottom barrier installation and removal must conform to the BMP specified in Attachment E. The purpose of the required inspection and monitoring program is to evaluate the success or failure of the bottom barrier projects and minimum elements must include an inspection of the efficacy of the anchors, bottom barrier integrity, buildup of gas beneath the barrier, and any other relevant observations. The level of detail required of the individual project plans and permits, the inspection and monitoring program, and the associated reporting shall be commensurate with the scope and size of the restoration project.

Annually, at the start of the aquatic plant growing season, or not less than 7 calendar days prior to bottom barrier placement, TKPOA shall provide the Executive Officer of the Lahontan Regional Water Board a copy of TKPOA’s rules, application processes, inspection and monitoring program, and,

individual permits. Each individual permit must contain, at a minimum, the following items:

- a. Location of the individual project (map, GPS coordinates, or property street address).
 - b. Bottom barrier construction and installation details including material type (narrative and illustration) and installation method(s).
 - c. Footprint of bottom barrier in square feet or acres.
 - d. Planned duration of in-place bottom barrier (planned installation and removal dates)
7. Monitoring Report - See Monitoring and Reporting Program, Section 1.D.
8. Standard Conditions – This Certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and article 6 (commencing with section 3867) of chapter 28, title 23 of the California Code of Regulations.

This Certification action is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to subsection 3855(b) of chapter 28, title 23 of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

This Certification is conditioned upon total payment of any fee required under chapter 28, title 23 of the California Code of Regulations and owed by the applicant.

9. Special Conditions:
- a. Other Permits - This Order does not relieve the project applicant from the responsibility to obtain other necessary local, state, and federal permits, nor does this Order prevent the imposition of additional standards, requirements, or conditions by any other regulatory agency.
 - b. Liability - This Order does not convey any property rights or exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the permittee from liability under federal, state, or local laws, and do not create a vested right to continue to discharge waste.
 - c. Cumulative Impact- The project will not result in impacts that are significant when viewed in connection with the effects of past projects,

the effects of other current projects, and the effects of probable future projects.

- d. Endangered, Threatened, Candidate, Rare, Sensitive, or Special Status Species -The project will not result in a taking, either directly or through habitat modification, of any plants or animals identified as endangered, threatened, candidate, rare, sensitive, or special status species in local or regional plans, policies, or regulations of the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service, unless the take is authorized by those agencies.
- e. Toxic Substances- The project will not discharge substances in concentrations toxic to human, plant, animal, or aquatic life or that produce detrimental physiological responses.
- f. Hazardous Substances - The project will not discharge waste classified as "hazardous" as defined California Code of Regulations title 22, section 66261 and Water Code section 13173.
- g. Water Diversion and Use - This Order does not authorize any new or modified diversion or impoundment of water, unless such diversion or impoundment is solely for the purpose of temporary dewatering for construction of the restoration project. Any permanent diversion or impoundment for beneficial use of water must have a State Water Board water rights permit.
- h. Historical Sites - This Order does not authorize any activity adversely impacting a significant historical or archeological resource; directly or indirectly destroying a unique paleontological resource or site or unique geologic feature; disturbing any human remains; or eliminating important examples of the major periods of California history or prehistory, unless the activity is authorized by the appropriate historical resources agencies.
- i. California Ocean Plan - The project shall not cause a violation of any applicable water quality objectives, including impairment of designated beneficial uses of receiving waters of the state, as adopted in the State Water Board California Ocean Plan.
- j. Water Quality Control Plan (Basin Plan) -The project shall not cause a violation of any applicable water quality objectives, including impairment of designated beneficial uses of receiving waters of the state, as adopted in the appropriate Regional Water Board water quality control plan(s)
- k. Porter-Cologne Water Quality Control Act - The project shall comply with all requirements of the Porter-Cologne Water Quality Control Act

(Water Code, § 13000 et. seq.)

- I. Enforcement- In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state law. For purposes of Clean Water Act (CWA) section 401(d), the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this Order.
 - i. If the applicant fails or refuses to furnish technical or monitoring reports, as required under this Order, or falsifies any information provided in the monitoring reports, the applicant is subject to civil liability for each day in which the violation occurs. All reports, notices, or other documents required by this Order or requested by the State or Regional Water Boards shall be signed by the applicant or a duly authorized representative of the project.
 - ii. In response to a suspected violation of any condition of this Order, the State or Regional Water Boards may require the applicant to furnish, under penalty of perjury, any technical or monitoring reports the State or Regional Water Boards deem appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
 - iii. The applicant shall allow the staff(s) of the State or Regional Water Boards, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this Order and determining the ecological success of the project.

B. Granting of Prohibition Exemption

The Water Board hereby grants an exemption to Basin Plan Chapter 5 prohibition of discharge or threatened discharge below the high water rim of Lake Tahoe, for bottom barrier installation meeting all applicable criteria listed therein for an exemption to the prohibition (see Finding 16):

- a. The project is necessary for environmental protection;
- b. There is no reasonable alternative, including relocation which avoids or reduces the extent of encroachment in the below the highwater rim of Lake Tahoe; and
- c. Impacts are fully mitigated.

**Summary Schedule of Items
Required(Deliverables) for Water Board Review**

Finding	Order	Description	Due Date(s)
16	II.E.2.d	Water Quality Certification Status	January 31. 2015 and annually thereafter
7	I.C.	Shared Stormwater Treatment Facilities	October 1. 2014
18	II.B.1	Nonpoint Source (NPS) Plan	January 31. 2016 and annually thereafter
17	II.C.1	Integrated Management Plan (IMP) , including Bottom Barrier Project Summary	January 31. 2016 and annually thereafter
17	II.E.2.	Aquatic Plant Monitoring Plan	January 31. 2016 and annually thereafter
15	III.A.6	Bottom Barrier permitting processes and Inspection Monitoring Plan and Schedule	Annually, at the start of the aquatic plant growing season or at least 7 days before project installation
15	III.A.6	Individual Bottom Barrier Project Plans and Permits	at least 7 days before project installation

Certification:

I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on July 17, 2014.

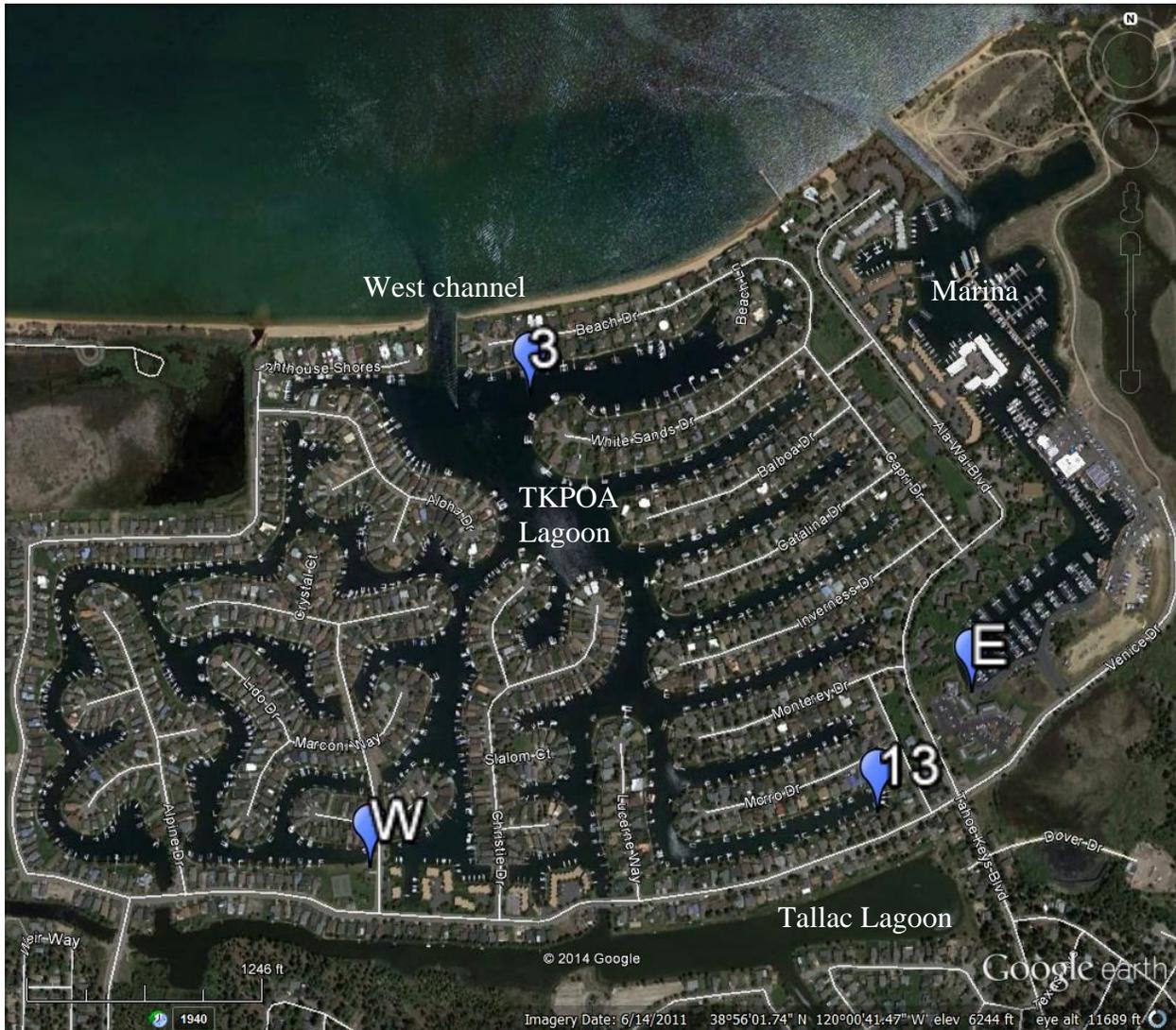
PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Attachments: A. General Location Map
B. Facility Map; Monitoring Locations
C. Standard Provisions for WDR Permits
D. Guidelines for Development of the Non-Point Source Management
Plan for Fertilizer and Irrigation of Landscaped Areas
E. Best Management Practices for Bottom Barrier Installation for
Invasive Weed Control

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ATTACHMENT "B"

TKPOA sampling locations when circulation system is operating.



Legend:

W - West side TKPOA Lagoon pump station intake

E - East side Marina pump station intake

3 - Discharge point nearest the west channel ingress/egress

13 - Discharge point in the TKPOA Lagoon cove furthest from west channel

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ATTACHMENT C

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION

STANDARD PROVISIONS FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

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

2. Reporting Requirements

- a. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board. Any such proposal shall be reported to the Regional Board at least 120 days in advance of implementation. This shall include, but not be limited to, all significant soil disturbances.
- c. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.
- d. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.

- e. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
 - f. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.
3. Right to Revise WDRs

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

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

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

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.
 7. Waste Discharge Requirement Actions

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

8. Property Rights

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

9. Enforcement

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

10. Availability

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

11. Severability

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

12. Public Access

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

13. Transfers

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

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

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

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ATTACHMENT "D"

GUIDELINES FOR DEVELOPMENT OF THE NON-POINT SOURCE MANAGEMENT PLAN FOR FERTILIZER USE AND IRRIGATION OF LANDSCAPED AREAS

A Nonpoint Source Water Quality Management Plan (NPS Plan) must be developed as part of this WDR to minimize the potential for Nonpoint Source pollution. The goal of the plan is to provide a management approach that maximizes good turf characteristics, with high nutrient absorbing capacity, while minimizing potential for transport of contaminants to surface waters and ground waters.

This plan should consider the following items:

- (1) Irrigation Efficiency: Describe for each irrigation station, how a reasonably efficient irrigation system distribution uniformity (DU) is to be achieved and maintained, with a goal of an average system DU of 0.70 or higher.
- (2) Minimize Irrigation Water Leaching: Describe how leaching of percolating waters passing beyond the root zone will be minimized and how that will be evaluated (e.g. Soil moisture measurements, leaching fraction approach or applied water versus evapotranspiration approach, etc.) Goal is less than 10% percolation of applied water through proper irrigation scheduling.
- (3) Chemical storage locations
- (4) List of chemicals used at the Facility (fertilizers, herbicides).
- (5) Copy of the Material Safety Data Sheet (MSDS) or Global Harmonization Sheet (GHS) for each chemical listed.

The NPS plan must consider, at a minimum, the following topics:

FERTILIZER USE

- Timing of application
- Method of application, including setbacks adjacent to surface waters (for example Lake Tahoe golf courses do not broadcast fertilize within 25-50 feet of water).
- Form of fertilizer, including slow release or low- or no-phosphorus ("lake friendly") products
- Frequency of application
- Amount applied per unit area (pounds or kilograms per 1000 square feet or per acre).
- Residual soil nitrate and phosphate (P)^{1, 2}
- Soil nutrient testing to determine appropriate fertilizer application rates²
- Plant tissue testing to give feedback concerning adequacy of fertilizer program

IRRIGATION

- Scheduling (amount and timing, including drought-related water conservation measures to prevent overwatering and runoff)
- Soil moisture measurement and root zone water holding capacity
- Evapotranspiration rates
- Concentration of water soluble Total Kjeldahl Nitrogen (TKN), nitrate, and water soluble total phosphate in shallow groundwater (≤ 10 feet below ground surface).
- Soil compaction / restrictive layers that impede percolation, and proposed amendments to allow greater permeability.

MONITORING PROGRAM

- **Groundwater**

Consider construction and development of shallow, relatively inexpensive monitoring wells in common areas adjacent to surface water such as at Cove 3C (at least one upgradient and one downgradient monitoring well.) Goal is to assess effectiveness of improved landscape management practices on groundwater quality.

- **Surface Water**

See Monitoring and Reporting Program for requirements.

- **Training**

Type of training that will be given to the people involved in the monitoring program.

-
- 1 Residual soil nitrate is typically determined to a 60 centimeter soil depth using a minimum of 10 subsamples per sample within a given area of interest, though the appropriate field methodology is best determined by a soil scientist based on local conditions—soil series, soil texture, root depth, etc. Total phosphorus may be determined at a minimum of two soil depths to assess potential phosphate breakthrough, particularly important on coarse, sandy soils, such as those commonly found in the Lake Tahoe basin.
 - 2 Inorganic soil nitrogen (ammonium and nitrate) is typically determined from a 2 molar potassium chloride soil extract; extractable phosphate is typically determined as bicarbonate-extractable P on representative soil samples. Harsher extractants for P may be used for more acidic soils. References include the current editions of *Methods of Soil Analysis* and *Soil Testing and Plant Analysis* published by the American Society of Agronomy/Soil Science Society of America/Crop Science Society of America; and the current edition of *Soil Sampling and Methods of Analysis* published by the Canadian Society of Soil Science.

ATTACHMENT E

Best Management Practices for Bottom Barrier Installation for Invasive Weed Control

The following best management practices are required when installing bottom barriers for purposes of controlling invasive weeds (e.g., Eurasian watermilfoil).

Prior to Installation.

1. If the bottom barrier will be anchored by the driving of material (e.g., rebar), prior to installing the bottom barrier, the project proponent must affirmatively document whether there are any subsurface utilities in the area of construction and submit such documentation to the Tahoe Keys Property Owners Association (TKPOA). This can be accomplished by: (1) contacting all utilities (both public and private) that provide service in the area, documenting these contacts and submitting such documentation to the TKPOA; (2) contacting Underground Service Alert, documenting this contact and submitting such documentation to the TKPOA; or, (3) some other equivalent affirmative action to determine whether or not there are any subsurface utilities in the area of construction (i.e., bottom barrier placement) and submitting the results of such action to the TKPOA. The area of construction is defined as any area within the project boundaries where bottom barriers will be placed and anchored by the driving of material (e.g., rebar). If subsurface utilities are located in the project area, the project proponent must implement protective measures during construction to avoid utilities.

Installation.

1. The barrier should be secured to the lake bottom with inert material such as rebar or heavy chain. The use of sand bags to secure the barrier should be avoided to prevent the potential of inadvertently discharging sediment and its associated nutrients to the water column.
2. Placement of the bottom barrier should not impede safe harbor and navigation.
3. If a motorized boat or other equipment is used for transporting, deploying, and/or retrieving the bottom barrier, the project proponent must monitor for chemical leaks, and have an emergency spill kit on hand to use if a leak is detected.

Removal.

When removing the barrier, the project proponent must take measures to prevent the introduction or spread of noxious/invasive weeds and animals. After removal from the lake, the barrier should be relocated to an area where the barrier can be washed down over a vegetated area that will capture and contain any runoff.

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ENCLOSURE 2

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
WDID NO. 6A090089000
MONITORING AND REPORTING PROGRAM NO. 2014-(Proposed)
FOR
TAHOE KEYS PROPERTY OWNERS ASSOCIATION

El Dorado County

I. MONITORING

The following monitoring program must be implemented.

A. General Information

1. General Provisions: This Monitoring and Reporting Program (MRP) includes requirements for monitoring and reporting management actions and water quality data as required under Board Order No R6T-2014-XXXX. The Discharger shall comply with *General Provisions for Monitoring and Reporting*, dated September 1, 1994, which is included as Attachment “1” and made part of this Monitoring and Reporting Program.
2. Monitoring: The purpose of water quality monitoring is to detect changes in the physical and chemical conditions in the waters as a result of Facility operations, and to monitor compliance with waste discharge requirements. Because the numerous Facility components may readily be taken in and out of operation, it is the intent of this sampling program to provide comprehensive monitoring while minimizing duplicative sampling requirements as a result of overlap and lapses in the operation of Facility equipment. For the purposes of this monitoring program, “monthly” means a monitoring frequency of thirty (30) days.
3. Analytical Reporting Limits: Because of the unique nature of waters in the Lake Tahoe Basin, exceptional analytical testing capabilities for nutrients and other contaminants are generally required to assure compliance with water quality standards and non-degradation objectives specified in the *Water Quality Control Plan for the Lahontan Region* and the WDR Permit for the Facility. Reporting Limits, or RLs, for chemical analyses are therefore specified herein. Values for RLs (which are analytical reporting limits) are typically 4 to 5 times higher than minimum detection limits, or MDLs. RLs shall be, at a minimum, as sensitive as the more restrictive of those required for analysis of pollutants (40 Code of Federal Regulations, Part 136), or analysis of drinking water (California Code of Regulations, Title 22, Division 4, Chapter 15; or 40 Code of Federal Regulations, Part 141).

B. Water Quality Monitoring for Circulation System

The purpose of this monitoring is to ensure operation of the circulation system does not adversely affecting water quality.

1. Sampling Locations – Lagoon and Marina Water Quality Monitoring: The following surface water quality sampling stations have been consistently monitored under previous permits, and shall continue to be monitored for consistency under this WDR permit: the West Side Pump Station intake (W); the East Side Pump Station intake (E); a discharge point near the West Channel ingress/egress (3); and a discharge point in a cove furthest from West Channel (13). Water quality sampling locations are specified in Attachment “B” of the WDR permit. Samples shall be collected within 10 feet of the referenced sampling location.
2. Sampling Frequency: Samples shall be taken at a minimum of monthly frequency, with at least one sample taken before circulation, at least once during circulation, and one sample within a week of cessation of circulation.
3. Sample Type: Representative grab samples of waters to be analyzed shall be considered sufficient for the purposes of this monitoring program.
4. Analysis of Samples: All analyses shall be performed in accordance with Attachment 1, General Provisions for Monitoring and Reporting.
5. Samples in Sections B.1 need not be collected when the circulation system is not operated or if substantial ice cover in the sampling location is documented. . When samples cannot be collected due to weather or other conditions the Discharger shall submit a report stating the reason for why sample data is not collected during that month.
6. Monitoring Parameters
Water quality samples shall be collected and analyzed for each of the parameters in Table 1.

Table 1: Monitoring Parameters

Parameter	Units	Reporting Limit (RL)
Dissolved Oxygen	mg/L	0.05 mg/L
Temperature	°F or °C	0.2 °F or 0.1 °C
Nitrate and Nitrite Nitrogen	mg/l as N	0.01 mg/l as N
Ammonia Nitrogen	mg/l as N	0.01 mg/l as N
Total Kjeldahl Nitrogen	mg/l as N	0.08 mg/l as N
Total Phosphorus	µg/l as P	8 µg/l as P
Dissolved Reactive (Ortho) Phosphorus	µg/l as P	8 µg/l as P

C. Aquatic Plant Monitoring Plan

The Discharger is to prepare a monitoring plan for aquatic plants in cooperation with Water Board, TRPA, and other Agency staff as appropriate by **January 31, 2016**. TKPOA is to survey Tahoe Keys Lagoon and Tahoe Keys Marina initially and thereafter annually for aquatic plant types and their respective percent cover, plant height and estimated biomass, and create accurate weed location maps and summarize findings initially and thereafter in annual reports. TKPOA is to follow monitoring protocol similar to that of Sierra Ecosystem Associates, 2013¹ given in “Method” Sections 2.1-2.3 of that report, summarized below:

- Survey work is to be timed to capture non-native plants Curly-leaf pondweed and Eurasian watermilfoil at maturity and at the end or peak of their growing period. This typically occurs mid-to-late August.
- A Hazard Analysis and Critical Control Plan (HACCP) to prevent the spread of plant propagules (including aquatic invasive plant species fragments and curly-leaf pondweed turions) by survey activities is to be prepared and followed.
- Survey data for larger infestations of non-natives is to include transects with data points were taken every 20 feet along 100-foot sections, and for smaller infestations, square footage as well as plant composition, and plant height information are to be taken.

¹ Sierra Ecosystem Associates (SEA), 2013. Lake Tahoe Aquatic Plant Survey Project: 2012 Results. Prepared for Tahoe Regional Planning Agency.

The monitoring plan may be part of the IMP or may be developed separately (WDR Order Section II.C). The monitoring plan will be implemented upon submission of the plan to Water Board staff. Annually, beginning in January 31, 2017, submit aquatic plant monitoring reports.

D. Bottom Barrier Monitoring Report

1. Monitoring Report - TKPOA shall implement the monitoring program documented in the Bottom Barrier Monitoring Plan from Finding 15 and Section III.A. of the Order and shall provide Monitoring Reports at least annually to the Water Board. The Monitoring Report shall document status of performance standards and project goals. Each Monitoring Report shall include:
 - a. A summary of findings - inspection results including anchor and bottom barrier integrity and other observations.
 - b. Identification and discussion of problems with achieving performance standards.
 - c. Proposed corrective measures, to be approved by the Regional Water Board.
 - d. Monitoring data, if any.

E. Flow Monitoring

If the circulation system is operated, TKPOA shall keep a log or permanent record of the following:

1. Average daily flow rate at monitoring location D during operation of the East Side Pump Station and/or West Side Pump Station, in millions of gallons per day.
2. Total volume of water discharged at monitoring location D during operation of the East Side Pump Station and/or West Side Pump Station in millions of gallons.
3. Estimated volume of water, in millions of gallons, discharged on a daily and monthly basis from each of the following locations: 6, 7, C1, C2, C3, C4, C5, and C6.

F. Operations and Maintenance of Water Circulation System

The Discharger shall keep a log or permanent record of the following:

1. For any Facility pump, the dates and hours of operation, the pump number or name, and the rated or estimated flow rate(s) during operation.
2. The calibration of any flow measuring devices.

II. REPORTING

A. Report Format

1. The Discharger shall arrange the monitoring data in a concise form to clearly show compliance or non-compliance with each discharge specification to facilitate review by Regional Board staff. All violations of requirements shall be clearly described. TKPOA shall note and explain any occurrence of noncompliance with any waste discharge requirement. If there are no violations to report, the Discharger shall certify that fact in writing. This report shall include a summary of operational problems and maintenance activities as described in Section I.D., above.
2. For every item where the requirements are not met, TKPOA shall submit a statement of the actions taken or proposed which will bring the discharge into full compliance with requirements at the earliest time and submit a timetable for completion. **Any omission of data shall be accompanied by an explanation and plan to obtain the omitted data.**
3. All reports shall be signed by a responsible officer or duly authorized representative of TKPOA, shall include the name and contact information for a person knowledgeable about the contents of the report, and shall be submitted under penalty of perjury.

B. Submittal Periods

1. Monthly monitoring reports shall be submitted not later than the 15th day of the month following the sampling event and shall include a summary of water quality monitoring data in the format described in Section II.A above. Water quality data submitted by the Discharger shall be designated as Water Quality Data for the Circulation System

C. Operations and Maintenance Reporting Requirements

A brief summary of maintenance activities and any operational problems shall be submitted to the Regional Board with each monitoring report. The summary shall discuss:

1. Any modification or additions to the water circulation system
2. Any major maintenance conducted on the water circulation system.
3. Any major problems occurring in the water circulation system.
4. The calibration of any measuring devices.
5. Aquatic plant removal operations conducted by the Discharger during the monitoring period. The estimated quantity of aquatic plants mechanically removed from the lagoon and/or marina during the monitoring period shall be reported with a map indicating the general locations of any aquatic plant removal activities. Quantities shall be indicated by the estimated volume (in cubic yards or cubic meters) of freshly harvested plant matter.

Ordered by: _____

Dated: _____

PATTY Z. KOUYOUMDJIAN
EXECUTIVE OFFICER

Attachments: 1. General Provisions for Monitoring and Reporting (September 1, 1994)

PROPOSED

ATTACHMENT 1
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION
GENERAL PROVISIONS
FOR MONITORING AND REPORTING

1. **SAMPLING AND ANALYSIS**

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

2. OPERATIONAL REQUIREMENTS

h. Sample Results

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

i. Operational Log

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

3. REPORTING

j. For every item where the requirements are not met, the discharger shall submit a statement of the actions undertaken or proposed which will bring the discharge into full compliance with requirements at the earliest time, and shall submit a timetable for correction.

k. Pursuant to California Water Code Section 13267(b), all sampling and analytical results shall be made available to the Regional Board upon request. Results shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.

l. The discharger shall provide a brief summary of any operational problems and maintenance activities to the Board with each monitoring report. Any modifications or additions to, or any major maintenance conducted on, or any major problems occurring to the wastewater conveyance system, treatment facilities, or disposal facilities shall be included in this summary.

m. Monitoring reports shall be signed by:

iii. In the case of a corporation, by a principal executive officer at least of the level of vice-president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates;

iv. In the case of a partnership, by a general partner;

v. In the case of a sole proprietorship, by the proprietor; or

- vi. In the case of a municipal, state or other public facility, by either a principal executive officer, ranking elected official or other duly authorized employee.
- n. Monitoring reports are to include the following:
 - i. Name and telephone number of individual who can answer questions about the report.
 - ii. The Monitoring and Reporting Program Number.
 - iii. WDID Number 6A265300900.
- o. Modifications

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

4. NONCOMPLIANCE

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

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ENCLOSURE 3

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Tahoe Keys

PROPERTY OWNERS' ASSOCIATION

356 Ala Wai Blvd.
So. Lake Tahoe, CA 96150
FAX (530) 541-2521
(530) 542-6444

June 30, 2014

Bruce T. Warden, Ph.D.
Environmental Scientist
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd
So. Lake Tahoe, CA 96150

VIA EMAIL: bruce.warden@ waterboards.ca.gov

Dear Dr. Warden:

Subject: Comments on Tentative Water Quality Certification and Waste Discharge Requirements for Tahoe Keys Property Owners Association

The Tahoe Keys Property Owners Association (TKPOA) appreciates the opportunity to comment on the Tentative Water Quality Certification and Waste Discharge Requirements (WDR) for Tahoe Keys Property Owners Association. The Association also greatly appreciates the efforts made by the Water Board Staff in working with its staff in the preparation of the tentative documents. In particular, you and Doug Smith were very helpful and maintained an excellent level of communication during the process.

TKPOA understands the importance of the aquatic invasive plants that are growing in the Tahoe Keys Lagoons. It has undertaken a three-year voluntary program of study to develop information that will support an effective long-term invasive species control strategy. It is TKPOA's hope that the requirements contained in the Tentative Certification and WDR will support moving forward and that effective aquatic invasive weed control programs, such as those in other water bodies of California, Washington and Vermont, will become part of its long-term control strategy.

TKPOA respectfully requests that the Lahontan Regional Water Quality Control Board consider the following comments on the Tentative Certification and Waste Discharge Requirements and hopes that changes will be made prior to issuance of the final Certification and WDR.

1. General Terminology and Authority Limits.

The Tahoe Keys consists of two lagoons. The west lagoon is referred to as the Main Lagoon and the east lagoon is referred to as the Marina Lagoon. As example, page 19 states that the shared storm drain discharges directly into the Tahoe Keys Marina when in fact it discharges into the Marina Lagoon. The Tahoe Keys Marina is a separate entity with its own NPDES Permit and is not included in this Certification and WDR. It would be helpful if accepted terminology were used throughout the document.

The Tahoe Keys development consists of 1,529 residential units; 335 of the residential units are surrounded by common property that is owned by TKPOA. The remaining residential units and the related properties are in private ownership. TKPOA's authority over the private properties is limited by its CC&Rs and any change in authority would require amending the CC&Rs, which requires a supermajority of the members. Changing TKPOA's authority to limit activities on the private property is unlikely.

2. Prohibitions

Page 18 of the Tentative Certification and WDR includes a prohibition against the discharge of water from residential car washing on the assumption that detergents containing phosphate will be used. This is a broad prohibition that will be difficult to enforce. Restating the prohibition against the discharge of water from residential car washing that contains detergents would be more appropriate.

Page 18 of the Tentative Certification and WDR includes a prohibition against the discharge of chlorinated or de-chlorinated water from spas. TKPOA may be able to enact rules that prohibit this activity in the common properties but not in the private properties.

3. Bottom Barrier Effectiveness and Cost.

Page 10 states that the studies conducted by TKPOA over the past three years "suggest bottom barriers are expensive and demonstrate limited long-term effectiveness in reducing aquatic plant growth." The finding is more than a suggestion. The field studies of bottom barriers found, without question, that their effectiveness was limited and the cost was very high.

4. Requirements for Individual Bottom Barriers.

Page 27 requires that the Water Board be notified 21 days prior to the installation of individual bottom barriers to control aquatic weed growth and that the notification shall include an Individual Project Plan and Monitoring Plan. This is a significant requirement for the individual property owner who is considering the installation of a small (200 to 300 square foot) bottom barrier to control weed growth around their dock. This requirement is a disincentive that will reduce the number of individual bottom barriers. This requirement would also be a time consuming undertaking for Water Board staff.

TKPOA will develop rules, applications, and permits to control the number and quality of installation of bottom barriers. It will monitor the installations and require their removal at the end of the growing season. It seems a more reasonable approach is to review TKPOA's requirements and activities and require changes where needed. If needed, TKPOA can develop a monitoring program that is applicable to all individual bottom barrier installations.

5. Deadlines

Page 19 states that the deadline for providing proof of meeting with the City of South Lake Tahoe regarding shared storm water facilities is October 1, 2014. The deadline table on page 30

states that the deadline is July 12, 2015. The two deadline citations should be consistent and October 1, 2014 is acceptable.

6. Mapping

Page 22 item 2 maybe should read “An annual tally of the cumulative number of common properties...”

TKPOA appreciates the opportunity to comment on this Tentative Certification and WDR and thanks you for considering our concerns.

Respectfully Submitted,

Daniel Moore
Interim General Manager



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

**75 Hawthorne Street
San Francisco, CA 94105-3901**

July 1, 2014

Bruce Warden, Ph.D.
Environmental Scientist
Lahontan Regional Water Quality Control Board
2501 Lake Tahoe Blvd
South Lake Tahoe, CA 96150

Re: Tentative Waste Discharge Requirements for Tahoe Keys Property Owners Association (Board Order No. R6T-2014)

Dear Dr. Warden:

The following are EPA Region 9's comments on the tentative Waste Discharge Requirements (WDRs) (Board Order No. R6T-2014) for the Tahoe Keys Property Owners Association (TKPOA), which the Lahontan Regional Water Quality Control Board (Regional Board) released for public comment on June 3, 2014. These WDRs are an important mechanism for furthering the state's load reduction goals embodied in the Lake Tahoe TMDL and for controlling the Keys' contributions to propagating Aquatic Invasive Species (AIS) in the Lake.

1. We applaud that the proposed WDRs seek to address the invasive weed problem in the Keys and Tallac Lagoon and Keys Marina, which previous permits have not addressed directly. The WDRs authorize bottom barrier deployment and require development and initial implementation of an Integrated Management Plan (IMP) for Aquatic Invasive Weeds (AIW). We encourage the Regional Board to strengthen these measures to ensure that AIS discharges into and dissemination around Lake Tahoe from the Keys will not continue (see also comment #3 below). We also encourage the Regional Board to include more specific AIS control requirements and to identify measurable indicators to facilitate assessment of progress of the AIS control program as it relates to TKPOA management (see also comment #5).
2. There appears to be overlap between the proposed WDRs and the 2011 NPDES municipal stormwater permit (No. CAG616001) for the City of South Lake Tahoe (CSLT), with respect to how stormwater runoff within TKPOA is addressed for both CSLT and shared Cove 3C system components. The WDRs appropriately require TKPOA to "promote compliance with the municipal stormwater permit" (p. 19) and to "document coordination with" CSLT with respect to the shared facilities. The WDRs implicitly acknowledge that some stormwater runoff enters surface waters without draining into CSLT storm drains, and promote compliance

with a Nonpoint Source Water Quality Management Plan (NPS Plan) by means of education and outreach activities.

The WDRs would benefit from clarifying that all stormwater runoff from TKPOA is the responsibility of CSLT, which is required under the NPDES municipal stormwater permit for the CSLT to protect receiving water quality; Finding B.1 for the municipal stormwater permit indicates the permit applies to “all stormwater/urban runoff” within jurisdiction of the CSLT, and this would include all discharges from the TKPOA. See also comment #5 below concerning the absence of applicable effluent limitations in the proposed WDRs.

The WDRs should also clarify whether the Tahoe Keys marina is covered by the general NPDES permit issued by the Regional Board in 2011 for discharges from marinas (NPDES No. CAG616003), and where this permit fits in the overall regulatory framework for discharges in the Tahoe Keys area.

3. One very significant impact of TKPOA on Lake Tahoe’s water quality is the export/dissemination of AIS, especially the invasive weeds Eurasian watermilfoil and Curlyleaf pondweed. Boat traffic is suspected to be a primary mechanism by which these weeds are transported throughout Lake Tahoe, notably into Emerald Bay, where an extensive eradication program became necessary. Under the IMP for AIW, TKPOA must propose weed management and control methods. The primary specified method of reducing the dissemination into Lake Tahoe of invasive weeds is boat inspections and public involvement and education (Finding 18.f, p. 13). EPA recommends that the IMP should specify how inspections would be conducted and how their effectiveness at detecting weeds would be determined, monitored, and improved; we also recommend that boat decontamination should be specified as a measure in the WDR if inspections detect the presence of invasive weeds.

The WDR should also expressly state that other NPDES permits will also apply to discharges from vessels operating in the Keys and elsewhere in Lake Tahoe, and the AIS management program in the WDR should be coordinated with these separate permitting systems to ensure maximum effectiveness. EPA recently reissued its NPDES vessel general permit (VGP) for non-recreational vessels greater than 79 feet in length, and the permit became effective in December 2013. In the upcoming months, we anticipate issuance of another permit covering non-recreational vessels less than 79 feet (small VGP); this permit is anticipated to become effective in December 2014. Additional information concerning these permits can be found at:

http://cfpub.epa.gov/npdes/home.cfm?program_id=350.

One of the goals of these permits is to control the spread of invasive species and

we would encourage the Regional Board to forward to EPA any information it has or may encounter related to noncompliance by vessels subject to these permits.

In addition, under the 2008 Clean Boating Act (CBA), EPA and the U.S. Coast Guard have been tasked with the development of regulations to minimize pollutant discharges from recreational vessels. It is difficult to predict when these regulations might be finalized, but controlling the spread of invasive species will be one of the primary goals, and we expect the regulations will eventually assist in controlling such species in the Lake Tahoe area. Additional information about the CBA can be found at:

<http://water.epa.gov/lawsregs/lawsguidance/cwa/vessel/CBA/about.cfm>.

4. The WDRs should include effluent limitations, which should be at least as stringent as those in the existing NPDES permit (sections I.A and B, p. 12). Lake Tahoe is listed as an Outstanding National Resource Water (ONRW) and is the subject of major long-term efforts to protect its water quality. EPA notes that, according to the Regional Board's own analysis in section 14 of the draft WDR, the TKPOA discharge consistently did not achieve compliance with the applicable California Water Quality Objectives (WQOs) for Lake Tahoe for Total Nitrogen, Total Phosphorous, or Total Dissolved Solids during the years 2007-2013. This demonstrates clearly that those parameters are "discharged at a level which will cause...an excursion" above the state water quality standards and therefore would be required to have effluent limitations included in any applicable NPDES permit [40 CFR §122.44(d)(1)(i)]. In order to provide equivalent protection to the waters of Lake Tahoe, which are already listed as impaired by those specific parameters, the WDR should at a minimum maintain the effluent limitations set for those parameters in preceding NPDES permits.

5. The proposed WDRs include monitoring requirements for aquatic plants and bottom barriers (if they are deployed), with flow and ambient water quality monitoring required if the circulation system is operated. EPA recommends that the quarterly ambient water quality monitoring requirements of the existing NPDES permit be included in the WDRs, both for establishing background water quality and to detect water quality degradation from non-point sources.

Measuring aquatic plant types, percent cover, plant height and estimated biomass and location is a useful way to measure the end result of AIS control efforts. We suggest that in addition to this ambient status and trends monitoring, implementation and effectiveness monitoring should be included in order to promote adaptive management of the control effort.

We appreciate the opportunity to provide our views on the tentative WDRs. If you have any questions regarding this matter, please contact Jack Landy, Region 9's Lake Tahoe Basin Coordinator at (775) 589-5248, or Pascal Mues of the NPDES Permits Section at (415) 972-3768.

Sincerely,

A handwritten signature in blue ink, appearing to read "David Smith".

July 1, 2014

David Smith, Manager
NPDES Permits Section (WTR-2-3)



**Tahoe Water
Suppliers
Association**
Protect the Source

1220 Sweetwater Road
Incline Village, Nevada, 89451
775-832-1212

TWSA Members:

Cave Rock Water System
Edgewood Water Company
Glenbrook Water Company
Incline Village GID
Kingsbury GID
Lakeside Park Association
North Tahoe PUD
Round Hill GID
Skyland Water Company
South Tahoe PUD
Tahoe City PUD
Zephyr Water Utility

6/23/2014

TWSA Comment Regarding Lahontan Region Water Quality Control Board Tentative Water Quality Certification and Waste Discharge Requirements (WDR) for Tahoe Keys Property Owners Association (TKPOA) - comment period ending 7/3/14.

The Tahoe Water Suppliers Association represents the majority of the municipal water purveyors whose source of drinking water is Lake Tahoe. We appreciate the efforts of Lahontan staff to formalize TKPOA prior informal practices and requirements into this Board Order.

We wish to offer the following comments or suggestions regarding WDID6A09008900 (Board Order No. R6T-2014-TENT).

1. The TWSA supports the strong emphasis in fertilizer/nutrient management formalized in this permit with mandatory public education, water quality monitoring and specific goals/deadlines for a management plan for nutrient reduction.
2. The TWSA supports the defined requirement for an Integrated Weeds Management Plan with specific deadlines and deliverables.
3. The TWSA appreciates the clear statements referenced several times in the document that this Board Order does not authorize the use of chemical methods for Aquatic Weeds.

Our revision suggestions:

Page 8, item 14, Table 3: Raw data used to prepare the annual averages should be offered in greater detail in an appendix. There is significant information available for seasonal nutrient loading that is not presented in the annual averages presented in Table 3. This information should be published in conjunction with the WDR.

Page 10 under Non-Chemical Control of Aquatic Invasive Species Paragraph 4; end of paragraph: "Final results for this study are pending, though preliminary results suggest bottom barriers are expensive and demonstrate limited long term effectiveness in reducing aquatic plant growth."

This sentence is in direct contradiction with the statement on page 12, item 17 b: "handpulling, suction dredged-assisted removal, and cutting by marine harvesters is not as effective as bottom barrier placement in areas similar to the Tahoe Keys Lagoons."

These statements should be clarified and made to match. Bottom barriers are an effective method of weed control, evidence supports this through the recent full eradication of invasive weeds in Emerald Bay by use of bottom barriers and hand pulling.

Page 12, Item 17, c: 'Projects allowed by this order must not exceed 5 acres of bottom barriers.' At a 5 acre limit annually, it will take an estimated 34 years to cover all areas of the Tahoe Keys. TKPOA should be required to file for a CEQA permit exploring the potential for a 'mitigated negative declaration'; thereby allowing for much larger areas to be treated with bottom barriers.

Page 13; item F: The suggestion of improved harvester design is mentioned. TKPOA should be required to investigate the modification of their equipment. There is an excellent resource available in the document: *Management Plan for Eurasian Milfoil in the Okanagan, British Columbia, Genevieve Dunbar, April 2009.*

The Okanagan Basin Water Board website contains a larger amount of information on roto-tilling versus harvesting and non-chemical methods. They have developed a custom roto-tiller which is used in the winter months to pull the roots of the plants, thereby reducing the use of the harvesters which cut the plants and produce fragments. <http://www.obwb.ca/milfoil/methods-of-control/>

Page 14, item 3, #2: change 'Promoting' best management practices to 'Requiring' best management practices.

Page 14, item 19: please set a reasonable deadline for 100% TRPA BMP Compliance for both common area and residential properties, to be consistent with page 22, items b-e..

Page 15, item 1, line c: add 'Aggressively' before 'Pursue institutional changes'.

Page 17, item 22, change: The discharges under this permit "~~will not~~" to "shall not" adversely affect drinking water quality.

Page 20, item 5, add may be granted in writing by the Executive Director add "plus the written approval of other regulatory agencies including TRPA."

Page 20, Item 6: Remove all reference to exemptions for this requirement. Items #1-5 & #7-11 have no exemptions. The exemption criteria is too broad to adequately address water provider concerns. Remove:

~~An exemption to this prohibition may be granted whenever the Water Board finds all of the following:~~

- ~~a. The discharge of waste will not, individually or collectively, directly or indirectly, unreasonably affect the water for its beneficial uses, and~~
- ~~b. There is no reasonable alternative to the waste discharge, and~~
- ~~c. All applicable and practicable control and mitigation measures have been incorporated to minimize potential adverse impacts to water quality and beneficial uses.~~

Page 23, item 3: add: “and stakeholders”

Page 24, item 2: deadline seems incorrect. ‘beginning in January 31, 2016’ should this be ‘beginning in January 31, 2017’?

Attachment B: we suggest adding a monitoring point close to the mouth of the Marina Channel.

Attachment D: we encourage the construction of the groundwater monitoring wells.

MONITORING REPORT

Page 1: remove reference to ‘weekly thereafter’; this phrase is not referenced in the document.

Page 1: Add definition of “monthly” as 30 days.

Page 2, Item 1: Add Marina Channel Monitoring Point

Page 2, Item 5: Elaborate/Define: ‘other conditions’.

Page 3: Add TDS, pH, and Turbidity to the monitoring parameters to be consistent with the baseline data presented in Table 3 in the Board Order.

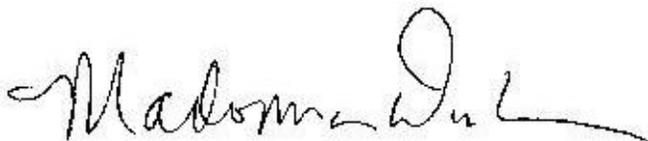
Page 4, item E: ‘shall keep a log ~~or~~ permanent record’; revise to “shall keep a log and permanent record”

Page 5, Item G: Add Non Point Source Plan Monitoring: “TKPOA shall conduct monitoring and maintain permanent record for irrigation and fertilizer practices based on Attachment D of the Board Order”.

Page 5, item 2: ‘Any omission of data ~~should~~ be accompanied by an explanation and plan to obtain the omitted data. Reword: Any omission of data shall be accompanied by an explanation and plan to obtain the omitted data.

Please feel free to contact me directly if you have any questions.

Respectfully submitted on behalf of the TWSA Board,

A handwritten signature in black ink, appearing to read "Madonna Dunbar". The signature is fluid and cursive, with a long horizontal stroke at the end.

Madonna Dunbar
Executive Director, Tahoe Water Suppliers Association
Resource Conservationist, Incline Village General Improvement District

Smith, Doug@Waterboards

Subject: FW: Correction - Board Order R6T-2014-(TENT)

From: Steve Bridges [mailto:steve96158@excite.com]

Sent: Monday, July 07, 2014 11:11 AM

To: Warden, Bruce@Waterboards

Subject: Correction - Board Order R6T-2014-(TENT)

Correction - Water Quality Certification and Waste Discharge Requirements for Tahoe Keys Property Owners Association - Board Order R6T-2014-(TENT)

p. 5 Stormwater Copy incorrectly states Cove 3C has the only known TKPOA storm drain

p. 18, 19 same issue

Islanders III where we live also has TKPOA storm drains that empty to the lagoons, 552 Christie and 2031 Venice.

Please add me to your list of interested parties to receive notifications of future TKPOA issues such as this with regard to the water and environment. We are especially opposed to proposed use of herbicides and chemical weed killers in the water to treat weeds. Our drinking water wells are located in close proximity.

Thank you

Steve Bridges
Tahoe Keys

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

BOARD ORDER NO. R6T-2014-(TENT)

**WDID NO. 6A090089000
FOR**

**WATER QUALITY CERTIFICATION AND WASTE DISCHARGE REQUIREMENTS
FOR TAHOE KEYS PROPERTY OWNERS ASSOCIATION**

El Dorado County

FINDINGS of the California Regional Water Quality Control Board, Lahontan Region (Water Board):

1. Dischargers

The Tahoe Keys Property Owners Association (TKPOA) submitted a complete Report of Waste Discharge and National Pollutant Discharge Elimination System (NPDES) application on January 22, 2014 for the Tahoe Keys properties in the Main Lagoon and Marina Lagoon. For the purposes of these Waste Discharge Requirements (WDR), the TKPOA is referred to as either TKPOA or the "Discharger" and its properties are referred to as the "Facility." General Location of the Facility is depicted in Appendix A, Tahoe Keys Main Lagoon and Marina Lagoon monitoring stations are given in Appendix B, and underlying property ownership for the Marina Lagoon is depicted in Appendix C.

2. Permit History

The first permit established for the Facility was Board Order No. 6-75-048 (NPDES Permit No. CA0102750) adopted on March 27, 1975. The permit has been updated three times: Board Order No. 6-87-077 (NPDES Permit No. CA0102750) adopted on July 10, 1987; Board Order No. 6-92-082 (NPDES Permit No. CA0103021) adopted on September 10, 1992; and, Board Order No. 6-98-035 (NPDES Permit No. CA0103021) adopted on June 4, 1998. Cleanup and Abatement Order No. 6-1999-0008 was issued on April 27, 1999 that required TKPOA to abate future violations of effluent limitations for aluminum. All previous permits addressed the lagoon and marina circulation system as well as its treatment plant that was constructed primarily to reduce lagoon turbidity post-construction, but is no longer used. The Water Board issued an NPDES permit (Board Order No. R6-2004-0024; NPDES Permit No. CA0103021) for a five-year term, as allowed by federal law, on June 9, 2004, addressing the main lagoon and marina lagoon circulation system and requiring TKPOA to submit and implement a nonpoint source management plan. This Permit did not allow use of the water treatment plant.

3. Reason for Action

In 2008 the United States Environmental Protection Agency (USEPA) added a new rule to the Code of Federal Regulations (CFR) on “water transfers.” 40 CFR section 122.3 states the following:

“The following discharges do not require NPDES permits:

(i) Discharges from a water transfer. Water Transfer means an activity that conveys or connects waters of the United States without subjecting the transferred water to intervening industrial, municipal or commercial use. The exclusion does not apply to pollutants introduced by the water transfer activity itself to the water being transferred.”

The new rule made an NPDES permit unnecessary for the discharge of water from the lagoon and marina to Lake Tahoe. Because of this rule change, the Water Board is replacing the NPDES permit with a WDR under the California Water Code. The WDR addresses waste discharges related to operating the circulation system and require implementation of a new non-point source pollution reduction strategy.

The objective of this WDR is to protect the beneficial uses of receiving waters by requiring both water- and land-based management actions to reduce all potential sources of pollutants. Water-based sources are to be covered primarily in the Integrated Management Plan (IMP). Land-based sources include (i) stormwater entering the CSLT and TKPOA stormwater collection and drainage system, which is covered by the CSLT General Municipal Stormwater NPDES Permit and by cooperative actions of CSLT and TKPOA in the case of Cove 3C, and (ii) surface flows and percolating groundwater that may flow directly to Tahoe Keys Lagoon or Marina. The Nonpoint Source Water Quality Management Plan (NPS Plan), which is required by this Order, will focus on the latter land-based direct sources not captured by the stormwater system (item ii above).

4. Description of Facility and Discharge

The Tahoe Keys residential development is situated on 372 acres of land and inland waterways accessible to Lake Tahoe. Common properties include private beaches, clubhouse, swimming pools, tennis courts, basketball court, navigable waterways, boat docks, pier, and park lands. Public service facilities include administrative offices, water wells and distribution system, corporation yard, and a lagoon water treatment and circulation facility (located at 2100 Texas Avenue in the City of South Lake Tahoe).

The Tahoe Keys Lagoons are comprised of three principal man-made water features: the Main Lagoon, the Lake Tallac Lagoon, and the Marina Lagoon. The Facility location is shown in Attachments A and B. Information regarding each of

the three lagoons is shown Table 1 (from TKPOA Report of Waste Discharge (ROWD). TKPOA harvests aquatic weeds in the TKPOA Lagoon, the areas of the Marina owned by TKPOA, the California Tahoe Conservancy (CTC), Tahoe Keys Marina (TKM), and the Tahoe Keys Beach and Harbor Association (TKB&HA) under the provisions of a settlement agreement.

Tahoe Keys is a non-profit 1,529 member common interest residential subdivision development in the City of South Lake Tahoe, (City), El Dorado County, encompassing 1,194 single family residential units and 335 townhouse residential units, headquartered at 356 Ala Wai Boulevard, South Lake Tahoe, CA. The Tahoe Keys property owners are represented by the Tahoe Keys Property Owners Association (TKPOA) which is also responsible for the common properties. TKPOA operates and maintains the Tahoe Keys lagoons, which are located on TKPOA member’s private property and its common properties.

The TKPOA area of jurisdiction is unique at Lake Tahoe because the entire area has a dense development of residential uses on land that is a man-modified, former wetland situated within the edge of Lake Tahoe. All properties within the TKPOA area drain to waters that are directly connected to Lake Tahoe.

Table 1 Tahoe Keys Lagoons

Lagoon	Surface Area, Acres	Lagoon Property Ownership (listed in order of area owned)	Connection to Lake Tahoe
Main	110	<ul style="list-style-type: none"> • ≈ 700 private owners • TKPOA Common Area 	West Channel
Marina	32	<ul style="list-style-type: none"> • Tahoe Keys Marina • TKPOA Common Area • Tahoe Keys Beach and Harbor Association • California Tahoe Conservancy 	East Channel
Lake Tallac	30	<ul style="list-style-type: none"> • 1 Major private owner (Lagoon Partners, Inc.) • ≈ 120 private owners • TKPOA Common Area 	Via Pope Marsh

The lagoon water treatment and water circulation facilities were built for water quality improvements following construction of the Tahoe Keys project. The lagoon water treatment facility using chemical coagulation and clarification is no longer operated, and its operation is not included in this permit, though the water circulation facility is operational and is included in this permit. The lagoon water circulation system is depicted in Attachment B, and consists of an intake (W) from the Main Lagoon, 17 outfalls in the Main Lagoon (C1-C6 and 1-5; 8-13), two outfalls into the Marina Lagoon (6 and 7) and one intake from Marina Lagoon (D). The Monitoring and Reporting Program has provisions to increase the frequency of monitoring if and when the circulation system is operated.

Management actions are needed to reduce the potential discharge from non-point sources, such as landscaping irrigation runoff, fertilizers, pesticides, herbicides, rodenticides, mechanical aquatic weed harvesting and maintenance of private stormwater facilities.

Chapter 5.18 of the Lahontan Basin Plan, Total Maximum Daily Load for Sediment and Nutrients, Lake Tahoe, El Dorado and Placer Counties states:

Introduction: *Lake Tahoe is designated an Outstanding National Resource Water by the State Water Resources Control Board and the United States Environmental Protection Agency due to its extraordinary deep water transparency. However, the lake’s deep water transparency has been impaired over the past four decades by increased fine sediment particle inputs and stimulated algal growth caused by elevated nitrogen and phosphorus loading.*

The Lake Tahoe TMDL Implementation Plan has a goal to “reduce fine sediment particle, phosphorus, and nitrogen loads to Lake Tahoe.” This permit is consistent with the goals of minimizing inputs of nitrogen, phosphorus, and sediments into Lake Tahoe and its tributaries.

Constituents of concern in the Tahoe Keys lagoons include sediment, water temperature, dissolved oxygen, ammonia, nitrate, total nitrogen, total phosphorus, soluble reactive phosphorus, and aquatic invasive species. Water temperature is an important parameter for rates of internal loading of nitrogen and phosphorus and for growth of aquatic invasive species and native plants that interfere with navigation (NAV) beneficial uses. Ammonia, nitrate, total nitrogen, total phosphorus, soluble reactive phosphorus are important sources of plant-available nitrogen and phosphorus nutrients in the water column.

The high rates of aquatic plant growth within the Tahoe Keys lagoon and marina suggest that these constituents of concern are present at relatively high concentrations within its sediments and indigenous waters. Some potential sources of nutrients include natural and upstream sources of nutrients and pollutants, which can contribute to surface water pollution via nonpoint source (NPS) runoff, irrigation practices, pet waste, and lawn and home care practices such as fertilizer use. Sources of sediment may include eroded and exposed soils; road deicers and traction abrasives; vehicle use, washing and maintenance. Therefore, plans to address these potential sources and associated monitoring requirements are established in this Order.

5. Authorized Disposal Site

TKPOA disposes of harvested aquatic weeds outside the Lake Tahoe Basin for recycling at Full Circle Compost in Gardnerville, Nevada. This is done to avoid additional nutrient loading in the Lake Tahoe Basin. Other disposal sites are acceptable so long as they are outside the Lake Tahoe Basin.

Summary of Comments on NPDES Permit

Page: 4

-  Number: 1 Author: pstone Subject: Sticky Note Date: 7/7/2014 10:31:21 AM
Species implies inclusion of animals, such as warm-water fish or Asian clam. Although temperature is an important factor for animal growth rates, it is unclear if this paragraph is discussing all species or only plants. Considering adding a clarifying statement for other species.
-  Number: 2 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 2:50:36 PM
Sources of sediment also include snowmelt runoff. The TRPA approved snow management plan approves snow to be stored in vegetated areas to percolate into the ground so then it may also be a source of oil and grease discharge to groundwater and surface water. There is a significant amount of snow that is stored on TKPOA common areas generated from TKPA common areas and I think this should be addressed in the WDR.
-  Number: 3 Author: pstone Subject: Sticky Note Date: 7/7/2014 10:36:12 AM
Define and use consistently: aquatic plants (includes native species), aquatic weeds (does this include native and nuisance?), aquatic invasive plants (does not include native species).
-  Number: 4 Author: pstone Subject: Highlight Date: 7/7/2014 10:36:44 AM
aquatic plants

6. Disposal Practice

Aquatic¹ weeds are harvested summer through fall. Harvested² weeds are temporarily placed in windrows for drying at the TKPOA corporation yard, and then are taken to the disposal site outside of the Lake Tahoe basin. The temporary weed storage will not exceed 90 days for each batch harvested to meet waste disposal requirements and to not create a nuisance from odors³ and dispersal of propagules.

7. Stormwater

The City of South Lake Tahoe (CSLT) operates a series of storm drains and drop inlets that discharge to Tahoe Keys Main Lagoon, Lake Tallac Lagoon and the Marina Lagoon. Stormwater enters local waters on an intermittent basis and the Water Board authorizes stormwater discharges within the CSLT city limits under the Municipal Stormwater permit (Order No. R6T-2011-0101) issued to the CSLT. The only known TKPOA storm drain is located in the Cove 3C parking lot with a surface area of 0.3 acres.

The stormwater collection and drainage system located in the Cove 3C parking lot is a shared facility which drains both CLST stormwater and TKPOA Cove 3C parking lot stormwater into the Tahoe Keys Marina via a common drain pipe

Other storm water and irrigation runoff from both TKPOA common area properties and private properties discharge to CSLT storm drains via city streets, run off directly to surface water, or percolate into groundwater. Nonpoint source discharges from private properties and common areas may affect surface and groundwater. In private backyards, this may occur without entering the frontage storm drain systems (CSLT storm drains).

8. Site Hydrology

Under normal weather, precipitation, and stormwater flow conditions, no upland tributaries to Lake Tahoe directly enter the Tahoe Keys Main Lagoon or the Marina Lagoon, though under flood conditions, the gates may be opened to allow flow from Lake Tallac Lagoon into the Main Lagoon for flood prevention purposes. Lake Tahoe is directly connected to Tahoe Keys Main Lagoon via the West Channel and the Tahoe Keys Marina Lagoon via the East Channel. When lake level is rising, Lake Tahoe waters enter the lagoons, and the opposite occurs when lake level is dropping; surface water from the lagoon and marina flows out into Lake Tahoe. The estimated annual average water balance for the Tahoe Keys Lagoons is shown on Table 2 (from TKPOA ROWD).

 Number: 1 Author: pstone Subject: Highlight Date: 7/7/2014 10:42:16 AM
"plants" is consistent with discussion below.

 Number: 2 Author: pstone Subject: Highlight Date: 7/7/2014 10:42:16 AM

 Number: 3 Author: pstone Subject: Highlight Date: 7/7/2014 10:42:48 AM
"Weeds will be properly contained on site and while in transport to prevent the dispersal of propagules."

Table 2: Tahoe Keys Lagoon Water Balance

	Source/Cause	Area, Acres	Average Annual Amount, Feet	Runoff Factor	Quantity Ac. Ft.	Portion of Total
Inflows	TK Precipitation ¹	372	1.7	0.4	254	45%
	Upland Precipitation ²	0	1.7	0.5	0	0%
	Lake level rise ³	100	2.5	NA	250	45%
	Irrigation Runoff ⁴	82	6.7	NA	54	10%
	Inflow Subtotal				558	
Outflows	Evaporation ⁵	100	3.3	NA	325	58%
	Discharge to Lake Tahoe	NA	NA	NA	233	42%
	Outflow Subtotal				558	
Net					0	

1. Annual average precipitation for South Lake Tahoe.
2. Lake Tallac intercepts upland runoff and discharges to Pope Marsh.
3. Annual average change in Lake Tahoe lake level (2003-2009).
4. Assumes 0.1 inch of irrigation runoff per watering, 4 watering events per week, 5-month watering season. Note that the portion of irrigation runoff reaching the lagoons via the City of South Lake Tahoe stormwater system is unknown.
5. Annual average pan evaporation is 36 inches for the Lake Tahoe Basin. 10% has been added to account for higher surface temperatures in the Tahoe Keys Lagoons.

9. Site Hydrogeology

Anecdotal recounts of historic lot construction report the Tahoe Keys land was created by a combination of excavating and pushing up wetland soils to form base for lots and capping the lots with a sand layer to provide a stable pad for building construction. The Tahoe Keys residential and townhouse lots no longer exhibit a natural wetland, though groundwater levels within the Tahoe Keys land substrate have been observed to fluctuate in response to changes in groundwater gradients caused by deep percolation of precipitation or irrigation, or lake elevation variations.

10. Basin Plan

The Water Board adopted a *Water Quality Control Plan for the Lahontan Region* (Basin Plan) on March 31, 1995, and adopted Basin Plan Amendments on July 12, 2000. The Basin Plan recognizes Lake Tahoe as Outstanding National Resource Water (ONRW). This Order implements the Basin Plan, as amended.

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface and ground waters within the Lahontan Region. The State Water Board adopted a policy to protect existing the high quality waters. (SWRCB Resolution No. 68-16.) The federal regulations contain a similar anti-degradation

Number: 1 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 2:55:09 PM

Is there a way to measure the amount of irrigation runoff to know that it has been reduced as part of the NPS plan? Standing water as a result of over irrigation seems to be a common problem on both TKPOA common areas and the private properties.

policy. (40 Code of Federal Regulations § 131.12.)

11. Receiving Waters

The Main Lagoon and the Marina Lagoon are hydrologically connected to Lake Tahoe via the West and East Channels, respectively. Groundwaters within the facility also may receive discharge of wastes by infiltration from non-point sources such as fertilizer nutrients from landscaping activities.

12. Beneficial Uses - Surface Waters

The receiving waters for flows originating from the Facility are the surface and ground waters of the Lake Tahoe Hydrologic Unit, South Tahoe Hydrologic Area (Ca. Dept. of Water Resources HU No. 634.10). The TKPOA Main Lagoon and the Marina Lagoon are hydrologically connected to Lake Tahoe and associated minor surface waters of the United States via constructed navigational channels and ground water flow.

Lake Tahoe is designated as an Outstanding National Resource Water (ONRW), for which no permanent or long-term degradation in water quality is allowable. The beneficial uses of Lake Tahoe and its associated minor surface waters and wetlands, as set forth and defined in the Basin Plan, include:

- a. Municipal and domestic supply;
- b. Agricultural supply;
- c. Ground water recharge;
- d. Freshwater replenishment;
- e. Water-contact recreation;
- f. Non-water-contact recreation;
- g. Navigation;
- h. Commercial and sport fishing;
- i. Cold freshwater habitat;
- j. Wildlife habitat;
- k. Preservation of biological habitats of special significance;
- l. Migration of aquatic organisms;
- m. Spawning, reproduction and development of fish and wildlife;
- n. Preservation of rare and endangered species;
- o. Water quality enhancement; and
- p. Flood peak attenuation/flood water storage.

13. Title 27 Exemption

Wastes consisting of harvested aquatic weeds are temporarily held at the TKPOA corporation yard, but are disposed of permanently off-site (see Finding 5). As no wastes are disposed of on-site, the Facility does not meet the definition of a

“disposal site¹” in California Public Resources Code Section 40122 and is therefore exempt from Title 27 dealing with land disposal of wastes. (California Water Code Section 13172).

14. Water Quality Baseline Data

The baseline data given in Table 3 is needed for comparison with future operations during use of the circulation system, when monitoring is required under the Monitoring and Reporting Program. The overall purpose is to assess the effectiveness of landscape and other management practices within the NPS Plan on achieving improvements in water quality relative to applicable Water Quality Objectives.

Table 3: TKPOA Annual Average Water Quality, 2007-2013¹

Year	Total Nitrogen (TN), mg/L	Total Phosphorous (TP), mg/L	Total Dissolved Solids (TDS) (mg/L)	pH	Turbidity (NTU)
2007	0.28	0.030	74	9.16	0.75
2008	0.15	0.033	84	7.67	1.46
2009	0.33	0.043	87	9.15	7.97
2010	0.20	0.019	101	8.87	1.20
2011	0.18	0.023	71	8.31	1.72
2012	4.57	0.019	no data	8.88	no data
2013	0.24	0.026	81	7.97	1.88
WQO	0.15	0.008	60	7.0 - 8.4	3.00

¹ Data from TKPOA Self-Monitoring Reports under prior NPDES Permit. WQO = Lahontan Basin Plan Water Quality Objectives, Chapter 5 including Table 5.1-3. TN is the sum of nitrate nitrogen + nitrite nitrogen + Total Kjeldahl Nitrogen. Lake Tahoe is Clean Water Act Section 303(d) listed as impaired for Total Nitrogen (TN), Total Phosphorus (TP), and sediment.

Tahoe Keys Lagoon and Marina are physically connected to Lake Tahoe and have no site-specific water quality objectives (WQOs) of their own, so Lake Tahoe WQOs apply.

Annual Average TN, TP, and TDS equal or exceed WQOs in all years; Annual Average pH exceeds the WQO in 4 of 7 years, but all samples were taken during daylight hours when actively photosynthesizing plants remove carbon dioxide from the water, raising the pH. Turbidity is below the WQO in all years except 2009,

¹ "Disposal site" or "site" means the place, location, tract of land, area, or premises in use, intended to be used, or which has been used, for the disposal of solid wastes.

which resulted from one unusually high turbidity reading of 99 NTU among 16 samples.

15. Aquatic Plant Growth

The Lahontan Basin Plan water quality objectives for “Biostimulatory Substances” states that:

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect the water for beneficial uses.

Aquatic Invasive Species (AIS) have affected aquatic ecosystems and caused economic damage across the United States:

- The US Environmental Protection Agency (USEPA, 2012)² reports the following concerning AIS:

“Invasive species are one of the largest threats to our terrestrial, coastal and freshwater ecosystems, as well as being a major global concern. Invasive species can affect aquatic ecosystems directly or by affecting the land in ways that harm aquatic ecosystems. Invasive species represent the second leading cause of species extinction and loss of biodiversity in aquatic environments worldwide. They also result in considerable economic effects through direct economic losses and management/control costs, while dramatically altering ecosystems supporting commercial and recreational activities.”

- The National Oceanic and Atmospheric Administration (NOAA, 2011)³ likewise states:

“Non-native species - including plants, animals, and pathogens - are considered to be one of the greatest threats to coastal ecosystems. They have adversely impacted local economies, important fisheries, sensitive coastal ecosystems, and human health. Invasive species can aggressively spread in coastal ecosystems causing considerable impacts.”

Excessive growth of aquatic plants within the Facility impairs beneficial uses of water, such as Cold Freshwater Habitat (COLD), Navigation (NAV), Water Contact Recreation (Rec-1), Non-contact Water Recreation (Rec-2) and possibly Rare, Threatened, or Endangered Species (RARE). Cold water ecosystems have been disrupted, pervasive aquatic weeds can impair navigation, swimming has a potential health and safety risk associated with entanglement of swimmers in

² Web Link: http://water.epa.gov/type/oceb/habitat/invasive_species_index.cfm

³ Web Link: <http://stateofthecoast.noaa.gov/invasives/welcome.html>

aquatic vegetation and lack of visibility of submerged swimmers, impairment of fishing and aesthetic quality, and increased predation of native fish species by invasive fish species¹

Harvested Aquatic Weeds: TKPOA removes significant quantities of N and P from the system by harvesting aquatic weeds and disposing them outside the Lake Tahoe Basin.

Recalcitrant (or Stable) Organic N and P: A small fraction of aquatic vegetation dies and settles to the lagoon bottom becoming stable sediment organic matter, effectively immobilizing its N and P. Rates of N and P immobilization depend on a number of site-specific environmental factors such as parent organic source, temperature, and dissolved oxygen.

As part of this Order, TKPOA will increase its institutional control, education and outreach measures to reduce inputs of N and P from landowner activities.

Non-Chemical Control of Aquatic Invasive Species²

TKPOA has been proactively assessing the efficacy of non-chemical controls of AIS such as use of jute mats to suppress aquatic plant growth. The Tahoe Keys lagoons were the site of a three-year Tahoe Resource Conservation District Study, "Tahoe Keys Aquatic Plant Management Research Project," which began in 2011. The goal was to determine efficacy and feasibility of currently available non-chemical methods for management of *Myriophyllum spicatum* (Eurasian watermilfoil) and *Potamogeton Crispus* (Curlyleaf pondweed) in typical infestations within the Tahoe Keys lagoon areas. The approach was to monitor benthic invertebrate communities in areas of the Tahoe Keys targeted for aquatic plant management pre- and post- non-chemical treatment to evaluate changes after non-chemical treatments. Jute and synthetic barriers to aquatic plant growth were placed on the bottom in six locations to restrict aquatic growth. Synthetic barriers were removed after 7-9 weeks. The jute barriers were left in place until they decomposed. Final results for this study are pending, though preliminary results suggest bottom barriers are expensive and demonstrate limited long-term effectiveness in reducing aquatic plant growth.

Installation of bottom barriers by TKPOA on common areas or by private parties on privately-owned properties (the "project") may continue under this permit in compliance with the requirements of Attachment E, "Best Management Practices for Bottom Barrier Installation for Invasive Weed Control." As part of this Order the Water Board grants TKPOA Water Quality Certification, provided requirements in this Order, including Attachment E are followed. This project is eligible for a California Environmental Quality Act (CEQA, Finding 22) categorical exemption under California Code of Regulations title 14, section 15333, "Small Habitat Restoration Projects."

 Number: 1 Author: pstone Subject: Sticky Note Date: 7/7/2014 10:49:04 AM
Run-on statement. Clarify impacts to habitat for native and sport fisheries.

 Number: 2 Author: pstone Subject: Highlight Date: 7/7/2014 10:50:22 AM
"Plants" - Warm water fish removal research project is not discussed here.

Hand-pulling of invasive aquatic weeds is encouraged. If continued use of mechanical aquatic weed harvesting is proposed, then TKPOA must develop and implement best management practice control measures to limit the spread of viable plant fragments. This Order requires submission and implementation of an Integrated Management Plan (IMP) to address aquatic invasive species management.

Chemical Control of Aquatic Invasive Species

This permit does not authorize the use of chemical control of aquatic invasive or nuisance plants.

16. Water Quality Certification for using Bottom Barriers to perform Small Habitat Restoration

Pursuant to California Code of Regulations (CCR) Title 23, Section 3831, "Water Quality Certification" is a certification that any discharge or discharges to waters of the U.S., resulting from an activity that requires a federal license or permit, will comply with water quality standards and other appropriate requirements. "Activity" means any action, undertaking, or project-including, but not limited to, construction, operation, maintenance, repair, modification, and restoration-which may result in any discharge to a water of the United States in California. "Water quality standards and other appropriate requirements" means the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act (33 USC Sections 1311, 1312, 1313, 1316, 1317), and any other appropriate requirements of state law. Based upon the information provided by TKPOA and the requirements of this Order, it is our determination that the CWA Section 401 Water Quality Certification for bottom barrier installation for aquatic weed control provided under this Order would ensure that bottom barrier projects proposed by TKPOA would comply with water quality standards and other appropriate requirements.

The Army Corps may issue a federal permit for installation and maintenance of bottom barriers under Section 10 of the Clean Harbors Act. Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.) regulates aquatic activities - not discharges (such as installation or removal of pilings and buoys), and requires authorization from the U.S. Army Corps of Engineers (Army Corps) for the construction of any structure in or over any navigable water of the United States, the excavation/dredging or deposition of material in these water or any obstruction or alteration in a "navigable water." Structure or work outside the limits defined for navigable waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body.

Army Corps may permit the bottom barrier work proposed by TKPOA with a Nationwide 27 (Aquatic Habitat Restoration, Establishment, and Enhancement Activities) permit or Nationwide 3 (issued for maintenance type activities) permit. The Army Corps has previously issued nationwide permit (NWP) 27 for AIS control projects that involved bottom barriers in Lake Tahoe. .

 Number: 1 Author: pstone Subject: Highlight Date: 7/7/2014 10:52:26 AM
this is an accurate use of "species"

 Number: 2 Author: pstone Subject: Highlight Date: 7/7/2014 10:51:44 AM
"Plants"

17. Justification for Granting a Prohibition Exemption for the Bottom Barrier Placement below the High-Water rim of Lake Tahoe

To protect beneficial uses and achieve water quality objectives for the waters of Lake Tahoe and its tributaries, the Water Quality Control Plan for the Lahontan Region (Basin Plan) contains the following discharge prohibition:

"The threatened discharge, attributable to human activities, of solid or liquid waste materials including soil, silt, clay, sand, and other organic and earthen materials, due to the placement of said materials below the high-water rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe, is prohibited."

An exemption to the prohibition may be obtained if the project makes all of the required findings:

a. *The project is necessary for environmental protection;*

The primary purpose of the bottom barrier placement is to control aquatic invasive species and aquatic weeds. Removal of the invasive species has been shown to re-establish the natural, pre-existing conditions

b. *There is no reasonable alternative, including relocation which avoids or reduces the extent of encroachment in the below the highwater rim of Lake Tahoe; and*

Since the bottom barrier placement by its very nature is located at the bottom of the Tahoe Keys Lagoon or Tahoe Keys Marina, there is no reasonable alternative. Hand-pulling, suction dredged-assisted removal, and cutting by marine harvesters is not as effective as bottom barrier placement in areas similar to the Tahoe Keys Lagoons.

c. *Impacts are fully mitigated.*

To minimize impacts generated from the project area, the project proponent will implement Best Management Practices (BMPs) given in Attachment E, which are designed to fully mitigate impacts.

Projects allowed by this Order must not exceed five acres of bottom barriers.

18. Integrated Management Plan for Aquatic Invasive Weeds (IMP) Objectives TKPOA contracted with a consultant to develop an outline of the Integrated Management Plan for Aquatic Invasive Weeds (IMP) within an Interagency stakeholder group process. The IMP is to address the control and monitoring of aquatic invasive weeds in the Tahoe Keys Main Lagoon, Lake Tallac Lagoon, and Marina Lagoon. The IMP may address terrestrial and internal nutrient loading issues directly, or these may be addressed in separate documents, such as the Nonpoint Source Water Quality Management Plan (see Finding 18 and Order No II.B).

Objectives of the IMP are to:

- a. Eliminate spreading of aquatic invasive species from the Tahoe Keys to greater Lake Tahoe.
- b. Enhance overall water quality of the Keys Lagoons and Keys Marina, thereby improving Lake Tahoe water quality and associated clarity.
- c. Reduce habitat for non-native fish and enhance habitat for native fish in the Keys Lagoons and Keys Marina.
- d. Restore and maintain established beneficial recreational uses, including water contact safety, in the Keys Lagoons and commercial uses in the Keys Marina.
- e. Implement a combination of cost-effective control measures that are feasible for long-term management of aquatic invasive plants.

The IMP document is to include, at a minimum:

- a. The purpose of the Integrated Management Plan.
- b. A description of the aquatic invasive weed problem, including detailed maps of infestations and problem areas.
- c. A discussion of the problems associated with management of aquatic plants in the Keys including the beneficial role of aquatic plants compared to negative impacts of uncontrolled growth of aquatic weeds, and the effect of aquatic plants on beneficial uses in the Tahoe Keys (e.g. impairment of navigation and recreational use of the waters), including non-native Eurasian watermilfoil and curly leaf pondweed
- d. A discussion of other problematic aquatic invasive species in the Tahoe Basin such as warm-water fishes, Asian clam, signal crayfish as well as species that could invade Lake Tahoe such as quagga mussels.
- e. A history of non-chemical aquatic weed control efforts to date, including mechanical harvesters, Solar Bees, and bottom barriers.
- f. Proposed integrated weed management and control methods, including improved harvester design for more effective mechanical control with consideration of best management practices for weed fragment control, boat inspections; and Public involvement and education. Consider biological control methods such as weevils or grass carp.

The general approach of IMP implementation, adaptive management and public education and outreach is to:

Determine priority areas for control work and implement adaptive management by:

- 1) Surveying Tahoe Keys Lagoon and Tahoe Keys Marina initially and thereafter annually for weed types and biomass. Creating accurate maps and summarize findings initially and thereafter in annual reports.
- 2) Obtaining initial input from Water Board staff, thereafter annually evaluating effectiveness of management practices, and modifying the IMP accordingly.

- 3) Adjusting implemented maintenance operations based on annual evaluations.



Inform and engage the homeowners through education and outreach by:

- 1) Developing educational brochures and press releases about the IMP.
- 2) Promoting best management practices for homeowners on reducing nutrient loading, preventing re-introduction of aquatic invasive weeds.
- 3) Informing the homeowners about TRPA's required best management practices for all properties
- 4) Promoting the boat inspection program.

The Monitoring and Reporting Program contains the requirements for the Aquatic Plant Monitoring Plan, which are consistent with the IMP. The general approach used in the Aquatic Plant Monitoring Plan is to survey Tahoe Keys Lagoon and Tahoe Keys Marina annually for weed types and biomass, create accurate maps and summarize findings in annual report.

19. NPS Water Quality Management Plan (NPS Plan) Objectives

The objectives of the NPS Plan are: 1) to identify and evaluate land-based activities being conducted in the Tahoe Keys community that may be sources of pollutants (including nutrients) that have the potential to be discharged into surface waters and 2) to identify and implement site-specific management practices to reduce or prevent pollutants (including nutrients) associated with activities being conducted in the Tahoe Key community from discharging into surface waters. To achieve these objectives, this Order requires TKPOA to develop and implement a NPS Plan to minimize impacts to the water quality of the receiving water.

TKPOA is currently employing the following Landscape Best Management Practices:

- Installed TRPA-approved runoff control BMPs at TKPOA Common Areas and approximately 30% of single-family properties TKPOA will continue to conduct outreach to encourage increased BMP implementation with a goal of 100% compliance.
- Using low or no phosphorus fertilizers on the common area and townhouse landscaping and using a minimum amount of fertilizers necessary to maintain landscaping.
- Managing the irrigation of common area and townhouse landscaping to limit runoff and deep percolation.
- Educating members regarding the impact of over fertilizing and over watering on water quality through articles in the Keys Breeze newsletter each spring.
- Implementing a voluntary water conservation program where landscape irrigation on single- family properties is recommended to every other day.

 Number: 1 Author: pstone Subject: Sticky Note Date: 7/7/2014 11:06:54 AM
Is this the second element of the general approach?

 Number: 2 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 3:05:57 PM
TKPOA has taken steps in the right direction to get BMPs completed at common areas, they will not be considered fully compliant until a fertilizer management plan has been approved by TRPA and the TKPOA.

The NPS Plan formalizes these and other BMPs to minimize controllable NPS nutrient loading to surface and ground waters.

Appendix D lists types of management practices that should be considered for control and reduction of pollutants from the Tahoe Keys common areas. Additional considerations for private residential neighborhoods include, but are not limited to, the following:

1. Develop and annually disseminate educational materials to residential property owners addressing the following topics:
 - a. Water-conserving landscape irrigation techniques to reduce individual water usage and to maximize efficiency and water uptake by plants (e.g. drip irrigation).
 - b. Proper fertilization practices.
 - c. Pursue institutional changes (such as modification of Covenants, Conditions & Restrictions (CCRs)) to provide more options for landscape practices or turf alternatives that may reduce residential NPS N and P sources.
 - d. Implementation of hydrologic source controls (aka BMP retrofit) in the BMP toolkit⁴ such as pervious pavement, infiltration basins, infiltration trenches, subsurface infiltration, rain barrels and cisterns, rain gardens, and filter strips.
2. Reporting on success of education and outreach efforts by follow-up survey.

20. Antidegradation Requirements

In 1980, pursuant to federal antidegradation regulations (40 Code of Federal Regulations § 131.12), the State Water Resources Control Board designated Lake Tahoe as an Outstanding National Resource Water (ONRW). The Water Board has considered state and federal antidegradation requirements pursuant to 40 CFR 131.12 and State Water Resources Control Board Resolution No. 68-16. In accordance with these requirements, this Order does not allow permanent or long-term degradation of surface waters.

21. California Water Code Section 13241 Relating to Water Quality Objectives

When issuing a WDR, Water Code section 13263 requires that the Regional Board must, after a hearing, prescribe requirements as to the nature of any proposed discharge, with relation to the conditions existing in the disposal area or receiving waters upon, or into which, the discharge is made. The requirements must implement the Basin Plan, and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other

⁴ Tahoe Regional Planning Agency (TRPA), 2012. Best Management Practices Handbook. Web link: <http://www.tahoebmp.org/bmphandbook.aspx>

Number: 1 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 3:09:59 PM

If the types of management practices in attachmetn D are not considered, then there should be a explanation of why they are not considered.

Number: 2 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 3:13:00 PM

is the NPS plan only applicable for the common areas? They should be applicable and the implementation of it required on the common areas and they pricate residential neighborhoods. This paragraph makes it seem like the the residential areas are excluded.

waste discharges, the need to prevent nuisance, and the provisions of California Water Code Section 13241. This Order has met all these requirements, and has taken into consideration the following factors, as specified in Water Code section 13241:

- (a) *Past, present, and probable future beneficial uses of water.* The findings of this Order identify past, present, and probable future beneficial uses of water, as described in the Basin Plan. This Order does not authorize alteration of the beneficial uses of the surface and ground water from discharges authorized by this Order.
- (b) *Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.* The findings of this Order concerning geology, hydrogeology, and hydrology provide general information on the hydrographic unit. This Order does not authorize actions that are likely to negatively affect local ground water quality in the area of the facility.
- (c) *Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.* Factors that could affect water quality within the Facility include: 1) discharge of stormwater from TKPOA common areas; 2) nonpoint source discharges from private properties and common areas to surface- and groundwater; and 3) internal loading of N and P from sediments to surface waters of Tahoe Keys Lagoon and Marina. This Order in conjunction with the CSLT Municipal Stormwater Permit and other voluntary measures will result in improved water quality conditions within the Tahoe Keys Lagoons, Lake Tahoe and groundwater.
- (d) *Economic considerations.* TKPOA will be required to perform limited water quality monitoring of stormwater discharges and ambient water quality within the Tahoe Keys Lagoons if the water circulation system is activated. Monitoring costs are expected to be lower than under the prior NPDES permit because the prior permit monitoring established the background water quality conditions.
- (e) *The need for developing housing within the region.* Build-out of housing within the Facility is essentially complete, though environmental impacts of any additional building will be subject to review and approval by the Tahoe Regional Planning Agency, El Dorado County, and the Water Board.
- (f) *The need to develop and use recycled water.* This provision does not apply to this Facility.

22. Protection of Drinking Water

Lake Tahoe has a designated Municipal and Domestic Supply (MUN) beneficial use and is used as a source of drinking water by local municipalities and lakefront homeowners.

Water Code section 106.3 states that:

“It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”

The discharges authorized under this permit will not adversely affect drinking water quality.

23. CEQA Compliance

This WDR involves operation of an existing facility and, as such, is exempt from the provisions of the California Environmental Quality Act (CEQA, Public Resources Code 21000, et seq.) in accordance with Title 14, California Code of Regulations, Chapter 3, Section 15301. There is no expansion of the permit beyond what was previously allowed.

Non-chemical control of aquatic invasive species and weeds, such as the use of bottom barriers, is categorically exempt from the provisions of CEQA under 14 CCR § 15333, Small Habitat Restoration Projects.

The “project” consists of installation and maintenance of bottom barriers that is principally carried out with hand labor and not mechanized equipment, and is “not to exceed five acres in size to assure the maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife...”

24. Notification of Interested Parties

The Water Board has notified the permittee and other interested agencies and persons of its intent to issue a Waste Discharge Requirement permit for the discharge, and has provided them an opportunity to attend a public meeting and to submit written comments and recommendations regarding this matter.

25. Consideration of Public Comment

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

IT IS HEREBY ORDERED, that TKPOA, to meet the provisions contained in Division 7 of the California Water Code, and regulations adopted thereunder, and the provisions of the Federal Clean Water Act of 1977, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

I. DISCHARGE SPECIFICATIONS: This WDR addresses waste discharges related to operating the circulation system and require implementation of a new non-point source pollution reduction strategy.

A. General Requirements and Prohibitions

1. The discharge of any toxic chemical as defined in USEPA's National Toxics Rule (40 CFR Part 131, and section 303(c)(2)(B) of the Clean Water Act (CWA)) or hazardous waste as defined in Section 311(b)(2) of the Federal Water Pollution Control Act (33 U.S.C. Sec. 1251 et seq.) is prohibited.
2. Discharges from the Facility shall not cause a pollution or nuisance, as defined in Section 13050 of the California Water Code.
3. The operation of the Lagoon Water Treatment Plant (LWTP) for chemical treatment is prohibited under this WDR. No chemicals or amendments shall be added to the circulation system; and the discharge of chemicals or amendments are prohibited from the circulation system when it is in operation. If TKPOA determines that it will test or utilize the LWTP, the Discharger must obtain approval from the Water Board under a separate Order.

B. Prohibited Non-Stormwater Discharges

Illicit discharges, such as paint or waste oil and the following categories of non-storm water discharges are prohibited from being discharged to surface waters from the storm drain/culvert at the parking lot located at Cove 3C, 439 Ala Wai Blvd, South Lake Tahoe, CA. This storm drain discharges directly into surface waters of the Tahoe Keys Marina.

1. Discharges from residential car washing are prohibited because they have the potential to contain nutrients, such as phosphorus and other additives.
2. Discharges of chlorinated or de-chlorinated swimming pool and spa discharges are prohibited because this water contains constituents that are prohibited from being discharged into Lake Tahoe and these waters also are usually of a higher temperature than the cold waters of Lake Tahoe and discharging warm water to cold waters of Lake Tahoe is prohibited in the Basin Plan.

TKPOA is to promote compliance with the Municipal stormwater permit (Order No. R6T-2011-0101) for stormwater draining into CLST storm drains, and to promote compliance with the NPS Plan for stormwater discharges directing entering surface waters or percolating among private homeowners within the Facility by means of education and outreach activities, which will be detailed in the NPS Plan.

C. Shared Stormwater Treatment Facilities

Since the stormwater system and drain outlet at Cove 3C, which discharges directly to Tahoe Keys Marina, is shared between TKPOA and the City of South Lake Tahoe, TKPOA must comply with the Lahontan Basin Plan, Section 5.6, "Stormwater Problems and Control Measures" requirement to "document coordination with the local municipality or state highway department to demonstrate that shared stormwater treatment facilities treating private property discharges and public right-of-way stormwater are sufficient to meet the municipality's average annual fine sediment and nutrient load reduction requirements."

TKPOA is to provide to the Water Board a Shared Stormwater Treatment Facility_report documenting evidence of cooperation with CSLT. This report shall be submitted by **October 1, 2014**, and must include but not be limited to:

- Notes from meeting and phone conversations concerning maintenance activities and management of stormwater from the Cove 3C drainage;
- Plans for water quality improvement projects or management actions, including management of snow storage and parking lot runoff.

D. Notification Requirements

TKPOA shall notify the Water Board Executive Officer by telephone as soon as the TKPOA or the TKPOA's agents have knowledge of any unauthorized discharge or discharge in violation of this permit and shall confirm this notification in writing within one week of the telephone notification. The written notification shall contain pertinent information explaining reasons for the discharge, and indicate steps taken or planned, and dates thereof, to correct the problem and prevent it from reoccurring. An estimate of the amount of flow discharged shall be included.

E. Other Prohibitions

1. Unless specifically granted, authorization pursuant to this Permit does not constitute an exemption to applicable discharge prohibitions prescribed in the Basin Plan.
2. Discharges from the TKPOA stormwater collection, conveyance, and stormwater treatment facilities that cause or contribute to a violation of

narrative or numeric water quality standards or objectives are prohibited.

3. Discharges from the TKPOA stormwater collection, conveyance, and stormwater treatment facilities shall not cause or contribute to a condition of "nuisance," which is defined in the Lahontan Basin Plan as:

"Anything which meets all of the following requirements:

- *Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.*
- *Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.*
- *Occurs during or as a result of the treatment or disposal of wastes."*

4. Stormwater discharges regulated by this Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.
5. For grading or construction projects on TKPOA common land areas, the removal of vegetation or disturbance of ground surface conditions between October 15 of any year and May 1 of the following year is prohibited. Where it can be shown that granting a variance would not cause or contribute to the degradation of water quality, a variance to the dates stated above may be granted in writing by the Executive Officer.
6. The discharge attributable to human activities of any waste or deleterious material to surface waters of the Lake Tahoe HU is prohibited.

An exemption to this prohibition may be granted whenever the Water Board finds all of the following:

- a. The discharge of waste will not, individually or collectively, directly or indirectly, unreasonably affect the water for its beneficial uses, and
- b. There is no reasonable alternative to the waste discharge, and
- c. All applicable and practicable control and mitigation measures have been incorporated to minimize potential adverse impacts to water quality and beneficial uses.

7. The discharge attributable to human activities of any waste or deleterious material to land below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited..
8. The discharge attributable to human activities of any waste or deleterious material to Stream Environment Zones (SEZs) in the Lake Tahoe HU is prohibited.
9. The discharge of garbage or other solid waste to lands within the Lake Tahoe Basin is prohibited.
10. The discharge of industrial waste within the Lake Tahoe Basin is prohibited. Industrial waste is defined as any waste resulting from any process or activity of manufacturing or construction. Stormwater discharges from industrial facilities are not prohibited when wastes in the discharge are controlled through the application of management practices or other means and the discharge does not cause a violation of water quality objectives.
11. Use of aquatic herbicides is prohibited in the current Lahontan Basin Plan. However, a pesticide Basin Plan Amendment allowing conditional use is under review by the USEPA for approval. If the Basin Plan Amendment is approved, a separate NDPES permit is still required for application of aquatic herbicides directly to the water, and is subject to the requirements of the Basin Plan Amendment.
12. Each batch of harvested aquatic weeds shall not be stored in excess of 90 days.

II. PROVISIONS

A. Explanatory Provisions

1. Surface waters, as used in this WDR, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial watercourses, natural lakes, and artificial impoundments of waters within the State of California. The Tahoe Keys lagoons are considered surface waters of the State of California.
2. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect TKPOA from liability under federal, state, or local laws, nor guarantee TKPOA a capacity right for waste load assimilation, flow, or storage in the receiving waters.

B. NPS Plan Requirements

1. This WDR requires TKPOA to develop a NPS Plan to control and prevent impacts to the receiving waters from sources of pollution within the TKPOA jurisdiction. TKPOA is required to submit the NPS Plan to the Water Board for Executive Officer review and acceptance **by January 31, 2016, and annually thereafter**. The NPS Plan may be part of the Integrated Management Plan for Aquatic Weeds or may be developed separately. This approach provides TKPOA the flexibility necessary to establish appropriate management practices for the different types of operations, activities, and pollutant sources that may impact the surface waters at the Facility. The NPS Plan must include site-specific management practices for minimizing and preventing pollution from stormwater and other nonpoint sources.
2. The NPS Plan is a written document that must contain drawings, maps, and copies or references to parts of other relevant plans and at a minimum, address the following elements:
 - a. A schedule for regular monitoring of activities and management actions, including inspections.
 - b. A description of existing and planned management and education/outreach activities to reduce potential source loading of nutrients, including irrigation and fertilizer practices. This is to include a plan to track the number of households reached and success of outreach efforts annually.
 - c. Map drainage of stormwater path(s) which enters the Facility from outside the Facility boundaries; map "sensitive areas" that drain directly to waterways from both common and private areas. This mapping shall identify these areas that may be potential nutrient (nitrogen and phosphorus), sediment and other pollutant sources and locations, and these areas may be suitable for application of localized management practices to reduce or prevent discharge of pollutants.
 - d. An adaptive management process that assesses the effectiveness of the management activities that were undertaken during the last season, and identifies management activities that are planned to be undertaken the next season to further address water quality impairments.
 - e. An annual tally of the cumulative number of properties which have received a Tahoe Basin Best Management Practices Certificate of Completion for installing and maintaining best management practices (BMPs). This section must include a short narrative describing the types of BMPs installed and a rough estimate of the total acres retrofitted compared to the acres needing a BMP retrofit.

- f. An evaluation of TKPOA irrigation and fertilizer practices and existing rules relating to TKPOA property owners maintenance of private properties (Attachment D).



- 3. The NPS Plan must be readily available for review by TKPOA employees or Water Board inspectors. A copy of any requirements incorporated by reference into the NPS Plan must be kept at the Facility. Through this plan TKPOA shall assure that discharges would neither cause, nor contribute to, an exceedance of water quality standards and objectives, nor create conditions of nuisance in the receiving water.

C. Integrated Management Plan for Aquatic Invasive Weeds

TKPOA is to prepare an Integrated Management Plan for Aquatic Invasive Weeds in cooperation with Water Board, TRPA, Tahoe Resource Conservation District, and other appropriate regulatory agencies and submit it to Water Board staff by **January 31, 2016** and begin implementation of the plan after acceptance by Water Board Executive Officer. The Aquatic Plant Monitoring Plan, required in the Monitoring and Reporting Program, may be part of the IMP or may be developed separately. The IMP must include best management practice control measures to limit the spread of viable plant fragments during aquatic weed harvest operations. This permit does not authorize or cover the use of aquatic herbicides.

D. Water Quality Certification Requirements

If the Army Corps of Engineers determines that installation and maintenance of bottom barriers by individual members of TKPOA or in common areas of TKPOA, managed by TKPOA staff is regulated under CWA section 404 or under CWA Section 10, then a 401 Water Quality Certification will be required for those activities.

This Order provides TKPOA with a water quality certification that allows installation of bottom barriers on common areas or privately-owned areas, so long as projects are in compliance with requirements of Section III and Attachment E "Best Management Practices for Bottom Barrier Installation for Invasive Weed Control," and TKPOA report implementation projects annually.

E. Annual Reports and Updates

- 1. Pursuant to Section 13267(b) of the California Water Code, TKPOA shall comply with Monitoring and Reporting Program requirements of Order No. R6T-2014-XXXX and with the "General Monitoring and Reporting Provisions."

Number: 1 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 3:25:22 PM
Should also include the pursuance of institutional changes as recommended in 19.1.C
I think this should be more than just a recommendation.

- 2 An adaptive management approach shall be implemented by use of annual updates of the NPS plan and the IMP. TKPOA shall submit an annual updated NPS Plan, IMP, and updated Aquatic Plant Monitoring Plan, including a summary of the success of bottom barrier implementation, by no later than January 31 of each year covering the previous 12 months from October 1 through September 30 (except the first period will be from January 31 through September 30, 2016), beginning in January 31, 2016, and based on these observations, revise the NPS plan for the upcoming season as appropriate. The NPS Plan shall including these minimum updates:
 - a. Management Practices Planned – Include a schedule listing specific management practices planned to address the identified problems and describe the details of each BMP and explain how the BMP implementation will adequately address the problem. Show the anticipated BMP implementation date on the schedule. For education and outreach activities, this is to include a list of planned outreach activities or events sponsored. Education and outreach activities considered should include, at a minimum those issues identified in Attachment D concerning irrigation and fertilization, and BMP retrofitting of homes with a goal of 100% compliance. For issues involving modifying institutional constraints to allow a larger suite of effective BMPs for NPS nutrient control, report planned actions such as proposed amendments to CCRs. Actions to remove institutional constraints should include, at a minimum, water conservation and turf removal.
 - b. Management Practices Implemented – Describe the management practices that were implemented for the reporting period. Discuss constraints, obstacles, and other problems noted during the reporting period. TKPOA is to certify that any bottom barriers installed under this permit meet the conditions given in Attachment E. The bottom barrier implementation report is to include the location, and dimensions of all installed bottom barriers. For education and outreach activities, this is to include a list of outreach activities or events sponsored, the number of individuals or households reached, and how many homeowners who attended workshops or received outreach information implemented the BMPs. For BMP retrofits, this is to include an annual tally of the cumulative number of properties which have received a Tahoe basin BMP Retrofit Certificate of Completion and an estimate of the total acres covered by those BMP retrofits. For issues involving modifying institutional constraints to allow a larger suite of effective BMPs for NPS nutrient control, results of actions (such as member votes) and the implications of adopted modifications shall be reported.

- c. TKPOA is to develop the Aquatic Plant Monitoring Plan by January 31, 2016 and implement it beginning **January 31, 2016** and annually thereafter, as updated. This may be part of the IMP, or a separate monitoring plan.
 - d. Water Quality Certification Status – TKPOA is to report no later than **January 31, 2015** and annually thereafter, the following concerning the status of the WQC project:
 - Total square feet or acres treated,
 - Locations of treatment
 - Success of bottom barrier installation project - document improvements in beneficial uses (navigation and recreation) such as critical areas clear of weeds, reductions in invasive aquatic species.
3. In the event TKPOA is unable to comply with any of the conditions of this WDR due to:
- a. Breakdown or serious malfunction of lagoon water circulation equipment;
 - b. Accidents caused by human error or negligence;
 - c. Other causes such as acts of nature;

TKPOA shall notify the Executive Officer by telephone as soon as TKPOA or TKPOA's agents have knowledge of the incident or noncompliance and confirm this notification in writing within one week of the telephone notification. The written notification, pursuant to Section 13267(b) of the California Water Code, shall contain pertinent information explaining reasons for the incident or noncompliance, and indicating steps taken or planned, and dates and times thereof, to correct the problem and prevent it from reoccurring.

4. TKPOA shall file a Report of Waste Discharge with the Water Board at least 180 days before making any material change or proposed change in the character, location, or volume of the discharge.

F. Administrative Provisions

1. Board Order No. R6-2004-0024(NPDES Permit No. CA0103021) expired on June 9, 2009, and is hereby rescinded.
2. TKPOA shall comply with "Standard Provisions for WDR Permits," as shown on Attachment "C", which is made a part of this WDR.
3. The California Regional Water Quality Control Board, Lahontan Region, hereby reserves the right to change all or any portion of this WDR upon legal notice to all concerned parties, and after an opportunity to be heard is given to all concerned parties.

III. WATER QUALITY CERTIFICATION

THE REGIONAL WATER BOARD HEREBY CERTIFIES that projects in compliance with the conditions given below will comply with the applicable provisions of Clean Water Act sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards), and Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.). This Certification Order authorizes TKPOA to administer a project for bottom barrier installation for control of aquatic invasive species and aquatic weeds within TKPOA common areas and within TKPOA member properties given the following conditions apply:

A. Water Quality Certification Requirements

1. Project Description – The project consists of not more than five acres total of non-chemical aquatic weed control, using bottom barriers. Installation is allowed in TKPOA common areas or on TKPOA member properties as administered by TKPOA covered under this water quality certification.
2. BMP Implementation – TKPOA and its applicant members shall comply with the conditions of Attachment D “Best Management Practices for Bottom Barrier Installation for Invasive Weed Control.”
3. Project Size- The project size shall not exceed a total of five acres covered by bottom barriers.
4. Compensatory Mitigation is not required nor applicable for this project because it is a small habitat restoration project.
5. Primary Project Purpose - This Order authorizes activities whose primary purpose is habitat restoration. The project shall not be for restoration and enhancement conducted as part of a larger project whose primary purpose is not habitat restoration. e.g., land development or flood management.
6. Individual Project Plans with Monitoring Plan – The individual project plans document the scope of each bottom barrier project, which are overseen by TKPOA. The purpose of the required monitoring is to evaluate the success or failure of the project. The level of detail required of the Individual Project Plans, the Monitoring Plans and associated reporting shall be commensurate with the scope and size of the restoration project.

Not less than 21 days prior to bottom barrier placement, the applicant shall provide the Executive Officer of the Lahontan Regional Water Board a copy of Individual Project Plan with Monitoring Plan containing, at a minimum, the following items:

- a. Location of the individual project (map, GPS coordinates).
 - b. Bottom barrier construction and installation details including material type (narrative and illustration) and installation method(s).
 - c. Footprint of bottom barrier in square feet or acres.
 - d. Planned duration of in-place bottom barrier (planned installation and removal dates)
 - e. Inspection schedule: efficacy of anchors, bottom barrier integrity, gas buildup, and any other relevant observations.
7. Monitoring Report - See Monitoring and Reporting Program, Section 1.D.
8. Standard Conditions – This Certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and article 6 (commencing with section 3867) of chapter 28, title 23 of the California Code of Regulations.

This Certification action is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to subsection 3855(b) of chapter 28, title 23 of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

This Certification is conditioned upon total payment of any fee required under chapter 28, title 23 of the California Code of Regulations and owed by the applicant.

9. Special Conditions:
- a. Other Permits - This Order does not relieve the project applicant from the responsibility to obtain other necessary local, state, and federal permits, nor does this Order prevent the imposition of additional standards, requirements, or conditions by any other regulatory agency.
 - b. Liability - This Order does not convey any property rights or exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the permittee from liability under federal, state, or local laws, and do not create a vested right to continue to

discharge waste.

- c. Cumulative Impact- The project will not result in impacts that are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.
- d. Endangered, Threatened, Candidate, Rare, Sensitive, or Special Status Species -The project will not result in a taking, either directly or through habitat modification, of any plants or animals identified as endangered, threatened, candidate, rare, sensitive, or special status species in local or regional plans, policies, or regulations of the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service, unless the take is authorized by those agencies.
- e. Toxic Substances- The project will not discharge substances in concentrations toxic to human, plant, animal, or aquatic life or that produce detrimental physiological responses.
- f. Hazardous Substances - The project will not discharge waste classified as "hazardous" as defined California Code of Regulations title 22, section 66261 and Water Code section 13173.
- g. Water Diversion and Use - This Order does not authorize any new or modified diversion or impoundment of water, unless such diversion or impoundment is solely for the purpose of temporary dewatering for construction of the restoration project. Any permanent diversion or impoundment for beneficial use of water must have a State Water Board water rights permit.
- h. Historical Sites - This Order does not authorize any activity adversely impacting a significant historical or archeological resource; directly or indirectly destroying a unique paleontological resource or site or unique geologic feature; disturbing any human remains; or eliminating important examples of the major periods of California history or prehistory, unless the activity is authorized by the appropriate historical resources agencies.
- i. California Ocean Plan - The project shall not cause a violation of any applicable water quality objectives, including impairment of designated beneficial uses of receiving waters of the state, as adopted in the State Water Board California Ocean Plan.
- j. Water Quality Control Plan (Basin Plan) -The project shall not cause a violation of any applicable water quality objectives, including impairment of designated beneficial uses of receiving waters of the state, as adopted in the appropriate Regional Water Board water quality control plan(s)

- k. Porter-Cologne Water Quality Control Act - The project shall comply with all requirements of the Porter-Cologne Water Quality Control Act (Water Code, § 13000 et. seq.)
- l. Enforcement- In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under state law. For purposes of Clean Water Act (CWA) section 401(d), the applicability of any state law authorizing remedies, penalties, process, or sanctions for the violation or threatened violation constitutes a limitation necessary to ensure compliance with the water quality standards and other pertinent requirements incorporated into this Order.
- m. If the applicant fails or refuses to furnish technical or monitoring reports, as required under this Order, or falsifies any information provided in the monitoring reports, the applicant is subject to civil liability for each day in which the violation occurs. All reports, notices, or other documents required by this Order or requested by the State or Regional Water Boards shall be signed by the applicant or a duly authorized representative of the project.
- n. In response to a suspected violation of any condition of this Order, the State or Regional Water Boards may require the applicant to furnish, under penalty of perjury, any technical or monitoring reports the State or Regional Water Boards deem appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
- o. The applicant shall allow the staff(s) of the State or Regional Water Boards, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of assuring compliance with this Order and determining the ecological success of the project.

B. Granting of Prohibition Exemption

The Water Board hereby grants an exemption to Basin Plan Chapter 5 prohibition of discharge or threatened discharge below the high water rim of Lake Tahoe, for bottom barrier installation meeting all applicable criteria listed therein for an exemption to the prohibition (see Finding 16):

- a. The project is necessary for environmental protection;
- b. There is no reasonable alternative, including relocation which avoids or reduces the extent of encroachment in the below the highwater rim of Lake Tahoe; and
- c. Impacts are fully mitigated.

**Summary Schedule of Items
Required(Deliverables) for Water Board Review**

Finding	Order	Description	Due Date(s)
16	II.E.2.d	Water Quality Certification Status	January 31. 2015 and annually thereafter
7	I.C.	Shared Stormwater Treatment Facilities	July 12. 2015
18	II.B.1	Nonpoint Source (NPS) Plan	January 31. 2016 and annually thereafter
17	II.C.1	Integrated Management Plan (IMP)	January 31. 2016 and annually thereafter
17	II.E.2.	Aquatic Plant Monitoring Plan	January 31. 2016 and annually thereafter
15	III.A.6	Individual Bottom Barrier Project Plan with Monitoring Plan	at least 21 days before project installation

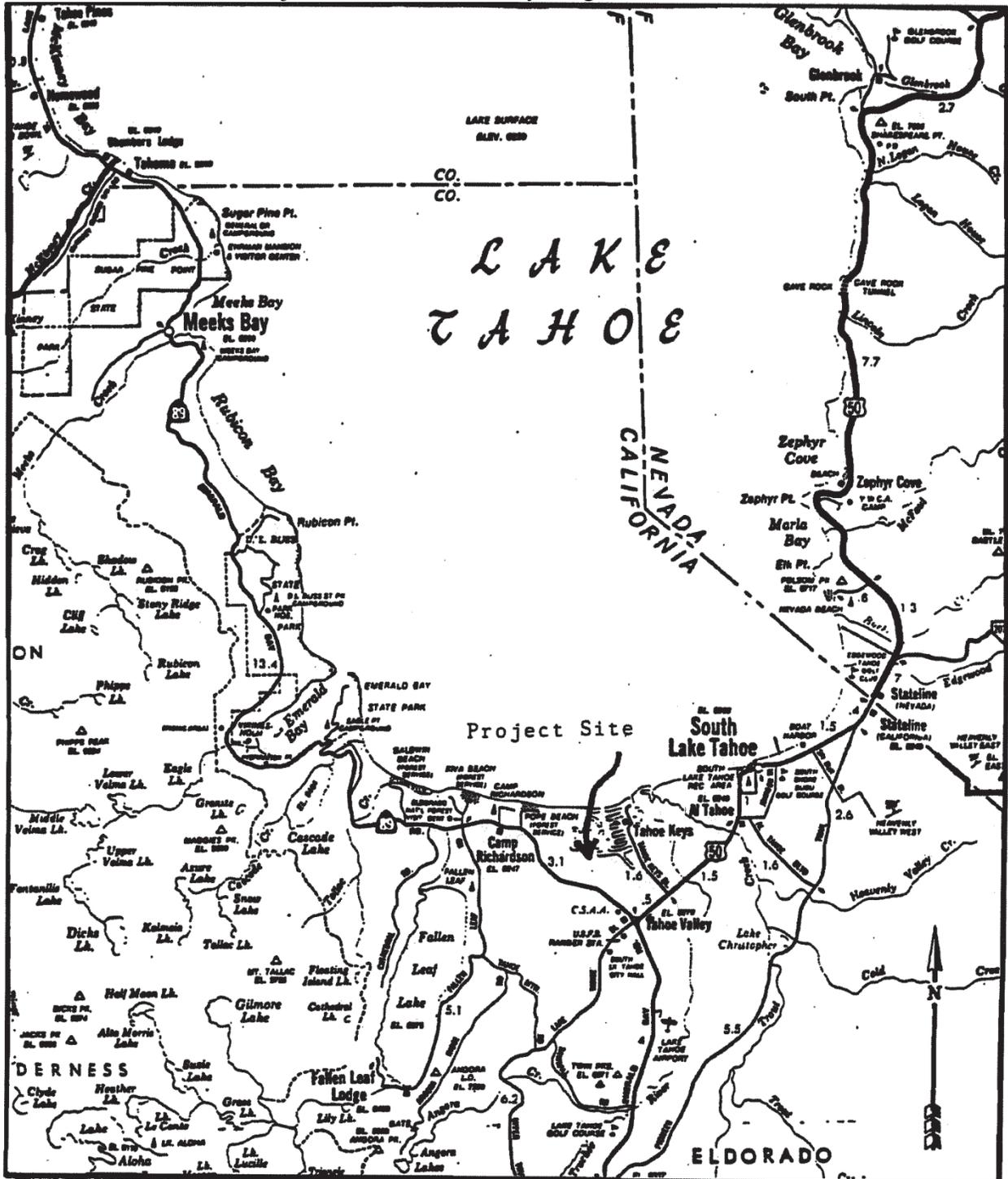
Certification:

I, Patty Z. Kouyoumdjian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on July 16, 2014.

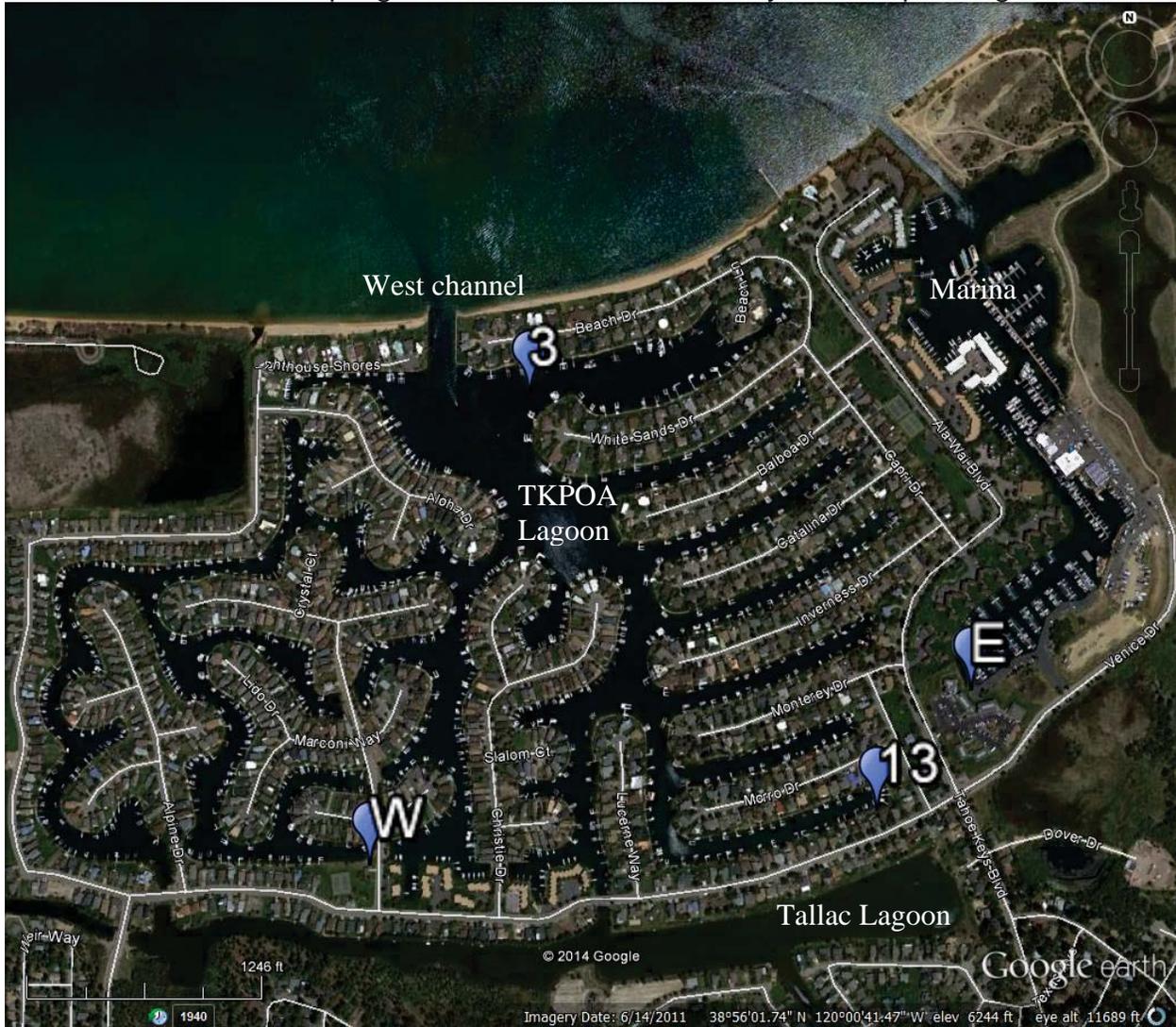
 PATTY Z. KOUYOUMDJIAN
 EXECUTIVE OFFICER

- Attachments:
- A. General Location Map
 - B. Facility Location Map; Intake and Discharge Locations
 - C. Standard Provisions for WDR Permits
 - D. Guidelines for Development of the Non-Point Source Management Plan for Fertilizer and Irrigation of Landscaped Areas
 - E. Best Management Practices for Bottom Barrier Installation for Invasive Weed Control

ATTACHMENT "A"
Project Location Tahoe Keys Lagoon and Marina



ATTACHMENT "B"
TKPOA sampling locations when circulation system is operating.



Legend:

- W - West side TKPOA Lagoon pump station intake
- E - East side Marina pump station intake
- 3 - Discharge point nearest the west channel ingress/egress
- 13 - Discharge point in the TKPOA Lagoon cove furthest from west channel

Attachment C

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LAHONTAN REGION

STANDARD PROVISIONS

FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The Discharger shall permit Regional Board staff:

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

2. Reporting Requirements

- e. Pursuant to California Water Code 13267(b), the Discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.
- f. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board. Any such proposal shall be reported to the Regional Board at least 120 days in advance of implementation. This shall include, but not be limited to, all significant soil disturbances.
- g. The Owners/Discharger of property subject to WDRs shall be considered to have a continuing responsibility for ensuring compliance with applicable WDRs in the operations or use of the owned property. Any change in the ownership and/or operation of property subject to the WDRs shall be reported to the Regional Board. Notification of applicable WDRs shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

- h. If a Discharger becomes aware that any information submitted to the Regional Board is incorrect, the Discharger shall immediately notify the Regional Board, in writing, and correct that information.
- i. Reports required by the WDRs, and other information requested by the Regional Board, must be signed by a duly authorized representative of the Discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation.
- j. If the Discharger becomes aware that their WDRs (or permit) are no longer needed (because the project will not be built or the discharge will cease) the Discharger shall notify the Regional Board in writing and request that their WDRs (or permit) be rescinded.

3. Right to Revise WDRs

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

4. Duty to Comply

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

5. Duty to Mitigate

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

6. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the WDRs. Proper operation and maintenance includes adequate laboratory control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger, when necessary to achieve compliance with the conditions of the WDRs.

7. Waste Discharge Requirement Actions

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

8. Property Rights

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

9. Enforcement

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

10. Availability

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

11. Severability

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

12. Public Access

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

13. Transfers

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

14. Definitions

k. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

1. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

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

TEMPORARY

ATTACHMENT "D"

GUIDELINES FOR DEVELOPMENT OF THE NON-POINT SOURCE MANAGEMENT PLAN FOR FERTILIZER USE AND IRRIGATION OF LANDSCAPED AREAS

A Nonpoint Source Water Quality Management Plan (NPS Plan) must be developed as part of this WDR to minimize the potential for Nonpoint Source pollution. The goal of the plan is to provide a management approach that maximizes good turf characteristics, with high nutrient absorbing capacity, while minimizing potential for transport of contaminants to surface waters and ground waters.

This plan should consider the following items:

- (1) Irrigation Efficiency: Describe for each irrigation station, how a reasonably efficient irrigation system distribution uniformity (DU) is to be achieved and maintained, with a goal of an average system DU of 0.70 or higher.
- (2) Minimize Irrigation Water Leaching: Describe how leaching of percolating waters passing beyond the root zone will be minimized and how that will be evaluated (e.g. Soil moisture measurements, leaching fraction approach or applied water versus evapotranspiration approach, etc.) Goal is less than 10% percolation of applied water through proper irrigation scheduling.
- (3) Chemical storage locations
- (4) List of chemicals used at the Facility (fertilizers, herbicides).
- (5) Copy of the Material Safety Data Sheet (MSDS) or Global Harmonization Sheet (GHS) for each chemical listed.

The NPS plan must consider, at a minimum, the following topics:

FERTILIZER USE

- Timing of application
- Method of application, including setbacks adjacent to surface waters (for example Lake Tahoe golf courses do not broadcast fertilize within 25-50 feet of water).
- Form of fertilizer, including slow release or low- or no-phosphorus ("lake friendly") products
- Frequency of application
- Amount applied per unit area (pounds or kilograms per 1000 square feet or per acre).
- Residual soil nitrate and phosphate (P)^{1, 2}
- Soil nutrient testing to determine appropriate fertilizer application rates²
- Plant tissue testing to give feedback concerning adequacy of fertilizer program

IRRIGATION

- Scheduling (amount and timing) 
- Soil moisture measurement and root zone water holding capacity
- Evapotranspiration rates
- Concentration of water soluble Total Kjeldahl Nitrogen (TKN), nitrate, and water soluble total phosphate in shallow groundwater (<= 10 feet below ground surface).
- Soil compaction / restrictive layers that impede percolation, and proposed amendments to allow greater permeability.

Number: 1 Author: sfriedman Subject: Sticky Note Date: 7/3/2014 3:27:05 PM
Should be required that it is reduced from 5 days a week to every other day.

MONITORING PROGRAM

- **Groundwater**

Consider construction and development of shallow, relatively inexpensive monitoring wells in common areas adjacent to surface water such as at Cove 3C (at least one upgradient and one downgradient monitoring well.) Goal is to assess effectiveness of improved landscape management practices on groundwater quality.

- **Surface Water**

See Monitoring and Reporting Program for requirements.

- **Training**

Type of training that will be given to the people involved in the monitoring program.

-
- 1 Residual soil nitrate is typically determined to a 60 centimeter soil depth using a minimum of 10 subsamples per sample within a given area of interest, though the appropriate field methodology is best determined by a soil scientist based on local conditions—soil series, soil texture, root depth, etc. Total phosphorus may be determined at a minimum of two soil depths to assess potential phosphate breakthrough, particularly important on coarse, sandy soils, such as those commonly found in the Lake Tahoe basin.
 - 2 Inorganic soil nitrogen (ammonium and nitrate) is typically determined from a 2 molar potassium chloride soil extract; extractable phosphate is typically determined as bicarbonate-extractable P on representative soil samples. Harsher extractants for P may be used for more acidic soils. References include the current editions of *Methods of Soil Analysis* and *Soil Testing and Plant Analysis* published by the American Society of Agronomy/Soil Science Society of America/Crop Science Society of America; and the current edition of *Soil Sampling and Methods of Analysis* published by the Canadian Society of Soil Science.

This should be a requirement, not a consideration. How else will you be able to measure the effectiveness of the management measures

ATTACHMENT E

Best Management Practices for Bottom Barrier Installation for Invasive Weeds Control

The following best management practices are required when installing bottom barriers for purposes of controlling invasive weeds (e.g., Eurasian watermilfoil).

Prior to Installation.

1. If the bottom barrier will be anchored by the driving of material (e.g., rebar), prior to installing the bottom barrier, the project proponent must affirmatively document whether there are any subsurface utilities in the area of construction and submit such documentation to the Tahoe Keys Property Owners Association (TKPOA). This can be accomplished by: (1) contacting all utilities (both public and private) that provide service in the area, documenting these contacts and submitting such documentation to the TKPOA; (2) contacting Underground Service Alert, documenting this contact and submitting such documentation to the TKPOA; or, (3) some other equivalent affirmative action to determine whether or not there are any subsurface utilities in the area of construction (i.e., bottom barrier placement) and submitting the results of such action to the TKPOA. The area of construction is defined as any area within the project boundaries where bottom barriers will be placed and anchored by the driving of material (e.g., rebar). If subsurface utilities are located in the project area, the project proponent must implement protective measures during construction to avoid utilities.

Installation.

1. The barrier should be secured to the lake bottom with inert material such as rebar or heavy chain. The use of sand bags to secure the barrier should be avoided to prevent the potential of inadvertently discharging sediment and its associated nutrients to the water column.
2. Placement of the bottom barrier should not impede safe harbor and navigation.
3. If a motorized boat or other equipment is used for transporting, deploying, and/or retrieving the bottom barrier, the project proponent must monitor for chemical leaks, and have an emergency spill kit on hand to use if a leak is detected.

Removal.

1. When removing the barrier, the project proponent must take measures to prevent the introduction or spread of noxious/invasive weeds and animals. After removal from the lake, the barrier should be relocated to an area where the barrier can be washed down over a vegetated area that will capture and contain any runoff water.

 Number: 1 Author: pstone Subject: Highlight Date: 7/7/2014 11:14:23 AM
"Aquatic Invasive Plant Control" or "Aquatic Plant Control"

 Number: 2 Author: pstone Subject: Sticky Note Date: 7/7/2014 11:16:44 AM
"upland vegetated area"

ENCLOSURE 4

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