



United States Air Force
15th Air Base Wing
Environmental Restoration Program

HISTORICAL REVIEW

EE/CA for OU1

Bellows Air Force Station Oahu, Hawaii



Appendix E

Review Comments and Responses: Draft Historical Review

REVIEW COMMENTS AND RESPONSES
Draft Historical Review, EE/CA for Operable Unit 1 (OU1) at Bellows Air Force Station, Oahu, Hawaii
Reviewer: Leanne Tanouye – 15 CES/CEVR

ITEM	PAGE	SECTION	COMMENT	CONTRACTOR RESPONSE
LT-1	ES-2	ES	History of Waste Disposal. A table in this section may be useful to illustrate all the dump sites with records, illustrating time period used, probable types of waste (hazardous, construction, unknown, etc) and probable location (within EA07, etc.). It would also be good to reference where this info came from (e.g., 1948 map, 1940 aerial photo, etc).	A summary table of the requested information has been added to the Executive Summary; this table has also been incorporated into Figure 4-1.
LT-2	ES-3-4	ES	History of Waste Disposal - Site Specific Information. There is some data from the other projects which can help determine at least what some Contaminants of Concern are. They should be briefly summarized here.	Brief summaries of site-specific analytical results have been included in both the Executive Summary and Section 5.
LT-3	iii	Acronyms	Bellows designation is Det 1, 15 SPTG, not Det 1, 15 ABW. Please correct throughout document.	Designation corrected.
LT-4	1-1	1.1	Overall objective of the EE/CA is to provide alternatives for a removal action or determine if the site is eligible for NFA. Should not assume that we can go into an EE/CA then go directly into an RI/FS (investigation) without doing a removal action.	Comment noted; “further investigation” replaced by “a removal action” in the first sentence of this paragraph.
LT-5	3-1	3.2	Air Force designates their Exchanges as Base Exchange (BX), not Post Exchange (PX).	Designation corrected.
LT-6	3-2	3.2	Bellows Rec Center opened during WWII in 1942 with all the mentioned facilities? If these facilities evolved over the years, it might be good to make that clear. Seems strange to have all that stuff going on in the middle of a war.	The paragraph has been revised to indicate that Bellows Rec Center has been expanded over the years following WWII; however, the Rec Center did open in 1942 to provide R&R for active-duty and retired military personnel.
LT-7	3-2	3.3	Base Historian’s office symbol is 15 ABW/HO, not HQ.	Office symbol corrected to “HO.”
LT-8	4-2	4.2	If the Plantation dump was covered by the extension of fund 6-24, there is a general area where it can be placed, however in ES-2, it is stated that the actual location is unknown. It seems that it can be narrowed down to a general location however, and is done so on Fig 4-1.	The statement in Section 4.2 and in the Executive Summary have been made consistent to reflect the location shown in Figure 4-1. Text now states that “The general location of this dump site is believed to be beneath the westernmost portion of Runway 6-24, but its exact location has not been determined.”
LT-9	4-3	4.2/ par. 4.	EA07 is an Area of Concern, not an official IRP site yet.	Designation changed to “Area of Concern.”

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LT-10	4-4	4.3/para. 3.	Last sentence is unclear.	Sentence clarified as follows: “A former Bellows AFS civilian employee who began working at the installation in June 1945 stated that the Fire Department conducted controlled burns at the landfill once a week, although it is not certain whether this interviewee was referring specifically to Site LF01.”
LT-11	5-2	5.1	What is the explanation for the TPH and PAHs that was found (by HLA) if industrial dumping did not occur? Is it not possible that the less persistent compounds could have degraded/moved off site by the early 1990s?	The statement in Section 5.1 that “Research for this Historical Review, however, found no evidence that hazardous materials were disposed of specifically in Site LF01” has been revised as follows: “The ES report, however, presented no documentation of hazardous waste disposal at Site LF01, and research conducted for this Historical Review found no documentation of hazardous materials being disposed of specifically in Site LF01 during World War II.” Given the lack of documentation regarding disposal activities at LF01, the origin of the TPH and PAHs detected by HLA is unknown. It is possible that these compounds resulted from industrial dumping; however, we now know from the results of the EE/CA pre-survey (which is not incorporated in the Historical Review) that open burning was conducted at LF01 and these compounds are commonly found in areas where burning of organic materials has occurred. TPH is commonly related to the fuels typically used to aid in ignition of waste materials, and PAHs are common byproducts of incomplete fuel combustion and burning of organic materials. While it is possible that mobile and less persistent compounds such as VOCs, if originally present in soil and groundwater, have degraded and attenuated, we have found no documentation of these compounds having been disposed of in LF01.
LT-12	5-2	5.1	No real mention is made of the HLA Geophysical survey done in the early 1990s. Please comment on the possibility some of this metal waste are the drummed wastes referred to, and therefore could account for some of the contaminants found in the HLA report.	Section 5.1 has been revised to clarify that the HLA geophysical survey and soil borings both indicated subsurface metallic debris. See response above for a discussion of the chemicals observed in the HLA study.
LT-13	5-4	5.4/para 1	Typo for Olomana Golf Course.	“Olamana” has been corrected to “Olomana.”
LT-14	5-5	5.5	Should provide a little more information about upstream Waimanalo stream. Where does it originate? How many miles is it before it reaches the Bellows border. What other types of	Additional information regarding Waimanalo Stream has been added to Section 5.5.

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ITEM	PAGE	SECTION	COMMENT	CONTRACTOR RESPONSE
			systems drain into it (in general)? There was a little mention of other off-base areas that drained into it (ponds at Olomana), but there should be a clearer picture.	
LT-15		Fig. 1-1	Should include in the legend the names of the IRP sites along with the designations.	The names of the IRP sites have been added to the legend.
LT-16		Fig. 3-3	Nice figure, but some confusion about what it is supposed to represent. The three maps seem to represent three different things, so it is not necessarily a timeline of anything in specific that can be followed. The 1940 Map seems to be a general layout of the base at that time. The 1945 Map seems to focus on the dump sites (excluding the Japanese cemetery and the motorpool), and the late map seems to focus on the IRP sites. Shouldn't there be some kind of focus to show evolution over the years?	The dump sites have been removed from Figure 3-3. This figure now shows the evolution of Base infrastructure and facilities, including separate but concurrent timelines for the installation and the OU1 sites, and Figure 4-1 shows the documented on- and off-Base dump sites.
LT-17		Fig. 3-3	Middle map Legend. Some items seem to be used as reference or represent sources for the dumps, while some legend items are the dumps themselves. Can't the non-dump items be labeled on the map itself, so the legend focuses on the areas we are investigating - the dump sites?	See response to Item LT-17, above.
LT-18		Fig. 5-1	What is the purpose of the insert? It makes one think that the sampling points are the point of this figure, while in the report, it doesn't even mention them. Since no data is provided, the labels clutter the figures and are unnecessary. The reader can go to the reference if interested. Please reconsider placing label numbers on sampling points on all figures.	Brief summaries of site-specific analytical results have been added to both Section 5 and the Executive Summary; however, the insert has been removed from Figure 5-1 and sample ID numbers have been removed from Figures 5-1, 5-2, and 5-3.
LT-19		App. C	Will Air Force be provided three copies of final reports with reproductions of the aerial photos? Other copies of the report can make do with the photocopies.	We will provide three copies of the final report with first-generation laser prints of the scanned aerial photos included in Appendix C. We will also provide, under separate cover, a set of photographic prints of all available NARA and EROS aerial photographs of Bellows AFS from 1933 to 1992 (70 photos total).
LT-20		App. C	Appendix C, aerial Photo Catalog for 15 ABW. Why was this included if there is already a log for Bellows AFS? Instead of making the reader filter through other installation's indices, why not just include the Bellows index, and indicate somehow (e.g. shaded) which ones were used to make some conclusions from, and which ones were not useful?	The appendix has been revised to include only the Bellows Photo Log. Shading has been used to indicate photos pertinent to this document.

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Reviewer: Leanne Tanouye – 15 CES/CEVR

ITEM	PAGE	SECTION	COMMENT	CONTRACTOR RESPONSE
LT-21	5-3	5.2/para. 1	Location of the clearing did not correspond to probable location of 1942 dump, as per our conversations during the 25 Jul 98 meeting. Also on page 4-2, is there a way to paraphrase “natural hole” in the second paragraph? This also goes back to the discussions at the meeting.	This sentence has been revised as follows: “They describe an existing dump located near the top of ‘the coral formation hill near the scramble runways.’”
LT-22	General	1	Incorporate a brief, general summary of Multi-drum data (Final, Jun 98) for DP17, and SD22.	Brief summaries of site-specific analytical results have been added to both Section 5 and the Executive Summary.
LT-23	General	2	In general, found section 4 to be very confusing. A chronological table, as suggested in comment 1, could help keep all the possible dump sites and their time frames straight.	The suggested table has been added to Figure 4-1 and the Executive Summary.
LT-24	General	3	LF01 section should contain more information from the HLA study, and should be used in the conclusions to support or disprove it as a hazardous waste site.	A summary of the information from the HLA study has been added to Section 5.1. The low concentrations of TPH and PAHs detected in the limited HLA investigation are inconclusive (see response to Item LT-11, above) and are not currently considered to either support or disprove LF01 as a hazardous waste site. A much more complete understanding of the nature of the disposed wastes will be available following evaluation of field and analytical data collected as part of this EE/CA. CH2M HILL will provide its conclusions regarding Site LF01 at that time.

REVIEW COMMENTS AND RESPONSES
Draft Historical Review of Operable Unit 1 (OU1) at Bellows Air Force Station, Oahu, Hawaii
Reviewer: Brian Renaghan – Universal Technologies, Inc.

ITEM	PAGE	SECTION	COMMENT	CONTRACTOR RESPONSE
BR-1	ES-1 & 1.1	Executive Summary & 1.0	The third paragraph states that this document “addresses the potential impact of these four sites on Waimanalo Stream”; however, the document treats Waimanalo Stream as a separate site, not as a receptor to the four main sites. Correct the discrepancy.	The third paragraph in both the Executive Summary and Section 1.0 states that: “The Bellows OU1 EE/CA also addresses the potential impact of these four sites on Waimanalo Stream.” One of the objectives of the EE/CA is to assess the risk to ecological receptors in Waimanalo Stream. Therefore, for the purposes of this document and all planning documents currently in preparation and/or review, Waimanalo Stream is treated as a potential receptor from the four OU1 sites. However, for clarity, Waimanalo Stream has been treated separately in discussions of historical modifications to the stream and characterization of stream sediments and surface water. Risk assessments performed as part of the OU1 EE/CA will treat the OU1 sites and Waimanalo Stream as a complete system. The text in the Executive Summary and Section 1.0, and the overall document organization, have not been changed.
BR-2	ES-3	Executive Summary	State if any metals were found at Site LF01.	Brief summaries of site-specific analytical results have been added to the Executive Summary and the appropriate text sections.
BR-3	ES-3 & ES-4	Executive Summary	Insert brief statements on previous sample results for the remaining three sites. If there has been no sampling at a site, state this information also.	See response to Item BR-2, above. Those historical analytical results that exceed current regulatory screening criteria are noted.
BR-4	3-1	3.1	The third paragraph lists two owls as rare, threatened, or endangered (RTE). Double-check the number of RTE owls.	The redundant reference to the “Hawaiian owl” has been deleted.
BR-5	5-1	5.1	In the first paragraph, explain why the 1996 report is inaccurate. The authors of the 1996 report must have had access to the 1992 report and felt they had sufficient justification to enlarge the area of the landfill.	CH2M HILL has been unable to obtain any supporting documentation regarding the LF01 boundary as defined by EA in the PA/SI report (Vol. 1, Fig 3-24; 1996). EA did not perform any site characterization work at LF01 as part of the PA/SI. The recent EE/CA pre-survey at LF01 performed by CH2M HILL, which included vegetation clearing, a geophysical survey, and site reconnaissance, has indicated the LF01 extent to be in general agreement with the extent reported by HLA (1992). The paragraph has been revised to indicate that no supporting documentation is available for the LF01 boundary as delineated by EA.
BR-6	5-2	5.1	Discuss the presence or absence of metals in the soil or groundwater for Site LF01.	See response to Item BR-2, above.

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Reviewer: Brian Renaghan – Universal Technologies, Inc.

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BR-7	5-3	5.2	Add a short paragraph discussing the presence or absence of historical sample results.	See response to Item BR-2, above.
BR-8	5-3	5.3	In the second sentence of the first paragraph, change “consists” to “consisted.” Add text explaining that the drums have been removed.	The sentence has been revised to state that: “Site SD22 consists of a former drum disposal area....” Discussions of the drum removal at Sites SD22 and DP17A have been added to the appropriate sections.
BR-9	5-3 – 5-6	5.3, 5.4, 5.5	Add short paragraphs discussing the presence or absence of historical sample results at these sites.	See response to Item BR-2, above.

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Reviewer: Teresita Salire – Hawaii Department of Health

ITEM	PAGE	SECTION	COMMENT	CONTRACTOR RESPONSE
TS-1		General	The historical review was very thorough and almost all possible information resources were utilized. The HDOH Office of Solid Waste Management may have some information about on-base disposal facilities from the 1960s. Another source of information may be the Sanitation Branch of the HDOH who handled most of the county disposal facilities before the City and County of Honolulu managing these facilities. This information might be useful to track down what outside disposal facilities Bellows AFS used in relation to the type of wastes disposed of off base.	Mr. Gary Siu of the HDOH Solid Waste Management Branch (586-4244) was contacted regarding on-base disposal during the 1960s. Mr. Siu stated that he was not aware of any HDOH records because the Bellows landfills were not permitted or regulated by the State or City and County at that time. Mr. Siu also indicated that the existing research of Air Force records at the National Archives was probably the most likely source of information regarding Bellows Landfills.