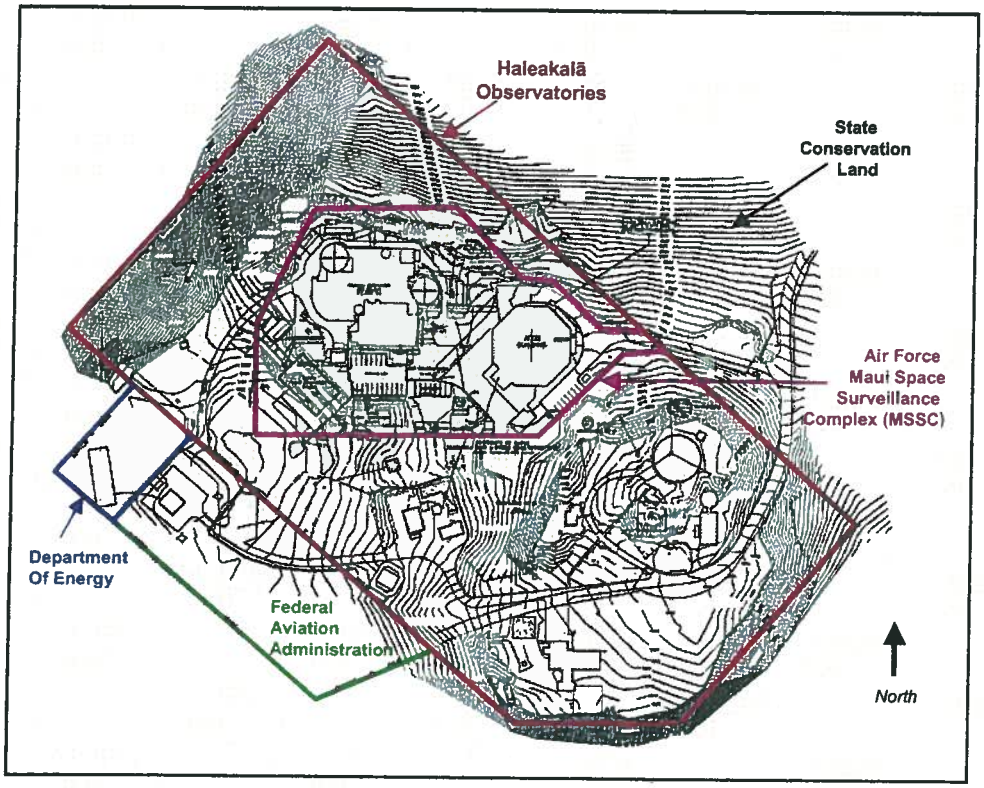


Figure 2. HO, Department of Energy, and Federal Aviation Administration Properties.

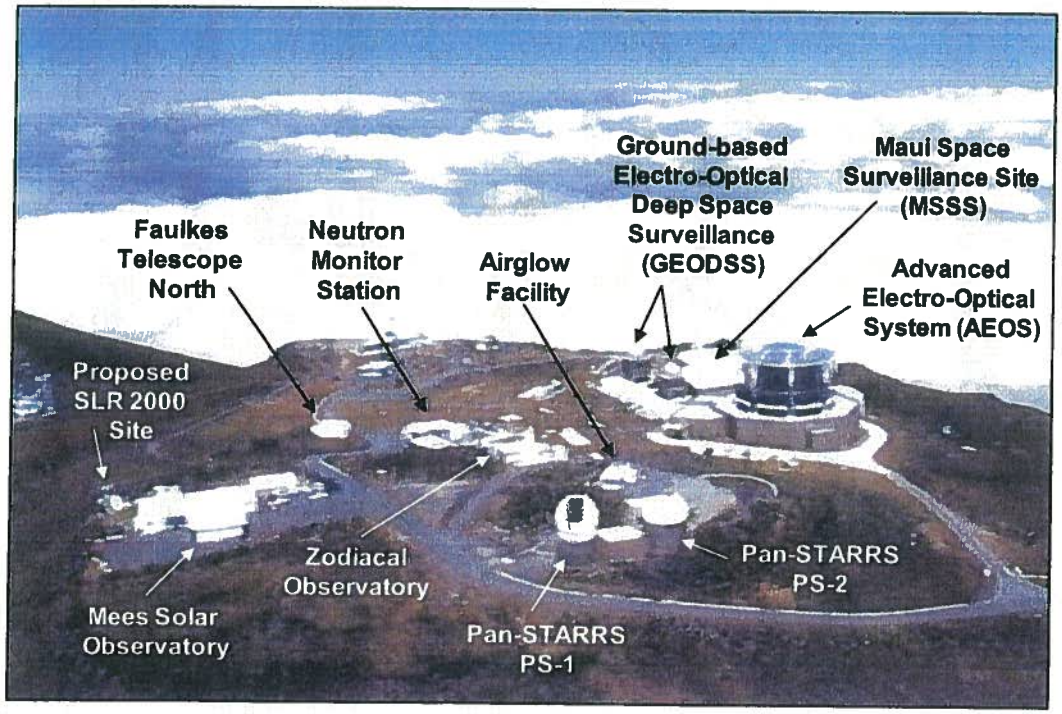
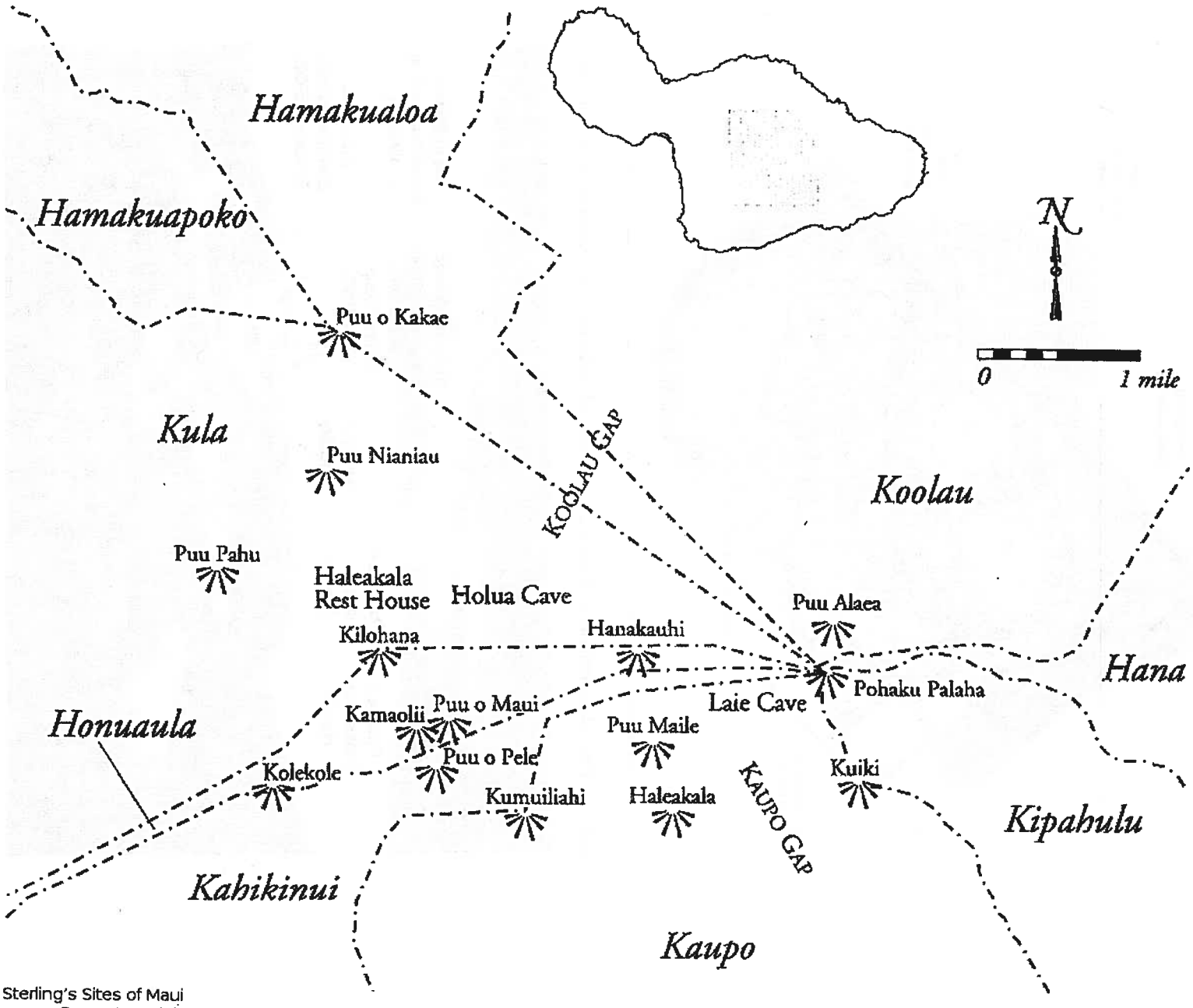


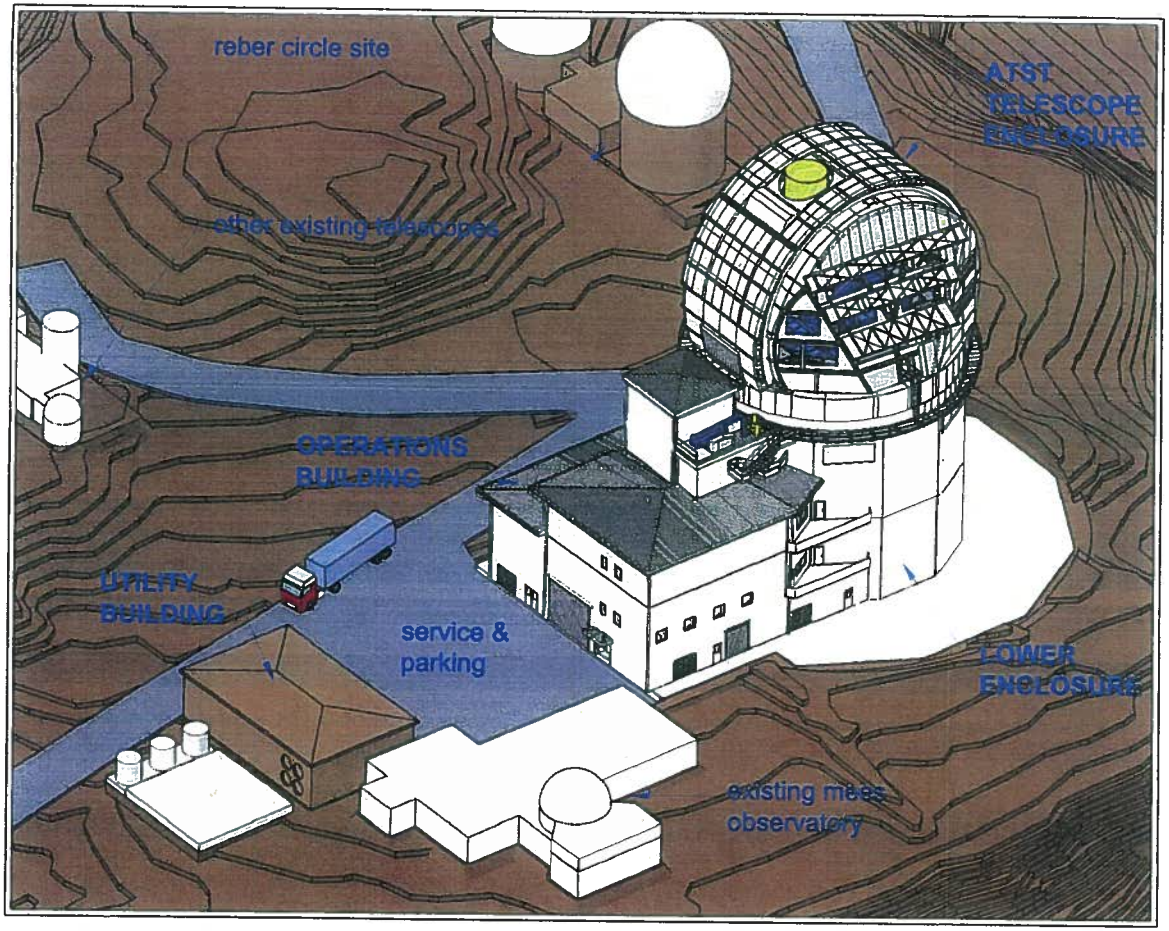
Figure 3. Aerial Haleakalā High Altitude Observatories Showing Existing Facilities.

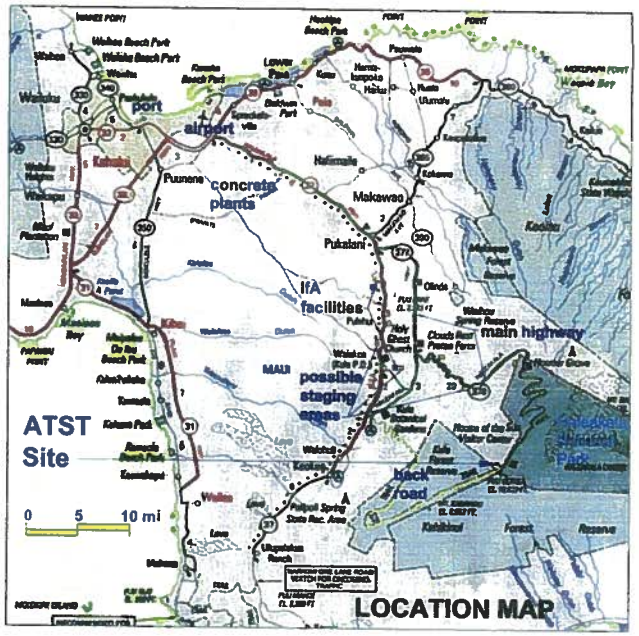
EXHIBIT 1



From
Elspeth P. Sterling's Sites of Maui
(Bishop Museum Press, Honolulu, 1998)

EXHIBIT 2





SCHEMATIC DESIGN of the **SUPPORT FACILITIES** for the **Advanced Technology Solar Telescope**

Haleakalā High Altitude Observatory Maui, Hawai'i

PROJECT INFORMATION:

- Land Classification: Conservation District, General Subzone
- Land Owner and Lead agency for Conservation District Use Permit: University of Hawaii, Institute for Astronomy (IfA)
- ATST Site Area: Approximately 0.9 acres (exact lease from IfA to be defined)
- Total Building Area: 44,454 sq.ft.
- Occupancy Class: Group B (2006 IBC)
- Construction: Type II-B

*Note: All Pier/Telescope areas and rotating portions of Enclosure are included in the table below to provide a complete summary of habitable building areas. These floor areas are, however, not included in the Support Facilities Contract. (see area diagrams on plans A1 to A7)

Floor Area Summary

Space Description	Gross Floor Areas							
	Ops. Bldg.		Enclosure*		Pier/Telesc.*		Utility Bldg.	
	ft²	m²	ft²	m²	ft²	m²	ft²	m²
Telescope Level	669	62	4,016	373	1,329	124		
Azimuth Mech Level	671	62	2,270	211	880	82		
Utility Level	1,086	101	3,810	354	1,595	148		
Coudé Level	3,556	330	1,565	145	3,566	331		
Mezzanine Level	2,212	206	570	53	3,566	331		
Ground Level	5,319	494	1,648	153	3,566	331	2,560	238
TOTAL AREA (gross):	13,513	1,256	13,879	1,290	14,502	1,348	2,560	238
Total ATST Facility Area	44,454 ft²				4,131 m²			

Index of Drawings (30 sheets)

T1	Title Sheet
C1	Overall Site Plan
C2	Electrical, Grounding & Wastewater Site Plan
C3	Stormwater Control & Soil Placement Site Plan
C4	Location Site Plan
C5	Grading and BMP Plan & Details
C6	Building Layout Plan
S1	Foundation Plan
S2	Structural Framing Plan
S3	Structural Section Through Pier & Enclosure
S4	Structural Details
A1	Ground Level Floor Plan
A2	Mezzanine Level Floor Plan
A3	Coudé Level Floor Plan
A4	Coudé Level Reflected Ceiling Plan
A5	Utility Level Floor Plan
A6	Azimuth Mechanical Level Floor Plan
A7	Telescope Level Floor Plan
A8	S&O Building North & Utility Building Elevations
A9	S&O Building East & West Elevations
A10	S&O Building South Elevation
A11	Operations Building, Enclosure & Pier Section (E-W)
A12	Operations Building Section (N-S) and Wall Section
A13	Stairs & LULA Lift Sections
A14	Elevator & Platform Lift Sections, Architectural Details
A15	Utility Building & Partial Mees Facility Plan
U1	S&O Bldg. Ground Level - Interconnects & Services Plan
U2	S&O Bldg. Coudé Level - Interconnects & Services Plan
U3	S&O Bldg. Utility Level - Interconnects & Services Plan
G1	Schedules (Doors, Finishes, Interconnects & Services)

drawn: Jeff Barr
checked: M. Warner
approved: J. Wiseman
August 20, 2009

SCHEMATIC DESIGN DRAWINGS

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Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory

TITLE SHEET

ATST

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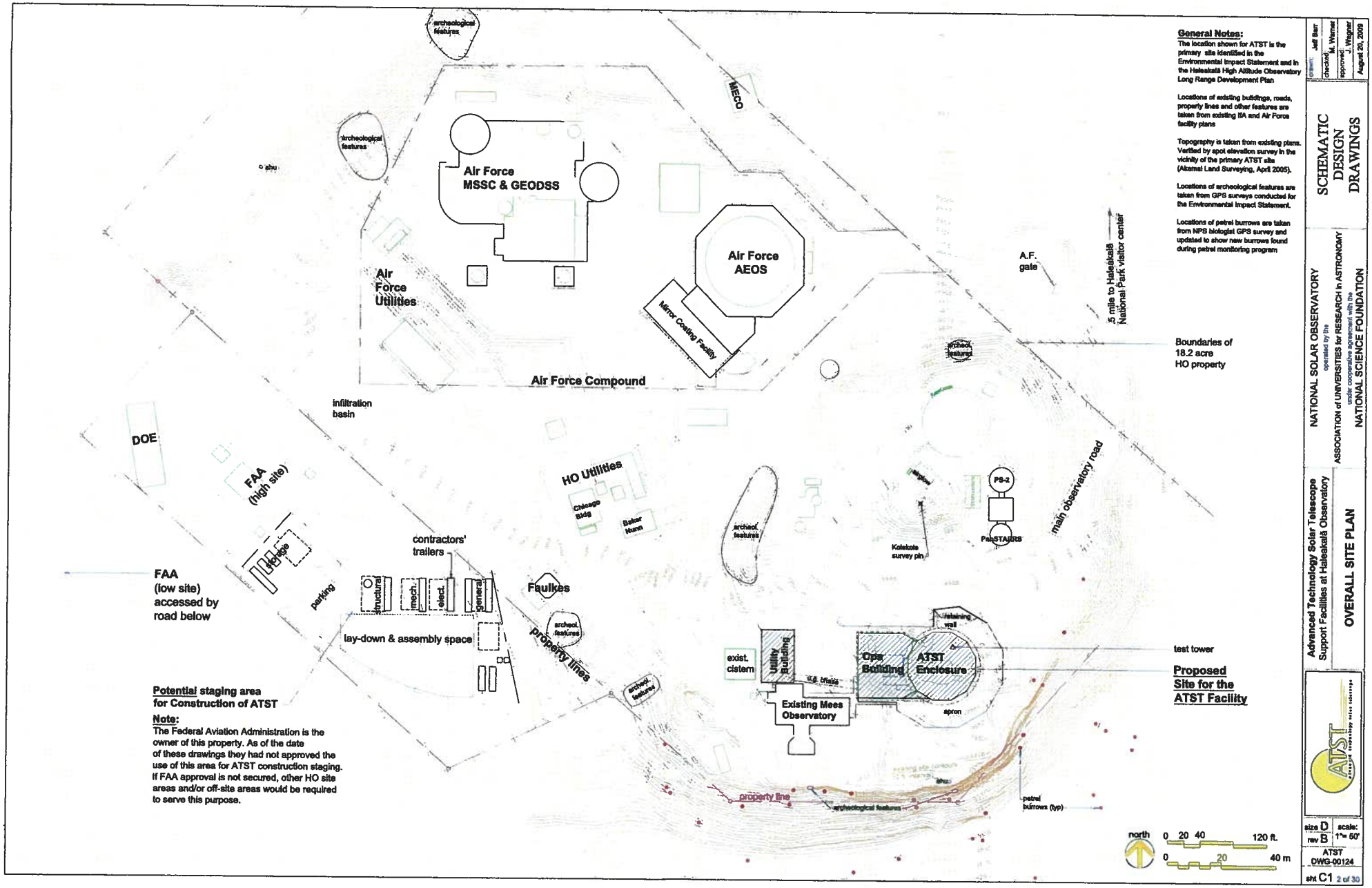
ATST DWG-00124

sht T1 1 of 30

EXHIBIT 3

EXHIBIT 3



General Notes:

The location shown for ATST is the primary site identified in the Environmental Impact Statement and in the Haleakalā High Altitude Observatory Long Range Development Plan

Locations of existing buildings, roads, property lines and other features are taken from existing IfA and Air Force facility plans

Topography is taken from existing plans. Verified by spot elevation survey in the vicinity of the primary ATST site (Akamai Land Surveying, April 2005).

Locations of archeological features are taken from GPS surveys conducted for the Environmental Impact Statement.

Locations of petrel burrows are taken from NPS biologist GPS survey and updated to show new burrows found during petrel monitoring program

drawn: Jeff Barr
checked: M. Warner
approved: J. Wagner
August 20, 2009

SCHEMATIC DESIGN DRAWINGS

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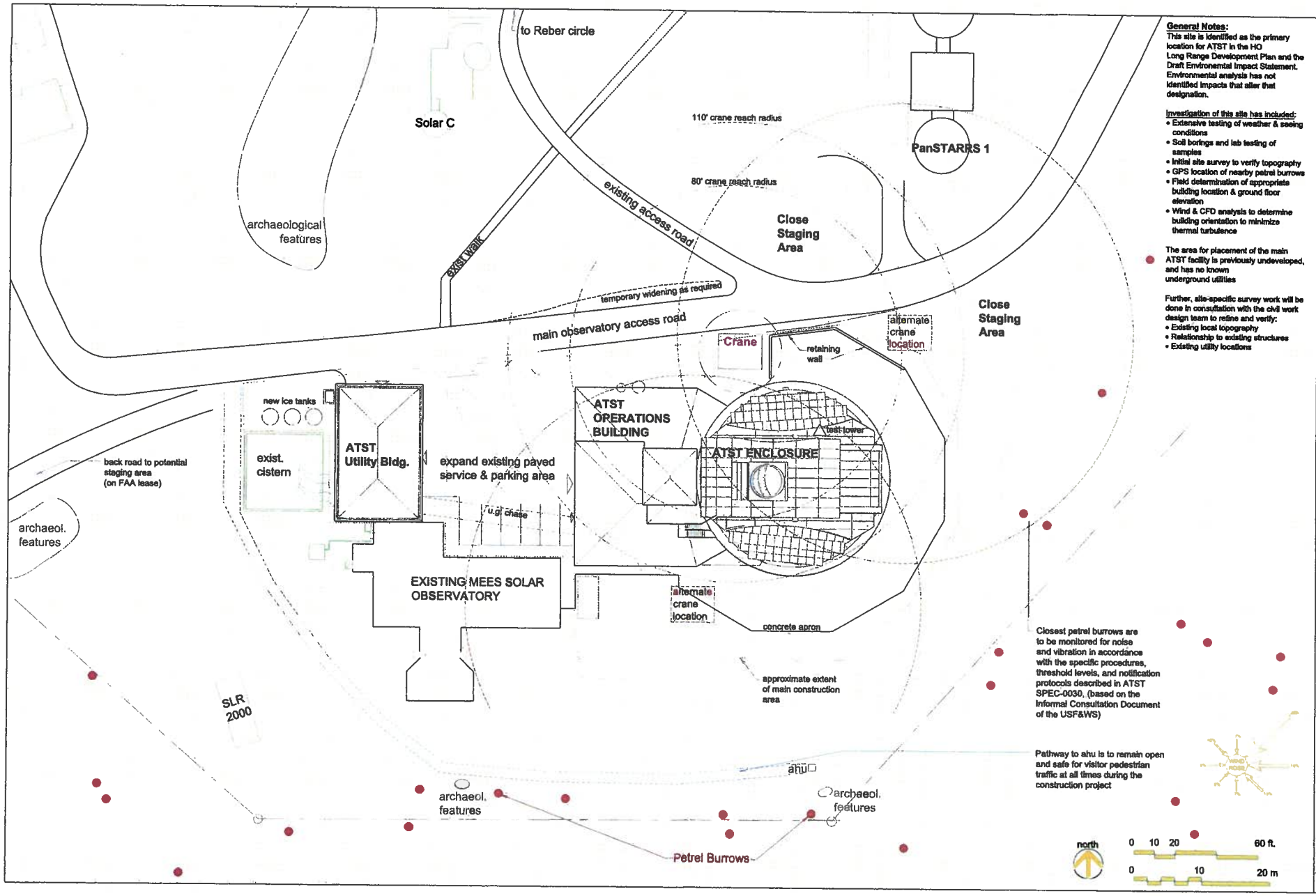
Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory

OVERALL SITE PLAN

ATST

size D rev B
scale: 1"= 60'
ATST DWG-00124
sht C1 2 of 30



General Notes:
This site is identified as the primary location for ATST in the HO Long Range Development Plan and the Draft Environemtal Impact Statement. Environmental analysis has not identified impacts that alter that designation.

Investigation of this site has included:
- Extensive testing of weather & seeing conditions
- Soil borings and lab testing of samples
- Initial site survey to verify topography
- GPS location of nearby petrel burrows
- Field determination of appropriate building location & ground floor elevation
- Wind & CFD analysis to determine building orientation to minimize thermal turbulence

The area for placement of the main ATST facility is previously undeveloped, and has no known underground utilities

Further, site-specific survey work will be done in consultation with the civil work design team to refine and verify:
- Existing local topography
- Relationship to existing structures
- Existing utility locations

Closest petrel burrows are to be monitored for noise and vibration in accordance with the specific procedures, threshold levels, and notification protocols described in ATST SPEC-0030, (based on the Informal Consultation Document of the USF&WS)

Pathway to ahu is to remain open and safe for visitor pedestrian traffic at all times during the construction project

drawn Jeff Barr
checked M. Warner
approved J. Wagner
August 20, 2009

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Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory

LOCATION SITE PLAN

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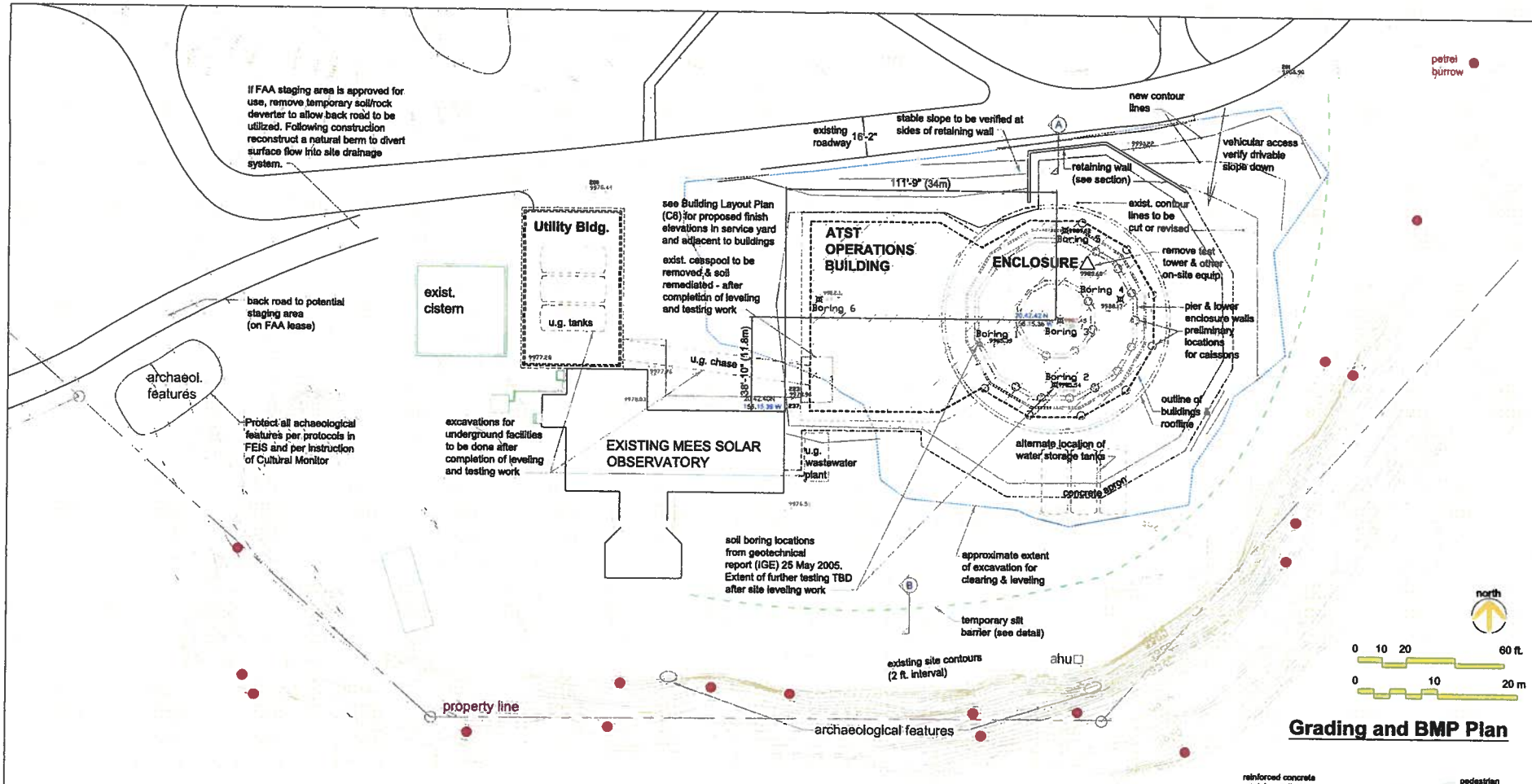


Grading and BMP Plan

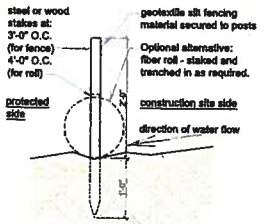
General Notes on Excavation and Best Management Practices (BMPs)

During the grading of the site for ATST as indicated and during all subsequent construction of the ATST facilities, BMPs will be implemented to minimize stormwater runoff, protect adjacent areas, and to ensure no injurious effect on groundwater.
These measures will include all BMPs specified or referenced in the following documents:

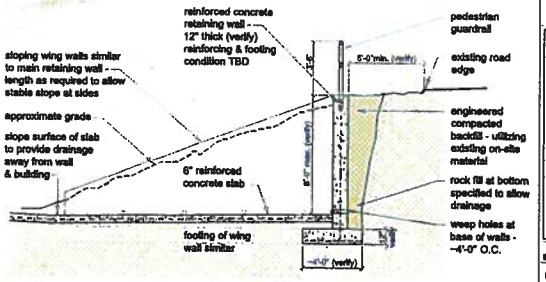
- Final Environmental Impact Statement (FEIS) for the ATST project
- Stormwater Masterplan for HO (Volume II, Appentix L of the FEIS)
- NPDES General Permit for Discharge Associated with Construction Activities (application pending completion of FEIS)

In addition to the measures shown on the plan, specific BMPs will include, but not be limited to, the following:

- During early construction temporary diverters shall be utilized to direct surface water flow to the existing stormwater drainage system.
- As soon as possible, the permanent system shall be installed to capture rainwater in underground tanks and the cistern.
- Portable toilets with containment tanks shall be utilized during construction work.
- A Cultural Monitor shall be on site during all leveling and excavation activities to prevent damage to cultural resources.
- Native soils shall be used to fill holes upon completion of construction.
- Excavated areas, and soil deposition areas shall be replanted with native vegetation to prevent erosion.
- Dust control shall be done by watering the disturbed ground using non-potable water trucked to the site by the contractor specifically for that purpose. Potable water shall not be used for dust control.



B **Silt Barrier Detail**
1" = 1'-0"



A **Retaining Wall Section**
¼" = 1'-0"

Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory
GRADING & BMP (best management practices) PLAN & DETAILS

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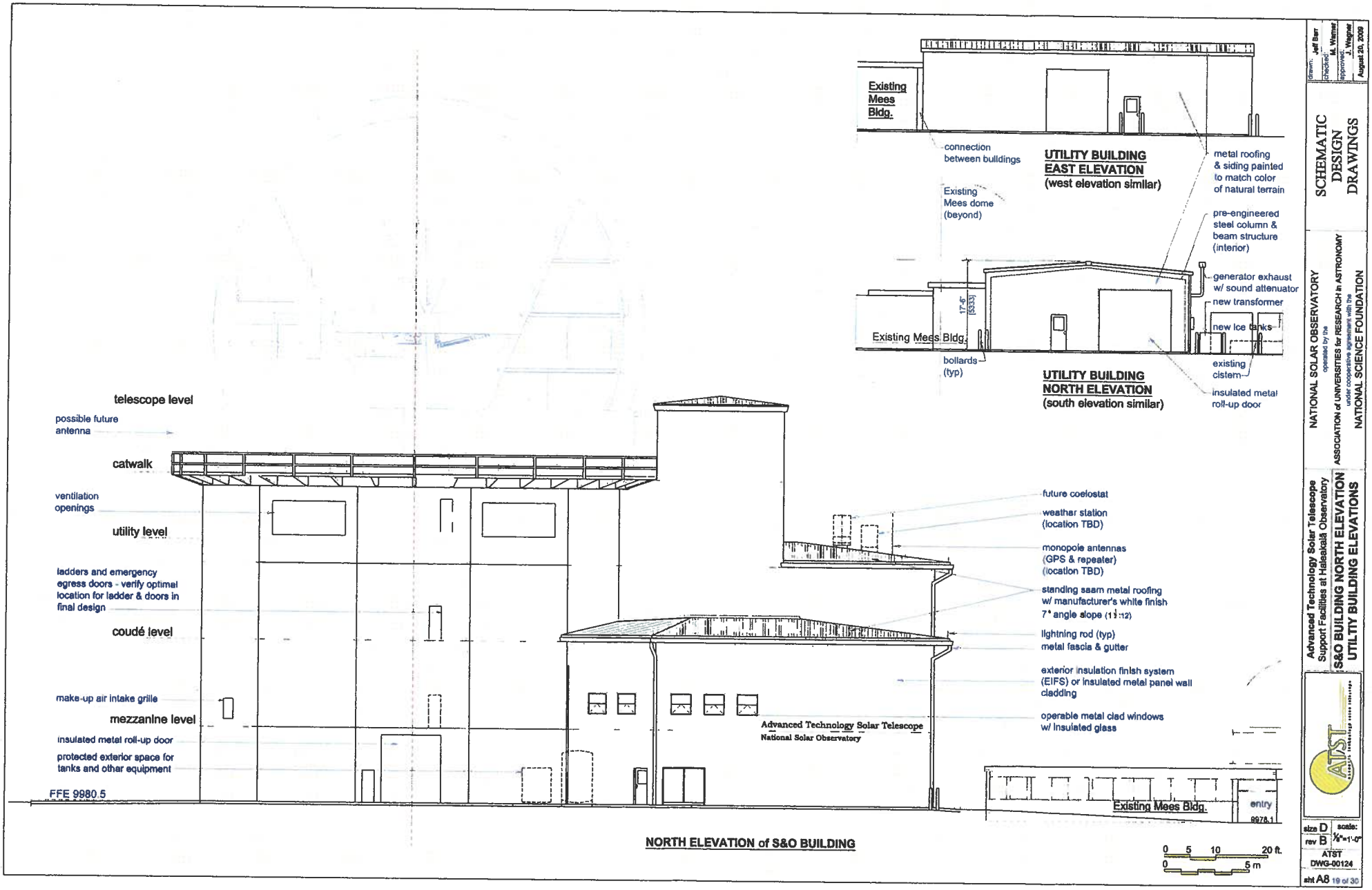
SCHEMATIC DESIGN DRAWINGS

drawn: Jeff Barr
checked: M. Warner
approved: J. Wagner
August 20, 2009

size D scale: 1"= 20'
rev B
ATST DWG-00124
sht C5 6 of 30



drawn: Jeff Barr
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August 20, 2009

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Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory

S&O BUILDING NORTH ELEVATION
UTILITY BUILDING ELEVATIONS

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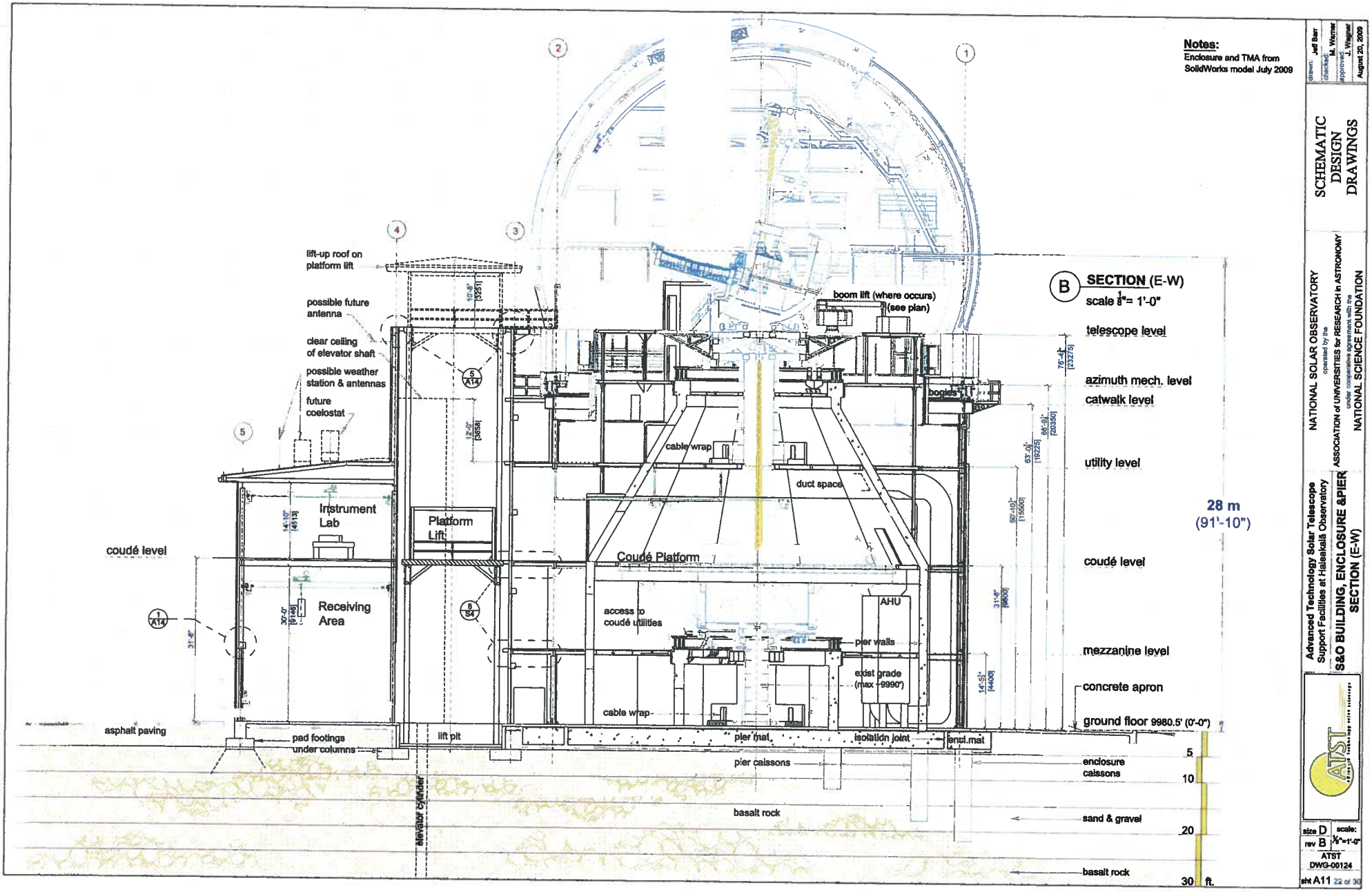
Notes:
Enclosure and TMA from SolidWorks model July 2009
B SECTION (E-W)
scale 1/8"= 1'-0"
lift-up roof on platform lift
possible future antenna
clear ceiling of elevator shaft
possible weather station & antennas
future coelostat
boom lift (where occurs) (see plan)
telescope level
azimuth mech. level
catwalk level
bogies
cable wrap
utility level
duct space
Instrument Lab
Platform Lift
Coudé Platform
28 m
(91'-10")
coudé level
Receiving Area
access to coudé utilities
AHU
pier walls
mezzanine level
exist grade (max +9990')
concrete apron
ground floor 9980.5' (0'-0")
asphalt paving
pad footings under columns
lift pit
cable wrap
pier mat
isolation joint
encl.mat
pier caissons
enclosure caissons
elevator cylinder
basalt rock
sand & gravel
basalt rock
5
10
20
30
ft.
Advanced Technology Solar Telescope
Support Facilities at Haleakalā Observatory
S&O BUILDING, ENCLOSURE &PIER
SECTION (E-W)
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SCHEMATIC DESIGN DRAWINGS
drawn: Jeff Barr
checked: M. Warner
approved: T. Wagner
August 20, 2009
size D
rev B
scale: 1/8"=1'-0"
ATST
DWG-00124
sht A11 22 of 30

Table 1. Impact Summary Table for Mees Site.

FEIS Resource Section	Impact	Mitigation	Final Impact
Impacts of the Mees Site			
4.1-Land Use and Existing Activities	*Minor, Adverse, Long-term* impact on level of use of the land and current land use designation (Conservation District, General Subzone).	MIT-1	Minor, Adverse, Long-term
	Major, Adverse, Long-term impact on the Federal Aviation Administration (FAA) Remote Communications Air/Ground (RCAG) facility by degradation of the communication signal.	MIT-2	Negligible, Adverse, Long-term
4.2 -Cultural, Historic, and Archeological Resources	*Major, adverse, long-term* impact resulting from construction and day-to-day use of the proposed ATST project on the summit area of Haleakalā. The proposed ATST Project would be seen as culturally insensitive and disturb traditional cultural practices conducted within the ROI. Further, noise and construction-related disturbances would have a major adverse impact on traditional cultural practices within the ROI. No mitigation would eliminate these impacts.	MIT-1 MIT-3 MIT-4 MIT-5 MIT-6 MIT-13 MIT-14 MIT-16 MIT-18	Major, Adverse, Long-Term
	Moderate, Adverse, Long-term impact resulting from the potential disturbance to historic resources along the Park road corridor.	MIT-6 MIT-7 MIT-12	Minor, Adverse, Long-term
	Negligible, Adverse, Long-term impact on archeological resources during construction and operation.	MIT-5 MIT-7	Negligible, Adverse, Long-term
4.3-Biological Resources	*Major, Adverse, Short-term* impact on the Hawaiian Petrel during the egg incubation period due to noise and vibration generated by construction activities. Potential major, adverse effects from construction could include the disturbance of the ʻuaʻu habitat at HO, where birds would not be willing to remain in their burrows during the nesting season. Unrestrained construction noise, vibration, or human proximity could affect the nesting habits of the ʻuaʻu to the extent that they may not return to, remain in, or otherwise utilize the burrows that are inhabited each year.	MIT-6	Negligible, Adverse, Short-term
	Major, Adverse, Short- and Long-term impact on botanical resources resulting from earth movement during construction and AIS introduction. Potential effects on ʻahinahina plants, Geranium multiflorum critical habitat, and ʻua'u burrows were found to be negligible.	MIT-9	Negligible, Adverse, Short- and Long-term
4.4-Topography, Geology, and Soils	*Minor, Adverse, Short-term* impact resulting from land clearing, demolition, grading/leveling, excavation, and other construction-related earthmoving activities.	N/M	

EXHIBIT 4

Table 1. Impact Summary Table for Mees Site. (cont.)

FEIS Resource Section	Impact	Mitigation	Final Impact
Impacts of the Mees Site			
4.5-Visual Resources and View Planes	*Moderate, Adverse, Short-term* impact during the construction period when equipment, specifically cranes, will be visible from the Pu'u Ula'ula Overlook, the western edge of the Haleakalā Visitor's Center, the summits of White Hill (Pa Ka'oao) and Magnetic Peak, and along the Park road corridor near Kalahaku Overlook. No mitigation would adequately reduce this impact.	N/M	
	Moderate, Adverse, Long-term impact after the ATST facility is erected and is visible from Pu'u Ula'ula Overlook, the western edge of the Haleakalā Visitor's Center, the summits of Pa Ka'oao and Magnetic Peak, and along the Park road corridor nearing HO. No mitigation would adequately reduce this impact.	N/M	
4.6-Visitor Use and Experience	*Major, Adverse, Long-term* impact resulting from visual effects on visitor expectations for summit area natural vistas	N/M	
	Major, Adverse, Short-term impact resulting from construction-related noise.	MIT-6	Moderate, Adverse, Short-term
	Negligible, Adverse, Long-term impact resulting from construction-related traffic traversing the Park road corridor.	MIT-10	Negligible, Adverse, Long-term
4.7-Water Resources	*Minor, Adverse, Short- and Long-term* impact on surface water and drainage at HO.	N/M	
	Minor, Beneficial, Long-term impact on groundwater sources and supplies because the existing cesspool would be replaced by an individual wastewater system to treat sanitary waste. The potential for release or failure during installation creates a negligible, adverse, short-term impact.	N/M	
4.8-Hazardous Materials and Solid Waste	*Negligible, Adverse, Long-term* impact resulting from construction debris and hazardous materials used in building construction and operation. Adherence to the LRDP would restrict hazardous material use and guide management practices. There would be no substantive change in solid waste generation or disposal practices.	N/M	
4.9 - Infrastructure and Utilities	*Major, Adverse, Long-term* impact on the FAA RCAG facility by degradation of the communication signal.	MIT-2	Negligible, Adverse, Long-term
	Moderate, Adverse, Short-term impact during the construction period to the roadways within HO.	MIT-11	Minor, Adverse, short-term
	Minor, Adverse, Short- and Long-term impact during the construction period on State and Park roadways. This impact would continue at a lower level during operations.	MIT-12	Minor, Adverse, Short- and Long-term
	Moderate, Beneficial, Long-term impact on electrical systems at HO due to the proposed MECO upgrade.	N/M	
	Negligible, Adverse, Long-term impact on stormwater and communication systems.	N/M	

Table 2. Mitigation Summary.

Mitigation No.	Mitigation Description	Affected Resources (FEIS Section)
MIT-1	NSF would decommission and deconstruct the proposed ATST Project at the end of its productive lifetime (approximately 50 years from the date operations commence), unless decided otherwise in consultation with the Native Hawaiian community. In that case, NSF would take steps to divest itself of all responsibility of the proposed ATST Project.	4.1-Land Use and Existing Activities* 4.2-Cultural, Historic, and Archeological Resources *mitigation not required, but applied to reduce long- term impacts
MIT-2	FAA will erect high-gain antennas in the same location as the current RCAG antennas and modifying/replacing the existing platforms on which the antennas are mounted, to accommodate wind loading and configuration of the new antennas. The FAA has stated that further modification of the site and relocations of the antennas may be needed, but environmental impacts from such a potential modification and relocation would not rise to a level of significance.	4.1-Land Use and Existing Activities 4.9-Infrastructure and Utilities
MIT-3	NSF, the Association of Universities for Research in Astronomy (AURA)/NSO, and UH IfA, in consultation with the Native Hawaiian community, will use best efforts to locate an area for a Hawai'i star compass at the summit.	4.2-Cultural, Historic, and Archeological Resources
MIT-4	In accordance with IfA's Long Range Development Plan, all construction crewmembers would attend UH-approved "Sense of Place" training prior to working on the proposed ATST Project.	4.2-Cultural, Historic, and Archeological Resources
MIT-5	AURA/NSO would hire a cultural resource monitor to ensure protection of existing traditional cultural resources during construction. The cultural resource monitor will be a Kanaka Maoli, preferably a kupuna (elder) and if possible a kahu (clergyman) as well, and one who has knowledge of the spiritual and cultural significance and protocol of Haleakalā. The cultural resource monitor's knowledge should be concentrated in traditional and cultural practices and protocols. The cultural resources monitor would be chosen in consultation with appropriate organizations and individuals with knowledge of such traditions and protocols.	4.2-Cultural, Historic, and Archeological Resources
MIT-6	HALE would restrict noise levels during certain hours of the day and during certain months of the year, limit on-site ATST-related construction activities during the time-frame from 30 minutes after sunrise to 30 minutes prior to sunset, limit the hours for wide load vehicles to traverse the Park road (such vehicles need to come through the Park during the night between approximately 8:00 p.m. and 4:00 a.m., and prohibit wide or heavy loads from coming through the Park at night between April 20th and July 15th). The seasonal restriction on wide load traffic is also imposed by USFWS.	4.2-Cultural, Historic, and Archeological Resources; 4.3-Biological Resources; 4.6-Visitor Use and Experience; 4.10-Noise
MIT-7	Special Use Permit (SUP) Pre- and Post-Project Documentation: Prior to and after the proposed ATST Project, all historic features and other areas susceptible to potential impact along the Park road shall be photographed and documented (see Federal Highway Administration (FHWA) report – "Haleakala Highway, Haleakala National Park, Pavement Drainage Condition Investigation, Distress Identification and Recommendations Report # HALA 3-2-2009, March 2, 2009 (revised April 2009)", found in FEIS, Vol. II-Appendix P). This will be completed by a qualified person funded by the proposed ATST Project.	4.2-Cultural, Historic, and Archeological Resources
MIT-8	Remove site Archeological Site 50-50-11-5443, concrete ring, which is a remnant of a 1952 radio telescope experiment, in accordance with the Archaeological Data Recovery Plan.	4.2-Cultural, Historic, and Archeological Resources

Table 2. Mitigation Summary (cont.).

Mitigation No.	Mitigation Description		Affected Resources (FEIS Section)
MIT-9 (cont.)	**Possible Impact**	**Avoidance and Minimization Measure Adopted**	
	Collision of petrels with equipment and buildings	Construction crane will be lowered at night and marked with white polytape for visibility. All structures will be painted white. No outdoor lighting will be associated with the project.	
	Burrow collapse from construction vibration	USFWS set ground vibration thresholds for burrow collapse. Vibration will be monitored to ensure that the burrow collapse threshold is not exceeded.	
	Noise concerns and incubating Hawaiian petrels	Construction noise at burrows within 80 meters will be no louder than 83 dBA measured at 5-feet from the source during incubation periods (April 20th through July 15th). Only two truck round-trips per day will be driven to the construction site during the incubation period.	
	Predator population increase	Trash will be contained. Rat predation at the Haleakalā Observatories will be minimized by vector control methods to protect the Hawaiian petrel.	
	Transport of invasive species to Haleakala	Cargo will be thoroughly inspected for introduced non-native species. All ATST facilities and grounds with 100 feet of the buildings will be thoroughly inspected for introduced species on a semi-annual basis and any introduced floral species found will be removed.	
	Driver education	All drivers will receive a briefing and a breeding season refresher to further reduce the chance that a vehicle associated with the project would cause injury or mortality to nēnē.	
	5. Alien Invasive Species Prevention - NPS vehicle, equipment, and materials washing and inspection protocol will be followed by the proposed ATST Project. Further, to augment prevention, the IfA has implemented weeding throughout HO. This would reduce or eliminate AIS introduction if prevention is not successful. 6. Impact Prevention To Nēnē At Entrance Station - To enable wide loads to clear the Park entrance station, an area 12-feet wide, currently occupied by a septic tank, underground utilities, and native vegetation, would be temporarily developed into a drivable surface. To mitigate the potential impact on nēnē that frequent the area, widening of the shoulder would be completed outside the nēnē nesting season. Park staff would work with the proposed ATST project team to implement nēnē avoidance methods for this road-widening work. Avoidance measures would include survey of the site for nēnē prior to construction and installation of temporary "orange fencing" around the outer perimeter of the construction area to prevent nēnē from walking into the site during construction. The site will be restored with native vegetation after use to further reduce impacts on nēnē. 7. Programmatic Monitoring - A programmatic monitoring plan for invertebrates, flora and fauna during the project has been prepared for the project, as described in the FEIS Vol. I, Table 4-1.		

Table 2. Mitigation Summary (cont.).

Mitigation No.	Mitigation Description	Affected Resources (FEIS Section)
MIT-10	Slow moving vehicles and/or vehicles that are class 5 or larger should not travel through the Park between approximately 11:00 a.m. and 2:00 p.m. These are peak visitation hours. The proposed ATST Project shall provide regular updates to appropriate NPS staff during the project so NPS staff can provide information to Park visitors.	4.6-Visitor Use and Experience; 4.10-Noise
MIT-11	Contractors would be made aware of the potential for road damage and would be required to take measures to minimize the damage. Any damage to HO roadways that does result from ATST construction traffic would be repaired so as to, at a minimum, restore those roadways back its condition before construction of the proposed ATST Project. These mitigation measures, to be negotiated between the affected parties, would reduce the overall impact on HO roadways and traffic down to minor, adverse, and short-term impacts.	4.9-Infrastructure and Utilities
MIT-12	All construction-related traffic within the Park road corridor would be coordinated with HALE and conducted in compliance with an SUP issued by HALE, so as to avoid or minimize: damage to the road pavement, potential damage to historic structures along the park road corridor, traffic congestion, and other potential adverse impacts on Park resources and the visitor use and experience. SUP provisions issued by HALE would include mitigation measures to address traffic issues, potentially including those recommended in the FHWA HALE Road Report. The provision of wide-load truck access at the HALE entrance station would require special mitigations related to that project, as described in Section 2.4.3-Construction Activities, Construction Traffic. This would include: 1. Assurance by the proposed ATST Project that the septic system is adequately protected. Mitigation may include placement of metal plate covers, grade beams, other protective structures, or relocation of utilities as a last resort. 2. Protection of existing utility man-hole covers. Specifically, the Project would: a. avoid direct axle loading on the covers, b. replace the existing covers with heavier gage steel; or, c. reinforce the existing covers with additional steel bracing. 3. Provision of a barricade system, such as a gate, removable bollards or similar devices on the widened shoulder to deter Park visitors and staff from driving on it. 4. To minimize the potential impact to the nēnē habitat in this area, the access widening project would be completed outside the nēnē nesting season, which is November through March. 5. Native plants in the area of the access widening project would be protected when possible and HALE staff would work with the Project on this mitigation. 6. When the widened access is no longer needed for the proposed ATST Project, the area would be fully restored and rehabilitated to its pre-existing condition.	4.9-Infrastructure and Utilities

Table 2. Mitigation Summary (cont.).

Mitigation No.	Mitigation Description	Affected Resources (FEIS Section)
MIT-13	To mitigate construction noise, contractors would implement reasonable noise-reduction practices and abatement procedures. These would include the following source control mitigation measures, all regarded as somewhat standard in the industry. These mitigation measures to minimize expected noise impacts during construction at HO would be as follows: 1. Conduct all noise-emitting activities within strict day and time constraints, with work prohibited during sensitive nighttime periods. 2. Reduce or substitute power operations/processes through use of proportionally sized and powered equipment necessary only for tasks at hand. 3. Maintain all powered mechanical equipment and machinery in good operating condition with proper intake and exhaust mufflers, 4. Turn off or shut down equipment and machinery between active operations; and, 5. Shield noise sources where possible. Contractors would be required to comply with applicable State noise regulations, under HAR 11-46.	4.10-Noise
MIT-14	During the 50-year lifetime of ATST, the Project will periodically reassess technological options for new types of coatings, more efficient cooling methods, or improved compensation for thermal turbulence which may allow the ATST enclosure and buildings to be painted a color other than white. If such future technology is determined to be an effective, reliable and affordable solution that meets the scientific requirements of the proposed ATST Project, NSF will consider repainting the exterior structures of the ATST with a more neutral color.	4.2-Cultural, Historic, and Archeological Resources
MIT-15	If there are Native Hawaiian scientists among the pool of scientists qualified to conduct research at the proposed ATST Project, NSO will reserve up to 2% of total ATST usage time for these Native Hawaiian scientists. Usage time will be provided through the Telescope Allocation Committee process similar to other scientists' requests based on technical feasibility and scientific merit. Unused time will not be carried forward to the next allocation period. Qualifications for usage will be based on established NSO guidelines.	4.2-Cultural, Historic, and Archeological Resources
MIT-16	The exterior design for the lower portion of the ATST building will include a well thought-out representation of traditional Hawaiian culture suitable to the Haleakalā setting, such as artwork depicting Maui and the Sun or other appropriate motifs. These depictions will be developed in consultation with Native Hawaiian artists.	4.2-Cultural, Historic, and Archeological Resources
MIT-17	NSF will support Maui Community College (MCC) in developing an educational initiative (Akeakamai I Ka La Hiki Ola, or Scientific Exploration Beneath the Life-Bringing Sun) on Maui to address the intersection between traditional Native Hawaiian culture and science. To support this educational initiative at MCC, NSF will, if the proposed ATST Project is approved, make available $20 million ($2 million per fiscal year, commencing in FY 2011), subject to applicable Federal law.	4.2-Cultural, Historic, and Archeological Resources
MIT-18	UH IfA will work with appropriate authorities to consider renaming the roads on the summit.	4.2-Cultural, Historic, and Archeological Resources

Sign Up for Public Testimony
ATST Hearing, August 26 2010

	Name	Affiliation	Email
	Charles Villalon	Au Puni	281 1036c
	Kiope Raymond	Kilakila o Haleakalā	
	Dick Mayer		DICKMAYER@EARTHLINK.NET
6:33	Rich Lucas		
3:39	Daniel Kanehele		
#5	Mikahala Helm		
7	Kathy McDuff		
2:16	Ivan Lay	Hawaii Carpenters Union	
4:30	Hanalei Collado	Po'ohonua O 'Iao	Kahuhanalei@juno.com
long 6 10*	[illegible]		
3	GRAHAM DEVEY	BALDWIN HIGH	
	Foster Ampong	—	kekahuna[illegible]@yahoo.com
	*Edward Smith	P.P. EYE RANCH	PUKALANI MAUI HI.
	Penrod Vladyka	Kalama School	mauisky@hawaii.rr.com
15	MATT WOODEMAN	Friends of Haleakala NP	matt@fhnp.org
	Jeanne Skog	MEDB	skog@medb.org
	WALTER KANAMU		
	~~Joe Ritter~~		
	Jeff Kuhn		
20	DAVID NIMO FRANKEL	NHLC	
	GARY GREENBERG		GARY@SANDGRAINS.COM
	Kekaumoku Kapu	Kuleana Ku'ikahi LLC	kuleanavalley@yahoo.com
	[illegible]	Pu'uhonua 'O 'IAO	bydivinedesign@hawaii.rr.com
	Richard McCarty	individual	jamesrmccarty@aol.com
25	Joyclynn Costa	Subject of Hawaii	back2daaina@live.com
	BRUCE Nin	Hawaii Carpenters Union	NU.Bruce07@GMAIL.com
	Keoni Wo	Maui Native ~~Hawaiian~~ Chamber of Commerce	MNHCOC@aol.com
	LUCIENNE deNAIE	MAUI SIERRA CLUB	laluz@maui.net

EXHIBIT 5

Sign Up for Public Testimony
ATST Hearing, August 26 2010

Name	Affiliation	Email
Cindy Giebink	IfA	
30 Martha Martin		
JEFF BAGSHAW		
Kuaola Raymond		
Elodie Lindsey		
James Spencer		
35 [illegible]	CLAUDIA	

Written Testimony – August 26, 2010
Mayor Hannibal Tavares Community Center, Pukalani, Hawai`i

University of Hawai'i Institute for Astronomy (UHIfA) - Conservation District Use Permit Application (CDUA) - Advanced Technology Solar Telescope (ATST) Haleakala, Maui

"Kanaka maoli" Come to a place to worship and feel close to our ancestors.

Aloha ahiahi. Good evening.

My name is Clifton M. Hasegawa. I am a resident of Maui. Born and raised in Haliimaile, Maui, Hawai`i.

My first exposure to environmental concerns was through William D. Smith who now resides on the Big Island. Bill introduced me to Mary Evanson and the Friends of Haleakala. I was introduced to Dana and Issac Hall, Dr. Charles Fein and Charles Maxwell, Sr. The project was the construction of a radio broadcast tower on the summit of Haleakala. I was asked to present comments at the Kula Community Center. Thereafter I worked with the permission of all with Chuck Bergson of Pacific Radio. The understanding and collaboration of all parties is essential to achieving an appropriate and respectful balance.

The advocacy by Kilakila O Haleakala and KAHEA is to be commended. Their stewardship of the `aina and our cultural heritage are strong, are focused and intended to preserve, protect and perpetuate our culture and heritage. To be kanaka is, in my belief, not necessarily by decent and genealogy but by understanding, commitment and respect for the vision and foundation provided by our Kings, Queens, Princes, Princesses, our kapuna (elders) and all those who love Hawai`i.

Kilakila O Haleakala has circulated a petition opposing the construction of the proposed Advanced Technology Solar Telescope (ATST) at the summit of Haleakala.

Specifically,

Kilakila O Haleakalā

(Majestic is Haleakalā)

ENOUGH IS ENOUGH PETITION
NO Advanced Technology Solar Telescope
on Haleakala Summit

- The disturbance, alteration and removal of sacred national resources and possible cultural artifacts would be a desecration of Haleakala.
- The proposed development would have an adverse and devastating visual effect caused by the addition a 14 storied intrusive and culturally inappropriate structure.
- The impact of traffic on our roads for the 7 year construction period, high noise levels, effects to our air quality, drain on our energy grid, incomplete water and waste plan are unacceptable; in addition there will be loss of revenue to local businesses associated with tourist to Halealaka National Park.
- The National Science Foundation should not build this telescope on Haleakala summit.

KAHEA opposes the construction of the proposed Advanced Technology Solar Telescope (ATST) at the summit of Haleakala as to do so is to disregard the rule of law, degrades the Haleakalā conservation district and is a desecration of Native Hawaiian religious and cultural practice on Haleakalā

KAHEA: The Hawaiian Environmental Alliance

July 7, 2009 letter to Chancellor Rose Tseng, University of Hawai'i at Hilo stated, in part,

Re: Comments on the Supplemental Draft Environmental Impact Statement for the Advanced Technology Solar Telescope (ATST) - National Science Foundation (NSF) – Haleakalā, Maui.

KAHEA: The Hawaiian-Environmental Alliance strongly opposes this proposal because the study of weather in space does not remotely justify disregard for the rule of law, degradation of the Haleakalā conservation district, or desecration of Native Hawaiian religious and cultural practice on Haleakalā.

July 7, 2009 letter to Chancellor Rose Tseng, University of Hawai'i at Hilo

Re: Comments on the Draft Environmental Impact Statement (EIS) for the Thirty Meter Telescope (TMT) project.

KAHEA: The Hawaiian-Environmental Alliance opposes this project. To be clear, KAHEA is not opposed to astronomy; rather, KAHEA is opposed to building a structure larger than a football stadium on Hawaiian sacred land that is also a state conservation district and the watershed for the island of Hawai'i. We believe it is not prudent to permanently sacrifice these natural and cultural resources for a project that will be obsolete in 50 years.

The developers of the TMT have proposed to donate money to the community to help educate young people on Hawai'i Island in exchange for the harms the project will inflict on this sacred and fragile environment. KAHEA believes, however, that the children of Hawai'i Island should not have to let people desecrate their church in order to receive a decent education. We also find it offensive that proponents of the TMT invoke the name of deceased Hawai'ian monarchs in their attempts to win public support. Although King David Kalakaua demonstrated an interest in science and technology, including astronomy, we find it offensive to assume, as TMT supporters do, that King Kalakaua would support the colossal TMT on Mauna Kea.

I have the distinct honor and privilege of serving as a Guardian for `Iolani Palace.

The palace was first known as Hale Ali`i (House of the Chief). King Kamehameha V changed its name to `Iolani Palace in honor of his late brother and predecessor. *`Io* is the Hawaiian hawk, representative of the bird that flies higher than all the rest. *Lani* denotes heavenly.

As a Guardian I stood postings in every room in `Iolani Palace. My favorite was the Library. The Library holds the history and works of King David Kalakaua.

Between visitors there were many quiet and private moments to study and reflect upon the works of King Kalakaua. To say that King Kalakaua would be offended by the construction of Advanced Technology Solar Telescope that would give us glimpses of uncharted places in our wide universe is, in my belief, a misunderstanding and a miscommunication of King Kalakaua.

King Kalakaua was a visionary and accomplished many firsts during his reign. He was the first king to visit the United States. He negotiated a reciprocity treaty which allowed Hawaiian sugar into the United States duty-free.

In 1881, King Kalakaua became the first monarch to circumnavigate the globe. Concerned about the loss of native Hawaiian culture and traditions, King Kalakaua encouraged the transcription of Hawaiian oral traditions, and supported the revival of and public performances of the hula, which had been banned earlier in the century.

King Kalakaua outfitted `Iolani Palace with the most up-to-date amenities -- indoor plumbing, electric lighting less than seven years after Edison invented the first practical incandescent bulb) and a modern communications system that included the telephone.

King Kalakaua waged many struggles during his reign. King Kalakaua died on January 20, 1891 at the Palace Hotel in San Francisco. His final words were, "Tell my people I tried."

I firmly believe that King Kalakaua would have said, "Remember our past; look forward to the future; work together; preserve, protect and perpetuate; embrace knowledge and education; I left you a legacy; our forward progress and our future I leave to you."

The word I share with you this evening is "laulima." (Cooperation, Working together).

Respectfully,

Clifton M. Hasegawa
1965 Liko Place
Wailuku, Maui, Hawaii 96793

Telephone: 808.244.46
Direct: 808.276.9362
Email: clifhasegawa@gmail.com

Copies provided to:

State of Hawai`i
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dr. Charles Fein
KC Environmental
P.O. Box 1208
Makawao, Hawai`i 96768

Mr. Mike Maberry
Assistant Director for External Affairs
University of Hawaii, Institute for Astronomy
34 Ohia Ku St.
Pukalani, Hawai`i 96768

Mr. Sam Lemmo, Administrator
Office of Conservation and Coastal Lands
State of Hawai`i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai`i 96809

Emily Fielding
2560 A Pololei Place, Haiku, Hawaii 96708
(808) 284-3961 efielding@hawaii.rr.com

August 29, 2010

Board of Land and Natural Resources
Office of Conservation and Coastal Lands
1151 Punchbowl Street, Room 131
Honolulu, Hawaii 96813

Subject: Testimony in Opposition to the Granting of a Conservation District Use Permit for the Advanced Technology Solar Telescope (ATST) proposed for Haleakala, Maui.

Dear Members of the Board,

I am strongly against the building of the ATST atop Haleakalā. I urge you to protect the people of Maui and our 2.3 million visitors per year from damage to the natural wonder, open space and iconic views of Haleakalā, both from the summit, and everywhere the 10,033 foot profile of the mountain is visible – even from miles out at sea. Please deny the Conservation District Use Permit Application for the ATST.

Haleakalā is revered for its volcanic view scapes and has legendary status across Hawaii, Polynesia and the world. Its characteristic profile and sanctity must not be compromised. The ATST proposal fundamentally alters the basic characteristics of Haleakalā that are central to the daily lives of the people of Maui, especially those who live on her slopes.

I live on the slopes of the volcano on the north east rift zone. I have the privilege of visiting Haleakalā National Park on a regular basis for recreational and spiritual purposes. The construction (for 6-7 years) and existence (40-50 years) of a fourteen foot telescope atop this most unique and sacred mountain is unacceptable. It would disrupt the sanctity of my spiritual practice and wilderness experience. The thought of enduring the profound damage and disturbance of a prolonged construction period, then to look upon our sacred mountain with a high-rise structure for the next 40-50 years is unacceptable.

Viewscapes - The proposed telescope is hugely out of scale for the surrounding environment. Already, the summit is littered with obtrusive telescopes and antenna which are visible to the naked eye from central, upcountry and west Maui, making it easy to imagine the visual impacts of a structure more than twice as high as any existing telescope. Such a building could not be built anywhere else on Maui under County building code.

Design Standards – The design standards in the management plan are grossly insufficient to protect the site from visual blight. Because of the lack of building codes or an adequate management plan to put bounds on the design of telescopes on the summit, the area is a free-for-all for height, density, noise levels, view planes, aesthetics and other standards we expect. The current development is industrial sprawl, the ATST adds substantially to the scope and scale of the visual blight. If anything, design

standards should be more stringent in this area because of the profound nature of the summit and proximity to Haleakalā National Park and the purposes for which the Park was designated in 1916. In addition, technology for solar telescopes will likely be outdated by the time it would be built, therefore, proponents should wait to build such a telescope until the technology is available to design a smaller telescope with better effect.

Visitor Industry – Approximately 75% of the 2.3 million visitors to Maui visit Haleakalā National Park each year. The ATST would disrupt the experience of the 1.7 million annual visitors to the house of the sun, and impact the historic road and bridges they enjoy on the drive to the park. The construction is expected to be noisy, and disruptive to human visitors.

Endangered species – I am very concerned about the effects on the endangered u'au, and the potential introduction of alien species.

Draft Environmental Assessment for the Haleakalā High Altitude Observatory Site Management Plan – Strangely enough, this document states that there would be no adverse impacts from the building of the ATSTT on the exceptional visual resources or view planes. I strongly disagree. Based on the criteria from the EA for implementation of the management plan, building the ATST would have a significant impact on visual resources, as I would answer yes to all the questions below:

- Would implementation of the MP result in a substantial adverse effect on a scenic vista? YES.
- Would the implementation of the MP result in damage to scenic resources, including trees, rock outcroppings, and historic buildings, within a State scenic highway? YES.
- Would the implementation of the MP result in substantial degradation of the existing visual character or quality of the site and its surroundings? YES.
- Would implementation of the MP result in a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? YES.

There is no doubt that the answers to these questions are affirmative and the fact that the MP states otherwise is evidence of the irresponsible and audacious disregard for impacts shown by project proponents.

The text from section 2.5 of the Draft EA, discusses the exceptional rating of the views of the area: "The Draft Maui Island Plan identifies scenic resource corridors (County of Maui 2009). Each roadway corridor is rated exceptional, high, medium, or low, based on its overall scenic resource value. Haleakalā Highway is rated as **exceptional**. Roadways with exceptional or high scenic resource values are typically in areas that consistently convey dramatic and diverse resource values throughout the corridor. These corridors are typically in a natural condition and remain relatively unmarked by development. The Draft Maui Island Plan states that a Scenic Roadway Corridor Overlay District would establish special controls along scenic roadway corridors to prevent or mitigate the impact of development on scenic resources."

Hawaiian Cultural Values – Of all the values that would be damaged by the ATST proposal, damage to Hawaiian cultural values is the most egregious. There is no way to mitigate for the losses proposed by the construction, operation, and presence of the ATST facility.

In closing, I again urge the board to deny this permit based on impacts that cannot be mitigated.

Thank you for your consideration,

Emily J. Fielding

Testimony Regarding the ATST Proposed for Haleakala

My group is Maui Homeschoolers. I don't speak for the group, but I feel strongly that being a mom and an educator of a child on Maui makes me as qualified to testify as some who spoke at last Thursday's hearing on the proposed ATST.

There were many excellent speakers with good points and questions at the meeting. Some questions can't be answered, and until the nation of Hawaii is restored, the memory of its takeover will prevent many from trusting, or even looking at ideas from their occupiers and from outsiders.

For the most part, the most passionate speakers were against the building of the ATST, and that makes sense, since if you're not passionate, you probably don't go to meetings. And even the pro-ATST speakers weren't as emotionally involved, since they can see both sides; we all want the native Hawaiians to get what they want. But I did think a couple of points regarding the local members of the ATST team could have been made more clearly.

Given the pertinent history, it's natural for us to wonder whether we can trust the builders to follow through on their promises and good ideas for mitigation of adverse effects of the telescope and its construction. (I wish there had been an opportunity to ask questions of the builders -- like does it really have to be that tall? --- although I can see that in that atmosphere, and only one lone board member, it wouldn't have had a productive outcome.)

Although it's impossible to know how well the ATST staff will follow through on their promises and ideas in the future, we can make some inferences from the present. I've only just started researching this, but I have already found three indications that ATST staff aren't just lying to get what they want. The ATST changed it's initial EIS to include wildlife preservation techniques to be sure they leave the nene, the 'ua'u and the silverswords in as good or better shape than when they started.

Also at the meeting Dr. Wagner said once they start on the foundation, they may very well see they don't have to drill down for footings since the ground is so rocky, it may already be bedrock. (I figure on this one, trust is built-in because drilling is expensive, and no one today is spending money they don't have to.)

Finally, the ATST movie says they "also seek partnerships with educational and other institutions in Hawaii to help train the next generations of scientists, observers and operators who will use ATST." If this is true, it could revolutionize life here. And UH's Institute for Astronomy is already keeping this promise in several ways I've seen. For three years now, they've been offering astronomy programs for middle and high school students with Dr. JD Armstrong, the astronomer who's their head of outreach. It is a very strong show of good faith that they've gotten the ball rolling, and started these educational programs so far in advance. This is not just lip service from the IfA.

I've had the pleasure of watching Dr. Armstrong in action when he visits my homeschool group. What an effective, accessible, versatile teacher! And in addition to the three separate school venues I mentioned, Dr. Armstrong also does presentations at the libraries. On top of that, the IfA has been offering a series of free public lectures done by university astronomy professors. The first one my family went to was given by a very well-known astronomer from UC Berkeley. And we've been to and thoroughly enjoyed every talk since. On so many levels, the IfA is actively reaching out to interested children.

And what children aren't interested? They've been asking science questions since they could talk. They're all astronomers, climatologists, geologists, biologists, physicists, etc., so integrating science in school from the beginning is a natural way to keep interest in subjects like math and grammar that kids may otherwise see as boring, pointless rote-learning. (With no context for material learned, there is very little retention, and you end up teaching to the test, which is boring for most teachers as well as students.)

The telescope could be a jumping off point to offer our kids science and tech options. All the pieces of the puzzle are in front of us. If we come together in willingness to create positive change, this could be the start of empowerment for all our children. We could give them some choices so they won't have to leave the island to make a living that interests and challenges (and pays) them.

Do I want to see petrels killed? No, especially because of their spiritual role. But the ATST team has already promised not to work during the petrels' nesting season. Should the builders of the ATST be given carte blanche? No way! But what if we could get an agreement from the builders to be respectful, and someone there to oversee? Haleakala is sacred and immensely powerful. I feel very strongly that anyone building up there must have the intention to help and not harm. If the telescope helps us with greater knowledge of our source, the sun; and if the ATST's builders are respectful; and if our children are given both new opportunities to open their eyes to their universe and more choices for22 their futures, the net effect of the ATST will be to help Maui.

What if the ATST project does fulfill it's promises? What if these people who seem so sincere really are? That might even start to crack open the door a tiny bit for a little bit of healing between the various groups on Maui. And that would be of the greatest value.

Thank you very much for your attention.

Anastasia Pfluke
PO box 1315
Pu'unene, Hawaii
96784

I am disappointed that the National Science Foundation and the University of Hawaii are again proceeding with a proposal to build a telescope on a sacred site. Public money should not used to destroy the temples of Native Hawaiians, especially when there are alternative sites for this telescope that are not even being considered.

Science should be held to the highest ethical and moral standards. This includes engaging in scientific study without destroying rare habitats and desecrating ancient religions. Unfortunately, the proposal to build the Advanced Technology Solar Telescope (ATST) on Haleakala does not meet this standard. The supplemental draft environmental impact statement for the ATST states: "Construction and operation of the proposed ATST project ... would likely result in major, adverse and long-term impacts on the cultural resources" of Halekala. The 14-story ATST will be less than 100 feet from the important east-facing altar of Haleakala.

The six years of construction and more than 50 years of operation of the ATST so close to this immensely sacred religious site would make it impossible for Native Hawaiian cultural and religious practitioners to offer respectful prayer to deities and ancestors.

Native Hawaiian cultural and religious practice has already suffered so much at the hands of poorly managed construction. Please do not let it suffer it any more in the name of modern astronomy.

Mahalo for considering my testimony.

Lehua Kaulukukui

Waikoloa, HI 96738

Comment on Conservation District Use Permit Application.

August 30, 2010

To: Office of Conservation and Coastal Lands

From: Mr. Mercer Vicens, President, Maui Native Hawaiian Chamber of Commerce
808 8701177, cvicens@abprop.com

Re: Advanced Solar Telescope-Draft Habitat Conservation Plan, Draft Environmental Assessment, Conservation District Use Permit

On behalf of the Maui Native Hawaiian Chamber of Commerce I wish to express our support for the Advanced Solar Telescope planned for the summit of Haleakala. Though there are those in the Hawaiian community who oppose the construction of anything on the summit, we believe that adequate preservation of this site can still be achieved while securing for our people their survival through education, employment, and opportunity. To preclude our children from the benefits to mankind that this project can provide in the name of our ancestors would be to deny our ancestors the satisfaction of seeing their culture continue to contribute to the building up of their people and our children. To deny our people the potential to learn more of their universe and the knowledge gained from the study of the sun and other astronomical bodies because of environmental arguments that have been more than adequately addressed in prior and recent studies and mitigation, is contra to our best interests.

We are an organization which seeks to assist Maui Hawaiian businesses to grow by utilizing not only business acumen but also our Hawaiian culture. We believe in our ancestors and our culture and hold them in great reverence. We acknowledge the sacredness of Haleakala and desire to maintain a sense of the wahi pana that it is; however, we know that in the 21st century that we cannot be living in the 18th and that our posterity must be our strongest motivation if our decisions today are to truly be meaningful and lasting. Hawaiians should be the scientists and engineers who run the project some day and who support the growth of knowledge of the sun that their ancestors so carefully cultivated as reflected in their legends and history. This telescope offers them a potential and a promise to fulfill their dreams and to honor their ancestors at the same time.

We submit that the testimonies in opposition are not a unanimous representation of our people and that as a voice from the other side, though we may understand their positions, we feel strongly that for Native Hawaiians, the community of Maui, our nation, and the world, this telescope must be built. Should you have any questions, please feel free to contact me. Mahalo.

CITIZENS FOR TRUTH AND JUSTICE
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POST OFFICE BOX 791071
PA`IA, MAUI, HAWAI`I, U. S. OCCUPIED TERRITORY 96779
TELEPHONE/FAX (808) 573-2350, E-MAIL FLYGAD2000@YAHOO.COM

Pete Muñoz, Director
Sam Miguel, Executive Director-Citizen Affairs

Kenneth K. Yasso, District Director
Richard I. Cherry, Media Advisor

22 August 2010

Mr. Sam Lemmo
OCCL
Department of Land and Natural Resources
Post Office Box 621
Honolulu, Hawaiian Islands, U. S. Occupied Territory 96809

Re: Proposed Construction of ATST Telescope on Haleakalā

Greetings Mr. Lemmo:

We would like to share with you our complete and total opposition to the proposed building of this ATST telescope on Haleakalā. You will hear and read many different reasons for folks opposing this construction. We believe the most important reasoning to consider is that this land belongs to the Kanaka Ma`oli, and as importantly, sacred land of these people.

As you are well aware the Hawaiian archipelago was usurped in an act of war by America back in 1893, and continues to be usurped by the illegal government that controls the land and people. This can be modified to a slight degree if you folks will respect and heed what is said by the elders concerning opposition based on the insult to the Hawaiian culture and the insult to the `āina.

For your information, with the exception of one of our board members, Kenneth Yasso, we are all foreigners to these islands.

We are,

Sincerely,

Pete Muñoz, Director

PO Box 418
Kula, HI
Septemb

DLNR, Office of Conservation and Coastal Lands
1151 Punchbowl Street, Room 131
Honolulu, HI 96813
Enclosed: Student petitions, 138 signatures in support of ATST
Att: Stephen Michael Cain

This letter is in support of the ATST telescope now being planned for

I am a 15-year physical science teacher at H. P. Baldwin High School (interacting with Dr. J D Armstrong and the UH Institute For Astronomy for se

--I have taught over 800 high school students a specially-developed topic, "Op one-hour activity introducing exoplanets, solar system development, and curre accordance with Hawaii state standards.

--I have qualified as a "Master Teacher" in IFA's development program in Heli outreach specialist Mary Kadooka and spearheaded by Dr. Ilia Roussev.

--I have selected Baldwin students to participate in IFA's Maui astronomy work week-long astronomy camps at the UH Manoa campus.

--I have selected and encouraged three Baldwin students to pursue their long-ter detection and tracking, associated with IFA Maui and the Pan-STARRS telescop

--I have launched "Skills in the Sky", a new after-hours astronomy course at Bald beginning August 2010, to develop student skills essential to feeding the astronon

Although I am not an astronomer, I am very impressed with UH and the IF information of their programs to all my students, and select and encourage particu youth to pursue their dreams of high-tech careers on Maui, linked especially to ast

The ATST telescope is greatly needed on Maui. Fundamental research on --will provide jobs and careers to Hawaii's most talented youth
--is needed to better understand the other stars in our universe
--can help us refine and predict the impact of solar activity on Earth's climate
--could help humans better anticipate potentially-devastating solar events

I can think of very few technology programs available to Maui that have the potential benefits and impact to our local population, the state, and in fact the planet itself. Please know that ATST will be given my very earnest support in the years to come, as I continue to educate and prepare our youth.

Best regards,

Graham R. DeVey
H. P. Baldwin High School

Baldwin High School, Wa

Skills in the Sky

<>Guest experts<>Fun activities<>Microscopic, worldwide sand
<>Exo-Planets, in the Universe<>Finding Asteroids<>Viewing Stars
<>Lenses, Mirrors, and Images<>Earth's Past, Present, and Future
<>Telescopes and what they show<>Skills for life/Maui careers

Petition in support of ATST Telescope on Haleakala Date: AUG 16, 2010

We the undersigned students and staff of H. P. Baldwin High school support Maui's development of the ATST telescope because:

--it will provide jobs and careers to Hawaii's most talented youth
--it is needed to better understand the other stars in our universe
--it can help us refine and predict the impact of solar activity on Earth's climate
--it could help humans better anticipate potentially-devastating solar events

Last name, First name	Home address
1 Castaneda-Moniz, Justice	200 Makuhi RD.
Magallanes, Shawn	45 Kama St
Jacob Howard	2199 Makuhau Rd.
Toryc Cugril	643 Hekakinu Lane #405
Tyson Felicilda	1008 Alāka'i St. Wailuku
Nolan Bumanglag	2036 Kamaile Street
Kealaula Reinhardt	621 Kikani Pl.
Samantha Kahuhu	585 Linekona Ct. PAKUZZZ!
Shayla Recinos	64 Maka Hou Loop
Danielle Mettao	211 [illegible] Pl 96793
Bryana Naavao	154 W. Waiko Rd.
Amber Gould	1940 Pakaiku pl.
Makana Anzai	1918 North St
Jared Souza	264 Kamahoa Circle
Amand William	2171 Holowai pl. Wailuku HI.
Kawehi Lau	381 hanalei place
Annietra George	245 W. Waiko Rd.
Niuila, Leni	23 Waipono ln. #1201
19 FINAU ISEI	74 HO'ONANI STREET 96753

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	Last name, First name	Home address
1	Adzuara, Angela	916 Puuloa St. Wailuku
	Lia libonati	96793 Vinyard st.
	Kanale Keani	689 akakuu st, wailuku, Hi; 96793
	Sydney Broncheau Shimizoka	Kamani st, Wailuku HI
	Moniz, Daisi	Waipono Ln Apt #201
	Brandyn Watanabe	332 alae Rd., Kula
	Vierra, Vincent	647 Kalakaua St
	Perez, Eric	
	Wuthrich, Nash	
	Seki, Ryota	38 Waiolu Place
	DeMichele, Matt	1021 Vlu Kani St.
	Soco, manuel	38 Kualani st.
	Hoi, Kosharan	907 Kuhio Pl.
	[illegible]	7 Kaloapelu way Apt. 4a
	Savona, Misha	174 IHF place
	Travis Tolentino	your house
	ERIC vinger	by travis
	Chaz Alconcel	WAIKAPU
	Brandee Hookano	Waiehu Beach RD.
	Kawika Koomoa	517 Imi Place
	Brandon Arisumi	447 Kea st
	Derrick Kaleikini Jr	
	Dusty Flores	
	Anthony Fernandez	Wailuku
	RYAN Feliciano	103 Wailuku
	Karen Visitacion	830 Hoomau St. Wailuku
	Stella Daoang	824 Analio st. Wailuku
	Chrish Chichireco	765 wailuku DR. Wailuku
29	Donna Reyes	929 Makaala Dr. Wailuku

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Last name, First name	Home address
Losalio, Aaron	111 kahului bch rd
Silva, Travis	1645 Kainani pl.
Bruck Glen	3557 piikea Pl.
Yasana, Michael	577 Kaikoo st
Vavtour, Channel	111 Kahului beach Rd A-407
Nolleria Loo Keanu	55 Wainaka lane Apt#206
Macaliro, Paradise	
Christine, sonis	
Nicca Gajonera	
Betty-lou Presley	(P.O box 327. 96732) Home adress -> Kihei
Brenna Corda	2611 Kanekili Hwy
Alea Eyre	
Pida Yaian	185 Waimahaihai LN 201
Keoana Solatorio	1343 moohele st
Tacini, Kisaea	878 Olena st.
Fangatua Hinafisi	27 Waipono lane
Codey Matsumoto	408 Liholiho st
Brandon Elizares	
Paula Kahue	669 kaae pl. wailuku
Pambrub, Kathlyn	811 Upaliu st.
Ramit, Crystal	
Alyshia Powell	
Kaahahe Kaomi	118 Limu Ele Ele st.
Enomoto, Chanielle	3 Wainaka lane #102 wailuku, HI 96793
Bautista, Adrian	60 Poniu circle wailuku, Hi 96793
Jamie DelaCruz	1078 Onana st wailuku
Taela-Lei Bates-Kaha	240 Awapuhi ct. wailuku
Mullene Mochizuki	36 Hoomau Street
Janessa Domingo	319 Ieleihoku st Wailuku
Kayla Bailey	613 Kalakaua st. Wailuku
Gundgen Sir Angelo A	[illegible]
Tevita Falepapalang	38 E. Hawaii
Alexander mark	157 202 waimahaihai lane
Bronson Nerpio	1911 Makahala Pl.
Kaleo-Mata Kawela	609 Kikania pl.
Justin Haydood	699 Papa St.
ashley Martin	261 EA St.
Brittney Gragas	264 Mohalu st.

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	Last name, First name	Home address
1	Koki, Jacie	2585 Kaheki Hwy
	Hernandez, Jasmine	751 Wailupe Dr.
	Natividad, Kyra	437 Holua Dr.
	Molina, Lauren	737 Iluna Place
	~~Alea~~ Weber, Alea	66 Laeneni
	Melyssa Agbannaoag	
	Smith Taylor	279 Keoneka Rd.
	NO Thanks	
	Boneza, Khaila	
	Obregon, Sheena	
	What she Said	
12	Guthrie, John	940 Eha st. Unit 103, Wailuku, HI 96793

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	Last name, First name	Home address
1	Barbora Isai	1910 Lauwaaka pl. Maui, Hi
	Lawrence, Nick	339 Auhana Rd
	TADEO ANDREW	739 KEA ST.
	Figueiroa, Nick	739 Kea St.
	Faulve, Daniel Ray	600 Waiehu beh. Rd
	Sagadraca, Jessie	
	Chambers, Marcus	89 Waikai st.
	Ordonez, Tyler	579 Haiki PL.
	Edmond, Salomae	106 Waimaluhia Ln
	Swaelane, Sebastian	
	Brittany Holland	
	Isabel Bayron	
	Tagalicud, Rachelle	2095 Helena Place
	Rodriguez, Angelica	240 Hale Mili St.
	Carone Thomas	899 Hoomau St
	Leonard, Megan	415 Dairy Rd E 101 Kahului
	Lexi nagamine	
	TYLER PURDY	595 Pumehana St
	Sheylynn Santos-Castillo	6605 Kuhao St.
20	Teshima, Frank	310 Hina St

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	Last name, First name	Home address
1	Nater, Quincy	171 A APAU PL
	Cumminas-Ewaliko, Melia	795 Kawananakoa st.
	Galarita, Enjolic	P.O Box 3123 Kahului 96732
	Pascual, Jalyza	975 puuloa ST.
	Gaddis, mia	1424 Kilohi st. Waikapu 96793
	Masi, Ana	832 Kahului 96732
	Yap, Noah	
	Cardona, matt	
	Waylen Puha	231 Kupaa st.
	Bautista, William	
	Monte, Ammon	22 Nakeu way Wai ehu Kou
	Caldwell, Kaylee	792 Wailupe Dr 96793
	Kamau Kuulani	169 Limu ele'ele st 96793
	Apolo, Noah	581 pohu st. 96793
	Arain, Justin	574 Pohu St. 96793
	Richardson, Micah	1072 Lae Lae St. 96793
	Apolo, Jahryiedan	40 Papali lane unit # 43
	Ching, Mikioi	276 Moali St.
	Torio, Ryan	21 Waiaka ln. apt. 32-102
20	Dumaran, Kaimanilani	446 Palama DR.

P.O. Box 69
Kihei, HI 96753
September 23, 2010

DLNR
Office of Conservation & Coastal Land
P.O. Box 621
Honolulu, HI 96809

RE: Solar Telescope on Haleakala

A recent article in Maui Weekly implied that the future of the telescope was still in question and may not happen.

This is an important scientific site that will benefit the entire planet. Modern Hawaiians should be supportive as it is a reflection of the importance of the mountain and its relationship to the sun. That is the reason ancient Hawaiians held the mountain in such regard.

If there were plans to build a McDonalds with golden arches, I would be the first to join the protest. That is not the case. The structures that are on the mountain serve a higher purpose.

Thank you for your attention to this important matter.

Sincerely,

Sue Kiang

Sue Kiang

ROB RATKOWSKI PHOTOGRAPHY

ADVERTISING • LOCATIONS • PRODUCTS • PEOPLE • ART

August 26, 2010

I just want to go on record to say I SUPPORT the construction and operation of the Advanced Technology Solar Telescope. I just returned from the Pukalani CDUP for the ATST and I have to say that there will be some disturbances to the nature of the summit but a large telescope is to be built, I know no way to build a telescope without some disruption. The Institute for Astronomy, National Science Foundation and others have gone to great lengths to make this build the smallest impact possible, no more is environmentally insensitive construction allowed There was an acquisation that caisons to be built were unknow in quantity, that's because to know the true nature of the sub surface, the top layer must be removed, the planners of this telescope cannot see into the ground, so it is unknown until the area in question is uncovered. As for the 14 story telescope being an eyesore, it has been my observation that when I have off island visitors and we summit Haleakala, they ask to have a photo taken WITH the observatories in the background. I have also observed numerous visitors doing the same.The observatory is not an eyesore but an attraction .

Many Hawaiians voiced the destruction of Maui because of the ATST being built. Isn't it time we move into the 21st Century and dispell ancient practices?? In 1819, the Hawaians without consel or suggestion, overthrew their idols and abolished tabus. I feel that some modern Hawaiians want to reintroduce the tabu system by making the ATST an evil to all of Hawaii. We need to be more than just a tourist destination, we need to be involved in technology, we need to be involved IN astronomy at a place with some of the greatest observing conditions possible.

Again I SUPPORT the ATST.

Aloha and Mahalo

Rob Ratkowski

Rob Ratkowski

206 ELILANI STREET • PUKALANI, MAUI 96768 • PHONE/FAX (808)572-6418

www.RobRatkowski.com

Comments for DEIS for ATST Project on Haleakala

Submitted to
Dr. Craig Foltz, National Science Foundation
OEQC Hawaii State Dept of Health
Mr. Mike Maberry, UH IfA
Dr. Charlie Fein, KC Environmental, Inc.

Submitted by
Maui Group Sierra Club
as prepared by
Kathleen S. McDuff and
Richard M. Lucas
October 23, 2006

Haleakalā
The Sacred House of the Sun

Hawaiian Protocol for Sacred Places

E Ui No Ka 'Ae
Ask Permission,
E Mahalo Aku
Give Thanks,
E Komo Me Ka Hōano
Enter With Reverence,
I ka hele aku, e ho'oma'amau I ka wahi!
When you leave, return it as you found it!

The summit of Haleakalā represents many things to the indigenous people of Hawai'i. The ancient spiritual use of Haleakalā was for meditation and receiving spiritual wisdom by na Kāhuna Po'o (the lead priests). It is said to be a place where the tones of ancient prayer are balanced within the vortex of energy for spiritual manifestations. In ancient times, only the Kāhuna and their haumana (students) lived at Haleakalā for initiation rites and practices. All who visit Haleakalā should strive to become sensitized to the subtleties of nature and the culture of this sacred place. Considering the aggregated eons of history at Haleakalā, this summit demands respect. It is a place of prayer; it is Ala hea ka la – the path to calling the sun.

When Pele, the goddess of fire, first visited Haleakalā, she dug a deep pit and made sixteen pu'u (hills, cinder cones). These pu'u form a sacred alignment from the summit of Haleakalā, to the tip of Haneo'o and continues for about 30 miles into the ocean. Along this path, on the eastern side of Haleakalā, there were over 300 heiau (temples), the highest concentration in the Hawaiian archipelago. The ancient Hawaiians knew these things about Haleakalā and kept its secrets for those coming after to love, protect and preserve. Those that ventured there in the days of old did so with care and reverence, to worship, and to observe the heavens (as well as for navigation).

To take any action, other than NO ACTION, would be a trespass on one of the most sacred and revered sites on Earth. When Jay April's wonderful film *Haleakalā: A Sense of Place* was shown at the Maui Arts and Cultural Center, Kahu Uncle Charlie Maxwell was asked the question if he thought it was appropriate to make a jump from how ancient Hawaiians observed and used the stars[1] to how UH IfA and the Air Force propose to use the sacred summit with defense projects such as Pan-STARRS. He responded by saying he didn't know, "...but they would have to follow all the rules that were set forth to follow cultural protocol and cultural respect of the land before anything is built." He then added" Oh, and one more I forgot: That if they are going to build anything, they got to tear something down and put it in its place."

None of the five buildings at the top of this inimitable summit have been taken down yet, but at the last informational community meeting at Pukalani in 2006, one of the members of the ATST team informed the public that each facility has an estimated service life. He further stated that at the conclusion of its useful service, the facility should be dismantled and the site returned to its natural state. He added that two facilities on the mainland would be dismantled when the ATST project was put up. Therefore, all references in the DEIS suggesting that this project has a less significant impact on the sacredness of Haleakalā, because previous projects have already been constructed near the site (inferring that the damage has already been done so one more won't really make that much difference) should be rethought. If all future construction is stopped immediately and no further action of any type is taken, then at some designated point of time in the foreseeable future Haleakalā will be returned to its natural state. Each additional project subjects this irreplaceable sacred site to more desecration. At what point will it be irretrievably altered? Certainly it is time to stop and repair

[1] The Hawaiians observed and used the stars to navigate their way safely throughout Oceania. Hokule'a, Hawai'i's zenith star, Hokupa'a (the North Star) and the peaks of Mauna Kea and Haleakala were used to navigate their way safely into the 'Alenuihaha and 'Alalakeiki channels. The Kahuna Kilokilo (a priest who would watch the skies for omens) studied the sky from the summit of Haleakala.

the damage. Haleakalā undoubtedly deserves that much respect, and much much more. You might listen to the heartfelt song *Kilakila 'O Haleakalā* (Majestic Haleakalā), if you want to get a feel for the deep respect this wonderful mountain deserves.

As noted in the DEIS, the construction of the 14 story structure is viewed by Native Hawaiians to be a cultural desecration of a sacred site. It will have a significant impact on the view shed in an adverse manner and will irreversibly interfere with the United States Constitutionally protected spiritual practices of the indigenous people of Hawaii. For the above reasons alone, a decision of no action should be an easy and correct conclusion.

If you want other specific reasons, they are present as well. We are assuming for purposes of this comment, that all community comments presented at community meetings during the discussion periods throughout Maui Nui will be incorporated into the Final EIS. We were told when the members of the community presented their oral testimony that it would be transcribed and submitted to NSF to be included in the Final EIS, so we will not duplicate the comments presented at those meetings herein and the DEIS should be corrected accordingly.

Mitigation of Cultural Resources: In Kahu Charles Kauluwehi Maxwell Sr.'s Final Report entitled *E Malama Mau ka La'a*, there appears to be an initial assumption that this project will be constructed irrespective of the objections to the building of the ATST on Haleakalā. For purposes of a cultural resources and traditional practices evaluation, the preparer should have considered all possible options, including the option of "no action", which does not seem to be the case.

On page 62 of his report, Kahu Maxwell acknowledges that "any building or structure built on this site is an intrusion on the sacredness and spirituality of this mountain revered by the Hawaiian people past and present," and then goes on to conclude that a balance between building on the site

and the cultural practices of the Hawaiian people must be reached. There does not appear to be a logical correlation between these two statements, and he does not explain why he can come to the conclusion that a balance between digging and desecration is what should be achieved. In fact, an assessment with an open mind to "no action" should have drawn a completely different conclusion. This report is incomplete and should be re-evaluated with the "no action" alternative considered.

Additionally, there is no legal or rational nexus between the cause and effect listed in his report. He starts with the premise that "any building or structure built on this site is an intrusion on the sacredness and spirituality of this mountain revered by the Hawaiian people past and present," and then apparently concludes that this premise can be adequately mitigated by certain actions he suggests, including the use of cultural protocol before, during and after construction. Unfortunately, this proposed mitigation will not reverse, stop or even diminish the desecration. It might make some feel better about it, but the desecration will remain. The report seems to imply that the proposed violation would be lessened by building with cultural sensitivity. In fact, any construction on the summit is absolute desecration of sacred ground. Greater sensitivity on the part of the construction workers is not an appropriate response to desecrating sacred ground. As noted in the DEIS, any foundation excavation on the mountaintop would be a wound to a highly sacred place. The only way to stop the desecration is to prohibit it from happening in the first place. This possibility is blatantly ignored in the present report.

First Amendment religious rights are allowed to be absolute just because of their nature. They are not limited to shades of gray. This is one of those absolutes. "No action" should be indicated.

Interestingly, the National Science Foundation found that the summit constitutes a "traditional cultural property", a term used by the National Register of Historic Places to identify properties eligible for inclusion in the National Register because of their association with the cultural practices or beliefs

of a "living community." This view is shared by the State Historic Preservation Division at the DLNR. (Honolulu Advertiser October 12, 2006) When a property is placed within the Historic Registry, it is protected from such desecration as would occur on this site should the project go forward. Haleakalā should be offered the same protection as any other "traditional cultural property" and, when that standard is applied herein, no action should be taken.

In addition, the report never considered any similar projects that were proposed on sacred or cultural sites. In order to prepare a proper mitigation analysis on the sites at Haleakalā, other sacred sites with similar projects actually built upon them need to be considered, including whether the proposed mitigation actually worked or not. In addition, similar sacred sites that were considered, but the projects were not completed because the cultural resources could not be adequately protected or mitigated, should be discussed as well. Such comparisons are necessary to effectively present an adequate mitigation analysis. Otherwise, this could be deemed to be speculative in nature.

The cultural resources analysis should be reconsidered. The actual "least impact as possible" referred to in the report should not be limited to the mitigation matters suggested. The least impact as possible should be **not to construct the ATST on Haleakalā**. For once, put the needs of the Hawaiian people to the forefront. That would be pono.

View Planes:

The summit of Haleakalā is one of the most beautiful vistas on Hawaii It is almost comical to imply that a 14 story telescope on the summit of this magnificent mountain will not dominate or displace a significant fraction of that vista. Trying to focus people on the fact that you have the rest of the mountain to look at is not relevant to the issue. When you look at Haleakalā, where do your

eyes focus? Inevitably, they take you to the summit. The summit is the optimal view plane, and that is where this facility will be located. The fact that it is less obtrusive from different parts of the island is not the point. If it is obtrusive to kama'aina or tourists from any where on the island, that is sufficient reason to decide that it should not be built. Over 1,000,000 tourists go to the summit of Haleakalā National Park every year. They rise at 2 in the morning and drive to the Ranger Station overlooking the crater to view the sunrise over the crater. In the DEIS, it was noted that a big consideration at the La Palma site (second over-all choice) was the impact the telescope might have on the view from a specific peak called the Cumbrecita. This view is so important to the visitors of that area that the government enacted laws and the local courts handed down decisions that protected that special view plane. The telescope could not have been built there if it interfered with that particular view plane. Shouldn't the same consideration be given to Haleakalā, which is sacred as well as beautiful? (The findings in the DEIS are that there were no known archaeological or culturally important features in the area that would be impacted by construction of ATST at La Palma. Another reason it should be constructed at La Palma, not Haleakalā).

The DEIS makes the statement that the construction of the ATST would have a less than significant impact on the view plane. (pg ES-22). One of the factors the report relied upon in forming this conclusion, apparently, is their bold assertion that the14 story starkly high white telescope on the summit of Haleakalā is considered by some to be not even noticeable and/or even beautiful. Of interest, we could not find one person who heard anyone testify that they thought the structure would be a beautiful addition to the vista. To try to imply that a majority or even a substantial minority of Hawaiians or visitors to the Island of Maui would find such a structure beautiful is simply misdirection. View planes can be subjective, but in coming to the conclusion of "less than significant impact", the report should give greater consideration to the opinions of the large majority of

individuals viewing this magnificent vista. The overwhelming majority opinion of those giving testimony regarding view planes is that it would interfere with their view plane and that was not acceptable. To state categorically that it is just a matter of opinion implies that it's closer to 50/50 than what it probably is -- at minimum 95/5. To state "we cannot describe that impact as an irrevocable loss of visual resources" is laughable. The view will be irrevocably lost. Hawaiian spiritual practitioners facing the summit of Haleakalā each morning will be irretrievably injured by this injustice and their indigenous religious rights will be unjustly damaged. This telescope can be built elsewhere, and that is what should happen.

Land Use/Archaeological:

The County of Maui prohibits any building over the height of 12 stories. The ATST project apparently believes that it should be exempt from this law, because it is being built on ceded lands controlled by the University of Hawaii, a State entity. At the same time, the DEIS implies that they are in compliance with all local and state land use laws and community plans. The DEIS should state that if the project is not exempt, it would violate numerous county and local land use ordinances and guidelines.

This project could not be built in downtown Kahului, and it should not be able to be built on the top of Haleakalā. The County of Maui enacted the 12 story limit for many important reasons, including under its police powers, and these same reasons should apply to this facility as well, especially in light of the recent seismic events around the Islands.

In Section 1.8, the DEIS implies that the proposed action conforms to the Upcountry community plans, and this is not so. For example, the Makawao/Pukaluna/Kula Community Plan

(enacted in 1996) prohibits buildings over 35 feet tall. This facility would not fit within any of the exceptions therein and, therefore, is not in compliance.

The impact on the road from the Rangers Station to the summit is not addressed in the DEIS. Who will be doing the repairs on this road and what other impacts are there?

The DEIS asserts that there is no mitigation anticipated or planned for archaeological resources. What about the possible cave in the area named Anamakauahi? Surely at such an important cultural, historical site there are other archaeological concerns as well that have not been addressed.

There is none or inadequate reference to the Hawaiian Mahele and land titles. The issue of ceded lands in Hawaii has not been resolved and continues to be raised in litigation in state and federal courts, and it is irresponsible not to address this issue. The lands could also be subject to reparation and/or rent fees due and owing to the Kingdom of Hawaii, but this is not addressed anywhere in the DEIS. Notwithstanding the issue regarding whether Gov. Quinn actually had the right to give away these ceded lands, since neither he nor the State of Hawaii owned the lands, there is also an issue regarding the appropriate purpose of ceded lands[2]. As noted by the Office of Hawaiian Affairs in the comment in October 2005, these Public Trust lands may be used for educational purposes and for the betterment of Hawaiians. The State has a Constitutional responsibility to "conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources...All public natural resources are held in trust by the State for the benefit of the people." (Hawai'i State Constitution, Art. XI, Section 1). The state also has a Constitutional responsibility to "protect all rights, customarily and traditionally exercised for

[2] The subject lands are Section 5(b) lands of the Hawaii Admission Act (Act of March 18, 1959, Pub. L. 86-3, 73 Stat.4). j As such these are ceded lands, and per § 5(b) and the income derived therefrom, "shall be managed and disposed of for one or more" of the five listed purposes. The Act lists the five purposes as: for the support of the public schools and other public educational institutions, for the betterment of the conditions of native Hawaiians,...for the development of farm and home ownership on as widespread a basis as possible, for the making of public improvements, and for the provision of lands for public trust.

subsistence, cultural and religious purposes" possessed by Hawaiians. (Hawai'i State Constitution, Art.. XII, Section 2) These considerations, as required by the State Constitution, must be given precedent over scientific needs of the world at large, especially since the scientific needs can be met elsewhere.

Biological Resources:

It is inconceivable that a finding of less than significant could be anticipated in an area that abounds with unique Hawaiian plants and animals. As noted by Art Medeiros, one of the most knowledgeable experts on this particular topic "[t]he mark this monolith would make on Maui would be significant and irrevocable....The quest for knowledge is beautiful, but its demands must be weighed against the other sacred and beautiful things of the limited area of Maui, aspects of our Hawaiian culture, the lives of unique native plants and animals and the grace of the clean lines of Haleakalā's ethereal high Pacific mountain viewscapes."

The effect on these resources could be quite significant. Construction activity could cause death to the 'ua'u; human proximity could cause them to abandon their burrows; construction would (not could) destroy hundreds of native plants; Nene would be affected by human proximity and also by potential pesticides and other contaminants, including but not limited to plastics and lead which they could ingest. The assumption in the DEIS that the botanical resources would not be permanently affected should clearly be re-examined.

We will not address this subject in depth, since it will be covered in detail in comments by more knowledgeable Native Hawaiian practitioners, but it is noteworthy that although there are listed endangered species at the sites on Haleakalā, there are no listed endangered species at the alternative site at La Palma. On the issues that could result in irreparable harm (such as vegetation

and habitat, cultural resources, view planes, etc), the DEIS appears to take the position that these can be mitigated easily enough. On the other hand, the dust issue at La Palma appears to be based in part on inconvenience, addressing monetary concerns and the time it would take to rectify the problem. Clearly some of the partners planning to use the facilities (such as the Department of Defense and Homeland Security) have enough funds to spend whatever money is necessary to take care of that issue and hire as many personnel as are needed, with no irreparable damage done to Haleakalā and its unique habitats.

Economic Concerns:

The DEIS asserts that the ATST will bring economic gain to the County of Maui and State of Hawaii. What is not addressed are the negative impacts to Maui and state economies. As noted by the Association of Hawaiian Civic Clubs in its written comments, the construction of a 14 story telescope would destroy the pristine landscape of Haleakalā, which is a sacred cultural site, the unblemished beauty of which has been recorded for centuries in Hawaiian legends, chants and songs. They further note that Native Hawaiians revere this site as a place of great mana, and that it is one of the most popular tourist destinations on Maui. We agree with this esteemed Association and the Hawai'i Tourism Authority that well over half of Maui residents have listed "loss of Nature and open space" as a big problem on Maui.

Tourism is the economic life blood of Maui. Aside from government jobs, the tourist industry accounts for more than 50% of the total personal income of Maui residents, more than construction, real estate, manufacturing, finance, and retail trade combined. (DEIS 3-46, Table 3-8) Maui has been designated the number one tourist designation island in the world. It enjoys that distinction, in large part, due to its natural beauty and unspoiled vistas. The summit of Haleakalā is the single most

visited site on the island. It does not require a leap of faith to conclude that any diminishment of Haleakalā is likely to have significant, adverse economic impact on the island and its people. This aspect of the proposed project is not adequately addressed in the DEIS. This type of impact was addressed in your comments about La Palma regarding the effect of the view plane on tourists there, but it is noticeably absent in your evaluation of Haleakalā.

Hawaii is a unique and special place in the world. The Hawaii Economic Momentum Commission, appointed by the governor, issued a final report in December, 2005. In that report, the Commission concluded that "the Hawaiian culture, including its value systems . . . not only defines Hawaii, but is the only thing that distinguishes our islands from every other sea, sand and sun resort" in the world. Trying to educate and familiarize visitors of the significance and beauty of the Hawaiian culture, while desecrating one of the most sacred of Hawaiian sites, is an incongruity that cannot be explained away with slick marketing brochures. We cannot embrace the Hawaiian culture without first respecting it.

General Considerations:

Haleakalā is the Sacred House of the Sun. The spiritual First Amendment rights of the Native Hawaiian people should trump any dust or sky brightness issues. Clearly this telescope can be built elsewhere. Over 70 sites were considered, and it is inconceivable that La Palma and Big Bear Lake could get to the top 3 sites if they were not viable. Another possibility is that the telescope could be built in space, which was not even mentioned in the DEIS, although it is a clear alternative. The fact that the Haleakalā sites may possibly have a few advantages in some areas should not be the deciding factor. The cultural and religious issues at Haleakalā should be given the greatest

consideration. Not only are these rights protected by the United States and Hawaii Constitutions, but, more importantly, it is the righteous and correct decision to make under the circumstances.

Another issue not adequately address is the clean up and disposal of the project when it is no longer necessary. Certainly, the current building(s) that have been abandoned (such as the former radio telescope site known as Reber Circle which goes back to the1950's – and which interestingly enough was abandoned because it did not work) was not cleared out and the land was not returned to its natural habitat even though the facility was abandoned over half a century ago. In fact, it has now been there so long it has historical significance. There have also been voiced concerns from local residents who lived here during the first construction phases at Kolekole that trash was not handled responsibly at that time.

It is interesting to review the written comments contained in the DEIS. The ones supporting the project are 99% simply signatures on the exact same form letter with no personal comments or reasons for support. On the other hand, many of the comments opposing the telescope are written from the heart and display a great deal of emotion. A few examples of these: "There are 70 other possible sites for this telescope...there is only one sacred Haleakalā...there can be no compromise...this site is sacred to the Native people of Hawaii—it must be preserved." "The "house of the Sun" is holy. Would you build a 16 story telescope on the top of Notre Dame? Some places on our precious planet must be singled out...Haleakalā is one of these places. Please do not allow it to be dishonored." Those opposing this project speak out because they respect and honor Haleakalā – desecration is not inevitable and the project should be built elsewhere. Those supporting the project are speaking about the need for scientific data – not scientific data limited to Haleakalā. This data can be gathered on grounds that are not sacred. This is an extremely important point. The sacred summit of Haleakalā is limited to this particular site – the data is not.

As noted above, the references throughout that the "grounds are already disturbed by development" should be played down as well, because those facilities will apparently be taken down at the end of their service life. If we keep building on this site, these significant impacts will never go away. Allow this sacred ground to be returned to its natural state as quickly as possible, and stop further desecration now. The prior damage can hopefully be remedied; if it continues it cannot. You did not consider Machu Picchu or Mt. Zion as plausible sites for this facility, and rightly so. Haleakalā is just as sacred. Please act accordingly.

Mahalo for your consideration.

Maui Group Sierra Club

By Kathleen S. McDuff, Vice Chairman

Comments re SDEIS for ATST Project on Mount Haleakalā

Submitted to
Dr. Craig Foltz, National Science Foundation
OEQC Hawai'i State Dept of Health
Mr. Mike Maberry, UH IfA
Dr. Charlie Fein, KC Environmental, Inc.

Submitted by
Kathleen McDuff Individually and
for Sierra Club Maui Group
June 14, 2009

Please accept these comments as a supplement to the comments that were originally submitted in writing in October 2006. The comments that were originally submitted will not be repeated here but are equally pertinent to this issue.

Index

On Behalf of the Sacred Mountain Haleakalā

Hawai'ian Protocol for Sacred Places
E Ui No Ka 'Ae
Ask Permission,
E Mahalo Aku
Give Thanks,
E Komo Me Ka Hoano
Enter With Reverence,
I ka hele aku, e ho'oma'amau I ka wahi!
When you leave, return it as you found it!

INTRODUCTION

The summit of Haleakalā is sacred, not only to the Kānaka Maoli (Native Hawai'ians), but to the world at large. The beautiful painting above comes from the website of *Sacred Sites*, on which Haleakalā is listed as one of the most sacred sites on Mother Earth. On the website *Sacred Lands*, Haleakalā is called a holy site or *wahi pana.* The status of sacred Haleakalā is listed on this website as

"Threatened", due to the proposed ATST telescope that is being planned on its summit. It is noted on this site of sacred places around the world:

> *The summit and crater area of Haleakalā is a sacred site to Native Hawai'ians, who have always been against construction of the observatories. In the early 1960s, Hawai'ians led peaceful protests at the state capitol in Honolulu, opposing the observatories and insisting that the mountain belonged to everyone—not just astronomers. Their demands went unheard.*

"Their demands went unheard." Unfortunately, this is one of the familiar stories of the Kānaka Maoli. Their demands have gone unheard since their kingdom was illegally overthrown in 1893. It is time for this to cease. The people of Hawai'i are unique. They should not be lumped together with the Native American tribes, which are specifically given protection in the U.S. Constitution. The Hawai'ian people do not have a tribal council that speaks for them and which you, by law, are required to confer with. They must be dealt with differently and so far that has not occurred.

Hawai'ians are very spiritual people. The sacred 'āina (land) on which you are proposing to build your huge structure is a living being; it is their ancestor. The people who have been attending the 106 meetings on behalf of NSF acknowledge that they do not understand the cultural practices and beliefs of the Kānaka Maoli; as a result, the 106 process you have been conducting has not worked. In order for the decision makers of NSF to understand the significance of what the construction of this 143'+ structure will have on the Native Hawai'ians and their cultural practices, SOMETHING ELSE needs to happen. <u>Your current 106 process is insufficient.</u> The Native Hawai'ians are part of a Kingdom that was taken away from them over one hundred years ago, with very little remorse being shown. In the Apology Resolution that Congress enacted in 1993 to apologize for this illegal overthrow, it was acknowledged that

> *...the Native Hawai'ian people are determined to preserve, envelope and transmit to future generations their ancestral territory, and their cultural identity in accordance with their own spiritual and traditional beliefs, customs, practices, language and social institutions.*

Placing the wants and desires of scientists (who can build their structure in a different location where there would not be an adverse effect to the culture and archeology of that area) over the desires of the Native Hawai'ian people who rightly demand that their sacred mountain not be further desecrated is clearly not following this directive by the members of Congress who chose to honor the Hawai'ians and their culture in an effort to reconcile the injustice done to them 100 years prior. It is past time for the Hawai'ian culture, the Hawai'ian people, and the Hawai'ian 'āina to come first.

1. ***HALEAKALĀ IS NOT THE ONLY VIABLE SITE FOR THIS PROJECT BUT IT IS THE ONLY SITE WITH CULTURAL AND HISTORIC PRESERVATION CONCERNS***

One interesting change from the draft EIS (DEIS) and the Supplemental Draft EIS (SDEIS) is that now it is being claimed that the Haleakalā site(s) is the only site out of over 70 other sites that satisfies the criteria for this project. This is interesting because both in the DEIS and other documentation from the website of NSF it has been stated that all three final sites were excellent candidates. It was noted by the New Jersey Science and Technology Institute in an article on their website (Press release 973-596-3436, dated May 20, 2009 and titled *World's Largest Telescope at NJIT's Big Bear Captures Sun's Magnetic Field Better*) that Big Bear Solar Observatory (BBSO), the world's largest telescope located at Big Bear Lake, CA (one of the three final proposed sites for the ATST where there are ***no*** cultural or archaeological issues),

> *is one of the premier land-based facilities supported by federal funding. "We are already seeing images offering a better understanding of the Sun," said Goode. "With this instrument we should be able to have a better understanding of dynamic storms and space weather—which can have dramatic effects on Earth." The new instrument has three times the aperture of the old telescope. It represents a significant advance in high-resolution observations of the Sun, since it has the largest aperture of any solar telescope in existence, said Goode. Since it is an off-axis telescope, there is no part of the sunlight blocked by the telescope. Other pluses include a marvelous location-- high in a Southern California mountain lake.*

Obviously, the ATST could be built at Big Bear Lake. They have just chosen not to. Serious questions remain regarding the scoring of the three final sites. For example, at Big Bear, CA, a site which received a "fail" designation for "seeing" characteristics, the testing was so flawed that less than 25% of the data sought to be evaluated was even gathered and analyzed.

> . . . if the seeing monitor would have been operational every day from sunrise to sunset 4,070,000 individual measurements could have been obtained. However, the number of data entries for BBSO is about 1,430,000. A substantial fraction of the missing data is related to the aforementioned observer profile. Other contributions are from complete system failures (July and November 2003) and bad weather conditions. Considering all data without a "failed ShaBaR" error flag about 910,000 data points could be used in this study. This number, however, is further reduced by about 60,000 data points, since some S-DIMM data were not properly transferred to the control computer.
>
> ***The Local Seeing Environment at Big Bear Solar Observatory,*** *Angelo Verdoni and Carsten Denker1, New Jersey Institute of Technology, Center for Solar-Terrestrial Research*

This clearly does not present the profile of a serious scientific study. Likewise, the proposed La Palma site (which finished 2nd in the testing) was tested for two years and no potential cultural or archaeological problems were found there. Interestingly, at La Palma it was noted that the view plane of a specific peak called the Cumbrecita, which was a popular tourist attraction because of numerous hiking trails and scenic viewpoints – like Haleakalā -- was so significant to the people of the Canary Islands that it was determined during the testing process that this view plane must be protected. In deference to this conclusion, the proposed site of the telescope was relocated downhill. What a shame that you could not understand that the view plane of Haleakalā is just as important to the Native Hawai'ians!

It was noted that the La Palma site offers excellent high elevation "seeing" capabilities. Since La Palma finished ahead of Big Bear Lake in the testing process, and since Big Bear Lake can clearly be used for studying the sun flares, storms and weather – given that it already is – the La Palma site is a viable site. The fact that there may be a few less annual hours of sky brightness is something

that can be worked out by the scientific community. At least one of the brilliant technological minds from our scientific community should be able to solve this glitch. Again, Haleakalā is the preferred site, so you have chosen to say that it is the only site that will work. This is disingenuous – we need more honesty and more transparency. You are asking the Hawai'ian people to "mitigate" their spirituality even though it could destroy their practice, but you are not willing to mitigate your preferred site with your second or third choices. That is what could be termed as arrogance. You should also be straightforward when discussing how important this project might be to the scientific world, since you have apparently failed to disclose that similar information has already been gathered and is still being gathered elsewhere and still has not been put to use.

2. THE EFFECT OF THIS PROJECT ON THE AHUS AND ON HAWAI'IAN SPIRITUALITY WOULD BE DEVASTATING AND WOULD IRREPARABLY INTERFERE WITH NATIVE HAWAI'IAN PRACTITIONERS' FIRST AMENDMENT RIGHTS

There is insufficient information provided here regarding the effect upon the two ahus that have been set aside for Native Hawai'ian practitioners. First, from a personal point of view as a person who practices Native Hawai'ian spirituality up on the summit, the noise generated by the current projects is already very, very distracting. I was up on the summit for sunset for a group ceremony recently, and we were unable to do our meditations as they were meant to be because of the noise from some generator or fan at one of the buildings currently there. The noise we heard is before you add the operational noise from a building that will be much larger and that requires a huge air conditioning system and large fans to help keep it cool. Even though this was mentioned several times during the meetings and consultations and the written comments in 2006, the SDEIS has failed to address the impact this huge structure will have upon the ahus themselves. How can one meditate and practice spirituality in accordance with a tradition that integrates vibrations, meditations, prayers, communication with nature and spiritual energy and view planes, as well as communication

with ancestors and spiritual beings, with this monstrous, noisy structure towering over you, as it will be at Pā'ele Kū Ai I Ka Moku. You infer that this is minimized by the fact that there is an unobstructed view outward from the mountain, but this shows how little you know about Hawai'ian spirituality and is a clear example of why the 106 process failed. This has been explained to you, but either you do not listen or you are not able to understand. Either way, the Hawai'ian people have not been represented as they are required to be during this federally mandated process.

Furthermore, as I mentioned during the 106 consultations, the energy on the top of the mountain will be irreversibly damaged by the construction of this structure. I presented this statement during the 106 comments, but since it was not transcribed for the record, the person making the decision as to whether the funding will be granted would not be able to hear it. For that reason, I am reiterating it for the record herein.

I am a Native American Spiritual Practitioner and I also practice Native Hawai'ian spirituality and have for many, many years. I am what is known by my people as a Dream Walker. I am able to journey back and forth between the physical and spiritual worlds. I have been very blessed by the spirits of this beautiful 'āina and have been fortunate enough to have been gifted many visions from the ancients of this land as well. One of the gifts that I have received from these beautiful spirits was a very interesting vision. I was transported up to the summit of Haleakalā and shown by the ancients what the kahunas felt when they were conducting their spiritual practices up on the sacred summit. I could literally see and feel the web that connected the different heiaus around the islands (including all of Maui Nui and the peaks of the island of Hawai'i) to the top of the summit. I experienced the incredible force of the energy that this web created and it was beyond description. My senses will never be the same. Then I was shown what that energy felt like today, after the buildings that are on the top of the summit have been constructed and after many of the heiaus have been destroyed, and the energy was much different. Much less powerful and a much different feeling. Then I was shown what the energy would be like after further desecration to the sacred summit – when this large 14 story telescope is constructed shadowing over the ahus -- and I felt virtually nothing in comparison to what I experienced before. It felt like the Mountain was withdrawing. He was tired of fighting the negative energy on his summit and was very disappointed. At that moment, I was brought back down to my luncheon in Kahului, a much different person, with a lot to share with my companions. I hope you are beginning to understand that spirituality cannot be mitigation. You can't put building after building (getting larger every time) up on a sacred mountain where spiritual practitioners go to pray and practice at a site where their ancestors sanctified the 'āina over hundreds of years and created the energy for a special practice for themselves and their descendents, and then assume that you have not desecrated this holy, blessed site. It will never be the same. The desecration must stop – and it must stop now while there is still hope of bringing back that wonderful, special energy for

Hawai'ian spiritual practitioners. Allowing Hawai'ian spiritual practitioners an ahu amidst the buildings that are violating the very spirit of the 'āina is not the pono way. Stopping the desecration of this living mountain is pono. Allow the ancient energy to come back. Allow Native Hawai'ian Practitioners to reconnect with their 'āina and with their ancestors in the way it was meant to be.

You cannot build another structure upon this mountain and not interfere irreparably with the energy of this sacred mountain that is an integral part of Hawai'ian spirituality. I have heard from other Hawai'ian practitioners who say that their practice will be adversely affected to the point where they won't even want to go up to practice anymore. Native Hawai'ian Practitioners should never have to go elsewhere to do their practice and they should never have to sacrifice or limit their own spiritual practices. This is their home. Haleakalā is their ancestor. Practicing their spirituality in the way it is meant to be practiced is their right. Directly interfering with their First Amendment rights to practice their faith in the way it was meant to be and has been practiced traditionally for centuries is not only illegal – more importantly, under the Hawai'ian culture – it is not pono.

This sacred summit has been sanctified by Maui himself, by the goddess Pele, and by the Kāhunas and the Kupunas from ancient times through the present. It is a place where the tones of ancient prayer are balanced within the vortex of energy for spiritual manifestations. It should be honored by all. To take any action other than avoidance will irreversibly interfere with the United States and Hawai'ian Constitutionally protected spiritual rights of the indigenous people of Hawai'i. First Amendment religious rights are allowed to be absolute just because of their nature.

If this project is approved and construction is started, Kānaka Maoli Practitioners will be prohibited from experiencing the full practice of their spirituality. I challenge the statement in the SDEIS on page 4-9 that although the project would have a major/adverse and long-term effect on cultural resources, it would have no effect upon the survival of Hawai'ian cultural practices and beliefs. It was further claimed that the proposed "mitigation" would lessen the major adverse effects on the Hawaiian culture to only "moderate." On what evidence do you base this conclusion? Please

provide us with documentation of the technical data you used to formulate this absurd deduction. It appears to be mere speculation that has no basis. It was acknowledged by the representatives at the 106 meetings that there are no Hawai'ians who work within the NSF or even within the Advisory Council for Historic Preservation. It was also apparent that none of the NSF representatives present at the meetings had any real understanding of the Hawai'ian culture or Hawai'ian spirituality, and when they were questioned on this by a Kānaka Maoli Kupuna, the response was that one of the objectives of the meeting was to try to obtain some understanding of Hawai'ian beliefs and culture. How, based upon your total lack of understanding of the spiritual and cultural beliefs of this indigenous culture, can you determine that your proposed "mitigation" matters would lessen the cultural adverse effects to "moderate", when you have been told again and again by Kānaka Maoli that this is not so -- you CANNOT mitigate spirituality.

Anytime you interfere with Hawai'ian spiritual practices and prohibit the practitioners from practicing them in any way other than the way they were meant to be practiced, you are absolutely interfering with the survival of Hawai'ian cultural practices and beliefs in a major adverse long term (i.e. permanent) way. If this project is built, Native Hawai'ian Practitioners will be adversely affected the rest of their lives – they will not be able to practice their spirituality as it was meant to be at this sacred place where their ancestors conducted and taught prayers; where they connected to Wakea and Papa; and where they wove the vortex connecting all of the heiaus of Maui and even Hawai'i to this sacred summit where numerous Hawai'ian gods and goddesses are said to reside.

3. CONSTRUCTION ACTIVITIES AND EXCAVATION WOULD CAUSE IRREPARABLE HARM TO NATIVE HAWAI'IAN CULTURAL BELIEFS AND PRACTICES AND COULD CAUSE IRREPARABLE HARM TO ENDANGERED SPECIES, THE MAUI VISITOR INDUSTRY AND PROTECTED HISTORICAL SITES

You state in the SDEIS that a minimum of 250 truckloads or 125,550 cu. feet of sacred stone and native soil will be bulldozed up and relocated. Just digging into the lava rock, which is believed by many Native Hawai'ians to be the bones of Pele, is an affront to Hawai'ian spirituality. You may not move even one Pōhaku (stone) without first asking permission of the stone itself, which is a living entity. If permission is not granted, you do not move the stone. To bring in a bulldozer to dig up and relocate 125,550 cu. feet from a sacred summit is an insult to the Hawai'ian culture. Your proposed "mitigation" of limiting this outrageous act to certain times of the day does not even begin to offset the offense. There is no nexus between the two. Again, this clearly shows a lack of understanding of Hawai'ian beliefs and culture. The land clearing, the demolition, the excavation, the grading/leveling, further digging into the 'āina to bury electrical wires and cables, and the subsequent relocation of the soil and Pōhaku from a sacred summit are all contrary to Hawai'ian culture and beliefs. Placing 21 caissons into sacred ground, bringing in three to five cranes well over 153 feet in height, and pouring cement onto and into sacred ground -- all of this irreparably harms a living ancestor of the Hawai'ian people. Moreover, all of this activity irreversibly interferes with practitioners trying to meditate and practice in very close proximity. It is irreversible because spirituality must be practiced in the time and in the manner in which it was meant to be – you cannot make up in 2014 what you missed in 2011, because what you missed in 2011 may be gone forever. Hawai'ian spirituality is not just offering prayers to a Supreme Being. It is much, much more.

In addition to the cultural issues, which are paramount in this case, at least 250 over-size capacity dump truck loads (it could be more), many more regular large trucks, delivery vehicles, van

shuttles and passenger vehicles would travel the roadways leading to the construction site during the construction phase. The Park entrance station will have to be moved during the period to accommodate the huge structures that would be brought in. Not only is this historic roadway subject to potential harm during the construction period, but the 1.7 million visitors as well as kama'āina (native born) who travel up to Haleakalā National Park and to the summit each year will be adversely affected in a major cumulative way. Visitors come up to the summit all day long – not just in the middle of the night to see the sunrise. This has not been addressed effectively`1111.

There are endangered species that reside within Haleakalā National Park. This is where the 'ua'u have their burrows that they return to each year and incubate their young. There are many silversword plants along the roadway going up to the summit and on the summit itself. When I was there last week, I was amazed at the number that were blooming, and I could only see the ones that were in close proximity to the roadway – very near to the shoulder of the road that will be required to be widened in order to bring all the equipment up for construction. The nene are able to explore throughout the park and these beautiful spirits are always running across the roadway. The huge trucks and numerous vehicles coming and going will clearly present a danger to these endangered beings – there are only about 300 living nenes at this time – we cannot afford to lose even one.

4. THE OPERATIONAL NOISE AND THE CONSTRUCTION NOISE WOULD CAUSE IRREPARABLE HARM TO NATIVE HAWAI'IAN PRACTITIONERS AND COULD CAUSE IRREPARABLE HARM TO FEDERALLY PROTECTED ENDANGERED SPECIES AND THE MAUI VISITOR INDUSTRY

A related issue to the construction problems is the noise issue. As noted above, the operational noise from the existing buildings (generators, air conditioning systems and exhaust fans) as well as traffic and other stationary sources are already causing harm to the practice of Native Hawai'ian Practitioners. The additional operating noise from the proposed ATST will magnify this

many times over. One possible mitigation proposed in the SDEIS was to limit the noise to certain times of the day. Native Hawai'ian spirituality is practiced for all of your life, all times of the day, all days of the year. It is not limited to day more than night or winter more than summer. It ***is*** affected, however, by where and how you practice. Practicing at sacred sites such as Haleakalā is a vital part of the rites that practitioners perform. Quiet and solitude are also essential components of the practice. Chants, meditations, and deep reflections and journeys are also integral parts of the tradition, but they cannot transpire if outside noise is interfering with your consciousness.

During the long construction phase, the heavy machinery, equipment and trucks, the excavation of the sacred soil and stone, the operation of the crane, the assembling of the structure, and the coming and going of the trucks and the personnel and other construction noises (which will be huge) will cumulatively result in Native Hawai'ian Practitioners being unable to practice in a meaningful way. How can you communicate with nature in a meditative state with a bulldozer excavating soil or grading nearby? It is stated in the SDEIS that there are "no noise-sensitive human receptors at HO", so presumably, there shouldn't be a noise problem on the site itself. Where exactly do you think the Hawai'ian ahus are located? Any noise other than nature is an intrusion upon spiritual practices so Native Hawaii'ian Practitioners are actually **extra sensitive** "noise sensitive human receptors" and should be treated accordingly.

It is also ridiculous to state that a visitor standing at Red Hill is not within the area that will be affected in a major adverse way by the machinery noise of a bulldozer or other machinery, and thus concluding that the effect to visitors to the summit would be minor and short term. (Although in another section of the SDEIS –page 4-10 – you state that visitors standing on Red Hill, which is only 2500 feet away, would be affected in a long term way, while still limiting it to minor.) The construction phase is not short term for a visitor who comes to Maui for a two week vacation and has

it marred by construction noises permeating their entire (and perhaps only) visit to the summit. What a terrible experience! Did you ask in your "visitors survey" whether the noise from a bulldozer a few hundred feet away would interfere with their experience at the summit? I was up at the summit recently and I asked visitors there at that time this question and every response I received was that it would indeed have an adverse effect upon their experience. In fact, one man who had come 3,000 miles with his girl friend to propose to her on the top of the summit that day said that even someone talking would have lessened the experience, much less if a bulldozer started up in the middle of his proposal.

Limiting the noise-generating activities from thirty minutes prior to sunset and thirty minutes after sunrise will not mitigate major adverse impacts down to minor adverse as you have inferred, since there will be people suffering from the noises all day. Even at the critical sunrise and sunset peak times you are considering only limiting the noises above 82 dBA – a number that you have arbitrarily determined to be ***the*** criteria. This number seems quite high to me, and I assume to you as well, since you also determined that noise level changes above 20dBA are "major". Red Hill is 2,500 feet away from the construction site – what about the Native Hawai'ian Practitioners who will be conducting spiritual practices next to the site. If the noise 2,500 feet away is considered to have a major effect upon the people visiting the overlook, this same noise immediately adjacent to where the Kānaka Maoli are trying to practice would be prohibitive.

Further, drawing a conclusion that since that the roadways already have personnel traffic on them, then the increased vehicle traffic will only have a negligible adverse effect on ambient noise is not realistic. The construction trucks alone negate this. It also appears that the effect of noise upon the endangered species of the area is being minimized. The 'ua'u are in their 1,000 known burrows between February and November of each year, not just during the April 20 to July 15 incubation

period when the "mitigation" is being considered. If they are disturbed from their burrows prior to this time, there will be no incubation, and there will be no future birds. Construction of this telescope could and most probably will disturb one of the last two remaining major nesting colonies of the Hawai'ian petrel, which is on the brink of extinction. I repeat for emphasis because this is very important -- the summit of Haleakalā is home to one of only two major nesting colonies of the 'ua'u left on earth (which consists of less than 1,000 birds). Vibrations and noise from the construction of the ATST could cause nesting burrows to collapse. The huge dump trucks, the cement trucks that will be going up and down the historic roadway, and the excavation of the summit itself during the construction phase will also have a major adverse effect upon these birds.

5. THIS PROJECT IS NOT IN COMPLIANCE WITH STATE AND COUNTY LAW AND COMMUNITY PLANS AND PERMITTING SHOULD NOT BE GRANTED

Your statement that the ATST project is consistent with the goals of state, county and community plans is incorrect. The Makawao-Pukalani-Kula Upcountry Community Plan states on Page 32 Paragraph 8, that no building may be built over 35' except for public use. Paragraph 8 is not an advisory statement, but an enforceable requirement. The Upcountry plan also states that a comprehensive Haleakalā summit master plan needs to be implemented in order to promote orderly and sensitive development, which is compatible with the natural and native Hawai'ian cultural environment of Haleakalā National Park.

Maui County regulations prohibit construction of a building 14 stories high anywhere in the County. The project is clearly not consistent with the goals of Maui County. Additionally, after conducting numerous studies and hearing public comments from people throughout the island over a three year period, the General Plan Advisory Committee (a twenty-five member citizen panel appointed by the either the Maui County Mayor or County Council to set out recommendations for the

Maui County General Plan for the County of Maui for the next 20 years) adopted a county wide policy plan that includes language to "immediately provide and encourage laws to preserve and enhance the summit of Haleakalā with ***no new buildings***." [emphasis added] (Policy No. 5031) Finally, there is no comprehensive summit plan for Haleakalā that protects the mountain's natural and cultural resources, which is required by Hawai'i state law. This telescope is not supported by the community plan for the area; it is not supported by the county regulations; it is not supported by Hawai'i State law; and it is not supported by the community at large. Construction of this project demonstrates a total lack of regard for state and county law, ignores established planning practices, and will have a chilling effect on the enforcement of zoning laws in the future.

6. THIS IS A VOLCANO – IT WILL ERUPT AGAIN IN THE FUTURE – WHY WASN'T THIS IMPORTANT FACT CONSIDERED IN THE EIS PROCESS?

Described as "She-Who-Shapes-The-Sacred-Land" in ancient Hawai'ian chants, Pele is the goddess of fire and volcanoes. She is passionate, volatile and capricious. She was born of the female spirit Haumea (Hina) and the male spirit Kane-hoa-lani, who ascended from the supreme beings Papa and Wakea. Although she is currently residing in the Halema'uma'u crater of Kilauea, her previous home was here on Maui where she created sacred Haleakalā. It was on Maui that Pele's body was torn apart and the fragments heaped up to form the hill called Ka'iwi-o'Pele (The bones of Pele) near Kauiki Hill on the right side of Hana Bay. She has strong ties to Maui and most certainly to her crater Haleakalā. Scientists call this sacred volcano "dormant" because her last eruption was in 1790. The term "dormant" simply means that a volcano is not currently erupting. The term itself does not provide any predictability of future activity. But note, the Soufrière Hills volcano on the Caribbean island of Montserrat was thought to be extinct before activity resumed in 1995. Similarly, Mount Vesuvius was considered extinct before it destroyed Pompeii in an eruption

in 79 A.D. According to the USGS (United States Geological Survey) website, Haleakalā "has witnessed at least ten eruptions in the past 1,000 years, and numerous eruptions have occurred there in the past 10,000 years. Thus, Haleakalā's long eruptive history and recent activity indicate that the volcano will erupt in the future." See http://hvo.wr.usgs.gov/volcanoes/Haleakalā/ There is no mention in the SDEIS of a possible volcanic eruption as a natural hazard, even though that must be considered before you build on this sacred summit. There is a scientific system of classification known as Cladistics, which has utility in hazard assessment for sensitive facilities planned on or near known volcanoes. The SDEIS lacks this crucial evaluation. You must not ignore Pele, especially since you are blatantly disrespecting her and her creation by proposing to excavate and relocate her sacred bones on the summit during the construction phase of this telescope.

7. LONG TERM PERSONNEL WILL BE BROUGHT IN FROM THE MAINLAND AND THE FEW SHORT TERM JOBS THAT MIGHT BE GIVEN TO LOCALS WILL NOT OFFSET THE MAJOR ADVERSE LONG-TERM AND/OR PERMANENT EFFECTS TO MAUI

Although it has been a common talk story for the local proponents of the project that this project will bring many jobs to Maui, the facts state otherwise. Your 4.12 section acknowledges that the 25-30 key technical personnel that will work on the project will be brought in from the mainland, and that any local employment would be minor and short term. I see nothing in this to benefit Maui in a way that would offset the huge negative effects to our environment, our culture, our ʻāina, our historical sites, or our communities.

8. ***THE VISITORS SURVEY IS SERIOUSLY FLAWED***

As noted in the SDEIS, Haleakalā National Park (HALE) has "indicated that [the visitors survey you included in the SDEIS] is significantly flawed and likely biased and there are significant technical errors in the instrument and related reporting." HALE further asserted that "the conclusions are based on an insufficiently designed and administered survey." See 3-46. I concur and maintain that this survey should not even be considered in the Final EIS. If you do insist on including it, however, then you must also include the potential impact of your proposal that was part of this survey to allow those interested in touring the ATST facility to do so, which apparently is up to 75% of the 1.7 million visitors that come to the Park each year, as set out in the survey. Where is the impact study on the effect these people touring the facility will have on the noise, on the land, on the Kānaka Maoli Practitioners trying to practice at the ahus, on the parking lot, on the traffic, etc. You cannot make a bold statement that most visitors would not "care" if the facility is built based upon information gained from this flawed survey. Furthermore, you should not be able to use such faulty reasoning as a basis to try to offset the clear major adverse long-term effect this project will have on the Maui visitor industry, which is already declining.

9. THE VIEW PLANES TO AND FROM SACRED HALEAKALA WILL BE IRRETRIEVABLY DAMAGED FOR THE LIFETIME OF THE TELESCOPE, WHICH WILL IRREPARABLY HARM THE RIGHTS OF NATIVE HAWAI'IAN PRACTITIONERS AS WELL AS MAUI RESIDENTS AND THE VISITOR INDUSTRY ON MAUI

One million, seven hundred thousand visitors a year come to visit Haleakalā. They visit Pa Ka'oao (White Hill) and they visit Pu'u Ula'ula (Red Hill), as well as the crater itself. The proposed telescope would be clearly visible from the Pu'u Ula'ula Overlook as well as most places in Haleakalā National Park, including the roadway going up to the summit, beginning at the entry station. The

three to five enormous cranes that will be used for constructing the massive building over a four year period will be visible from the crater itself. For Kānaka Maoli Practitioners practicing at the ahus, this enormous towering feature will even interfere with the view plane up to the stars at night -- how ironic since you claim that the telescope is consistent with Hawai'ian culture and honors Hawai'ian astronomers who navigated by the stars. Prehistoric Polynesian navigators knew the star Arcturus as Hokule'a, the "Star of Joy." Hokule'a is the Zenith Star of the Hawai'ian Islands today and is so important to the Native Hawai'ian culture that the voyaging canoe that was built to reconstruct the original Ancient Polynesians' journey to Hawai'i is also named Hokule'a. If this telescope is constructed, practitioners at the ahus who look up to Hokule'a as part of their tradition will have their view interfered with by the towering telescope.

The telescope will also obstruct the view plane of members of the community in many other places on the island. From Ma'alaea Harbor to the Hawai'ian Homelands to many other populated areas of Maui, the residents of Maui who look up to the summit of Haleakalā for their sunrise and sunset prayers will have a huge white 14 story structure stick up at the center of their view plane. As noted in the SDEIS, based upon the overwhelming testimony presented by the community, there is a necessity for people to have an unimpeded view plane from mountain to ocean, particularly in the context of ceremonial activities. This essential view plane will be irreparably harmed if the ATST is constructed.

In these tough economic times our visitor industry is suffering greatly, and how can we allow anything to be built that will have a "major adverse long term effect" (in the words of the SDEIS) on the visitors coming to our island. How can we allow anything to interfere with the view plane of one of the most sacred mountains on Earth? As acknowledged in the SDEIS, there is no mitigation possible for the loss of view plane. As noted above, the view plane for the mountain at La Palma

was important enough to preserve – why can't the same be said of Haleakalā? It seems as though you have little or no respect for our sacred mountain, and this is shameful! Haleakalā should be treated with the respect it so rightly deserves. Mitigation should be practiced by the science industry by placing the project elsewhere.

10. YOU FAILED TO PROPERLY AND EFFECTIVELY COMPLY WITH THE 106 PROCESS WHICH IS FEDERALLY MANDATED FOR THIS PROJECT IN ORDER TO PROTECT HISTORICAL AND ARCHEOLOGICAL PROPERTIES

The summit of Haleakalā is recognized as a very sacred place for the Kānaka Maoli. It is thought of as the Piko (navel), the center of Maui Nui O Kama (the greater Maui). The Hawai'ians consider the lava, cinders, and stones to be the sacred bones of Pele.

As noted in the SDEIS, there are several reasons why the summit of Haleakalā is a cultural resource in and of itself. It is eligible for the National Register of Historic Places (NRHP) in several different categories. It is eligible as a "Traditional Cultural Property" (TCP) through consultation with State Historic Preservation Division (SHPD) under Criterion "A" for its association with the cultural landscape of Maui as reflected in the number of known uses, oral history, *mele* and legends surrounding Haleakalā. The attributes ascribed for Criterion A as noted in the SDEIS include

(1) its consideration by Kānaka Maoli and many people throughout the world as a place exhibiting spiritual power;

(2) its significance as a traditional cultural place because of practice – for those who live and visit here, the summit is a place of reflection and rejuvenation;

(3) the *mo'olelo* and *oli* surrounding the summit present a cluster of stories suggesting the significance of Haleakalā as a TCP;

(4) its reputation as a place of healing; and

(5) the remarkable "experience of place" associated with the summit.

The summit is also eligible under Criterion "C" because it is an example of a resource type, a natural summit, a source for both traditional materials and sacred uses.

There are too many archeological sites and resources to list here (doesn't that tell you a story in and of itself), but please note that the burial sites, petroglyphs, platforms, trail segments, temporary shelters, cairns, and other features also qualify the summit for importance under Criterions "A", "D", and "E". How can you even consider desecrating such an historically sensitive property?

Due to the VAST historic nature of the summit of Haleakalā, section 106 requirements for protecting historic properties apply. ***These requirements have not been met on this project***. The NSF is required to evaluate the property for significance, access whether the project will have adverse effects on this historic property and determine whether the adverse effects can be addressed through avoidance, minimization and/or mitigation. As the personnel present at the meetings were repeatedly told during the 106 process, you can not mitigate the spirituality of the Kānaka Maoli. Avoidance is the only answer for this project. The summit of Halekalā is sacred to the people of Hawai'i for many, many reasons that are interrelated to their Constitutionally protected spiritual and cultural practice, and this very important fact has been repeatedly ignored by the NSF. This premise is clear because repeatedly during the 106 process, after heartrending comments were offered in an attempt to help those present understand why any action on this land other than avoidance was contrary to Hawai'ian cultural beliefs, the response continually was "what can you propose that would mitigate that concern?" The Native Hawai'ian community clearly stated (again and again) that there is nothing that can mitigate the construction of this project on the sacred summit of Halekalā.

See, also reasons set out more fully in the Introduction and in Section 2 herein, as to why the 106 process as implemented thus far is not in compliance with federally required procedures that must be followed in order to protect historic properties.

11. THE SDEIS AND NSF FAILED TO PROPERLY CONSIDER THE HAWAI'IAN CEDED LAND ISSUE AND NATIVE HAWAI'IAN RIGHTS

There is no clear title to the lands on which this project is proposed, because these lands originally belonged to the Hawai'ian Kingdom until they were illegally turned over to the United States during the 1898 annexation. The nearly 1.8 million acres of land that were originally turned over were then passed into state possession when Hawai'i officially became a U.S. state in 1959; however, proper ownership of this land has still never been fully addressed. As noted in the Congressional Apology Resolution of 1993, neither the Native Hawai'ian people of Hawai'i nor their sovereign government ever consented to or received compensation for the illegal appropriation of the lands that belonged to the Kingdom of Hawai'i. This resolution further acknowledges that the indigenous Hawai'ian people never directly relinquished their claims to their inherent sovereignty as a people or over their national land to the United States, either through their monarchy or through a plebiscite or referendum. The referendum recognizes categorically that the health and well-being of the Native Hawai'ian people is intrinsically tied to their deep feelings and attachment to the land and recognizes that "the Native Hawai'ian people are determined to preserve, develop and transmit to future generations their ancestral territory, and their cultural identity in accordance with their own spiritual and traditional beliefs, customs, practices, language and social instructions."

There is no such acknowledgment in your SDEIS, because you do not understand or appreciate all that is integrated into Native Hawai'ian culture and beliefs. There is no provision or discussion in the SDEIS of the potential impact of being evicted from the site after the ceded land

issue is finally decided in the courts. This is a clear error and omission that could have a huge bearing on the project itself and is absolutely something that must be considered by the NSF before a decision is made regarding whether to fund this project or not.

CONCLUSION

For numerous reasons, many of which have been noted herein and in my written comments to the DEIS in 2006, the only viable option for this project is to build it elsewhere. If you try to construct it on the sacred summit of Haleakalā, such action

- would illegally prohibit the exercise of Native Hawai'ian First Amendment rights
- would cause irreparable harm to a federally recognized and world-renown historic site
- would irreparably harm the Native Hawai'ian people of Hawai'i
- would permanently interfere with the survival of Hawai'ian cultural practices and beliefs
- could cause irreparable harm to federally protectived endangered species
- could cause the visitor industry (an integral part of the Maui economy) to decline irreparably
- could irreparably harm an historic roadway
- could cause irreparable harm to archeological features intertwined with Hawai'ian culture and beliefs
- could end up covered by lava when the volcano next erupts
- could, after spending over $160,000,000, be evicted from the site after the ceded lands issue is decided by the courts (which it will be).

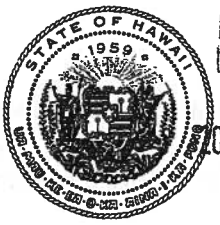
The righteous (pono) way to handle this dilemma is to build the project at one of the other sites or in space, where it should have been built to begin with. Too much thought was given during this process to satisfying the needs of the scientists requesting the funding and too little thought was

given to the needs, beliefs and way of life of the Hawai'ian people. It is clear that no one from the NSF, the UH IfA, or the people preparing the DEIS gave serious consideration to the spiritual and cultural beliefs and needs of the Hawai'ian people. If they had, they would have realized the totally devastating effect such a project would have on the Kānaka Maoli and, more importantly, on their living ancestor, the sacred mountain Haleakalā, on whose behalf I humbly submit these comments. Now that you are aware of the irreparable damage it will cause, please do the right thing.

Submitted with the sincere hope that this message will reach your heart as well as your mind.

Kathleen McDuff

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LAND
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

ref: OCCL.MC

CDUA MA-3542

MEMORANDUM:

JUN 16 2010

To:

DLNR
___ Historic Preservation Division
___ Division of Forestry and Wildlife
_✓_ Land Division
___ Division of Aquatic Resources

DBEDT
___ Energy, Resources, & Technology
___ Planning Office

___ Office of Hawaiian Affairs
___ Maui County Planning Department
___ State Department of Health

UNIVERSITY OF HAWAI`I
___ Environmental Center
___ Hawaiian Studies
___ Institute for Astronomy
___ Maui Community College

FEDERAL GOVERNMENT
___ Federal Aviation Administration
___ Haleakalā National Park
___ US Fisha nd Wildlife Service

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS – CONSERVATION DISTRICT USE APPLICATION MA-3542
National Science Foundation (NSF)
Advanced Technology Solar Telescope

TMK: (2) 2-2-007:008

LOCATION: Pu`u Kolekole, Waiakoa, Makawao District, Maui

Please find a CD enclosed with the following items:

1. Conservation District Use Application (CDUA) HA-3459 for the proposed Advanced Technology Solar Telescope (ATST) at the Haleakalā High Altitude Observatory Site.

2. Drawings and Schematics of the proposed ATST facility

3. The proposed Management Plan, revised June 8, 2010, for the Haleakalā High Altitude Observatory Site.

We also have a hard copies of these documents available for review at OCCL.

We would appreciate any comments your agency or division has on either the application for the ATST or the Management Plan, which is being processed concurrently.

ATST

CDUA MA-3542

The NSF published a Notice of Availability of the Final Environmental Impact Statement (FEIS) in the *Federal Register* on July 29, 2009; the NSF published a Record of Decision (ROD) in the *Federal Register* on December 3, 2009. OCCL has a limited number of hard copies of the FEIS available upon request.

Please contact Michael Cain at 587-0048, should you have any questions on this matter.

If no response is received by the suspense date of July 23, 2010, we will assume there are no comments.

( ) Comments Attached

(X) No Comments

Signature

Attachments: *Disc; Cover Letter*

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

LENORE N. OHYE
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET, ROOM 325
HONOLULU, HAWAII 96813
TEL (808) 587-0166 FAX (808) 587-0160

July 20, 2010

MEMORANDUM

TO: SAMUEL J. LEMMO, Administrator
Office of Conservation and Coastal Lands

FROM: for PAUL J. CONRY, Administrator

SUBJECT: REQUEST FOR COMMENTS- CONSERVATION DISTRICT USE APPLICATION MA-3542
National Science Foundation (NSF)
Advanced Technology Solar Telescope

TMK: (2) 2-2-007:008

LOCATION: Pu'u Kolekole, Waiakoa, Makawao District, Maui

Thank you for the opportunity to comment on your Conservation District Use Application MA-3542. The Division has determined that the subject project will likely result in the take of 'ua'u or Hawaiian petrel (*Pterodoma sandwichensis*) as a result of construction activities at the project site. The Division acknowledges that the applicant is seeking approval of a Habitat Conservation Plan (HCP) and Incidental Take License (ITL) in compliance with HRS Chapter 195D, for the project, and strongly encourages the applicant to complete that process and obtain a valid ITL for the project.

NATIVE HAWAIIAN LEGAL CORPORATION

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July 8, 2010

Sam Lemmo
Administrator
Office of Conservation and Coastal Lands
Department of Land & Natural Resources
P.O. Box 621
Honolulu, HI 96809

Dear Sam,

You have requested comments on the ATST CDUA as well as its management plan.

The BLNR must apply the following criteria in considering any CDUA:

- the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region; . . . [and]
- the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable . . .

HAR § 13-5-30(c)(4) and (6). Please note that the definition of "natural resource" includes "cultural, historic and archaeological sites." HAR § 13-5-2.

Furthermore, the BLNR is "required under the Hawaii Constitution to preserve and protect customary and traditional practices of native Hawaiians." *Ka Pa`akai O Ka`aina v. Land Use Comm'n*, 94 Hawai`i 31, 45, 7 P.3d. 1068, 1082 (2000). It is under "an affirmative duty" to "protect these rights and to prevent any interference with the exercise of these rights." *Id.*

Although Kilakila `O Haleakalā does not accept many of the conclusions of the applicant's FEIS because of flawed methodologies, the applicant itself admits that:

> Construction and operation of the proposed ATST Project . . . would result in major, adverse, short- and long-term direct impacts on traditional and cultural resources within the ROI.. . . Mitigation measures would . . . not reduce the impact intensity: impacts would remain major, adverse, long-term and direct.

page ES-36. The applicant also admits:

Services made possible with major funding from the Office of Hawaiian Affairs.

Nioio Upright, straight, stately tall and straight as a tree without branches; sharply peaked as mountains Fig. rights

> the prominence of the proposed new structure . . . in views from within two miles of the proposed ATST project site . . . would result in moderate, adverse and long-term impacts to visual resources. No mitigation would adequately reduce this impact.

page ES-39.

The applicant's own conclusions are sufficient to demonstrate that the ATST does not qualify for a CDUP.

Other comments on the CDUA

The following components of the project would have a substantial adverse impact on cultural resources and activities:

- the construction activities associated with building the ATST (including excavation, noise and visual);
- the existence of a 143-foot structure at Kolekole (visual);
- the noise generated from the operation of the ATST and associated activities; and
- the operation of the ATST, including maintenance, repairs and personnel turn-over.

Providing "sense of place" training does not and cannot mitigate the pain and loss suffered by Native Hawaiian traditional and customary practitioners in any way, shape or form. Such training does not and cannot mitigate the visual impact or the noise. The cultural specialist cannot make the project quieter, or make the buildings more invisible.

On November 8, 2007, NSF Assistant General Counsel Caroline Blanco wrote in a letter to the Advisory Counsel [sic] for Historic Preservation that "there can be no minimization of the adverse effects that result from the location of the proposed ATST project." She also wrote, "NSF takes the position that the anticipated adverse effects expressed by the Native Hawaiian community cannot be minimized." In discussing alternative sites, the SDEIS makes it clear that certain scientific objectives cannot be compromised. Substantial and irrevocable reductions in scientific output are unacceptable. In fact, there are no elements in the actual ATST project that the NSF is willing to compromise on, including size, color, location, etc. Not one. Why then are substantial and irrevocable impacts to existing cultural practices of a native people acceptable? Why is it unacceptable for the NSF to compromise its objective -- and yet acceptable to insist that Native Hawaiians compromise their practices and values and accept further desecration of their sacred religious sites in order to accommodate NSF's demands to build a new facility on Maui?

In a natural setting like Haleakalā National Park, any industrial or mechanical noise is an unnatural intrusion and has a major adverse affect. The noise analysis ignores frequency,

unnaturalness, intensity and duration of noise generation. Furthermore, simply because the noise levels would be below levels for Class A zoning districts does not mean that the facility would not generate new noise.

The applicant has intentionally downplayed the significance of the visual impact of its project. It refused to employ the methodology articulated by the BLNR in its decision *In re: HECO's CDUA to Construct a 138-kV Transmission Line at Wa`ahila Ridge*, DLNR File No. OA-2801. Although other language is found in portions of the FEIS, Volume IV of the FEIS page 74 states, "in some cases, the proposed ATST Project would result in major, adverse, impacts to the view plane."

Comments on the Management Plan

The management plan, allegedly, "specifies the design and environmental criteria that would be followed when implementing development, and presents strategies for managing, monitoring, and protecting the various natural and cultural resources and uses of UH-controlled areas." Yet, nowhere in the plan are these specifics spelled out. Without appropriate detail, the document does not constitute a management plan; it is a plan full of sound and fury, signifying nothing.

Monitoring. How often is monitoring supposed to take place? Who is going to do it? What will the monitoring consist of? What will be monitored?

Management. No substantive information regarding the management measures is provided. How often will weeding, vector control and trash removal take place? Who will be doing it? If the commitment is subject to funding, what kind of commitment is that?

Protection. The so-called management plan fails to address the protection of resources that need protection.

Construction fifty feet from an archaeological structure may protect its physical integrity, but a looming structure within fifty feet of a significant archaeological site does not protect its archaeological integrity. Protecting the context of an archaeological feature is critical to the protection of the site.

Why is there no discussion in the management plan about protecting traditional cultural practices?

Why is it that the plan states in absolute terms that "New facilities will not be permitted to obscure the observation function of existing facilities," but uses far less categorical language when it comes to obscuring scenic views:

Whenever possible, new buildings will be painted to blend with their surroundings; however, solar observatories that operate during daylight hours will be allowed to be painted white, as it would otherwise be virtually impossible to keep the enclosure and building surfaces cool enough to prevent degradation of seeing conditions.
5. Construction design will consider sight planes to population centers of Maui. Where buildings can be oriented to limit visibility or be built partly underground, they will be. Where they cannot, every effort will be made not to use materials that draw attention from a distance, i.e., reflective surfaces, unusual shapes, incompatible colors.

When will the IFA take measures to protect subsurface water quality?

The current MSO facility at HO uses a cesspool for handling wastewater and septic waste. This could affect subsurface water quality, but plans are in place to remove the cesspool, to remediate the site, and to construct a wastewater treatment facility in accordance with appropriate permits and procedures of Maui County and the State Department of Health.

Given the importance of protecting sub-surface water quality ("The upper aquifer is classified as being replaceable and highly vulnerable to contamination" p 2-34), why does the management plan not call for centralized and better management of wastewater (p. 2-35)?

Why does the plan not include any effort to protect the natural quiet of the area?

Without such details, the management plan is unacceptable.

Sincerely,

David Kimo Frankel
Staff Attorney

DKF:mr

CHARMAINE TAVARES
Mayor
KATHLEEN ROSS AOKI
Director
ANN T. CUA
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

July 20, 2010

Mr. Sam Lemmo, Administrator
Department of Land & Natural Resources
Office of Conservation and Coastal Lands
P.O. Box 621
Honolulu, Hawaii 96909

Dear Mr. Lemmo:

SUBJECT: COMMENTS REGARDING CONSERVATION DISTRICT USE APPLICATION MA-3542, ADVANCED TECHNOLOGY SOLAR TELESCOPE, LOCATED AT HALEAKALA, ISLAND OF MAUI, HAWAII, TMK: (2) 2-2-007:008 (RFC 2010/0084)

The Department of Planning (Department) has the following comments regarding the Conservation District Use Application MA-3542 for the Advanced Technology Solar Telescope received by the Department on June 18, 2010.

The Department understands the request for comments includes the following:

- A State Conservation District Use Application (CDUA) for the proposed Advanced Technology Solar Telescope (ATST) at the Haleakala High Altitude Observatory Site; and
- The proposed Management Plan, revised June 8, 2010 for the Haleakala High Altitude Observatory Site.

The Department notes the following:

- The Final Environmental Impact Statement for the ATST has been accepted; and
- The ATST is not located on land that is subject to County zoning regulations.

The Department offers the following recommendation regarding the CDUA for the ATST:

Although the FEIS states in regard to visual impacts that "no mitigation would adequately reduce this impact," the Department recommends that consideration should be given to reducing visual impacts as much as possible by consideration of the following:

a. Choosing a different color, rather than bright white, for the ATST facility.
b. Choosing a different color for those buildings associated with the ATST, if the telescope building must remain bright white.

c. Use colors in the mural that is part of the cultural resources mitigation to reduce the visual impact of the ATST.

The Department offers the following recommendations regarding the proposed Management Plan revised June 8, 2010 for the Haleakala High Altitude Observatory Site:

1. A map indicating the boundaries of the Management Plan should be included at the front of the plan.
2. The entire site that is subject to the Management Plan should be nominated to both the Hawai'i and National Registers of Historic Places as a Traditional Cultural Landscape or "TCP" and include a means to effect a measurable increase of Kānaka Maoli usage of the TCP.
3. The Management Plan should address mitigation of incidental take for the Nene, Petrel and Silversword, including consideration of off-site propagation.
4. The Management Plan should address prevention and eradication of invasive species, including predators such as mongooses, dogs, cats, etc.
5. The Management Plan should recommend the four habitat sites be considered for listing as endangered habitat by the Federal Government.

If you require further clarification, please contact Staff Planner Jeff Hunt at jeff.hunt@mauicounty.gov or phone (808) 270-7821.

Sincerely,

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for KATHLEEN ROSS AOKI
Planning Director

xc: Jeffrey S. Hunt, AICP, Senior Planner
Milton Arakawa, Director, Department of Public Works
EAC File
General File

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LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
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STATE OF HAWAII

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DEPARTMENT OF LAND AND NATURAL RESOURCES
OFFICE OF CONSERVATION AND COASTAL LAND
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

DAR 3163

ref: OCCL.MC

CDUA MA-3542

MEMORANDUM:

JUN 16 2010

To: DLNR
___ Historic Preservation Division
___ Division of Forestry and Wildlife
___ Land Division
_✓_ Division of Aquatic Resources

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JUN 16 2010
AQUATIC RESOURCES

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___ Energy, Resources, & Technology
___ Planning Office

___ Office of Hawaiian Affairs
___ Maui County Planning Department
___ State Department of Health

UNIVERSITY OF HAWAI`I
___ Environmental Center
___ Hawaiian Studies
___ Institute for Astronomy
___ Maui Community College

FEDERAL GOVERNMENT
___ Federal Aviation Administration
___ Haleakalā National Park
___ US Fisha nd Wildlife Service

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS – CONSERVATION DISTRICT USE APPLICATION MA-3542
National Science Foundation (NSF)
Advanced Technology Solar Telescope

TMK: (2) 2-2-007:008

LOCATION: Pu`u Kolekole, Waiakoa, Makawao District, Maui

Please find a CD enclosed with the following items:

1. Conservation District Use Application (CDUA) HA-3459 for the proposed Advanced Technology Solar Telescope (ATST) at the Haleakalā High Altitude Observatory Site.

2. Drawings and Schematics of the proposed ATST facility

3. The proposed Management Plan, revised June 8, 2010, for the Haleakalā High Altitude Observatory Site.

We also have a hard copies of these documents available for review at OCCL.

We would appreciate any comments your agency or division has on either the application for the ATST or the Management Plan, which is being processed concurrently.

ATST

CDUA MA-3542

The NSF published a Notice of Availability of the Final Environmental Impact Statement (FEIS) in the *Federal Register* on July 29, 2009; the NSF published a Record of Decision (ROD) in the *Federal Register* on December 3, 2009. OCCL has a limited number of hard copies of the FEIS available upon request.

Please contact Michael Cain at 587-0048, should you have any questions on this matter.

If no response is received by the suspense date of July 23, 2010, we will assume there are no comments.

(X) Comments Attached

( ) No Comments

Signature

Attachments: *Disc; Cover Letter*

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawai'i 96793
July 1, 2010

To: Alton Miyasaka, Aquatic Biologist

From: Skippy Hau, Aquatic Biologist

Subject: CDUA MA-3542 National Science Foundation (NSF)
TMK (2) 2-2-007:008 (DAR3163)
(Due July 23, 2010 Sammuel J. Lemmo OCCL)

I reviewed the proposed ten-year monitoring plan.

Will the data be made available for public or scientific review? Does the Institute for Astronomy, Hale'akala National Park, State Library, Bishop Museum or State agency have copies of the various reports and studies?

3.5.3.1 IfA Implemented Practices

In addition to the weeding, is there any kind of sanitation of footwear and gear to remove seeds or insects? In our surveys of East Maui Streams, we remove seeds and soak gear in a 10% Clorox solution at the completion of our field work.

Is there any periodic monitoring of insects (2.2.4.4 Invertebrate Resources)? It might help to document introduced species establishment or population changes over time.

(P.43) A minimum level of practices should be implemented. By including subject to State funding implies it might not be done. Funding should be paid by "existing users" on the summit and should be done annually.

I strongly support the sanitation procedures in 3.5.3.2 Construction Practices.

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

In reply, please refer to:
EMD / WB
NSF Telescope Puu Kolekole
LUD-2 2 2 007 008 ID# 432

July 9, 2010

Mr. Samuel Lemmo, Administrator
Office of Conservation & Coastal Lands
Department of Land & Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Lemmo:

Subject: Request for Comments – Conservation District Use Application MA-3542
National Science Foundation (NSF), Advance Technology Solar Telescope
Puu Kolekole, Waiakoa, Makawao, Maui 96768. TMK (2) 2-2-007: 0008

Thank you for allowing us the opportunity to review the above subject project which proposes to establish a Gregorian-style solar telescope at the 18.2 acre Haleakala Observatories (HO) site. The project involves constructing an observatory facility, including a telescope, pier, and rotating code instrument platform. The project involves the construction of a telescope enclosure, support and operations building and utility building. We have the following comments and information on the above subject property:

We have no objections to the proposed development as the treatment and disposal of the domestic wastewater generated will be handled by an aerobic treatment unit. Please be informed that plans for any proposed wastewater system must conform to all applicable provisions of the Department of Health's Hawaii Administrative Rules, chapter 11-62, "Wastewater Systems."

Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

Sincerely,

SINA PRUDER, P.E., ACTING CHIEF
Wastewater Branch

c: DOH's Environmental Planning Office (EPO 1-3231)
DOH-WWB's Maui Staff – Mr. Roland Tejano

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

OCCL:MC

ref CDUA MA-3452

MEMORANDUM

TO: Laura H. Thielen, Chairperson
Board of Land and Natural Resources

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

for

SUBJECT: Request to appoint a Hearing Officer for a Public Hearing

CDUA	APPLICANT AND USE	LOCATION	RATIONALE
MA-3542	National Science Foundation, Advanced Technology Solar Telescope	Haleakalā High Altitude Observatories Site, Pu`u Kolekole, Waiakoa, Makawao, Maui, TMK (2) 2-2-007:008 & 007:007	The Chairperson has determined that the scope of the proposed use or the public interest requires a public hearing on the application. Hawai`i Administrative Rules (HAR) Chapter 13-5-40(a)(4).

BACKGROUND

On July 23, 2010, The Chairperson Authorized a Public Hearing for the above referenced project, and appointed Office of Conservation and Coastal Lands (OCCL) Administrator Sam Lemmo as Hearing Officer. The Hearing was set for Thursday, May 26, 2010. Mr. Lemmo is now unable to conduct the Hearing, and has put forward OCCL Planner Michael Cain as an alternate.

RECOMMENDATION

Pursuant to Chapter 183C, Hawai`i Revised Statutes (HRS), §13-5 HAR, and as authorized by the Board of Land and Natural Resources on December 1, 1994; it is recommended that the Chairperson:

1. Appoint Michael Cain, Planner at the Office of Conservation and Coastal Lands, as the public hearing master or alternatively, appoint a representative of the Department as the public hearing master.

Under the authority delegated by the Board of Land and Natural Resources at its meeting of November 2, 1984, and as specified by §13-5-40(b), HAR, this request for a public hearing is hereby:

X Approved

____ Disapproved

LAURA H. THIELEN, Chairperson
Board of Land and Natural Resources

8/24/10
Date

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

OCCL:MC

ref CDUA MA-3452

MEMORANDUM

TO: Laura H. Thielen, Chairperson
Board of Land and Natural Resources

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Request to hold a public hearing

CDUA	APPLICANT AND USE	LOCATION	RATIONALE
MA-3542	National Science Foundation, Advanced Technology Solar Telescope	Haleakalā High Altitude Observatories Site, Pu`u Kolekole, Waiakoa, Makawao, Maui, TMK (2) 2-2-007:008 & 007:007	The Chairperson has determined that the scope of the proposed use or the public interest requires a public hearing on the application. Hawai`i Administrative Rules (HAR) Chapter 13-5-40(a)(4).

RECOMMENDATION

Pursuant to Chapter 183C, Hawai`i Revised Statutes (HRS), §13-5 HAR, and as authorized by the Board of Land and Natural Resources on December 1, 1994; it is recommended that the Chairperson:

1. Authorize a public hearing for the proposed action;

2. Authorize preparing and forwarding the hearing notice to the applicant and other affected persons; and

3. Appoint Samuel J. Lemmo, Administrator of the Office of Conservation and Coastal Lands, as the public hearing master or alternatively, appoint a representative of the Department as the public hearing master.

Under the authority delegated by the Board of Land and Natural Resources at its meeting of November 2, 1984, and as specified by §13-5-40(b), HAR, this request for a public hearing is hereby:

_X_ Approved ____ Disapproved

LAURA H. THIELEN, Chairperson
Board of Land and Natural Resources

7/23/16
Date

8/26/10

My name is Tasha Goldberg and I oppose the building and permit for the building of the observatory on Haleakala. There have been a number of valid opposition made this evening. It is an opportunity for this Board to honor the land, the voice of the people and protect and conserve Haleakala and deny this permit.

1/26/10

The ~~disp~~ Disruption of a Sacred Site is the absolute outstandy factor in this Appeal. Regardless of all other arguments + defenses - Haleakala is the pulse of Maui. Nothing should disrupt the sacredness.

Build the telescope elsewhere!

Susan Wehle

Kēhaunani Ka'auwai
Teacher from Sacred Hearts School, Lāhainā

Opposed to the project of ATST on Haleakalā, because of the cultural significance of the area.

I am an educator who does believe in inspiring th youth of our nation. I believe in the importance of presenting the sustainable aspects of the ancient Hawaiians should be the focus of our youth. You claim that the telescope is "advanced" I believe it is archaic? and an imposition. If you want our youth to stay on island, then we need sustainable activities, and this is not one of them.

Hawaiians made use of advanced technology in navigation, cultivation, understanding weather patterns and growth of species all with technolog that didn't destroy their main beliefs of our connection to the āina. That was never destroyed, and as I can see and understand this project does just that. I believe that this will not be a benefit as it hopes to be.

I support the approval of the ATST. It is a green industry and truly affords our children opportunities in science and technology.

Cindy Grebink

Roseline KeAhuna Frye

I am a Kanaka Maoli and I am against the building of the telescope on our Mountain Hale Akala - A Ole to this Beautiful Aina That Kanaka Maoli Love so dear to our Hearts

E Kūlē Kā Kou

A Stand for Hawaiian Rights

Mahalo

Jennifer Lokeani Medeiros 8/26/10

This is my 1st meeting i came to. I born & raised in Hawaii and I see alot of changes. If the people that like build this building on Haleakala just for study the sun and they from the mainland like Arizona go build it in the mainland get sun over there and stars. No touch HALEAKALA!!! Leave it alone. The mainland is so big go build it over there. I am not for this building. I can write this but will you listen??? I hope so. listen to us people.

(E Kū'ē Kākau:
a stand for hawaiian rights)

Thank you.
Mahalo

PROGRAMMATIC AGREEMENT
among
The National Science Foundation,
The National Park Service,
The Advisory Council on Historic Preservation,
The Hawai'i State Historic Preservation Officer,
The Association of Universities for Research in Astronomy, and
The University of Hawai'i (for the benefit of its Institute for Astronomy)
Regarding the Advanced Technology Solar Telescope Project,
Haleakalā, Maui, Hawai'i

WHEREAS, the National Science Foundation (NSF) received a proposal from the Association of Universities for Research in Astronomy (AURA) to fund the construction and operation of the Advanced Technology Solar Telescope (ATST Project). If approved by NSF, the proposed ATST Project would be located within the University of Hawai'i (for the benefit of its Institute of Astronomy) (UH IfA) Haleakalā High Altitude Observatory (HO) site at the summit of Haleakalā, County of Maui, Hawai'i. If the proposed ATST Project is approved for funding by NSF, this Programmatic Agreement (PA), prepared pursuant to 36 C.F.R. § 800.14(b), shall be effective for a period of ten (10) years beginning from the "Effective Date" defined in Section IV. K., herein. If unresolved issues remain within two years of the expiration date of this PA, NSF shall consult with the other Signatories regarding the appropriateness of developing a subsequent agreement;

WHEREAS, the Haleakalā National Park (HALE) road is the only access to HO and, therefore, the National Park Service (NPS), pursuant to 36 C.F.R. § 5.6, is mandated to issue a Special Use Permit (SUP) to allow commercial vehicles to operate on the HALE road during the construction and operation phases of the proposed ATST Project;

WHEREAS, the "proposed Undertaking" that is the subject of this PA encompasses both the construction and the initial phase of the operation of the proposed ATST Project, which includes an observatory facility, telescope enclosure, support and operations building, utilities building, and parking area. The proposed Undertaking will, if approved, also include all of the following activities in support of the ATST Project construction and operation: land clearing, demolition activities, grading/leveling, excavation, soil retention and placement, construction, remodeling of the Mees Solar Observatory building, paving, and other site improvements. The proposed Undertaking further includes the use of the HALE road for the construction and operation of the ATST Project, in accordance with the SUP to be issued by the NPS. Because of the complexity of the proposed Undertaking and its impacts on historic properties (as that term is defined in 36 C.F.R. § 800.16(l)(1)) within the Haleakalā summit area, a Traditional Cultural Property (TCP), this PA has been prepared in accordance with 36 C.F.R. § 800.14(b);

WHEREAS, NSF has defined, and by letter of July 21, 2009, the State of Hawai'i State Historic Preservation Officer (SHPO) concurred that the Area of Potential Effects (APE) for the proposed Undertaking includes the HO site, a 50-foot corridor along the historic

EXHIBIT L

Haleakalā National Park road measured 25 feet from each side of the center line (Park Road Corridor), both of which are located within the Crater Historic District. HO and part of the Park Road Corridor are also located within the Haleakalā summit area, a TCP. A map of the APE and a tax map are attached hereto as, "Exhibit A";

WHEREAS, NSF, through the consultation process set forth in Section 106 of the National Historic Preservation Act, 16 U.S.C. 470f (NHPA) (the Section 106 consultation process), has determined, in consultation with the SHPO, that the summit of Haleakalā is a historic property that has spiritual and cultural significance to Native Hawaiians (Kanaka Maoli) and is a TCP that satisfies the criteria to be eligible for listing on the National Register of Historic Places (National Register);

WHEREAS, through the Section 106 consultation process, it is acknowledged that Haleakalā has spiritual and cultural significance, and is a very sacred place to Kanaka Maoli and continues to be used by them for ceremonial practices;

WHEREAS, through the Section 106 consultation process, it is acknowledged that the proposed Undertaking will have an adverse effect on the TCP and associated cultural practices as a result of the location, height, volume, and color of the proposed observatory facility, telescope enclosure, support and operations building, utilities building, and parking area for the proposed ATST Project;

WHEREAS, the Park Road Corridor is located within the Crater Historic District, which is listed on the National Register and the State of Hawai'i Inventory of Historic Places. The Park Road Corridor is also partially located within the Haleakalā summit area, a TCP. The historic properties within the Park Road Corridor have been determined eligible for listing on the National Register by the NPS in consultation with the SHPO;

WHEREAS, NSF has coordinated with the NPS on ways to avoid, minimize, or mitigate the adverse effects the proposed Undertaking has on historic properties pursuant to the regulations implementing Section 106 of the National Historic Preservation Act, 16 U.S.C. 470f (NHPA), 36 C.F.R. Part 800. NPS, because of its role in issuing the SUP, has Section 106 responsibilities for this Undertaking, and has, therefore, participated in the development of this PA and is a Signatory herein in order to fulfill those duties;

WHEREAS, NSF has consulted with the SHPO on ways to avoid, minimize, or mitigate the adverse effects the proposed Undertaking has on historic properties pursuant to the regulations implementing Section 106 of the NHPA, 36 C.F.R. Part 800. The SHPO participated in the development of this PA and is a Signatory herein;

WHEREAS, the Advisory Council on Historic Preservation (ACHP) has participated in the Section 106 consultation process, pursuant to 36 C.F.R. § 800.2(b), and NSF has consulted with the ACHP on ways to avoid, minimize, or mitigate the adverse effects the proposed Undertaking has on historic properties pursuant to the regulations implementing Section 106 of the NHPA, 36 C.F.R. Part 800. The ACHP participated in the development of this PA and is a Signatory herein;

WHEREAS, AURA, through the National Solar Observatory (NSO or AURA/NSO), is the ATST project applicant. AURA/NSO will be responsible for the construction, installation, operation, and management of the proposed ATST Project if it is approved. Because it is the ATST project applicant, AURA/NSO has participated as a consulting party in NSF's Section 106 consultation process for the proposed ATST Project pursuant to Section 106 of the NHPA. AURA/NSO participated in the development of this PA and was invited to sign as a Signatory herein;

WHEREAS, UH IfA has the responsibility for the overall control and management of HO. UH IfA has also developed the Long Range Development Plan (LRDP) for HO, which includes Best Management Practices directed at the preservation and protection of cultural, archeological, and historic resources outlined in Section 9.3.2 of the LRDP for HO, attached hereto as, "Exhibit B." Accordingly, UH IfA has participated as a consulting party in NSF's Section 106 consultation process for the proposed ATST Project. UH IfA participated in the development of this PA and was invited to sign as a Signatory herein;

WHEREAS, NSF has identified and consulted with Native Hawaiian Organizations (NHOs) and Kanaka Maoli on ways to avoid, minimize, or mitigate the adverse effects the proposed Undertaking has on historic properties pursuant to the regulations implementing Section 106 of the NHPA, 36 C.F.R. Part 800, and invited them to participate in this process as consulting parties. Those NHOs who became consulting parties were invited to participate in the development of this PA and sign herein as Concurring Parties. A list of NHOs who became consulting parties in this Section 106 consultation process is attached hereto as "Exhibit C";

WHEREAS, NSF has identified through both the Section 106 and National Environmental Policy Act processes other interested parties and members of the public who were interested in participating in NSF's Section 106 consultation process as consulting parties. NSF consulted with those who joined NSF's process as consulting parties on ways to avoid, minimize, or mitigate the adverse effects the proposed Undertaking has on historic properties pursuant to the regulations implementing Section 106 of the NHPA, 36 C.F.R. Part 800. NSF also invited all consulting parties to participate in the development of this PA and sign as Concurring Parties;

WHEREAS, NSF carried out consultation by holding over 30 formal and informal consultation meetings that took place both in person and via teleconference during the period from January, 2006, through August, 2009; and

NOW, THEREFORE, NSF, the ACHP, the SHPO, the NPS, AURA/NSO, and UH IfA (collectively referred to herein as, "the Parties" or "the Signatories") agree that NSF shall ensure that this PA will be implemented after the Effective Date, as defined in Section IV. K. of this PA; the NPS shall ensure that all stipulations listed under Section III of this PA (NPS Area of Responsibility) are implemented.

STIPULATIONS

NSF, in coordination with the proposed ATST Project applicant, AURA/NSO, shall ensure that all of the stipulations in Sections II (NSF Area of Responsibility) and IV (Administrative Stipulations) of this PA are carried out. NPS shall ensure that all stipulations under Section III (NPS Area of Responsibility) are carried out.

I. Roles and Responsibilities

On the Effective Date, as defined in Section IV. K., herein, the following entities are obligated to carry out their distinctive roles and responsibilities as set forth in this PA:

A. NSF

NSF is the lead federal agency responsible for ensuring that the measures in this PA are carried out. NSF's primary areas of responsibility are set forth in Sections II and IV of this PA. NSF's role includes both directly carrying out certain activities and working with non-federal entities to ensure that certain stipulations contained in this PA are implemented.

B. NPS

The NPS is a federal agency that has a co-lead responsibility with NSF for ensuring that the measures in this PA are carried out. The NPS' role in this PA derives from its issuance and enforcement of the SUP and, as such, the NPS is responsible for ensuring that the stipulations in Section III of this PA are implemented.

C. AURA/NSO

AURA/NSO is the project applicant and, as such, has specific responsibilities throughout this PA related to the construction and operation of the ATST Project. Some of these responsibilities are to be carried out solely by AURA/NSO, and others are shared with NSF and/or non-federal entities. The responsibilities of AURA/NSO will be assumed by any successor entity.

D. UH IfA

The HO site, which is near the summit of Haleakalā, is under the management and control of the UH through its IfA. The IfA establishes and enforces policies regarding access, use, and protection of HO. Under this PA, should the proposed ATST Project be approved for construction, UH IfA has specific responsibilities, some of which are shared with AURA/NSO and others which must be carried out in consultation with the ATST Native Hawaiian Working Group (ATST NHWG) and the SHPO.

E. SHPO

The SHPO's role in this PA is one of consultation with those parties having responsibilities for carrying out certain provisions of this PA.

F. ACHP

The ACHP's role in this PA is one of consultation and, also, to assist in the administration of this PA, particularly the resolution of disputes that may arise during post agreement activities.

G. ATST NHWG

The ATST NHWG's role in this PA is one of consultation concerning historic property matters related to the construction and operation of the ATST Project. This group will be established pursuant to Section II. A. of this PA to assist NSF, AURA/NSO, and UH IfA in carrying out their responsibilities under this PA.

H. CONSULTING PARTIES AND THE PUBLIC

All consulting parties, regardless of whether they elected to sign as a Concurring Party to this PA, and members of the public may continue to participate in this Section 106 consultation process by reviewing the status of implementation of this PA through information available on either the project website or at the project office and by raising any objection pertaining to the treatment of an historic property associated with the construction or operation of the proposed ATST Project. The process for raising such an objection is set forth in Section IV. F. of this PA.

II. NSF Area of Responsibility

A. Establishment of the ATST Native Hawaiian Working Group

NSF shall establish the "ATST Native Hawaiian Working Group," (defined previously as the "ATST NHWG"), comprised of NHOs, whose representatives will serve on a volunteer basis to provide input to NSF, AURA/NSO, and UH IfA on historic property matters related to the construction and operation of the ATST Project as referred to in this PA. The ATST NHWG shall formally meet twice each year; the first meeting shall take place within 60 days from the date this PA is fully executed by all Signatories (which may occur before the "Effective Date" of this PA, as defined in Section IV. K., herein). Informal contact may occur at any time on an as-needed basis. A framework for conducting the ATST NHWG shall be established by NSF during, or within a month after, the first formal meeting of the ATST NHWG. Any NHO that served as a consulting party in this Section 106 consultation process, but elected not to sign this PA as a Concurring Party, shall not be precluded from becoming a member of the ATST NHWG.

B. Implementation of Best Management Practices

AURA/NSO and UH IfA will, if the proposed Undertaking is approved, jointly implement the Best Management Practices directed at the preservation and protection of cultural, archeological, and historic resources outlined in Section 9.3.2 of the UH IfA Long Range Development Plan (LRDP) for HO (*see* Exhibit B).

C. Naming of HO Roads

UH IfA will consult with the ATST NHWG regarding the naming of the roads within HO and, informed by such consultation, will take reasonable steps to pursue the naming of the roads, recognizing that such naming is subject to state review and approval. UH IfA will work with AURA/NSO to post the decision regarding the naming of the roads within HO on the project website.

D. Retaining a Cultural Specialist

AURA/NSO will, after consultation with the ATST NHWG, hire a Cultural Specialist, as defined in Section 9.3.2 of the LRDP, to help ensure protection of existing historic properties and their traditional cultural values during construction. The Cultural Specialist will be a Kanaka Maoli, preferably a kupuna (elder) and if possible a kahu (clergyman) as well, and one who has knowledge of the spiritual and cultural significance and protocol of Haleakalā. The Cultural Specialist's knowledge should be concentrated in traditional and cultural practices and protocols. This commitment is consistent with consultations held during this Section 106 consultation process and Hawaiian culture. The formal involvement of a Cultural Specialist who understands Native Hawaiian culture is important for this site.

E. Decommissioning of the ATST

In all cooperative agreements governing the operation of the ATST Project entered into between NSF and AURA/NSO (or any successor entity), NSF shall include a provision requiring NSF to decommission and deconstruct the ATST Project within fifty (50) years from the date operations commence, unless, after consultation by NSF with NHOs, NSF decides otherwise, in which case NSF shall notify the ACHP, the SHPO, and the NPS.

F. Possible Repainting

In all cooperative agreements governing the operation of the ATST Project entered into between NSF and AURA/NSO (or any successor entity), NSF shall include a provision requiring the responsible entity to periodically [every two (2) years following the effective date of each cooperative agreement] reassess technological options for new types of coatings, more efficient cooling methods, or improved compensation for thermal turbulence, which may allow the ATST enclosure and buildings to be painted a color other than white to make the structures less noticeable, as requested by consulting parties during the Section 106 consultation process. If NSF and AURA/NSO (or any successor entity) determines that such future technology is an effective, reliable, and affordable solution that meets the scientific requirements of the ATST Project, NSF will consult with the ATST NHWG and the NPS regarding the repainting of the exterior structures of the ATST enclosure and buildings with a more neutral color. If the result of such consultation is that repainting is favored by the ATST NHWG and NPS, NSF will work with AURA/NSO (or any successor entity) to repaint the exterior structures of the ATST enclosure and buildings with a more neutral color.

AURA/NSO will post the results of each bi-annual reassessment of technological options on the project website.

G. Removal of Unused Facilities at HO

UH IfA, subject to funding and authorizations, will remove facilities, poles, antennae, and lines at HO that are determined by UH IfA to be unused or in excess of that which is needed. The removal of any such facilities, poles, antennae, or lines at HO pursuant to this stipulation shall be reported on the project website.

H. Removal of Reber Circle Site #50-50-11-5443

AURA/NSO, with the approval of UH IfA, shall remove Reber Circle Site #50-50-11-5443 in accordance with the data collection and documentation requirements set forth in the letter from Peter Young, Chair of the State Board of Land and Natural Resources and the State Historic Preservation Officer, State of Hawai'i Department of Land and Natural Resources to Erik Fredericksen, Xamanek Researchers, regarding Data Recovery Plan for SIHP 50-50-11-5443, dated June 14, 2006. After the removal is completed, AURA/NSO will post notice of such removal on the project website.

I. Hawaiian Star Compass

NSF, AURA/NSO, and UH IfA, in consultation with the ATST NHWG, will evaluate the feasibility of locating an area for a Hawaiian star compass at the summit. If determined feasible and subject to funding and authorizations, NSF, AURA/NSO and UH IfA will place the Hawaiian star compass at the designated site. The decision regarding feasibility and the final result will be provided to the ATST NHWG and posted on the project website.

J. Required "Sense of Place" Training

In order to sensitize them to the significance of Haleakalā as a TCP, all employees, including scientists/researchers who engage in any on-site construction or operation activities associated with the proposed ATST Project, shall undergo UH IfA approved "Sense of Place" training, as set forth in the LRDP. Specifically, NSF, through AURA/NSO, will ensure that all persons involved with the construction and operations of the ATST Project shall be required, within a thirty (30) day period of commencing their job, to attend a worker orientation session and view a UH IfA approved "Sense of Place" training videotape and/or presentation which shall address the historic/cultural significance of Haleakalā to Native Hawaiians. AURA/NSO will maintain a list that can be periodically reviewed by the Signatories and Concurring Parties, of all personnel attending the worker orientation sessions and viewing the training videotape. AURA/NSO will also notify the ATST NHWG of the selection of the training provider.

K. Exterior Design

AURA/NSO, in consultation with the ATST NHWG and the NPS, will incorporate a representation of traditional Hawaiian culture suitable to the Haleakalā setting, such as artwork depicting Maui and the Sun or other appropriate motifs, on the exterior design for the lower portion of the ATST building.

L. Possible Shelter for Cultural Practitioners

NSF, UH IfA, and AURA/NSO, in consultation with the SHPO, the ACHP, and the ATST NHWG, will determine the feasibility of a shelter at HO, with access to restroom facilities, for use by Native Hawaiian cultural practitioners. Consultations will include the location, design, and use of such a shelter. If determined feasible, and subject to available funding, NSF will fund the shelter.

M. State Road 378

NSF, through AURA/NSO, will fund an assessment of historic properties associated with State Road 378 similar to the assessment entitled, "Historic American Engineering Record Haleakala Highway HAER No. HI-52" that was done for the Park road. The scope of work for this assessment shall be developed by AURA/NSO in consultation with the SHPO. Prior to construction of the ATST Project (if approved), AURA/NSO will ensure that all historic properties along State Road 378 are photographed and documented. In addition, AURA/NSO will avoid adverse effects to and preserve the integrity of State Road 378 during the construction phase of the proposed ATST Project to the extent feasible. Where adverse effects cannot be avoided, AURA/NSO, in consultation with the SHPO and the Hawai'i State Department of Transportation, will develop and ensure the implementation of a SHPO approved scope of work to repair any damage caused by the proposed ATST Project.

N. Acknowledgment of Significance of Haleakalā and NSF's Gratitude

NSF and AURA/NSO will ensure that all scientific publications and other scholarly work utilizing data obtained with the ATST will be required to include either a footnote on the title page or an entry in the "Acknowledgment" section that: 1) notes that the ATST is located on land of spiritual and cultural significance to the Kanaka Maoli; and 2) acknowledges NSF's gratitude for the use of this important site to the Kanaka Maoli. The exact wording of the acknowledgment will be developed by NSF and AURA/NSO in consultation with the ATST NHWG.

O. Status of Implementation of this PA Reported on Project Website

To keep the public and all consulting parties apprised of the status of the implementation of the Stipulations in this PA, AURA/NSO will maintain the project website with relevant information. In addition, as required by Sections II. C., F., G., H., I., and III. A., specific information regarding the obligations set forth in those Stipulations will be posted on the project website. Hard copies of

this information will also be made available to the public and all consulting parties at the ATST Project office.

III. NPS Area of Responsibility

The NPS, as the entity responsible for issuing and overseeing the SUP, shall be responsible for ensuring that the following stipulations are carried out:

A. Documentation of Historic Features within the Park Road Corridor

AURA/NSO, in coordination and consultation with the NPS and pursuant to the terms of the SUP, will ensure that all historic features associated with the Park Road Corridor are photographed and documented prior to and after construction of the ATST Project. AURA/NSO shall submit such photographs and documentation to the NPS and post them on the project website.

B. Limitations on Heavy Loads

AURA/NSO, pursuant to the terms of the SUP, will ensure and certify to the NPS that no loads heavier than the current load rating for the historic Park bridge will be allowed within the Park Road Corridor.

C. Temporary Improvement of Shoulder at HALE Entrance

AURA/NSO, pursuant to the terms of the SUP, will temporarily improve the shoulder of the in-bound lane at the Park entrance to accommodate wide loads. After the improved shoulder is no longer needed, AURA/NSO, in accordance with the SUP, will restore it to its original condition.

D. Limitations on Number of Wide Loads

AURA/NSO, pursuant to the terms of the SUP, will ensure that the number of wide loads will not exceed 25, including no more than two loads up to 10 meters (32 feet, 10 inches), over the course of the construction phase of the ATST Project. AURA/NSO will ensure that these wide loads will not exceed the clearances along the Park Road Corridor and that the vehicles transporting such wide loads will avoid driving on the edges of the road.

E. Time Limitations on Construction Traffic

AURA/NSO will coordinate with HALE to establish time periods during which construction traffic, especially slow moving and/or FHWA Class 5 or larger vehicles, can traverse the Park Road Corridor. The NPS will ensure that these time limitations are set forth in the SUP.

F. Time Limitations on Construction Activities

AURA/NSO, in accordance with the terms of the SUP, will ensure that outside, on-site, construction activities will be limited daily to between 30 minutes after sunrise and 30 minutes prior to sunset.

G. SUP Monitor

AURA/NSO, in accordance with the terms of the SUP, will fund a NPS monitor to ensure that the SUP referred to in this PA is followed. Any non-compliance with the SUP will be dealt with by the NPS in accordance with 36 C.F.R. Part 1.6. The NPS shall report any non-compliance with the SUP related to historic features within the Park Road Corridor to the SHPO and the ACHP.

H. Reimbursement for Damage to Historic Features

AURA/NSO, pursuant to the terms of the SUP, will reimburse the NPS for any expenditure required for repairing damage to historic features within the Park Road Corridor, if such damage results from construction-related traffic associated with the ATST Project. In the event that such damage occurs, the NPS will notify the SHPO.

I. Reasonable Deviations in Exceptional Circumstances Reviewed by Park Superintendent

Pursuant to the terms of the SUP, the Park Superintendent may, in exceptional circumstances, authorize reasonable deviations from paragraphs III. B., D., E., and F., above. AURA/NSO will request such deviations from the Park Superintendent in advance. The Park Superintendent will review the request and render a decision to approve, deny, or approve with conditions. If any historic resources may be impacted as a result of such reasonable deviations, the NPS will promptly notify the SHPO and the ACHP.

IV. ADMINISTRATIVE STIPULATIONS

A. Compliance with Applicable Law and Anti-Deficiency Provision

This PA shall be carried out consistent with all applicable federal and state laws. No provision of this PA shall be implemented in a manner that would violate the Anti-Deficiency Act. All obligations on the part of NSF and the NPS shall be subject to the availability and allocation of appropriated funds for such purposes. While NSF and the NPS will make efforts to seek adequate funding to carry-out the terms of this PA, should NSF or the NPS be unable to fulfill the terms of this PA due to funding constraints, the relevant agency will immediately notify the ACHP, the SHPO, and the other Signatories, and consult with them to determine whether to amend or terminate the PA pending the availability of resources. All obligations on the part of UH IfA herein shall be subject to the availability and allocation of appropriated funds for such purposes and UH IfA obtaining all of the necessary authorizations. While UH IfA will make efforts to seek adequate funding and the necessary authorizations to carry-out UH IfA's obligations under the terms of this PA, should UH IfA be unable to fulfill the terms of this PA due to funding constraints or lack of necessary authorizations, UH IfA will immediately notify NSF, the NPS, the ACHP, the SHPO, and the other Signatories, and consult with them to determine whether to amend or terminate

this PA pending the availability of resources and the receipt of the necessary authorizations.

B. Discoveries

All unanticipated discoveries of historic properties and human or burial remains within the APE revealed during the construction and operation phases of the ATST Project shall be addressed in the following manner:

1. AURA/NSO shall promptly notify NSF, the SHPO and the ATST NHWG of the discovery.

2. If NSF determines, in consultation with the SHPO, that the discovery is eligible for listing in the National Register, NSF will initiate consultation with the consulting parties to draft a plan with measures that will avoid, minimize, or mitigate adverse effects. If agreement is reached regarding such a plan, NSF shall implement the plan. If the discovery is made during the construction phase, construction in the affected area must cease until the discovery process in this Stipulation has been concluded either through a finding that the property is not eligible for listing in the National Register, or through finalization of the plan referenced herein.

3. If the consulting parties cannot reach agreement regarding the development of a treatment or mitigation plan, then the matter shall be referred to the ACHP for guidance. NSF shall address the ACHP's guidance in reaching a final decision regarding implementation of the plan.

4. If any previously unidentified human or burial remains are discovered during implementation of the Undertaking, AURA/NSO shall immediately cease construction work and adhere to applicable state and federal laws regarding the treatment of human or burial remains.

With regard to any previously unidentified discoveries found within the Park Road Corridor, the process outlined in Sections IV. B.1. through 4., above, shall apply except that NPS shall replace NSF as the relevant federal agency.

C. Duration

This PA will expire ten (10) years from the Effective Date of this PA as defined in Section IV. K., herein. Prior to such expiration date, NSF may consult with the other Signatories to reconsider the terms of this PA and amend it in accordance with Stipulation IV. H., below. If unresolved issues remain within two years of the expiration date of this PA, NSF shall, at that time, consult with the other Signatories regarding the progress of implementation of this PA and to consider the appropriateness of developing a subsequent agreement or amendment to the PA.

D. Incorporation of PA in Future Cooperative Agreements and Reference to PA in Construction-Related Agreements

This PA shall be incorporated into all future cooperative agreements entered into between NSF and any entity responsible for carrying-out the construction and operation phases of the ATST Project. If AURA/NSO is no longer the entity responsible for carrying-out the construction and operation phases of the ATST Project, the successor entity shall assume all responsibilities under this PA where AURA/NSO currently appears. This PA shall also, as appropriate, be referenced in construction-related agreements.

E. Dispute Resolution

In the event one of the Signatories objects to the manner in which any term of this PA is implemented, the following dispute resolution process shall be followed:

1. The objecting Signatory shall notify all other Signatories to this PA, in writing, of the objection or disagreement, request written comments on the objection or disagreement within ten (10) business days following receipt of such notification, and then proceed to consult with the Signatories to resolve the objection. If at any time during consultation, NSF determines that the objection or disagreement related to the construction or operation of the ATST Project cannot be resolved through consultation, NSF shall forward all documentation relevant to the dispute to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will provide NSF with comments and recommendations, which NSF will take into account in reaching a final decision regarding the dispute. Any recommendation or comment provided by the ACHP will be understood to pertain only to the subject of the dispute. The responsibility of NSF to carry out all actions under this PA that are not the subject of the dispute will remain unchanged.

2. With regard to any dispute regarding the terms of this PA related to HALE, the process outlined in Section IV. E.1., above, shall apply except that the NPS shall replace NSF as the relevant federal agency.

3. Unless the Signatories agree that the dispute warrants a cessation of construction work, AURA/NSO will not be required to cease construction work on the ATST Project while the dispute is being reviewed.

F. Continued Participation by the Public and Consulting Parties

At any time during the implementation of the Stipulations set forth in this PA, any member of the public and any consulting party, including a consulting party who has decided not to sign this PA as a Concurring Party, may continue to participate in the Section 106 consultation process as follows:

1. Any member of the public may raise an objection to NSF pertaining to the treatment of an historic property associated with the construction or operation of the ATST Project (if approved). In the event such an objection is raised, NSF shall consult with the SHPO regarding the objection, and, following such consultation, will provide the objecting member of the public with a decision on the objection.

2. Any consulting party, including any consulting party who has decided not to sign this PA as a Concurring Party, may raise an objection to NSF and the SHPO pertaining to the treatment of an historic property associated with the construction or operation of the ATST Project (if approved). In the event such an objection is raised by a consulting party, NSF and the SHPO shall consult regarding how to resolve the objection. If NSF and the SHPO are unable to resolve the objection, they shall consult with the ACHP. NSF will consider any advice on the objection provided by the ACHP within 10 days of being notified of it, before making a final decision on the matter. NSF will communicate such a final decision to the objecting consulting party and the Signatories.

If an objection is made pursuant to either Section IV. F.1. or F.2., above, NSF, in consultation with the SHPO, will determine whether the objection warrants a cessation of construction work on the ATST Project while the objection is being reviewed.

G. Follow-up Meetings to Discuss Implementation

NSF will invite the Signatories to this PA to a meeting and/or teleconference every three years to discuss implementation of the terms of this PA and determine whether revision, amendment, or termination is needed. NSF shall schedule the first such meeting/teleconference within three years of the Effective Date of this PA, as defined in Section IV. K., herein.

H. Amendments and Noncompliance

This PA may be amended upon written agreement by all of the Signatories, including the invited Signatories, herein.

I. Termination

If any Signatory to this PA, including any invited Signatory, determines that the terms of this PA will not or cannot be carried out, that Signatory shall immediately consult with the other Signatories to develop an amendment to this PA pursuant to Section IV. H., above. If this PA is not amended following that consultation, then it may be terminated by any Signatory or invited Signatory through written notice to all other Signatories. Within thirty (30) days following termination, NSF shall notify the Signatories if it will initiate consultation to execute a new PA with the Signatories under 36 C.F.R. § 800.6(c)(1) or request and consider the comments of the ACHP under 36 C.F.R. § 800.7 and proceed accordingly.

J. Effect of PA Execution

Execution of this PA by NSF, the ACHP, the SHPO, the NPS, AURA/NSO, and UH IfA prior to NSF's approval of the proposed ATST Project and NPS' issuance of the SUP, evidences that NSF and the NPS have taken into account the effects of this proposed Undertaking on historic properties, and have afforded the ACHP an opportunity to comment on the proposed Undertaking.

K. Effective Date

This PA shall be executed in counterparts, with a separate page for each Signatory, and NSF shall ensure that each Signatory is provided with a fully executed copy. This PA will become effective upon:

1. Execution of this PA by NSF, the NPS, the SHPO, AURA/NSO, UH IfA, and the ACHP;

2. A decision by the NSF Director authorizing the funding of the construction of the proposed ATST Project;

3. The issuance of the SUP by the NPS;

4. Receipt of a Conservation District Use Permit from the State of Hawai'i Board of Land and Natural Resources; and

5. The execution of a lease between the UH IfA and AURA/NSO and/or NSF for the property within HO upon which the ATST Project would, if approved, be built.

Nothing, however, shall preclude NSF from initiating the establishment of the ATST NHWG prior to the effective date of this PA.

Attachments: **Acronym Key**
Exhibit A (Map of the Area of Potential Effects (APE) and Tax Map Key)
Exhibit B (Best Management Practices Excerpted from the Long Range Section 9.3.2. of the Long Range Development Plan for the Haleakalā High Altitude Observatory)
Exhibit C (List of Native Hawaiian Organizations that Are Consulting Parties)

SIGNATORIES TO THIS PROGRAMMATIC AGREEMENT:

FOR THE NATIONAL SCIENCE FOUNDATION:

By: Craig B Foltz Date: 9/21/09

Printed Name: Craig B. Foltz

Title: Acting Division Director
Division of Astronomical Sciences

FOR THE NATIONAL PARK SERVICE:

By: Patricia L. Newbacher Date: 9/28/09

Printed Name: PATRICIA L. NEWBACHER

Title: Deputy Regional Director

FOR THE ADVISORY COUNCIL ON HISTORIC PRESERVATION:

By: _____ Date: 11/13/09

Printed Name: Reid Nelson

Title: Acting Executive Director

FOR THE HAWAI'I STATE HISTORIC PRESERVATION OFFICER:

By: _____ Date: 10/6/09

Printed Name: Laura H. Thielen

Title: Chairperson, DLNR Hawaii

INVITED SIGNATORY TO THIS PROGRAMMATIC AGREEMENT:

FOR THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY:

By: _____ Date: 9/21/09

Printed Name: WILLIAM S. SMITH

Title: PRESIDENT

INVITED SIGNATORY TO THIS PROGRAMMATIC AGREEMENT:

FOR THE UNIVERSITY OF HAWAI'I (for the benefit of its Institute for Astronomy):

By: M.R.C. Greenwood Date: 10-9-09

Printed Name: M.R.C. Greenwood

Title: President

CONCURRING PARTIES TO THIS PROGRAMMATIC AGREEMENT:

By: Warren S. Shibuya Date: 20 September 2009

Printed Name: Warren S. Shibuya

Title: Volunteer Maui County, Planning Commissioner
Retired Space & Missile Systems Center

CONCURRING PARTIES TO THIS PROGRAMMATIC AGREEMENT:

By: H Kanoeokalani Cheek Date: 10-10-09

Printed Name: H. Kanoeokalani Cheek

Title: President

Ms. H. Kanoeokalani Cheek, President

NA KU'AUHAU 'O KAHIWAKANEIKOPOLEI

P. O. Box 5411

Kane'ohe, HI 96744

Approved at the regular monthly meeting of Na Ku'auhau 'o Kahiwakaneikopolei held on Saturday, October 10, 2009 at the University of Hawaii Manoa Campus.

ACRONYM KEY

A-E

Advisory Council on Historic Preservation (ACHP)

Advanced Technology Solar Telescope (ATST)

Area of Potential Effects (APE)

Association of Universities for Research in Astronomy (AURA)

ATST Native Hawaiian Working Group (ATST NHWG)

Air Force Environmental Compliance Assessment and Management Program (ECAMP)

University of Hawai'i's Environmental Health and Safety Office (EHSO)

H-M

Haleakalā High Altitude Observatory (HO)

Haleakalā National Park (HALE)

Heating Ventilation and Air Conditioning (HVAC)

Kanaka Maoli (Native Hawaiians)

Kupuna (elder)

Kahu (clergyman)

Long Range Development Plan (LRDP)

N

Native Hawaiian Organizations (NHOs)

National Historic Preservation Act (NHPA)

National Park Service (NPS)

National Register of Historic Places (National Register or NRHP)

National Science Foundation (NSF)

National Solar Observatory (NSO)

O

Office of Hawaiian Affairs (OHA)

P

Programmatic Agreement (PA)

S

Hawai'i SHPO (SHPO)

Special Use Permit (SUP)

T

Traditional Cultural Property (TCP)

U

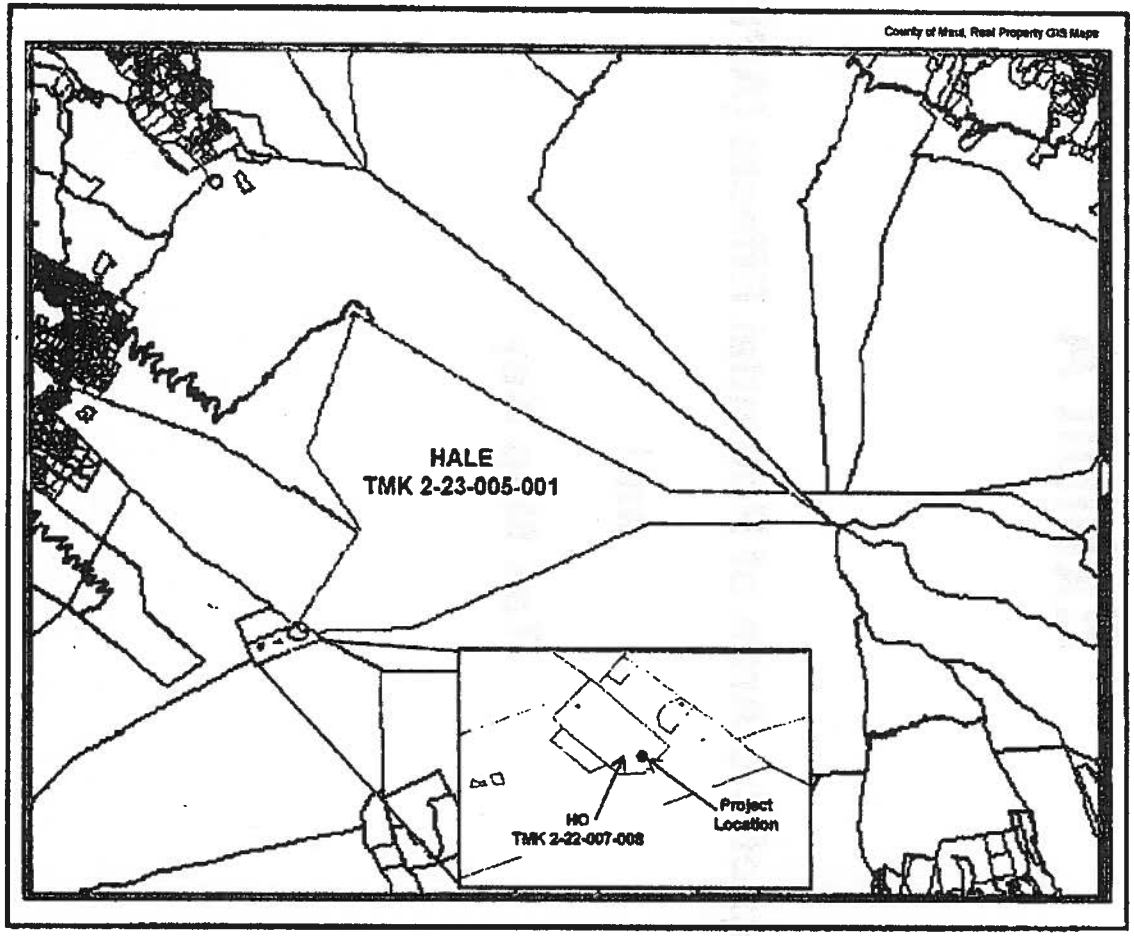
University of Hawai'i (for the benefit of its Institute of Astronomy) (UH IfA)

Exhibit A

Map of the Area of Potential Effects (APE)

and

Tax Map Key



TMK Maps: HALE and HO With Project Location

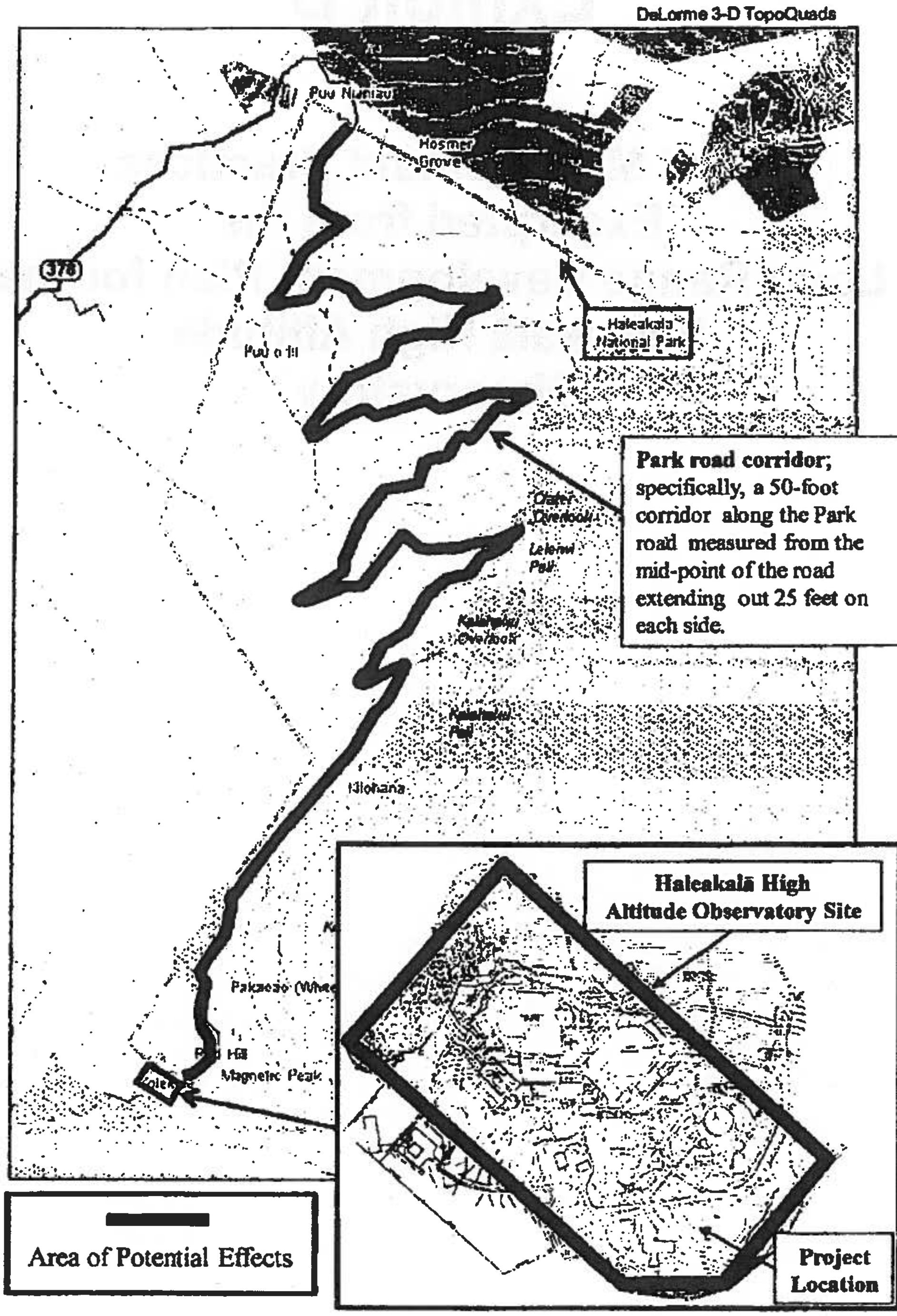

DeLorme 3-D TopoQuads
Puu Nianiau
Hosmer Grove
378
Haleakala National Park
Puu o Hi
Park road corridor;
specifically, a 50-foot corridor along the Park road measured from the mid-point of the road extending out 25 feet on each side.
Leleiwi Pali
Kilohana
Pakaoao (White
Magnetic Peak
Haleakalā High Altitude Observatory Site
Project Location
Area of Potential Effects

Exhibit B

Best Management Practices
Excerpted from the
Long Range Development Plan for the
Haleakalā High Altitude
Observatory

[PREVIOUS TEXT OMITTED]

9.3.2 **Protection of Historic and Cultural Resources**

For the kanaka maoli, the lava, cinders, dust, rocks and boulders are all sacred to Pele, the goddess of the volcano. In fact, Pele means *lava* in Hawaiian. Workers at HO need to be culturally sensitive to the fact that they are in a place still considered sacred by Native Hawaiians. As the responsible agency, UH If A is committed to preserving the cultural resources at the site and has sought advice from the native Hawaiian community on Maui concerning the best methods to use to achieve that objective. One outcome of those consultations and the cultural resource evaluations of H 0 is that the If A has adopted rules for the long-tern preservation of archaeological and cultural resources for all facilities, past, present, and future, based on recommendations in the Cultural Resources Assessment (Appendix F). The preservation of cultural resources is defined as an If A policy as follows:

1. Any construction within HO requiring a permit from the Department of Land and Natural Resources shall require the consultation and monitoring of a Cultural Specialist. The Cultural Specialist will be engaged at the earliest stages of the planning process, monitor the construction process, and consult with and advise the on-site Project Manager with regard to any cultural or spiritual correction. For the purposes of this section, a Cultural Specialist must be a kanaka maoli, preferably a kupuna (elder), and a kahu (clergyman) as well, and one who has personal knowledge of the spiritual and cultural significance and protocol of Haleakala.

2. All cultural and archaeological sites and features identified in the HO Archaeological Inventory Survey shall be protected and preserved per Hawai'i Administrative Rules, Title 13, Sub-Title 13, Chapter 277 "Rules Governing Requirements for Archaeological Site Preservation Development". Protection shall include the establishment of clearly marked buffer zones and periodic monitoring by both the project Archaeologist and Cultural Specialist throughout any future construction process.

3. All construction crewmembers shall attend UH-approved "Sense of Place" training prior to working at projects within HO.

4. A Cultural Specialist shall conduct a cultural inspection of HO two times a year, to ascertain that HAR Title 13 Chapter 277 rules are being followed.

5. All permanent employees working at HO shall attend UH-approved "Sense of Place" training prior to working at facilities within HO.

The requirements specified above apply to and must be included in all land use-related Memoranda, Facility Use Agreements, Operating and Site Development Agreements and Leases.

Additionally, an area consisting of approximately 24,000 square feet and located

Southwest of the Maui Space Surveillance Complex, as further identified and more particularly described as Area A in Figure 9-1, will be set-aside in perpetuity for the sole reverent use of the kanaka maoli for religious and cultural purposes, on a noninterference basis with site activities.

Recommendations were submitted with the latest archaeological inventory survey concerning protection of the archaeological resources at the site, and they have been coordinated with the State Historic Preservation Division (Appendix H). These recommendations have been adopted by the If A to protect those resources. Passive in-place preservation will be continued for features that were identified and listed with State Historic Preservation Division during the J. C. Chatters 1994 survey, i.e., sites 4836,2806, and 2805 were delineated with post and railing boundaries in 1995. Discussions during the latest survey indicate that no fencing or other demarcation should be added to the most recently described features, so as not to draw attention to them. However, site 5440 will be part of the "set-aside" for kanaka maoli in Area-A described above, and the remaining four sites on HO property will be monitored routinely by the Cultural Specialist during inspections.

Exhibit C

List of Native Hawaiian Organizations that Are Consulting Parties

List of Native Hawaiian Organizations that Are Consulting Parties

Aha Ali'i O Kapu'aiwa O Kamehameha V
Ali'i Sir and Grand Master Clifford Hashimoto
P. O. Box 836
Hana, HI 96713

Central Maui Hawaiian Civic Club
Leone Purugganan
1126 Hoomalu Place
Wailuku, HI 96793

Historic Hawai'i Foundation
Kiersten Faulkner, AICP
Executive Director
680 Iwilei Road Suite 690
Honolulu, HI 96817

Kilakila O Haleakala
Ki'ope Raymond, President
310 W. Ka'ahumanu Avenue
Kahului, HI 96732

Maui Community College
Kaleikoa Ka'eo
310 W. Ka'ahumanu Ave.
Kahului, HI 96732

Maui Native Hawaiian Chamber of Commerce
Howard S. Kihune, President
P. O. Box 350
Kahului, HI 96732

Na Kupuna O Maui
Patty Nishiyama
320 Kaeo Place
Lahaina, HI 96761

Office of Hawaiian Affairs
Clyde Nāmu'o, Administrator
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Office of Hawaiian Affairs
Jason Jeremiah, Policy Advocate, Preservation Native Rights, Land, and Culture
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Office of Hawaiian Affairs
Thelma Shimaoka
Community Resource Coordinator
140 Ho'ohana Street, Suite 206
Kahului, HI 96732

Royal Order of Kamehameha I
Ali'i Sir William Garcia, Jr., CK
Office of the Ku' auhau Nui
P. O. Box 1072
Wailuku, HI 96793

Royal Order of Kamehameha I
Ali'i Sir George Kaho'ohanohano CK
2723 Kamelani Loop
Pukalani, HI 96768

Royal Order of Kamehameha I
Kahu Po'o Iki Clarence Solomon
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Wailuku, HI 96793

Roselle Bailey
Ka Imi Na'auao '0 Hawai'i Nei
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Wailuku, HI 96793

Lee Ann DeLima, Headmaster
Kamehameha Schools
275 A'apueo Parkway
Pukalani, HI 96768

Rose Marie Duey
Alu Like, Inc.
1977 Ka'ohu Street
Wailuku, HI 96793

Blossom Feiteira
Hui Kako'o 'Aina Ho'opulapula and Na Po'e Kokua
P. O. Box 2963
Wailuku, HI 96393

Kehaulani Filimoe'atu
Hui of Hawaiians
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Kahului, HI 96732

List of Native Hawaiian Organizations that Are Consulting Parties

Lei Ishikawa
Na Leo Pulama
P. O. Box 337
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Kekealani Ishizaka
Hawaiian Homes Waiehu Kou I
684 Kohomua Street
Wailuku, HI 96793

David Keala
Native Hawaiian Educational Council
240 Elilani Street
Pukalani, HI 96768

Velma Mariano
Paukukalo Hawaiian Homestead
Community
Association
644 Waihona Street
Wailuku, HI 96793

Dept. of Hawaiian Homelands
655 Kaumualii Street, Suite I
Wailuku, HI 96793

Iris Mountcastle
Queen Lilioukalani Children's Center
1791 Wili Pa Loop
Wailuku, HI 96793

Robin Newhouse
Keokea Hawaiian Homes
P. O. Box 748
Kula, HI 96790

Sheila Ople
A'o A'o O Na Loko I'a O Maui
140 Uwapo Road, #45-103
Kihei, HI 96753

Joann Ridao
Lokahi Pacific
1935 Main Street, Suite 204
Wailuku, HI 96793

Patrick Ryan
Fishpond Ohana
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Kihei, HI 96753

Dancine Takahashi
Kamehameha Schools Alumni
P. O. Box 880069
Pukalani, HI 96788

Jim Wagele
Hawaiian Community Assets, Inc.
655 Kaumualii Street, Suite 3
Wailuku, HI 96793

Maui Community College – Ku'ina
Program
310 Ka' ahumanu Avenue
Kahului, HI 96732

Thomas T. Shirai, Jr.
Kawaihapai Ohana
P.O. Box 601
Waialua, HI 96791

Hui Kako'o 'Aina Ho'opulapula
767 Kailua Road, #212
Kailua, HI 96734

Hawai'i Maoli
P.O. Box 1135
Honolulu, HI 96807

Royal Hawaiian Academy of Traditional
Arts 835 Anuwale Street
Honolulu, HI 96821

Na Ku'auhau'o Kahiwakaneikopolei
P.O. Box 5411
Kane'ohe, HI 96744

Malu'ohai Residents Association
Ms. Shirley S. Swinney
P. O. Box 700991
Kapolei, HI 96707

List of Native Hawaiian Organizations that Are Consulting Parties

The Friends of 'Iolani Palace
Kippen de Iba Chu
P. O. Box 2259
Honolulu, HI 96804

Hawaiian Civic Club of Hila
Mr. Arthur Hoke
P. O. Box 543
Hila, HI 96721

Papa Ola Lokahi
894 Queen Street
Honolulu, HI 96813

Kanu a ke 'Aina Learning 'Ohana
Ms. Taffi Wise
P.O. Box 6511
Kamuela, HI 96743

The I Mua Group
422 Iliaina Street
Kailua, HI 96734

Council for Native Hawaiian
Advancement 1050 Queen Street
Suite 200
Honolulu, HI 96814

Akoni Akana
Executive Director, Friends of Moku'ula
505 Front Street, #234
Lahaina, HI 96761

Mei-Ling Chang
Hui No Ke Ola Pono
P. O. Box 894
Wailuku, HI 96793

Kili Namauu
Punana Leo O Maui
P. O. Box 377
Wailuku, HI 96793

Clifford Libed
Dept. of Hawaiian Homelands Grants
Review Advisory Committee
P. O. Box 885
Wailuku, HI 96793

List of Native Hawaiian Organizations that Are Consulting Parties

Haleakala National Park Kupuna Groups:

Kipahulu Kupuna Group
Alexander & Angie Aina
Shelia Agnitsch
Clifford Hashimoto
Henry Sr. & Annie Kahula-Rahl
Roland Kanuha
Ed Lincoln
Daisy Lind
Tweetie Lind
Sharon Mynar
Lyons Naone
Ida & Raymond Oliveria
Valerie Park
Terry Poaipuni
Eddie Pu
Caroline Smith
Nani Smith
Angela Tavares

Summit Kupuna Group
Charlie Aki
Gordean Bailey
Robert Garcia
Dana Hall
Clifford Hashimoto
Kaleikoa Ka'eo
Sam Ka'ai
George Kaho'ohanohano
Geraldine Kaiwi
Les Kuloloio
Florence Lani
Charlie Lindsey
Charles Maxwell, Sr.
Lyons Naone
Francis Poouahi
Leone Pugrugganan
William Roback
Leiohu Ryder
Maano Smith
Kalei Tsuha
John Belles
Ki'ope Raymond
Makaala Yates

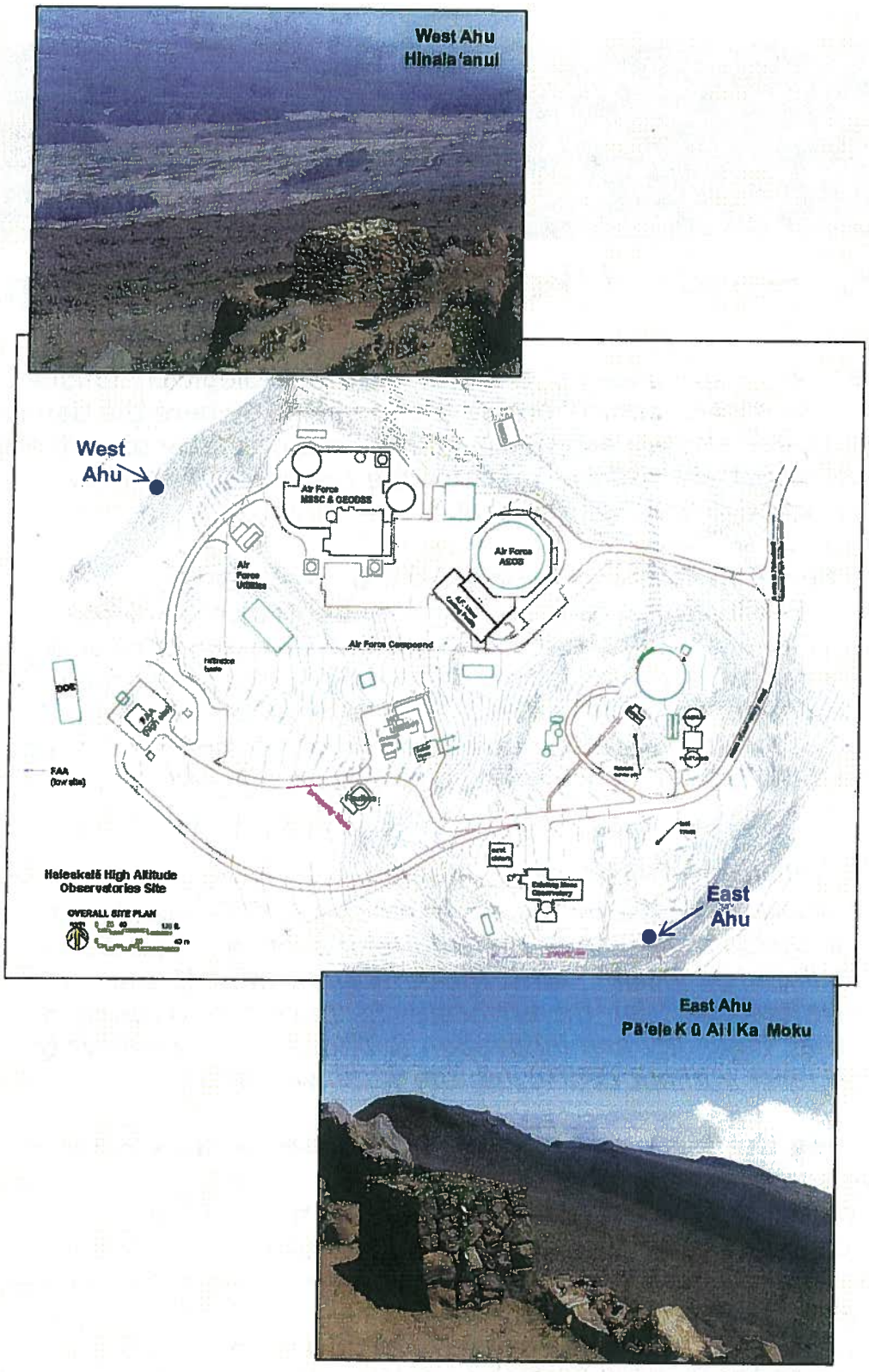
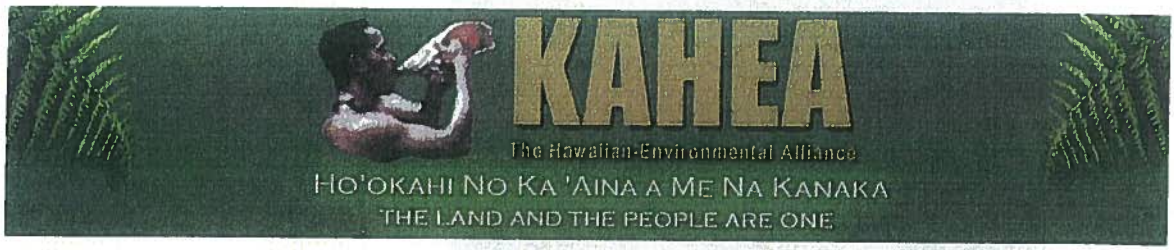


Figure 8. East- and West-facing Ahu Locations at HO.

EXHIBIT 7



The House of the Sun Needs Your Help![1]

Haleakala -- The House of the Sun -- is the ecologically unique and culturally sacred summit on the island of Maui, where the demigod Maui snared the sun and where the last major colony of endangered Hawaiian petrels thrives. It is also the preferred site for the construction of another giant telescope.

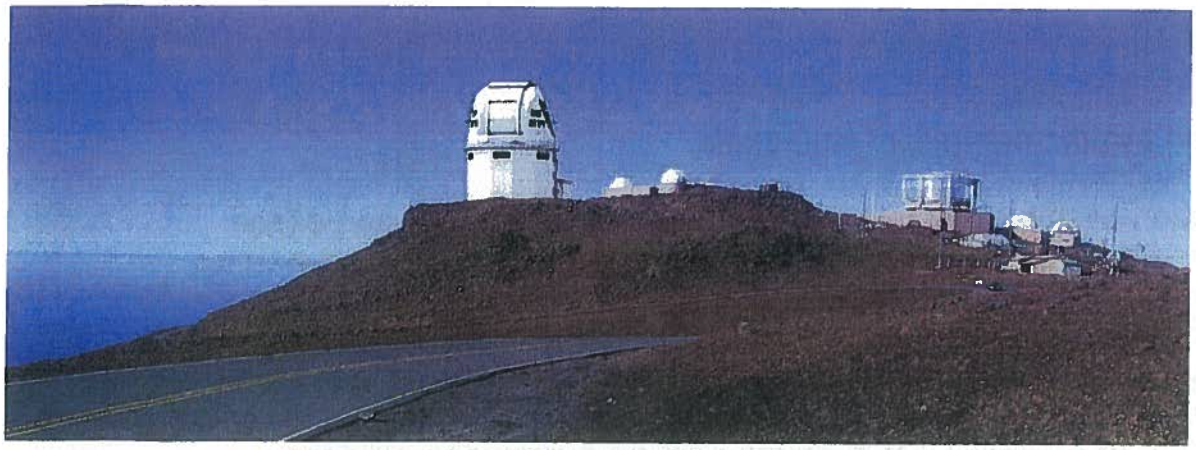
Another giant telescope proposed on sacred land.
The University of Hawaii, together with the National Science Foundation, is pushing to construct a 14-story, 100-acre solar telescope, called the Advanced Technology Solar Telescope (ATST), on the summit of Haleakala. The ATST proposes to study solar magnetic activity (basically how the sun affects things in space), an area so well studied that scientists have yet to review the data they have already collected.

> *"I challenge the assumption that all science is progress. Is it progress to destroy the environment, to kill endangered life? Is it progress to desecrate the culture of another, to perpetuate cultural genocide?"* ***said Kiope Raymond of Kilakila O Haleakala****. "Can the advocates for modern astronomy not use their ingenuity and innovation to find a way to conduct their science without destroying the world we live in?"*

Building the ATST on Haleakala will have serious cultural and environmental impacts.
The official cultural impact assessment for the telescope found that "the overwhelming evidence, from a cultural and traditional standpoint, points towards significant adverse impact on Native Hawaiian traditional cultural practices and beliefs." The assessment concluded that "the proposed undertaking is unmitigable," and recommended that "no action" be taken. Proceeding with the ATST means undermining the constitutionally protected cultural practices on

[1] http://salsa.democracyinaction.org/o/2699/p/dia/action/public/?action_KEY=1037; accessed September 8, 2010

EXHIBIT 8

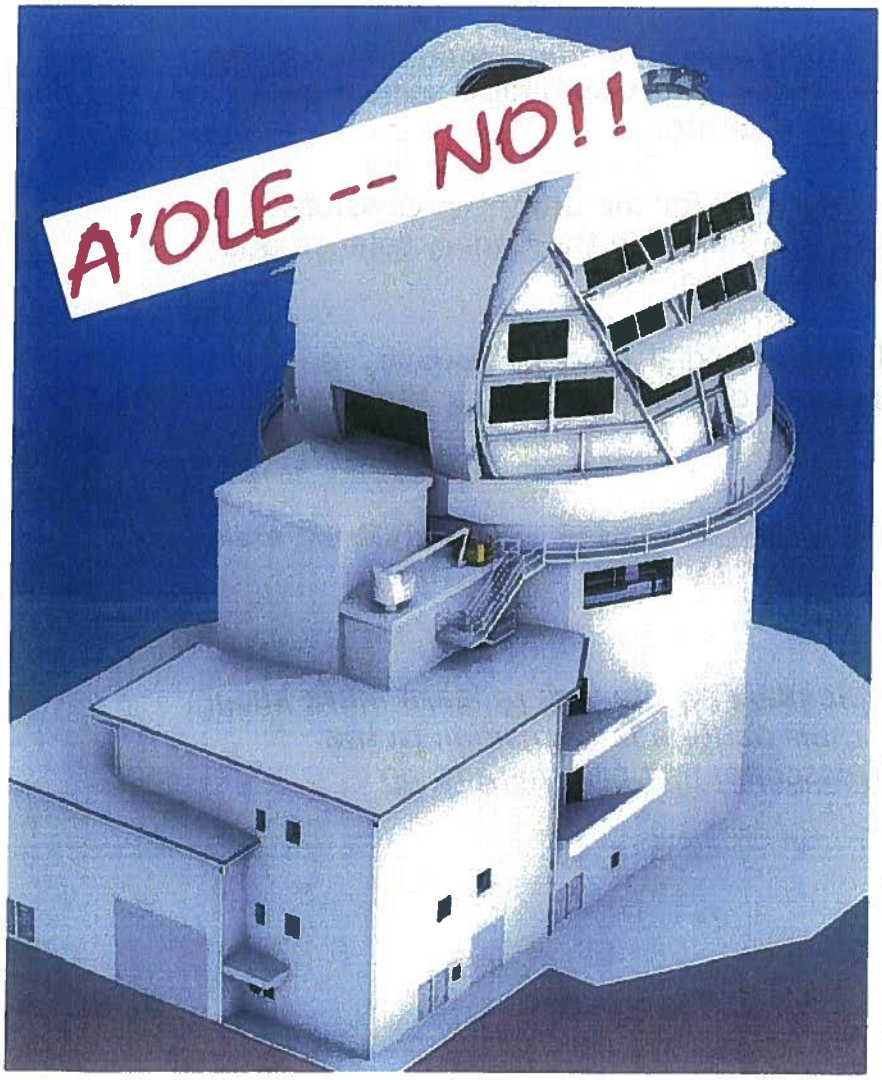


Record your support of

NO MITIGATION / NO ATST TELESCOPE

Sign petition at Kilakila Haleakala.org

On Haleakala????



Revere Haleakala

ATST telescope-

Best built somewhere else

Approx 143feet = Approx 50 ft higher

than the County Building

5 stories underground

9 stories above ground

100% Visible from visitor center
200 ft away

100% Visible from South Maui

Visible from Central Maui

EXHIBIT 9

the sacred temple-summit of Haleakala.

Construction of this giant telescope will also likely disturb one of the last major nesting colonies of the Hawaiian petrel. This ground-nesting seabird was once common throughout the Hawaiian Islands, but habitat loss has pushed it to the brink of extinction. The only major nesting colony of Hawaiian petrels left on earth consists of less than 1,000 birds on the summit of Haleakala. Vibrations from the construction of the ATST could cause nesting burrows to collapse. More than 450 cement trucks are expected to traverse the historic Haleakala National Park Highway just during the most intense phase of construction.

This means the ATST will destroy ancient cultural traditions and unique habitats, in order to conduct duplicative research on weather in space. That is why we join **the community's demand that the University of Hawaii and the National Science Foundation halt the proposal to build the ATST on Haleakala** until three things are done:

1. an independent, community-based plan for the management of the conservation district that protects the entire summit of Haleakala is completed and fully adopted by the State.

2. an environmental impact statement for the other two possible locations for the solar telescope (La Palma in the Canary Islands and Big Bear Lake in California) is completed.

3. all of the data already collected on solar magnetic activity is cataloged, studied, and assessed to determine whether the ATST is even necessary.

In order to address your message to the appropriate recipient, we need to identify where you are.

Please enter your zip/postal code: [ ]

You can also visit Kilakila O Haleakala on the web to learn more about this important issue and sign their petition in opposition to the Advanced Technology Solar Telescope, just click here to go to www.kilakilahaleakala.org.

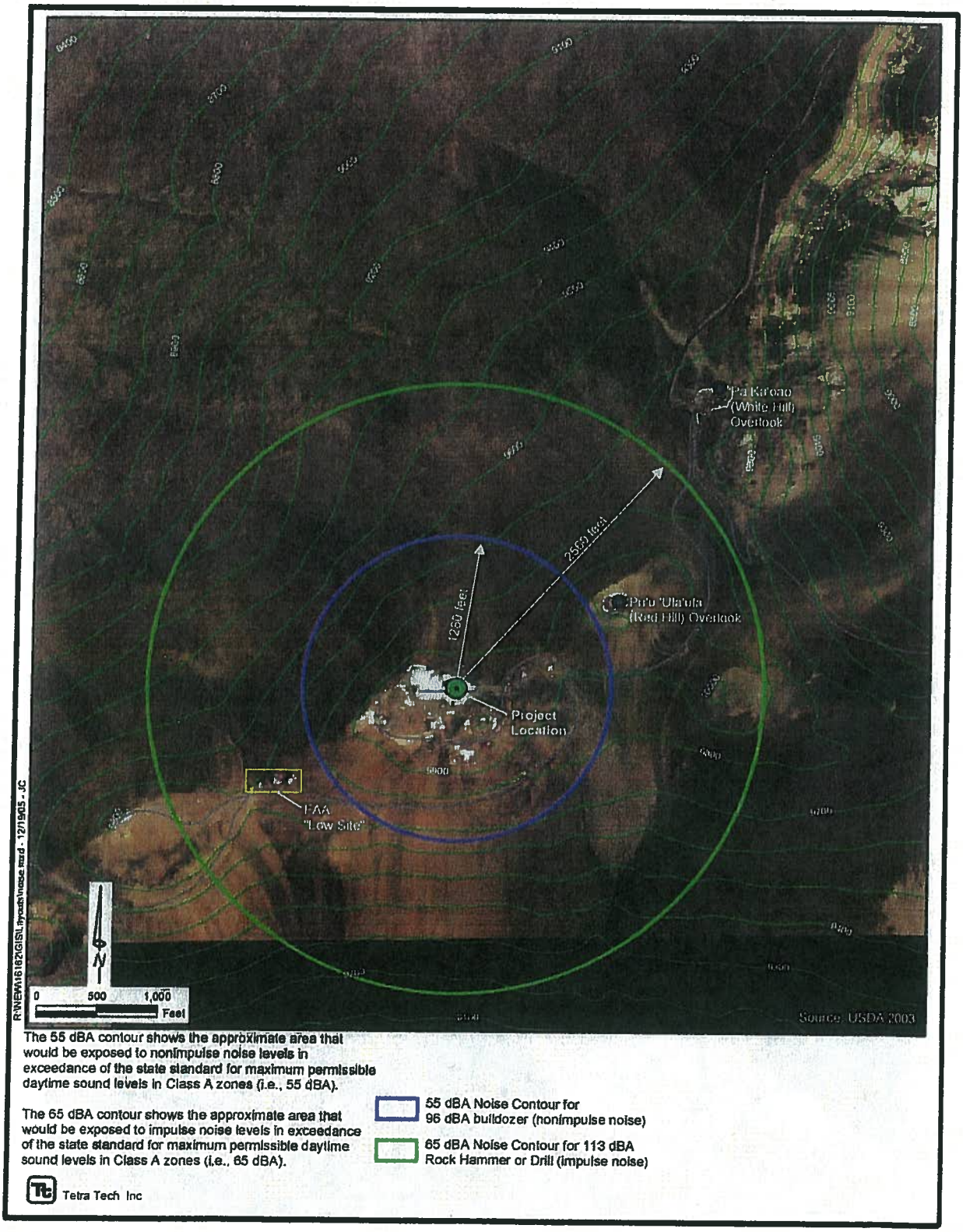


Figure 4-28. Impulse and Non-impulse Construction Noise Contours.

EXHIBIT 12

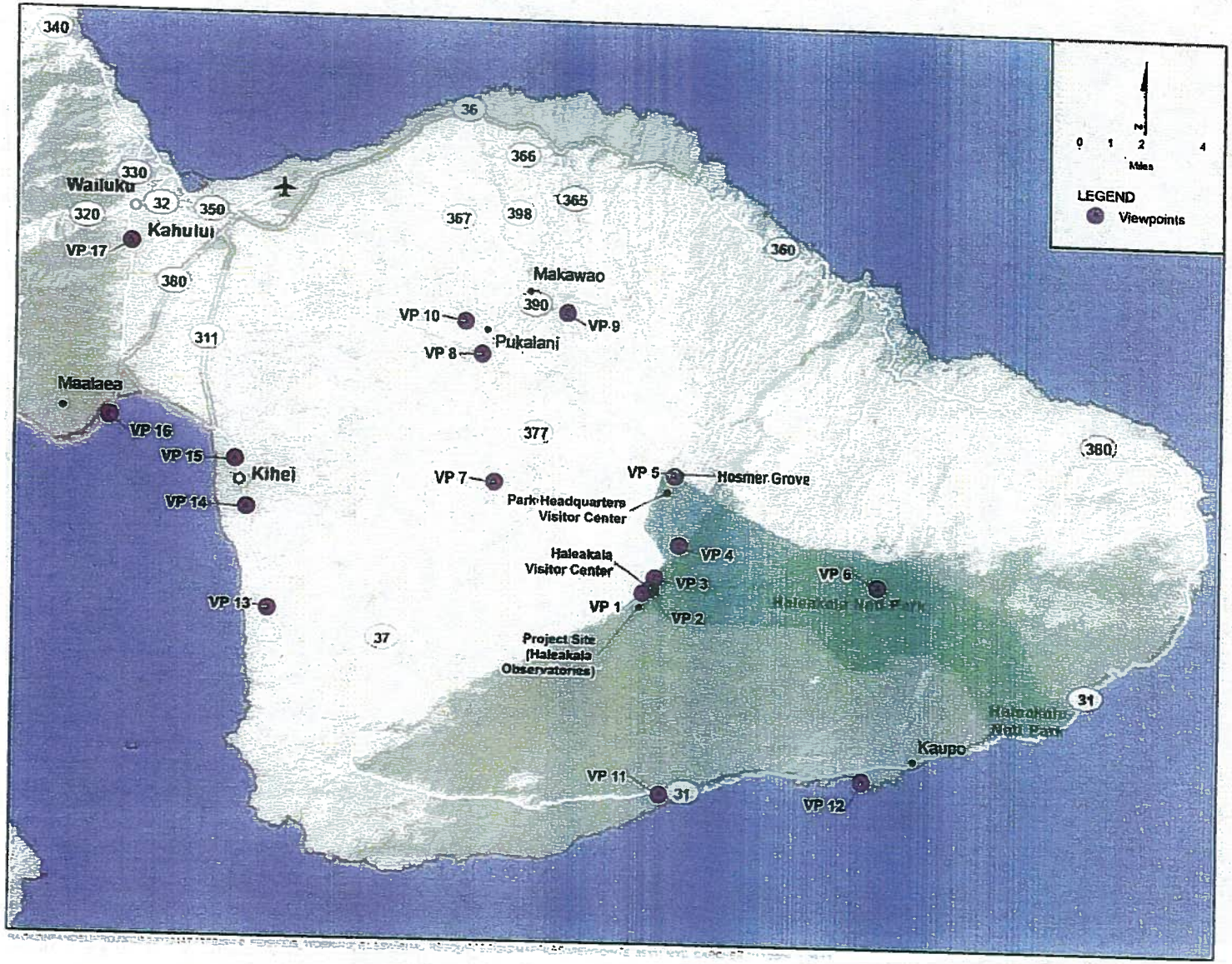


Figure 4-3. Viewpoint Locations.

EXHIBIT 11

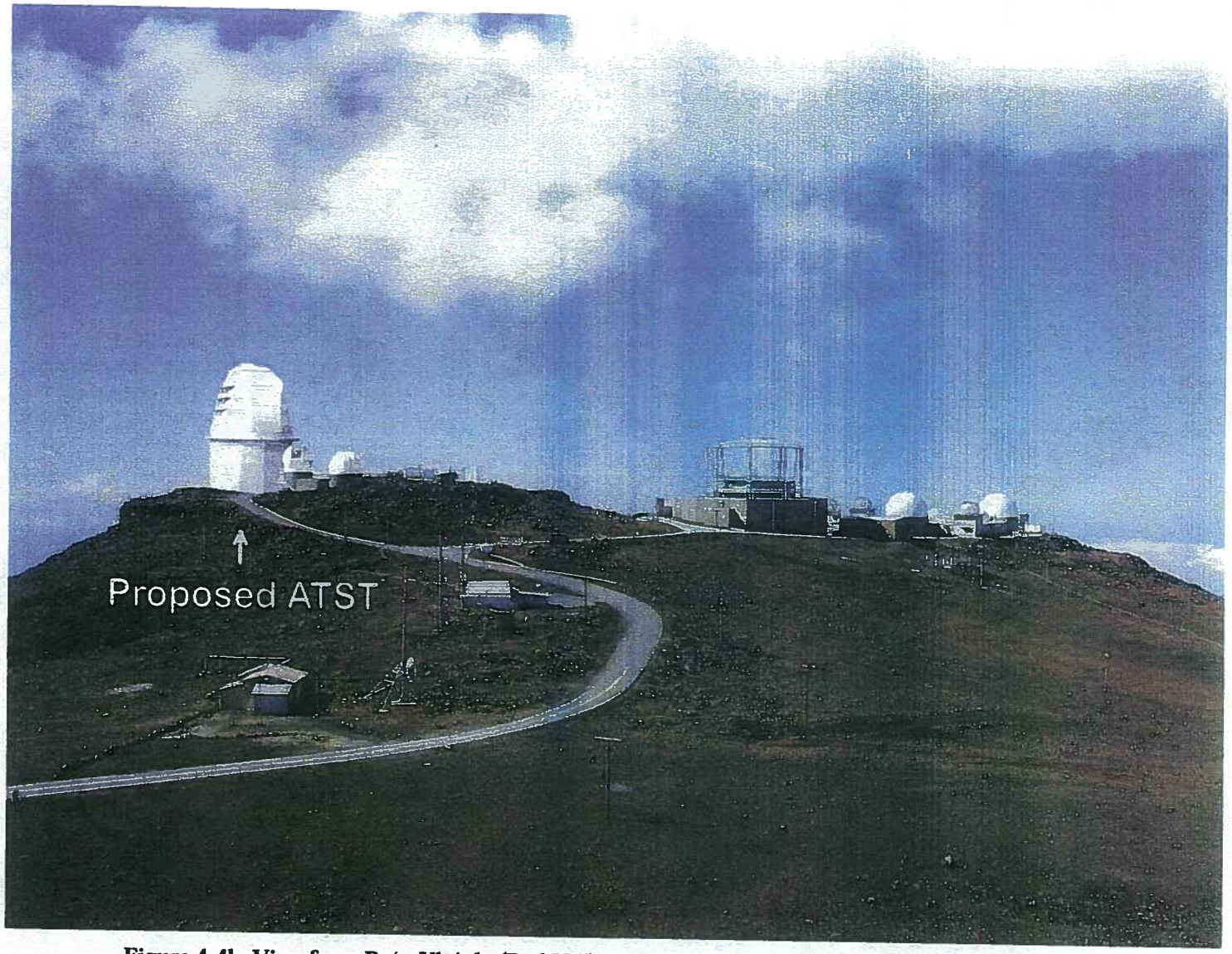


Figure 4-4b. View from Pu'u Ula'ula (Red Hill) Overlook (Viewpoint 1) and Mees Site Rendering.

Figure 4-8b. View from Park Road (Viewpoint 2) and Mees Site Rendering

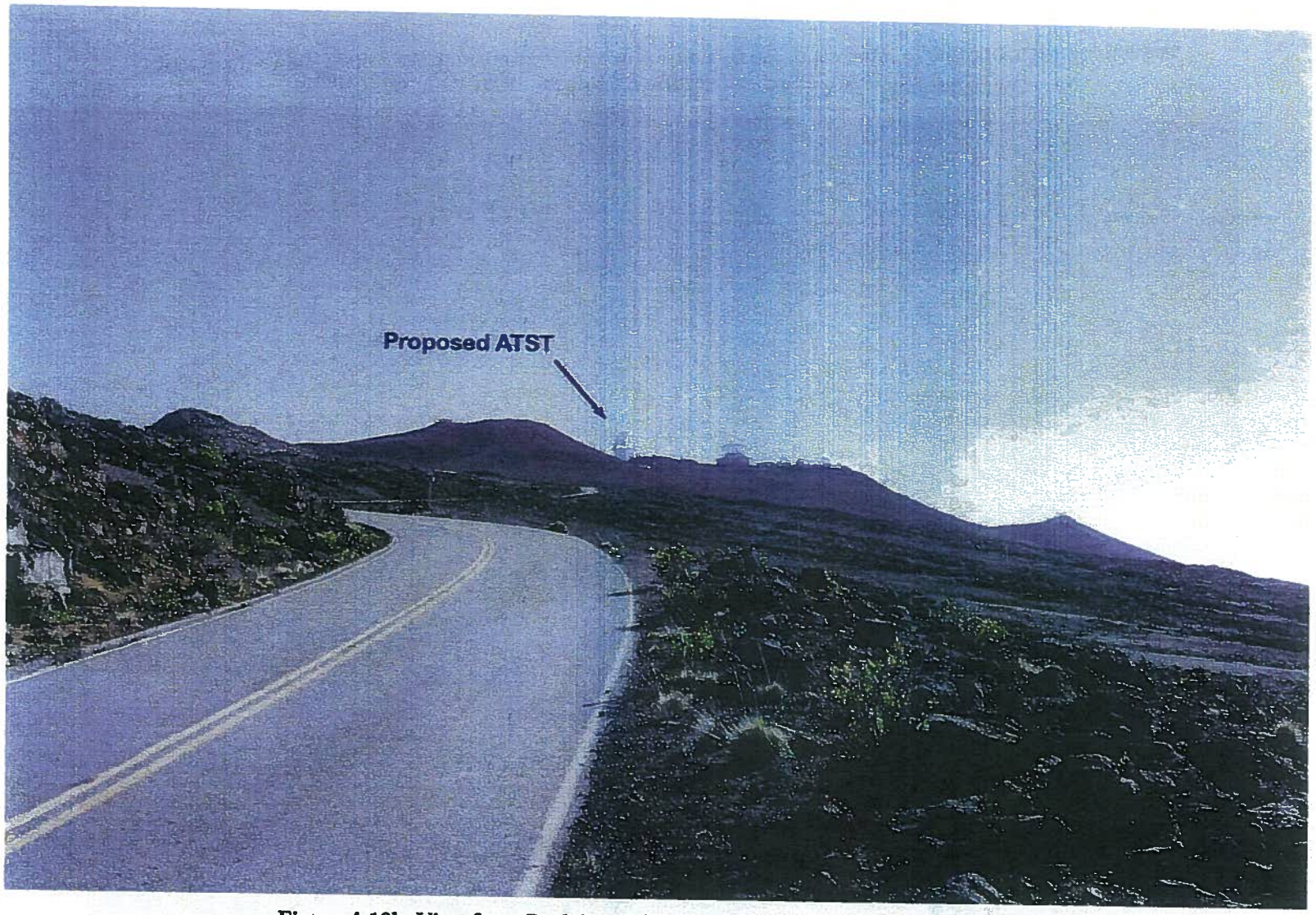


Figure 4-10b. View from Park Road (Viewpoint 3) and Mees Site Rendering.

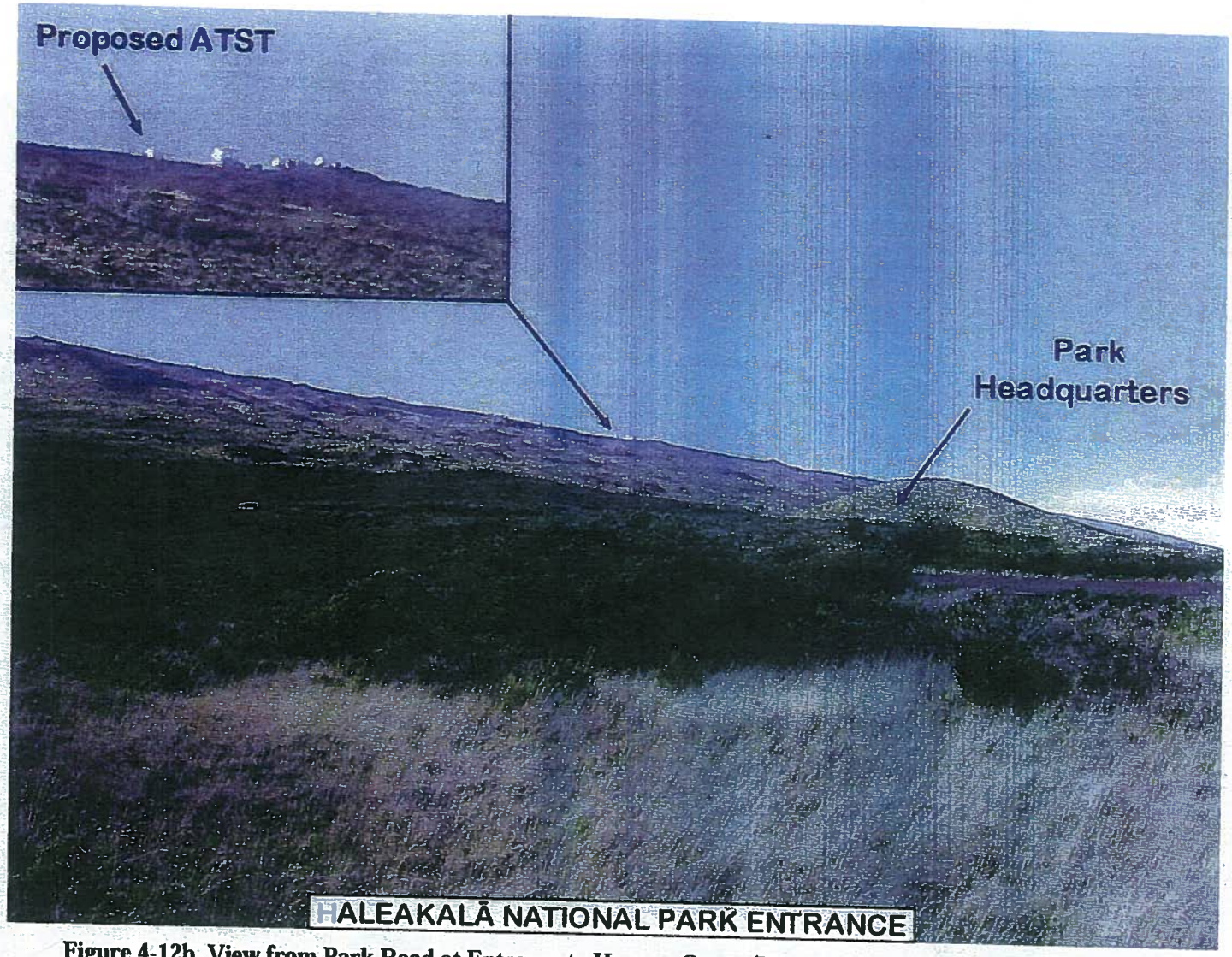


Figure 4-12b. View from Park Road at Entrance to Hosmer Grove (Viewpoint 5) and Mees Site Rendering.

Figure 4-19b. View from Kahikinui (Viewpoint 11) and Mees Site Rendering.

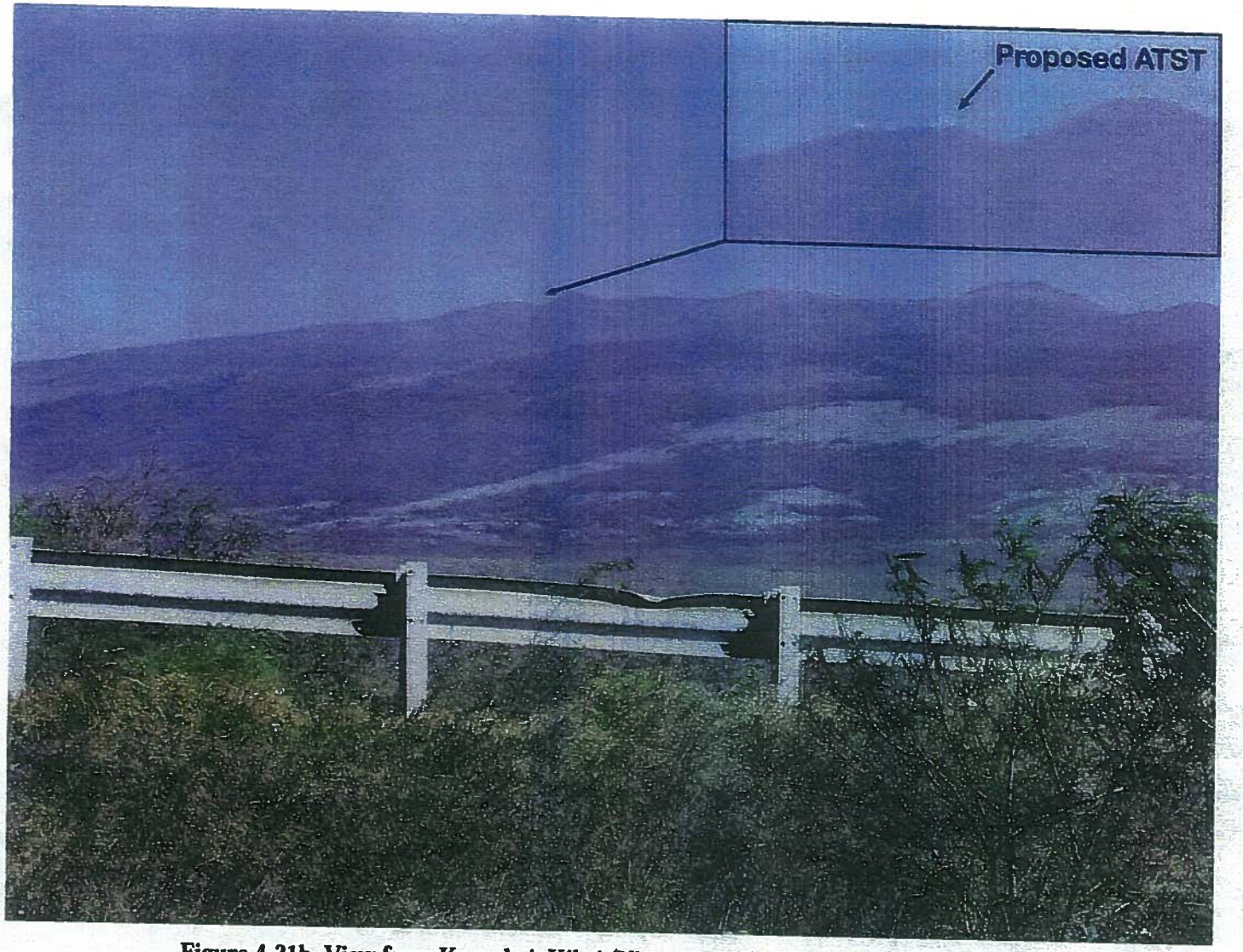


Figure 4-21b. View from Keonekai, Kihei (Viewpoint 13), and Mees Site Rendering.