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**Minutes  
Regular Meeting**

Mauna Kea Management Board  
Thursday, May 10, 2007

Kukahau'ula, Room 131  
640 N. A'ohoku Place  
Hilo, Hawai'i 96720

**Attending  
MKMB:**

Chair Rob Pacheco, 1<sup>st</sup> Vice Chair Barry Taniguchi, 2<sup>nd</sup> Vice Chair Ron Terry, Herring Kalua, and Harry Yada

**Kahu Kū Mauna:** Ed Stevens

**OMKM:** Stephanie Nagata, Dawn Pamarang, and William Stormont

**Others:** Doug Arnott, Colin Aspin, David Byrne, Paul Coleman, Cory Harden, Tetsuo Nishimura, Russell Oda, and Debbie Ward

**I. CALL TO ORDER**

Chair Rob Pacheco called the Mauna Kea Management Board (MKMB) meeting to order on May 10, 2007, at 10:00 a.m.

**II. APPROVAL OF MINUTES**

It was moved by Harry Yada and seconded by Barry Taniguchi that the minutes of the March 6, 2007, meeting of the MKMB be accepted. The motion was carried unanimously.

**III. DIRECTOR'S REPORT**

**A. May 27<sup>th</sup> Vehicle Accident**

Director Stormont gave a report on the May 27<sup>th</sup> vehicle accident. The accident occurred about a half mile above Hale Pohaku at the first hair-pin turn. According to published reports, the vehicle appeared to have lost its brakes and ran off the road.

During a review session with rangers and Mauna Kea Support Services staff, two issues regarding liability were raised. Director Stormont met with RCUH Human Resources staff, insurance carriers and legal counsel. It appears staff is covered for liability, but we are seeking clarification. Harry Yada requested a copy of the follow-up report, or whatever information or reports are available.

Carolyn Tanaka, University Relations UH System and Alyson Kakugawa-Leong, UH Hilo media relations director will be conducting a media relations workshop for all staff on May 15. Barry Taniguchi questioned why this workshop was a top priority. Shouldn't the priority be looking at administrative rules, particularly from a safety perspective, for example getting people to sign waivers or educate drivers? The driver of the accident vehicle apparently did not know how to drive on the mountain.

Harry Yada commented the Public Safety Committee has been stalled because they do not really know what to do regarding the administrative rules issue. The intent was to look at how to educate or manage human activity. If we

do not have rules to back that up, how are we going to go forward - not so much the media, but how to prevent and minimize these types of unfortunate accidents.

Mr. Yada felt a solution is to have a kiosk, prohibit two-wheel drive vehicles, and require all drivers attend a safety session before going up and have them sign waivers. They are unaware of dangers they put themselves in. For example, driving convertibles with tops down, dust gets into the cars, and people are coughing.

Chair Pacheco suggested convening a round table discussion with the University, OMKM, and the Land Board to try to figure out a solution. Senator Kokubun or somebody from the legislature could be included in the discussion to help find a practical way to move this forward. Mr. Taniguchi suggested documenting all the problems so when we meet we could present a white paper about what we should be doing and why. For example, the requirements of the management plan, which now is judicially required. We do not know what the Land Department wants in this management plan. Hopefully Director Stormont can write all this down.

Ed Stevens felt the urgency should be focused on the possibility of litigation and what the University has done to educate visitors. It is not a good defense to say our hands were tied so we could not do anything. How far reaching is the liability? Is it just OMKM, MKMB, or Regents? Are we covered by liability insurance?

Chair Pacheco asked Director Stormont to prepare the document. Identify the issues that have prevented it, actions taken that have fallen short, and stakeholders we need to bring together. Director Stormont stated we need the General Counsel's office to get involved because there are varying opinions regarding whether UH's existing autonomy is sufficient authority to promulgate administrative rules.

Mr. Taniguchi asked when the paper could be completed. Director Stormont stated he could have a compilation of the white paper by May 31. He can list what the problems are and what the actions to date have been that have fallen short. Chair Pacheco asked if it was doable to have a draft distributed electronically to the Board a week prior by May 24<sup>th</sup>. Director Stormont replied it was. Ron Terry suggested adding a very brief description of what we would like to see as the desired outcome and what we want to do.

**B. KHNL News Clip**

Director Stormont informed the Board of a KNHL news clip that included Dr. Kudritzki from the Institute for Astronomy (IfA) and himself regarding what the future holds for Mauna Kea.

**C. Pan-STARRS**

Director Stormont stated that following the March meeting he indicated to IfA that as a formality they should request the initiation of the design review process. The committee is ready to go. We have a Kahu Kū Mauna member, a Board member, and a Design Review Committee with a community member willing to participate in that process.

**D. UH Hilo 24-inch Telescope Renovation**

The Department of Land and Natural Resources (DLNR) issued a Departmental Permit to the University of Hawai'i at Hilo for the proposed renovation of the 24-inch telescope. The Permit contains several special conditions making OMKM responsible for certain activities, such as the selection of the construction monitor, and inspection of equipment, crates, construction equipment and supplies.

**E. Board Appointments**

The terms of two current members expire in June. Nominations for their replacements will be going to the Board of Regents for their consideration at the July meeting with a decision to be made at the September meeting.

**F. Kahu Kū Mauna Council Members**

Mr. Stevens reported that the terms for three Council members expire on June 30<sup>th</sup>. They are Pua Kanahele, Reynolds Kamakawiwo'ole, and Kaleo Kualii. Names have been submitted to the Council for their consideration. They anticipate seeking the Board's approval of nominees at the July meeting.

**G. 30-Meter Telescope Briefing**

Director Stormont reported he has not worked on a briefing for the 30-meter telescope project. He hopes to have someone provide a briefing at the July meeting.

#### **H. Memorandum of Understanding (MOU) with DLNR regarding the Natural Area Reserve (NAR)**

Director Stormont reported no progress on the MOU with DLNR.

Mr. Taniguchi asked why this task has not been completed. A draft was supposed to have been prepared by August 2006. He is afraid all these things will keep piling up and nothing is going to get done. Director Stormont is aware that Kahu Kū Mauna requested the MOU and the matter has been pending for quite some time, but with respect to the urgency of the matter, it is important, but it is less so than some of the other matters that are pending with the Office.

Chair Pacheco asked Director Stormont what progress has been made, for example, has there been discussions with the NAR or a rough draft? Director Stormont replied there has been very little progress over the last few months. It is a matter of drafting the document and getting it out to those who need to review it, including the various agencies within DLNR. There have been discussions with several divisions at DLNR, including enforcement, NAR, and Division of Forestry and Wildlife. The MOU will not generate any change regarding agencies' responsibilities for making decisions. What would be formalized is consultation with Kahu Kū Mauna.

Mr. Taniguchi thought there were other issues to be discussed, for example, granting our rangers some type of limited enforcement authority, or matters not covered by statute or regulations. He thinks those are important things that would be addressed in the MOU, not just to consult with Kahu Kū Mauna, which is a given. If you do not have anything written down regarding the objectives of the MOU, it will be forgotten, a situation he wants to avoid. There are already a number of things pending.

Director Stormont felt the enforcement mechanisms that currently exist are being employed. That is rangers call the Division of Conservation & Resources Enforcement Division (DOCARE) when they observe violations. The MOU is not going to give our rangers any responsibility or authority to enforce NAR regulations.

Chair Pacheco asked for clarification, if nothing is going to change, what is the purpose of the MOU? Director Stormont replied it is a communication plan. It is ensuring that everybody understands and acknowledges what their various responsibilities are. The MOU will formalize the process and procedures to include consultation with Kahu Kū Mauna in the event it is requested from DLNR.

Mr. Stevens added when they met with NAR staff, it was obvious that they did not want to transfer responsibility. However, they did agree to creating a MOU to form a partnership.

Mr. Taniguchi responded that people do not remain in the same position, they change. For example, the next representative for Kahu Kū Mauna might have a different idea. The memorialization of these agreements may not seem important, but people and situations change. We need to have it in writing. The longer we let things go, the number of incomplete matters continues to increase, thus making it harder to get things done.

#### **I. Project Request Timeline**

Mr. Taniguchi asked about the status of the schedule outlining when project requests are supposed to be submitted. For example, we received material for this meeting on Tuesday, just two days ago. The Board should receive materials for review a week prior to the meeting, especially if requests come in early. Such as the case with the Subaru request which was submitted to the office two and one-half months ago. He informed Director Stormont he was upset about it, especially since this matter has come up in the past.

Chair Pacheco indicated the request for this timeline was made three meetings ago. Mr. Taniguchi stated it still has not been done and it is another one of those things that, if nobody says anything, it's not going to get done.

Chair Pacheco stated judging by the dates on these submittals, the Office received the request on March 1<sup>st</sup>. So again, we are getting them at the last minute. He also thinks there might be an issue regarding Sunshine. If the item is on the agenda they need to be available to the public during the same period of time as the meeting notice.

#### **J. Transfer of Mauna Kea Support Services**

Director Stormont was asked about the status of the transfer of Mauna Kea Support Services (MKSS), a matter which dates back to 2003. He was going to schedule a meeting for the end of March. Director Stormont explained he has not been able to schedule a meeting with Jim Gaines and the members of the Board who agreed to take part in that meeting. Chair Pacheco asked what was the problem with the scheduling the meeting. Director Stormont said he has not been able to get in touch with Jim Gaines.

**K. Management Plan Schematic**

Director Stormont was asked about the status on a request made by the Board in March about a schematic showing visually how the management plan relates to the Master Plan and Judge Hara's ruling. Director Stormont stated he made it clear to the senior administration that we are continuing to work on the management plan, but we have not gotten a clear indication from the senior administration that it is expected that OMKM will do the entire plan.

Chair Pacheco concluded saying these are all issues that need to be addressed and discussed.

**IV. COMMITTEE REPORTS**

**A. Kahu Kū Mauna Council**

Mr. Stevens requested offering comments regarding New Business items as they come up for discussion. The Council is anxious to hear about a replacement for Ululani Sherlock and three key members whose terms expire June 30. They are hoping to find candidates that have some knowledge of the mountain.

**B. Environment Committee**

Dr. Terry reported the committee continues work on the request for proposals (RFP) for the natural resources management plan. The deadline for submittals is June 12. Members of the committee will independently review and rank the proposals. They will then meet and make a recommendation.

The committee has been asked to review the draft administrative rules. The committee will review and comment on the rules. The more fundamental question is - if we do not have authority to enforce things, what is the point of wordsmithing administrative rules? The discussion mainly focused on that. A gamut of opinions were raised from we have the ability to enforce to DLNR is the entity that is responsible to we need legislative action. One member said OMKM should be replaced by another board or agency that is not nested within the University, one that is an independent group of citizens analogous to the Kahoolawe Island Reserve Commission.

The Committee felt it should develop the best set of rules possible regardless of who is legally responsible. The Committee cannot, nor does not have the authority to decide this matter. The committee members will put aside their differences as to what entity should or can be enforcing these. The objective is to develop rules that will protect the environment.

Mr. Yada pointed out that if it is going to be the University's position, it is going to have to be between counsel and the higher level decision-makers in the University to pursue that position. Otherwise we are stuck back with rules that have no meaning again. Mr. Yada was concerned that even if we take the legal position that the University has the power to officially establish rules, he is not sure that UH would be subject to the rule-making statutes similar to other state agencies.

The Board discussed going to the Board of Regents (BOR) and letting them know what we feel is the right thing to do. Get them to adopt rule making. It was suggested we get all our information together and submit a report to the BOR. Chair Pacheco recommended taking action on this at the next meeting.

Debbie Ward suggested an alternative would be to submit the rules that are developed to DLNR. DLNR can take care of the public hearings. Work could be done in cooperation with DLNR staff so that it becomes DLNR rules. Mr. Taniguchi agreed that would be the second alternative.

The hang up is the lease and it needs to be re-examined. Currently the lease is not up for reopening, but if the two parties are willing, the lease can be renegotiated at any time.

**C. Hawaiian Culture Committee**

Herring Kalua reported the committee met in April. Draft rules were given for the committee's review and input. The next meeting will be May 22 with Kahu Kū Mauna Council. Dr. McCoy will be talking about the cultural resources management plan and getting input as to what they think are important elements of the plan. Chair Pacheco stated the other component that we are not directly involved with is the astronomy portion. Is IfA going to be working on their end of the plan? Director Stormont replied they have acknowledged their portion and that it is not our responsibility.

Dr. Terry asked if he could attend the meeting and talk about what the Environment Committee is doing. It was agreed that Dr. Terry would attend the joint meeting of the Hawaiian Culture Committee and Kahu Kū Mauna on May 22.

## V. NEW BUSINESS

### A. Subaru Telescope Request to Install a SODAR System on its Control Building

(See Appendix A for a description and OMKM's review of the project)

Subaru is proposing to install a SODAR instrument on the roof of its control building. It is composed of an array of 52 transducers mounted on a 12 inch high platform and surrounded by an acoustic cuff roughly 51 inches square and 24 inches tall. This instrument is used to monitor wind and atmospheric profiles above the Subaru telescope.

#### Kahu Kū Mauna Council

Mr. Stevens reported the Council had a concern with the duration of the project. He suggested that all projects include a termination date. In the case of observatories, when the telescope would expire. Mr. Tetsuo Nishimura agreed to a five-year term. At the end of five years, if needed, they can ask for an extension. With that, Kahu Kū Mauna has no problem with this project.

Another concern is the condition about inspecting vehicles for potential introduction of alien species. They suggest modifying it to include just earth-moving equipment. Mr. Stevens felt inspecting all contractors' vehicles was overkill because hundreds of vehicles go up the mountain and are not inspected. However, earth-moving equipment-backhoes, bulldozers, etc. should be specifically identified for inspection. Mr. Stevens will get back to the Council regarding limiting inspections to earth-moving equipment only.

#### Discussion

Mr. Nishimura was not aware of other SODAR units on the summit except for the one at the 13N site. He also stated the SODAR emits a pinging sound, similar to that heard in a submarine. It would be a single ping every second for one minute. He was not sure of the decibel levels, although the unit is 1 watt. It is audible outside for about 20-30 meters. It might be used continuously throughout the night, every second or so, when they are using the adaptive optics device.

Dr. Terry asked how many degrees away from the zenith was the sound directed? Mr. Nishimura replied 15 to 30 degrees. However, there is nothing moveable; the array is pointed in one direction. Dr. Terry asked if the returning signal was analyzed similar to a radar or is it at another frequency. Mr. Nishimura replied the return signal is the same frequency, but very, very low decibels.

Dr. Terry asked if it created any interference, whether there were any sound restrictions in the area, and if the instrument required a quiet area around it. Mr. Nishimura replied he did not see any other interference other than being audible. He also explained that his staff reported it is less bothersome than some of the other sounds during the nighttime. It has been tested here in Hilo. They ran it a couple days outside the office and nobody complained.

Director Stormont stated he heard the pings while sitting in his office. It was a faint noise. It might have been about 70 yards away. The proposal states once installed, the operation will not be continuous but only on selected days or nights. Mr. Taniguchi asked about how many times a month that would be. Mr. Nishimura explained they currently use adaptive optics probably five nights a month. That number might change.

Ms. Ward asked how it would compare to the sound of a coqui frog. Mr. Nishimura replied it was comparable to one coqui frog. Dr. Terry stated the coqui is up to 90 decibels. Dr. Terry requested that the noise be monitored and if there is a problem, it should be revisited. He suggested that someone visit it at night to get an assessment of whether they think it will be an issue.

Director Stormont stated if it is approved and Subaru goes forward with it, it can be included as part of the ranger's schedule to visit the site periodically before they leave the summit. Subaru should inform the Office of the schedule. Mr. Taniguchi added monitoring should be done at night when sound travels farther and louder. There are devices that can measure decibels.

Ms. Ward was concerned that changing the soundscape changes the natural environment and that the proposal was not presented to the Environment Committee for review like it was for Kahu Kū Mauna. We have no idea what the soundscape changes effects have on the biota. We do not know if it is detrimental or not. We do not have a

management plan for changing the soundscape, and the Judge ruled that there should be no further action until there is a management plan. Chair Pacheco asked if she was talking about the human-detected soundscape or the bio community. Ms. Ward replied the human effect is significant, but consideration should also be for other biota.

Cory Harden said this sounds like it merits far more consideration and discussion from this group. It could impact people's experience on the mountain.

Mr. Yada was concerned that other committees might want to discuss the issue. The Board received the submittal very late. Does this project require full Kahu Kū Mauna Council review? Mr. Stevens explained the project went through the subcommittee only.

Mr. Taniguchi agreed there should be some kind of monitoring to measure the decibel output. Parameters should be established as to what is acceptable generation from within a set circumference, for example, maybe on a 50-meter circular range. Decibel readings should be taken to make sure it does not exceed "x" decibels.

Dr. Terry felt the sound issue was not sufficiently addressed in the proposal. He is not sure that we can really determine whether they will be an effect on invertebrates because we are not going to do a ten-year study to find out. There is also an existing environment up there that is already affected by sound. If it were a light source, the observatories would be on point, but sound is another impact. It is another part of the environment. He agreed with Ms. Ward on that. It would be good to know the decibel range we are dealing with and have testing on the mountain to give us an idea. He does not know how feasible that would be to do on the mountain. If it has been tested down here, can it be tested up there and have some subjective assessments on the effects?

Mr. Nishimura stated information might be available from the manufacturer. When the unit comes back to Hawaii they will conduct a temporary testing at the summit. They will report the results of the test at the next meeting.

Dr. Terry stated he did not want to cause too much delay to their application, but these were things that struck him as he was reviewing it. Like Mr. Taniguchi, he got it pretty late and did not have time to give it some thought.

#### Action

It was moved by Ron Terry and Barry Taniguchi to defer this item and allow for a testing period on the mountain and to also get feedback from OMKM. The motion was carried unanimously.

### **B. Institute for Astronomy Request to Install an All-Sky Camera** (See Appendix B for a description and OMKM's review of the project)

The UH Institute for Astronomy (IfA) requests permission to install an All-Sky Camera on the rooftop of the summit lunchroom building, which sits between the UKIRT and UH 2.2m telescope facilities. The camera will be housed within a box roughly 12 inches square, topped by a glass dome, and mounted on a tripod structure approximately three feet high.

#### Kahu Ku Mauna Council Review

Mr. Stevens reported Kahu Kū Mauna had a concern, similar to the SODAR proposal, with the duration of the project. He recommends including a termination date for this project. Colin Aspin, manager of the 88-inch Telescope, agreed that a five-year timeframe was acceptable. With that, Kahu Kū Mauna has no problem with this project.

#### Discussion

Chair Pacheco asked if IfA had any concern about the camera being accessible on the roof top.

Mr. Aspin explained they needed a location that is relatively unobscured and had a view of the horizon and approaching cloud cover. It was a good location because of access to power and fiber optics. They would be willing to consider putting up some sort of barrier across the edges of the roof to prevent people from accessing the roof top. There is about an 18 inch step up and a sign saying do not go on the roof. The system will be enclosed enough that it will not be accessible to anybody unless they seriously wanted to do something. He is happy to consider safety and other issues regarding the installation.

Chair Pacheco asked for an explanation regarding the last sentence in his proposal: "*It is a temporary structure and will eventually be removed once new technology...*" Mr. Aspin explained that Canada-France-Hawaii Telescope

(CFHT) is planning to install a mid-infrared 10-micron camera which is more sensitive to cloud cover than an optical camera. It is still being developed and tested and not likely to come online for another five years. When it comes on line it will replace this one.

Mr. Taniguchi asked if there would be any visual impact such as lights. Mr. Aspin stated you will not see it at night. It will just be sitting there taking a picture every ten seconds. Pictures will be published on the web so everyone will have access to it.

Chair Pacheco asked what the difference was between this one and the camera that is currently up and running. Mr. Aspin replied this is an upgraded model using a more sensitive detector system. The current one on Mauna Kea, which is located on the Smithsonian Submillimeter Array's (SMA) support building, stopped working about a year and a half ago. The team from the mainland, Con-Cam Team as it was called, did not have the funding or the interest to repair it. He has been in contact with SMA to see what their plans are. They have been soliciting funding to upgrade it, but they have not gotten any. He will certainly pursue removing it if they find it is not going to be upgraded at any time soon.

All the telescopes on the mountain rely on pictures from cameras to monitor incoming cloud cover. The advantage of this camera is that you can actually put a little pointer on the part of the sky you are focusing on. That is so you can see what you are pointing at, so that when you see clouds coming you will be able to tell exactly when cloud cover is going to pass through your beam.

Mr. Stevens asked if the testing or the data obtained was in preparation for Pan-STARRS. Mr. Aspin replied it has no relationship to Pan STARRS. It is something that all the telescopes, including Pan STARRS (if it comes on line) on Mauna Kea require for daily observing. It is something that tells us about cloud cover and extinction.

Director Stormont stated he would follow up with SMA on their camera.

Action

It was moved by Ron Terry and seconded by Herring Kalua to classify this project as Minimal Impact and approve it with the conditions listed by OMKM with an additional mitigation measure of a five-year term for the project, after which the facility would be removed or the proponent would come to us for an extension. The motion was carried unanimously.

**VI. ANNOUNCEMENTS**

Issue of Vehicle Washing

Ms. Ward wanted to weigh in on the issue of vehicle washing saying that needs to be a management plan issue rather than an administrative rule issue; the management plan should drive the rules.

**VII. NEXT MEETING**

The Office will poll Board members for available meeting dates for July, September, and November 2007.

**VIII. ADJOURNMENT**

There being no further business, Chair Pacheco adjourned the regular meeting at 12:05 p.m.

Respectfully submitted:

  
\_\_\_\_\_  
Dr. Ron Terry, Secretary, MKMB

  
\_\_\_\_\_  
Date

## APPENDIX A

### Subaru Telescope's Request to Install a SODAR Unit on the Roof of its Control Building

#### Purpose

To monitor wind and atmospheric profiles directly above the Subaru telescope site.

#### Description of instrument and location for installation

- The SODAR instrument itself is an array of 52 small transducers mounted within an acoustic cuff roughly 51 inches square and stands 24 inches high. The cuff, which provides the housing for the array of transducers, will sit atop a 48 inch square, 12 inch high metal platform to be installed on the rooftop of the Subaru summit facility control building.
- The equipment will be installed at the western edge of the Subaru summit control building roof.
- The proposal from Subaru provides an image of the approximate location for the installation.

#### Construction Activity

- Activity will be minimal. Installation will involve two personnel with small hand and power tools. No heavy equipment is required.
- No excavation is required; no dust or debris will be generated.

#### Impacts

- Construction will be limited to the roof of the Subaru control building.
- Because of the location of the equipment away from the edges of the rooftop, visibility will be negligible.

#### Mitigation Measures

- Subaru staff will ensure containment of any and all packaging and/or installation debris generated for proper disposal.

#### DLNR Permit

Pursuant to Hawaii Administrative Rules (HAR) Title 13-5-22, "construction or placement of structures accessory to existing facilities identified in the exempt classes established in HAR Title 11-200-8" do not require a permit from DLNR. The "construction or placement of minor structures accessory to existing facilities" is an exempt activity under HAR 11-200-8.

#### OMKM Recommendations:

1. Based on the following, OMKM recommends this project be classified **Minimal Impact**:
  - The proposed installation will not significantly alter the exterior appearance of the existing facility.
  - The impacts to the immediate surroundings and summit environment are negligible.
2. If the project is classified as **Minimal Impact**, OMKM recommends Subaru be allowed to proceed with the project.

#### Conditions

OMKM recommends Subaru:

1. Notify OMKM when it plans to do the installation;
2. Adhere to mitigation measure described above;
3. Allow OMKM Rangers access to the project;
4. Notify OMKM of any problems, accidents, or mishaps that may occur during the duration of the project or installation;
5. Notify OMKM of project completion.



## APPENDIX B

### Institute for Astronomy's Request to Install an All-Sky Camera on Roof of Summit Lunch Room

#### Purpose

The installation of this All-Sky Camera will aid the astronomy community as a whole on Mauna Kea by providing compiled images of the entire sky to assess recent sky conditions over the summit area. The camera will take pictures using a fish-eye lens every 10 seconds. Compilations of these images will provide 15-minute "time-lapse" movies of the sky conditions. Installation of this camera has been endorsed by Doug Simons, Director of Gemini Observatory and chairman of the Seeing Monitor Working Group.

#### Description of instrument and location for installation

- The camera will be housed in a box structure roughly 12 inches on a side. It will be topped by a glass dome for the camera to see through, and mounted a three-foot high tripod support structure.
- The entire apparatus will be installed near the southwest corner of the rooftop of the summit lunchroom, a cinder block building that lies between the UKIRT and UH 2.2m telescope facilities. Images attached to the IfA proposal indicate the approximate location of the proposed installation.

#### Construction Activity

- Activity will be minimal. Installation of the equipment involves securing the tripod support structure to the rooftop using small hand and power tools. All cables and power source cords will be secured using standard cable retainers and run into the building below.
- No excavation is involved. No dust or significant debris will be generated.

#### Impacts

- Construction will be limited to the summit lunchroom building rooftop.
- Because of the small size and color of the camera housings, visibility will be minimal.

#### Mitigation Measures

IfA staff will be sure to contain and properly dispose of any and all debris or trash generated by the installation activities.

#### DLNR Permit

Pursuant to Hawaii Administrative Rules (HAR) Title 13-5-22, "construction or placement of structures accessory to existing facilities identified in the exempt classes established in HAR Title 11-200-8" do not require a permit from DLNR. The "construction or placement of minor structures accessory to existing facilities" is an exempt activity under HAR 11-200-8.

#### OMKM Recommendations:

1. Based on the following, OMKM recommends this project be classified Minimal Impact:
  - The proposed installation will not significantly alter the exterior appearance of the existing facility.
  - The impacts to the immediate surroundings and summit environment are negligible.
2. If the project is classified as Minimal Impact, OMKM recommends IfA be allowed to proceed with the project.

#### Conditions

OMKM recommends IfA:

1. Notify OMKM when it plans to do the installation;
2. Adhere to mitigation measure described above;
3. Allow OMKM Rangers access to the project;
4. Notify OMKM of any problems, accidents, or mishaps that may occur during the duration of the project or installation;
5. Notify OMKM of project completion.