HI CAP2 Final Submission: Comments on SHPD IT/GIS Elements

Cultural Resource GIS Facility, National Park Service

16 June 2014

**Introduction: Status Reports and Updates**

*Database/GIS*

* Functional Geodatabase: A Geodatabase was submitted prior to the CAP2 report due date, containing all of the existing SHPD GIS data, created prior to 2005. This data has been updated, migrated into a Geodatabase format, made to comply with NPS cultural resource spatial data transfer standards adapted to the state of HI and contains completed dataset level metadata.
* GIS/IT Training: GIS training has been provided by the NPS as well as by the SHPD GIS specialist and continues to be available. No formal training for the SHPD inventory database has been conducted, because no SHPD inventory database has been created or linked to the SHPD GIS. This situation makes the integration of the GIS and inventory information impossible and significantly hampers the utility of the GIS. Inventory databases for both the architecture and archaeology have been in development for several years with no progress being made toward having a suitable inventory for either, thus no training is possible.
* Enhance Intake Database: NPS requested that SHPD shift its focus from continuing to enhance the intake database in favor of developing the critical inventory database. However, NPS has never seen the intake database, how it works or what information it may contain. No information regarding the intake database was submitted with the CAP2 final submission, including any update or documentation regarding what stage the intake database was in when focus was shifted to the inventory database.
* Website Development for Project Status Tracking: This was intended to be a web-based solution to allow users to determine what the status of their particular project was and where it was within the SHPD organizational structure at any given time. The SHPD interpretation that this request by the NPS meant a live connection to the status of projects is a misunderstanding of the NPS requirements. No direct access was suggested to internal SHPD data or databases. However, to date there remains no way to track the status of a project independently by a user. Further, there remains no specific SHPD database to track project status. If status information is stored in the intake database, it would not indicate current status of a project, simply receipt and completion. Because no intake database was submitted, this cannot be confirmed.

**SHPD Inventory Database Plan**

The SHPD Inventory Database Plan submitted with the CAP2 final products is inadequate. The information contained within the plan does not include major components requested, including timelines, work plans, or strategic plans. The database plans outlined are not sufficient to meet SHPD or basic cultural resource inventory management need.

Under the federal mandate 36CFR61.4(B)(1) the “State Historic Preservation Officer (SHPO) shall maintain an inventory” of historic properties. In addition, “this high priority responsibility entails locating historic and archaeological resources at a level of documentation such that the resources can be evaluated for potential nomination to the National Register of Historic Places and so that the survey data collected can be incorporated into state priorities and planning decisions concerning the area surveyed.”

The SHPD database plans submitted demonstrate a misunderstanding of what an “inventory” contains and how it should function. Using survey standard operating procedures as a guide, as was indicated, is a good starting point, but an inventory should contain descriptive information about the resource, its status, its National Register eligibility, its significance and other elements beyond what is simply observed in the field and recorded during a survey. The inventory should function as the primary catalog of all the historic resources examined by SHPD, or its designated representatives, to enable to staff to make recommendations to the SHPO regarding eligibility for the National Register, treatment measures, as well as mitigation options should the resource be lost. The inventory plan submitted describes digital survey forms, not an inventory of the resources in the state.

The SHPD inventory database plan submitted does not represent collaboration between the SHPD IT staff and the SHPD cultural resource professionals, other than to gather survey forms and incorporate basic information. The plan also does not reflect any use or functionality outlined by the SHPD staff and previously documented and provided to the SHPD IT specialist in 2012 and again in 2013 as well as 2014. The NPS provided the SHPD IT Specialist with database schemas from four other states in 2013 and again in 2014, which are also not represented or do not appear to have been considered in any way. Finally, the plan does not discuss how the inventory database will interact with/link to the GIS, the Docushare document scanning/archiving system, the report library database, or the intake/project tracking database.

*Detailed Comments on the SHPD Inventory Database Plan*

* The NPS would not recommend the use of MS Access for the database software. The 2 GB size limitation for any database constructed in Access will not allow SHPD to store all of the information required in the inventory (legacy data and new data), or the images as proposed. Most other state historic preservation offices use SQL Server or Oracle, much higher capacity databases capable of much more sophisticated functionality. This has been communicated to the SHPD IT staff and management on numerous occasions.
* The legacy data (contained in various Access databases, Excel spreadsheets and paper records) should be incorporated directly into the inventory database, not quarantined in separate tables with little or no connection to the current inventory information. Part of creating the complete statewide inventory involves migrating old data into new formats and data structures to provide the reviewers and staff with a complete picture of the resources on any island, and throughout the state. By separating the data, it will be extremely difficult for users to get a picture of the full array of known resources and provide context to newly identified resources. Legacy data may not be as complete or as detailed as new, but it should be documented and included with the full inventory.
* The database plan submitted maintains the separation of inventory data into physically different files and tables for each island, started in the database created before 2005. While this is convenient to help in migrating the data from the old database to the new, it will not provide SHPD with a comprehensive inventory database that contains resources identified across the entire state. It is critical for the SHPD reviewers to be able to put each site they examine into context not only on the island that they are working on, but across the entire group of islands, in order to properly assess integrity and significance. Additionally, maintaining the separate island approach to constructing the new database perpetuates the existing practice of collecting different information about the same types of resources on different islands. Building the new database should provide an opportunity to help standardize the information collected across the state so that resources can be compared with confidence.
* The database plan submitted outlined specific steps in a “status report” but provided no timelines for when those steps would be carried out or benchmarks to gauge progress. Additionally, no steps indicated time for functional review of the database by staff prior to finalizing the design, appearance or tools.
* If the staff do not have time to enter data into a database now, as the plan indicates, how are eligibility decisions being made by SHPD staff? There is no up to date inventory database at SHPD to consult for making determinations, only paper records indexed by tax parcel number.

*Detailed Comments on the Archaeology Site Database Plan*

* The schema provided describes each of the proposed fields to be included in the new database, with notations that the archaeology SOP does not provide a method to map legacy data fields to new data fields. Why would the archaeology SOP provide such information? The SOP for survey and inventory is intended to provide the SHPD staff and the public with an understanding of what survey is how it is conducted, and how the identification of resources forms an inventory. It is the job of the SHPD IT Specialist to collaborate with the SHPD cultural resource staff to determine how to best represent legacy data in a new database structure, and how to combine legacy and new data into a coherent inventory tool.
* Following the GIS training provided by the NPS in 2012 an entire day was spent identifying the primary questions that an inventory database should provide answers to, as well as identifying the fields that the SHPD staff wanted to have in that inventory database. That information was documented and circulated among the entire SHPD staff for review, and provided to the SHPD IT Specialist in 2012, 2013 and 2014. Many of those already identified needs are not included in the plan submitted, such as treatment recommendations, curated materials, or the year that a report on a site was completed. It cannot be overstated that consulting survey forms to form the basis of the inventory database does not adequately define what the inventory should contain or how it will be used. The archaeology staff must be consulted when designing the database. Major components are left out, such as significance statements for individual resources.
* The database diagram submitted indicates that the database structure is almost entirely flat and does not take advantage of the relational structure that should be created to allow for multiple answers for specific fields for instance. The diagram does not represent good database construction or convention.

*Detailed Comments on the Architecture Database Plan*

* The statement submitted that the architecture legacy data will not be migrated into the inventory is not acceptable. Not including known resources in the inventory negates the entire purpose of the inventory and provides the architecture staff with no context when assessing the eligibility, integrity or significance of any single new resource identified. Additionally, how would the architecture staff know if a resource had been reviewed previously, or what determinations might have been made previously if these resources are not included in the inventory?
* The NPS would not recommend storing photographs in the Access database as the architecture database plan proposes. This is highly inefficient and would result in a database with insufficient space to store the full inventory. Again, other state historic preservation offices use SQL Server or Oracle as the base software for their inventories. Access is certainly not robust enough to contain the descriptive inventory information for architectural resources in the state, and certainly will not be able to handle the addition of photographs.
* Like the database design submitted for the archaeological inventory, the architectural inventory is based completely on the survey forms and does not take into account much of the information articulated by the staff previously, or information necessary to make decisions regarding resources. This data is critical for the SHPD architectural staff to have to make consistent and defensible decisions regarding National Register eligibility, in addition to documenting the previous actions taken with regard to each resource.
* Like the database diagram submitted for the archaeological inventory, the architectural database design is entirely flat and does not take advantage of the capabilities of a relational database at all. The diagram does not represent good database construction or convention. This structure is similar to a spreadsheet, not a database that would need to show many more complex relationships between entities in an inventory.
* Specifically, the architecture database diagram and schema submitted omit the required elements needed for the data to meet the needs of the GIS Specialist in connecting the database to the locational information. Just like the archaeological sites, the architectural sites will need unique IDs (GUIDs) to link to the GIS.