

KEEPING THINGS SIMPLE: ARCHAEOLOGY, THE ARMY, AND

“LIL’BENNY 2.0”

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Since 2006, Fort Benning's cultural resource management staff has worked to develop a database to administer the installation's archaeological collection. Lacking permanently dedicated staff, Fort Benning requires a system that will easily and with minimal training allow both interns and term employees (contracted on a yearly basis) to accession and track material within the collection. Opting to utilize already-available software rather than purchasing specialized programs (i.e. PastPerfect), this Access-based system, named "Lil'Benny2.0", will allow not only for these necessary operations but also for user-defined queries of the artifacts themselves to better facilitate research of Fort Benning's cultural resources.

The Fort Benning Cultural Resource Management (CRM) office, in partnership with Panamerican Consultants, is changing how it manages its archaeological collection. At a minimum, the federal government requires its agencies to store and preserve any artifacts, samples, and recordation associated with excavations on public lands (36 CFR 79.5). While some installations may pay a third party to provide such curation services, others instead choose to operate their own facilities. The CR Manager at Fort Benning, Dr. Christopher Hamilton, has adopted the latter approach, and as such he has dedicated the past decade to appropriating and equipping such a facility.

From the beginning, the sole objective of Fort Benning's facility was to store its cultural materials in a single, secure, and environmentally stable location. For Hamilton's part, this was a simple matter of outfitting a building with compact shelving units, fire suppression and intruder detection equipment, and environmental control systems. The collection itself lay largely in "dead storage": there was no curation specialist on staff, and the boxes remained on their shelves unless interested parties initiated contact with Hamilton to arrange a loan. Between 2000 and 2005, however, only private CRM companies were excavating at Fort Benning, and most of this work was surveys of unexplored training compartments.

As such, there was little demand for access, and the collection continued to grow, unnoticed.

After 2005, the situation changed. Archaeologists had finished surveying over 90 percent of the military reservation, and the emphasis of work shifted to site evaluations and mitigations. Understandably, there was more interest in reviewing previous excavations, particularly those by David Chase, many of whose reports from the 1950s-1960s have disappeared. Archaeologists with Panamerican Consultants, who performed the majority of the investigations during this time, eagerly looked to the Fort Benning Collection for answers, but the facility lacked an accurate and comprehensive accounting of its contents.

In 2006, the Fort Benning CRM office began work on the installation's first computerized catalog. While they made great strides organizing the facility, most of these temporary-staffers departed from Fort Benning at the end of their internships. By 2007, the database was under 36 percent complete, and the project was losing momentum. In 2008, Hamilton transferred responsibility for the curation facility to the newly formed CR Site Monitor Team, which consisted of Panamerican contractors Michael Echs and Christopher Parr. The Monitor Team, whose primary duties were to supervise construction- and military-

related impacts to archaeology sites and effect preventative measures, dedicated days of poor weather to work on this project, for which they produced a new management database: Lil'Benny2.0.

This paper is an overview of the latest initiative to both organize the Fort Benning Curation Facility and publicize its collection to the academic community. The first section is a general description of the facility's layout. The second section describes the original catalog database. The third section outlines the conception and implementation of Lil'Benny2.0. The final section reports the project's overall progress and discusses the Monitor Team's goals for the upcoming year.

The Fort Benning Curation Facility

Building 364 (Figure 1) is on Baltzell Avenue, which is in the heart of the Fort Benning Main Post Historic District. Nearby are many prominent landmarks including the original Hospital (Building 396 and former National Infantry Museum, built 1925) and the US Army Infantry School (Building 35 by the firm of McKim Mead and White, built 1935), as well as Riverside (acquired 1918; a National Historic Landmark since 1972), which has served as the commandant's residence. Building 364 itself dates to 1923, when it was the fort's electrical sub-station. Since its rehabilitation in late-2000, this secure and climate controlled building has

served as both the installation's curation facility and the CR Monitor Team's office.

While the building is admittedly small (the total area is less than 120 square meters), the installation of ten manual compact shelving units allows for a maximum storage capacity of nearly 1,974 cubic meters of artifacts, reports, and excavation-related records and photographs. While organizing the facility, the Monitor Team designated each side of the individual shelving units as a "bay". They then numbered these bays 1-22 (west-east), but omitted 17-18 after the team determined that there was sufficient space to add an additional unit, if needed, in the future. The team divided each bay (Figure 2) into four sections, A-D (left-to-right), and each section into nine shelves, 1-9 (top-to-bottom). To help find specific containers, the Monitor Team further subdivided each shelf into three smaller sub-sections, a-c (left to right). As such, a user would recognize the location designation, "Bay 01, Shelf A1a", as indicating the extreme top-left space of the facility's west-most bay.

The limited space required the Monitor Team to thoughtfully organize the facility in order to maximize overall storage potential while still allowing for efficient location and use of the curated materials (Figure 3). In general, boxes containing artifacts and other collected samples are

in the west half of the building, and boxes with associated documents and photographs are in the east half, which is closer to the dehumidifier. The team, however, has reserved the first bay (Bay 01) to receive all incoming boxes pending formal accessioning into the catalog, and the last bay (Bay 22) as the facility's library. Oversize storage is in the heavy-duty horizontal file cabinet in the east end of the building. Additionally, the facility has two tables designated as work stations, but only one has a networked computer.

Learning from History: the Curation Facility Catalogue

When the Monitor Team took possession of the curation facility in 2008, it had 1,245 boxes of cultural materials and a partially completed database. In this database, called the "Curation Facility Catalogue", staff members ascribed each box with a catalog number, which was a four-part alpha-numeric code indicating the year of the excavation, a project title, the box number (in relation to the total box count, in "x of y" format), and a one- or two-letter code indicating the general contents of the box (i.e. DO for "Original Documents" and GA for "General Artifacts"). Using Microsoft Access, they matched each catalog number with relevant project information such as a general description of the project, associated site

numbers, NRHP determination, SHPO comments, start and finish dates, and links to associated reports (in PDF format).

While simple, this database had several technical problems, such as overall inefficiency. Naturally, a single project could have any number of boxes associated with it. For example, in 1998 the US Army Corps of Engineers Construction Engineering Research Laboratory (USACERL) amassed 86 boxes of material while accessing looting at Yuchi Town, 1RU63 (Hargrave et al. 1998). The nature of the Curation Facility Catalogue required the data-enterer to manually input the same project information (i.e. description, site number, NRHP determination, etc) for each of the 86 individual catalog entries. While not only repetitive, such redundancies needlessly exposed the entire catalog to data-entry errors, which commonly included misspellings (“USCAERL”, rather than “USACERL”) or conflicting Anglicized and American spellings (“Catalogue” and “Catalog”).

The database’s subjective nature also confused matters. While some catalog designations, such as “1993-9CE46 Mobley Strip-1 of 1 DO” or “2002-9CE1 Kasita Phase III-1 of 152 GA”, were straightforward and easy to understand, other boxes labeled “1999-Multiple Compartments-1 of 2 DO”, “1993-1997-Project Photos-1 of 1 DOP”, or “Various dates-

Various projects-1 of 4 DO” offered no clear indication of their respective contents. Moreover, the box numbers were sometimes misleading, as illustrated by two examples from the USACERL investigation at Yuchi Town: “1998-Yuchi 1RU63 looting-1 of 84 GA” and “1998-Yuchi 1RU63 looting-1 of 2 DO” (the total box count is unclear). Further complications arose when a given box had multiple catalog numbers assigned to it, which frequently resulted when curation staff consolidated boxes containing excavation records or photographs from different projects.

The biggest problem with the original Curation Facility Catalogue was that, although its creators built the database using Microsoft Access, they treated it very much like an Excel table. One of the principle advantages of Access is that it allows users to conduct targeted or thematic searches within the database by using the program’s filter or query features. Unfortunately, the listed information, entered in a freehanded and often inconsistent manner, nullified this. Had a user desired to review material associated with the aforementioned USACERL investigation at Yuchi Town, a manual scan or keyword search (using “Yuchi 1RU63 looting”) of the database’s catalog numbers would reveal 86 total boxes (n = 84 artifacts, n = 2 documents). The database, however, would fail to show an eighty-fifth box of artifacts, a third box containing

original documents, two boxes of document safety copies, two separate binders with photographs, and a third binder of photograph safety copies also associated with this project but for various reasons assigned different catalog numbers.

Making it Work: Lil'Benny2.0

The Monitor Team took the lessons learned from the original database to heart and realized they had to take certain precautions. First, short term employees (i.e. student interns and year-to-year contractors) constitute the bulk of Fort Benning's CRM staff. It was therefore imperative to keep things simple. As CRM staff currently use Access in their day-to-day operations, the Monitor Team could reasonably assume all future users to be familiar with the software's basic features.

Introducing a purpose-built program, such as PastPerfect, required both the department to take on additional expenses and the staff to undergo specialized training, neither of which were attractive options. Moreover, the existing catalog was already Access-based, and the Monitor Team wanted to adapt as much of it as possible to save time and effort.

Second, the team needed to correct the numerous inconsistencies they observed in the original database and implement safeguards to prevent such problems in the future. In order to achieve the full

functionality of their database, the team needed to take full advantage of Access's filter and query features. As such, the team resolved to utilize both drop-down menus and standardized terminology in their database design to improve overall searchability.

Third, Panamerican Consultants had indicated that there was no easy way to search the catalog for specific artifacts. The current system only provided hyperlinks to the various reports, which themselves included inventories for the different projects but not for the individual boxes. Moreover, many different agencies have conducted excavations at Fort Benning over the past sixty years, whereby the amount of detail, choice of terminology, and overall appearance of these inventories varied so much that it was impossible to search between different projects. The team thereby chose to adopt a "clearinghouse" approach in which they would integrate and standardized these disparate records into a single, cohesive resource (Jacobs and Holland 2007:197).

Having used the original system and consulted a variety of available resources, the Monitor Team ultimately concluded that their database needed to perform three tasks: track boxes of artifacts moving into (and out of) the curation facility, find items relating to a specific report, and allow users to productively search the artifact inventories

(Childs and Corcoran 2000; Jacobs and Holland 2007; Merriman 2008; Styliaras et al. 2007; Sullivan 1992; Topper 2004). To this end, the team transformed the old, single-table database into a new, three-table system, which they christened “Lil’Benny2.0”.

The first table, called “Project Information”, lists all essential data relevant to the individual projects (Table 1). At Fort Benning, the CRM staff regularly assigns a unique identification number to each of its excavation reports, which this table utilizes for its primary key. This table then matches a given report number with other fields containing a hyperlink to the report (in PDF format), lists of referenced site numbers and training compartments, the excavators, any assigned contract or delivery order numbers, the report’s title, and the total number of boxes in the curation facility associated with this report. In addition, Lil’Benny recycles from the old database the fields noting the overall condition of the curated artifacts, any SHPO comments, and the dates when the facility formally received both the report’s final draft and its artifacts.

The second table, called “Catalog Control”, tracks the individual boxes as they enter and leave the facility (Table 2). The Monitor Team assigned each box an eight-digit catalog number determined by the fiscal year the box was accessioned followed by a running number indicating

the order it was received into the facility (beginning with “-1001”). For example, the third box received in FY-2009 will receive the catalog number, “2009-1003”, but the first box in FY-2010 will receive “2010-1001”. The table matches this catalog number, which serves as the primary key, with fields denoting the report number(s) associated with this box, its box number in series, a standardized notation indicating its general contents, its exact location in the facility, and a check box indicating whether the team has entered its inventory into the third table (“Artifact Control”, discussed below). To help monitor the facility’s overall storage capacity, the table assigns each box a space value: the default value of “1.0 units” equals one standard archival box (10-x-15-x-12-in), but users can adjust this value to indicate off-sized containers.

The final table, called “Artifact Control”, is essentially a giant inventory of every artifact housed in the facility (Table 3). So far, manually sorting every box has proven the only accurate means of integrating the various project inventories. While certainly a tedious task, this process has allowed the Monitor Team to verify the boxes’ contents, inspect perishable artifacts for deterioration, and even identify misplaced NAGPRA material. This table lists two types of information for every artifact. The first set pertains to the artifact’s location and origins: the

box's catalog number, the relevant report number, the site number, the accession type (i.e. gift, field collection, or loan), accession number, and its status in the collection. The second set entails the classification of the artifact itself: its category (i.e. lithic or ceramic), period, phase, material or medium, artifact type, count, and any additional notations as well as pictures of all diagnostics.

The team equipped most of the above fields with drop-down menus which will greatly reduce inconsistent spellings and choice of terminology. These menus link to various "Value Tables", which easily allows users to add new options as needed. Most importantly, the team has networked together the three tables (Figure 4): their respective "Report Number" fields join the "Project Information" and "Catalog Control" tables, and the "Catalog Number" fields connect the "Catalog Control" and "Artifact Control" tables. As such, users can search the database through combining or manipulating any of the fields in these tables by using Access's filters or user-specified queries. The team has further simplified their database by preparing ready-made, task-specific queries and reports so Lil'Benny2.0 can produce box labels, generate loan agreements, or calculate the facility's capacity quickly and efficiently.

Lil'Benny2.0: Today and Tomorrow

A year ago, the Monitor Team set out to build a functional curation management tool quickly and with minimal expense. At no cost, they are now able to accurately and easily track every box in the Fort Benning Curation Facility. This facility now houses 1,397 boxes of cultural materials with a total space value of 1,393.499 units, which is 66.3 percent of capacity (Figure 5). Of these boxes, the team has processed 320 (or 22.9 percent) into the “Artifact Control” table, which has 24,245 entries. The total size of the Lil’Benny2.0 database is 19.6 MB (or .02 GB). Most importantly, manual inspection of the associated documents has unearthed copies of 17 reports that were heretofore either lost or unknown to Fort Benning personnel.

Furthermore, Lil’Benny2.0 allows the Monitor Team to provide a more detailed accounting of the Fort Benning Collection. For example, the team can now offer the following statistics (although only for the 320 boxes so far entered):

- *Accessioning history.* When the project began, the facility had 1,245 boxes. Since then, the facility received 60 boxes in FY2009 and 102 boxes in FY2010. The team has deaccessioned 10 boxes from the collection and removed their catalog numbers from circulation (Total = 1,397).
- *Breakdown of artifact affiliation.* Of the inventoried artifacts, 78.3 percent (n = 16,050) are Aboriginal and 21.7 percent (n = 4,445) are European.

- *Breakdown of ceramic types.* The ceramic types most attributed were Chattahoochee Brushed (1.4 percent, n = 178), Chattahoochee Roughened (71.9 percent, n = 9026), Kasita Red Filmed (4.8 percent, n = 599), Lamar (7.1 percent, n = 890), Pearlware (1.3 percent, n = 171), Stonewares (2.7 percent, n = 339), and Whiteware (6.3 percent, n = 794).
- *Breakdown of projectile point types.* The projectile point types most attributed were Dalton (6.8 percent, n = 4), Hamilton (5.1 percent, n = 3), Madison (20.3 percent, n = 12), McIntire (5.1 percent, n = 3), Palmer (8.5 percent, n = 5), and Savannah River (10.2 percent, n = 6).

With such a limited sample in the database, such figures are admittedly of little statistical value. However, as work progresses and the sample size grows, the ability to generate such data on demand will certainly become a valuable research asset.

While the work is slow, the Monitor Team will continue to make adjustments as they work on their project throughout the new fiscal year. With much of the foundations for Lil'Benny2.0 now firmly established, the team hopes to move beyond simple data entry and work to expand the database's capabilities and improve its overall performance. For example, the team is developing a user's guide (tentatively named "The Benny Book") that will outline not only the routine procedures for maintaining the catalog but also detailed instructions and tips for searching the database through effective query-building.

As this database grows, the team will monitor their system to determine whether Access or another, more-specialized program (i.e. PastPerfect), will ultimately prove to be the best suited to meet the facility's needs. While the database currently has only 24,245 entries at .02 GB, the overall size of the database may become a future obstacle, since Access limits its databases to 100,000 entries and 2.00 GB. Nonetheless, the facility's main cause for concern is not functionality, but rather public awareness: the most user-friendly and accessible catalog in the world is useless if no one knows about it. As such, it is the hope of Fort Benning's seasonal and perennial CRM staffers that publicizing Fort Benning's facility will generate interest in the installation's research potential. This above all else will validate the efforts of all those, past and present, who have labored in this endeavor.

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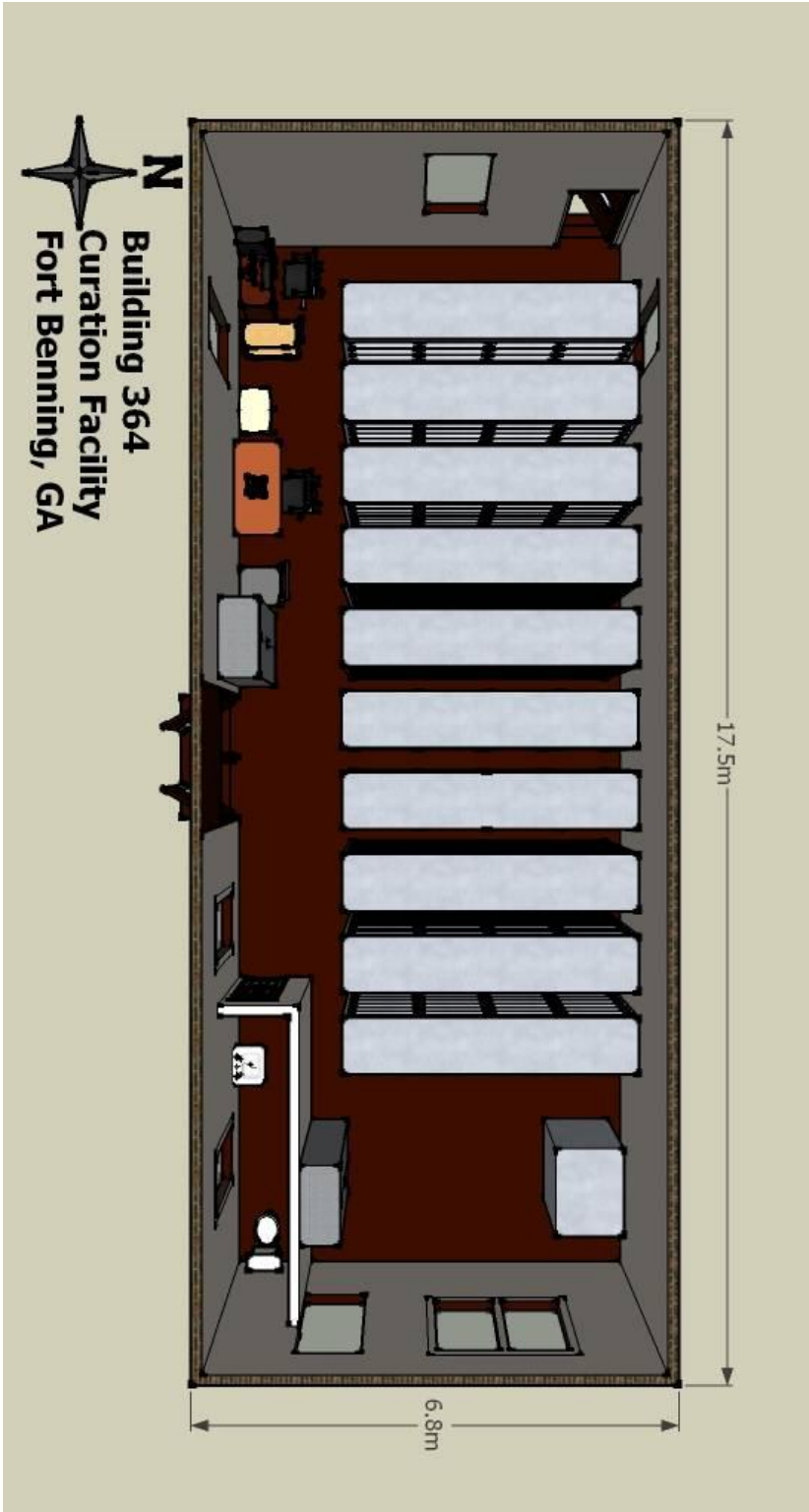
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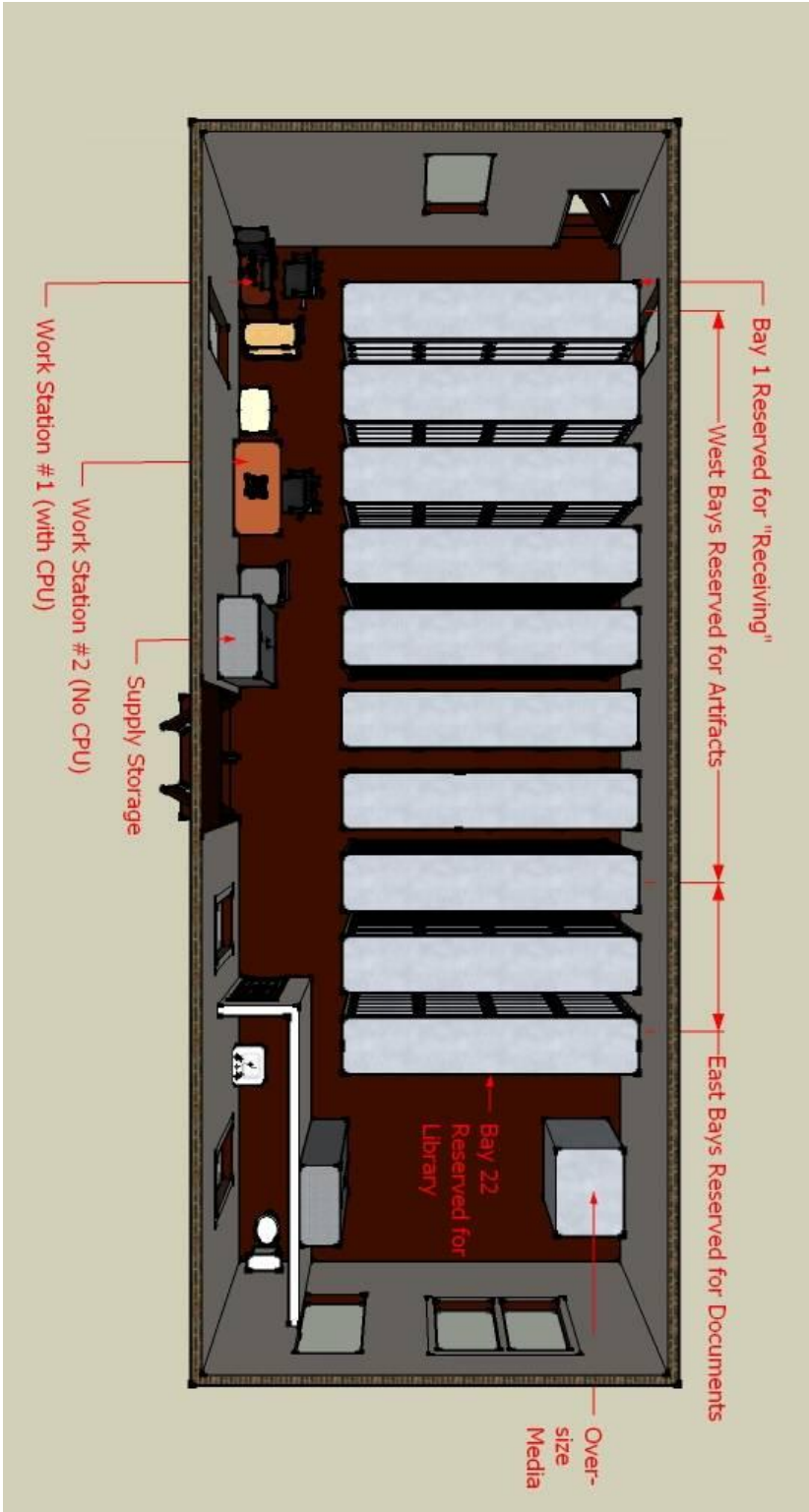
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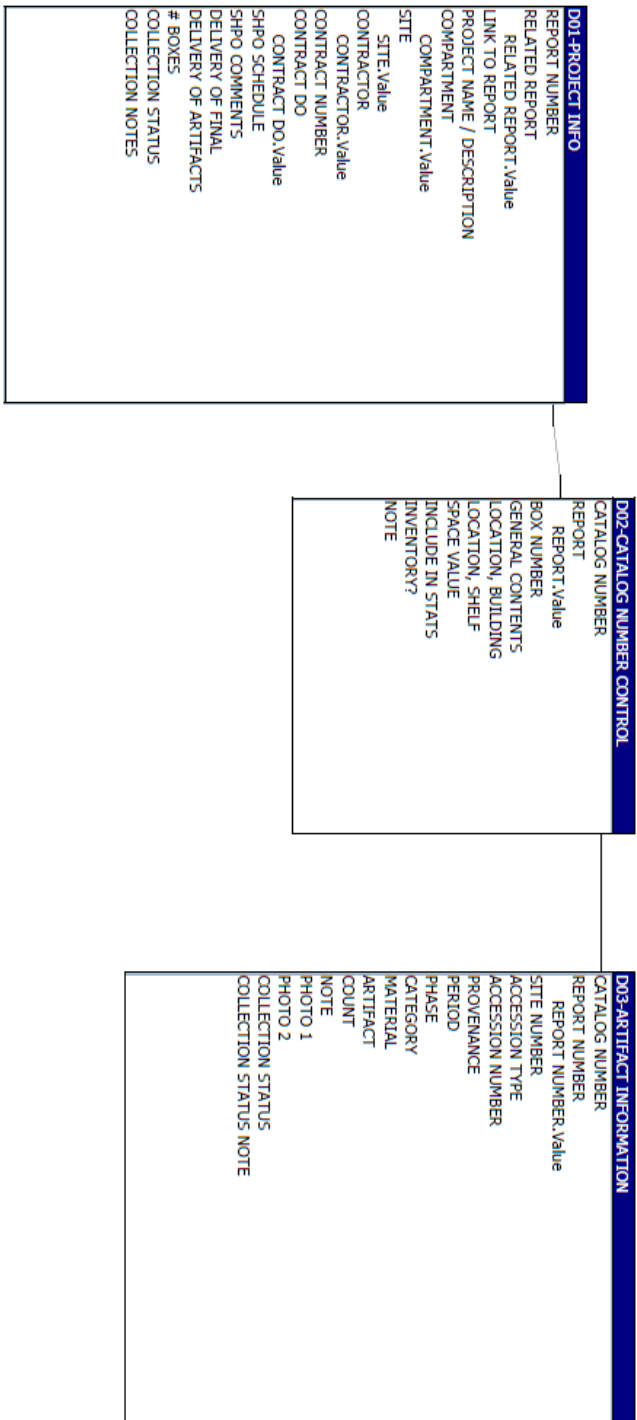
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- Figure 1. A general plan of the Fort Benning Curation Facility.
- Figure 2. An example of a bay in the Curation Facility.
- Figure 3. A detailed plan of the Curation Facility.
- Figure 4. A diagram of the relationships between Lil'Benny2.0's three tables.
- Figure 5. A graphic illustration of the Curation Facility's capacity.









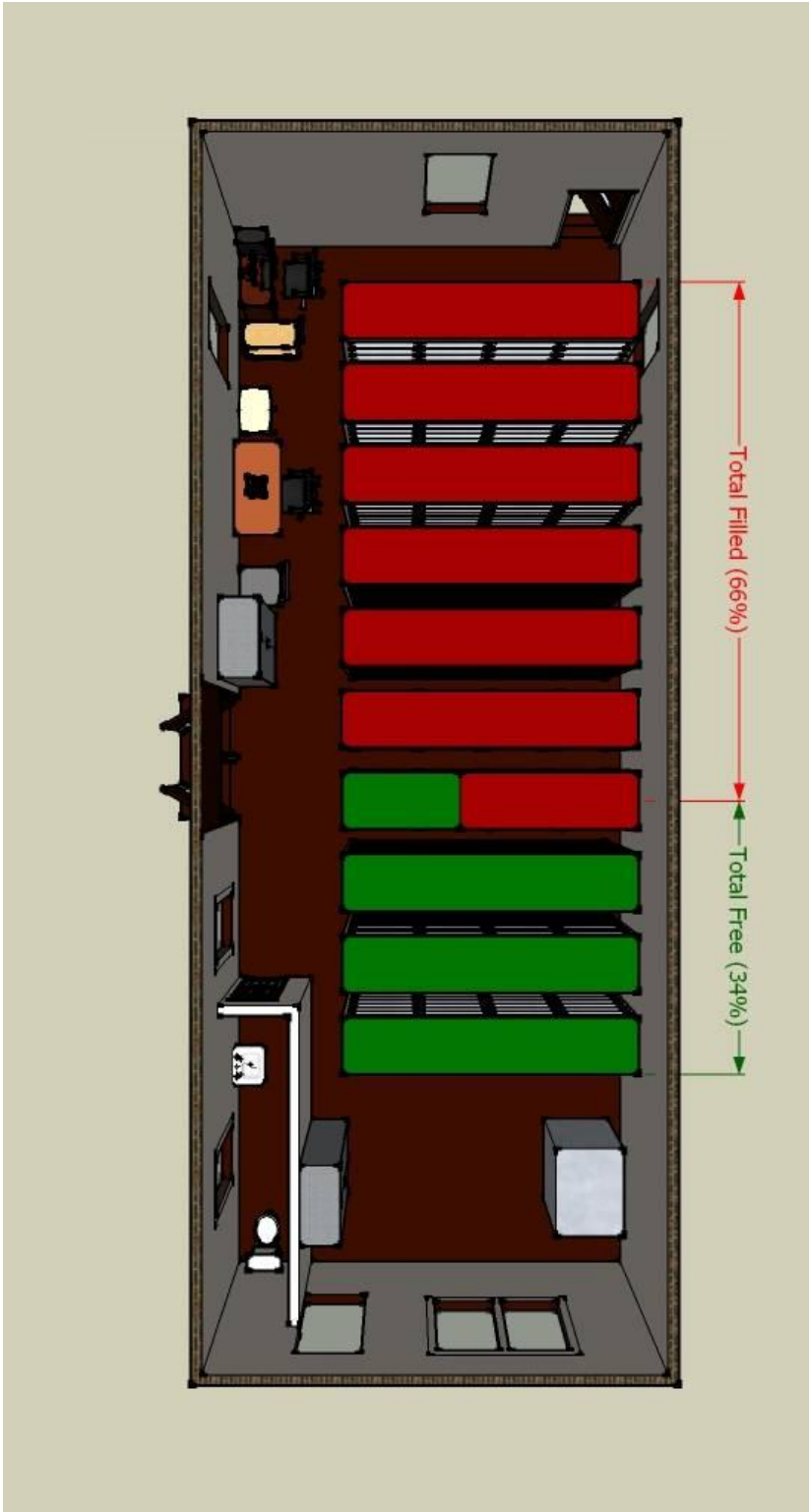


Table 1. Fields in “Project Information” Table

Field Name	Data Type	Format
REPORT NUMBER (Primary Key)	Number	Four-digit number (automatically assigns zeros as placeholders)
RELATED REPORT	Number (multi-value)	Combo box using the REPORT NUMBER column (PROJECT INFO table) as its row source
LINK TO REPORT	Hyperlink	Hyperlink (to the installation’s network)
PROJECT NAME / DESCRIPTION	Memo	Reproduced as it appears on the cover page
COMPARTMENT	Text (multi-value)	Combo box using the VALUES COMPARTMENT table as its row source
SITE	Text (multi-value)	Combo box using the CRARCSIT table as its row source
CONTRACTOR	Text (multi-value)	Combo box using the VALUES CONTRACTOR table as its row source
CONTRACT NUMBER	Text	
CONTRACT DO	Text (multi-value)	Combo box using a value list numbered 0-52 as its row source
SHPO SCHEDULE	Text	Combo box using a value list containing “UNDER REVIEW”, “FURTHER INFORMATION REQUESTED”, “APPROVED TO PROCEED”, and “DISAPPROVED” as its row source
SHPO COMMENTS	Memo	
DELIVERY OF FINAL	Date/ Time	“MM/ DD/ YYYY”
DELIVERY OF ARTIFACTS	Date/ Time	“MM/ DD/ YYYY”
# BOXES	Number	Three-digit number (automatically assigns zeros as placeholders)
COLLECTION STATUS	Text	Combo box using a value list containing “IN COMPLIANCE”, “OUT OF COMPLIANCE”, “DAMAGED”, “DAMAGED-UNDER RESTORATION”, and “ON LOAN” as its row source
COLLECTION NOTE	Memo	

Table 2. Fields in “Catalog Control” Table

Field Name	Data Type	Format
CATALOG NUMBER (Primary Key)	Text	YYYY-#### (program-enforced input rules)
REPORT	Number (multi- value)	Combo box using the REPORT NUMBER column (PROJECT INFO table) as its row source
BOX NUMBER	Number	Three-digit number (automatically assigns zeros as placeholders)
GENERAL CONTENTS	Text	Combo box using a value list containing “ARCHAEOLOGICAL MATERIAL”, “DOCUMENTS-ORIGINAL”, “DOCUMENTS-SAFETY COPIES”, “PHOTOGRAPHS-ORIGINAL”, “PHOTOGRAPHS-SAFETY COPIES”, and “REMOVED FROM SYSTEM” as its row source
LOCATION, BUILDING	Text	Combo box using a value list containing “BLDG 364” and “ON LOAN” as its row source
LOCATION, SHELF	Text	Combo box using the SHELF LOCATION table as its row source
SPACE VALUE	Number	Long integer with three decimal places (Default = “1.000”)
INVENTORY?	Yes/ No	(Default = “No”)
NOTE	Memo	

Table 3. Fields in “Artifact Information” Table

Field Name	Data Type	Format
CATALOG NUMBER	Text	Combo box using the CATALOG NUMBER column (CATALOG CONTROL table) as its row source
REPORT NUMBER	Number (multi-value)	Combo box using the REPORT NUMBER column (PROJECT INFO table) as its row source
SITE NUMBER	Text	Combo box using the CRARCSIT table as its row source
ACCESSION TYPE	Text	Combo box using a value list containing “GIFT”, “PURCHASE”, “EXCHANGE”, “TRANSFER”, “FIELD COLLECTION”, and “INCOMING LOAN” as its row source (Default = “FIELD COLLECTION”)
ACCESSION NUMBER	Text	Reproduced as it appears in the report
PROVENANCE	Text	Reproduced as it appears in the report
PERIOD	Text	Combo box using the VALUES PERIOD table as its row source
PHASE	Text	Combo box using the VALUES PHASE table as its row source
CATEGORY	Text	Combo box using a value list containing “BOTANICAL”, “BUILDING MATERIAL”, “CERAMIC”, “CHARCOAL / COAL”, “DOCUMENTATION”, “FAUNAL”, “GLASS”, “LEATHERWORK”, “LITHIC”, “METALWORK”, “MINERAL”, “RUBBER”, “SEDIMENT”, “SHELL”, “SYNTHETIC”, “TEXTILE”, “WOODWORK”, and “OTHER (SPECIFY)” as its row source
MATERIAL	Text	Combo box using the VALUES MATERIAL table as its row source
ARTIFACT	Text	Combo box using the VALUES ARTIFACT table as its row source
COUNT	Number	
NOTE	Memo	
PHOTO 1	Hyperlink	Hyperlink (to the installation’s network)
PHOTO 2	Hyperlink	Hyperlink (to the installation’s network)
COLLECTION STATUS	Text	Combo box using a value list containing “IN COLLECTION”, “ON LOAN”, and “LOST” as its row source (Default = “IN COLLECTION”)
COLLECTION STATUS NOTE	Text	