EXHIBIT H

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VIA E-MAIL AND HAND DELIVERY

Mary Ann Lutz, Board Chair
& Members of the Board
Regional Water Quality Control Board
Attn: Dr. Rebecca Chou, Chief Ground Water Permitting Unit
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: City of Malibu Comments on proposed amendment to the Water Quality Control Plan for the Coastal Watershed of Ventura and Los Angeles Counties (Basin Plan), to prohibit on-site wastewater disposal systems in the Civic Center Area of the City of Malibu

Dear Chair Lutz and Board Members:

I write on behalf of the City of Malibu. The Board staff recommends adoption of a Basin Plan amendment to prohibit onsite wastewater treatment systems (OWTS[1]) in the Civic Center area of the City of Malibu; however, the proposed findings in the draft resolution are contrary to, and not supported by, the available evidence. The record does not establish that OWTS cause degradation of water quality and the Regional Board cannot amend the Basin Plan based on this faulty premise. The proposed findings in the resolution are not supported by substantial evidence and the City will address the deficiencies with each of the proposed findings in turn.

[1] The proposed Basin Plan Amendment uses the nomenclature onsite wastewater disposal systems; however, this nomenclature does not reflect the industry standard and or the treatment of effluent provided by the systems. Therefore, all references to the systems herein will be referred to as onsite wastewater treatment systems. As the City understands the proposed amendment, it covers all types of wastewater systems except zero-discharge systems. If use of the term onsite wastewater disposal systems by the Board staff was intended to exclude certain types of treatments systems from the basin plan amendment, the City requests clarification on the scope of the amendment.

A. Responses to Key Proposed Findings:

Resolution Finding 5. In accordance with the California Water Code, sections 13280 and 13281, Regional Board staff presented technical evidence, in a public hearing on November 5, 2009, demonstrating that discharges of wastewater in the Civic Center area fail to meet water quality objectives established in the Basin Plan and contribute to impairments of existing or potential beneficial uses of water resources. The evidence, as presented in a Technical Staff Report, includes the following conclusions:

i. Dischargers subject to Orders from the Regional Board that specify waste discharge requirements (WDRs) for OWDSs have poor records of compliance. (See Technical Memoranda #1 appended to the technical staff report.)

This finding contains factual errors and makes conclusory statements that are not supported by available evidence. First, the background information inaccurately limits the Board's regulatory authority under the MOU to commercial properties, ignoring the Regional Board's responsibility for systems generating over 20,000 gallons per day, residential developments of more than two homes, multi-family developments, systems disposing of sewage containing industrial waste and systems utilizing aboveground dispersal or effluent storage. More specifically, the discharges identified in Tables 1, 2, 3 and 4 are primarily under the Regional Board's discharge permitting jurisdiction and compliance issues are indicative of a larger communication and enforcement problem with these facilities during the 2004-2008 period. The Regional Board has ramped up enforcement efforts since 2008 and the City has also adopted a comprehensive OWTS program (discussed further in response to Technical Memo No. 5 below). The Basin Plan amendment seems both a drastic and premature measure considering the recent increase in oversight and enforcement by both responsible agencies since the 2004-2008 period. Rather, the City sees this as an opportunity to bring all of the affected and responsible parties to the table to discuss improvements in permitting, reporting, communications and compliance and open the communication lines between all affected parties.

The City also notes a wide variability across the spectrum of dischargers with respect to the number and severity of their violations. The memo discloses that the Board employed "a team of college-level and graduate school-level interns" to review the 224 reports they had received from 2004 to 2008. Since these report violations are being used as data, there are many questions about the review process that need to answered before these "data" can be properly evaluated. For example, what were the criteria upon which a violation was assessed? Why are all violations weighted similarly? There is no delineation in the analysis to separate those who were initially in violation, but who have consistently satisfied the requirements later as they learned how to comply with the Board's requirements.

In addition, in order to try to substantiate this finding, a slew of NOVs were issued on April 24, 2009 to many of the permittees within the oversight of the Board. Unfortunately in the rush to send out the NOVs many of the addresses, names, and types of violations were incorrect and many of the reported violations were for such trivial actions as being a day late on a report submittal. As an example, an NOV was issued to HRL Laboratories for failing to submit 3 reports as long ago as 2002 and for sending in 2 reports late (1 day and 5 days). In its response to the NOVs, HRL indicated it was surprised to learn of these violations and had never been contacted by the Board staff in the 7 years prior to this allegation. However, after researching its records, HRL produced copies of all the reported missing reports, copies of the certified mail that showed all reports were mailed prior to the due date, and also detailed that its WDR permit Order No. 98-013 only required HRL to maintain up to 3 years of records. Fortunately, HRL retained its records longer than required, which enabled HRL to refute the improper allegations. The method of oversight and enforcement demonstrates inadequacies in the operations of the permitting procedures, which make the data an unreliable measure of compliance.

The Memo suggests that this is the first substantive analysis of these reports by the Regional Board. It appears that Board staff may have failed to promptly notify those with delinquent or inadequate submittals; it has been reported that some of the parties listed as non-compliant first learned of it through the release of this Memo. It is the Board's responsibility to enforce its regulations in a timely manner and against those who are in violation. A lack of enforcement should not be mischaracterized as evidentiary support for the proposal. under the proposal, no new users will be permitted within the Civic Center area until the treatment plant is operational. Many of these new permits are redevelopment proposals for existing homes or businesses where existing OWTS will be replaced with advanced wastewater treatment systems that will, in operation, eliminate staff's concerns with older systems. Thus, in some respects the proposal ironically frustrates the solution it purports to seek.

The proposal fails to credit the progress that the City of Malibu has made in the past five years towards complying with prior Board regulations on the OWTS in the City, through a rigorous technical design, analysis, and review of OWTS in the City. All of the currently proposed new commercial systems utilize advanced disinfection and treatment solutions, with nearly complete on-site reuse of the treated water for landscaping or toilet water. This focus on reuse should be rewarded in that it is saving scarce fresh water resources (the Board's mission); however, all existing systems are characterized the same under the proposal.

Similarly with private residence OWTS, the prohibition disregards the City's aggressive program to upgrade residential OWTS. Any remodel activity triggers a requirement to upgrade the OWTS. The purchase of an existing home triggers a mandatory inspection and probable upgrade of the system. Over time, all of the OWTS in the City will be upgraded to the advanced systems.

There has been no new development in the Civic Center area in many years and nearly all recent development involves either the full demolition and reconstruction (some of which were for structures lost in the 2007 fire), or partial remodels of existing homes and businesses. In all of these cases, the volume contribution of the site's wastewater to the entire Civic Center system is essentially unchanged, while the quality of wastewater that will be discharged will either be so completely treated that it is essentially Title 22 quality, or in the case of individual homes, be processed through a new and fully upgraded advanced OWTS. The recharged effluent-water quality will be improved from all upgraded systems, as they are required to meet or exceed the Basin Plan objectives. Until a regional solution is developed, the Board should focus its attention on enforcement and build upon the City's aggressive system upgrade program.

ii. *Discharges of wastewaters released from OWDSs to groundwater contain elevated levels of pathogens and nitrogen that impair underlying groundwater as a potential source of drinking water. (See Technical Memoranda #2 appended to the technical staff report.)*

This finding contains factual errors and makes conclusory statements that are not supported by substantial evidence. In Technical Memorandum No. 2, Board staff erroneously, and without evidentiary support, concludes that OWTS have impaired the underlying groundwater as a potential source of drinking water. In 1960, however, the underlying groundwater was considered unsuitable as drinking water due to the presence of extremely high and increasing concentrations of total dissolved solids (TDS). These elevated TDS levels resulted from salt water intrusion, which was caused by groundwater withdrawal. A recent water quality measurement made during sampling of the deep aquifer located in the area designated for the Prohibition revealed a TDS concentration exceeding the drinking water maximum contaminant level (MCL).

Memo No. 2 also does not address the State Water Resources Control Board's "Sources of Drinking Water Policy" (Resolution 88-63), even though this policy specifically questions whether the TDS and electrical conductivity water quality criteria are satisfied, a question central to whether Malibu Valley groundwater is suitable for municipal use. While the case maybe on appeal, we cannot ignore that a trial court in *City of Arcadia v. State Waster Resources Control Board* found that it is improper to base standards on consideration of *potential* beneficial water uses, and that Water Code Section 13241 requires the Regional Board to consider analysis of only *probable* future beneficial uses of water in the basin planning process. *See* Case No. 06CC02974, Orange County Superior Court Judgment dated March 13, 2008. Staff's analysis of groundwater as a potential drinking water source is not supported by the evidence and does not appear to meet the requirements of Section 13241.

In Memo No. 2, Board staff also inaccurately concludes that there is widespread contamination above Maximum Contaminant Levels (MCL), double counts wells, over-counts total and fecal coliform MCL exceedances, improperly includes ammonia (which has no MCL), and does not take into account that many of the wells for which monitoring results are available are located immediately adjacent to OWTS in areas that would never be considered suitable for the location of drinking water supply wells.

The Board staff purports to have evidence that OWTS in proximity to Malibu's water resources may be among the factors contributing to poor water quality, yet Staff's supporting documentation does not demonstrate such a connection. Page 3 states that "some systems are up to 40 years old and some are operated at a much greater wastewater flow capacity than what they were originally designed for," but does not cite any specific addresses for problematic systems; without support, this statement is conclusory. The technical memo does not take into account significant improvements in water quality that have been realized with advanced OWTS treatment systems, which are now required of most new systems in Malibu and does not consider that there are other potential sources of bacteria in groundwater, such as stormwater, or other potential sources of nitrogen in groundwater, such as fertilizer. Specifically, the memo never acknowledges potential impacts from dischargers upstream or from any animal or other natural sources. In other words, the memo does not include any evidence actually showing that OWTS in the Civic Center area contribute to exceedances of bacteria levels in a probable source of drinking water.

See Attachment for Technical Memo No. 2 documenting additional factual and analytical errors.

iii. *Discharges of wastewaters released from OWDSs to groundwater that is in hydraulic connection with beaches along the mouths of unsewered watersheds transport pathogens that elevate risks of infectious disease for water contact reaction. (See Technical Memoranda #3 appended to the technical staff report.)*

Technical Memo No. 3 contains factual errors, makes conclusory statements and does not adequately demonstrate that discharges of wastewaters released from OWTS to groundwater that is in hydraulic connection with beaches along the mouths of unsewered watersheds transport pathogens that elevate risks of infectious disease for water contact reaction. Technical Memo No. 3 provides no evidence for a relationship between bacteria in groundwater and bacteria in beaches. Stone (2004) concluded that a high risk area for bacteria in groundwater is 6 month time of travel zone (see attached figure from report). Based on scientific evaluation by Stone (2004), the rest of area appears to be years to decades time of travel. No information is provided to refute this conclusion.

In Technical Memo No. 3, the Regional Board fails to make the case that there is a hydraulic connection between the bacterial contamination in the groundwater and the bacterial contamination on the beaches. The major shortcoming of the Board's analysis of a hydraulic connection is the fact that it ignored hydraulics. They did not use published hydrologic data and analyses (ground-water level data, lagoon stage, ocean stage, water level maps, and modeling analyses) that show the capture zone for Malibu Lagoon.

The City has made considerable progress in regulating improvements in the Civic Center (and City-wide) in OWTS in both residential and commercial systems; however, the Board fails to credit any of this progress by using outdated data to justify its position in its statements and charts.

Significant portions of the Technical Memo fail to follow established scientific method and are based on a myopic focus on onsite wastewater treatment systems as the only significant source of bacteria in groundwater and in the watershed. No consideration is given to other sources of bacteria in the groundwater and surface waters, such as upstream sources, stormwater, and wildfowl. Nor has bacterial re-growth been considered.

There is also no consideration of precipitation events, lagoon breaching or other seasonal variations in a wide variety of sources of bacterial contamination in surface waters. The analysis of the data to "prove" a connection is unsubstantiated, misleading and insufficiently documented.

The lack of analysis to demonstrate a connection between a source, transport pathway, and receptor of sewage related disease agents is a major deficiency in Technical Memorandum No. 3. Original data has not been presented to demonstrate the physical connection from a potential source of pathogens (OWTS effluent) to a transport pathway (groundwater flow and discharge to surface water) to an exposure medium where human receptors could be exposed (ocean water). If present, a complete exposure pathway has physical linkages between the source, transport pathway, and exposure medium. A complete exposure pathway was presumed to exist, but not demonstrated through any quantitative pathogen fate and transport analysis. A sanitary survey using tracer techniques should be used as supporting evidence of a viable exposure pathway prerequisite to imposing a prohibition such as this. Attenuation mechanisms for pathogens (e.g., retention, die-off, inactivation, etc.) should be evaluated on a site-specific basis, rather than as simply presented as part of a general discussion of pathogen fate and transport phenomena.

Board Staff bases much of its argument on the faulty premise that bacteria from the OWTS seep into the groundwater, which ultimately seep into the Creek; however, based on recent studies, it is reasonable to draw the opposite conclusion that bacteria in the Creek do not come from the OWTS.

In a 2005 SCCWRP Study[2], no enterovirus or Bacteroides sp. were detected in the samples from the Malibu Creek watershed, indicating that bacteria found in the Malibu Creek is not from a human source. Five additional studies are expected to be completed in coming months and these studies will provide significant information to help guide the City and Regional Board and ensure its actions will improve water quality and protect the public's health.

These studies include:

1. UCLA - Human Specific Bacteriodes Study/Malibu Creek, Lagoon, and Surfrider Beach.
   Preliminary results: This study is finding no human specific bacteria markers during dry weather – which indicates that OWTS may have little to no effect on the cause of the bacteria levels in the groundwater and lagoon. Human specific bacteria markers were found in a few wet weather samples indicating stormwater is a potential source of human bacteria.

2. USGS – Water Resource Study/Malibu Creek, Lagoon, and Surfrider Beach
   Preliminary results: Presence of fecal indicator bacteria along coastline appear to be unrelated to onsite wastewater treatment systems.

3. SCCWRP (Southern California Coastal Water Research Project) – Epidemiology Study/Surfrider Beach

4. Stone Environmental - Groundwater Modeling Study/Malibu Civic Center
   This study was required by the RWQCB at a cost to the City of $350k. It is prudent to wait for completion before implementing prohibition and new mandates.

5. SCWRRP - Malibu Source ID Study/Ramirez and Escondido Creeks
   Preliminary results: 3-year study that has not identified any significant wastewater sources for bacteria contribution.

The staff recommendation does not account for these scientific studies that will provide evidence on the impacts of OWTS and instead, relies on unsubstantiated assumptions. The Board should place the proposed prohibition on hold until it has all the information to be certain it achieves the goals we all share: protecting the public's health and improving water quality.

See Attachment for Technical Memo No. 3 documenting additional factual and analytical errors.

[2] Multi-Tiered Approach Using Quantitative Polymerase Chain Reaction For Tracking Sources of Fecal Pollution to Santa Monica Bay, California, February 2005 SCCWRP.

iv. *Discharges of wastewaters released from OWDSs to groundwater that is in hydraulic connection with Malibu Lagoon transport a nitrogen load significantly in excess of the wasteload allocation in the TMDL established to restore water quality to a level sufficient to protect aquatic life and prevent nuisance resulting form eutrophication. (See Technical Memoranda #4 appended to the technical staff report.)*

Technical Memo No. 4 contains factual errors, makes conclusory statements and does not adequately demonstrate that discharges of wastewaters released from OWTS to groundwater that is in hydraulic connection with Malibu Lagoon transport a nitrogen load significantly in excess of the wasteload allocation in the TMDL. The information in the memo does not support a need for a prohibition on OWTS in the Civic Center area and the finding based on this memo is not supported by substantial evidence.

This Technical Memo does not demonstrate that nitrogen from OWTS is a significant source of impairment to Aquatic Life. In fact, aquatic life is only mentioned four times in the document: in the title (two times), in the purpose, and in the conclusion. This significant oversight of substantive analysis indicates a lack of objectivity in the analysis. As in Technical Memos #2 and #3, a fundamental shortcoming of the analysis is that it ignores published hydrologic data and analyses (ground-water level data, lagoon stage, ocean stage, water level maps, and modeling analyses) that show the capture zone for Malibu Lagoon. Arbitrary assumptions were made to distribute nitrogen loads across the landscape without regard to existing detailed analyses of loading. Areas that do not provide groundwater flow to Malibu Lagoon are arbitrarily included in staff's assessment of the contribution of nitrogen to the Lagoon. The analysis did not consider loading of nitrogen from atmospheric sources, fertilizer, nutrient cycling, and sources up Malibu Creek, as documented by Heal the Bay, and in the Nutrient TMDL for the Malibu Creek Watershed. The memo does not show that a balanced scientific review was conducted by the Board staff in this myopic evaluation of OWTS nitrogen loading to justify the Basin Plan amendment.

The major shortcoming of the analysis is that the it ignores published hydrologic data and analyses (ground-water level data, lagoon stage, ocean stage, water level maps, and modeling analyses) that show the capture zone for Malibu Lagoon. Several examples of relevant documentation that was not considered by staff are included in Appendix 4-1:

- Malibu Downtown Area Well Location Map, prepared by Earth Consultants International in 2008
- Malibu Downtown Area Historical Hydrographs 1998-2008, prepared by Stone Environmental, McDonald Morrissey Associates, and Earth Consultants International in 2008 (updated with water table elevations measured through the end of 2008)

- Map 5: Water Levels Measured on September 25, 2003—Unbreached Lagoon (from Stone Environmental Inc. 2004)
- Map 6: Water Levels Measured on March 9, 2004—Breached Lagoon (from Stone Environmental Inc. 2004)

The proper scientific method was also not followed in the analysis. Proper scientific method to establish a direct relationship between a potential source of contamination (nitrogen from OWTS) and resulting impacts on the ecology in the lagoon would include establishing a hypothesis, such as: nitrogen from OWTS is a significant source of nitrogen in the lagoon and affects aquatic life in the lagoon. Then a series of analyses needs to be conducted to adequately confirm the cause and effect stated in the hypothesis, and also rule out other potential causes. Staff did not undertake either of these analyses.

Instead, the Board staff uses as models for its analysis, data and trends from the Stone (2004), Questa (2005), and Tetra Tech (2003) reports, then applied its own conservative approach, resulting in substantially higher values across the board. The memo does not consider whether the assumptions in those reports were themselves unduly conservative, whether those assumptions are still valid, or how the City's aggressive and successful efforts are improving both wastewater treatment and surface runoff systems. To take these prior models and then assume even greater levels of conservatism is an inaccurate analytical approach and these assumptions should be better justified as they form basis for the entire report's conclusion.

See Attachment for Technical Memo No. 4 documenting additional factual and analytical errors.

v. *Wastewater flows in the Civic Center area have been increasing. On many sites, hydrogeologic conditions are unsuitable for high flows of wastewater, and many dischargers generate wastewater flows at rates that exceed their capacity to discharge onsite. These dischargers rely on pumping significant flows into tanker trucks that haul liquid sewage and sludge via public roadways to communities that have sewer and wastewater treatment facilities. (See Technical Memoranda #5 appended to the technical staff report.)*

Technical Memo No. 5 contains factual errors, makes conclusory statements and does not adequately demonstrate that wastewater flows in the Civic Center area have been increasing. The information in the memo does not support a need for a prohibition on OWTS in the Civic Center area and the finding based on this memo is not supported by available evidence.

The Technical Memorandum No. 5 primarily addresses the hauling of liquid sewage and sludge and not effluent from the OWTS. Sludge must be pumped on a regular basis in order to properly maintain the systems and the Regional Board staff does not differentiate between the pumping of sludge for maintenance and the pumping of effluent. In addition, the Board staff does not provide specifics, such as the systems/addresses where frequent pumping occurs nor does it acknowledge that one system/property in the Civic Center has been doing so since 2004 under a TSO issued by the Regional Board.

The memo inaccurately refers to "intensive land use activity in the Malibu Civic Center area." Malibu has the most restrictive land use codes in Los Angeles County. The proposed prohibition area (referred to in the Resolution as the Civic Center area) encompasses 1410 acres and approx. 90% of the land is open space, undeveloped, or landscaped. Within the Civic Center of Malibu, there has been no new commercial development of vacant land in 18 years. Further, on page T5-1 and continuing on page T5-2 staff states that, "[m]any of the seepage pits and leach fields in the area have been in use for decades and can no longer serve their purpose." Staff's statement is conclusory and is not supported by evidence or data citing problematic pits and leach fields or showing how these systems "no longer serve their purpose."

Staff refers to "hydrogeologic constraints, such as the lack of suitable surface area for new leach fields." This is untrue and contrary to the fact that the Regional Board staff and Los Angeles County Department of Public Health have permitted septic systems based upon geotechnical and hydrogeologic data as recently as this year. Similarly, Page T5-2, Paragraph 1, Section 1 refers to "extremely limited vertical separation between leach field disposal sites and the groundwater table." This is untrue and unsubstantiated. The Regional Board staff permitted 20 commercial sites and all of the large commercial sites including permits in 2008 and 09, and staff established that there was sufficient separation to warrant issuing the permits. It appears that staff is trying to demonstrate that the permits that were legally and properly obtained from the Board were done so in error and should be rescinded.

Notably, staff incorrectly asserts that waste flows for the dischargers in the prohibition area have increased 15% ...from 2004 – 2008 and that "[w]astewater flow volumes have been steadily increasing in the City of Malibu as shown in Figure 1"; however, water use in the region has remained steady and tends to only fluctuate based upon rainfall and fires. The City estimates that the population has been growing at only one percent per year (approximately), and that limited growth rate does not support the allegation the wastewater flows have increased as high as 15% over 4 years. Board staff should rely on actual water use data, such as Malibu Civic Center water use data provided by LA Co. Waterworks District No. 29, to more accurately determine an increase in wastewater flows. In fact, Los Angeles Water District 29 reported that the City has reduced our water usage in the last month by nearly 20%.

On page T5-3, staff alleges that, "Cross Creek Plaza was responsible for more combined hauling than any other discharger from 2004-2007" (combined total of 6.56 million gallons of septic waste hauled off site); however, this does not account for the hauling that was required during the construction and testing of the advanced OWTS currently in place at the Cross Creek Plaza site and the data presented is artificially high and does not represent the norm. The Board staff admits there has been "very little hauling since October 2007." Construction on the Cross Creek Plaza Advanced Wastewater Treatment System started on November 20th, 2006 and construction and testing of the system was continuous until March 24th, 2008 when Operating Permit 08024 was issued by the City. Pumping of the system was a necessity during the period of time between 11/20/06 and 04/24/2008 due to the construction and testing of that system. The inference that Cross Creek Plaza was responsible for more combined hauling than any other discharger during this period is both misleading, and unfair to the property owner who went to considerable length and expense to meet the requirements of both the Regional Board and the City of Malibu. The significant reduction in hauling since October 2007 indicates that that the advanced system is performing adequately.

Staff's wastewater calculation is arbitrary and not based on the evidence. Page T5-3, Paragraph 2, Section 2 states that the "Regional Board staff determined there were 349 residential homes in the study area." Regional Board staff relies upon the residential properties "in the study area" in the Stone Environmental Risk Assessment Study; however, the prohibition area differs from the boundaries of the Risk Assessment area includes more homes. It is unclear to which geographic area staff is referring. Additionally, Board staff "determined" that based on the number of bedrooms in each house and multiplying that number by 100 gallons per day ("an accepted assumption of waste discharge from homes"), it is estimated that 126,300 gallons of wastewater per day are discharged. This is a faulty conclusion that does not accurately reflect the occupancy characteristics of the area because many homes in the Malibu Colony area and along Malibu Road are occupied only a seasonal or part-time basis.

The assumption on Page T5-3, Paragraph 3, Section 3 that 95% of the water used within the facility goes to the OWTS is merely an assumption not supported by factual evidence and can not be used as an indicator to determine increased wastewater flows. The assumptions on Page T5-4, Paragraph 1, Section, Figure 1 are erroneous because much of estimated annual waste flows and hauling volumes for the 4th quarter was based upon 3rd quarter data (summertime flows). 4th quarter flows are historically much less than summer months. See assumptions from Appendix A.

The discussion of "Spills in the Study Area" on page T5-9, Section 7 is misleading because a majority of the cited incidents occurred outside the Risk Assessment area. In the last thirty-two months there were forty-two spills reported. Most spills that occurred fell under the Regional Board's jurisdiction at Paradise Cove. Out of forty-two spills, it was reported that only

a total of 280 gal went to a drain or river. Of those, 130 gal were outside the City jurisdiction and the 150 gal inside the City jurisdiction fell under the careful watch of the RWQCB at Paradise Cove as part of their upgrade to their sewer system. Therefore, there were 0 gallons that spilled into a creek or drain from our City that was due to a septic failure or overflow.

Pages T5-21 and T5-22 of Appendix C of the report purport to represent the L.A. County Department of Public Health Sewage Discharge Incident Reports for Malibu. The data submitted actually indicates that Malibu's Wastewater Management Program is highly effective and that the OWTS systems under the City's purview are not contributing to the degradation of surface waters. The dates of the reported incidents cover a three year period from August 19, 2006 through March 2, 2009 and indicate forty-two reported incidents during that period. Twenty-three of the forty-two reported incidents occurred at the Paradise Cove Mobile Home Park Facility, a facility under the purview of the Regional Board. City of Malibu code enforcement staff responded to many of these incidents and noted that in several cases the issue was not a failure of the OWTS, but simply a blocked drain line or some other type of plumbing issue from an individual unit. The data presented by the Regional Board is anecdotal and not based on accurate data collection.

With further examination of the forty-two surfacing events provided by the staff, there were a total of nineteen reported incidents not associated with the Paradise Cove Mobile Home Park, ten did not occur in the City of Malibu or the address could not be confirmed. Of the nine incidents over the three-year period that did occur in the City of Malibu, only four of those took place in the Civic Center area. From the four Civic Center incidents, a "reported" (these are very rough estimates) 400 gallons were discharged, all of which were contained and none of which reached a storm drain or the Creek. In the five other incidents in the City of Malibu, two were reported at the County Zuma Beach Facility, both of which were contained, and the remaining three incidents were minor events, all contained. The incidents reported on January 13, 2009 and September 8, 2008 on Malibu Canyon Road (no address) appear to result from damage to elements of the disposal system for Pepperdine University (not in the City of Malibu). The treated effluent from the University's centralized treatment facility is piped to the Las Virgenes centralized treatment plant. The surfacing event on September 8, 2008 on Malibu Road of a reported 10,000 gallons points out the potential hazards of a sewage pipeline to or from a centralized treatment plant, as when events occur they tend to be on a larger scale. It should be noted that the L.A. County Public Health report referenced by Regional Board staff indicates that none of the 10,000 gallons entered a drain or river (Creek). This was most likely due to prompt action by the responding agencies and Pepperdine University staff.

Also, Appendix C includes two spills at locations that are entirely outside of City limits. Both Castlerock & Wavecrest and 3917 Spray Lane are located east of Topanga Canyon. These should be removed from the list and Pg. 9 should be revised to reflect this change.

Due to the extremely low reported spills that actually reached a drain or creek, it is easy to conclude that a decentralized system (individual OWTS) is actually far better for the water environment than a centralized system that has a very real potential to produce large spills that actually reach the ocean. As another example, it has been reported that 10,000 gallons of raw sewage entered the ocean at Will Rogers Beach in recent months.

Starting on page T5-6 of the "Septic Pumping and Hauling Regulations" report, Board staff explains that it conducted a "drive through type of inspection" on June 16, 2009, and their observations are documented in the inspection report included as Appendix B; however, the investigation results do not indicate an increase in wastewater flows. First, staff states that they chose the Malibu Colony Plaza as their destination, which has actually been under the purview of the Regional Board's NOV and TSO for several years and is not indicative of any lapses in the City's regulatory competence. Page T5-17 includes a photograph of an Ely Jr. pumping unit, a licensed operator, and a member of the City's Wastewater Advisory Board; but, the summary of staff's investigation does not demonstrate an increase in wastewater flows because the operator was pumping a grease trap, not a septic tank. Under the photo of the unit on page T5-18, Regional Board staff comments that, "noise levels required raising your voice significantly for conversation" and that "there was a strong stench of raw sewage." These comments are not related any water quality or wastewater issues associated with the observed pumping activity because all grease traps need to be pumped regularly, regardless of whether the business is connected to a septic system, package plant, or centralized system. Notably, staff commented under the photos on page T5-18 that no spills or leaks were observed and no spills or leaks were reported on Page T5-19 either. On page T5-20, staff reports seeing three vehicles belonging to McDermott Plumbing "apparently pumping residential septic tanks; however, "[i]t was unclear whether these trucks were performing routine sludge removal or pumping due to septic tank capacity problems" and thus, the summary of the investigation is not demonstrative of any capacity problems.

Section 6, pages T5-7 – T5-9, references a Carbon Footprint Analysis, which appears to be both loosely analyzed and irrelevant to a determination of increased wastewater flows nor does it have any relationship to water quality and the proposed prohibition. Additionally, the true number of trips per day by septic haulers would be negligible compared to the tens of thousands of trips per day by vehicles that go through Malibu on P.C.H., Malibu Canyon Road, and Kanan Dume Road. The analysis by Regional Board staff also does not take into account the "carbon footprint" of the Malibu Civic Center Wastewater Treatment Facility when built and operational, or compare the two carbon footprints.

Resolution Finding 6. A peer review was conducted pursuant to California Health and Safety Code section 57004.

With respect to the Peer Review, the City questions the basis for the statements in each peer review memo regarding the sound scientific method used. Without a consideration or analysis into other potential causes of the elevated nitrogen or bacteria in groundwater, surface water, and surfzone, the scientific evidence to support the Basin Plan Amendment is incomplete at best.

The City also requests full access to all the peer review memos and an opportunity to submit comments in writing before the Regional Board considers the proposed Basin Plan amendment. This finding 6 is not supported by substantial evidence in the record in that all of the memos were not made available to the public prior to the October 8, 2009 deadline for submittal of written comments to the Board and the City and the Board cannot base its decision on documents that are outside the record for the public hearing that is required under Water Code section 13244.

Resolution Finding 7. No authorized public agency has offered satisfactory assurance that the discharge systems are appropriately designed, located, sized, spaced, constructed, and maintained, such that they are adequate to protect the quality of water for beneficial uses in the Malibu Civic Center area, pursuant to California Water Code section 13282.

Malibu objects to this finding and contends that the City's comprehensive wastewater management program adequately protects the water for beneficial uses. The Board staff has not sufficiently demonstrated that the existing systems are inadequately designed and to the contrary, the City has implemented a comprehensive regulatory scheme to ensure that the systems do not impair water quality standards. Before the Board considers staff's recommendation, Malibu requests the opportunity to provide satisfactory assurances that the systems it is responsible for are appropriately designed, located, sized, spaced, constructed and maintained, as required under Water Code Section 13282.

Under the Memorandum of Understanding with the Regional Water Quality Control Board[3], the City is responsible for permitting OWTS for single family homes and small commercial development, except restaurants. As a Qualified Local Agency, the City has diligently carried out the terms of the MOU by reviewing and enforcing the siting, permitting, construction, inspection, monitoring, and performance requirements for nearly 1500 residential and small commercial onsite wastewater treatment systems in all areas of Malibu, including all

[3] The MOU memorializes an agreement reached several years ago under which the City assumed responsibility for permitting OWTS for single family homes and small commercial development, except restaurants. The Regional Water Quality Control Board retains permitting responsibility for systems that generate over 20,000 gallons per day, residential developments of more than two homes, multi-family developments, commercial facilities that generate over 2,000 gallons per day, systems that dispose of sewage containing industrial waste and systems proposed to utilize aboveground dispersal or storage of effluent.

new, replaced, repaired and upgraded systems. The City has the equivalent of three full-time staff members dedicated to performing these duties and the City Manager estimates that the City spends approximately $500,000 - $750,000 annually to carry out the requirements of the MOU.

The City has completed or made significant progress on each of the seven specific programs it agreed to implement under the MOU (set out in Section VI of the MOU concerning "Interim Measures"). Building on the programs from the MOU, the City has adopted and implemented a comprehensive regulatory scheme governing OWTS citywide. These procedures ensure that new and existing systems are functioning at the highest levels of performance corresponding to the systems' design intent. The wastewater management programs administered by the City protect public health and safety, and the environment, and ensure that the City safely and effectively regulates the dispersal of treated effluent in a manageable and sustainable manner. A short summary of the status of each program follows:

Malibu Ordinance No. 321: On March 10, 2008, the City of Malibu adopted Ordinance 321, establishing the Operating Permit Program for OWTS citywide. The program assists property owners in OWTS management by establishing consistent requirements for assuring appropriate operation and maintenance of the systems and safe and effective wastewater treatment and dispersal.

All new development, which includes the installation of a new OWTS, requires an Operating Permit (OP). Properties with existing OWTS must apply for and obtain an OP when a proposal to repair, alter, modify, replace, renovate, or relocate the existing OWTS, including the alteration, modification, remodel, or repair of an existing structure involving the addition of any new plumbing fixtures or results in any increase in the load to the existing OWTS.

Under the OP process, the existing OWTS must undergo a thorough and comprehensive inspection conducted by a City of Malibu Registered Inspector certified by a nationally recognized training entity, currently the National Association of Wastewater Transporters (NAWT).

Ordinance 321 requires specific uses within the City to apply for and obtain an Operating Permit on or before specific dates due to the intensity of use and the potential strength of the effluent created by the specific occupancy. These timeframes for obtaining Operating Permit are as follows:

- Restaurants: On or before April 9, 2009
- All Commercial Properties: On or before April 9, 2009
- Multifamily/Condominiums: On or before April 9, 2010

Ordinance 321 also contains a "Point of Sale" component whereby the owners of real property served by an existing OWTS must obtain an OP prior to the transfer of title of the property. The system must pass a thorough and comprehensive inspection to be eligible for an OP and systems that fail inspection must be repaired, modified, or replaced as appropriate. To facilitate the transfer of title, the OWTS owner may sign a binding Compliance Agreement with City outlining the corrective actions to be completed and the timeframes in which such remedial action may be accomplished. The Point of Sale and Operating Permit programs have resulted in improved tracking, and repairing and upgrading the existing OWTS within the City.

Implementation of Ordinance 321 will provide ongoing assurance that all new and existing OWTS are operating in a safe and healthy manner and that any OWTS that are not functioning properly are immediately identified and repaired or replaced. Failure to operate and maintain an OWTS in strict conformance with the standards and policies of the City of Malibu are grounds for revocation of the Operating Permit and a violation of the Malibu Municipal Code.

Local Coastal Program: Chapter 18 of the Local Coastal Program is the primary regulatory framework for the installation, use and long-term maintenance of OWTS in the City. The intent of the LCP is to protect coastal waters within the City, accomplished through strict regulations governing the design, siting, installation, operation, maintenance, and sustainability of all OWTS in the City. A Coastal Development Permit (CDP) is required for the installation of all new OWTS, the expansion, modification or change in the type or intensity of use of an existing OWTS. During the CDP review process, the system is assessed for compliance with all applicable regulations, including the Regional Board's current requirements. Chapter 18 of the LCP requires submittal of extensive documentation to assure the system is being operated in a safe, proper manner, reviewed by Registered Civil Engineers, Certified Engineering Geologists, Professional Geologists, and Registered Environmental Health Specialists,. The City of Malibu's policies require OWTS contractors to posses a valid State of California Class A Engineering license, or a valid Class C42 Septic Installer License. These rigorous requirements provide additional assurance the systems are installed and maintained to the highest standards possible.

The California Plumbing Code, Appendix K – Private Sewage Disposal Systems: The City has adopted this section of the California Plumbing Code, which can be found at Malibu Municipal Code Chapter 15.12 and also regulates the design, siting, installation, and maintenance of OWTS's in Malibu. The Plumbing Code establishes general regulations for when an OWTS may be used, where it may be located and means to protect both the system and the environment, and creates minimum standards for the capacity and construction of OWTS. The Plumbing Code also describes acceptable materials for use in the construction of OWTS components and installation of the system, as well as details the methodology of installation and acceptable tolerances for all components of the systems. In conjunction with the strict

requirements of LCP Chapter 18, the Plumbing Code provides a strong foundation for the design, siting, installation, operations, and maintenance of the OWTS.

Guidelines and Policies: The City of Malibu has established guidelines and policies to compliment the requirements of LCP Chapter 18, the California Plumbing Code, and Ordinance 321. These policies prescribe the specific requirements necessary for the review and installation of all OWTS to assure conformance with all applicable State, County, and City of Malibu regulations. The City has worked diligently and collaboratively with other agencies in this effort, including the State Water Quality Control Board, the Los Angeles Regional Water Quality Control Board, the Department of Health Services, Los Angeles County Department of Health, the City of Malibu's Wastewater Advisory Committee, among other responsible entities.

Integrated Wastewater Information Management System (IWIMS): Completed with a $667,000 Clean Beach Initiative grant, the web-based program is in use and is essential in the management of the Operating Permit Program, the Point-of-Sale Program, and implementation of the Malibu Wastewater Management Program. Two full-time staff positions have been created for data input and management of this system.

Malibu Lagoon and Beaches Bacterial Contributory Areas: The City requires that most new, renovated, modified, or replaced OWTSs provide a minimum secondary treatment with disinfection (City-defined tertiary treatment), including properties adjacent to the Malibu Lagoon and ocean. The City also works closely with Regional Board staff to implement Waste Discharge Requirement (WDR) permits for all new, renovated, modified, or replaced commercial, restaurant and multifamily OWTSs requiring the issuance of a WDR to assure compliance.

Malibu Lagoon Nitrogen Contributory Areas: Similar to the Malibu Lagoon and Beaches Bacterial Contributory Areas, the City works with Board staff to achieve compliance with water quality criteria through the plan review process. Additionally, the nitrogen limits for Malibu Lagoon and Malibu Creek were adopted by the United States Environmental Protection Agency (EPA) in March 2003.

Water Resource Management: The City has adopted provisions in the Malibu Plumbing Code to require the use of low-flow fixtures when plumbing fixtures are newly installed or replaced. The City, through the Public Works Department, is also implementing conservation programs for the reduction of water consumption. The City also works with the West Basin Municipal Water District to ensure that Malibu commercial properties are taking advantage of rebates to replace high water use fixtures. Since 2005, the Civic Center commercial area reduced water use by nearly 2,000,000 gallons per year, reducing inputs to the groundwater table. Additionally, the City is also investigating programs for rainwater harvesting and use, gray water

use, and subsurface irrigation of wastewater for landscaping. The City has met with State representatives and personnel from the State Water Quality Control Board and the Department of Public Health to discuss how to promote these initiatives, including water quality.

OWTS Information Manuals: These informational brochures are produced and mailed out to all property owners in the City. The brochure has been well received and many OWTS designers include this brochure in their homeowner information packets.

The City's General Plan, the comprehensive, long-term plan for development with which all land use decisions must be consistent, finds that as long as a high level of supervision of design and maintenance of these systems is maintained, septic systems are not expected to significantly impact the quality of the groundwater resource (Warshall & Williams, 1992). See City of Malibu General Plan Section 3.3.3. The City has increased its regulatory oversight and implemented an inspection, retrofit and point-of-sale program that ensures the appropriately designed, located, sized, spaced, constructed, and maintained.

Resolution Finding 8. Pursuant to the California Water Code, section 13283, the State Water Resources Control Board (State Board) shall include a preliminary review of possible alternatives necessary to achieve protection of water quality and present and future beneficial uses of water, and prevention of nuisance, pollution, and contamination, including, but not limited to, community collection and waste disposal systems which utilize subsurface disposal, and convention treatment systems. The Regional Board has conducted a preliminary review of possible alternatives, as documented in the staff report.

The Board's staff analysis of possible alternatives does not meet the requirements of Water Code Section 13283. A more detailed discussion on staff's alternatives analysis can be found below in the response to Finding 9.

Resolution Finding 9. The basin planning process has been certified as functionally equivalent to the California Environmental Quality Act (CEQA), including preparation of an initial study, negative declaration, and environmental impact report (14 CCR, section 15251(g)). As this amendment is part of the basin planning process, staff has prepared an Environmental Staff Report, which is considered a substitute to an initial study, negative declaration, and/or environmental impact report. This Environmental Staff Report satisfies the substantive requirements of the California Code of Regulations, title 23, section 3777(a), and includes a project description, environmental checklist, reasonable alternatives, and mitigation measures.

Additionally, the Regional Board staff has not adequately analyzed the environmental impacts of the Basin Plan amendment and reliance on this deficient environmental assessment

would violate the requirements of the California Environmental Quality Act (CEQA) and the California Water Code.

While CEQA's EIR requirement does not apply to actions specifically authorized by a certified regulatory program, the preparation of the required functionally equivalent document is still subject to the broad policy goals and substantive standards of CEQA. An environmental document offered as a substitute for an EIR pursuant to a certified regulatory program must include alternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment, and a document offered as a substitute negative declaration must include a statement that the agency's review of the project showed that the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment. The statement must be supported by a checklist or other documentation to show the possible effect that the agency examined in reaching its conclusion. 14 CCR § 15252. The Regional Board may not approve a proposed activity if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the proposed activity may have on the environment. Pub. Res. Code § 21080.5(d)(2)(B); 23 CCR § 3780. The Environmental Staff Report (hereinafter "Checklist" or "Report") offered by the Board staff in support of its Basin Plan amendment is legally inadequate in several respects and fails to provide the Board and the public with any meaningful information upon which to base a conclusion about the potential environmental effects of the proposed project.

1. General Comments on the Environmental Staff Report.

Five-Year Schedule for Compliance Projects. The entire analysis is predicated on a five-year time schedule for implementation for one of three so-called "options for compliance." The five-year assumption appears dubious at best. Not only does the schedule appear to underestimate the time necessary for the design, planning, CEQA review, and construction phases, it does not account at all for the significant amount of time that will be required to plan and secure a financing mechanism of any of the "compliance projects." In addition, the schedule does not account for the possibility of litigation—a reasonably foreseeable eventuality given the controversial nature of the proposed project and the complex nature of the CEQA review that would be required for any of the "compliance projects" outlined in the Report.

Statement of Overriding Considerations. The Report contains a brief section entitled "Statement of Overriding Considerations and Determination." The Statement consists only of conclusions and offers no evidentiary basis for those conclusions whatsoever. CEQA

unambiguously requires a statement of overriding considerations to be supported by substantial evidence in the record. 14 CCR § 15093(b). In any event, as analyzed in greater detail below, because of the many contradictions between the Checklist and the accompanying discussion in the Report, it is unclear what exactly the anticipated unavoidable significant environmental impacts are.

Unavoidable Significant Adverse Impacts. The section of the Report entitled "Unavoidable Significant Adverse Impacts" inexplicably appears to be discussing a different project. The proposed project does not involve a TMDL. This section appears to be lifted from a completely unrelated report (e.g., "Section 6 of this SED identifies the anticipated environmental effects for each resource area...."). Finally, in spite of the section heading, the conclusion appears to be that there are no unavoidable significant adverse impacts anticipated. This is but one of several examples throughout the Report that evidences the complete lack of a good-faith effort at full disclosure.

Redundancy. A large section of the Report commencing with a section entitled "Other Environmental Considerations" on page 19 and ending on page 24 is repeated verbatim on pages 43 through 48. These redundant sections include the sections discussed above, patent errors and all, once again evidencing the lack of serious effort made to evaluate the environmental impacts of the proposed project.

2. The Environmental Staff Report and Checklist Fail To Adequately Analyze Potential Environmental Impacts and Identify Mitigation Measures.

Although the Environmental Staff Report acknowledges that the project will effectively require one of three very significant, large-scale projects to be undertaken—the construction of "integrated facilities," an "interceptor sewer," or "decentralized facilities" (referred to in the Report as "options for compliance projects")—there is no meaningful analysis whatsoever of the potential environmental impacts of any of the three enumerated "compliance projects." In order to be of any value to the decisionmakers and to the public, the Report and Checklist must analyze all reasonably foreseeable environmental impacts of the project proposal. Rather than providing a meaningful analysis of the potential environmental consequences of the "compliance projects" that the Basin Plan Amendment will effectively require, the Report and Checklist instead repeatedly cite to section 13360 of the Water Code and conclude that, because the Board may not mandate a specific manner of compliance (that is, it may not force the City to choose among the three potential compliance options), it is somehow relieved of its obligation to analyze the reasonably foreseeable environmental impacts of its action. The Board's staff is mistaken. CEQA unambiguously requires the Board to analyze reasonably foreseeable environmental impacts of the reasonably foreseeable methods of compliance. PRC § 21159(a)(1). Ironically,

the Board's staff acknowledges this obligation outright (Environmental Staff Report at p. 5), yet fails to make any serious effort to meet it. The deferral of the requisite environmental analysis is not consistent with the Board's duty to disclose to the public and the decisionmakers the potential impacts and feasible mitigation measures associated with the proposed project.

Furthermore, although the Checklist concludes that a large number of environmental impacts will be "less than significant with mitigation incorporated," it fails to identify a single mitigation measure.[4] When mitigation measures are required, they must include specific feasible actions that will actually minimize or avoid potential impacts and reduce them to less than significant levels.

As detailed below, the Checklist identifies and contemplates several potentially significant environmental impacts but provides no meaningful information as to the nature of the anticipated impacts or how they may be mitigated. In addition, the Checklist fails to mention a host of foreseeable, and potentially significant, environmental impacts that may result from the proposed project. These shortcomings evidence a failure to provide the good-faith effort at full disclosure required by CEQA and render the Report/Checklist useless as an informational document.

3. The Environmental Checklist and Discussion Fails to Meet Minimum Legal Requirements.

Global Comments: The Environmental Checklist and accompanying discussion consist entirely of unsubstantiated conclusions without any evidentiary support. Not a single source is cited for any of the factual determinations made or conclusions reached. Consequently, none of the findings is supported by any evidence at all, let alone substantial evidence. Consequently, the Report raises more questions than it answers and utterly fails to provide any meaningful data or analysis necessary for informed decisionmaking. The lack of reasoned analysis and

[4] Oddly, the Report proclaims that "[w]hen the CEQA analysis identifies a potentially significant environmental impact, the accompanying analysis identifies reasonably foreseeable feasible mitigation measures." Yet, not a single mitigation measure is identified. Instead, the Report relies on vague and unsubstantiated conclusions while purporting to shift the burden of identifying mitigation measures to other agencies. (E.g., "The implementation of this prohibition...may result in short-term localized significant adverse impacts to the environment as a [sic] large construction projects may be undertaken in the vicinity of the area. These impacts are generally expected to be limited, short-term or may be mitigated through careful design and scheduling." Report at p. 24.) Because the "options for compliance projects" are reasonably foreseeable at the present time, and because the RWQCB will retain WDR permitting jurisdiction over the treatment facilities associated with any of the "compliance projects," the Board cannot rely on another agency to identify feasible mitigation measures or alternatives at a later date. 14 CCR § 15091(c).

supporting data evidences that no good-faith effort has been made to analyze the potential environmental effects of this very large-scale project. Even though the proposed project effectively commits the City to a course of action (which the Report narrows down to three possible "options for compliance projects"), no effort is made to analyze any of the reasonably foreseeable environmental effects of any of those potential projects. Instead, any meaningful analysis is consistently deferred to a later stage and made the responsibility of another agency. The consistent deferral of any meaningful analysis, in spite of the fact that several impacts are reasonably foreseeable at this stage, frustrates CEQA's fundamental purpose and completely forecloses the opportunity for the Board or the public to make an informed, independent and reasoned judgment on the merits of the proposed project.

1. Earth. a.: Each of the "compliance projects" mentioned in the Report requires tens of thousands of feet of pipe to transport untreated wastewater to the point of treatment and tens of thousands of feet of pipe to distribute the treated and recycled wastewater product, yet there is no meaningful information or analysis provided regarding the relationship between the anticipated "compliance projects" and the geological hazards present in the area. A pipe rupture related to the geological instability may result in significant adverse environmental impacts. The potential for a significant environmental impact is implicitly recognized (the "less than significant with mitigation incorporated" box is checked), yet the discussion simply concludes without explanation or evidence that any potentially significant impacts can be effectively dealt with and mitigated to a level of insignificance at the "project level." This deferred analysis and mitigation fails to satisfy CEQA's mandate and does not provide the decisionmaker with the information necessary to make an informed decision about the project. What is the nature of the potential impacts of the project as relates to unstable earth conditions or changes in geologic substructures? What is the evidentiary basis for the conclusions set forth? What exactly are the mitigation measures that will lessen the potential impacts to degree of insignificance?

1. Earth. b.: What is (are) the mitigation measure(s) that will lessen the impact to degree of insignificance?

1. Earth. c.: The explanation concludes that the infrastructure for the compliance projects "could be of the size or scale that minimizes impact to topography and relief." What is the evidentiary basis for this conclusion?

1. Earth. e.: What is the evidentiary basis for this conclusion and what degree of temporary impacts are expected? What is (are) the mitigation measure(s) that will lessen the impact to a level of insignificance?

1. Earth. f.: The discussion contemplates unspecified mitigation measures, yet the table indicates a less than significant impact without the need for mitigation. Which is it? If mitigation measures are required, exactly what are they? What is the evidentiary basis for concluding that the mitigation measures will reduce the potential impacts to a level of insignificance?

1. Earth. g.: Each of the "compliance projects" mentioned in the Report requires tens of thousands of feet of pipe to transport untreated wastewater to the point of treatment and tens of thousands of feet of pipe to distribute the treated and recycled wastewater product yet there is no meaningful information or analysis provided regarding the relationship between the anticipated compliance projects and the geological hazards present in the area. A pipe rupture as a result of earthquake, landslide, mudslide, ground failure or similar hazard could result in significant adverse environmental impacts. This warrants meaningful analysis. Some places in the project area may be subject to liquefaction as well. The potential for a significant environmental impact is implicitly recognized (the "less than significant with mitigation incorporated" box is checked), yet the discussion simply concludes without explanation or evidence that any potentially significant impacts can be effectively deal with and mitigated to a level of insignificance at the "project level." This deferred analysis and mitigation fails to satisfy CEQA's mandate and does not provide the decisionmaker with the information necessary to make an informed decision about the project. What are the nature of the potential impacts of the project as relates to geological hazards? What is the evidentiary basis for the conclusions set forth? What exactly are the mitigation measures that will lessen the potential impacts to degree of insignificance?

2. Air. a.: The discussion only mentions construction emissions. No attempt is made at quantifying emissions, yet the discussion concludes without any evidentiary basis that the emissions can be mitigated to a level of insignificance. Even the unsupported conclusion is unsure ("[w]ith mitigation measures, these emissions *should be* within the South Coast Air Quality Management District's construction significance thresholds." (Emphasis added.)) The discussion does not indicate what the emissions thresholds are or what level of emissions can be anticipated from the project. The discussion also fails to acknowledge the reasonably foreseeable possibility that one of the "compliance projects" may not be online by the end of the five year period, thereby leaving existing dischargers with no choice but to arrange for daily hauling until such time as a "compliance project" comes online. Daily hauling from every existing discharger in the Civic Center would result in increased emissions, in addition to other potentially significant impacts, and the possibility of this impact is not anticipated. Also, construction of any of the "compliance projects" will foreseeably result in traffic congestion during installation of the requisite piping. The additional impact of idling cars is not anticipated or analyzed in any way. The analysis needs to be expanded to include a meaningful discussion of all reasonably foreseeable impacts to air quality. And, the discussion needs to identify the

evidentiary basis for any conclusions set forth. Finally, the discussion must identify the mitigation measures that will lessen the potential impacts to degree of insignificance.

2. Air. b.: The Checklist indicates that the impact with respect to objectionable odors will be less than significant with mitigation, yet no mitigation measures are identified. What is the evidentiary basis for the conclusion? What exactly are the mitigation measures that will ensure no significant impact from any of the three foreseeable methods of compliance? There is no discussion of the odors associated with the construction phase of any compliance project or with the abandonment and excavation of existing septic systems once a "compliance project" comes online. What types of impacts can be expected from these reasonably foreseeable consequences of the project and can they be mitigated to a level of insignificance? If so, how? What is the evidentiary basis for the conclusion?

3. Water. e.: The presumed maximum flow of 300,000 gpd is understated because it does not account for all of the many undeveloped properties in the project area that will be required to tie into any of the "compliance projects" once developed. Only half of one sentence is devoted to identifying and analyzing the potential impacts of the proposed project with respect to discharges into surface waters and that sentence concludes by deferring any meaningful analysis until one of the three potential "compliance projects" is chosen by the local agency ("The potential for such impacts, such as increased turbidity and sediment in runoff from construction sites, would be evaluated during planning and design at the project level.") Report at p. 29. The discussion also fails to identify any potential sites for the disposal of treated effluent. However, the discussion does anticipate that an ocean outfall may be required and, yet, does not even begin to analyze or disclose the potential environmental impacts of discharging treated wastewater into the ocean. Rather, the discussion simply concludes without citation to any evidence whatsoever, that "[w]ith proper design and operation of treatment facilities and outfall equipment such as diffusers and temperature controls, an ocean outfall discharge *should meet* water quality objectives, including temperature and turbidity." *Id.* (Emphasis added.) Then, in keeping with the balance of the Report, the discussion defers all meaningful environmental analysis to a later stage. The analysis fails to consider any of the reasonably foreseeable impacts of the project on surface waters, fails to provide any evidence for the conclusions reached, and fails to identify any mitigation measures that will ensure impacts will be less than significant.

3. Water. f.: The Checklist indicates that potentially significant impacts can be expected yet there is no analysis of the impacts whatsoever and no discussion of any mitigation measures that might be implemented to alleviate or reduce those impacts. What exactly are the impacts? What is the evidentiary basis for the conclusion? What mitigation measures are available to reduce or minimize the potentially significant impacts?

3. Water. g.: The Checklist indicates that potentially significant impacts can be expected yet there is no analysis of the impacts whatsoever and no discussion of any mitigation measures that might be implemented to alleviate or reduce those impacts. What exactly are the impacts? What is the evidentiary basis for the conclusion? What mitigation measures are available to reduce or minimize the potentially significant impacts?

3. Water. g.: Without any evidentiary basis indicated whatsoever, the Checklist and discussion indicate that no impacts are anticipated. This necessarily assumes, among other things, that all infrastructure necessary for any of the "compliance projects" would be located outside of the flood plain. What is the evidentiary basis for that apparent assumption? Considering it is reasonably foreseeable that some of the necessary infrastructure may have to be located within a flood plain, what type of impacts can be expected to result? What mitigation measures might be available to reduce or minimize those impacts?

6. Noise. a.: The Checklist concludes that the increase in existing noise levels will be less than significant with mitigation, yet there is no evidence to support that conclusion. The discussion simply states that "[w]hen specific projects are developed, measures should be identified to ensure that noise is kept to levels that comply with any noise standard or ordinance." However, it is reasonably foreseeable at this time that any sewer lines installed in areas like Malibu Colony or along Malibu Road or Pacific Coast Highway would be located immediately adjacent to residences. These sensitive receptors could be significantly impacted by the noise associated with construction—especially those along PCH considering sections 7a and 13a of the Checklist actually suggests that construction along PCH be conducted at night. Given that fact that any of the three enumerated "options for compliance projects" would require the installation of tens of thousands of feet of piping through residential areas, what is the evidentiary basis for concluding that noise impacts will be less than significant with mitigation? What exactly are the mitigation measures that will be implemented to assure less than significant impacts?

6. Noise. b.: See comment on 6.Noise.a above.

7. Light and Glare. a.: The statement in the first sentence evidences the lack of effort apparent throughout the document. If the mitigation measures are reasonably foreseeable, how is it that it remains unknown whether any of them involve lighting? How is that a valid assumption? If such impacts are "not likely," how is it that the Checklist can conclude that the impacts will be less than significant? The very next sentence contemplates that night work will be required to alleviate some of the traffic impacts. The night work will certainly involve significant lighting immediately adjacent to residences. The third sentence recognizes there will be impacts, yet defers analysis of those impacts until a specific project is formulated. If the

analysis is deferred, how is it that the Checklist can conclude the impacts will be less than significant? Given that fact that any of the three enumerated "options for compliance projects" would require the installation of tens of thousands of feet of piping through residential areas, and given the fact that night work is both anticipated and encouraged, what is the evidentiary basis for concluding that light and glare impacts will be less than significant? Given the foreseeability of such impacts at this stage, why is the entire analysis being deferred in violation of CEQA?

8. Land Use. a.: The checked box indicates that there will be potentially significant impacts with respect to land use, yet the discussion concludes, without evidence or analysis, that "[s]ewer lines for all three compliance projects will not have impacts on land use, zoning, or the physical arrangement of the community." Which is it? Furthermore, the analysis does not consider the potential impacts to land use that may result if one of the "compliance project" options is not online by the end of the five-year period. If commercial centers are forced to shut down as a result of the prohibition, what effect will this have on land use?

10. Risk of Upset. a.: This section fails to analyze the potential impacts of a sewer line rupture occurring as a result of an accident, pipe failure, earthquake, landslide, or other cause. This section also fails to analyze the potential for accidental release of hazardous materials when old onsite wastewater treatment systems are abandoned and excavated as a result of the proposed project. Furthermore, although the Checklist indicates a less than significant impact, the discussion contemplates a "hazardous materials management program." What is this program exactly and why is it not considered a mitigation measure? *See also* comment 1.Earth.g above.

11. Population. a.: This section is wholly deficient in a number of ways. First, the current requirement for onsite treatment and disposal of wastewater acts as a constraint on development. *See* Malibu General Plan sections 3.3.3 and 7.3.3.1. Removal of that constraint through any one of the three contemplated methods of compliance will certainly foster new development and, consequently, a corresponding growth in population. There is no analysis or discussion of this foreseeable impact whatsoever. Second, the Report fails to analyze the effect of the prohibition on development projects that have valid planning approvals but have not yet been constructed. How will those projects be dealt with under the proposed prohibition and how will this affect the growth rate in the project area? Third, the discussion (and, indeed, the entire Report) anticipates that the "compliance projects" will be sized to replace existing OWDS flows only. If any future development in the project area will need to tie into any "compliance project" eventually constructed, why would the capacity of the new system be assumed to be equal to the existing flow rate from the existing development? There is a significant amount of undeveloped property in the project area. Where does the Board anticipate that those properties will dispose of their wastewater once developed if the capacity of the anticipated "compliance project" will be designed to not accommodate them? Development of the currently undeveloped properties in

the project area should be anticipated in a manner consistent with the City's Local Coastal Program and General Plan. This is clearly foreseeable at this stage and the failure to provide a good-faith analysis of foreseeable impacts violates CEQA and precludes informed decisionmaking.

12. Housing. a.: The discussion fails to acknowledge that the current requirement for onsite treatment and disposal of wastewater acts as a constraint on development. *See* Malibu General Plan sections 3.3.3 and 7.3.3.1. Removal of that constraint through any one of the three contemplated methods of compliance may foster the development of currently undeveloped parcels in the project area and, consequently, affect the existing housing supply. There is no analysis or discussion of this foreseeable impact whatsoever. In addition, the discussion fails to acknowledge that without the need for leachfields in the future, beachfront parcels will be less constrained and there will be more area available on each beachfront lot for development. Since there is no maximum square footage restriction on beachfront parcels, the proposed project would foreseeably result in larger beachfront homes and additions to many existing beachfront homes once the leachfield areas are no longer necessary. The failure to anticipate these reasonably foreseeable consequences of the proposed project renders the analysis inadequate.

13. Transportation/Circulation. a.: The discussion neglects to mention that all three of the "options for compliance projects" would require laying tens of thousands of feet of pipe in the public right of way. Installing pipelines along PCH, Malibu Road and other roadways will require lane closures. The analysis fails to account for the potentially significant traffic impacts associated with lane closures, especially on PCH which the Report acknowledges is the most heavily traveled highway in the area and an important regional link. The analysis also fails to account for employees/maintenance personnel at the treatment plants and the associated vehicle trips during the operations phase. Furthermore, the terse discussion fails to meaningfully answer these fundamental questions: What level of impact is anticipated? How has it been quantified? What thresholds of significance were used? What exactly are the mitigation measures proposed and how will they reduce the impact to a level of insignificance?

13. Transportation/Circulation. b.: This section concludes that project impacts on parking will be less than significant with mitigation yet fails to identify any mitigation measures, instead deferring identification of mitigation measures for a "project level" review. Without identifying the level of potential impacts, and without identifying any mitigation measures, how can the Report meaningfully conclude that any potential impacts will be mitigated to a level of insignificance? What is the evidentiary basis for the conclusion reached?

13. Transportation/Circulation. c.: *See* comment on section 13.a. above. Also, the Report assumes that one of the "compliance projects" will be completed and online within 5

years. No effort is made to examine the potentially significant environmental consequences that would result if the City is unable meet this aggressive timeline. If a treatment plant, or a transport system to an existing treatment plant, is not online within 5 years, what traffic impacts will result when the prohibition kicks in for existing systems and all of them are required to haul away wastewater on a daily basis? What if the end of the 5 year period overlaps with ongoing construction efforts and occurs at a time when lanes are closed on critical roadways? What effect will the substantial additional truck traffic have under those circumstances?

The Checklist indicates that the anticipated impacts will be less than significant, yet the discussion concludes, without citation to any evidence, that the Interceptor Sewer project "would have significant impacts on vehicle traffic on the Pacific Coast Highway." Which is it? If the impacts are significant, or potentially significant, what is the evidentiary basis for that conclusion? What exactly are the types of impacts that can be expected and when? Why are the impacts not quantified? Are there any mitigation measures to reduce or alleviate these impacts? Why does the discussion imply that only the Interceptor Sewer project would significantly impact PCH when both of the other options would also require significant trenching and piping along PCH and other constrained roadways?

13. Transportation/Circulation. d.: Without even so much as an attempt at analysis, this section concludes that there will be no impacts to present patters of circulation or movement of people and/or goods. Cleary, the closure of lanes of traffic along PCH, Malibu Road, Malibu Colony Road, Civic Center Way and other important thoroughfares will alter patterns of circulation. If a lane closure is required on a two-lane roadway (e.g., Malibu Road), that will leave only one lane to accommodate two directions of traffic. Given the foreseeability of the need for lane closures, the no impact conclusion lacks credibility and evidentiary foundation.

13. Transportation/Circulation. f.: This section concludes that project impacts with respect to increased traffic hazards to motor vehicles, bicyclists and pedestrians will be less than significant with mitigation yet fails to identify any mitigation measures, instead deferring identification of mitigation measures to a "project level" review. Without identifying the level of potential impacts, and without identifying any mitigation measures, how can the Report meaningfully conclude that any potential impacts will be mitigated to a level of insignificance? What is the evidentiary basis for the conclusion reached? *See* comment on section 13.a. above.

14. Public Service. d.: The Checklist indicates that the impact on parks or other recreational facilities will be potentially significant. The discussion does not endeavor to explain the nature of these potentially significant impacts other than to say that Legacy Park is a possible site for a centralized integrated wastewater treatment facility. However, Legacy Park design is complete and entitled and it will not include a wastewater treatment facility. The Legacy Park

site will, however, have a large stormwater treatment component. On what basis does the Report conclude that the project will have a potentially significant impact on parks or other recreational facilities?

14. Public Service. e.: This section of the Report concludes that the elimination of tanker truck trips will result in lower road maintenance. This is a dubious contention given the small volume of truck trips in relation to overall traffic volume. However, if accepted as true, it necessarily means that the converse is also true—that is, that more tanker truck trips will require more road maintenance. If a "compliance project" is not online within 5 years, the number of tanker truck trips will increase dramatically overnight when all properties will be forced to haul away wastewater on a daily basis. Yet, this foreseeable impact is not analyzed at all.

16. Utilities and Service Systems. d.: The Checklist concludes that the project will have a potentially significant impact on sewer or septic tanks. While the conclusion is logical, there is no supporting analysis or evidence whatsoever. What is the evidentiary basis for the conclusion? What mitigation measures might be employed to minimize these impacts? Why does the Report fail to analyze the potential impacts associated with the abandonment and removal of old septic systems which will presumably be required once a "compliance project" comes online? What are these potential impacts and can they be mitigated to some degree?

16. Utilities and Service Systems. f.: The discussion does not mention where the solid waste generated by a wastewater treatment plant (or multiple plants) will be hauled to. The discussion only mentions soil and materials from the construction phase. The discussion does not account for the abandonment and removal of old septic tanks from properties in the project area. Where will they go? Can some components be recycled? Furthermore, although analysis of the potential impacts is deferred to a later stage, somehow the Report concludes that the impacts are "expected to be less than significant." If no analysis has yet been done, on what evidence is that conclusion based?

17. Human Health. a.: There is a potential for a wastewater treatment plant to be located in the immediate vicinity of residences, yet the potential impact to neighboring residences is not discussed. Similarly, although tens of thousands of feet of piping are anticipated, there is no discussion of the potential health hazards that could result from a rupture along the pipelines. A rupture, whether it be the result of a materials failure, earthquake, landslide, or accident, is a reasonably foreseeable occurrence. What potential health hazards could result? Are there any components that can be designed into a treatment/piping system that could sense a rupture and cease the flow of hazardous materials? What types of mitigation measures are available at the design, construction and implementation phases that could help minimize the potential for impacts to the public health resulting from rupture or temporary system failure?

17. Human Health. b.: *See* comment 17.a. above.

20. Archaeological/Historical. a.: The discussion fails to account for the fact that a significant portion of the area adjacent to Malibu Lagoon has been identified as an archaeological site. What are the potential impacts of the project on these resources?

21. Mandatory Findings of Significance.: This Checkbox indicates potentially significant impacts with respect to the potential for the project to degrade the environment, yet there is no accompanying analysis or explanation whatsoever. What is the evidentiary basis for the conclusion? Are there any feasible mitigation measures that can be employed to minimize or avoid the unidentified significant impacts? Similarly, the conclusions with respect to cumulative impacts and substantial adverse effects on human beings are dubious. No supporting discussion whatsoever is included to explain the conclusion that there will be less than significant impacts in these areas. The complete absence of any information, evidence, or analysis flies in the face of CEQA's mandate and precludes informed decisionmaking.

4. The Cumulative Impact Analysis is Wholly Inadequate.

The cumulative impacts discussion on pages 43 and 44 of the Report fails to comply with CEQA. There is no mention of the methodology used as the basis for the analysis. CEQA unambiguously requires one of two methodologies to be employed as the basis for an adequate cumulative impact analysis—the list of projects method or the summary of projections method. 14 CCR § 15130(b)(1). Neither method was utilized here, rendering the entire analysis inadequate. Furthermore, none of the other elements necessary to an adequate discussion of significant cumulative impacts is present. *Id.*

5. The Growth-Inducing Impacts Analysis is Deficient.

Although the Report acknowledges that inadequate wastewater treatment capacity is a constraint on development and, therefore, an existing obstacle to growth (Report at p. 46), the Report completely fails to consider the potential effect of removing that significant existing constraint on development. *See* Malibu General Plan sections 3.3.3 and 7.3.3.1. Removal of that constraint through any one of the three contemplated methods of compliance may foster the development of currently undeveloped parcels in the project area and, consequently, induce population and housing growth in and around the project area. The CEQA Guidelines

themselves recognize the removal of this type of constraint as a potentially significant, growth-inducing action. ("Included in this area are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas).) 14 CCR § 15126.2(d).

6. The Report Fails to Analyze a Reasonable Range of Project Alternatives.

The Report must include a reasonable range of alternatives that can feasibly accomplish most of the basic objectives of the project while avoiding or substantially lessening one or more of the significant effects.[5] 14 CCR § 15126.6(b). The Report must also include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. 14 CCR § 15126.6(d).

Other than the obligatory "No Project" alternative, the Report fails to identify and analyze a single meaningful alternative. The so-called "Program Alternative 1—Local Government Initiative" is simply a restatement of the proposed project itself—a ban on OWDSs followed by one of the three "options for compliance projects" enumerated in the description of the proposed project. *Compare* Report at pp. 11-12 *with* pp. 6-10. No alternative to a complete ban on OWDSs is analyzed. For that reason alone, the document is legally inadequate. 14 CCR § 15252; 23 CCR § 3777.

B. Other Considerations

Costs of Compliance

Water Code Section 13240 mandates that the Regional Water Quality Control Board consult with and consider the recommendations of any affected local agency in the basin planning process and the City of Malibu recommends that the Board reject staff's proposal. The realities of this prohibition would likely require infrastructure costing double staff's estimates to construct and currently, staff has identified no funding mechanisms. Water Code section 13241[6] requires a consideration of economic considerations and staff's unsubstantiated cost estimates do not appear to be an adequate analysis of the economic ramifications of the proposal.

[5] Ironically, as detailed elsewhere in this letter, there is no substantial evidence to support the assumption that the proposed project itself will even accomplish the project objective (referred to as the "goal of the proposed action" on page 6 of the Report).

[6] The City specifically addresses probable beneficial uses and economic considerations herein; however, there is not sufficient evidence in the record to support the finding that any of the 13241 factors have been adequately considered.

Water Code Section 13291.5 requires the Board to assist private landowners with the cost of completion of these projects and to loan money in certain circumstances, yet the Regional Board staff has not proposed, or even considered funding assistance for the compliance measures. While the City recognizes section 13360 prevents the Board from specifying a manner of compliance, the reality is that affected residents, property owners and local agencies are significantly restricted in feasible methods of treating and/or removing wastewater from the Civic Center area and staff's recommended compliance options would cost tens of millions of dollars involve jurisdictional and engineering constraints that have not been adequately examined through this process (see response to Finding 9 above).

The City's experts have estimated the cost of providing centralized wastewater treatment, disposal, and effluent recycling to the affected area, not including land purchase costs. These costs have been estimated at a conceptual level, based on costs developed to provide centralized wastewater management to Civic Center 'High Priority Areas' identified in the 2004 Risk Assessment of Decentralized Wastewater Management in High Priority Areas in the City of Malibu. The previously developed costs have been modified to incorporate the following impacts:

- Average daily flows from the proposed prohibition area would be on the order of 610,000 gallons per day versus the 400,000 gallons per day associated with the Civic Center area.

- The aerial extent of the sewer collection system area would be approximately 2.5 times greater than previously contemplated for centralized treatment in the Civic Center area.

- Previously estimated unit construction costs have been reduced by 25 percent to reflect the current economic and bidding climate.

Based on the above, the capital costs of providing centralized wastewater management to the proposed prohibition area are summarized in the following table. These costs include planning, design, construction, construction management, administration and legal fees. Land purchase costs are not included.

Wastewater Component	Capital Cost, $millions
Treatment Plant	20
Sewer Collection System	17

Recycle Distribution	7
Percolation Area	8
Total	$52

The treatment plant costs assume nitrification/denitrification to approximately 8mg/l, and do not include phosphorus removal. If percolation area cannot be obtained, an outfall or deep well injections would be needed, which could increase these costs further. Given the cost of environmental and permitting studies associated with an outfall, and assuming that the outfall would be at least 5,000 feet long to have its plume in deep water beyond all recreational swimming, surfing, and diving, an outfall could increase the above costs by $2 or $3 million, or more.

The estimated annual operations and maintenance costs of this system would be approximately $1.6 million per year including power, chemicals, repair/replacement, insurance, and staffing by certified operators.

The monthly cost of this project would be on the order of $420,000 ($5.0 million per year) assuming a capital cost of $52 million, annual costs of $1.6 million, and a 20 year SRF loan at 2.7 percent. Assuming a longer loan period (30 years) would not lower the monthly costs. A longer loan period would require using municipal bond financing, which would have a higher interest rate of approximately 4.5 percent. The annual bond payment would be approximately equal to the annual SRF loan payment. Assuming that the proposed Prohibition Zone would have approximately 400 to 450 Equivalent Dwelling Units, the above costs would result in monthly payments on the order of **$1000 per month** per Equivalent Dwelling Unit.

This is just one example of analysis for proposed compliance options and the cost is prohibitively high.

Additionally, the Regional Board staff relies on the fact that a similar ban was adopted in the Oxnard Forebay[7] area in the City of Oxnard and analogizes that ban to the proposed prohibition in the Civic Center area; however, the area of Oxnard impacted by the ban differs significantly from the Civic Center area of Malibu. The City of Oxnard and the County of Ventura already operate a sewer system in close proximity to the prohibition area and the compliance methods in that case merely required property owners to connect to an existing sewer system, at a reported one-time cost of approximately $3500 per parcel, compared to the system described above that would cost property owners approximately $1000/month ($240,000 per parcel) to construct and operate. The two scenarios are far from analogous and the Oxnard

[7] Staff's proposed resolution refers to a prohibition on septic systems in the Oxford Forebay area; however, the 1999 ban was actually adopted in the Oxnard Forebay area in Ventura County.

Forebay prohibition should not be used as an example of an analogous prohibition. In addition, the Oxnard Forebay groundwater is an active groundwater recharge system that supplies drinking water to residents in Ventura County.

The City asks that the Board and all affected property owners and agencies have the opportunity to collaborate to identify realistic costs of compliance before taking any action to permanently ban OWTS through the entire Civic Center area.

Civic Center Boundaries

The City is also not aware of any justification for the proposed boundaries that staff identifies as the Civic Center area. If the goal of the Basin Plan amendment is to reduce nitrogen, the boundaries of the Risk Assessment study area establish the actual groundwater flow area into Malibu Creek. Even if the goal of the prohibition is to reduce bacteria, staff does not explain how the arbitrary boundary lines correspond to that goal.

Change in Course of Action

Lastly, in the 2004 Memorandum of Understanding, the Regional Board agreed to partner with the City of Malibu to use a decentralized wastewater management approach for the Civic Center area. The proposed Basin Plan Amendment represents a drastic change in course with no apparent changed conditions or new information to justify it. The City of Malibu has also been anticipating the State Water Resources Control Board's adoption of state-wide regulations for onsite wastewater systems pursuant to AB 885. A technical approach to onsite wastewater management for properties adjacent to water bodies impaired by bacteria and nitrogen was put forth by the State Board, but the Board staff has determined that the statewide approach should exclude the Malibu Civic Center area without any real scientific justification.

The Malibu Creek nutrient and bacteria TMDLs specify that the wasteload allocation of septic systems will be implemented through Regional Board's issuance of WDR permits to individual discharges. A prohibition on OWTS was not indicated as necessary to achieve compliance with the TMDL requirements. In fact, the bacteria TMDL report adopted by EPA Region 9 states, "[r]esidential septic systems were not targeted for load reductions by the Regional Board since many of them are dispersed in rural areas. The residential septic systems in Malibu Colony produce about 1% of the bacterial loads produced by the commercial septic systems, so they are not targeted for reductions by the Regional Board."

An excerpt from the nutrient TMDL report states that the "EPA anticipates that the WLAs developed for these TMDLs will be established as WDR permit limits for the individual septic systems. The actual implementation date on the WLAs will depend on implementation

schedules established by the Regional Board." An excerpt from the bacteria TMDL report makes the same representation.

Regional Board staff is critical of the City of Malibu for not requiring groundwater monitoring or effluent monitoring at permitted facilities; however, many of the WDRs issued by Regional Board staff to commercial dischargers in the Malibu area waive any type of groundwater monitoring requirement.

Since the Regional Board has not undertaken all of its OWTS obligations under the MOU and the State Board has not yet implemented statewide regulations or standards for the permitting and operation of OWTS per AB 885, the prohibition shifts a disproportionate amount of the burden away from the agencies primarily responsible for responsible wastewater functions (the State and Regional Boards) onto the property owners and the City of Malibu. Before moving forward with the prohibition, the Board should consider what actions in the existing permitting/regulatory process can be initiated and improved, such as issuance of WDRs and increased enforcement.

In conclusion, Malibu strongly urges the Board to reject staff's proposal. The Basin Plan is designed to preserve and enhance water quality. The proposed findings in the draft resolution are contrary to, and not supported by, the available evidence and without scientific evidence demonstrating that the OWTS contribute to impairments of existing or probable beneficial uses. Consequently, there is no evidentiary basis for a Board action to prohibit OWTS in the Civic Center area. The analysis does not take into account for the fact that improvements in technology now allow new individual systems to treat wastewater to the same level of quality as a centralized system. Further, the Board cannot adopt a monumental change in the existing wastewater program that would require significant development activities in the City's environmentally sensitive habitat without a substantive environmental review, as required under state law. The City's successful implementation of OWTS programs do adequately protects water quality and provides valuable information and experience that can be used to develop further programs. Should the Board wish to draw on the City's experiences with OWTS in the Civic Center area specifically, the City is eager to engage in a cooperative solution to any perceived issues in that geographic area.

Very truly yours,

Lauren Feldman

Lauren Feldman
Assistant City Attorney, City of Malibu
Christi Hogin
City Attorney, City of Malibu

Enclosures:

Attachment No. 2 plus maps and other data
Attachment No. 3 plus maps and other data
Attachment No. 4 plus maps and other data

cc: Tracy J. Egoscue, Executive Officer

ATTACHMENT 2

City of Malibu

Point-by-point comments for Technical Memo No. 2.

Document Reference			Comment
Section	Page	Para-graph	
Overall			The major shortcoming of the analysis done by the LARWQCB is the fact that it ignores published hydrologic data and analyses (ground-water level data, lagoon stage, ocean stage, water level maps, and modeling analyses) that show the capture zone for Malibu Lagoon. Several examples of relevant documentation that was not considered in the LARWQCB's analysis are included in Appendix 2-1: • Malibu Downtown Area Well Location Map, prepared by Earth Consultants International in 2008 • Malibu Downtown Area Historical Hydrographs 1998-2008, prepared by Stone Environmental, McDonald Morrissey Associates, and Earth Consultants International in 2008 (updated with water table elevations measured through the end of 2008) • Map 5: Water Levels Measured on September 25, 2003—Unbreached Lagoon (from Stone Environmental Inc. 2004) • Map 6: Water Levels Measured on March 9, 2004—Breached Lagoon (from Stone Environmental Inc. 2004)
3	T2-3	2	**Background** There is no mention of the number of upgrades of, and replacement of, many of these systems that have occurred since the City of Malibu was founded in 1991, and since the earliest monitoring data presented in this memo (2002). According to City of Malibu records, 43 OWTS in the prohibition area have advanced treatment prior to dispersal into the soil (see table in Appendix 2-1 titled *Advanced Treatment OWDS in the Malibu Civic Center Area*, for some of the commercial advanced treatment systems).
3	T2-3	2	This Memo is intended to support the Board's proposed OWTS prohibition by showing that the Civic Center area groundwater is non-compliant with existing water quality regulations within a potential drinking water aquifer. The inference is that OWTS are the sole causative factor in the degradation of the water quality, and no other alternative causes are evaluated. Also not evaluated, or even commented upon, was whether the Civic Center aquifer was ever within current water quality compliance requirements during the time it was used as a water resource by the community.

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3	T2-3	2	The Memo does not differentiate between the two aquifers in the Civic Center area. The unconfined groundwater in the upper geologic material is where the majority of data has been collected, while the more permeable lower aquifer is where the historic water supply production was located. From this Technical Memorandum, it cannot be determined if the lower aquifer is similar to the upper material as being non-compliant with current water quality requirements. If it is non-compliant (due to unacceptable chemistry), it is unlikely to be due to the Civic Center OWTSs because they are well above this confined aquifer. Water quality test results from a well drilled to 100 feet below land surface during a recent hydrogeologic investigation in the Civic Center Area are included in the table titled *Summary of Aqueous Analytical Results for General Minerals, Cross Creek Civic Center Malibu, CA* (Appendix 2-1). A map showing the location of the deep well from which the sample was taken is also included in Appendix 2-1. These results, from the deeper, semi-confined aquifer, show high levels of total dissolved solids (1,430 mg/l) and concentrations of common inorganic ions that exceed levels recommended in the National Drinking Water Secondary Standards.
4	T2-3/4		**Section 4 Methods & Procedures**: The need to maintain the aquifer below Malibu Civic Center at Drinking Water Quality is contradicted by historic water quality before Los Angeles County Water District #29 piped in drinking water to the area in the mid-1960s. According to *Title 17 California Code of Regulations Related to Drinking Water, Table 64449-B (Secondary Maximum Contaminant Levels (MCL) "Consumer Acceptance Contaminant Level Ranges")*, the Maximum Contaminant Level for Total Dissolved Solids (TDS) is 1000 mg/L. This TDS MCL was exceeded by 2 to 10 times in 1960 for the former water supply wells # 5 and #7 serving the Malibu Water Company (see the figure titled *Total Dissolved Solids Lower Malibu Wells Trend Line Graph, Malibu Water Co., prepared by Pomeroy & Assoc. March 1961*, in Appendix 2-1). The increasing concentrations of TDS in these well indicates that saltwater intrusion was increasing over time. The inclusion of ammonia in the determination of potable water quality is not supported by contemporary potable water quality standards, and should be omitted from the discussion. According to *Title 17, Table 64431-A (Maximum Contaminant Levels Inorganic Chemicals)* the current Primary drinking water standard for nitrogen species are 10 mg/L Nitrate-N+Nitrite-N and 1 mg/L Nitrite-N. There is currently no drinking water standard for Ammonia-N. Title 17 source (downloaded 10/5/09): http://www.cdph.ca.gov/certlic/drinkingwater/Documents/Lawbook/dwregulations-08-13-2009.pdf

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4	T2-3/4		The Methods and Procedures sections of the Technical Memorandum do not include any evaluation of site specific data, where monitoring wells are located relative to OWTS or other potential sources of contamination, nor when exceedences occur. The relationship of cause and effect, the basis of the scientific method, is not objectively evaluated. For instance, many of the monitoring wells that are included in the LARWQCB's detailed evaluation are located very close to OWTS dispersal fields (see the map in Appendix 2-1 titled *Groundwater Wells and Leachfields in Malibu Study Area).*
4	T2-3/4		The Method and Procedures do not include an approach to determine or confirm that water quality impacts are a result of OWTS. Stormwater infiltration and lawn fertilization are examples of potential sources of bacteria and nitrogen that can reach the groundwater which are not mentioned. There is no mention of other potential sources of groundwater contamination. Stone (2004) concluded that since a number of wells that are not located near any OWTS and had low nitrogen concentrations, stormwater infiltration is a potential source of groundwater contamination in the Civic Center area.
5	T2-4/5		**Section 5 Results:** The analysis is not meaningful to meet the stated purpose of this technical memo, which is "*...to determine the extent and severity of contamination of groundwater that is designated as a potential source of drinking water.*". All monitoring well samples are arbitrarily lumped together and analyzed by constituent. There is no evaluation of results based on the relationship of wells to potential sources of contamination or whether water quality has changed over time.
5	T2-4/5		The analysis uses data from a set of 18 of the 45 wells that were not generally sampled after 2004. The current water quality of these wells is not known.
5	T2-4/5		There are several WDR wells which were non-complying for several consecutive readings, but which have been brought into compliance since 2007. All of these were also plotted in the newest analysis as non-conforming, although the situations that were the cause of non-conformance have clearly been corrected. Indeed, if the abandoned wells, the corrected wells, and those with only one reading are discarded, there is a significant improvement in the percentage of compliant wells for bacteria and nitrogen.
5	T2-5	1	The data from Attachment 2-1 was reanalyzed. Significant errors were found in the number of samples that exceeded the MCL goals as reported in the Technical Memorandum. Table 1 should be changed to indicate that out of 671 samples: # of samples failing to meet the fecal coliform MCL was 199, not 360; (30%, not 54%) # of samples failing to meet the total coliform MCL was 389, not 480; (55%, not 72%)

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5	T2-5		The Technical Memorandum sums all of the data into two tables, and especially on Table 2, all of the "yes" values look quite convincing. However, when the data are actually evaluated, and not merely summarized, a different picture emerges. Take the first result, Malibu Administrative Center, Well 7b, YES and YES for Fecal Coliform and Total Coliform. When you look at the actual data for Well 7b, you see that the test results came back with a result exceeding the MCL only once in five years for each value, and those were in different years. Is it not more likely that these results are the product of a contaminated sample or a laboratory error? Many of the wells had their only failing test in the first reading, as far back as 2003. These values are always suspect in a new well. There may be an explanation in the compliance reports that were submitted to the Board, but that explanation is not presented in Memo 2. Instead, one anomalous result is used to reinforce the Board's conclusion that 54% and 72% (or 30% and 58%, once the counting errors are corrected) of the sites are non-complying with Fecal and Total Coliform, respectively. Indeed, this is the case for nearly all of the wells presented. In any managed system, there will be occasional failures of the system. This is why it is monitored and managed. When a system becomes non-compliant, it is brought into compliance. One test result over the MCL may be an error or it may be a result of something broken operationally in the system. That the following tests are well below the MCL should indicate that the problem(s) has been solved. If the discharge results are summarized fairly, it will be seen that the presentation in Technical Memorandum 2 is biased.
5	T2-4	5	The data from Attachment 2-1 covers 45 wells, not 47. Malibu Administrative Center Wells 7b and 8 are the same as Malibu Study Area Wells 7b and 8. This fact should be reflected in the analysis reporting the number and percentage of wells meeting the MCL.
5	T2-4	5	If the counting errors are corrected the referenced paragraph would read: For the 45 groundwater monitoring wells in the study area, from July 12, 2002 to November 18, 2008, a total of 671 samples were collected and analyzed for total coliform. Results indicated that out of the 671 samples, 389, or 58% of the samples exceeded the MCL. Forty-one (41) out of 45, or 93%, of the wells detected total coliform in excess of the MCL.
5	T2-4	6	If the counting errors are corrected the referenced paragraph would read: For the 45 groundwater monitoring wells in the study area, from July 12, 2002 to November 18, 2008, a total of 671 samples were collected and analyzed for fecal coliform. Results indicated that out of the 671 samples, 199, or 30% of the samples exceeded the MCL. Thirty-nine (39) out of 45, or 87%, of the wells detected fecal coliform in excess of the MCL.

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5	T2-7 and T2-73 and on		Looking at the graphs of test results with time at the end of the memo, and undertaking a more objective assessment of Pass or Fail whereby one failing test does not automatically fail the well, a significant number of wells are compliant with water quality standards. (see the figure titled *Revised Plot of Compliant and Non-Compliant Test Well Results* in Appendix 2-1 of this review memo).
5	T2-7	8	There is no drinking water quality MCL for ammonia, therefore this paragraph should be deleted from the document. Similarly, the last column should be omitted from Table 1.
6	T2-5	2	**Section 6 Conclusions**: All of the data reviewed in the Technical Memorandum is in the upper aquifer, and therefore is not pertinent to the lower aquifer, which was historically pumped as a water supply, but discontinued due to apparent saltwater intrusion. See the figure titled *Total Dissolved Solids Lower Malibu Wells Trend Line Graph, Malibu Water Co., prepared by Pomeroy & Assoc. March 1961* in Appendix 2-1.
6	T2-5		No evidence is provided to support the classification of the groundwater in the upper aquifer as a *"local resource for beneficial use of potential MUN (drinking water resource)"*.
6	T2-5		No evidence is provided to indicate that the lower aquifer is currently affected by onsite wastewater treatment systems.
6	T2-5		The conclusions need to be reconsidered after a more thorough evaluation of the water quality data.
Attachment 2-1	T2-9		**Attachment 2-1:** There appears to be an error in all of the labels of the columns containing inorganic nitrogen species. Concentrations of Ammonia, Nitrate and Nitrite are typically expressed on the basis of nitrogen they contain, and reported as Ammonia-Nitrogen (Ammonia-N), Nitrate-Nitrogen and Nitrite-Nitrogen (Nitrite-N) so the concentrations of each constituent can be compared based on nitrogen content. For example, all of the data from the 2004 Stone Risk Assessment study was expressed as nitrogen in that report. The column labels in Attachment 2-1 do not include either "-nitrogen" or "-N", therefore it appears that the labels are wrong, and the concentrations should be expressed correctly. All WDR data submitted to the regional board should be checked to ensure it is being reported and analyzed correctly. The right hand column of all of these tables contains a significant error: Total Kjeldahl Nitrogen includes Ammonia-N and Organic Nitrogen. Therefore in this column which is the sum of: "Ammonia + Nitrate+ Nitrite +TKN", Ammonia-N is erroneously counted twice.
Attachment 2-1			**The following is a well-by-well review of the tables in Attachment 2-1 and general comparison to compliance with water quality standards.**

ATTACHMENT 2

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Attachment 2-1	T-2-11	Well #7B	Malibu Administrative Center Bacteria - This well is located approximately 625 feet from nearest upgradient leachfield, and is located in a driveway of the County Administrative Center. Out of a total of 26 sampling events, all but 3 detections occurred between September and March - wet weather time of year. Nitrate+Nitrite-N –Transcription error – the 11/19/03 sample was not 66.18 mg/L, it was reported as not detected per Stone (2004) This same well data was reported correctly as SMBRP-7b on page T2-63 noted as 11/18/03. No exceedances. Nitrite-N – three exceedances in 2003 & 2004 – none since then.
Attachment 2-1	T3-13	Well #8	Malibu Administrative Center Bacteria – Frequent exceedances Nitrate + nitrite-N – Frequent exceedances of nitrate + nitrite-N Nitrite-N – two exceedances of nitrite-N in 2003 & 2005 – none since then. Note: Located in close proximity and apparently downgradient of leachfields installed in mid 1960's with no pretreatment. Therefore, elevated bacteria and total nitrogen can be addressed with wastewater treatment.
Attachment 2-1	T2-15	MW-1	Malibu Country Mart Bacteria – no exceedances since 6/21/2006 Nitrate + nitrite-N – only one exceedance - in 2005.
Attachment 2-1	T2-17	MW-2	Malibu Country Mart Bacteria – only one detect (4 MPN/100 ml Total Coliform) since 6/21/2006 Nitrate + nitrite-N – **No Exceedances after correcting for Ammonia-N.**
Attachment 2-1	T2-19	MW-3	Malibu Country Mart Bacteria – No exceedances since 6/21/2006 Nitrate + nitrite-N – One exceedance on 6/21/06. None since then.
Attachment 2-1	T2-20	MW-1	Malibu Country Mart II Bacteria – no exceedances since 6/21/2006 Nitrate + nitrite-N – **No Exceedances after correcting for Ammonia-N.**
Attachment 2-1	T2-21	MW-2	Malibu Country Mart II Bacteria – intermittent exceedances through 7/2/2008 Nitrate + nitrite-N – **No Exceedances after correcting for Ammonia-N.**
Attachment 2-1	T2-22	MW-3	Malibu Country Mart II Bacteria – intermittent exceedances through 7/2/2008 Nitrate + nitrite-N – **No Exceedances after correcting for Ammonia-N.**
Attachment 2-1	T2-24	MW-1	Malibu Country Mart III Bacteria – only two detects (less than or equal to 4 MPN/100 ml) since 6/21/2006 Nitrate + nitrite-N – No exceedances.

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City of Malibu

Point-by-point comments for Technical Memo No. 2.

Attachment 2-1	T2-26	MW-2	Malibu Country Mart III Bacteria – Intermittent detections only 2 out of 8 since 12/27/06 (less than or equal to 30 MPN/100 ml) Nitrate + nitrite-N – No exceedances
Attachment 2-1	T2-28	MW-3	Malibu Country Mart III Bacteria – Intermittent detections only 1 out of 6 since 12/27/06 (less than or equal to 90 MPN/100 ml) Nitrate + nitrite-N – No exceedances
Attachment 2-1	T2-30	Well #1	Malibu Creek Plaza Bacteria exceedances Nitrate + nitrite-N - No Exceedances
Attachment 2-1	T2-32	Well #2	Malibu Creek Plaza Bacteria exceedances Nitrate + nitrite-N - No Exceedances
Attachment 2-1	T2-34	Well #3	Malibu Creek Plaza Bacteria exceedances Nitrate + nitrite-N - No Exceedances
Attachment 2-1	T2-36	Well #4	Malibu Creek Plaza . Bacteria exceedances Nitrate + nitrite-N – **One exceedance after correcting for Ammonia-N. Nitrogen data should be checked since Ammonia-N frequently exceeds TKN.**
Attachment 2-1	T2-38	Well #5	Malibu Creek Plaza Bacteria exceedances Nitrogen – **No exceedances after correcting for Ammonia-N. Data should be checked since Ammonia-N frequently exceeds TKN.**
Attachment 2-1	T2-40	Well #6	Malibu Creek Plaza Nitrate + nitrite-N – One exceedance – 5/1/2005 **Unexplainable error in calculations of total N in 2006 results.**
Attachment 2-1	T2-42	Five Wells	Malibu Lumber Bacteria - Exceedances in all wells (2 – 84 MPN/100 ml) Nitrate + nitrite-N – One sample event. No drinking water quality exceedances for Nitrate-N or Nitrite-N. **No exceedances (after correcting well MW-3 for Ammonia-N. All TKN concentrations are the same value– data should be checked.**
Attachment 2-1	T2-44	Well #1	Malibu Colony Plaza Bacteria – Intermittent exceedances Nitrate + nitrite-N – No exceedances after correcting for ammonia-N

ATTACHMENT 2

City of Malibu

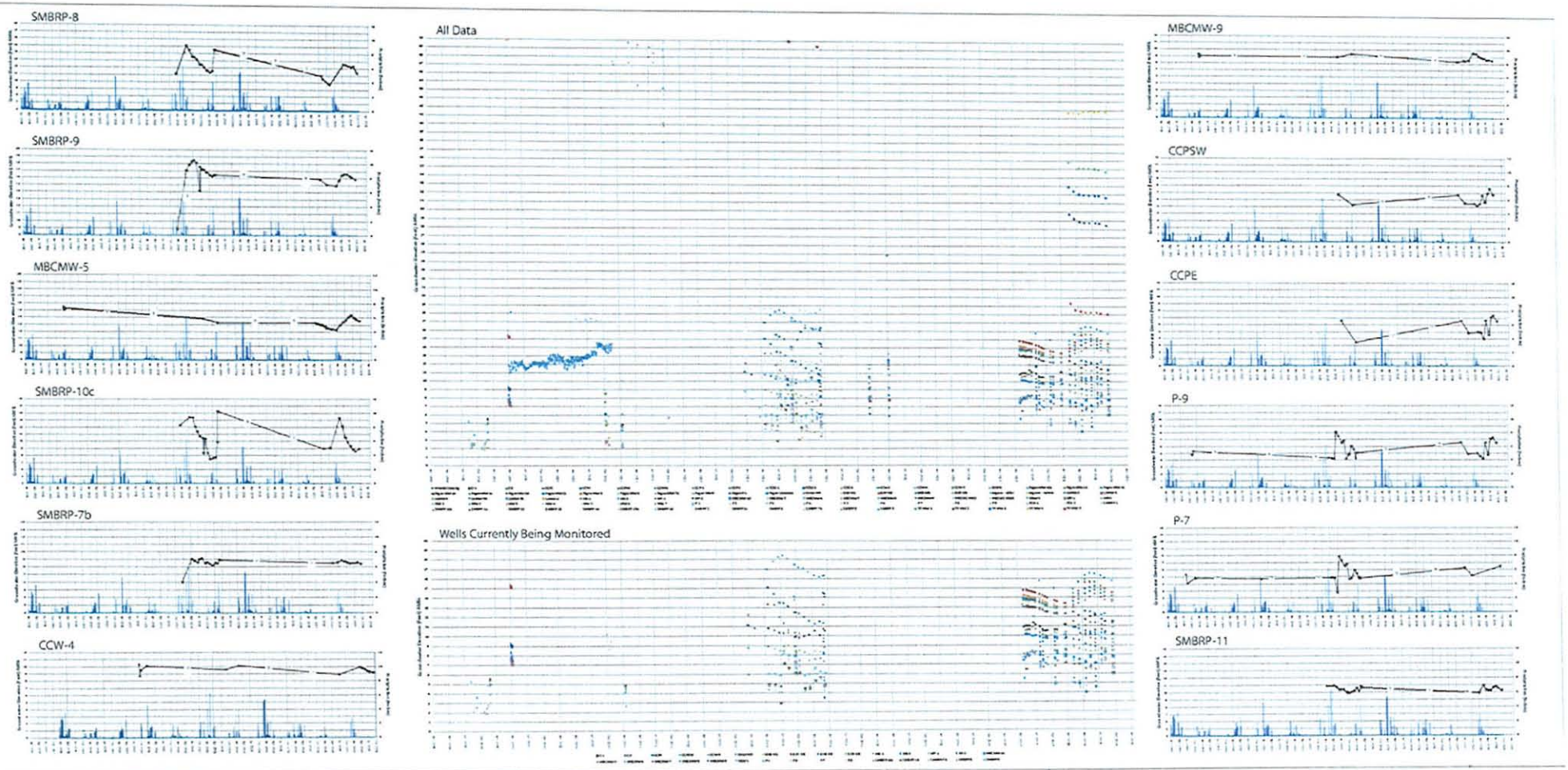
Point-by-point comments for Technical Memo No. 2.

Attachment 2-1	T2-46	Well #2	Malibu Colony Plaza Bacteria – Intermittent exceedances Nitrate + nitrite-N – seven exceedances after correcting for Ammonia-N
Attachment 2-1	T2-48	Well #3	Malibu Colony Plaza Bacteria – Intermittent exceedances of fecal and total coliform. Frequent exceedances of enterococcus. Nitrate + nitrite-N – frequent exceedances due to high nitrates
Attachment 2-1	T2-50	Well #4	Malibu Colony Plaza Bacteria – Intermittent exceedances Nitrate + nitrite-N – frequent exceedances
Attachment 2-1	T2-53	Well #5	Malibu Colony Plaza Bacteria – Intermittent exceedances Nitrate + nitrite-N – only two exceedances after correcting for Ammonia-N

Earth Consultants International

Malibu Downtown Area
Well Location Map

N

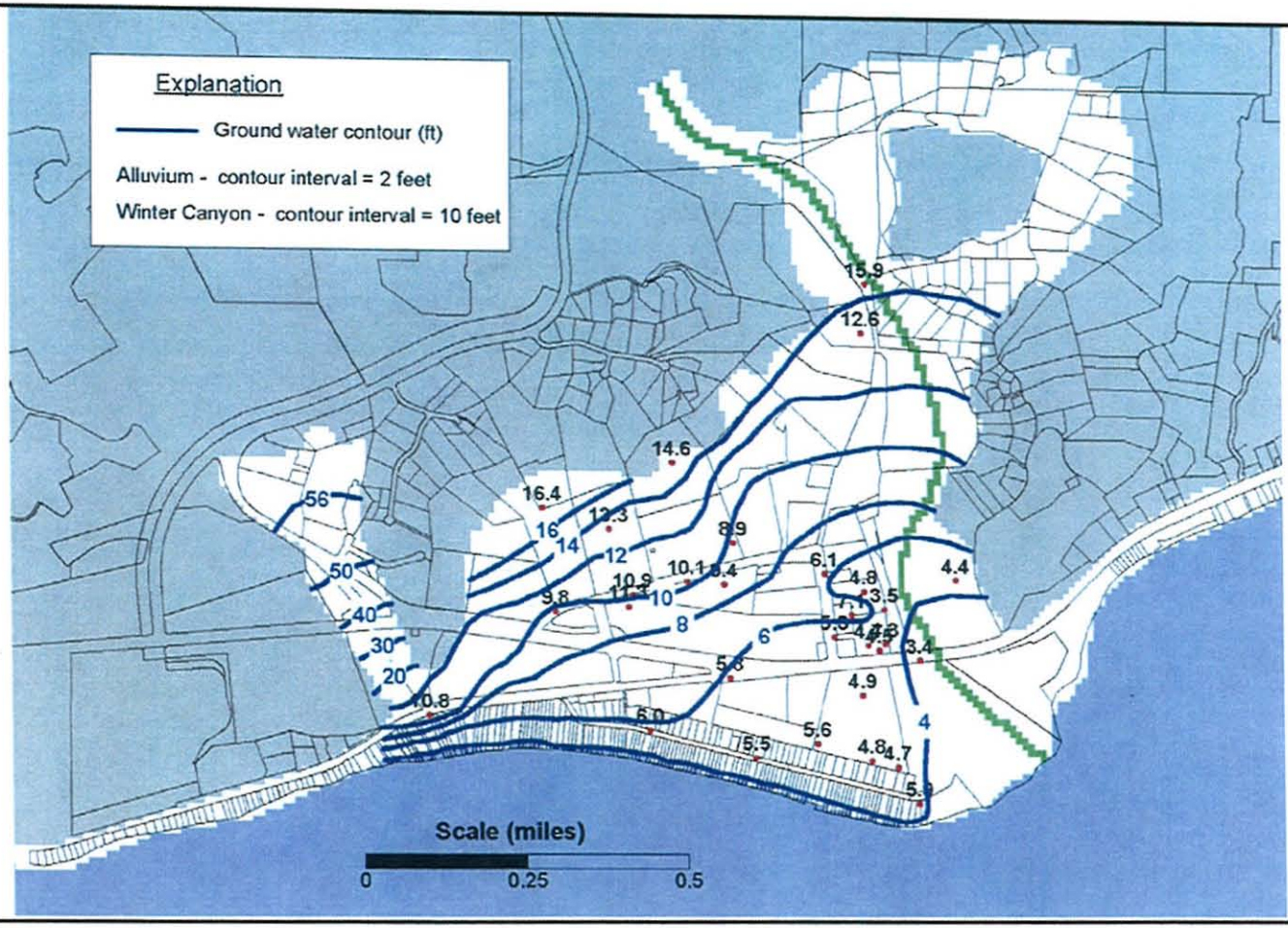


Earth Consultants International

Stone Environmental Inc

McDonald Morrissey Associates Inc.

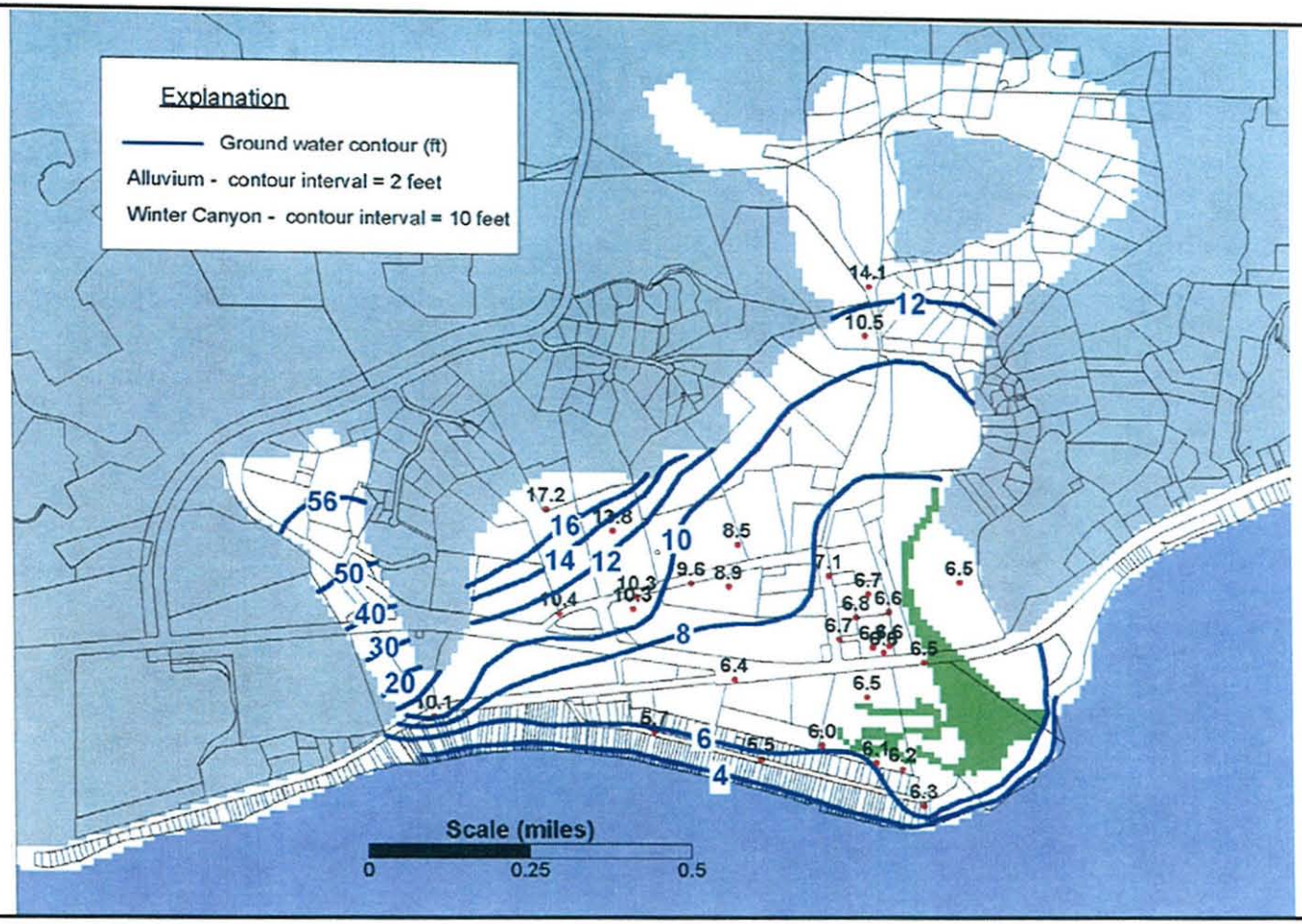
Malibu Downtown Area
Historical Hydrographs 1998-2008



MAP 6: WATER LEVELS MEASURED ON MARCH 9, 2004--BREACHED LAGOON
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

Source: Draft Model Report Figure 9, McDonald-Morrissey Associates Inc., 2004
Path: O:\Proj-01\1269-W-Malibu\Reports\DraftSubmittal\Maps\Map4.cdr
Date/init: 5-14-04 anm

STONE ENVIRONMENTAL INC



MAP 5: WATER LEVELS MEASURED ON SEPTEMBER 25, 2003--UNBREACHED LAGOON
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

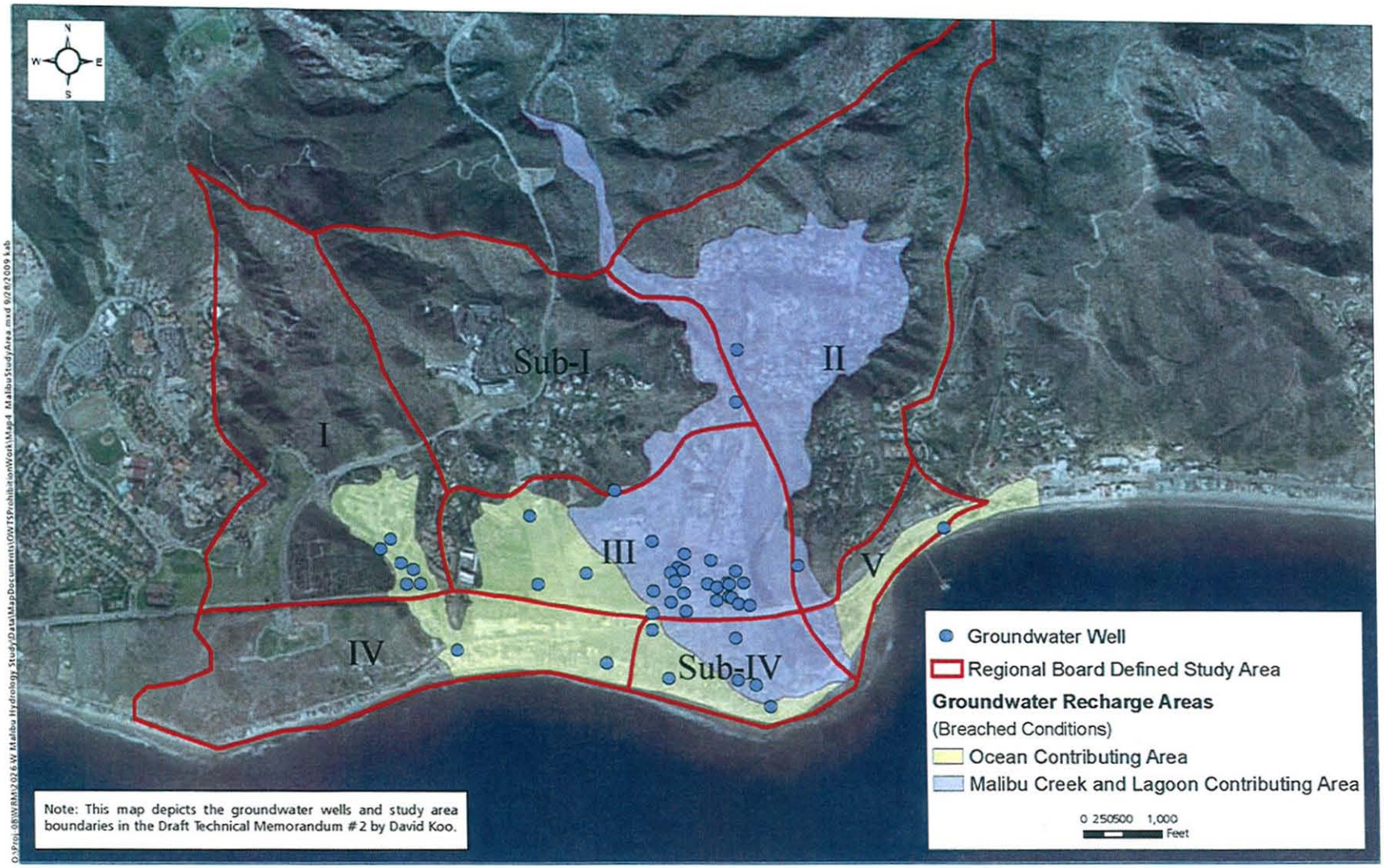
Source: Draft Model Report Figure 9, McDonald-Morrissey Associates Inc., 2004.
Path: O:\Proj-01\1269-W-Malibu\Reports\DraftSubmittal\Maps\Map4.cdr
Date/init: 5-14-04 anm

Advanced Treatment OWDS in the Malibu Civic Center Area

AIN	Street No.	Street Name	Date of Plan
4452005031	22878	PACIFIC COAST HWY	12/18/2007
4452008030	23324	MALIBU COLONY DR	8/18/2006
4452009017	23416	MALIBU COLONY RD	9/15/2006
4452009026	23414	MALIBU COLONY RD	11/14/2006
4452010027	23445	MALIBU COLONY RD	8/20/1985
4452011042	3900	CROSS CREEK RD	1/9/1998
4452011043	23359	PACIFIC COAST HWY	1/9/1998
4452012012	3635	SERRA RD	9/9/2005
4452014004	23344	PALM CANYON LANE	2/9/2005
4452015029	3551	CROSS CREEK LN	11/8/2006
4452016003	3311	SWEETWATER MESA RD	12/5/2006
4452016019	3415	SWEETWATER MESA RD	6/20/1997
4452019003	23017	PACIFIC COAST HWY	12/18/2002
4452026018	3270	SERRA RD	9/22/2009
4458002008	23681	MALIBU COLONY RD	12/7/1992
4458003014	23561	MALIBU COLONY RD	3/27/2007
4458003026	23615	MALIBU COLONY RD	1/31/2007
4458004035	23512	MALIBU COLONY DR	4/1/2002
4458004037	23520	MALIBU COLONY DR	2/9/1996
4458004045	23554	MALIBU RD	12/9/2004
4458004046	23556	MALIBU COLONY RD	7/10/2007
4458006029	23754	MALIBU RD	8/21/1986
4458006031	23750	MALIBU RD	1/8/2007
4458006035	23730	MALIBU COLONY RD	10/4/1999
4458006036	23720	MALIBU COLONY RD	12/18/1986
4458007015	23864	MALIBU RD	7/18/2006
4458007017	23910	MALIBU RD	5/26/1998
4458008015	23926	MALIBU RD	2/11/2004
4458009011	24008	MALIBU RD	4/16/2007
4458010002	24166	MALIBU RD	11/20/2006
4458020010	23410	CIVIC CENTER WAY	4/7/1997
4458020016	23641	PACIFIC COAST HWY	7/3/1995
4458021172	23825	STUART RANCH RD	9/21/2000
4458022019	23519	CIVIC CENTER WAY	2/28/1968
4458022904	23525	CIVIC CENTER WAY	2/28/1968
4458025001	23915	MALIBU KNOLLS RD	11/28/1988
4458028006		PCH and CIVIC CENTER WAY	2/13/2001
4458028020	24000	CIVIC CENTER WAY	2/13/2001
4458029006	3011	MALIBU CANYON RD	5/11/1998
4458029012	3011	MALIBU CANYON RD	5/11/1998
4458029013	3011	MALIBU CANYON RD	5/11/1998
4458029015	3011	MALIBU CANYON RD	5/11/1998
4458029016	3011	MALIBU CANYON RD	5/11/1998

Source: Malibu Integrated Wastewater Information Management System, September 2009.

Date/init: 10/1/09 anm



Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area

City of Malibu, California

Sources: Groundwater Well Locations and Leachfields, digitized by Stone, 2009; Study Area, Regional Board; Groundwater Recharge, Stone; Imagery, ESRI.

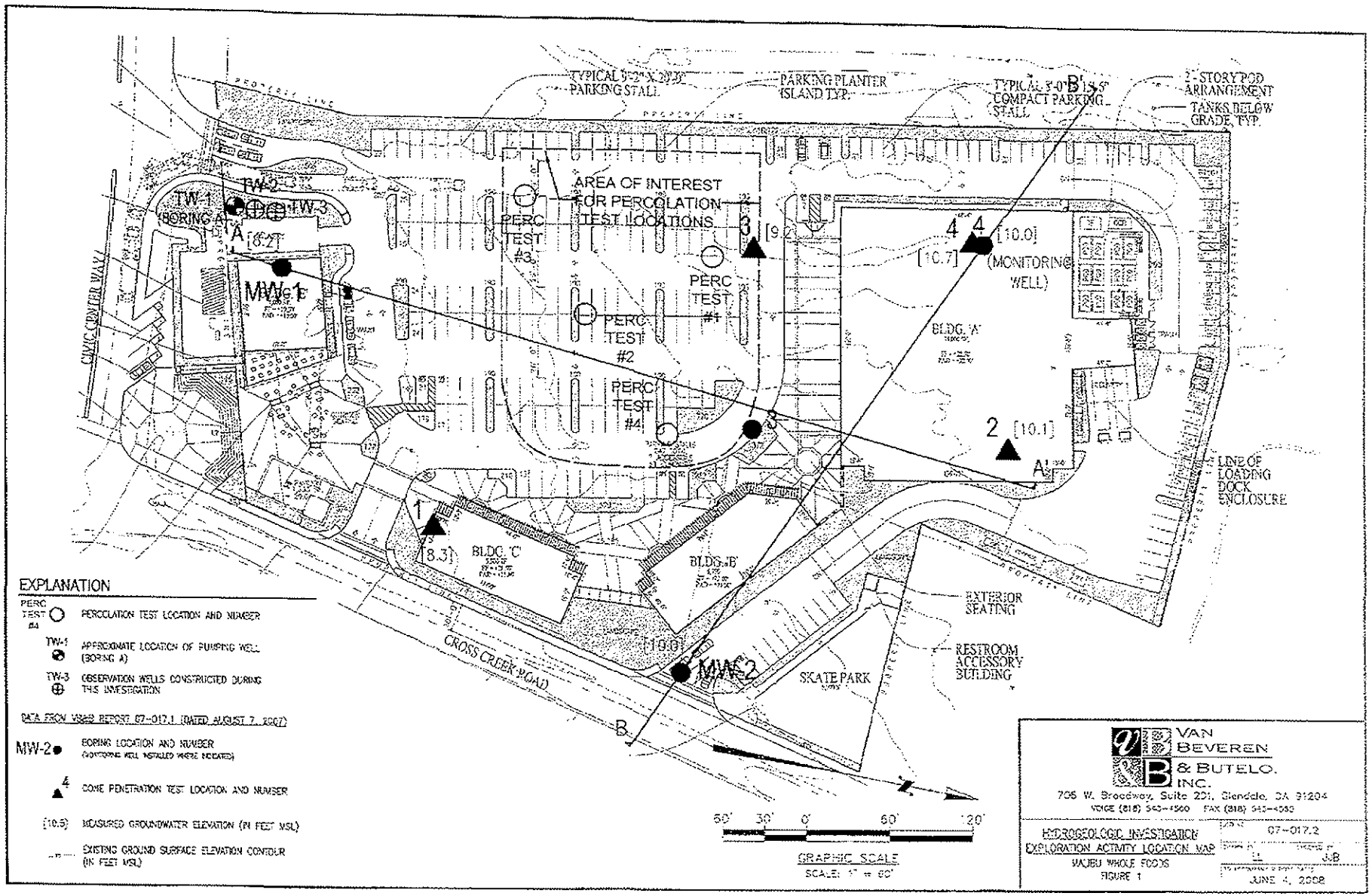
TABLE
Summary of Aqueous Analytical Results for General Minerals
Cross Creek Civic Center Malibu, CA

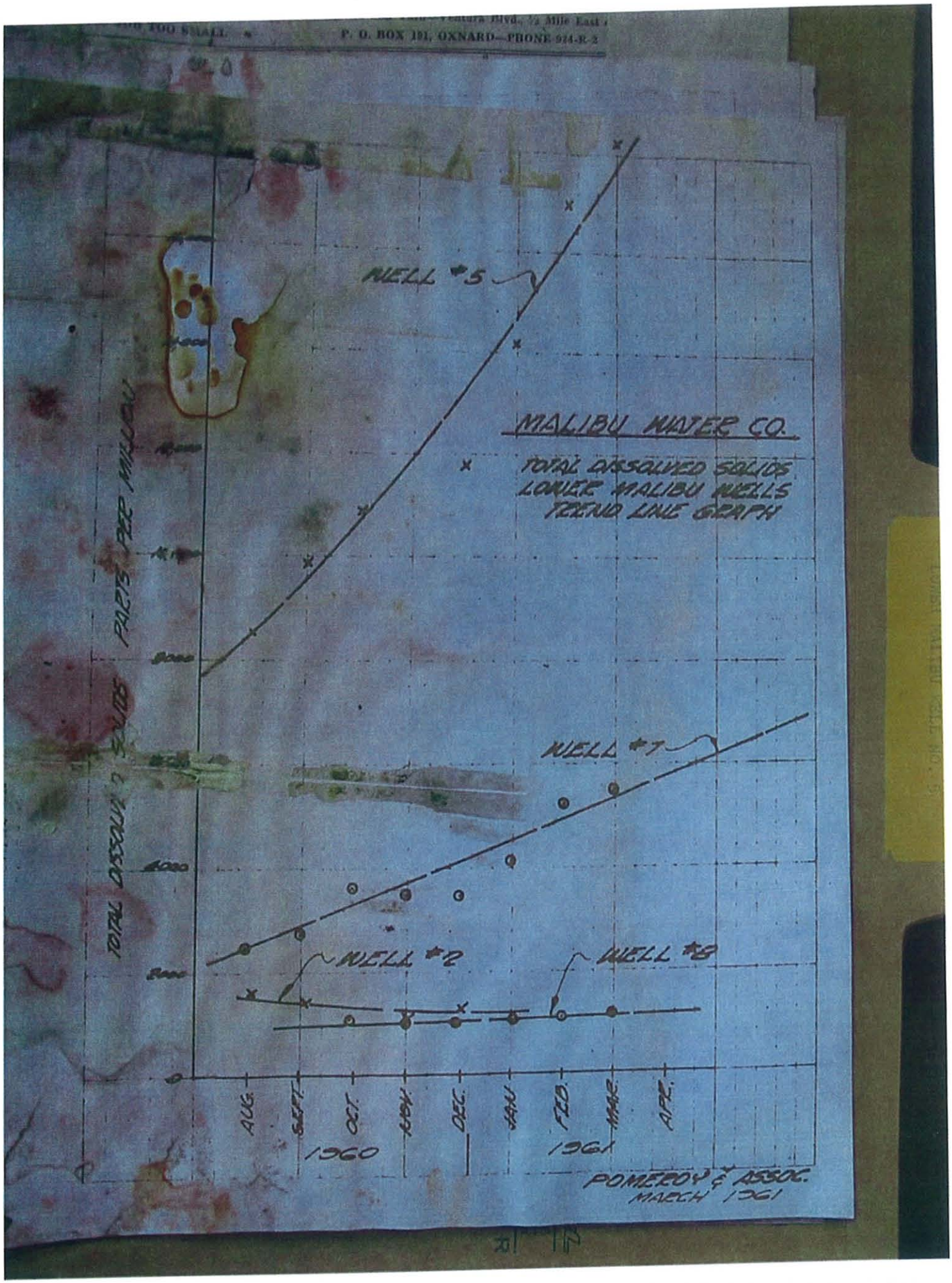
General Minerals. Method: GEN.-MINERALS

Sample ID	STLC Limit mg/L	TTLC Limit mg/Kg	Units	T.W. #1
Sample Date				4/25/2008
Laboratory Job Number				47131
Bicarbonate (as CaCO3)			mg/L	241
Carbonate (as CaCO3)			mg/L	ND<1.0
Hydroxide (as CaCO3)			mg/L	ND<1.0
Total Alkalinity			mg/L	241
Anions Total (meq/L)			mg/L	21.4
Cations Total (meq/L)			mg/L	20.2
Ion Balance (percent difference)			mg/L	2.88
Chloride (Cl), Total			mg/L	152
Conductivity (umhos/cm @77F)			mg/L	2,090
Fluoride, Total			mg/L	0.300
Hardness (Ca,Mg) as CaCO3			mg/L	780
Nitrate as Nitrogen			mg/L	1.95
Nitrite as Nitrogen			mg/L	ND<0.01
Sulfate			mg/L	580
Surfactants (MBAS)			mg/L	ND<0.03
Total Dissolved Solids			mg/L	1,430
pH (pH units)			mg/L	7.20
Aluminum			mg/L	0.251
Calcium			mg/L	140
Copper	25	2500	mg/L	ND<0.01
Iron			mg/L	0.050
Magnesium			mg/L	81.3
Manganese			mg/L	0.070
Potassium			mg/L	3.26
Sodium			mg/L	146
Zinc	250	5000	mg/L	0.127

1) "ND<X" INDICATES CONSTITUENT(S) NOT DETECTED AT OR ABOVE METHOD DETECTION LIMIT.

2) "J" INDICATES ANALYTE WAS DETECTED. HOWEVER, ANALYTE CONCENTRATION IS AN ESTIMATED VALUE WHICH IS BETWEEN


TYPICAL 9'-0" X 20'-0" PARKING STALL
PARKING PLANTER ISLAND TYP.
TYPICAL 8'-0" X 15'-0" COMPACT PARKING STALL
2 - STORY POD ARRANGEMENT
TANKS BELOW GRADE, TYP.
AREA OF INTEREST FOR PERCOLATION TEST LOCATIONS
TW-1 (BORING A)
TW-2
TW-3
PERC TEST #3
PERC TEST #1
PERC TEST #2
PERC TEST #4
MW-1
[6.2]
[9.2]
[10.7]
[10.0]
(MONITORING WELL)
BLDG. 'A'
[10.1]
LINE OF LOADING DOCK ENCLOSURE
[8.3]
BLDG. 'C'
BLDG. 'B'
EXTERIOR SEATING
[10.0]
MW-2
CROSS CREEK ROAD
SKATE PARK
RESTROOM ACCESSORY BUILDING
CIVIC CENTER WAY
EXPLANATION
PERC TEST #4 — PERCOLATION TEST LOCATION AND NUMBER
TW-1 — APPROXIMATE LOCATION OF PUMPING WELL (BORING A)
TW-3 — OBSERVATION WELLS CONSTRUCTED DURING THIS INVESTIGATION
DATA FROM VBB REPORT 07-017.1 (DATED AUGUST 7, 2007)
MW-2 — BORING LOCATION AND NUMBER (MONITORING WELL INSTALLED WHERE INDICATED)
CONE PENETRATION TEST LOCATION AND NUMBER
[10.9] — MEASURED GROUNDWATER ELEVATION (IN FEET MSL)
EXISTING GROUND SURFACE ELEVATION CONTOUR (IN FEET MSL)
60' 30' 0' 60' 120'
GRAPHIC SCALE
SCALE: 1" = 60'
VAN BEVEREN & BUTELO, INC.
705 W. Broadway, Suite 201, Glendale, CA 91204
VOICE (818) 540-1560 FAX (818) 540-1580
HYDROGEOLOGIC INVESTIGATION
EXPLORATION ACTIVITY LOCATION MAP
MALIBU WHOLE FOODS
FIGURE 1
07-017.2
JJB
JUNE 4, 2008

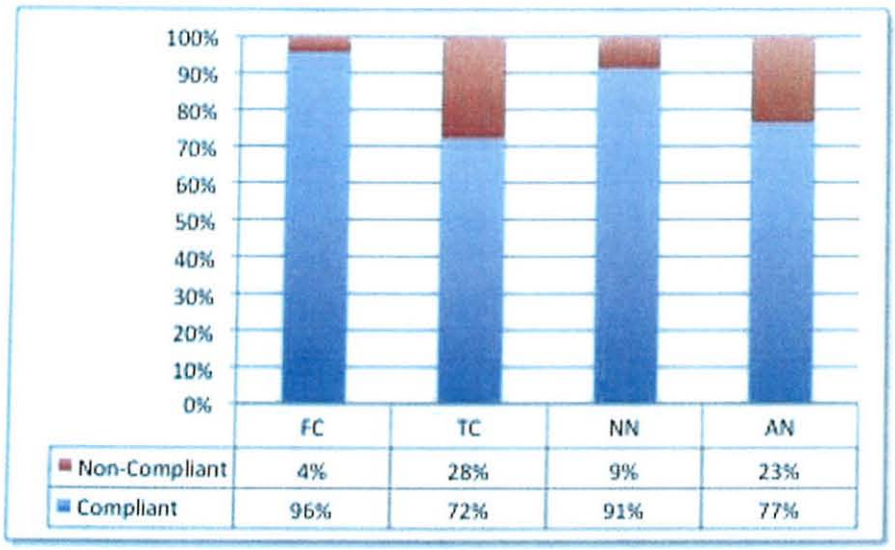


Groundwater Wells and Leachfields in Malibu Study Area

City of Malibu, California

Sources: Groundwater Well Locations and Leachfields, digitized by Stone, 2009; Study Area, Stone; Parcel boundaries, LA County; Imagery, ESRI.

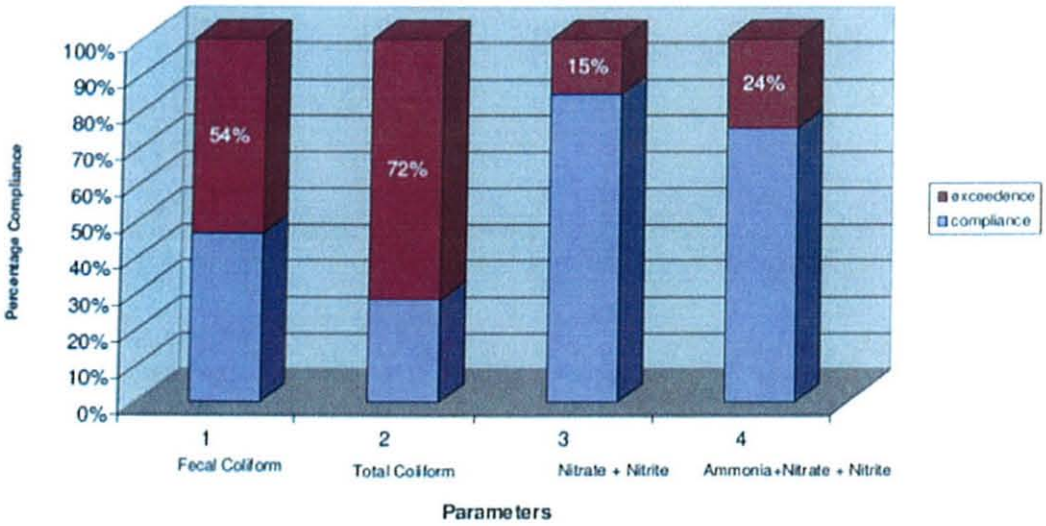
Revised Plot of Compliant and Non-Compliant Test Well Results



Above: Plot of Compliant and Non-Compliant well test results after a more objective re-examination of the plotted test results from Technical Memo #2, assuming that one failing test result does not fail the well, but a pattern of failing test results does.

Below: The Board's plot from Technical Memo #2, to illustrate the extremely conservative nature of the Board's characterization.

Figure 1 - Groundwater Quality Compliance Status



ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

Document Reference			Comment
Section	Page	Para-graph	
Overall			The scientific method was not followed. Proper scientific method to establish a direct relationship between a potential source of contamination (bacteria from OWTS) and resulting measurements of that contamination (bacteria in surfzone that exceeds public health standards) would include establishing a hypothesis, such as: bacteria in surfzone is only caused by bacteria discharged from OWTS. Then a series of analyses needs to be conducted to adequately confirm the cause and effect stated in the hypothesis, and also rule out other potential causes. Neither of these analyses was done.
Overall			Technical memo #3 provides no evidence for a relationship between bacteria in groundwater and bacteria in the surfzone of the beaches. Stone (2004) evaluated available data regarding hydraulic conductivity, geologic stratigraphy, and water table elevations and concluded that times of travel in the upper groundwater are on the order of years, and decades. Based a review of the literature, Stone (2004) concluded that bacteria die off is on the order of a few months, not years. Therefore, Stone estimated the boundary of a high risk area for bacteria in groundwater is 6 month time of travel zone along the creek, lagoon and the beach (see attached figure from report in Appendix 3-1). No information is provided by the LAWQCB to refute this conclusion. This is a significant gap in the study design.
Overall			Within the groundwater system, the study design did not consider the spatial and temporal relationships of the water quality data. There is no evaluation of the hydrologic relationship between the monitoring wells and the beaches, nor of previous studies that delineated areas that contribute nitrogen and/or pathogens to Malibu Creek/Lagoon and the Pacific Ocean (see the figure titled Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area in Appendix 2-1).. Analyzing two distinct sets of water quality data without accounting for the movement of water does not prove that there is a hydraulic connection. The Stone Environmental, Inc. 2004 Risk Assessment Study did include a detailed evaluation of the groundwater flow system in the aquifers underlying the Civic Center area, but this and many other sources of relevant hydrologic information were ignored.

ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

1	T3-1	1	This document does not achieve one of its two stated purposes: *"(a) to document the discharge of enterococcus, total coliform and fecal coliform, bacteria used to indicate risk of recreational waterborne illness, from on-site wastewater disposal systems (OWDS) in the Malibu Civic Center onto adjacent surface waters and beaches".* The major shortcoming of the analysis done by the LARWQCB is the fact that they ignored published hydrologic data and analyses (ground-water level data, lagoon stage, ocean stage, water level maps, and modeling analyses) that show the capture zone for Malibu Lagoon. Several examples of relevant documentation that was not considered in the LARWQCB's analysis are included in Appendix 3-1: • Malibu Downtown Area Well Location Map, prepared by Earth Consultants International in 2008 • Malibu Downtown Area Historical Hydrographs 1998-2008, prepared by Stone Environmental, McDonald Morrissey Associates, and Earth Consultants International in 2008 (updated with water table elevations measured through the end of 2008) • Map 5: Water Levels Measured on September 25, 2003—Unbreached Lagoon (from Stone Environmental Inc. 2004) • Map 6: Water Levels Measured on March 9, 2004—Breached Lagoon (from Stone Environmental Inc. 2004)
2	T3-1		Two of the monitoring wells sampled for the Malibu Administrative Center Waste Discharge Requirements (WDR) were also part of the 2004 Stone Risk Assessment study: Results from wells labeled #1 and #38 are from the same well and, similarly, results from #2 and #39 are the same well. Overall there is a gap in the study design. There is no evaluation of the hydrologic relationship between the monitoring wells and the beaches. Within the groundwater system, the study design did not consider the spatial and temporal relationships of the water quality data. Analyzing two distinct sets of water quality data without accounting for the movement of water does not prove that there is a hydraulic connection. See the map titled *Map 13: Bacteria Risk Assessment – 0 to 0.5 Year Time of Travel Boundary* (from Stone Environmental Inc. 2004) in Appendix 3-1.
2	T3-2	3	The early Technical Reviewers recommended that this document should serve: "(d) to verify the relationship between human illness from marine recreational activities and coastal OWDS use." However, even the epidemiological studies cited by the LARWQCB, such as Haile et al. 1999, do not make a direct connection between human illness resulting from swimming in contaminated water and the use of OWTS. Instead, they associate increased rates of human illness with swimming "in ocean water contaminated with untreated urban runoff" (Haile et al., 1999).

ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

2	T3-3	Table 1	**Section 3 Results** – End of Pipe data Sufficient explanation of these data is not provided. On what dates were these measurements taken? Were these measurements taken prior to disinfection, or after disinfection? If these measurements were taken after disinfection, then what measures were taken to correct the disinfection, and were any measurements taken to confirm result of the corrective action? Also, these data are not relevant to: 1. Concentrations of indicator bacteria that are reaching the water table below a properly designed, sited, installed, and maintained drainfield after passing through an adequate thickness of unsaturated soil. 2. Concentrations of indicator bacteria that reach the beaches, because of die-off during times of travel documented in the Stone 2004 report. See the map titled *Map 13: Bacteria Risk Assessment – 0 to 0.5 Year Time of Travel Boundary* (from Stone Environmental Inc. 2004) in Appendix 3-1.
3	T3-5	Fig 2 & 3	**Section 3 Results** – Bacteria in Groundwater Figures 2 & 3 show single sample results, and compare them to recreational water geometric means. The geometric mean standard should be compared to geometric means of measurements in individual wells. We have prepared two revised figures titled *Figure 2R: Chart of Geometric Means of Enterococcus Density (MPN/100 mL) for 20 groundwater wells in the Civic Center area from Stone 2004 Study* and *Figure 3R: Chart of Geometric Means of Enterococcus Density (MPN/100 mL) for 27 permit monitoring wells in the Civic Center area* (Appendix 3-1), with the geometric means of sample results from each well plotted with the geometric mean standard.
3	T3-5	Fig. 2	Data are from Stone's 2004 Risk Assessment report. The LARWQCB provides no documentation to infer that these wells represent current groundwater quality conditions.
3	T3-5	Fig. 3	**Figure 3**, Page T3-5 shows a plot of maximum enterococcus bacteria results from the 27 surviving wells in the CC area. The use of these data is dubious because as shown in the review of Memo #2, the Board's use of "Maximum" frequently means one reading out of 5 years' worth of data for most of the wells, and/or fails to account for a managed system whereby OWDS repairs made in 2004 or 2005 result in consistent enterococcus values well below the action levels. The Board's continuation of this biased use of the data from Technical Memo 2 in Technical Memo 3 calls into question the entire conclusion of this Memo.
3	T3-6	2	**Section 3 Results** Bacteria in Surface Water - The statement: *"Malibu Civic Center groundwater discharge is a possible source of increased levels of enterococcus in the Lagoon."* is misleading because groundwater monitoring has shown that not all groundwater in the Civic Center Area flows into the lagoon (see map titled "Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area", Appendix 3-1).

ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

3	T3-8	Table 2	**Table 2** shows the days and frequencies that the various wells exceeded the maximum values for enterococcus bacteria. It is not clear what the Board used to determine the importance or scientific reasoning for calculating "frequencies." Surfrider Beach in 2006 shows 2 days and a 6.7% frequency. This would seem to be a 0.55% frequency (2/365*100). Every other value is similarly off by large and differing amounts, and values are always towards larger values. What is the basis for these calculations?
3	T3-8	Table 2	**Table 2** labels the MC-1, 2, & 3 points, which seem like they are different (inverted) from the plot in Figure 4. On Fig. 4 the Malibu Pier site is labeled as MC-3. In Table 2, the same site is labeled MC-1. Which is correct? How does this impact the analyses by the Board that follow?
3	T3-8	Table 2	**Table 2** shows a site SMB-12 which is not shown on Fig. 4. Where is it? It seems important because it has the highest number of non-conforming days.
3	T3-8	Table 2	**Table 2** actually seems to show a progressive cleanup of the bacteria problem at the sampling sites. Three of the five sites (60%) show ZERO days of exceedance in 2008, a significant decrease in 2007, and all show declining impact days across the board. Actually, this table seems to show that the City of Malibu has been proactive in trying to solve the Board's concerns since 2006, and the plot shown in the Board's Fig. 6 demonstrates this.
3	T3-7	Figure 5	**Figure 5** should be discarded. It does not contain enough statistical data to make a broad statement about causality. Figure 5 does not contain any data that is temporally correlated, an important factor (see below). Summer 2008 had unusually low E. coli samples at station HtB-1 compared with previous and more recent samples. For example, Feb 2009 had a sample result 2-3 orders of magnitude higher than anything shown in Fig 5. Summer 2009 had significantly higher results as well. The UCLA lagoon study, sampling many points on the creek and lagoon on the same day, showed no spatial correlation of the kind claimed in Technical Memo #3. The UCLA study showed an obvious fluctuation based on sample date, seeming to invalidate the analysis and conclusions of Figure 5 based on its lack of temporal correlation.
3	T3-9	Figure 6	**Figure 6** should be discarded. It seems to be a chart that somehow displays the >104 MPN and >35 MPN geometric mean standard failures cumulatively. Many of the samples failing to meet the >104 MPN standard were also included in an instance of the >35 MPN geometric mean failure. In other words, many samples were double-counted in this frequency chart, once as >104 MPN failures and again as part of a >35 MPN geometric mean failure. These frequencies (maximum density and geometric mean) are literally the same events and cannot be added together in a defensible frequency count.
3	T3-9	Figure 6	**Figure 6** shows "Cumulative Frequency of Breaking the Ocean Standard" but the vertical scale runs from 0 to 2, with no units shown. We do not understand what it purports to show, and there is no explanation of the term "cumulative frequency" with respect to what they are accumulating.

ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

3	T3-9	Figure 6	**Figure 6** clearly shows that the bacterial impact days appear to be declining within the Civic Center area, even at the non-located SMB-12. Yet, the caption below the figure in the Memo states "On the beaches, bacteria are typically present at levels above water quality objectives at MC 1, 2, & 3". This statement is despite Table 2 showing *zero* impact days for MC-1 & 3. The reference to a 2002 Heal The Bay report does not reflect current, and substantially different, data that likely reflects the City's active efforts to curb the problem.
3	T3-9	Figure 6	At the Oct. 1 Public Hearing, in response to a question, Elizabeth Erickson (LARWQCB staff) showed a slide that modified Figure 6 by including a bar showing sewered beaches, and how it was lower than the Figure 6 bars. However, for 2005 and 2006, the sewered beaches' value was actually higher than the Malibu values from 2007 and 2008 (excluding SMB-12, which is not located), again reflecting the progress made by the City and invalidating the Board's own conclusions.
3	T3-10/11	Table 3	**Table 3**, Pages T3-10/11 shows extensive bacterial testing from the MC-2 site on the sand berm at the mouth of Malibu Creek. What is not clear, nor discussed, is whether a blank space is a *zero* value, a value below the threshold, or whether no test was run for that column. Based on the last line "Total Violations" it is likely that the test may have been run but not recorded because it was less than the violation limits. This is a biased way to present data, showing only those values that reflect the desired opinion. In keeping with the theme of relying more on the older data, the Board bases these tables mainly on 2006 data, the worst year, despite apparently having the data from 2007 and 2008 that they used in Table 2, and which shows substantially lower readings.
3	T3-10/11	Tables 3-5	**Tables 3, 4, & 5** should have a multivariate analysis done to allow one to understand the cause of the elevated bacteria values. • Was there a large bird population that day? • Was there a storm or storm tide? • Are these human or avian fecal bacteria? • Was the Lagoon open or closed? • Was there increased discharge from upstream? • Was there intensive beach use that week? Instead of evaluating (or allowing a reviewer to evaluate) these and more alternatives, the Board simply concludes that it is all due to the OWDS in the Civic Center area.
3	T3-10/11	Tables 3-5	**Tables 3, 4, & 5** show a majority of the violations (95%, 55%, and 80% respectively) occurring within the "30-Day Geometric Mean Result" columns, but there is no description as to whether they use 5 samples, or what they do to achieve this mean. All we know is that "** Regional Board staff calculated the rolling 30-day geometric mean values presented.*" That this was done on the basis of data that is not shown in the tables makes a review of it impossible. What is puzzling is how the geometric mean can result in so many violations when there are literally no single sample violations for MC-1 & MC-3. How does a mean value ever exceed the maximum? If this table is to be used in defending the severity of the problem, considerably more explanation should be provided.

ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

3	T3-14	Figure 7	**Figure 7** shows a frequency plot for the Surfrider Beach bacterial values for the summer. Despite the violation events of 2005 and 2006 being clearly higher than 2007 and 2008, they conclude, based on an analysis they do not present, that the plots have a Correlation Coefficient of between 0.82 and 0.98, from which they conclude that there has been no change, and that this is a consistent problem from year to year. Then they build upon that assumption to conclude that this is due to a consistent and pervasive problem at the beach. No source other than onsite wastewater treatment systems is ever considered. Furthermore, their frequency intervals are of differing sizes, making a visual assessment of the charts impossible because the larger values also contain larger intervals, which artificially pumps up the frequency of a value occurring within that much larger box, and skews the presentation power of a chart to look worse than it might otherwise be. Indeed, this may be why their correlation coefficients are so large, but it is not a valid use of statistics.
3	T3-15/16	Figures 8-9	**Figures 8 and 9.** Same comments as Figure 7.
3	T3-7,9, 13		There is no discussion of relationship between bacteria in surface water quality with season or hydrologic events that would indicate stormwater runoff as a potential source of pathogens in surface water.
4	T3-16	1	**Section 4 Epidemiology Evidence of Human Health Impacts in Malibu Civic Center Area** There is no data presented which tie the human health impacts to onsite wastewater treatment systems. Even the epidemiological studies cited by the LARWQCB, such as Haile et al. 1999, do not make a direct connection between human illness resulting from swimming in contaminated water and the use of OWTS. Instead, they associate increased rates of human illness with swimming "in ocean water contaminated with untreated urban runoff" (Haile et al., 1999).
4	T3-16	1	Page T3-16 refers to a 1996 epidemiology study at three locations, including Will Rogers and Malibu Surfrider beaches. The report makes a statement that *"... Malibu had more exceedances than the other two study areas."* However, in Table 6, which contains the supporting data, Will Rogers Beach exceeded Surfrider by 130% in exceedance days, and Will Rogers Beach is sewered (Attachment 3-A to Technical Memorandum #3). The report goes on to present the 1996 study's results for illness at Surfrider Beach, but does not present the results for Will Rogers Beach so one can compare them. There is mention that the EPA's national test results indicate a 19/1000 incidence of HCGI for exceedance days, but then it is not pointed out that the results for Surfrider were only 14/1000 for the HCGI category (almost 25% lower than the EPA results). This selective presentation of data, preceded by a misrepresentation and lack of full and correct representation of the data that are presented, illustrates an apparent bias in the report.

ATTACHMENT 3

City of Malibu

Point-by-point comments for Technical Memo No. 3.

5	T3-17 thro ugh 18		**Section 5, Discussion of Historic and Recent Studies** **Historic Studies relating Malibu Civic Center Septic Systems to Human Health Risk and Beach Pathogens".** Many of the studies cited speculate that OWTS are the source of bacteria in groundwater. In reference to the following sentence: "On January 24, 2002, the Regional Board adopted a Resolution amending the Santa Monica Beach bacteria TMDL to the Basin Plan. The staff report found that bacteria loads from OWDS systems contribute to beach pathogens.", that staff report did not provide any scientific documentation for this sweeping conclusion. The most detailed and definitive study is Stone (2004) which the Memo correctly states that the risk was potentially apparent only within a 6-month time of travel to the creek, lagoon or surfzone. (see attached figure from Stone (2004), titled: Map 13: Bacteria Risk Assessment - 0 To 0.5 Year Time Of Travel Boundary.) The LARWQCB concurred with this conclusion by signing the September 17, 2004 Memorandum of Understanding between the Regional Board and the City. Studies that "describe the ecosystem, hydrology, land use and possible mechanisms of waste water treatment" are noted, but do not appear to have been used for the analyses contained in this Memo.
	T5-19 thro ugh 20		**Table 7: Historic Findings of Human Health Risk related to Malibu OWDS System Use.** Although we have not read all of these studies, we are not aware that any of these studies conclusively links OWTS to bacteria in the surfzone. If any of these studies do that, please let us know.
5	T5-20-22		**"OWDS Systems and Transportation of Pathogens" and "Studies relating OWDS Systems to Beach Pathogens"** Although scientific studies like those presented are useful as references, no information is provided in the short summaries that proves a definitive relationship between OWTS and beach pathogens in Malibu Civic Center area.

ATTACHMENT 3

City of Malibu

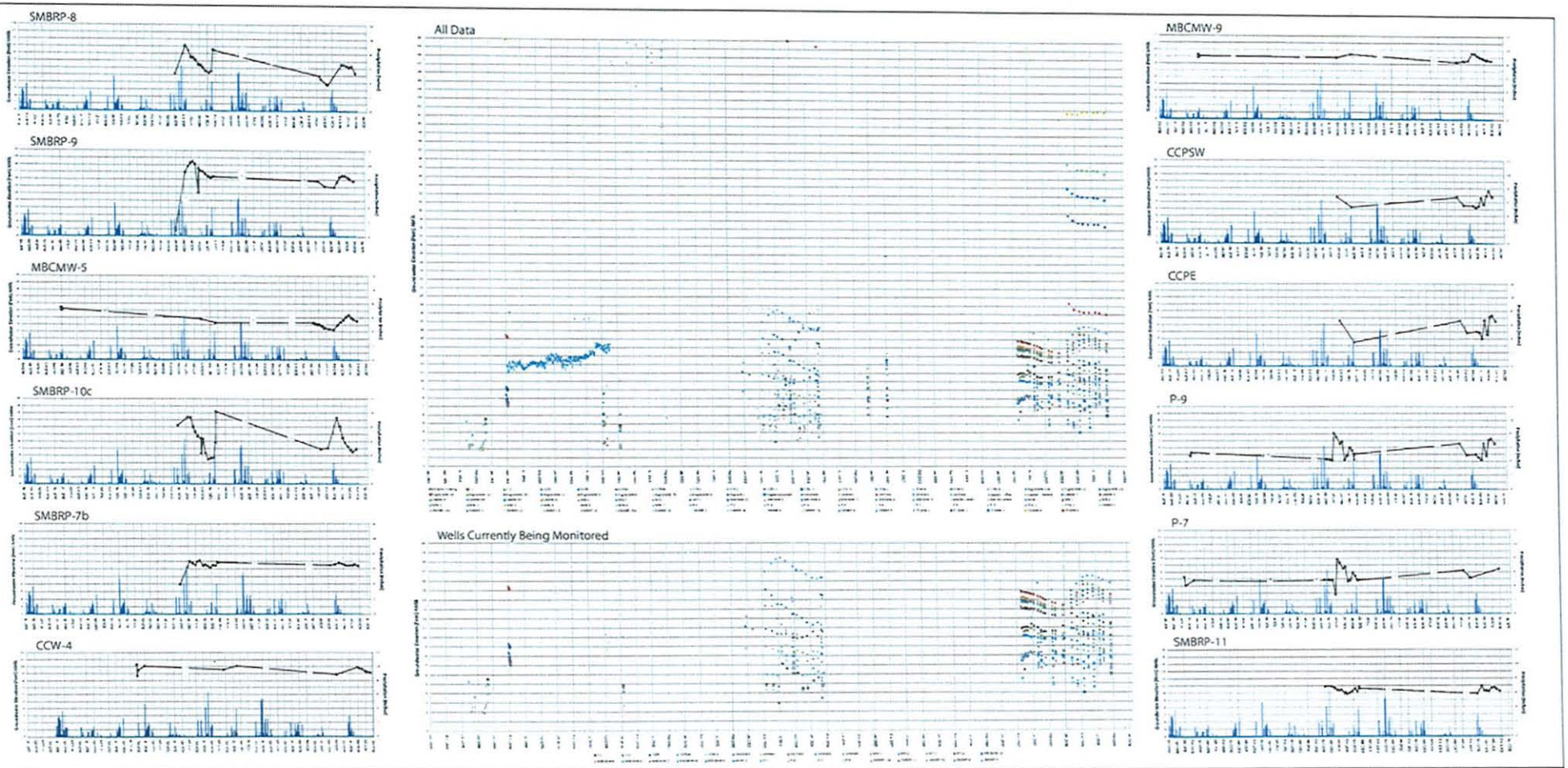
Point-by-point comments for Technical Memo No. 3.

5	T3-22	Figures 10 & 11	Cross Section A-A' (Figures 10 and 11) is described as demonstrating *"movement of septic system bacteria from the Civic Center area north of Pacific Coast Highway via subsurface transport to Surfrider Beach"*. The map titled *Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area* (Appendix 3-1), showing the contributing areas of the lagoon and ocean, clearly shows that A-A' is almost entirely contained within the lagoon recharge area, and is not typical of subsurface transport of bacteria to the ocean as described.
5	T3-25	Figure 11	Cross Section A-A' has no discussion as to how it was developed and what it is expected to be illustrating, no clue as to the source of the enterococcus values that are plotted on it, does not mention what the values actually mean after the named facilities, and has a 90-degree bend in it that is not even reflected in the section. There is no scale, but it purports to show some sort of impact by the Colony residences onto the Lagoon and Ocean.
6	T3-25		**Section 6. Conclusion** The following conclusion is presented: *"To examine the hydraulic connection of discharges from OWDSs through groundwater to nearby surface waters, staff evaluated more than 8,000 samples of wastewater effluent, underlying or nearby groundwater, and surface waters. Staff determined that pathogens from wastewaters likely migrate to surface waters and that, consistent with data supporting the designations of impairments, and threaten human health. This conclusion is based on our analysis of the indicator bacterium enterococcus. The levels of this bacterium do not meet standards protective of human health. Staff also determined that risks of infectious disease from water contact recreation were elevated at beaches in the Malibu Civic Center based on work by Haile et al."* The facts and analysis in this document do not support this conclusion for the following major reasons: • The apparent lack of consideration of groundwater flow data, • The apparent lack of consideration of timing of the sampling relative to seasons and hydrologic and marine events; • The lack of specificity as to details of the 8,000 sample data points (it is not appropriate scientific method to refer to data in the conclusion that has not been presented in the background, methods, results or analysis sections); • The lack of consideration of other sources of bacteria in the groundwater, lagoon and the surfzone. See Appendix 3-1

Earth Consultants International

Malibu Downtown Area
Well Location Map

N

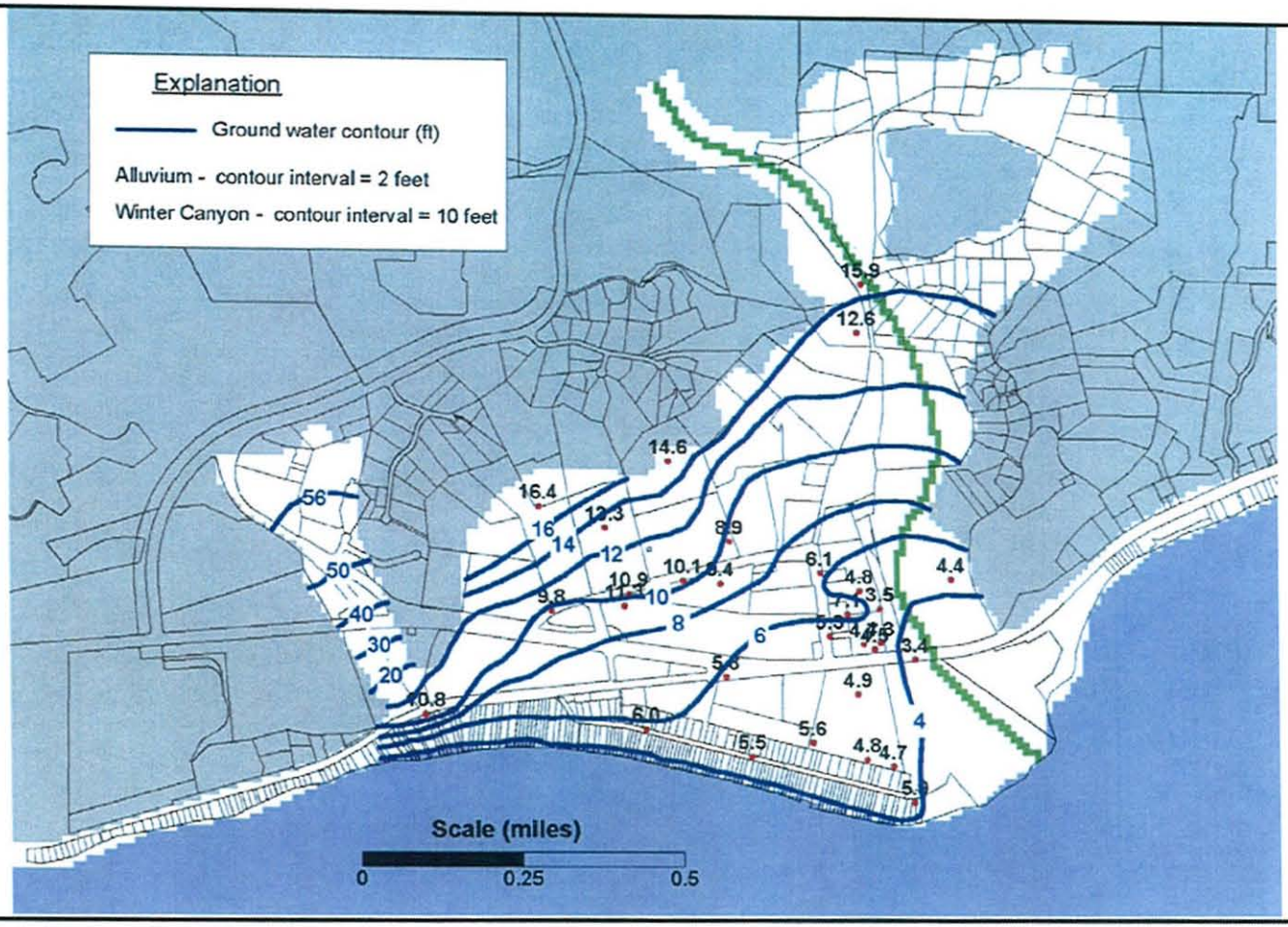


Earth Consultants International

STONE ENVIRONMENTAL INC

McDonald Morrissey Associates Inc.

Malibu Downtown Area
Historical Hydrographs 1998-2008



MAP 6: WATER LEVELS MEASURED ON MARCH 9, 2004--BREACHED LAGOON
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

Source: Draft Model Report Figure 9, McDonald-Morrissey Associates Inc., 2004.
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Date/init: 5-14-04 anm

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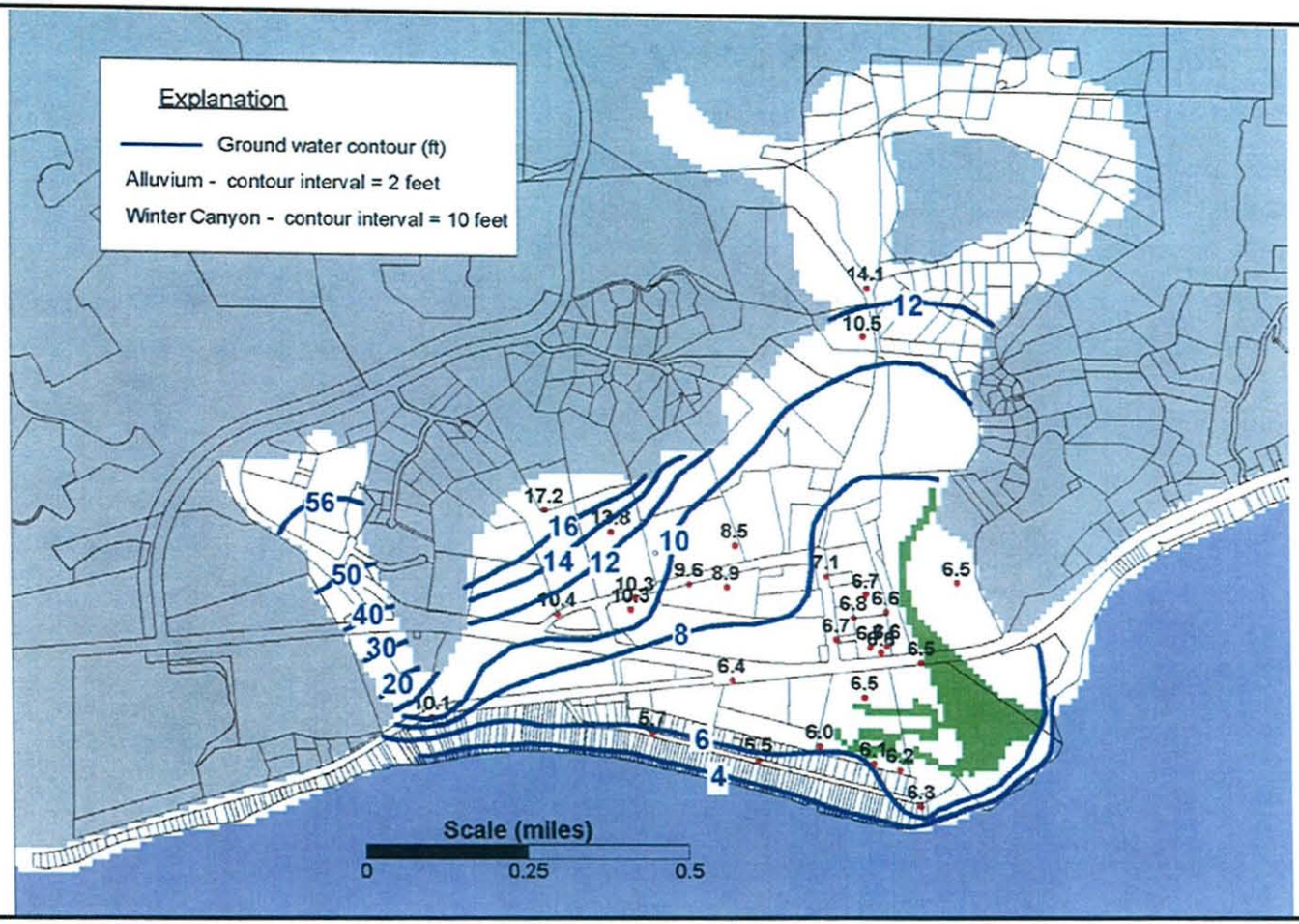

MAP 5: WATER LEVELS MEASURED ON SEPTEMBER 25, 2003--UNBREACHED LAGOON
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

Source: Draft Model Report Figure 9, McDonald-Morrissey Associates Inc., 2004.
Path: O:\Proj-01\1269-W-Malibu\Reports\DraftSubmittal\Maps\Map4.cdr
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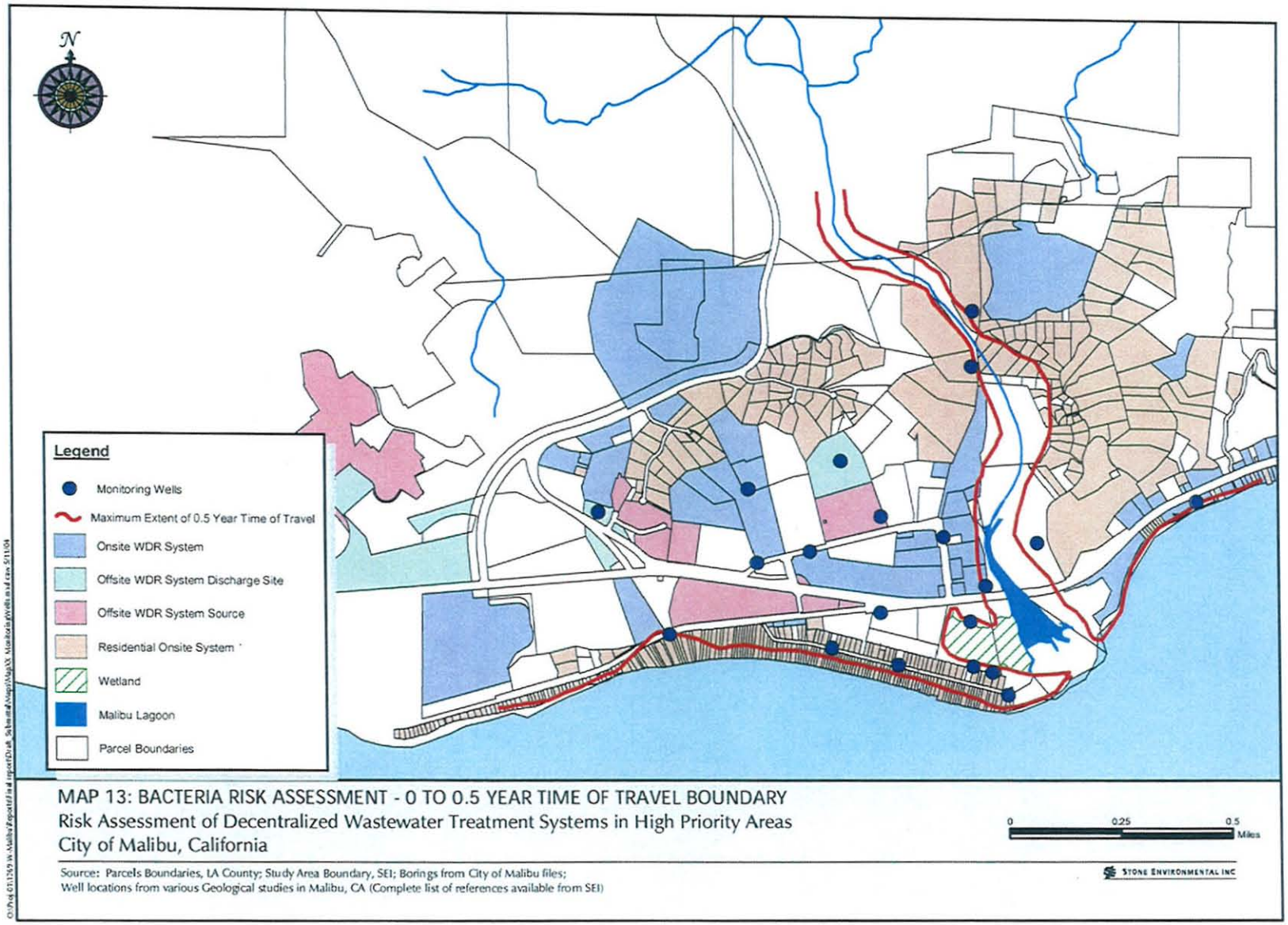


MAP 13: BACTERIA RISK ASSESSMENT - 0 TO 0.5 YEAR TIME OF TRAVEL BOUNDARY
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

Source: Parcels Boundaries, LA County; Study Area Boundary, SEI; Borings from City of Malibu files;
Well locations from various Geological studies in Malibu, CA (Complete list of references available from SEI)

STONE ENVIRONMENTAL INC

O:\Proj\611\569 w-Malibu\Report\Final report\Draft_Submittal\Maps\Map30_Monitoringwells.mxd rev 5/11/04

Figure 2R: Chart of Geometric Means of Enterococcus Density (MPN/100 mL) for 20 groundwater wells in the Civic Center area from Stone 2004 Study

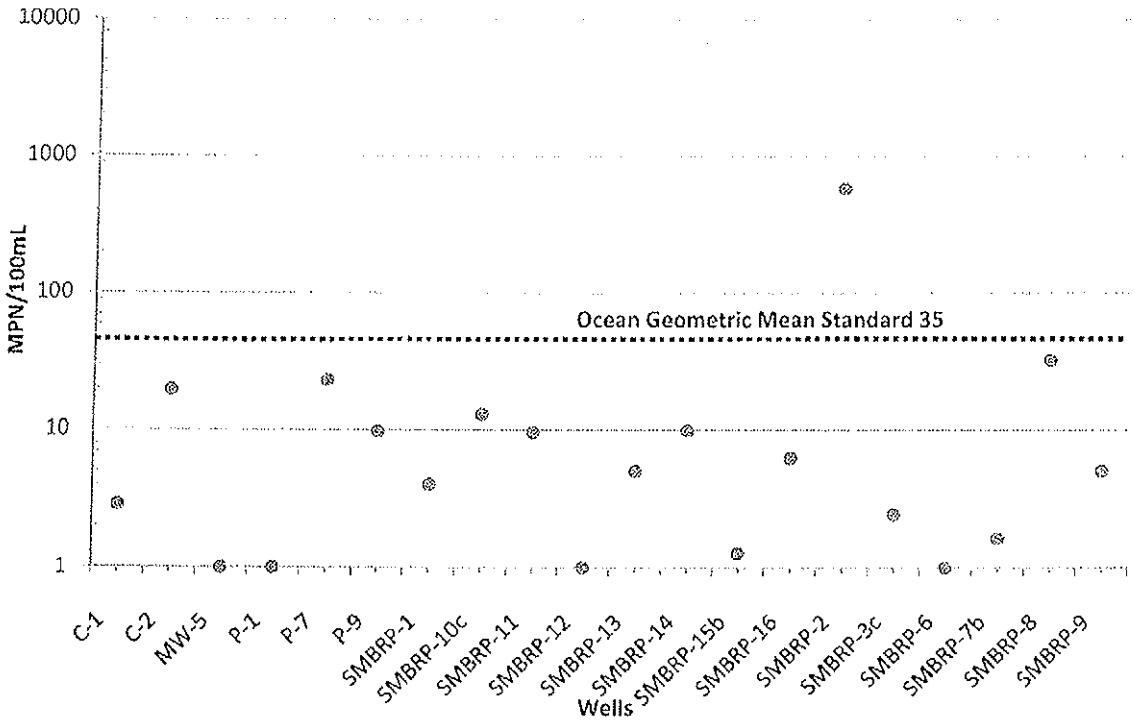
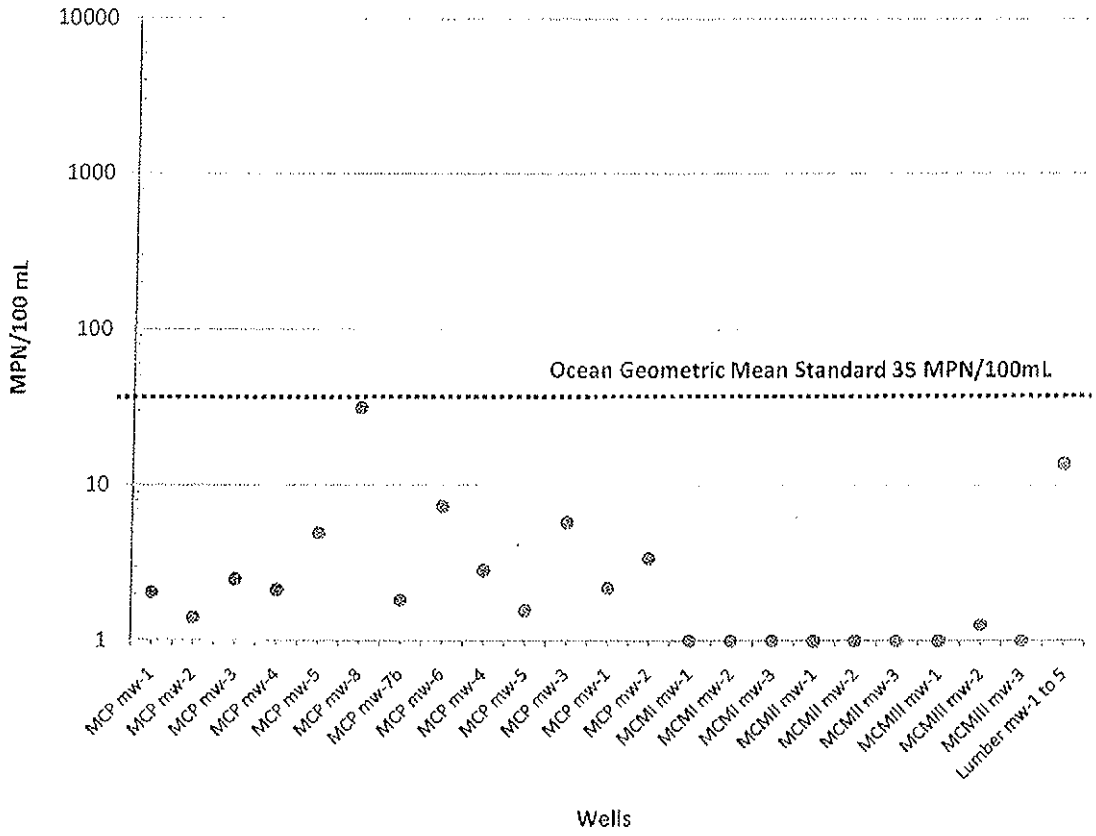
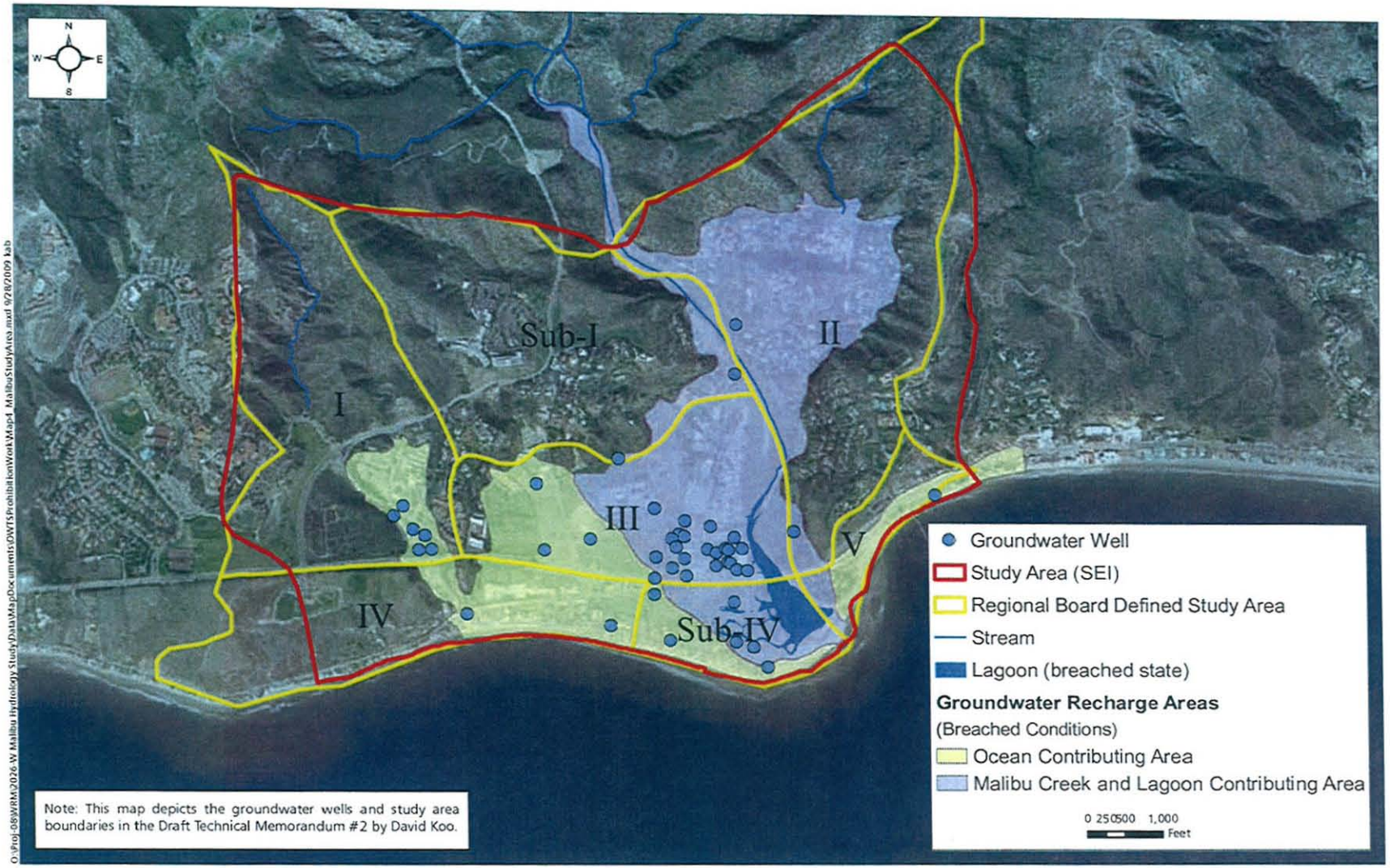


Figure 3R: Chart of Geometric Means of Enterococcus Density (MPN/100 mL) for 27 permit monitoring wells in the Civic Center area





Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area

City of Malibu, California

Sources: Groundwater Well Locations and Leachfields, digitized by Stone, 2009; Hydrography, digitized by stone using LAR-IAC 2006-2007 topography, 2009; Study Area, Regional Board; Groundwater Recharge, Stone; Imagery, ESRI.

ATTACHMENT 4
City of Malibu
Point-by-point comments for Technical Memo No. 4.

1. Page T4-6, Paragraph 3, Section 2.b.i - Regional Board staff estimates there has been a 100% increase wastewater discharge volume since 2001. This estimate is based on a series of unsubstantiated assumptions and almost certainly results in an overestimate of nitrogen loading to groundwater and surface waters. Water delivery records, not new information about the number of existing commercial properties in Malibu, should be used to obtain a more accurate representation of current and historical flows.

2. Page T4-9, Paragraph 3, Section 2.c.i - The numerical fate and transport model is not explained in any reasonable level of detail to allow technical review of the nitrogen loading analysis. Therefore, the conclusions of Technical Memorandum No. 4 cannot be independently verified.

3. Page T4-9, Paragraph 4, Section 2.c.ii - The analytical (spreadsheet) fate and transport model is not explained in any reasonable level of detail to allow technical review of the nitrogen loading analysis. Therefore, the conclusions of Technical Memorandum No. 4 cannot be independently verified.

4. Page T4-13, Paragraph 1, Section 2.c.ii - No credible scientific basis is provided for estimation of the soil nitrogen load reduction factors (Regional Board staff used values ranging from 0% to 20%). Therefore, the conclusions of Technical Memorandum No. 4 cannot be independently verified.

5. Page T4-14, Paragraph 2, Section 2.c.ii - The Regional Board staff's decision to not evaluate soil nitrogen load reduction for residential properties is indefensible. By virtue of having lower rates of effluent hydraulic loading and waste strength loading into the subsurface, natural nitrogen load reduction would be greater for residential properties than for commercial properties.

6. Page T4-13, Paragraphs 4-6, Section 3 - The analytical (spreadsheet) fate and transport model is not explained in any reasonable level of detail to allow technical review of the approach, and therefore, the scientific basis for the results and conclusions cannot be validated. There is no description of the model equation(s), the model input parameters are not described, and the selection of input parameter values is not described. Apparently, a "box model" simulating mixing of groundwater with surface water was used to estimate nitrogen concentrations in Malibu Lagoon, but no description of that model is provided. Neither the main body of the Technical Memorandum No. 4 nor Attachment 4-1 provides a description of the modeling model equation(s), the model input parameters, or the selection of input parameter values. The nutrient TMDL load allocations for nitrogen are presented as though they represent a scientifically credible threshold for impairment of aquatic life, yet the 2001 TetraTech nutrient TMDL study (upon which the load allocations are based) is not peer reviewed science. The City of Malibu is on record as having commented to the USEPA Region 9 that it does not agree with significant portions of the analysis and conclusions of the 2003 nutrient TMDL

study. A rational analysis of the nitrogen load that may correspond with impairment of aquatic life, and justification for the significance of the 6 lb/day threshold applied by the Regional Board analyst, is completely missing from Technical Memorandum No. 4.

7. Page T4-15, Paragraph 2, Section 4 - The analytical (spreadsheet) fate and transport model is not explained in any reasonable level of detail to allow technical review of the approach, and therefore, the scientific basis for the conclusions cannot be relied upon. Furthermore, Technical Memorandum No. 4 includes no discussion of the scientific basis for establishing a numerical threshold for nitrogen concentrations in receiving surface water habitat with respect to the question of what aquatic toxicity endpoint is used to define impairment of aquatic life.

8. Pg. 1 erroneously states that commercial development is concentrated on Malibu Road. While there are a small number of parcels, it would be better to state that it is centered on Civic Center Way instead.

9. Pg. 2 – under the section Residential Sites, the City does not have an Assessor. This reference should be to the Los Angeles County Assessor. In addition, the Assessor's information is updated quarterly. Why aren't more recent figures than 2002 used?

10. Interesting that the memo bases its study of water use on an assumption of 100 gpd per restroom. It would seem that the use of low-flow fixtures are more prevalent now and that a more accurate number would reflect such waster conservation measures.

11. Pg. 6, paragraph 2 – area the totals listed for current wastewater generated (128,469 gpd) accurate? It is not correct to say that there has been a 100% increase in use. The calculation was done in error. A 100% increase over 75,000 gallons would be 150,000 gallons, not 128,469 gallons. The percentage increase is not actually that high.

12. Pg. 7, paragraph 1 – memo does not provide sufficient data regarding the information obtained on "site visits" to the unpermitted commercial establishments.

13. Pg. 7 – the calculations for residential use do not take into account the unique nature of Malibu in that many of these residences are second homes and are not inhabited on a daily basis. This is especially true for the properties in the Colony and along Malibu Road.

14. Pg. 9 – Sector 1. A statement is made that untreated wastewater is being discharged. By whom? Why is a portion of Pepperdine included when it is on sewer?

15. Pgs. 10-12 – give various estimations of the percentage of flows that are reaching the Lagoon from the various Sectors. What evidence are these assumptions based on?

16. Pg. 11 – statement that Malibu Colony Plaza encompasses all the commercial area between PCH and Malibu Road. This statement is not true, because there is also the 76

Station, Post Office, Urgent Care and abandoned gas station that are located in the specified area.

17. Pg. 12, paragraph 1 – in one sentence the number of residences changes from 180 to 107. It should be clarified that there are 107 homes in the main sector and 73 in the subsector. Also, there should be an explanation as to why there are subsectors. There is no map to show the locations of these areas.

18. Pg. 12, paragraph 4 – there is nothing but the Pacific Ocean south of Malibu Lagoon. The project document needs to include accurate directions throughout (i.e. PCH runs east – west and the ocean is to the south in the project area).

19. Pg. 13 – Results section, 29 lbs/day of what is transported to Malibu Lagoon? Needs to be clarified.

20. Pg. 14 – why is the last line in Table 4 different for the net load to Malibu Lagoon? An explanation should be provided.

21. Pg. 14 – the memo mentions that nitrogen concentrations for commercial discharges have decreased, but this fact was never analyzed in this document. Also this section cites that 15 new OWTS have been installed since 2004. Where? There is no evidence to support this statement.

22. Table 2 includes properties that are incorrectly categorized:

APN 4458-027-037 is actually addressed as 3547 Winter Canyon and it contains a long-standing commercial use – Malibu Glass. There is no multi-family development on that property.
APN 4458-027-025 is an elementary school and does not contain a 6 bed, 6 bath residence.
APN 4458-027-005 is a duplex, not a single-family residence.
APN 4452-019-008 is a duplex, not a single-family residence.

23. Section 2, Pages 4-5 Assumptions used in estimating nitrogen loading are explained in the Technical Memorandum and can be debated. However, it is most important to recognize that the assumptions result in estimates, not actual measurements of nitrogen loading. Therefore the language in 2.b.iii that states what flows and loads are, should be changed to document that based on the assumptions presented, the flows or loads are estimated to be the values presented. This perspective is lacking throughout this Memo.

24. Section 2, Pages 5-6. Water use data show that the amount of commercial wastewater discharge has actually gone down in the area that contributes to the lagoon. In 2003 commercial discharges averaged (annual flows per year divided by 365 days) about 88,000 gpd and have been generally decreasing to 2008 when it averaged approximately 61,000 gpd.

ATTACHMENT 4
City of Malibu
Point-by-point comments for Technical Memo No. 4.

25. Section 2, Page 7. The use of 100 gpd/person and one person per bathroom is not an appropriate approach to estimating residential flow. Stone (2004) estimated average indoor water use as 500 gpd and 20 mg/L Nitrate-N, because a high volume of indoor water use results in diluted wastewater with a relatively low nitrate-N concentration. Another approach would be to use the average household size of 2.4 persons/household, and assume 100 gal/day/person and 45 mg/L nitrate -N. However the assumption of 1 person per bathroom and an average of 3.6 bathrooms per house (1,262 total bathrooms/349 Residential units) results in an exaggerated estimate of 3.6 people per household that will result in apparently inaccurate estimates of nitrate loading.
Section 2, Page 9. The Board staff assumes that there is loading to the Lagoon from areas that are clearly outside the contributing area for the lagoon. There is no defensible justification provided for this assumption. The map presented in Appendix 4-1, Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area, provides a comparison of the sectors with the alluvial deposits and the contributing area to Malibu Lagoon.

26. Pages 9-12. In the Technical Memorandum, Board staff assumes that loading to Lagoon is distributed as follows:
1% from Winter Canyon sub sector – Sector I
45% from West Alluvium sub sector – Sector I
95% from Sector II which includes North alluvium, Malibu Tributary, Serra Retreat and East Alluvium
95% from Sector III which includes the entire valley floor on alluvium.
Plus 20% from the Racquet Club and Miramar properties on western edge.
1% of the loading from Sector IV which includes all commercial properties and residences south of PCH plus 45% of flow from 73 homes in the "Lagoon sub sector" of this area

The memo does not provide a rationale for this distribution of flow and does not provide any hydrologic data or analysis to support it. See the above-referenced maps in Appendix 4-1, as well as a selected list of relevant references that thestaffdid not include in the references for Technical Memorandum #4 or consider in their analysis, in this appendix

27. Pages 9-12. The loading calculations done by LARWQCB should be recalculated using contributing area based on the region's actual hydrogeology. See the map titled Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area in Appendix 4-1.

28. Pages 9-10. Sector I.
The statement is made that "Groundwater takes the path of least resistance", and then the memo attempts to present a case, without any evidence, that the groundwater will NOT take the path of least resistance. Rather it will travel through the bedrock instead of flowing directly to the ocean down a relatively steep gradient through the permeable alluvial along the trough of Winter Canyon. No data is presented to justify the

assumption of significant flow through the fractured bedrock. The statement that there is a "super highway" within the fractured bedrock of Malibu Valley is not justified. See the two maps Appendix 4-1 showing the groundwater elevations in both breached and flooded lagoon conditions.

29. Pages 9-10. Sector I.
There was nothing in the Memo to indicate that the beach in front of Winter Canyon has ever been found to be contaminated by discharge from Winter Canyon. As such, it is not clear why this zone is included in the Prohibition Area. Winter Canyon should be deleted from the proposed Prohibition Zone. If the contribution is indeed only 1%, and may be ZERO, how does this miniscule contribution justify a prohibition? Longshore current drift from the mouth of Winter Canyon cannot enter the Lagoon, because the Lagoon is topographically higher than the ocean, and is typically blocked by a sand bar. See the map of contributing areas titled Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area in Appendix 4-1.

30. Page 10. Sector II.
Reference is made to the west side of Malibu Creek and Serra Retreat. Serra Retreat is on the east side of Malibu Creek.

31. Section 3, Page 12. Results.
The analysis ignores nitrate loading from inflow of Malibu Creek to the Lagoon. Available data from Heal the Bay monitoring at Arizona Crossing shows that nitrate levels in Malibu Creek can be as high as 10 mg/l. See the chart titled NO2-N +NO3-N Concentrations Malibu Creek in Appendix 4-1, which includes water quality data downloaded from Heal the Bay's website at http://www.healthebay.org/streamteam/data/chem/query/ on October 5, 2009.

32. Section 2, Page 14. The discussion of nitrogen loading is only a repetition of various estimates without discussion of why there are differences. The analysis is presented with no clear basis for the Board's choice of estimate, and without documentation of the procedure for making the estimate of how much nitrogen is produced. The nitrogen contribution by Sector is not broken down despite 12 pages of description of how the Sectors were divided and how important they are to their model. No consideration is given as to whether existing advanced treatment systems might change the assumed nitrogen production rates. This is a very hollow results section, difficult to quantitatively review because there is no substance in it available to review.

33. Section 2, Page 15. The wording in the main body of Technical Memo #4 implies that the numerical model was used by Board staff to estimate loading rates; however, his is appears to not be true and the ratio of total nitrogen load was used to calculate the load to the lagoon.

34. Section 3, Page 14. The following statement is not clear: "Since 2004, 15 additional OWTS have been installed at commercial properties in the Malibu Civic Center area." It

would appear to more accurately be stated, as follows: "Since 2004, 15 OWTS have been installed at existing commercial properties in the Malibu Civic Center area."

35. Section 4-1, Page 33. In Table 1 of the memo addendum by Lai various loading rates are compared. Rather than using the correct contributing area for the lagoon the staff simply assumed that 50% of total nitrogen produced in the project area will go to the lagoon. This assumption is arbitrary and completely ignores the mapped capture zone for the lagoon. See the mapped capture zones presented in the map titled Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area, in Appendix 4-1.

See APPENDIX 4-1 attached

Earth Consultants International

Malibu Downtown Area
Well Location Map

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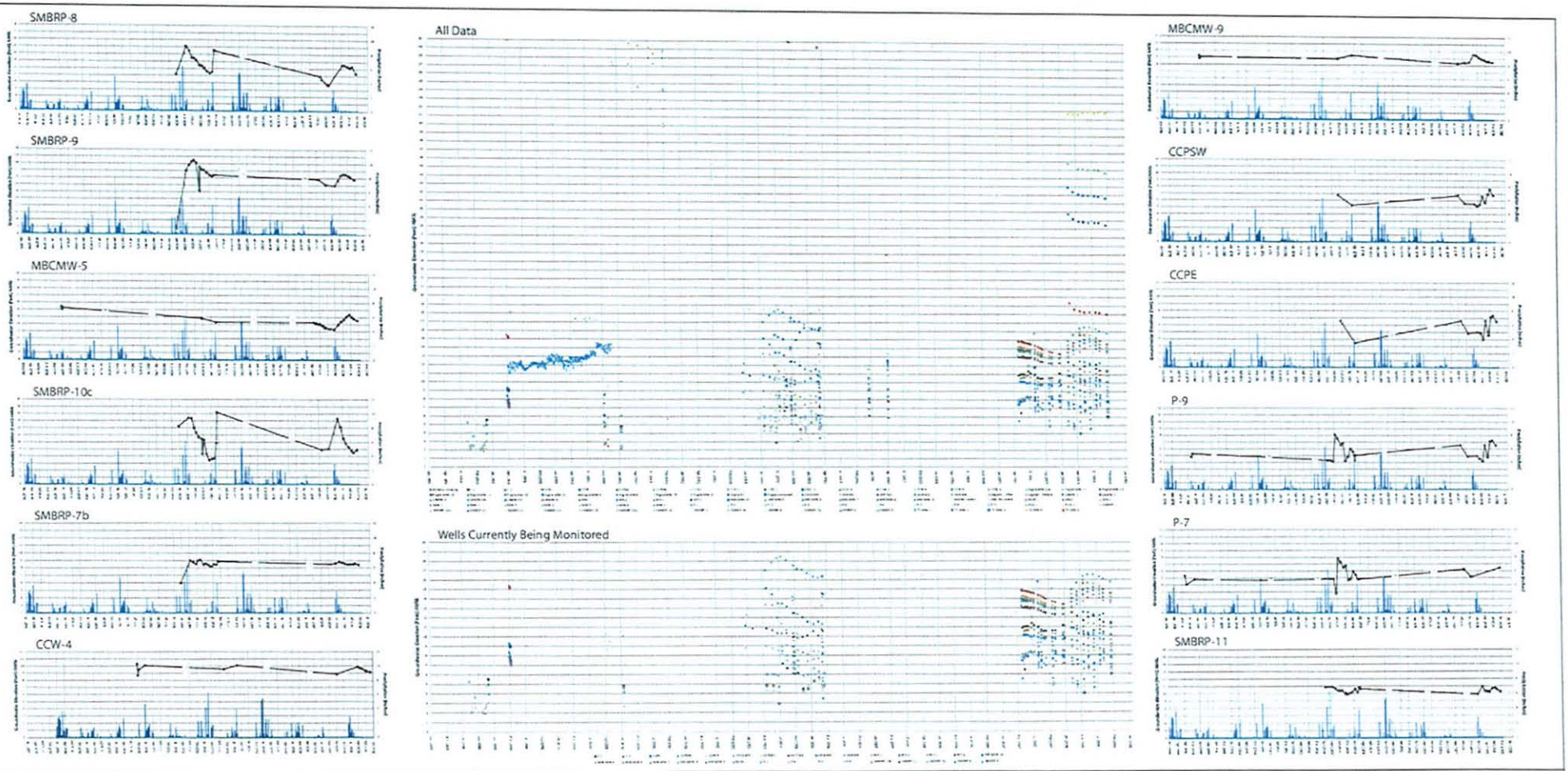
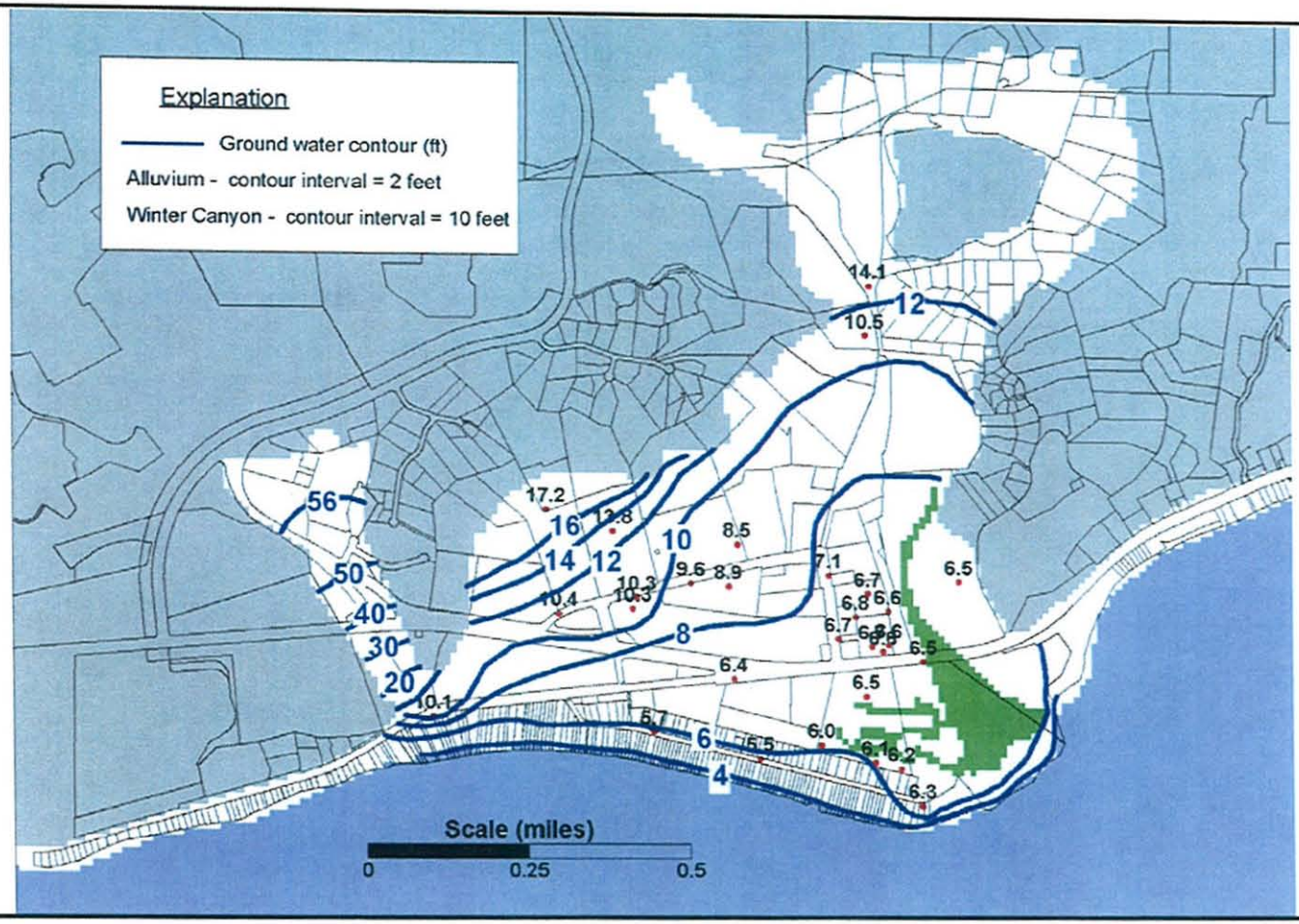


Earth Consultants International

Stone Environmental Inc

McDonald Morrissey Associates

Malibu Downtown Area
Historical Hydrographs 1998-2008



MAP 5: WATER LEVELS MEASURED ON SEPTEMBER 25, 2003--UNBREACHED LAGOON
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

Source: Draft Model Report Figure 9, McDonald-Morrissey Associates Inc., 2004.
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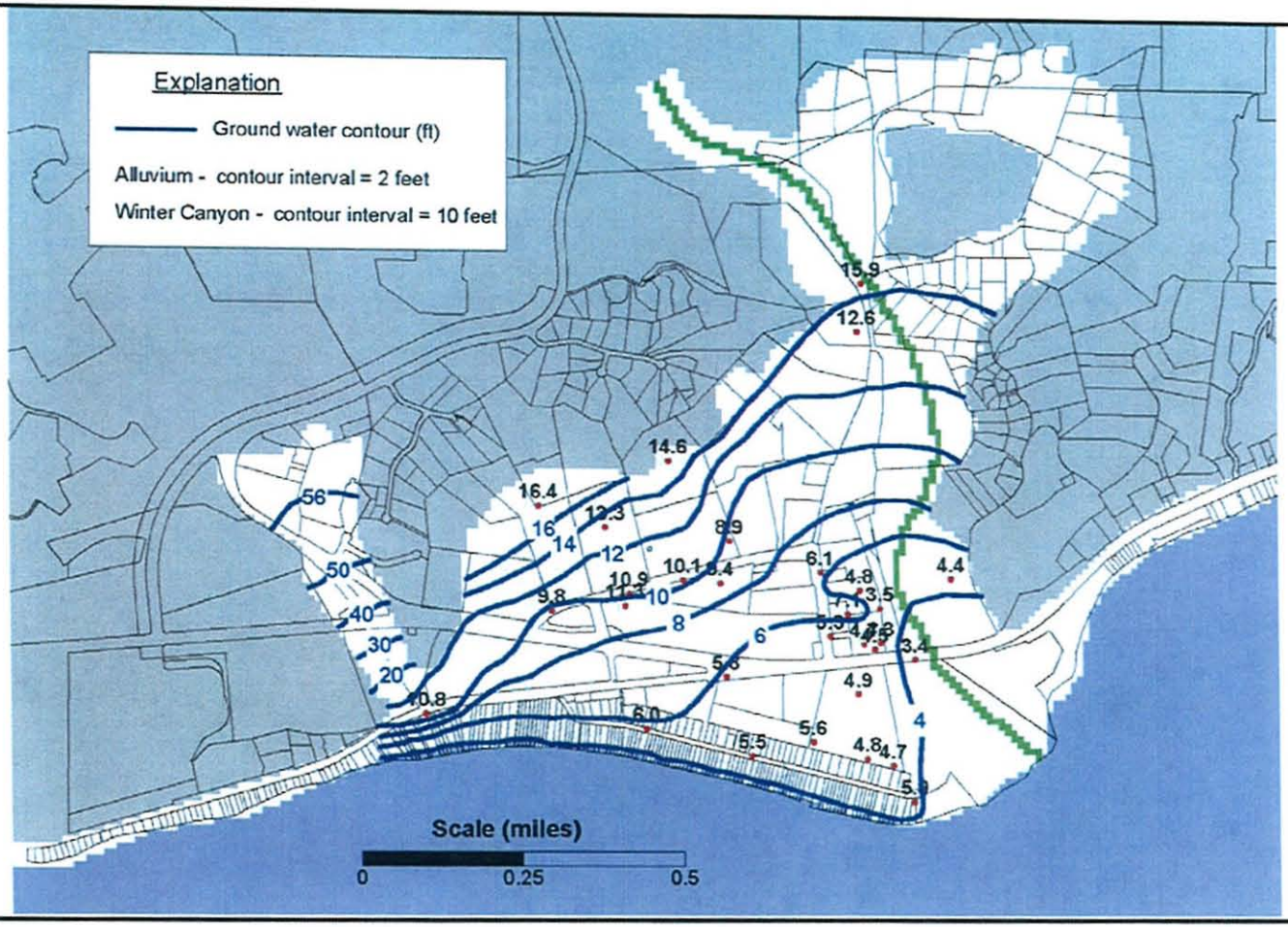

MAP 6: WATER LEVELS MEASURED ON MARCH 9, 2004--BREACHED LAGOON
Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas
City of Malibu, California

Source: Draft Model Report Figure 9, McDonald-Morrissey Associates Inc., 2004.
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Date/init: 5-14-04 anm

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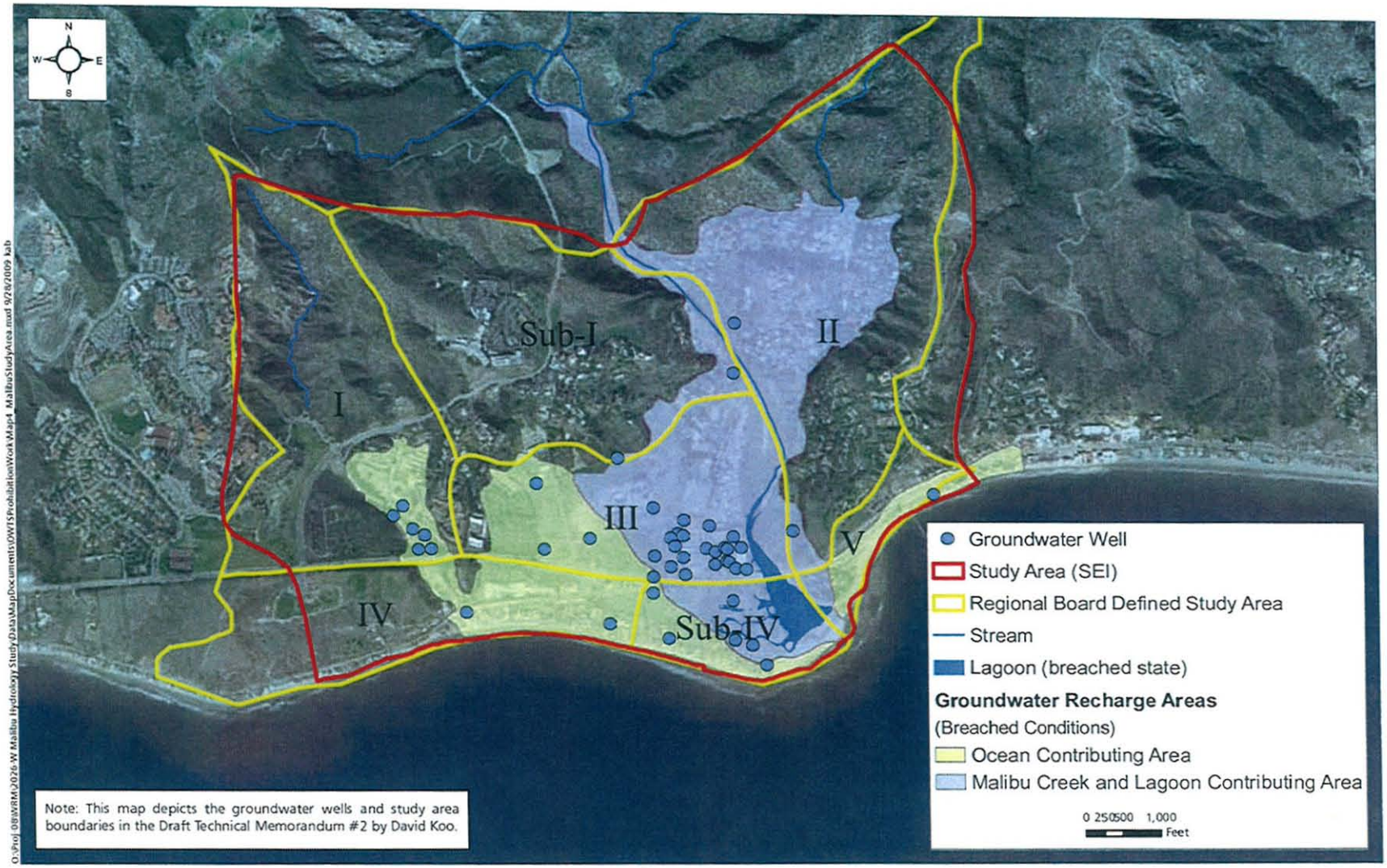
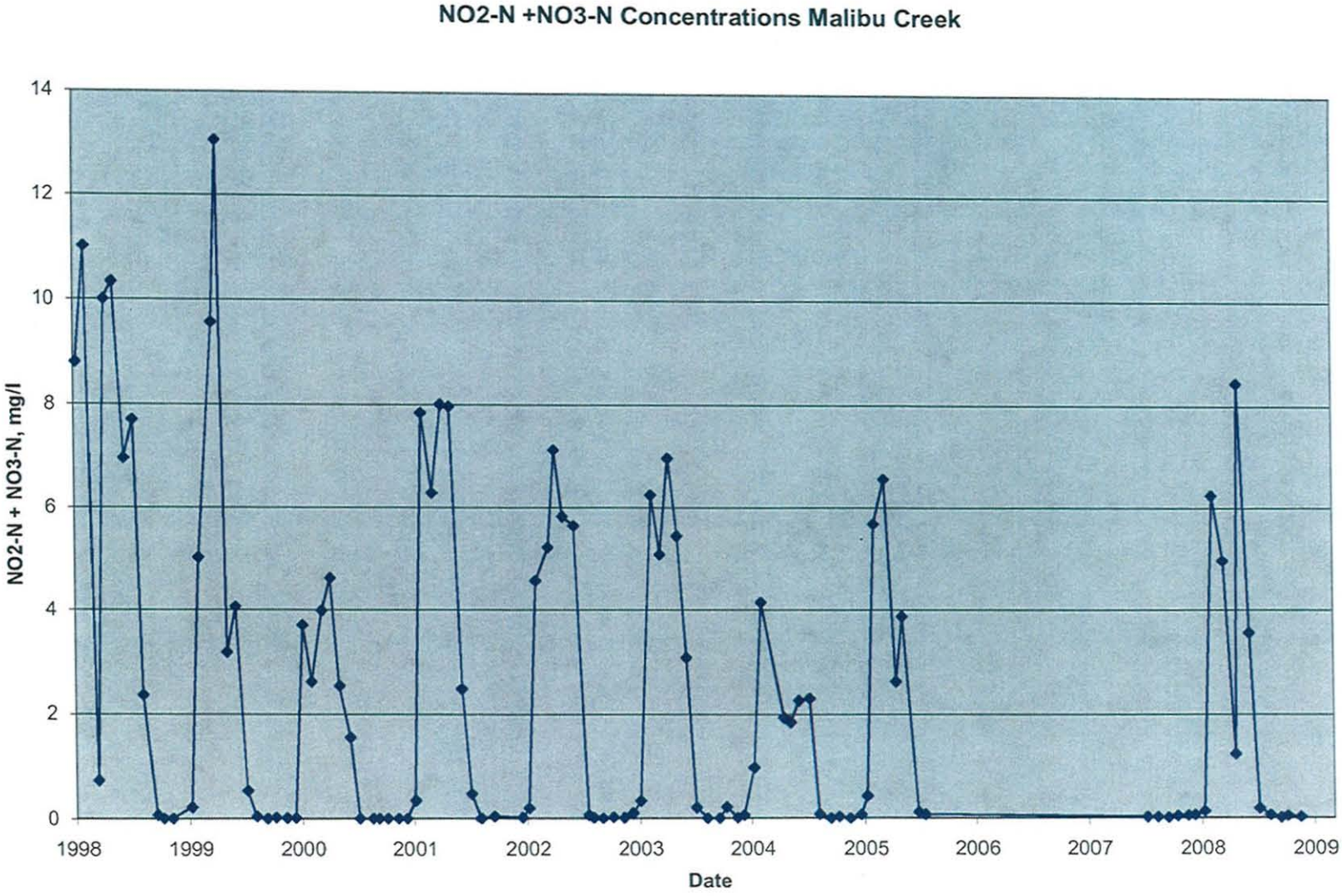


Groundwater Wells and Groundwater Recharge Areas in Malibu Study Area

City of Malibu, California

Sources: Groundwater Well Locations and Leachfields, digitized by Stone, 2009; Hydrography, digitized by stone using LAR-IAC 2006-2007 topography, 2009; Study Area, Regional Board; Groundwater Recharge, Stone; Imagery, ESRI.


NO2-N +NO3-N Concentrations Malibu Creek
NO2-N + NO3-N, mg/l
14
12
10
8
6
4
2
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Date

Advanced Treatment OWDS in the Malibu Civic Center Area

AIN	Street No.	Street Name	Date of Plan
4452005031	22878	PACIFIC COAST HWY	12/18/2007
4452008030	23324	MALIBU COLONY DR	8/18/2006
4452009017	23416	MALIBU COLONY RD	9/15/2006
4452009026	23414	MALIBU COLONY RD	11/14/2006
4452010027	23445	MALIBU COLONY RD	8/20/1985
4452011042	3900	CROSS CREEK RD	1/9/1998
4452011043	23359	PACIFIC COAST HWY	1/9/1998
4452012012	3635	SERRA RD	9/9/2005
4452014004	23344	PALM CANYON LANE	2/9/2005
4452015029	3551	CROSS CREEK LN	11/8/2006
4452016003	3311	SWEETWATER MESA RD	12/5/2006
4452016019	3415	SWEETWATER MESA RD	6/20/1997
4452019003	23017	PACIFIC COAST HWY	12/18/2002
4452026018	3270	SERRA RD	9/22/2009
4458002008	23681	MALIBU COLONY RD	12/7/1992
4458003014	23561	MALIBU COLONY RD	3/27/2007
4458003026	23615	MALIBU COLONY RD	1/31/2007
4458004035	23512	MALIBU COLONY DR	4/1/2002
4458004037	23520	MALIBU COLONY DR	2/9/1996
4458004045	23554	MALIBU RD	12/9/2004
4458004046	23556	MALIBU COLONY RD	7/10/2007
4458006029	23754	MALIBU RD	8/21/1986
4458006031	23750	MALIBU RD	1/8/2007
4458006035	23730	MALIBU COLONY RD	10/4/1999
4458006036	23720	MALIBU COLONY RD	12/18/1986
4458007015	23864	MALIBU RD	7/18/2006
4458007017	23910	MALIBU RD	5/26/1998
4458008015	23926	MALIBU RD	2/11/2004
4458009011	24008	MALIBU RD	4/16/2007
4458010002	24166	MALIBU RD	11/20/2006
4458020010	23410	CIVIC CENTER WAY	4/7/1997
4458020016	23641	PACIFIC COAST HWY	7/3/1995
4458021172	23825	STUART RANCH RD	9/21/2000
4458022019	23519	CIVIC CENTER WAY	2/28/1968
4458022904	23525	CIVIC CENTER WAY	2/28/1968
4458025001	23915	MALIBU KNOLLS RD	11/28/1988
4458028006		PCH and CIVIC CENTER WAY	2/13/2001
4458028020	24000	CIVIC CENTER WAY	2/13/2001
4458029006	3011	MALIBU CANYON RD	5/11/1998
4458029012	3011	MALIBU CANYON RD	5/11/1998
4458029013	3011	MALIBU CANYON RD	5/11/1998
4458029015	3011	MALIBU CANYON RD	5/11/1998
4458029016	3011	MALIBU CANYON RD	5/11/1998

Source: Malibu Integrated Wastewater Information Management System, September 2009.

Date/init: 10/1/09 anm

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