The Buffalo Bill Center of the West (Center) is a cultural institution comprised of 5 full museums, a research library and archive, as well as supplemental special interest and exhibition galleries. Located in Cody, Wyoming, the Center is 50 miles from Yellowstone National Park and attracts over 150,000 visitors during an average year. The Center was supported by the NEH to help assess the status of our collection management capacities, and to find solutions to issues we face at large and small scale. The end goal of this project is functional, sustainable storage and associated collections spaces to extend long-term preservation benefits for the Center’s collections. Optimal storage and workspaces will support the Center’s prioritization of care with responsible organization and growth of the collections; it will also provide opportunities for broader access to the collections.

Goals and Purpose of Project

To reiterate the goals as stated in the proposal: "The end goal of this project is functional, sustainable storage and associated collections spaces to extend long-term preservation benefits for the Center’s collections. Optimal storage and workspaces will support the Center’s prioritization of care with responsible organization and growth of the collections; it will also provide opportunities for broader access to the collections."

This project was foremost an assessment of the Buffalo Bill Center of the West’s (Center) existing physical plant, more specifically an assessment of the benefits and challenges presented by the structure and layout of our collections storage areas and associated workspaces. The assessment considered best museum practices for storage and access to the Center’s six collections along with analysis work areas and general (non-accessioned) storage areas. The project goal was to come away with recommendations on next steps to be taken pursuant to this goal by seeking outside, objective, professional evaluations through a final report produced by three independent consultants (one architect, one conservator, and one structural engineer). The resultant report provided a broad and useful perspective on and history of the Center’s facilities and proposed a primary solution along with a more immediate list of recommendations.

Activities and Outcomes

Major Activities: Major activities for this project were completed in four phases: self-assessment of collections storage challenges and priorities prior to consultant team visit; XRF analysis of collections to identify contaminants; onsite visitation by the consultants; and de-briefing and drafting of the consultant’s report with feedback by Center staff. Phase one activities included data gathering and mapping out all collections and non-collections storage, transit routes, and work areas noting and prioritizing locations with greatest perceived challenges.

The second phase of self-assessment focused on detecting latent hazardous materials on collection items and in our vault spaces. This effort was conducted by our registrars, exhibitions manager, and curatorial team, and led by Conservator Beverly Perkins. The work was completed using a handheld XRF (x-ray fluorescence) machine on a large sampling of collection items that were either known to have the presence of contaminants or met the criteria of materials likely to have been treated with or contain materials such as mercury, lead, and arsenic (e.g., feathers, hides, taxidermy from 19th to early 20th century).

The third phase was an active, on-site visit by the consultant team -- Conservator Dr. Nancy Odegaard, Architect Jerry Berggren, and Engineer Wyatt Wirges -- over the course of a week, March 22-26,
2021. Ahead of their visit, the consultants worked with project lead Beverly Perkins to preview information provided by the Facilities Manager, Building Engineer, curators, and Registrar. On-site, the consultants met with Center staff across curatorial, administrative, registration, facilities, and development departments. The first day was a general meeting and tour, and the following days included individually guided walkthroughs with each of the Center's 6 lead curatorial/library and archives staff through storage and workspaces for each of their respective museums or library/archive. The week was capped with a tour of off-site storage and a final meeting with then acting director and CFO, Lynn Rodgers.

A note on selection of consultant team members. Dr. Nancy Odegaard holds a PH.D. in Conservation from the University of Canberra (Australia) and is a leader in the field of collections management and specifically contaminated collections. Center of the West Chief Conservator Beverly Perkins has collaborated with Dr. Odegaard for over thirty years. Odegaard, has also worked with other Center staff on other conservation projects and she is a leader in her field, and we were fortunate to bring her in on for this project. Jerry Berggren is a renowned regional architect with a strong history of working with public buildings as well as museums with collections storage needs. Jerry has previously worked with Beverly Perkins to produce Conservation Assessment for Preservation (CAP) surveys. He brought in Wyatt Wirges PE as a trusted colleague from the Omaha, Nebraska area and they worked well together on the consultant team with Dr. Odegaard.

The final phase of the project was the drafting and review of the consultants’ report. After their week on-site, the consultants worked among themselves to produce drafts of a final report with their assessment and recommendations as the primary product of this granting program. The drafts were shared with the Center staff who answered questions and provided clarification prior to submitting the final report. The consultants’ final report was received by the project team on July 22, 2021. It was subsequently reviewed by project lead Beverly Perkins and shared with the Facilities Manager Mike Brown and Senior Management Team including newly appointed Director Rebecca West.

Specific Objectives: The objectives of the project were twofold. First, the project team reviewed current conditions in vaults, storage spaces, and workspaces to develop solutions to improve the capacity and quality of storage and collections workspaces with respect to environment, efficiency, and access. Second, Center staff along with the consultant team discussed plans to prioritize the recommendations for achieving the primary goal of the project.

**Significant Results or Key Outcomes:**

Major findings: What follows are highlights from the major findings of the consultant team. The Center has a complex physical plant and building layout. The five museums and research library were built over the course of fifty years, and the expansion, upgrade, and upkeep of critical systems and structures has led to a pastiche of storage solutions, some far better than others, though none are without room for assessment and improvement. The report lays out vault by vault analyses of the current storage solutions and provides input as to their assets and liabilities in terms of collection and workplace safety. Some of the findings of the report are inaccurate, incomplete, or incorrect, which is to be expected when a team of consultants has only a limited amount of time to approach the difficulties presented in a large and complex facility such as the Center. Yet, the positive outcomes and constructive suggestions provided by the report outweigh its drawbacks.
The report concluded that the best method of approaching the largest number of known issues with a
singular, and summative, action involves the construction of a new facility for collections storage and
registration. While this plan would provide the Center with a modern facility and a unified policy and
procedure for collections management; this course of action does not answer the biggest
question of how to deal with the movement of large and oversized collection items – of which the
Center has many – from storage to destination (e.g., exhibition space, loading docks) without
utilizing travel routes which do not safely accommodate such movement.

Findings from XRF analysis confirmed the presence of pesticides and toxins on collection items. These
pesticides were commonly used to preserve historic objects but are also considered toxic and therefore
cause for concern. Through the XRF analysis from this grant we also attained a better handle on the
scale of the issue within our collections and what next steps are best to take on these issues in our Plains
Indian Museum, Draper Natural History Museum, and Whitney Western Art Museum collection items.
This knowledge helps us to improve workplace safety and be at the forefront of developing related
collections care procedures, much in line with Dr. Odegaard’s pioneering work on the subject.

Developments: As a result of working with the consultant team, and discussions stemming from their
visits with staff, several simple fixes were employed and some
workspaces reorganized, leading to significant improvement.

We have had success consolidating teams and creating more efficient workspaces by relocating key
maintenance and collections management staff to areas that allow them to work in nearer proximity to
their primary work functions and primary collaborators. For example, we recently re-located
and reorganized our mount making space, which helped to mitigate several extant and potential
workspace issues identified in the consultants’ report.

This project also instigated greater momentum around internal collections assessment and continuation
of deaccessioning activities. This ongoing and amplified focus on collections
stewardship results in more tightly curated, mission-supporting collections and, often, more space in
storage as duplicative, lesser-quality, or irrelevant collections are thoughtfully deaccessioned. At a
basic level, the report highlighted the need for discipline in adhering to museum standards
for work occurring in both storage and general work areas. Essentially, the need to keep storage areas
and other spaces clean, organized, and clutter-free through adherence to policies ranging from
records retention and deaccessioning to object handling and storage.

Conclusions:

General - This process and the resultant report has helped to clarify our knowledge of the Center’s
physical plant by providing an updated layout of storage, work, and transition spaces, as well as a
comprehensive history of construction and upgrades since 1959. The study consolidated several
iterations of institutional diagrams and provided a clearer understanding of how and why spaces were
added, expanded, and changed.

Building Layout – This project and discussion provided Center staff with new perspectives on the
limitations and possibilities of the building’s physical spaces. We have a better understanding of historic
uses of particular spaces, day-to-day workflow concerns, and challenges facing staff with object
movement. The report provided photographs to document problem areas and high use spaces.
One particularly enlightening inclusion was a diagram on an object’s movement in a
museum throughout its “lifetime,” which will be particularly useful as a communication tool when discussing the process of accepting objects for our collection or for special/temporary exhibitions. The report’s work analysis elucidated our ability to communicate human workflow and object movements in relation to our physical spaces’ limitations or specific circumstances.

Executive summary – The overall takeaway for the Center regarding what has exacerbated storage issues over the years is the institution’s notable history of public-facing projects. While mission-supporting, these public-facing projects have demanded resources of our finances, infrastructure, and staff, and have taken precedence over some behind-the-scenes priorities. The steady growth in square footage for publicly accessible spaces continues to serve an important purpose but was not historically matched by growth or improvement of spaces focused on long-term collections storage and access needs.

Other Achievements:

Encouragingly, the process of working with the consultants and their resulting report has made our staff reconsider the utilization of available space and look intently at how space might be reconfigured and reimagined more efficiently and effectively. Our discussions included accommodating limitations of individual spaces and the physical plant. We have also begun to consider and implement simple and more involved solutions to our challenges which have shown us how flexible some of our spaces are and how simple alterations can increase workability and collection safety.

The study provided us with a useful list of challenges demanding precedence, so we can build out a plan that reflects immediate and longer-term needs. An example of a non-emergent need, but one which can be addressed reasonably by staff and potentially with the help of external contractors is storing objects primarily by type and size, rather than by the collection into which they were accessioned. We currently have separate spaces to store items from each of our five museums and research library collections, yet all objects are easily located through an online collections database. Storage spaces could be consolidated or rearranged to better suit a unified plan and collections management strategy based on object type and size. In some instances, storage furniture had been partially upgraded as part of a project without continuation at the end of the project. Other storage spaces possess temporary storage solutions that with careful planning and modern storage furniture have excellent potential. The only exceptions to this approach would be objects of sacred and ceremonial nature (including human remains) in the Plains Indian Museum, which will remain in separate storage.

The study included more detailed assessments of our Buffalo Bill Museum (BBM) and Whitney Western Art Museum (WWAM) vaults, and the possibility of rehousing several types of objects in those vaults with other objects of similar types in other, newer vaults. The BBM and WWAM vaults, being two of the earliest-constructed storages areas, are difficult spaces to manage and navigate. A more detailed assessment of the viability of these particular vault spaces is warranted. Overall, we are satisfied with the quality and breadth of recommendations and new observations that the team of consultants provided. Their more objective eyes caught many things we overlook on a day-to-day basis, and they also validated some key concerns among Center staff by reiterating known issues and underscoring the importance of tackling these challenges in the near future.
A critical review of the report reveals that while many of the consultants’ suggestions are accomplishable through a review of and revision to current practices, we also found some proffered solutions to be less practical, and in some cases, not fully attentive to the complexity of the museum’s physical plant, construction history, and current and prospective use of spaces. The consultants’ main solution was to construct the proposed new collections storage facility and relocate conservation staff work areas within the museum’s footprint – in a garden area between two of the museum’s wings. In addition to the prohibitive cost of building such a facility, the proposed location of the building would require relocating an historic building within the aforementioned garden, the Joseph Henry Sharp Cabin. Additionally, there are engineering challenges relating to foundations, additions of a one-point access elevator, rooflines, drainage, and adjacent support walls that were not fully examined by the consultants that are known limiting factors to this solution.

While this new facility could certainly provide a more ideal location for the storage and care of some collections objects, a hub for the registration and conservation staffs, this singular solution does not provide relief from navigation and movement of large objects or objects larger than the proposed access elevator will accommodate; provides relief for a portion of the two of the six collections being addressed; and does not consider or suggest the modification or abandonment of existing vault storage. Thus, it is untenable. Another difficulty with the study was what we feel is a disproportionate focus on the buildings HVAC and other systems of the Center’s physical plant. Although the consultant team was given information on the already completed study by an engineering firm, the depth of the study was not acknowledged, resulting in a redundancy of analysis and recommendations. In fact, many of the urgent items suggested such as fire suppression, security cameras, and other climate related improvements have already been upgraded or are in the process of being upgraded. Concerns regarding Center building infrastructure are currently being addressed under a five-year NEH Challenge Grant. Better communication between Center staff and the consultants might have clarified our progress in this area and thus eliminated the need for the consultants to address the perceived challenge at length in their report.

**How the Project Improved Provided Professional Development**

While the project did not explicitly list professional development and individual study as an outcome, we did find our staff found such opportunities while carrying out the project. Many of our staff, including the majority of the curatorial and Museum Services departments, were able to learn from the experience of using an XRF machine. Also, we gained a greater understanding of OSHA protocols surrounding toxins in collections and how to apply such protocols to museum practice. Associate Registrar Rebekah Childers worked with previous recommendations from Wyoming OSHA consultants to research and draft handling, storage and exhibition procedures for collections with known or suspected contaminants.

**The Project’s Effect on our Governance and Collegial Institutions:**

Project results produced new relationships between the Center and two smaller cultural institutions in our region, e.g., the Harry Jackson Institute, a small organization in Cody, Wyoming, and Little Bighorn College, a public tribal land-grant community college on the Crow Indian Reservation in Crow Agency, Montana. Curatorial Assistant of the Plains Indian Museum, Hunter Old Elk, recently worked with Crow Tribal Historic Preservation Officer Aaron Brien about proper use of Personal Protective Equipment when working with collection items that may be contaminated by hazardous materials. There is ongoing interest from other visiting tribal representatives in relation to the handling of deaccessioned
or repatriated items. It should be noted that because of this project the Center’s Collections Management Policy was updated to require that outgoing Plains Indian Museum objects (including loans) are tested for contaminants if they meet the criteria for high-risk materials.

The final stages of the project involved the creation of a new subcommittee among select project team members and representatives from the Center’s Board of Trustees to approach the issues of collections storage and stewardship in relation to the Strategic Plan, to carry forward the conversations begun by this project, identify actionable solutions, garner support for such solutions, and to increase awareness of challenges and opportunities regarding collections storage and stewardship. This working group reviewed the final report, participated in full building walkthroughs, and will meet to further discuss findings and next steps. The group includes a retired architect, former museum director, a building engineer, and a Center trustee with a strong longitudinal knowledge of the storage issues facing the Whitney Vaults.

**Staff Contributions**

Center Staff listed in Proposal.
Beverly Perkins, Initial Project Director, is Chief Conservator. Perkins coordinated the on-site visit and led the initial team efforts. 1.27 person months, funding from Center payroll and NEH. Wyoming, USA.

Rebecca West is current Project Director and Executive Director/CEO and acting Plains Indian Museum Curator, taking over the PD role after the receipt of the final report from the consultant team. .12 person months, funding from Center payroll and NEH. Wyoming, USA.

Karen McWhorter is Curator of the Whitney Western Art Museum and Director of the Curatorial, Education, and Museum Services divisions. She toured the team of consultants through the Whitney’s vault and working areas and gallery space. .003 person months, funding from Center payroll and NEH. Wyoming, USA.

Mary Robinson was Director of the McCracken Research Library. She toured consultants through the library space that includes archival storage, vaults, rare books section, open stacks, and a reading room. .1 person months, funding from Center payroll and NEH. Wyoming, USA.

Danny Michael is Curator of the Cody Firearms Museum, replacing Ashley Hlebinsky following her departure. Danny toured the consultants through the recently reinstalled firearms museum and discussed vault storage and workspace issues with them. .1 person months, funding from Center payroll and NEH. Wyoming, USA.

Nathan Doerr is Curator of the Draper Natural History Museum. He discussed the unique storage issues associated with biological specimens and provided tours through the Draper vaults and working areas. .14 person months, funding from Center payroll and NEH. Wyoming, USA.

Phil Anthony was Building Engineer. He worked closely with the consulting engineer during the consultant’s visit to provide building plans and HVAC specs. .1 person months. Wyoming, USA.
Greta Russell is Chief Registrar; she toured all vaults and workspaces with the consultants and provided an overview of the Registration storage and work needs as well as a general collections and storage overview. .11 person months, funding from BBCW payroll and NEH. Wyoming, USA.

Consultant Team

a. Dr. Nancy Odegaard – Conservator, flat rate and per diem – NEH Funds only. Arizona, USA
b. Jerry Berggren – Architect, flat rate and per diem – NEH funds only. Nebraska, USA
c. Wyatt Wirges – Engineer, flat rate and per diem – NEH funds only. Nebraska, USA

Other BBCW Staff: these individuals are not listed in the proposal but supported the consultants and other Center staff during the consultant’s on-site visit: Mike Brown, Director of Operations; Rich Herman, Maintenance Director; Hunter Old Elk, Assistant Curator of the Plains Indian Museum; Rebekah Childers, Associate Registrar; and Jordan Davis, Exhibition Production Manager. In total these individuals contributed 1.63 person months; all funding provided by BBCW payroll. All are based in Wyoming, USA.

BBCW Advisory Board Members: Maggie Scarlett, Frank Goodyear, Gordon Allison, Anne Crowell. All have toured the facility as presented to the consultants, and are advising PD, CEO/ED Rebecca West on next steps for the institution at the Board of Trustees level.

Minor Changes from our Initial Plan:

With the conclusion of the work plan and the receipt of the consultants’ final report, the decision was made to change the PD (Project Director) from Conservator Beverly Perkins to the Executive Director Rebecca West to ensure alignment of next steps with our broader strategic planning goals. As Conservator, Beverly Perkins will be an integral advisor in specific areas as we move ahead. We anticipate that project planning will increase to a level that requires us to use our staff specialists along with higher level project management for the organization.

One other change was that we did not need to purchase dataloggers with reimbursed monies from the NEH. The Center had previously acquired a supply, and it was unnecessary to purchase additional dataloggers.

Impact on our Institution:

The project has already borne fruit in the Center’s day-to-day operations as well as development of forward-thinking procedures. One example is the new “Contaminated Collections Procedure” mentioned above in the professional development section. The analysis of such toxins is a specific area of study within the field of Conservation, but is not adapted to actual museum practice. The potential to bridge the gap between the data and practice would be a useful addition to museum study, conservation, and registration as specific disciplines within the areas of historic, cultural, and natural history-based institutions.

We have also amended our Collections Management Policy with updates to the following: temporary custody status, unclaimed loan procedures, collections guidelines for advisory board members, increased awareness of collections stewardship, the development of a collections committee for higher awareness between departments, changes to safety and security procedures, and the implementation of “maintenance months” wherein exhibitions, maintenance and curatorial staff devote a month to addressing known issues needing remediation, e.g. lighting replacement or vault storage issues. The
intended result is optimal museum care and storage of relevant and accessible collections in both theory and in practice.

Those who Benefited

The Center welcomed 154,216 visitors during the performance period of this grant 10/1/2020 - 9/30/2021.

Additionally, on-site researchers, fellows, interns, and tribal groups have benefited from the progress made during the performance period, although it is difficult to determine a specific number. Center staff have also shared our experience with external colleagues who are approaching their own storage or collections safety issues. Including staff, the project’s impact extends to 70 full-time employees year-round, 35 part-time year-round employees, and additional seasonal staff. Benefit to Curatorial, Library and Museum Services staff is discussed earlier, but sets a standard for internal museum practice for work with collections as well as considerations for personal health and safety.

Additional Impacts and Benefits

Upon completion and implementation of the contaminated collections procedures, Museum Services staff is considering the dissemination of the processes and associated research through various museum organizations and platforms such as AAM, Western Museums Association, and NAGPRA Community of Practice group.

Our Collections Management Policy updates (discussed earlier) and our new “Contaminated Collections Procedures” for the handling of objects contaminated with toxins are the most pertinent products of this grant regarding this question. The Collections Management Policy was revised, and a new procedure initiated based on knowledge directly gained from the consultants’ visit and report and reflect more sensitive and attuned institutional thinking. Progress made in procedures and policies is shared with our Human Resources department as many of the updates correlate to employee well-being and professional growth.

Our Museum Services, Facilities, and Plains Indian Museum staff have worked closely with Wyoming OSHA representatives prior to the development the “Contaminated Collections Procedure,” and will continue to do so. The project encouraged the Center to update its PPE practices and procedures with the data gained from portions of the project. While addressing concerns among objects in our permanent collection, we are actively testing objects that are subject to repatriation as well as approved for outgoing loan, deaccession for hazardous materials. We have the ability to do so with XRF technology (currently utilize rented XRF units) or swab testing.

Impacts Beyond the Humanities

This project has already accomplished, and will continue to provide, increased access to the Center collections by improving our preservation methods which in turn increase the longevity of access to collections items. Better storage leads to greater accessibility for researchers, students, volunteers, and visitors. The project is also improving "safe access" to objects often visited by members of Indigenous communities or their representatives (e.g., NAGPRA [Native American Graves Protection and Repatriation Act] visits), researching repatriation and/or requesting the return of such objects to Indigenous communities.