

# ~~Draft~~Final Environmental Impact Statement

## Volume III of HIV Chapter XI. Parties Consulted During the 45-Day Comment Period on the Draft Environmental Impact Statement; Letters Received and Responses to Substantive Comments (Part I)

### PROPOSED OLOWALU TOWN MASTER PLAN (TMK Nos. (2)4-8-003:84, 98 through 118, and 124)

Prepared for:

Olowalu Town, LLC and  
Olowalu Ekolu, LLC

February 2012October 2015

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# XI. PARTIES CONSULTED DURING THE REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, LETTERS RECEIVED AND RESPONSES TO SUBSTANTIVE COMMENT LETTERS

The following agencies, organizations and individuals were consulted during review of the Draft Environmental Impact Statement (EIS); agencies, organizations and individuals comments and responses to substantive comments are included hereto:

Consulted Party	Date of Comment Letter	Date of Response Letter
<b>Federal Agencies</b>		
US Army Engineer Division	---	---
US Geological Survey	---	---
US Fish and Wildlife Service	---	---
National Oceanic and Atmospheric Administration, National Marine Fisheries Service	3/27/12	10/26/15
<b>State Agencies</b>		
Department of Agriculture	---	---
Department of Accounting and General Services	3/21/12	10/26/15
Department of Business Economic Development and Tourism (DBEDT)	---	---
DBEDT – Energy Division	---	---
DBEDT - Land Use Commission	4/16/12	10/26/15
DBEDT – Office of Planning	4/20/12	10/26/15
Department of Defense	4/10/12	10/26/15
Department of Education	4/27/12	10/26/15
Department of Hawaiian Home Lands	---	---
Department of Health (DOH), Clean Water Branch	5/31/12	10/26/15
DOH, Environmental Planning Office	3/8/12	10/26/15

<b>Consulted Party</b>	<b>Date of Comment Letter</b>	<b>Date of Response Letter</b>
DOH, Indoor and Radiological Health Branch	3/13/12	10/26/15
DOH, Wastewater Branch	3/14/12	10/26/15
Department of Human Services	3/27/12	10/26/15
Department of Labor and Industrial Relations	3/15/12	10/26/15
Department of Land and Natural Resources (DLNR) - Land Division	4/20/12	10/26/15
DLNR – Historic Preservation Division	---	---
DLNR - Office of Conservation and Coastal Lands	4/23/12	10/26/15
Department of Transportation	4/26/12	10/26/15
Hawaii Housing Finance and Development Corp.	---	---
Office of Hawaiian Affairs	---	---
UH Environmental Center	---	---
<b>County Agencies</b>		
Department of Environmental Management	4/25/12	10/26/15
Department of Fire and Public Safety	4/25/12	10/26/15
Department of Housing and Human Concerns	4/16/12	10/26/15
Department of Parks and Recreation	---	---
Department of Planning	4/17/12	10/26/15
Police Department	4/5/12	10/26/15
Department of Public Works	---	---
Department of Transportation	---	---
Department of Water Supply	4/9/12	10/26/15
Mayor	---	---
<b>Elected Officials</b>		
Council Chair Danny Mateo	---	---
Council Vice-Chair Joe Pontanilla	---	---
Councilmember Gladys Baisa	---	---
Councilmember Robert Carroll	---	---
Councilmember Elle Cochran	---	---

<b>Consulted Party</b>	<b>Date of Comment Letter</b>	<b>Date of Response Letter</b>
Councilmember Don Couch	---	---
Councilmember G. Riki Hokama	---	---
Councilmember Michael Victorino	---	---
Councilmember Michael White	---	---
<b>Libraries</b>		
Kahului Library	---	---
Lāhainā Library	---	---
Legislative Reference Bureau	---	---
Maui Community College Library	---	---
State Main Library	---	---
UH Hamilton	---	---
<b>News Media</b>		
Honolulu Star Advertiser	---	---
Maui News	---	---
<b>Utility Companies</b>		
Maui Electric Company	4/25/12	10/26/15
Hawaiian Telcom	---	---
<b>Citizen Groups, Individuals, and Consulted Parties</b>		
Margaret Schlachter	---	---
Anna C. Potts and Jason A. Potts 4606 Fowler Avenue, Apt. 9 Everett, WA 98203	4/10/12	10/26/15
Jan Ehrenkrook 49935 Gallatin Road Gallatin Gateway, MT 59730	4/13/12	10/26/15
Victoria and Walton Huffman 9909 Lemon Avenue La Mesa, CA 91941	4/15/12	10/26/15
Wallace H. Fujii Fujii Family Limited Partnership P.O. Box 511 Kahului, Hawai'i 96733	4/18/12	10/26/15

Consulted Party	Date of Comment Letter	Date of Response Letter
Michael W. Foley 3625 Pi'ikea Place Makawao, Hawaii 96768	4/19/12	10/26/15
Randy Ragon 713 Front Street A Lahaina, Hawai'i 96761	1/24/12 and 4/19/12	10/26/15
Dick Mayer 1111 Lower Kimo Drive Kula, Hawai'i 96790	4/21/12	10/26/15
Pauline Feine P.O. Box 627 Kihei, Hawai'i 96753	4/21/12	10/26/15
Robin Newbold, Chair Maui Nui Marine Resource Council P.O. Box 532533 Kihei, Hawai'i 96753	4/22/12	10/26/15
Maui Tomorrow 55 N. Church Street, Suite A5 Wailuku, Hawai'i 96793	4/23/12	10/26/15
West Maui Taxpayers Association P.O. Box 10338 Lahaina, Hawai'i 96761	4/24/12	10/26/15
Surfrider Foundation Maui Chapter P.O. Box 790549 Paia, Hawai'i 96779	5/7/12	10/26/15
Citizens for Truth and Justice Maui County P.O. Box 791071 Paia, Hawai'i 96779	10/15/12	10/26/15

# **FEDERAL LETTERS**

MAR 29 2012



U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Pacific Islands Regional Office  
1601 Kapiolani Blvd., Suite 1110  
Honolulu, Hawaii 96814-4700  
(808) 944-2200 • Fax (808) 973-2941

Olowalu Town, LLC and Olowalu Ekolu, LLC  
Atten: Mr. Bill Frampton  
2035 Main St., Suite 1  
Wailuku, HI 96793

MAR 27 2012

Dear Mr. Frampton,

This letter provides comments on the Draft Environmental Impact Statement (DEIS) for the proposed Olowalu Town Master Plan development project on the island of Maui. The National Marine Fisheries Service (NMFS) Pacific Islands Region's Protected Resources Division provides the following comments about how the development may affect protected marine species under its jurisdiction.

There are three marine species protected under the Endangered Species Act (ESA) that frequent the area in question and may potentially be affected by the project: the threatened green sea turtle (*Chelonia mydas*), the endangered hawksbill sea turtle (*Eretmochelys imbricata*), and the endangered Hawaiian monk seal (*Monachus schauinslandi*).

In addition to these ESA-listed species, 9 species of corals found in Hawaii were petitioned for listing under the ESA, and a 90-day finding was issued on February 10, 2010, that substantial information was provided to determine listing was warranted. These 9 corals are now considered to be candidate species under the ESA. NMFS is currently working on a status review for these species to determine whether they should be listed as threatened or endangered. One of these coral species, *Montipora patula*, was found to occur in the nearshore waters off of the project area and is listed in Appendix D: Assessment of Marine Water Chemistry and Biotic Community Structure in the Vicinity of the Olowalu Town Master Plan, Olowalu, Maui, Hawaii, in section III.B.2., Results – Quantification of Benthic Cover (Appendix D, pg. 17).

In section III. B. 6. of Appendix D, under the title Threatened and Endangered Species, (Appendix D, pg. 21), it is stated that the ESA-listed green sea turtle, hawksbill sea turtle, and Hawaiian monk seal are found within the project area, and it also says that "Several green turtles were encountered during the course of fieldwork". However, nowhere in the main body of the DEIS does it mention the fact that these protected marine species are found within the project area, and there are no mitigation measures specified to reduce potential impacts to these species.

Hawaiian monk seals are known to occur in the area around the proposed development, and have been frequently sighted hauled out on beaches in the area. These critically endangered animals are sensitive to human disturbance and could be negatively affected by increased human presence if not properly mitigated. Mitigation measures to minimize human disturbance and interactions with the seals should be discussed in detail in the EIS.



The island of Maui hosts a nesting population of hawksbill sea turtles on the southern shore of the island. Green turtles also occur off shore of the action area and may bask onshore. There has been at least one anecdotal account of sea turtle nesting at the Olowalu area; however, this report was not confirmed. Nevertheless, it is possible that the area provides suitable shoreline habitat that could support sea turtle nesting.

One mitigation measure could reduce impacts to sea turtle nesting areas is the installation of wildlife-friendly lighting. Lights shining on the beach or ocean are of concern, as is any artificial light source that can be seen from the beach. The EIS and project developers should specify the types of bulbs and shields to be used, the potential of many light sources working together to create skyglow, and a monitoring system to determine impacts from artificial lighting. Roadways and traffic plans should also address lighting issues from streetlamps and headlights so they cannot be seen from the beach to disorient nesting sea turtles or hatchlings during the nesting season. Detailed lighting mitigation to eliminate this impact should be included in the EIS. Additionally, temporary lighting impacts that may persist for several years during the different construction phases for this project should also be addressed and mitigated.

There are many resources available to help developers install wildlife-friendly lighting that is also more effective in terms of safety and security, and in many cases more energy efficient. General rules to keep in mind for wildlife-friendly lighting are:

1. Mount lights as low as is practicable to minimize light trespass (trespass = light shining where you do not want or need it). Directing light with shields usually increases the amount of light in the area you are targeting, increasing its utility for safety and security purposes;
2. Use only the lumens output necessary for the particular application (most of the time, this can be minimal);
3. Keep lights shielded to direct light exactly where you want or need it to eliminate point source light (full cut-off shields whenever possible; bulbs should not be directly visible); and
4. Use long wavelength lights; many manufacturers offer "turtle friendly bulbs", "yellow bug bulbs", or amber LEDs for outdoor light fixtures that appear yellow, amber, or red to the human eye. This light is not only better for wildlife, but it does less damage to humans' natural night adaptive vision, allowing for better eyesight at night for residents and visitors. Low pressure sodium lights are also a good option, especially for areas like parking lots (again, with full cut-off shields). Many of these lights are also the most energy efficient options, reducing utility costs.

Please contact Kim Maison of my staff ([kimberly.maison@noaa.gov](mailto:kimberly.maison@noaa.gov), 808-944-2278) or Joy Browning of the US Fish and Wildlife Service ([Joy.Browning@fws.gov](mailto:Joy.Browning@fws.gov), 808-792-9429) for more information or recommendations on potential mitigation methods for lighting.

Measures should be taken to prevent run-off from grading, excavation, or other construction activities, particularly in the event of bad weather during construction. Run-off can alter or destroy off shore sea turtle foraging habitat, and alter sand composition of beaches, making them



unfavorable for sea turtle nesting. Run-off can also have negative impacts on corals by smothering them with silt or increasing algae blooms. More information on mitigation of potential impacts to protected marine species and their habitats during construction should be provided.

If you should have any questions regarding these comments, please contact Jayne LeFors on my staff at (858) 546-5653 or at the e-mail address [jayne.lefors@noaa.gov](mailto:jayne.lefors@noaa.gov).

Sincerely,



Lisa Van Atta  
Assistant Regional Administrator  
for Protected Resources

cc: State Land Use Commission  
Munekiyo & Hiraga, Inc.  
Loyal Merhoff, USFWS/Pacific Islands Fish and Wildlife Office



**MUNEKIYO HIRAGA**

Planning. Project Management. Sustainable Solutions.

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Mark Alexander Roy  
VICE PRESIDENT

Tessa Munekiyo Ng  
VICE PRESIDENT

October 26, 2015

Lisa Van Atta, Assistant Regional Administrator  
for Protected Resources  
U.S. Department of Commerce  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Pacific Islands Regional Office  
1601 Kapiolani Boulevard, Suite 1110  
Honolulu, Hawaii 96814

SUBJECT: Draft Environmental Impact Statement for the Proposed Olowalu  
Town Master Plan at Olowalu, Hawaii

Dear Ms. Van Atta:

On behalf of the applicants, Olowalu Town, LLC and Olowalu Ekolu, LLC, we thank you for your letter of March 27, 2012 responding to our request for comments on the Draft Environmental Impact Statement (EIS) for the proposed Olowalu Town Master Plan. We offer the following information in response to the comments noted in your letter.

**Comment:**

*There are three marine species protected under the Endangered Species Act (ESA) that frequent the area in question and may potentially be affected by the project: the threatened green sea turtle (*Chelonia mydas*), the endangered hawksbill sea turtle (*Eretmochelys imbricata*), and the endangered Hawaiian monk seal (*Monachus schauinslandi*).*

*In addition to these ESA-listed species, 9 species of corals found in Hawaii were petitioned for listing under the ESA, and a 90-day finding was issued on February 10, 2010, that substantial information was provided to determine listing was warranted. These 9 corals are now considered to be candidate species under the ESA. NMFS is currently working on a status review for these species to determine whether they should be listed as threatened or endangered. One of these coral species, *Montipora patula*, was found to occur in the nearshore waters off of the project area and is listed in Appendix D: Assessment of Marine Water Chemistry and Biotic*

---

Maui: 305 High Street, Suite 104 • Wailuku, Hawaii 96793 • Tel: 808.244.2015 • Fax: 808.244.8729

Oahu: 735 Bishop Street, Suite 321 • Honolulu, Hawaii 96813 • Tel: 808.983.1233

[www.munekiyoHIRAGA.com](http://www.munekiyoHIRAGA.com)

*Community Structure in the Vicinity of the Olowalu Town Master Plan, Olowalu, Maui, Hawaii, in section III.B.2., Results -Quantification of Benthic Cover (Appendix D, pg. 17).*

**Response:** A section on Marine Resources has been included in the EIS. It includes information on the threatened green sea turtle, endangered hawksbill sea turtle, endangered Hawaiian monk seal and coral specie, *Montipora patula*. See **Exhibit "1"**. We note that although considered, the 2014 list of coral species identified as threatened under the Endangered Species Act (ESA) did not include *Montipora patula*. As such, there are no ESA listed corals in the project area.

**Comment:**

*In section III. B. 6. of Appendix D, under the title Threatened and Endangered Species, (Appendix D, pg. 21), it is stated that the ESA-listed green sea turtle, hawksbill sea turtle, and Hawaiian monk seal are found within the project area, and it also says that "Several green turtles were encountered during the course of fieldwork". However, nowhere in the main body of the DEIS does it mention the fact that these protected marine species are found within the project area, and there are no mitigation measures specified to reduce potential impacts to these species.*

**Response:** The EIS has been revised to include reference to the observation of several green sea turtles during the course of the fieldwork for the *Assessment of Marine Water Chemistry and Biotic Community Structure in the Vicinity of the Olowalu Town Master Plan*, as well as the potential occurrence of the hawksbill sea turtle and Hawaiian monk seal in the project area. The Final EIS also addresses proposed mitigation measures to reduce the potential impacts to these species. Refer to **Exhibit "1"**.

**Comment:**

*Hawaiian monk seals are known to occur in the area around the proposed development, and have been frequently sighted hauled out on beaches in the area. These critically endangered animals are sensitive to human disturbance and could be negatively affected by increased human presence if not properly mitigated. Mitigation measures to minimize human disturbance and interactions with the seals should be discussed in detail in the EIS.*

**Response:** As noted, a section on Marine Resources in the EIS includes reference to the occurrence of the Hawaiian monk seal in the area and around the proposed development. The EIS includes proposed mitigation measures to minimize human disturbance to the seal. See **Exhibit "2"**.

**Comment:**

*The island of Maui hosts a nesting population of hawksbill sea turtles on the southern shore of the island. Green turtles also occur off shore of the action area and may bask onshore. There has been at least one anecdotal account of sea turtle nesting at the Olowalu area; however, this report was not confirmed. Nevertheless, it is possible that the area provides suitable shoreline habitat that could support sea turtle nesting.*

*One mitigation measure could reduce impacts to sea turtle nesting areas is the installation of wildlife-friendly lighting. Lights shining on the beach or ocean are of concern, as is any artificial light source that can be seen from the beach. The EIS and project developers should the types of bulbs and shields to be used, the potential of many light sources working together to create skyglow, and a monitoring system to determine impacts from artificial lighting. Roadways and traffic plans should also address lighting issues from streetlamps and headlights so they cannot be seen from the beach to disorient nesting sea turtles or hatchlings during the nesting season. Detailed lighting mitigation to eliminate this impact should be included in the EIS. Additionally, temporary lighting impacts that may persist for several years during the different construction phases for this project should also be addressed and mitigated.*

*There are many resources available to help developers install wildlife-friendly lighting that is also more effective in terms of safety and security, and in many cases more energy efficient. General rules to keep in mind for wildlife-friendly lighting are:*

- 1. Mount lights as low as is practicable to minimize light trespass (trespass = light shining where you do not want or need it). Directing light with shields usually increases the amount of light in the area you are targeting, increasing its utility for safety and security purposes;*
- 2. Use only the lumens output necessary for the particular application (most of the time, this can be minimal);*

3. *Keep lights shielded to direct light exactly where you want or need it to eliminate point source light (full cut-off shields whenever possible; bulbs should not be directly visible); and*
4. *Use long wavelength lights; many manufacturers offer “turtle friendly bulbs”, “yellow bug bulbs”, or amber LEDs for outdoor light fixtures that appear yellow, amber, or red to the human eye. This light is not only better for wildlife, but it does less damage to humans' natural night adaptive vision, allowing for better eyesight at night for residents and visitors. Low pressure sodium lights are also a good option, especially for areas like parking lots (again, with full cut-off shields). Many of these lights are also the most energy efficient options, reducing utility costs.*

**Response:** Regarding the installation of wildlife-friendly lighting to mitigate impacts to sea turtle nesting areas, the designs for outdoor lighting will consider the need to respect the night sky, its impacts to the coastal shoreline areas, and impacts to threatened and endangered species. Olowalu Town, LLC and Olowalu Ekolu, LLC will implement a lighting plan for the project that is sensitive to threatened and endangered species that may frequent the area and will consider the lighting recommendations provided in your letter. All exterior lighting for the project will be shielded and directionally down. These design considerations are anticipated to mitigate light pollution and prevent light from traveling across property boundaries toward the ocean and shoreline. The EIS has been revised to include additional information on the project's lighting design, as well as its impacts upon the surrounding ecosystem. Refer to **Exhibit “2”**.

We note that there will be no structures developed within the 150-foot shoreline setback for the project. Work within the shoreline setback will be limited to landscaping and public access to and along the shoreline. As such, development will be set back from the shoreline at a minimum of 150 feet, with a substantial portion of areas envisioned for town centers located further mauka, several hundred feet beyond the 150-foot setback.

These design considerations and the 150-foot shoreline setback are anticipated to mitigate light pollution and prevent light from traveling across property boundaries toward the ocean and shoreline.

**Comment:**

*Measures should be taken to prevent run-off from grading, excavation, or other construction activities, particularly in the event of bad weather during construction. Run-off can alter or destroy off shore sea turtle foraging habitat, and alter sand composition of beaches, making them unfavorable for sea turtle nesting. Run-off can also have negative impacts on corals by smothering them with silt or increasing algae blooms. More information on mitigation of potential impacts to protected marine species and their habitats during construction should be provided.*

**Response:** The Applicant will comply with Chapter 20.08 Soil Erosion and Sedimentation, Maui County Code and the Rules for the Design of Storm Water Treatment Best Management Practices adopted by the Department of Public Works. In addition, the project will be subject to the State of Hawaii Department of Health regulations relating to water quality. A National Pollutant Discharge Elimination System permit will also be required for project implementation. Beyond compliance to these regulatory requirements Olowalu Town proposes to implement Low Impact Development measures in the Stormwater Quality Enhancement Plan (See Appendix "B-1" in Draft EIS).

The Olowalu Town Master Plan will not involve any work within the ocean. The Applicants share your concerns relative to potential stormwater runoff-related impacts to the marine environment. The drainage plan proposes to capture runoff utilizing technologies identified in the Stormwater Enhancement Plan, as well as a series of detention and retention basins that will allow runoff to be recycled, to percolate into the ground and sediments to settle within these basins. The reduction of sediments into the ocean will improve or at the very least maintain the water quality and marine biota in Olowalu.

Lisa Van Atta, Assistant Regional Administrator  
for Protected Resources  
October 26, 2015  
Page 6

We appreciate the input provided and will be including a copy of your letter and this response letter in the Final EIS for the project. Should you wish to receive a copy of the Final EIS document or portion thereof, please submit your request in writing to Munekiyo Hiraga at 305 High Street, Suite 104, Wailuku, Hawaii 96793 (Attention: Colleen Suyama).

Very truly yours,



Colleen Suyama  
Senior Associate

CS:tn

Enclosure

cc: David Ward, Olowalu Town, LLC (w/enclosure)  
William Frampton, Olowalu Town, LLC (w/enclosure)  
Peter Martin, Olowalu Ekolu LLC (w/enclosure)  
Steve Dollar, Marine Resource Consultants, Inc. (w/enclosure)  
Jennifer Lim, Carlsmith Ball, LLP (w/enclosure)

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survey area was about 37 percent of bottom cover, while macroalgae accounted for about 8 percent of bottom cover; 21 percent of the bottom was covered with sand and 33 percent of the bottom consisted of mud and sediment bound in algal turf.

The reefs at Olowalu are considered somewhat unique in that sediment deposition (or lack thereof), rather than wave forces, appears to be the major determinant of physical and biotic reef structure. Along the northern side of Olowalu Point, deposition of terrigenous sediment emanating from Olowalu Stream creates a habitat where coral communities are limited to species and growth forms that can withstand the sub-optimal conditions created by high rates of sediment deposition. South of Olowalu Point, a shallow, wide, triangular-shaped reef flat, formed from deposition of alluvial material from Olowalu Stream, terminates in a fore reef composed of actively accreting coral assemblages that show little or no effect of sediment stress. The outer reefs consist of extensive actively accreting coral formations where growth and community composition are not controlled by wave forces, as is the typical situation on most Hawaiian open coastal areas. Also, reefs at the southeastern end of the project site (near 14-Mile Marker) showed distinct indications of sediment stress, although no major streams discharge regularly in this area. Refer to **Appendix "E"**.

Populations of reef fish in the area are typical of Hawai'i reefs, although numbers of larger fish were very low, likely as a result of fishing pressure. The most abundant families consisted of wrasses, damselfish and surgeonfish. The highest abundance of fish was on the outer fore reef with the rarest in the areas with the heaviest deposition of mud. Reef communities on the outer reef flat and fore reef represent essentially pristine ecological settings unaffected by most human activities, with the exception of fishing.

Numerous sharks were also observed on the inner reef flat. Marine biologist Pauline Feine states in her comments on the Draft EIS that the Olowalu area is a nursery for black-tip sharks.

Information received from the NOAA, National Marine Fisheries Service (NMFS) identified three (3) marine species protected under the Endangered Species Act that frequent the area and may potentially be affected by the proposed project. The three (3) marine species identified include the



threatened green sea turtle (*Chelonia mydas*), the endangered hawksbill sea turtle (*Eretmochelys imbricate*), and the endangered Hawaiian monk seal (*Monachus schauinslandi*). Maui hosts a nesting population of hawksbill sea turtles on the southern shore of the island. Green sea turtles also occur offshore of the area and may bask onshore. Several green sea turtles were observed during the course of fieldwork for the *Assessment of Marine Water Chemistry and Biotic Community Structure in the Vicinity of the Olowalu Town Master Plan*. Refer to **Appendix “E”**. According to NOAA, the Olowalu area may provide a suitable shoreline habitat to support sea turtle nesting. Hawaiian monk seals are also known to occur in the area and have been frequently sighted hauled out on beaches.

In addition, nine (9) species of corals found in Hawai‘i were petitioned for listing under the Endangered Species Act. One of these coral species, *Montipora patula*, was found to occur in the nearshore waters off of the project area. In 2014, NOAA listed 20 corals as threatened but the list did not include the nine (9) candidate species that are found in Hawai‘i (Garden Island, 2014). Refer to **Appendix “E”**.

Since the preparation of the *Assessment of Marine Water Chemistry and Biotic Community Structure in the Vicinity of the Olowalu Town Master Plan* new circumstances have occurred that have altered the results of my previous surveys. Recent elevated ocean temperatures around the State of Hawai‘i have resulted in bleaching of corals in at least some nearshore settings. Visual inspection of the reef at Olowalu conducted on September 24, 2015 indicated that such bleaching has occurred at the Olowalu study sites, resulting in a reduction of live corals. See **Appendix “E-1”**.

**b. Potential Impacts and Mitigation Measures**

The change in character of the Olowalu reef observed in 2015 by natural phenomenon is not directly related to activities on land. There is no reason to suggest the possibility of different or likely increased environmental impacts not previously dealt with in the 2011 report. Rather, decreasing sediment delivery to the ocean over the existing situation will likely provide an enhancement to recover the reef that survives the bleaching event. Refer to **Appendix “E-1”**.

Overall, the assessment of the biotic community structure found that the existing episodic discharge of land-derived sediment is the most pervasive stress to the reefs off Olowalu. However, the area of such discharge is limited, and does not affect all areas of the reef. Reef communities on the outer reef flat and fore reef represent essentially pristine ecological settings unaffected by most human activities, with the exception of fishing. Refer to **Appendix “E”**.

As long as Best Management Practices (BMPs) are utilized to avoid any unforeseen impacts during the construction and operational phases of the project, and engineering considerations in the design of the retention basins include maximizing sediment trapping, negative impacts to the marine environment are not anticipated. Refer to **Appendix “E”**.

Recommended BMPs in the Storm Water Quality Enhancements study include Low Impact Development (LID) or non-traditional measures to handle storm water runoff and improve water quality. Measures such as bio-retention basins, landscape areas, vegetated swales and subsurface retention systems will be considered in the development of the OTMP. Although not expected, the storm water runoff (pre- and post-development) that may eventually sheet flow into the ocean is expected to be reduced and water quality improved over the existing runoff that currently flows through the existing culverts to the ocean. These measures are anticipated to protect ocean and marine resources. Refer to **Appendix “C-2”**.

The endangered Hawaiian monk seal is sensitive to human disturbance and could be negatively affected by increased human presence if not properly mitigated. The Applicants will work with the NOAA, NMFS to develop an educational program, including appropriate signage within the project limits, to inform residents and visitors to Olowalu of the need to minimize human disturbances and interactions with Hawaiian monk seals. Similarly, the educational program will also include information to protect the threatened green sea turtle, the endangered hawksbill sea turtle, as well as the Hawaiian nēnē.

The Master Plan for Alternatives 1 and 2 will not involve any work within the ocean. Potential impacts to the marine environment may be attributed to land based activities, such as sedimentation in stormwater runoff. The drainage

plan proposes to capture runoff in a series of detention and retention basins that will allow sediments to settle within these basins. The reduction of sediments into the ocean will likely improve or at the very least maintain the water quality and marine biota in Olowalu.

To mitigate impacts to sea turtle nesting areas, the design for outdoor lighting will consider the need to respect the night sky, its impacts to the coastal shoreline areas, and impacts to threatened and endangered species. As applicable, the Applicants will implement a lighting plan for the Master Plan areas for Alternatives 1 and 2 that are sensitive to threatened and endangered species and incorporates recommendations from NOAA, NMFS. All exterior lighting will be shielded and directionally aimed downward. These design considerations are anticipated to mitigate light pollution and prevent light from traveling across property boundaries toward the ocean and shoreline.

As noted, no structures will be developed within the existing 150-foot shoreline setback area, which will mitigate impacts through avoidance.

With the implementation of the aforementioned mitigation measures, Alternatives 1 and 2 are not expected to have a significant adverse impact on marine resources in Olowalu.

## **8-9. Streams and Reservoirs**

### **a. Existing Conditions**

The Master Plan area for Alternatives 1 and 2 encompasses a large alluvial fan that was created over several millennia by the deposition of soil and rocks washed down the narrow Olowalu Canyon. Olowalu Stream traverses this alluvial fan. On either side of Olowalu Stream, several smaller rocky gulches drain the steep, dry forehills of the West Maui Mountains.

An Aquatic Resource Survey identified six (6) aquatic features within the project area, including Olowalu Stream. Refer to **Appendix "E-1F-1"**. The original alignment of Olowalu Stream was altered by the former sugar company in the 1860's. The original outlet of the stream was on the Mā`alaea side of Olowalu Wharf at Hekili Point.