

Hōkūke‘a Educational Observatory Decommissioning Funding Plan Conceptual Cost Estimate

25 May 2020

Consistent with the 2010 “Decommissioning Plan for Mauna Kea Observatories” (2010 Plan), a sub-plan to the 2009 “Mauna Kea Comprehensive Management Plan” (CMP), the University of Hawai‘i at Hilo (UH Hilo) has prepared this “Conceptual Cost Estimate” for decommissioning as its first step in preparing a Decommissioning Funding Plan (DFP).

Decommissioning Funding Plan

A DFP documents the cost estimate for decommissioning a telescope facility, auxiliary structures, and related infrastructure. It also describes the method for assuring funds for decommissioning through one or more financial instruments, describes the means for adjusting both the cost estimate and funding level over the life of the sublease, and contains a certification of financial assurance that may include but is not limited to signed originals of the financial instruments provided as financial assurance. A certification of financial assurance documents the commitment that a prescribed amount of funding has been secured for removal of the facilities and restoration. The amount secured should be based on the conceptual cost-estimate and be sufficient to adequately perform the decommissioning proposed in the Site Decommissioning Plan (SDP) and comply with all local, state and federal environmental regulations.

Summary of Conceptual Cost Estimate and Detailed Cost Estimate

A conceptual cost is a best estimate derived prior to development of detailed engineering plans. The value estimated should be considered provisional and it is derived using common engineering cost methods. Costs shall be adjusted over time. As the decommissioning process progresses, a SDP is prepared and the conceptual cost estimate is replaced by a detailed cost estimate. The detailed cost estimate covers the deconstruction and removal of the facility and restoration of the site to the ‘full’ level. The detailed cost estimate shall be prepared, preferably by a Licensed Engineer, and shall be used as the basis for decision-making in terms of determining the extent of funding deconstruction and site restoration activities or, if allowed, allocating funds to a different purpose. The detailed cost estimate shall include funding of an effectiveness monitoring program to evaluate the restoration for an agreed upon time. In the event that the monitoring schedule extends past the termination date of the sublease, the monitoring funds will be housed at OMKM, or at a mutually agreed upon agency or organization, and used to complete the monitoring.

Conceptual Cost Estimate for Hōkūke‘a

A conceptual cost estimate was prepared by UH Hilo “Facilities Planning & Construction” project management staff (Exhibit A). This estimate was prepared with assistance from the UH Hilo Department of Physics and Astronomy, UH Institute for Astronomy, and Office of Maunakea Management. Post-restoration costs associated with monitoring are not explicitly identified, but

will be included in the detailed cost estimate. Conceptual cost estimates are subject to review by UH and/or DLNR.

Adjustments for Final (Detailed) Cost Estimate

The conceptual cost estimate shall be updated and finalized into a detailed cost estimate based on the final decommissioning plan for Hōkū Ke‘a. As part of the project design component, a licensed engineer will complete the detailed cost estimate portion for UH Hilo review and submittal as part of the SDP.

Financial Assurance

Financial assurance documents that a prescribed amount of funding has been secured for decommissioning and site restoration. The amount secured should be based on the conceptual cost-estimate and be sufficient to adequately perform the decommissioning proposed in the SDP and comply with all local, state and federal environmental regulations.

On October 24, 2019, UH Hilo Chancellor Bonnie Irwin confirmed, after conferring with UH President David Lassner, that UH Hilo will fund planning costs (pre-design and design) directly from UH Hilo reserve account(s). Funding has been provided to address “pre-design” and “design” costs identified in Exhibit A, below.

Funding source and assurances of the construction costs for physical removal, restoration, and monitoring will be addressed as part of the process of preparing a detailed cost estimate for submission with a SDP.

Method for Securing Funds

As an observatory under University of Hawai‘i ownership and management, no sublease exists and all costs are expected to be borne by the UH system; thus there is no further mechanism for UH to further secure funding. No federal funding is anticipated.

Approved By:



Bonnie D. Irwin
Chancellor
University of Hawai‘i at Hilo

6-2-20

Date

Exhibit A

UH HILO ESTIMATED CONCEPTUAL COST ESTIMATE FOR DECOMMISSIONING OF HÖKŪKE‘A & GENERATOR BUILDING (9/30/2019)

SCOPE: Design-bid-build process to decommission the Hōkū Ke‘a Telescope at the summit of Maunakea.

Hōkūke‘a = dome and utilities back to generator bldg.

Generator Bldg = bldg + utilities back to summit lunch room where feasible.

PRE-DESIGN:	
Phase I Environmental Site Assessment (ESA) for Hōkūke‘a (completed 2016)	\$ -
Phase I Environmental Site Assessment (ESA) for Generator Building	\$ 20,000.00
Hazardous Material Assessment for Hōkūke‘a (completed 2016)	\$ -
Hazardous Material Assessment for Hōkūke‘a (updates needed)	\$ 15,000.00
Hazardous Material Assessment for Generator Building	\$ 10,000.00
Pre Design Sub-Total	\$ 45,000.00
PROJECT DESIGN:	
State Historical Preservation Division (SHPD) - Assessment report	\$ 20,000.00
Archaeological Monitoring Plan (mitigation)	\$ 30,000.00
Archaeological Monitoring during Construction	\$ 10,000.00
Environmental Assessment (Scoping, Draft and Final)	\$ 75,000.00
Conservation District Use Application (CDUA)	\$ 25,000.00
Design Consultant Contract Hōkūke‘a	\$ 177,900.00
Design Consultant Contract Generator Building	\$ 121,500.00
Project Design Sub-Total	\$ 459,400.00
Pre Design and Design TOTAL	\$ 504,400.00
CONSTRUCTION:	
Obtain Permits, Prepare Submittals and Mobilize	\$ 30,000.00
Install & Maintain Maunakea Comprehensive Management Plan Requirements	\$ 25,000.00
Air Monitoring Hōkūke‘a and Generator Building	\$ 20,000.00
Soil Testing Hōkūke‘a and Generator Building	\$ 10,000.00
Hazardous Material Abatement - Hōkūke‘a & Generator Building	\$ 35,000.00
Relocate Radio Antennas	\$ 25,000.00
Install Safety Improvements at Summit Lunch Rooftop -- re: radio antennas	\$ 25,000.00
Demo Hōkūke‘a	\$ 375,000.00
Demo Generator Building	\$ 200,000.00
Hōkūke‘a & Generator Building - Excavation/removal of power/data conduits, 760 lf	\$ 50,000.00
Hōkūke‘a ONLY - Excavation/removal of telephone, 716 lf	\$ 48,000.00
Construction Contingency (TBD)	\$ -
Demo Sub-Total:	\$ 843,000.00
RESTORATION:	
Purchase of fill for pier void	??
Transport of fill for pier void	??
Install subgrade, cinder and finish grading	\$ 10,000.00
Transport cinder for surface-skin fill from Batch Plant	\$ 5,000.00
Restoration Sub-Total:	\$ 15,000.00
Construction TOTAL:	\$ 858,000.00
GRAND TOTAL:	\$ 1,362,400.00