

#### 4. OWNERSHIP AND PROOF OF NONPROFIT STATUS

Does the applicant own this historic property or collection?

- Yes For the majority of the Botany and Zoology Collections, but NPS owns portions  
 No Majority of the archaeological collections are owned by four federal agencies: Bureau of Indian Affairs, Coconino National Forest, Bureau of Reclamation, Flagstaff Area Monuments

**If the applicant does not own this property**, attach a letter explaining the relationship between the owner and the applicant and the authority under which the applicant will be the grantee of record to undertake work on the property or collection. The letter must be on the owner's letterhead and must be signed by the owner's authorizing official. **See Attachment A**

**If the applicant is not a Federal agency**, proof of nonprofit or government status must be attached to this application. A copy of the Federal IRS letter indicating the applicant's eligibility for nonprofit status under the applicable provisions of the Internal Revenue Code of 1954, as amended. **See Attachment B**

- An official document identifying the applicant as a unit of state, tribal, or local government or other tax-exempt multipurpose organization. If prepared specifically for this application, the certification must be on the parent organization letterhead and certified by an official of the parent organization.

**Please note** – A letter of sales tax exemption is not acceptable as proof of nonprofit status.

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#### 5. DOCUMENTATION

A minimum of four (4), 4"x6" or larger black and white or color photographs must accompany the original and each copy of the application. Photographs must include views of the historic property (showing entire building/property) or collection and views specifically documenting the threat or damage to the property or collection. Photographs must be labeled. Photocopies and photographs submitted electronically will not be accepted. Photographs will not be returned. **Please note:** Submission of **printed** digital photographs will not disqualify an application; however, photographs of lesser quality could affect reviewers' evaluation of an application. **See Attachment C**

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#### 6. PROJECT SUMMARY

In the space below, **briefly** summarize the proposed project. Discuss the national significance of the historic property or collection, its current condition, the nature of the threat, the proposed preservation and/or conservation work, and the project's public benefit. One continuation sheet may be attached; however, applicants are strongly encouraged to provide brief, concise narratives.

The goal of this project is to address two top priority environmental preservation needs of the archaeology and biology collections of the Museum of Northern Arizona (MNA). The first need is to replace substandard cabinetry with new museum quality cabinetry for installation in a new collection center repository building (2007-2008) that will house 1<sup>st</sup> and 2<sup>nd</sup> priority archaeology and biology collections. This project will also fund a second need, the salaries of two collection staff for two years to assist in rehousing these collections and moving them to the new building.

The archaeological collections include many materials from scientific excavations of archaeological sites, several of which have national or state significance and are listed in the Federal Register. Collections from sites with National Significance include Wupatki, Walnut, and Navajo National Monuments; Coconino National Forest's (CNF) Ridge Ruin; Winona Ruin; Elden and Clear Creek Ruins and Painted Desert (NPS), as well as collections from sites designated as National Landmarks such as Awatovi, Oraibi, and Winona Ruin. These site collections, along with others from the region, constitute a nationally significant resource that possesses exceptional value and quality in illustrating and interpreting the indigenous heritage of the United States. In addition, many of the sites from which these collections were gathered are now inundated by Lake Powell (Glen Canyon Dam Project) and thus no longer accessible, or are endangered due to increased visitation and urbanization of this area of the Southwest.

The biology collections are the result of past and current research into the spectacular natural landscapes [Grand Canyon National Park (a World Heritage Site) the San Francisco Peaks, and the Verde River Valley] that surround MNA (MNA is located at the base of the San Francisco Peaks). In the early 1890's, renowned pioneer ecologist C. Hart Merriam provided the first comprehensive description of this American desert mountain biome. The research Merriam conducted here was used to extrapolate life zones across North America and the ecological concepts he developed here are still being tested today. With an elevation range of 1,000 to nearly 13,000 feet, the entire range of life zones from Mexico to Canada are contained in this nationally—indeed internationally—significant setting. In light of this significance, the biology collections, both botanical and zoological, form the core of any potential all-taxon biological inventory of the Grand Canyon region. The herbarium contains many plant species that are rare, first records, voucher specimens, and holotype and paratype specimens. The zoology collections contain significant vertebrate and invertebrate specimens including the Hargrave avifaunal bone collection—among the most comprehensive southwestern bird collection ever assembled. In addition, MNA houses an extensive collection of fish, amphibian, reptile, bird, and mammal specimens, including several

dozen specimens of threatened or endangered vertebrate species, and numerous first records for the region. MNA's collection is the only truly comprehensive collection of butterflies and moths; dragonflies; tiger, scarab, darkling, and aquatic beetles; aquatic true bugs; spiders; and other invertebrate groups from this world-renowned ecoregion. A long institutional history of collection loans to researchers throughout the US further underscores the national significance of these holdings.

MNA's archaeology and biology collections are threatened by unacceptable levels of ongoing environmental damage due to the age and nature of their facilities, storage products, and storage furniture, and the lack of collections staff to implement improvements. These collections, many of which are Federally-owned, have long been cared for by MNA with limited financial resources. (In archaeology, 87% of MNA's collection is Federally-owned.) Several of the MNA buildings in which collections are stored are renovated farm buildings, cinder block buildings, and an old sheet metal "Butler" building. (See Attachment D, Campus Map.) All have heat and fire detection devices, but no humidity, air conditioning, or fire suppression systems. A general conservation survey (1989-Jeanne Brako), an environmental survey (1990-Steven Weintraub), MAP II assessments (1988 and 2004), and an archaeological condition assessment (1999-Matthew Crawford) all identified a new collection facility as an essential top preservation priority. (See Attachments I through M.) With a recently solicited private gift of \$3 million towards the construction of a new collection facility in 2007-2008, the housing facility portion of the environmental hazard to these collections will be resolved.

Following passage of 36 CFR Part 79 to improve the storage standards and materials used to house archaeological collections, in the mid 1990s several Department of the Interior agencies (BOR, BIA, and NPS) began to provide collections improvement funds to upgrade the documentation and housing of archaeological collections under their jurisdiction at MNA. Although MNA made great strides in the creation of storage mounts and containers by hiring contract staff and using Mr. Crawford's 1999 rehousing recommendations and guidelines, these collections improvement funds have not been sufficient to purchase the museum quality cabinetry needed to rehouse the collections.

With funding for a new collections center building now secured, the remaining major environmental threats that MNA's collections face are the lack of museum quality cabinetry and collection staff to accomplish rehousing projects. Cabinetry and additional collection staff are identified as top preservation priorities in MNA's Preservation Plan. (See Attachment H.) In decades past, metal clad wood cases were constructed by museum staff for housing of diagnostic archaeological artifacts, and botanical and zoological specimens. These cases are physically unstable. Additionally, conservation consultants have been concerned that the wood in existing metal cases may emit acid wood fumes. The consultants recommended that all cabinetry for these collections be replaced.

The \$3 million gift is devoted to the construction of the new climate controlled highly secure facility, which will be equipped throughout with a Spacesaver compactor track system to maximize storage capacity per square foot of construction and to allow optimal access to collections with minimal disturbance. Other funding is needed to purchase the new museum quality cases that will be installed on the compactor system. Some MNA collections, primarily in ethnology, currently are housed in museum quality cabinetry that is compactor system compatible. However, only one of MNA's archaeology cabinets and none of the biology cabinets are of this type. In order to move the archaeology and biology collections to the improved environment of a new building, the older cabinets that house them must be replaced with museum-quality compactor-compatible cabinets. The total estimated cost of fitting the new building with compactor capability and compatible cabinetry is \$1,489,428. MNA requests \$501,539 from the Save America's Treasures program to purchase museum quality cabinetry to rehouse the biology and federally owned archaeology collections. (See Attachment F.) NPS Save America's Treasures funds are especially crucial to this project because other significant museum-related Federal granting agencies do not fund support for the care of Federally-owned collections. In addition, to accomplish rehousing and moving these collections, funding is needed for two new staff positions will be required to assist existing permanent collections staff (MNA's Collections Manager and Associate Collections Manager). (See Attachment E.) The estimated cost for staffing the project is \$198,030 (\$143,500 for personnel and \$54,530 for benefits; staffing plus cabinetry totals \$699,569.)

Once completed, the new collection center/repository will allow the Museum to expand its current behind-the-scenes public tours, now provided once a month to small groups of up to 10 people. The museum has offered these tours for over three years and the current group limit is based on space limitations. At this time these tours cover only two collection areas—anthropology and paleontology. Once many of the collections are moved from four buildings into one and once two additional collection staff with the appropriate expertise are hired, MNA will be able to expand its tour offerings to encompass biology and other collections of the Museum. To better serve public interest in MNA's prehistoric pottery collection (a nationally significant type collection), 75 new cabinets with double glass doors will be purchased for its storage. Glass doors will allow the public to view pieces without collections staff having to open the cabinets, thus ensuring that microclimates maintained within these cases are not disrupted.

These behind-the-scenes tours are an important component of MNA's public experience. MNA's location on a main access highway to Grand Canyon National Park means that a large percentage of MNA's visitors are from throughout the United States as well as all over the world. Preservation and presentation of MNA's vast collections benefits not only northern Arizona residents, but a truly national and international audience.

## 7. NATIONAL SIGNIFICANCE (30 POINTS)

Applications for collections or historic properties not meeting this criterion will receive no further consideration. Complete either section A or section B, as appropriate.

### A. HISTORIC PROPERTIES

The historic property will be considered to be nationally significant according to the definition of "National Significance" outlined on page 3 of the Guidelines and Application Instructions if it meets one of the following criteria. **Check the applicable criterion and complete item "c"**.

a) \_\_\_\_\_ **Designated as a National Historic Landmark. (20 – 30 POINTS)**

b) \_\_\_\_\_ **Listed in the National Register of Historic Places for national significance. (UP TO 25 POINTS)**  
Please note that properties can be listed in the National Register for significance at the local, state, or national level; most properties are not listed for national significance. The level of significance can be found in Section 3 – State/Federal Agency Certification of the property's approved National Register nomination. Contact your State Historic Preservation Office if you have questions about the level of significance or do not have a copy of the approved nomination.

c) Explain the reasons why the property is nationally significant. One continuation sheet may be attached; however, applicants are strongly encouraged to provide brief, concise narratives.

**This Page Is Not Applicable to This Application**

## 7. NATIONAL SIGNIFICANCE (CONTINUED)

### B. COLLECTIONS

In the space below, describe the collection and document the national historical, artistic, scientific and / or cultural significance of the collection using the definition of "National Significance" outlined on page 3 of the Guidelines and Application Instructions. The description and documentation must be clear to individuals not familiar with the collection. Applicants are strongly encouraged to provide brief, concise narratives.

The Museum of Northern Arizona's archaeology and biology collections are the focus of this project. The archaeology collection consists of a quarter of a million specimens and 9,000 cubic feet of bulk material, while the biology collection encompasses more than 267,000 specimens. These collections are subsections of larger collection holdings that include the rest of the anthropology collection, 25,000 geology specimens, 3200 fine art pieces, and 150,000 images, totaling more than 850,000 specimens plus 3500 linear feet of archives for MNA's entire collections.

MNA is located on the high arid Colorado Plateau (a 130,000 square mile geographic region encompassing northern Arizona and portions of Colorado, New Mexico, and Utah) of the American Southwest, which is world-renowned for its many well-preserved archeological resources. Established in 1928, by co-founders Dr. Harold Colton (a zoologist and anthropologist) and Mary-Russell Ferrell Colton (a professional artist), the Museum seeks to preserve, research, and interpret the natural and cultural resources of this area. The botany, zoology, and archaeology holdings at MNA are the result of systematic, scientific collecting on the Colorado Plateau. MNA's co-founders were instrumental in the preservation of local National Monuments and conducted many of the region's initial surveys and excavations on surrounding lands under federal permit. Scientists of national acclaim who have worked with or contributed to the Museum's anthropology and biology collections include Al Whiting (a biologist, anthropologist and ethnobotanist), John Rockefeller (coleopterist), Robert Euler (anthropologist), Lyndon Hargrave (ornithologist), A. E. Douglass (the father of tree ring dating, who developed this technique by researching prehistoric wood samples collected during MNA expeditions led by archaeologists Emil Haury and John C. McGregor). In more recent years, prominent ecologists who worked at MNA include James Reichman, Ron Pulliam, Thomas Whitham, Peter Price, Paul Dayton, and Larry Stevens, who recently joined MNA as Curator of Ecology and Conservation. Early on in American archaeology, the Museum engaged in definitive, cutting edge research and for many decades was the focus of prehistoric ceramic studies. MNA co-founder Dr. Colton, in collaboration with Dr. Lyndon Hargrave, devised a concept for categorizing prehistoric Southwestern ceramics and wrote *the* definitive descriptions for their analysis, which remain in use today. This effort created a ceramic typology of almost 800 different types/styles, arranged chronologically, that is represented in the Museum of Northern Arizona's 5,936 Prehistoric Whole Vessel Collection. MNA's is the most definitive and systematic Southwestern ceramic collection in the world. Today, Senior Curator of Anthropology Dr. David Wilcox continues the Museum's tradition of research in pottery and obsidian analysis and additionally has accomplished extensive original research on the movements, settlement patterns and economies of prehistoric Southwestern peoples. Additionally, prehistoric ceramics expert Dr. Kelley Hays-Gilpin holds a joint position as part-time anthropology curator at MNA and professor of archaeology at Northern Arizona University.

The Museum of Northern Arizona's biology collection consists of 32,000 plant specimens, 35,000 vertebrate specimens, and over 200,000 invertebrate insects (over 267,000 specimens in all). The Museum is surrounded by world renowned natural landscapes: The Grand Canyon, located 70 miles north of the Museum, is a National Park and a World Heritage Site. The San Francisco Peaks lies immediately north of the Museum and is the highest elevation in Arizona (12,663 ft.). The Verde River Valley lies just 50 miles south. In the early 1890's, C. Hart Merriam provided the first comprehensive description of this American desert mountain biome, and proposed ecological concepts that are still being tested today. The research Merriam conducted here was used to extrapolate life zones across North America and the ecological concepts he developed here are still being tested today. With an elevation range of 1,000 to nearly 13,000 feet, the entire range of life zones from Mexico to Canada are contained in this nationally—indeed internationally—significant setting. In light of this, the biology collections, both botanical and zoological, form the core of any all-taxon biological inventory of the Grand Canyon region. The Museum has rapidly accumulated many new biological specimens that need improved storage. The MNA herbarium contains more than 32,000 specimens of the region's plant species, many of which are first records, rare plants, and type specimens. The MNA ethnobotany holdings contain culturally significant plant specimen collections by Alfred F. Whiting beginning in the early 1940s from primarily the Navajo, Hopi, and Apache Tribes. Several thousand specimens are ready to be added to this collection, but additional cabinetry is needed to provide appropriate storage. Within its 35,000 vertebrate specimens, MNA houses the Hargrave avifaunal bone collection—among the most comprehensive southwestern bird collections ever assembled. In addition, MNA houses an extensive collection of fish, amphibian, reptile, bird, and mammal specimens, including several dozen specimens of threatened or endangered vertebrate species, and numerous first records for the region. The region contains an enormous number of poorly known invertebrate species. With nearly 200,000 specimens, MNA's invertebrate collection is the only truly comprehensive regional collection of: butterflies and moths; dragonflies; tiger, scarab, darkling, and aquatic beetles; aquatic true bugs; spiders; and other invertebrate groups. More than a dozen new invertebrate species and one new spider genus have been described from these collections. During the last six years MNA hosted 127 biological research visits, 82 loans involving 2,220 specimens and/or individual elements, and responded to 92 requests for collection data. While many of these activities related to regional research projects, scholarly requests were received from institutions including the Field Museum of Natural History, Michigan State University, National Museum of Natural History, New York Botanical Gardens, San Diego State University, Texas A&M University, and the University of California, Riverside, supporting the national

significance of these important holdings.

The Museum's archaeology collection contains 1/4 million cataloged specimens and 9000 cubic feet of bulk material (ceramic potsherds and stone flakes) representing 16,000 of the 26,000 sites documented in this region. It is the 32,407 Archaeological Tray Artifacts (First Priority) and the 5,936 Prehistoric Whole Vessel Collection (Second Priority) portion of the archaeology collection that are the focus of the anthropology portion of this project. The Archaeology Tray Artifacts consist of organic artifacts (such as prehistoric baskets, sandals, matting, hafted artifacts) and diagnostic items (such as prehistoric projectile points, ornaments, and bone tools) that are frequently tapped by researchers, exhibitors, and educators on site and through loans. During the past 5 years the archaeology collection has received 171 research visits from institutions such as University of Rochester, University of Delaware, University of Redlands, University of Michigan; UCLA, Grinnell College, Natural History Museum of LA County, University of Colorado-Boulder, and the University of Nevada. Many of the requests focused on the prehistoric ceramic collections and came from such sources as the Prescott Gray Ware Project, San Francisco Mt. Gray Ware Sourcing Project, Mogollon Ceramic Conference, Gobernador Polychrome Design & Technology Project, Virgin Anasazi Ceramic Study, and Verde Valley Ceramics Project. Other typical requests were for objects from the Beale Wagon Road and for mural and plaster samples from Awatovi, a National Historic Landmark. Due to the fragility of ceramic artifacts, most requests for loans are from regional researchers with national researchers coming for on-site visits. There were 17 loans of 943 archaeological artifacts or lots.

MNA's holdings constitute a unique historical record of scientific exploration of the Grand Canyon and Four Corners region over the past century. The collections are of extraordinary value for the study of the cultures and ecology of the Southwest. The collection possesses exceptional historical and cultural significance that commemorates indigenous lifeways and documents the changing and evolving Pueblo culture of the Southwest. Research into these collections yields understandings of the cultural patterns and processes in the region and contributes to our understanding and appreciation of the natural and cultural changes of this important area.

As mentioned above, many of the collections are from sites that are listed in the National Register or have been designated as National Landmarks. For example, as cited in the National Register's website, the Coconino National Forest's (CNF) Winona Site (national significance and designated National Landmark) has "*yielded considerable detail on cultural developments in the Flagstaff area immediately following the eruption of Sunset Crater in 1066 AD. Between 1070 AD and 1130 AD, a span of a little over two generations, new ideas injected into the area by [Native] immigrants from neighboring regions caused rapid change in the local culture, which gradually blended to form a new pattern of life that marked these people as distinct from others in the Southwest.*" Material from Elden Pueblo and Clear Creek Ruin (CNF sites represented in MNA's holdings which have been given state significance in the National Register) also helps to expand the knowledge gleaned from sites such as the Winona Site.

Wupatki National Monument (Nationally Significant) contains over 2,700 sites, most of which have associated collections housed at MNA. Wupatki NM is the only location in the Southwest where evidence from at least three archaeologically separate ancestral Puebloan cultures is found from 100 AD through 1250 AD. Walnut Canyon National Monument (also Nationally Significant) contains hundreds of archeological sites with many artifacts at MNA. These sites and collections range from Archaic (2500 BC to 1 AD) to the prehistoric Sinagua culture that flourished from 600 AD until 1400 AD. These prehistoric sites are sacred to the modern Pueblo people (Hopi, Zuni, and New Mexico Pueblos) with many known by name through oral histories and ancestral clan lineages traced to them. NPS's Vanishing Treasures program is focused on the devastating destruction of irreplaceable structures at Glen Canyon NRA, Wupatki, Walnut, Navajo National Monument, and Petrified Forest. Many of the collections and archives from these Vanishing Treasures sites reside at MNA.

The BIA collections at MNA include holdings from pueblo villages on the Hopi Reservation such as Old Oraibi and the prehistoric ancestral village of Awatovi (both National Landmarks). Old Oraibi was constructed around 1100 AD, the same time as the prehistoric villages at Wupatki and Walnut Canyon. Oraibi, recognized as the *nation's oldest continuously inhabited site*, remains a viable community that continues to practice traditional Pueblo religious ceremonies and lifeways. Art forms like pottery making and weaving among Pueblo peoples have origins deeply rooted in the past and continue today as integral elements of traditions and customs maintained through the centuries. MNA's archaeological collections are useful not only to researchers and the visiting public, but to the Native American artisans who practice these traditions for ceremonial, aesthetic and economic purposes and wish to view and study the collections to increase their knowledge of both prehistoric and historic Native techniques and designs.

## 8. PROJECT DESCRIPTION

**Additional sheets may be attached; however, applicants are strongly encouraged to provide brief, concise narratives.**

### A. WHAT IS THE THREAT TO THE HISTORIC PROPERTY OR COLLECTION? (25 POINTS)

Describe the current condition of the collection or historic property and explain how it is threatened or endangered. The source(s), nature, extent, and severity of the threat, danger or damage to the collection or historic property must be clearly and convincingly argued.

The nature of the threat to MNA's archaeological and biological collections is environmental, and for this reason conservation and other museum consultants have identified improving the collection environment as a top preservation concern for the entire collection. These collections are threatened by the ongoing risk of environmental damage due to age and material nature of their facilities, storage products, and storage furniture, and lack of collections staff to implement improved rehousing.

Since 1988, consultants have consistently advised MNA that its collection facilities are substandard, inadequate, and severely overcrowded (1988 MAP II by Lynn Denton and 2004 MAP II by Jane MacKnight; 1989 IMS Conservation Assessment by Jeanne Brako; 1990 Environmental Assessment by Steven Weintraub, 1999 Archaeology Condition Assessment by Matthew Crawford). Consultants also noted that collection cabinets were inadequate and overcrowded but as noted by Ms. Brako "...metal cabinetry is recommended. However, at this time, it is premature to convert to all metal cabinetry, except for certain collections. The wooden storage units that were designed and fabricated in-house over numerous years are probably providing an environmental buffer to the specimens." However, following Brako's 1990 report, as part of environmental monitoring procedures MNA engaged in microclimate experiments (see Attachment N) and determined that the wood in existing cabinetry in fact is *not* offering any buffering. The various reports also comment on the need to provide archival storage mounts and containers within cabinets and emphasize the need for additional collection staff to expand rehousing efforts.

MNA's Preservation Plan was created in 2003 (NEH Preservation Assistance Grant with Jude Southward) using recommendations from these reports. The plan identifies top priority preservation needs for the next three years (2005-2007). In the fall of 2004, MNA received an unanticipated \$3 million anonymous gift in response to its administration's public expression of the urgent need to correct adverse conditions in collections. This gift is restricted to construction of a new climate controlled, highly secure repository, the Museum of Northern Arizona Collection Center, which has been registered with the US Green Bldg council for LEED Certification (Leadership in Energy and Environmental Design) and is scheduled to be completed in 2007-08 and to meet a minimum a LEED standard of Silver. Now that MNA has secured construction funding, its attention has turned towards addressing the next top priority preservation needs. Specifically MNA must address the preservation threat posed by inadequate cabinetry and an insufficient level of collection staff to implement collection improvements. For this reason its Preservation Plan was revised in 2005 to address the opportunities presented by the \$3 building construction gift and the need to focus on cabinetry replacement and expansion of collection staff.

The remaining threat to these collections is their housing on open shelving or in poor quality cabinetry that compromises the physical and chemical integrity of the archaeological and biological specimens. The majority of the cabinets in question are metal clad wooden cabinets that were constructed in-house by museum staff, primarily in the 1940s and 50s and have since remained the standard cabinetry units used in most MNA collection areas. The extent of the threat to the collections they house is far reaching, requiring MNA to replace 307 cabinets in all before moving their contents to the new building. In most cases the exteriors of these cabinets are painted sheet metal while the interiors are constructed of pine wood, although some are constructed entirely of plywood. The drawers are constructed of pine, plywood, and particle board. The separate doors, constructed with pine and metal sheeting, have old felt seals, and many are not lockable. Because cabinetry construction occurred at different times, doors and drawers do not necessarily fit on or in any particular cabinet. Many cabinets have poor-fitting drawers that bind on their runners and are at risk for collapse, making object damage is an ongoing concern. In some instances, a case cannot be closed because no door can be located that fits. Door handle breakage is another ongoing problem. In addition, the cases rest directly on the floor and some have rusted in place.

In addition to the threat of physical damage, the Museum is concerned about chemical damage. As Ms. Brako noted, replacing these cabinets for certain collections was important regardless of the building environment. In MNA's ethnology collections, which are not part of this project, the jewelry collection, which was displaying active tarnish due to acid-wood fumes, was rehoused in a new Delta Design cabinet (provided by NEH funding) and the textile collections have been partially rehoused in 15 metal, museum quality, roll storage cases purchased in 1988. Collection improvement funds provided by federal agencies have upgraded documentation and housing of their respective holdings. However, the natural concern is that acid-wood fumes within the cabinets are compromising acid-free paper products and that rehousing is required to remove this chemical threat. The Delta cabinet mentioned above is the sole cabinet owned by MNA that is suitable for both the preservation of the specimens it holds and for placement on the new building's compactor track system.

While much of the botany collection is stored in the metal clad wood cases, a portion is housed in metal herbarium cabinets inherited from another museum. These old metal cases have doors that cannot be locked and often cannot be

completely closed, making microclimate management impossible and leaving the contents susceptible to insect infestation. While no testing has been conducted to confirm contamination, consultants have advised that felt gaskets present on these cases may have been treated in years past with contaminants that now may serve as hazards to staff and researchers. Because of their construction, these old herbarium cabinets are not suitable for placement on compactor units.

MNA's archaeology and biology cases need to be replaced not only to remove the physical and chemical threats they impose; but they also so that the collections they house can additionally be protected by the highly-secure, climatically controlled environment of the new collections center/repository. The existing cabinetry is not durable enough for installation on the new building's compactor system, and the open shelving used to store parts of these collections would be totally incompatible with this system. Unless new cabinetry is acquired and staff procured to accomplish rehousing, MNA's nationally significant archaeology and biology collections will continue to be threatened—not only by their existing storage cabinetry, but also by the inadequately controlled building environment in which they would thus remain.

Another important part of this project is the hiring of two additional collection staff to supplement MNA's two permanent collection staff members (Collections Manager and Associate Collections Manager of Natural Sciences) during the rehousing phase of the project. With grant support from the IMLS-Museums for America program and National NAGPRA, MNA's collection staff currently consists of five full time people, but the three that are supported by these other grants are not available to assist with this cabinetry/rehousing/moving project. Two (Registrar and Collections Assistant) are focused on inventories and upgrading legal documentation, thus gaining physical and intellectual control over holdings, while one NAGPRA Specialist is sending updated summaries to Tribes based on new data. It will be extremely difficult for the two permanent collection staff to accomplish their regular duties while also rehousing the archaeology and biology collections in new cabinetry and moving them to the new facility. Additionally, MNA's existing collection staff lacks expertise in biological collections management.

Therefore, as a part of this project, MNA proposes to hire two additional experienced collection managers, one in Anthropology and one in Biology, to accomplish the rehousing over the 2-year grant period. Additionally, these two new staff members will oversee the move of these collections into the new facility. They also will train and oversee collection volunteers, students and interns who will assist with this project.

## 8. PROJECT DESCRIPTION (CONTINUED)

**Additional sheets may be attached; however, applicants are strongly encouraged to provide brief, concise narratives.**

### **B. WHAT WORK WILL BE SUPPORTED BY THIS GRANT AND HOW WILL IT MITIGATE THE THREAT TO THE HISTORIC PROPERTY OR COLLECTION? (25 POINTS)**

Projects must substantially mitigate or eliminate the threat, danger, or damage described in Section A and must have a clear public benefit (for example, historic places open for visitation or collections available for public viewing or scholarly research). The following points must be addressed:

- Describe the key project activities and products to be supported by this grant and the non-Federal match.
- Describe how the work will significantly diminish or eliminate the threat, danger, or damage to the historic property or collection.
- Explain any pre-project planning or research, such as Historic Structures Reports or Collection Condition Assessments, on which project decisions are based.
- List the key personnel undertaking the work and briefly describe their qualifications. If personnel have not been selected, briefly describe the qualifications you will require. (Please note: Do not send vitae. Consultants must be selected competitively.)
- Describe how the project will have a clear public benefit.
- Explain how your organization will ensure continued maintenance of the historic property or collection in the context of your organization-wide preservation or conservation activities.
- On a separate sheet, provide a timeline for project completion, including each major activity with a schedule for its completion and its cost. Projects must be completed within the grant period, which is generally 2 to 3 years.

MNA's Archaeological, Botany and Zoological Collections Rehousing Project is a 2-year project with a start date of 2/1/07 and an end date of 1/31/09. While MNA moves forward with planning, site preparation and construction for the new Collections Center, the key project activities supported by this grant request will consist of the following:

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|-------------|---|
| Activity 1  | Recruit and hire Anthropology and Biology Associate Collections Managers                          |
| Activity 2  | Determine additional archival supplies needed to expand archaeology and biology rehousing efforts |
| Activity 3  | Order additional archival supplies  |
| Activity 4  | Begin rehousing within existing cabinets  |
| Activity 5  | Plan for Collection Move  |
| Activity 6  | Order Cabinets once final construction date is set  |
| Activity 7  | New cabinets installed by Delta Design in new collection center                                   |
| Activity 8  | Move collections into new facility  |
| Activity 9  | Update inventory locations in data base   |
| Activity 10 | Develop script and schedule for expanded public tours   |

The key product that would result from Save America's Treasures funding is the preservation of nationally and internationally significant collections in museum quality cabinetry, matched by a privately funded new state-of-the-art, highly secure, energy efficient, green building repository, the construction of which has been registered with the US Green Building Council for LEED Certification at a minimum LEED standard of Silver. An additional important product will be an expanded public program experience with MNA's outstanding collections (850,000 individual specimens, 9,000 cubic feet of bulk archaeology material and 3500 linear feet of archives) that are part of the public trust and that represent the art, cultural traditions, and biological diversity of the 130,000 square mile Colorado Plateau region.

When this project is completed, the preservation of the First Priority and Second Priority collections at the Museum will be guaranteed because they will be placed in a state-of-the-art, energy efficient, highly secure, climate-controlled collection storage facility that is based on green building design and construction. As noted by numerous conservation and museum consultant reports, these collections have been at severe risk of deterioration due to detrimental environmental conditions. These poor conditions are the result of substandard and overcrowded facilities, storage products, storage furniture, and lack of collection staff.

MNA has known that this environmental improvement project was essential since the first surveys were conducted in the late 1980s. Beginning in 1988, consultants have consistently advised MNA that its collection facilities are substandard, inadequate, and severely overcrowded (1988 MAP II by Lynn Denton and 2004 MAP II by Jane MacKnight; 1989 IMS Conservation Assessment by Jeanne Brako; 1990 Environmental Assessment by Steven Weintraub, 1999 Archaeology Condition Assessment by Matthew Crawford). Copies of pertinent sections from these reports are attached. It was also noted by these consultants that collection cabinets were inadequate and overcrowded, that objects and specimens were poorly housed within the cabinets, and that additional collection staff were necessary to bring the care of these important and fragile collections up to current museum standards.

To guide these preservation efforts it was essential that MNA develop a preservation plan. With NEH funding a Preservation Plan was created in 2003 under the guidance of Jude Southward, a consultant conservator. This plan incorporated recommendations from these past reports and has guided the Museum in preservation efforts since it was developed. Under the guidance of this preservation plan the Museum has made many improvements (see list of preservation actions to date at the end of the attached Preservation Plan Executive Summary). The most critical need to improve collection preservation was the raising of funds to construct a new collection center (see also section 8A above.) In the fall of 2004, MNA received a \$3 million anonymous donation for the construction of this new collection center. Part of 2005 was spent in creating a master plan for its 200 acre plus campus under the guidance of its architectural firm (Roberts/Jones Associates, Inc.) with a specific goal of siting the new facility on MNA's grounds. This has been critical because three structures on the MNA grounds, McMillan Homestead (Coconino County's oldest standing non-Native American residence), Coyote Range (Colton House, the home of MNA's co-founders), and Akin Barn (where artist Louis

Akin, known for his landscapes of the Grand Canyon, once painted), are listed as nationally significant in the Federal Register. During the second phase of planning MNA, the architect and conservation consultant, Matthew Crawford, developed environmental parameters in line with green building design. This plan determined what collections would be installed in the new facility and determined the types and sizes of storage furniture required. (See Attachment G.)

MNA realizes that this first construction phase, even with compactor capability, will not house all of the collections at the Museum, so prioritizing collections has been important in the early planning phases for this new construction. First Priority collections consist of all that are organic (zoological or plant specimens, textiles, baskets, etc.) or highly sensitive to the environment such as archives (maps, documents, images, sound recordings, etc.). The Second Priority collections include highly diagnostic inorganic artifacts, many of which have been reconstructed or stabilized in the past with environmentally sensitive adhesives or consolidants. Using Space Saver compactor technology and new cabinetry, MNA will be able to house 1st and 2nd priority collections, but the remainder (Third Priority) will continue to be housed in other buildings on campus until such time that additional funds are obtained to expand the new collection center. In addition, in consultation with Tribes, NAGPRA related materials (sacred and ceremonial, human remains and associated funerary items) will not be placed in the new collection center.

By January 2006, the Collections Manager and Associate Collections Manager completed research into cabinetry, drawer, and shelf needs for all 1<sup>st</sup> and 2<sup>nd</sup> priority collections (with the exception of fine arts and archives which will need focused attention utilizing archive and conservation consultants). Additional space needs were calculated to alleviate overcrowded conditions. The cabinetry requirements were submitted to Delta Design, Inc. to obtain a cost estimate, which came in at \$965,566 for 307 cabinets, drawers, and shelves. Delta Design was chosen as the cabinetry source in 2004 based on their ability to provide standard size cabinets appropriate to specific collections, willingness to construct cabinets of appropriate sizes based on customer needs, and their cooperative agreement with Space Saver, Inc. Besides prioritizing what collections to place in the new collection center, it is clear that MNA had to identify other funding sources (NEH, NEA, IMLS, and NSF) to approach for the various collections and to fund compactor technology for installation in the new building. Save America's Treasures is deemed the most appropriate funding source for the cabinetry project because parts of these collections are Federally-owned. The cabinetry request that is made of Save America's Treasures is for 178 museum quality cabinets to replace existing sub-standard cabinets and shelving units.

At this time MNA is in the final preparation stages (survey, permits, etc.) to begin construction of the new facility in 2007 with completion in 2008. NPS, which has budgeted a construction proposal for an addition to this building in 2009 or after, has approved the site. As part of the Museum's overall commitment to social, environmental and fiscal responsibility, MNA is ensuring that this building be constructed with the greatest energy efficiency possible (see paragraphs about LEED certification above). To ensure continued maintenance of its collections, the Museum also is committed to institutional fiscal sustainability and the growth of its endowment. MNA's endowment increased by 27 percent during 2005 through major new gifts and market appreciation. It is a current institutional goal to increase the endowment by \$10 million over the next five years. Visitation also grew last year, by ten percent, additionally increasing revenues. It is the intention of MNA's administration to secure funding to bring the collections management staff up to appropriate levels that will maintain MNA's collections at the highest professional level. Additionally, incorporated into MNA's institutional plan, a new security safety and emergency plan is being instituted for the protection of MNA's collections and other assets.

The key personnel will consist of the two permanent collection staff members, Elaine Hughes, Collections Manager, and Janet Gillette, Associate Collections Manager for Natural Sciences. Ms. Hughes is head of the Collections Department and has a Museum Science degree from Texas Tech University and over 20 years of direct collections management experience. She will serve as the Project Director. Ms. Gillette has a Master's degree in Paleontology from the South Dakota School of Mines & Technology and over 15 years of collections management experience. Both will be involved in the orientation and training of the two new Associate Collection Managers and will work on other collections that will be relocated to the new collection facility. The qualifications for two new personnel will vary depending upon the experience needed. The Associate Collections Manager for Anthropology will have a master's degree, formal museum collections management and anthropology training, 3 years of collections management experience, and training and experience with archaeological collections. The Associate Collections Manager for Biology will have a BA (master's degree preferred) along with formal museum collections management training, 3 years of collections management experience, and training and experience with biological collections.

Once completed, the new collection center will allow the Museum to expand its current behind-the-scenes public tours, which are now given once a month to small groups of 10. While seeing the collections, the true focus of the tours is to show the public the life of collections: the preservation concerns, conservation efforts, who uses them, who borrows them, research initiatives, issues faced by agencies and tribes, and to stress that these collections are a part of their heritage, no matter who is the owning agency. After a collections tour, a common comment by the public is that they would rather see behind the scenes because to them it is the "real" museum. The Museum will expand these public tours in the new facility. Public benefit also will be served by the fact that new cabinetry systems will reduce the need for researchers to physically access objects (that are now visible behind glass). Additionally, specimens that are directly accessed through drawer or tray extension or actual removal, will be far less at risk during such access or removal. Not only researcher, but also artisans especially will benefit from glass fronts on some of the cases, as these will maximize their opportunities to observe techniques and designs of prehistoric and historic pottery, weavings, carvings and other craft specimens.