



Museums for America

Sample Application MA-255737-OMS-24
Project Category: Collections Stewardship and Access

The Henry Ford

Amount awarded by IMLS:	\$250,000
Amount of cost share:	\$347,654

The Henry Ford will clean, rehouse, and create digital catalog records for over 300 artifacts relating to energy, mobility, communications and information technology. The project will address issues of overcrowding, dirt, mold, and associated artifact deterioration in the storage area, while fostering both physical and virtual access to essential collections items. Museum staff will clean the artifacts and remediate mold as needed, update catalog records, and assess which objects are most at risk of deterioration. About 100 prioritized objects will be stabilized, receive additional conservation treatment, photographed, and added to museum's digital collections. The museum and the staff will benefit from having greater access to the objects in the collection through the creation of catalog records and digital images that will be available widely through the online collection portal.

Attached are the following components excerpted from the original application.

- Narrative
- Schedule of Completion
- Digital Product Plan
- Performance Measurement Plan

When preparing an application for the next deadline, be sure to follow the instructions in the most recent Notice of Funding Opportunity for the grant program to which you are applying.

Project Justification

The Edison Institute d/b/a The Henry Ford (THF) requests \$250,000 from the IMLS Museums for America program for a two-year project to clean, rehouse, and create fully digital catalog records for approximately 325 artifacts, of which roughly 100 objects of special significance will be further conserved and added to THF's publicly accessible Digital Collections. These items have been selected from the Power & Energy, Mobility, and Communications & Information Technology collections currently located in THF's Collections Storage Building (CSB). This project corresponds to Goal 3 of the Museums for America program for Collections Stewardship and Access to advance the management and care of collections and their associated documentation. The project represents an excellent opportunity to address several institutional priorities in a holistic manner. It will advance THF's continuing efforts to ameliorate overcrowding issues and dirt, mold, and associated artifact deterioration, while fostering both physical and virtual access to essential collections items that will bolster three key initiatives directly related to THF's 2003-2009 Strategic Plan: Journey to 100, specifically the enrichment of our Power & Energy exhibit, the planning of a permanent Communications & Information Technology exhibit, and the transformation of our Main Storage Building (MSB) into a publicly accessible open storage experience.

This project will target approximately 325 pre-selected artifacts in our Power & Energy, Mobility, and Communications & Information Technology collections, which have been housed, in some cases inaccessibly, in CSB for decades. All artifacts targeted by the grant will undergo mold remediation, be cleaned, relocated, and have catalog records created or updated. Of these, roughly 100 objects of special significance ("prioritized") will be stabilized and further conserved to digitization standard at minimum (where possible these artifacts will be conserved to exhibition standard), photographed, and added to THF's Digital Collections. All targeted items will then be rehoused and moved to THF's newly renovated, on-campus Main Storage Building (MSB) or to the Clean Room area of CSB itself. Completing all these critical actions as part of a single process increases efficiency by reducing handling, lowering start-up costs, and ensuring required resources are at hand throughout the project. Ultimately, this process will result in universally available catalog records, object narratives, and public-facing content, supporting programming and telling new stories, while contributing to the general knowledge of these collections. This work corresponds with Objectives 3.2 and 3.3 of the MFA Collections Stewardship and Access goals: to support conservation and environmental improvement and/or rehousing (3.2); and to support database management, digital asset management, and digitization (3.3).

THF's mission is to provide unique educational opportunities based on authentic objects, stories, and lives from America's traditions of innovation, resourcefulness, and ingenuity. Our purpose is to inspire people to learn from these traditions to help shape a better future. Our collections documenting Power & Energy, Mobility, Communications & Information Technology, Agriculture & the Environment, Design & Making, and Societal Transformation have been called "the finest ever assembled documenting the American experience" by an accreditation team of the American Association of Museums. Our Power & Energy, Mobility, and Communications & Information Technology collections are particularly strong. However, many objects of world historical importance related to these collections are in tightly packed and often inaccessible storage in CSB. In many cases, these artifacts were instrumental in helping to change the way we perceive and interact with the world around us. As identified by the project's Co-Curators, some artifacts of special interest include: the GM 6-71 diesel engine used on Jacques Cousteau's "Calypso"; Edison's K, L, and Z dynamos; and perhaps the last surviving DuMont Iconoscope camera, used at one of the oldest television stations in America (**Supportingdoc2 - Selected Curatorial Insights**).

While the excavation and conservation and digitization of these objects is a worthwhile task in its own right, some will have important roles to play as we work toward three key institutional initiatives laid out in our Strategic Plan as part of THF's Journey to 100—the 100th anniversary of our founding in 1929. More than just a celebration of an institutional milestone, THF's Journey to 100 is an ongoing effort to transform the

institution, enabling us to serve the next generation with world-class exhibitions, robust visitor amenities, and access to diverse stories and collections through upgraded facilities and infrastructure. With that in mind, many of the prioritized objects have been selected with an eye toward potential inclusion in the planned Power & Energy, Communications & Information Technology, or MSB experiences mentioned above.

Based on existing cataloging and visual inventories, we have identified roughly 325 artifacts in THF's Power & Energy, Mobility, and Communications & Information Technology collections known or thought to be housed in the areas of CSB affected by this project (**Supportingdoc3 - Targeted Object List and Conservation Assessment**). Most are located on rolling racks and in the 200, 300, 400, and 500 aisles. However, some are located elsewhere in the building, and it is likely that this number will increase as objects are moved and uncovered.

This project will attend to four important collections stewardship needs, driven by institutional objectives and long-term preservation strategies. First, it will continue to confront preservation issues relating to overcrowding, dirt, and mold in CSB. Second, it will improve the physical condition of the project artifacts through conservation treatment, rehousing, and removal to improved environments. Third, the work undertaken will facilitate the expansion of the Clean Room area in CSB by approximately 6,440 square feet, providing accessible, safe storage for the oversized objects processed through the project (**Supportingdoc4 - CSB Plan and Clean Room Expansion**). Fourth, it will enhance collections access through the creation of catalog records and digital images, available to all via THF's Digital Collections. Due to our experience with prior IMLS Museums for America grant projects for conservation and access, we are confident that we will fully achieve our goals within the grant term.

This will be the second of our IMLS-funded CSB projects to take full advantage of MSB, THF's new on-site storage facility (**Supportingdoc5 - THF Campus Plan**), which became available July 2018. MSB is part of the Ford Engineering Lab building, with Ford Motor Company retaining the front half of the building for office space and their corporate archives through a condominium agreement with THF, who rehabilitated and now occupies the rear 200,000 square feet. In 2021, we completed a multi-year off-site storage consolidation into the space, with 178,000 square feet of the building now in use as fully separate and secure collections storage (**Supportingdoc6 - MSB Plan**). MSB has been a major ongoing collection stewardship investment for THF that currently represents eight years of work and the expenditure of over \$8.7 million in institutional capital.

CSB has been one of THF's more intractable collections care problems. Built in 1972, this building has been a major storage area for Power & Energy, Agriculture & the Environment, Communications & Information Technology, and Mobility collections, and contains many exceedingly large artifacts. Access problems due to crowded conditions are compounded by poorly designed pallet racking that prioritized density at the sake of access. Some areas have fixed racking that render whole banks of shelving inaccessible.

Before previous IMLS-funded projects, these limitations hampered even the most basic collections management activities, such as cleaning and inventory. Consequently, there is a substantial layer of harsh industrial soil and debris on all materials that have been in CSB for an extended period. Three previous IMLS-funded projects achieved major improvements in the condition and accessibility of artifacts. Notably, 21 of the 62 rolling pallet racks have been removed, along with many fixed shelves and racks, making work with the artifacts included in this project possible.

In addition to the overcrowding noted above, an outbreak of white, fluffy molds of the genera *Aspergillus* and *Penicillium* was discovered in CSB in 2006. A report by a mycologist concluded that if left undisturbed, the mold levels are low enough to not represent a threat to people with healthy respiratory and immune systems. The mold grows primarily on accumulated dust, and has caused damage to wood, rubber, plastic, and leather

elements of artifacts (**Supportingdoc7 - CSB Mold Photos**). A dehumidification system, installed in 2007, keeps RH at levels (25–50%) below those that foster mold growth, preventing new outbreaks.

Artifacts have been damaged by the poor conditions in CSB. High levels of harsh industrial soil accelerate corrosion on metal objects and exacerbate mold growth. Overcrowding has resulted in unsupported artifacts having been stacked or leaned against one another, as well as tightly packed collections that are difficult to access or safely retrieve without putting them, adjacent items, or staff at risk. This situation has put the collections at long-term risk of deterioration and makes requests for program or exhibit use difficult or impossible to fulfill. It is only through large-scale projects, where space, staff, and equipment can be brought together, that progress can be made on the condition of collections in CSB. Cleaning, mold remediation, stabilization, rehousing, and density reduction will improve the condition of project collections.

Because of collections support for CSB from IMLS, THF has been able to make the digitization of and access to CSB's collections information a strategic priority for the past decade. Institution-wide, since 2011, THF's digitization initiative has created over 121,000 digitized artifact records. However, crowded conditions in CSB have limited even general understanding of the collections housed there, let alone the cataloging and photography that digitization requires. Previous project work revealed that only about one-third of the collections stored in CSB can be found in our collections management system, Axiell's Electronic Museum (EMu). Consequently, CSB's collections, in the aggregate, are the least well-known of THF's holdings. Improved cataloging and digital images for these artifacts will help us rediscover these resources, make object information available to THF staff, facilitate the development of programming related to the above initiatives as well as potential future exhibits, and provide online access to anyone via THF's Digital Collections.

To keep staff and external audiences aware, informed, and excited by the objects and collections targeted by this project, the Co-Curators and Associate Curator will create object narratives and public-facing content throughout. THF will also continue to feature artifacts and stories related to the project in various institutional publications, on display (physically and digitally), and through additional digital content (**Supportingdoc12: Artifact End Uses**). Additionally, THF will utilize its robust and energetic social media following to educate the public on the conservation and collections management processes involved and the artifacts themselves. For example, previous projects featured monthly livestream presentations by Conservation staff on artifact treatments. As collections become available online, they are discovered by other organizations, which request them as loans; and by media, researchers, enthusiasts, and other users of THF's resources. As with previous IMLS projects, staff will continue to present results at professional gatherings.

The outcomes outlined above are aligned with THF's Strategic Plan and institutional goals to increase both digitization capacity and the number of artifacts digitized. The plan also aims to strengthen our relevance with enhanced museum storytelling through new digital experiences, by developing new content, and by continuing to relocate appropriate collections to MSB.

Project Work Plan

Through ongoing digitization work and previous IMLS grants, THF has developed and refined a stable and productive delivery system to process CSB-based collections and create digital records. We will continue to leverage this system for this project, involving several main task streams: Collections Management, Conservation, Photography, Registrarial, and Curatorial (**Supportingdoc8 - Collections Digitization Workflow Diagram**).

The project can move to full speed quickly. Prior IMLS projects have given THF nearly a decades' worth of experience using the same methodology, equipment, and programs. Project staff are trained to use EMu and familiar with personal safety standards and conservation best practices for identifying and remediating mold.

Staff are educated in treatment and safety issues related to modern materials, including asbestos, lead, mercury, cadmium plating, and PCBs. Handling and abatement of hazardous materials that cannot be safely addressed by conservation staff will be contracted out to licensed professionals. Key workspace facilities are already in place, including the Clean Room, currently an enclosed 1,600 square foot area for mold removal and cleaning that will be expanded to roughly 8,040 square feet during the project. Located along the front of CSB (**Supportingdoc9 - CSB Clean Room Photos**), it is positively pressurized using two blowers with HEPA filters and is kept clean to prevent re-contamination.

Each collections space will be prepared by removing rolling carts, palletized collections, and other materials in the aisles to allow for unrestricted access to the storage racks and to create access to the Clean Room from the work location. Most project collections can be safely reached using a forklift, pallet jack, or our newly purchased order picker. Many items targeted by this project are very large, complex, quite heavy, and difficult to handle, so staff will utilize handling equipment to facilitate movement with minimal direct handling of objects. Rigging contractors will move approximately two dozen extremely large and heavy artifacts. Given CSB's current layout, many targeted objects are inaccessible under current conditions, whether blocked by permanent shelving or other large artifacts. Before these objects can be accessed, the shelving will be deconstructed or the large objects moved. To accommodate the expansion of the Clean Room, all shelving that falls within its projected footprint will be dismantled (**Supportingdoc4 - CSB Plan and Clean Room Expansion**). Any objects displaced by our work but not targeted by the grant will be sorted, documented, and triaged, so they can be more easily dealt with in the future. Following the second phase of work, contractors will expand the Clean Room and remediate mold and dirt on the walls, floors, and overhead beams within it to accommodate the oversized objects processed through this project.

Each phase of work will begin with a strategy meeting including the Registrarial, Conservation, Collections Management, and Curatorial arms of the project. They will review preliminary artifact lists based on collections records and physical inventories in storage, and will address general approaches to the work, as well as specific cataloging, handling, safety, condition, and materials issues likely to be encountered with the artifacts. Weekly meetings will coordinate activities and address issues that have arisen. We will continue to use tracking processes developed in previous IMLS projects, using EMu's events module and task tracking functionality for batching work and coordinating all aspects of the workflow. This capability has been critical in prior projects to ensure smooth project coordination across five different units and four buildings.

Staff from the Collections Management and Conservation departments will remove targeted artifacts from racks and shelves and bring them to the treatment area, where they will be cleaned of mold (using a HEPA vacuum and appropriate cleaning solutions) and made safe for transportation. This work will be overseen by the Senior Conservator in consultation with the Co-Curators and carried out by the Project Conservator. This step will be regularly evaluated to ensure it has enough resources to prevent backups. Once this treatment is complete, prioritized artifacts will be moved directly to THF's conservation labs for additional treatment. Large artifacts that can't be easily moved to the labs will be treated in the Clean Room, or outdoors when conditions permit. All collections movements and treatments will be recorded in EMu.

The documentation of items in this project will involve original (first-time) cataloging for any uncatalogued items and reformatting and enhancement of existing catalog records. Fragmentary objects and parts will receive inventory control records and reference photographs but will not be added to THF's Digital Collections. Registrars and Curators will assemble appropriate documentation resources for the Collections Specialists and review any potential cataloging issues. Curators will work with the Collections Specialists in identifying artifacts and developing new subject terms, keywords, and important dates. THF's standards for item-level cataloging are based on CCO standards, in conjunction with local requirements. Terms from globally recognized controlled vocabularies such as the Library of Congress Subject Headings and their authorities and

the Getty Vocabulary's The Art & Architecture Thesaurus and The Getty Thesaurus of Geographic Names are also used (Supportingdoc10 - THF Metadata Elements Overview).

Conservators, in consultation with Curators, Photographers, and Collections Management, will undertake treatments required to prepare objects for digitization and long-term storage. Many objects in these collections are composites of a variety of materials, including wood, rubber, plastic, metal, glass, painted surfaces, and ceramics. In general, treatments will focus on cleaning and stabilization rather than full scale interventions that compensate losses and fabricate missing elements. Restoration of missing elements will be undertaken if it improves the physical stability of the object or if otherwise requested by Curatorial. In addition to treatment to remove mold and surface soil, stabilization treatments may include corrosion removal from metal parts, the removal of aged oils and other non-original surface coatings, and the consolidation of flaking paints, fragile textiles, and veneers. Special note will be taken by Conservators to identify especially fragile components and unstable materials to assist with subsequent decisions on rehousing and storage. Treatment of these collections will occur in THF's conservation labs with appropriate ventilation, handling, and safety equipment to help mitigate any risks.

THF's photography studio is equipped to current industry standards, including a Canon EOS 6D Mark II camera tethered directly to a MacBook for instant access to RAW format images. Photography staff will consult with Conservators and Curators to determine required views and details (inscriptions, labels, makers' marks, etc.) and proper depth of field, lighting, and composition through test exposures for each artifact. Retouching (no alterations are made to the artifact image itself) is done using Adobe Creative Cloud (Photoshop). Following editing, images are converted to TIFF format master images and JPEG format primary derivative access images. The JPEG derivative images are imported into EMu with associated metadata records following the Dublin Core schema. Very large or heavy artifacts will be photographed in the Clean Room or MSB.

Those artifacts not being housed in the expanded Clean Room in CSB will be taken to the Collections Management workroom in MSB for storage support or rehousing before being taken to the final storage location within MSB. Smaller artifacts will be stored in polyethylene boxes, with appropriate packing materials, including corrosion intercept film where necessary. The boxes will be labeled to facilitate future condition checks, then placed in new food-grade pallet boxes that are lined with polyethylene sheeting and include conditioned silica gel bags. This packing system has been proven to provide an effective buffer for temperature and humidity, lessening reliance on MSB's mechanical systems. Larger items will, at a minimum, be palletized and covered with Tyvek enclosures for cleanliness when appropriate (**Supportingdoc11 - Photos of Collections in MSB**). Whenever practical, food-grade plastic pallets will be used to prevent future mold growth, but when wood pallets are necessary (for larger artifacts or special handling/housing requirements), the wood will be sealed with an anti-microbial coating. Certain items will be hung from wall grating installed in MSB.

When appropriate, completed items will be stored in MSB. This storage facility includes both warehouse (heat only) and climate-controlled (heat, cooling, freezing, and selected dehumidification) spaces in over 30 individual rooms, and is undergoing HVAC improvements. Artifacts will be selected for specific storage locations based on material and structural needs, handling requirements, size, storage housings, and public interest. In general, smaller objects that contain unstable plastics, rubber, paper, cardboard, leather, and lacquer coatings will have priority for climate-controlled rooms. More stable objects with fewer fragile elements will be stored in heat-only rooms. The expansion of the Clean Room will allow large items to be processed in place (or moved to the Clean Room and processed) and remain in CSB. Eventually, once the building is remediated, CSB will likely house stacked pallet boxes and large, metal, industrial, and agricultural collections.

With the exception of the Clean Room expansion, existing equipment and facilities are in place for all activities in this project. As such, the project costs are for staff, contractors, and supplies. Marc Greuther, Vice President of Historical Resources and Chief Curator (Project Director and Co-Curator), and Josh Wojick, Director of Collections Operations (Project Administrator), will be responsible for project goals, budgets, and project alignment with institutional strategy. Chief Conservator Mary Fahey, (Project Manager), will oversee project progress and reporting. Senior Object Conservator Marlene Gray will oversee treatments and rehousing procedures, working closely with the Project Conservator Jee Eun Lim. Chief Registrar Lisa Korzetz will oversee all processing, cataloging, and fleshing out of skeletal records, which will be carried out by Collections Specialist Sarah Gee and Project Collections Specialist—Cataloger Susan Bartholomew, who will also assist Curatorial with research. In addition to Marc Greuther, Curator of Transportation Matt Anderson and Curator of Communications & Information Technology Kristen Gallerneaux will act as Co-Curators on the project. They will provide subject expertise and direct the work of Associate Curator Ryan Jelso, who will be responsible for generating object narratives and other media accessible to the public, and for providing input into the digitization work. Working under Assistant Collections Manager Cayla Osgood, Project Collections Management Specialist Kristen Hollingsworth will carry out daily Collections Management activities, collection rehousing, and relocation strategies. Senior Photographer Jillian Ferraiuolo and Photographer Kevin McGorey will handle all photography, image processing, and uploading of images to EMu. IMLS funds will support a full-time Project Conservator, full-time Project Collections Specialist, and part-time Project Collections Specialist—Cataloger positions. All other staff hours will be used as matching funds.

Resource needs for all project tasks have been calculated based on actual figures from THF's previous IMLS Museums for America grants and their existing work processes. Given the size and high degree of complexity of many of the objects targeted by this project, conservation treatment time will vary from two to one hundred hours per item (**Supportingdoc3 - Targeted Object List and Conservation Assessment**), with an average minimum of two hours per item needed for collections handling/tracking/packing, although certain object pulls and moves on this project are complex and could require as many as four hours or more to safely complete. Photography will require between one-half to four hours per item from both the Senior Photographer and Photographer. Cataloging items to current standards will take approximately one hour per item with an existing record and three hours per uncatalogued item (including provenance research). Inventory records and reference photography for fragmentary artifacts will take one-half hour each. A final quality assurance review of completed records in EMu before making them live to the public will take five hours for every 100 items. Ongoing tasks include project coordination and supervision, consultation with Curators and others, continuous evaluation of work processes and output, and communication of project progress to internal and external audiences.

Phase One of the project will begin on September 1, 2024. Tasks in the project startup and mobilization phase include setting up the work area and purchasing supplies and material. Collections and Conservation will pull and treat targeted objects, treat the priority objects to digitization standard or beyond, and flag objects for rigging contractors. Registrars will process treated objects, flesh out skeletal records, and conduct preliminary cataloging work on displaced objects. Phase Two (1 March 2025 – 31 October 2025) will proceed in much the same way, with an added focus on sorting and relocating displaced objects. In Phase Three (1 November 2025 – 31 January 2026), treatment of priority objects will continue concurrently with rigging contractor-assisted large object moves, followed by the construction and environmental remediation of the expanded Clean Room area. Registrarial work will continue as normal. In Phase Four (1 February 2026 – 31 August 2026), project staff will pull, treat, and process the remaining objects, and resolve any problems from previous phases.

Throughout the project, Collections Management will facilitate object flow through the digitization pipeline, rehouse objects, and determine final storage locations for completed objects and collections. Likewise, in addition to the duties listed above, Registrars will collaborate with Curatorial on research throughout.

Project Results

For mature institutions with very large holdings like THF, collections can be a double-edged sword: they are a tremendous cultural resource, but undocumented artifacts can be seen as a burdensome, undifferentiated mass of “stuff.” It is only when physical and intellectual access to these collections is improved that such perceptions can be shifted. THF has been working steadily for over thirty years to improve preservation and access for its world class collections, and these efforts have yielded real success. Along with substantial capital and operational funds spent to improve collections stewardship, THF now has stronger interpretive frameworks that inform new physical and virtual visitor experiences and has experienced an increase in behind-the-scenes tours of collections and outgoing loan requests.

Additionally, several exhibitions—temporary and permanent, physical and digital—have made use of newly “revealed” collections previously in storage for decades. For instance, THF’s recent exhibit, *Collecting Mobility: New Objects, New Stories*, took guests through the process of adding new artifacts to THF’s collections using recent additions to its Mobility collections as examples. Through the exhibit, THF asked, “What belongs in a museum?”, to give guests a better understanding of how and why museums collect what they do, and the stories their collections share. Even so, the important but poorly understood collections in CSB remain THF’s largest “undifferentiated mass of stuff.” This work will continue the progress of previous IMLS-funded projects, furthering our understanding of these significant, foundational collections, which can then be disseminated to THF staff and the public.

The project output will be catalogued, digitized, and publicly available. Harvests from the EMu database are loaded to Elasticsearch and combined with Application Programming Interfaces (APIs), feed the online (<https://www.thehenryford.org/collections>) and on-site versions of our Digital Collections. Our Digital Collections site is a fully responsive and search engine optimized interface. Digitized collections content is made live daily, allowing the release of newly digitized artifacts to users throughout the project. In addition, all content created through this grant will be fully integrated with the remainder of our continually expanding Digital Collections. Improved object cataloging and new images will also be available to THF staff immediately upon creation via our collections management system and related search tools. We anticipate other users of the material from this project will include scholars and researchers, THF visitors, educators and students, and general enthusiasts.

THF is committed to the ethical stewardship of its collections, which includes long-term preservation of digital assets, with the aim of facilitating continued access to digital material and ensuring proper digital records management. We are also dedicated to maintaining and improving our delivery system for digitized collections, based on our ongoing investments in digitization and digital storytelling, their prominence in our Strategic Plan, and their existing and growing role in our exhibitions and programming. The staff, information technology structures, backend software and databases, and online access components required to maintain our digitization program are supported by THF’s operational budget. Our intention is to maintain and expand our Digital Collections presence on the Web, with this content remaining free and publicly accessible.

The work completed by this project will substantially improve the condition of the processed artifacts by removing corrosive and destructive dirt and mold. Through proper rehousing, it will improve their physical safety, reduce crowding, ease collections care and maintenance, and increase access. Although it will take many years to fully resolve CSB’s collection challenges, this project will generate a real, measurable impact on an institutional level, while also engaging and educating the public, reinforcing the important work being carried out as THF works toward our “Journey to 100” anniversary in 2029.

Project Schedule:

Phase 1 – 6 months (1 September 2024 – 29 February 2025):

Project mobilization: Order conservation supplies; establish appropriate communication channels between project steering resources and project staff (meetings, email updates, etc.); establish EMu event naming / metadata standards to allow ongoing tracking of all project tasks; begin Ongoing Project Tasks (see below).

Collections Management and Conservation (C&C): Pull and treat objects on targeted rolling racks. Treat priority objects to digitization standard or beyond. Facilitate object flow to MSB / final storage locations for completed objects. Flag objects requiring rigging contractors.

Registrars (R): Process treated objects. Flesh out skeletal records. Conduct preliminary cataloging work on displaced objects. Collaborate with associate curator on research.

Phase 2 – 8 months (1 March 2025 – 31 October 2025):

C&C: Pull and treat approximately targeted objects in the 304 - 308, 401 - 408, and 501 - 508 racks. Treat priority objects to digitization standard or beyond. Sort and relocate displaced objects. Facilitate object flow to MSB / final storage locations for completed objects. Flag objects for rigging contractors.

R: Process treated objects. Flesh out skeletal records. Conduct preliminary cataloging work on displaced objects. Collaborate with Curatorial on research.

Phase 3 (Rigging, Construction, and Remediation) – 3 months (1 November 2025 – 31 January 2026)

C&C: Supervise and assist rigging contractors with large object moves. Supervise racking teardown in expanded clean room area. Supervise construction of new clean room walls. Supervise environmental remediation in new clean room area. Treat large objects. Continue treating priority objects to digitization standard or beyond.

R: Process treated objects. Flesh out skeletal records. Conduct preliminary cataloging work on displaced objects. Collaborate with Curatorial on research.

Phase 4 – 7 months (1 February 2026 – 31 August 2026):

C&C: Pull and treat remaining objects. Resolve problem collections from previous phases. Facilitate object flow to MSB / final storage locations for completed objects.

R: Process treated objects. Flesh out skeletal records. Conduct preliminary cataloging work on displaced objects. Collaborate with Curatorial on research.

Curatorial Tasks:

Ongoing curatorial tasks are not beholden to particular grant phases but can be expected to progress as follows: Working with and under the supervision of the Project Co-Curators, the Associate Curator will be expected to work apace with the other project teams to produce object narratives, accessible via THF's Digital Collections. As the project continues and its related digital collection grows, those objects will then be factored into other public-facing output, such as blog posts, expert sets, social media chats, livestreams, THF Conversations, and other digital content and exhibit planning. Curatorial output will vary depending on depth of research required and tasks undertaken.

Ongoing Project Tasks:

- Conservation treatment time will range from 2 to 100 hours per item.
- Collections handling, rehousing and tracking: an average minimum of 2 hours per item. Certain single object pulls and moves on this project are complex and could require as many as 4 hours or more to safely complete.
- Photography: 1/2 to 4 hours per item for Senior Photographer and 1/2 to 4 hours per item for Photographer (photography, Photoshop, entry of images and image metadata into EMu). THF Photographers will also be on-site taking process photographs throughout the project.
- Cataloging items: 1 hour per item with existing record, 3 hours for uncatalogued items, including provenance research.
- Final quality assurance review of completed records within EMu and flagging to send them to Production: 5 hours per 100 items.
- Coordination and supervision of all project resources.
- Consultation with Project Curator and others on appropriate metadata, plans for upcoming work, etc.
- Continuous evaluation of work processes and output, with course corrections as needed.
- Communication of project progress and status to internal and external audiences via social media channels, livestreams, THF's blog, institutional publications, etc.

Digital Products Plan**Type:**

This project will cover approximately 325 total artifacts, both “targeted” and “prioritized.” For the approximately 100 prioritized objects, we anticipate creating:

- 1) One set of metadata, covering the object and all associated images. Descriptive metadata for artifacts and digital images will be created and stored in our collections management system, Axiell Electronic Museum (EMu), which is an object-oriented relational database. This is a proprietary SQL-type database structure, but data is exportable in XML or CSV format as needed.
- 2) Approximately two TIFF master image files (this will vary, depending on the type of artifact, but we expect it to average at about two per artifact). These will be 300 ppi resolution, 24-bit depth color, uncompressed.
- 3) One JPEG derivative image file per master image file which is imported into EMu for reference use only. These JPEGs will be 1200 x 1200 pixels in size, 120 ppi resolution, 24-bit depth color, Adobe 12 quality.
- 4) The EMu system will create one thumbnail JPEG image for each imported image, which is used only within the EMu CMS. These thumbnail images will be 90 x 90 pixels in size, 120 ppi resolution, 24-bit depth color, Adobe 12 quality.

THF's standards for descriptive metadata in cataloging are based on Cataloging Cultural Objects (CCO) standards, in conjunction with local requirements. Terms from globally recognized controlled vocabularies such as Library of Congress Authorities and the Getty's Art & Architecture are used in the cataloging process. EXIF, IPTC, and XMP technical metadata will be recorded within the image file at time of capture. This data will be imported into EMu and written to appropriate fields within the image file metadata record.

The Associate Curator on the project will also be creating an artifact narrative (e.g. ~60-word summary descriptions) for grant artifacts, which will be stored in EMu along with the other metadata and made available online through our Digital Collections in the same way. The Project Co-Curators and Associate Curator will also produce other public-facing digital output such as blog posts, artifact sets, social posts, etc., but since the quantity and type of these outputs is not known, we have not included them in this product plan.

Availability:

We use our collections management system, EMu, as our repository of record to store metadata about artifacts and their associated multimedia. We have created an automated customized export of the cataloging and multimedia metadata into XML that is then ingested into Elasticsearch and APIs and made available on the Web. High-res images are delivered from our storage servers to secure cloud storage and pre-processed using OpenSeadragon and Thumbor for fast and efficient retrieval online.

This system allows THF to provide free and open collections access (including the content created for this project) in a responsive, SEO-optimized Digital Collections website (<https://www.thehenryford.org/collections>), available to anyone online without any special plugins or tools in all current mobile and desktop browsers. All collections items are also accessible through touchscreen kiosks within Henry Ford Museum of American Innovation and Ford Rouge Factory Tour, and selected items are made available through APIs and/or an experience content management system to our app and to a new collections table experience in Henry Ford Museum.

At the current time, our APIs are not publicly available, except as mediated through the interfaces noted above, though this is a future goal. We have made subsets of both our published and non-published collections metadata available in Excel and other formats to researchers and third parties upon request in the past, and will continue to do so until we achieve a fully open data model.

Access:

We anticipate that much of the material created in the course of this project will be free of copyright concerns. Most metadata and images will be freely available through our online Digital Collections, and will be available for certain noncommercial uses, per our Terms of Service (ToS; <https://www.thehenryford.org/collections-and-research/digital-collections/terms-of-service>). Because we cannot clearly verify whether we hold copyright for much material in our collections, we have moved away from the use of Creative Commons or other licensing statements, but as our ToS state, we exercise no objection to personal or nonprofit educational use.

The Henry Ford makes no claim of copyright in public domain works, government works, or certain content acquired by The Henry Ford and posted for educational, nonprofit use. We will make the metadata and images created through this project freely available on the open web, with the exception of high-res images (which will be available, according to our ToS as noted above, for a processing fee to help offset creation and delivery costs) and sensitive metadata (such as donor personal information, which will remain in our collections management system for institutional use only). Other than our ToS, there are no terms or conditions on use of the material.

The Henry Ford does not anticipate any issues related to privacy concerns, permissions/rights acquisition, or cultural sensitivities with the content that will be created by this project. Preliminary review of documents related to the acquisition of the targeted artifacts has not uncovered any donor restrictions that would limit the development and use of any content generated by the project.

Sustainability:

THF has established workflows and preservation procedures that will be used to move digital image data from creation through to storage with these procedures supported by our Digital Preservation Policy, which states, “The Henry Ford is committed to the ethical stewardship of its collections. This stewardship extends to providing reliable long-term preservation to digital assets with the aim of facilitating continued access to digital material and ensuring proper digital records management.”

Metadata and image data will be managed via a HP 3Par iSCSI Storage Area Network (SAN). All SAN disks are formatted in RAID 5 arrays, with weekly full backups and daily reverse incremental backups to different volumes on the SAN using VEEAM Backup and Restore 9.5 software. Full backups are sent to tape weekly via Symantec Backup Exec 2016 on a dedicated server connected to an HP StorageWorks MSL4048 Tape Library. Tapes are rotated and stored off-site following a set schedule.

All project collections-related descriptive metadata housed within EMu, along with image data, will be saved in the SAN preservation environment described above, having been transferred following a workflow based on the Open Archival Information System Reference Model. Subsequent preservation actions (format migration, storage movements, etc.) will be accomplished in a manner consistent with THF's Digital Preservation Policy and archival digital preservation best practices, with all actions performed being recorded and stored in the same SAN environment.

These systems, as well as the back- and front-end of our Digital Collections website, are supported by THF through operational funding and ongoing annual budgets. We anticipate sustaining all the systems that eventually support our Digital Collections in perpetuity.

Applicant Name: The Edison Institute d/b/a The Henry Ford

Project Title: Conservation, Digitization, Rehousing and Relocation of THF Collection Items Related to Power and Energy, Mobility, and Communications & Information Technology

Performance Measure	Data We Will Collect (e.g., counts, costs, weights, volumes, temperatures, percentages, hours, observations, opinions, feelings)	Source of Our Data (e.g., members of the target group, project staff, stakeholders, internal/external documents, recording devices, databases)	Method We Will Use (e.g., survey, questionnaire, interview, focus group, informal discussion, observation, assessment, document analysis)	Schedule (e.g., daily, weekly, monthly, quarterly, annually, beginning/end)
Effectiveness: The extent to which activities contribute to achieving the intended results	On a monthly basis, a status update will be run utilizing the “Events” module of THF’s Emu collections management system. This update (Supportingdoc13 - Monthly Status Update), developed and refined through previous projects, shows the number of items that have been completed for each phase of the work. The chart has proven to be a useful snapshot of the project and can help managers see how the work is progressing and identify any potential slowdowns in the workflow.			
Efficiency: How well resources (e.g., funds, expertise, time) are used and costs are minimized while generating maximum value for the target group	A project budget report is generated on a monthly basis by the THF Finance Department. This report is reviewed by the Project Manager and Project Administrator to ensure that the project stays within budget and to determine if adjustments need to be made. Process refinements over several similar past projects have helped reduce per item costs. These evaluations are typically ongoing through groups of like artifacts.			

<p>Quality: How well the activities meet the requirements and expectations of the target group</p>	<p>On a quarterly basis, a search of the “Condition Check” field in THF’s Emu collections management system will be used to compare the condition of items at the time they were picked from storage with their condition following treatment.</p>
<p>Timeliness: The extent to which each task/activity is completed within the proposed timeframe</p>	<p>The monthly status report (Supportingdoc13: Monthly Status Update) provides regular information on the rate of the workflow, allowing managers to make timely decisions on the allocation of resources for the project.</p>