1. APPLICATION COVER SHEET
ARRANGEMENT AND DESCRIPTION OF THE JULIA MORGAN ARCHITECTURAL ARCHIVES

2. STATEMENT OF SIGNIFICANCE AND IMPACT

The Special Collections Department of the Robert E. Kennedy Library, California Polytechnic State University, (Cal Poly), San Luis Obispo, seeks funding of $293,193 to arrange, describe and create electronic finding aids for significant architectural primary source materials by and about California architect Julia Morgan (1872-1957), comprising architectural plans, drawings, sketches, photographs, transparencies, personal papers, journals, project files, and correspondence. This proposal describes the significance and depth of scholarship afforded by the nation's largest and most comprehensive Morgan archive, and the urgent need to arrange, preserve, and make the collections fully accessible to researchers.

The Cal Poly collections contain irreplaceable and comprehensive primary source material on her *fin-de-siècle* Beaux-Arts education in Paris; her influence on the Arts and Crafts movement in early twentieth-century California; project files and drawings for hundreds of clients, including professional women and women's organizations; and extensive records relating to her masterworks: the seaside YWCA retreat, Asilomar, near Monterey; and the legendary estates at San Simeon and Wyntoon for publisher W.R. Hearst. Also included are papers, photographs, slides, research notes, and project files of her seminal biographer, the late architectural historian Sara Holmes Boutelle.

This two-year project will: 1) **Arrange, describe, and preserve 291 linear feet of archival material** in the Morgan and Boutelle collections according to national practices and standards for architectural archives; 2) **Create 25 digital images and two electronic finding aids with search capability,** using Encoded Archival Description – Document Type Definition (EAD DTD); 3) **Enhance access for researchers** by delivering electronic finding aids on the Web through a single portal, the Online Archives of California, which federates special collections of materials from libraries, museums, and archives across California, in an integrated searchable database; 4) **Create two MARC catalog records** for the Morgan and Boutelle collections, providing bibliographic access for users of WorldCat, OCLC's union catalog, and Polycat, the Kennedy Library's online public access catalog; and 5) **Create a digital image database** of 3,500 slides from the Boutelle Collection, providing researchers with mediated online access to visual information about Morgan buildings.

Improved access to these materials is crucial for humanities researchers exploring the leading architectural movements of the San Francisco Bay Area in the early twentieth century, and those seeking a better understanding of Morgan's influence, her place in architectural history, and her unique approach to the practice of architecture: her notable willingness to listen to clients' needs and provide them with structures reflecting their values rather than the architect's ego; an unapologetic refusal to marry her style to one design philosophy; the divergent sources of her ideas and inspiration; and her predominant desire to satisfy her clients with flawless buildings in which they could live, work, meet, or learn.

The original gift from Morgan's heirs of 117 linear feet of drawings and documents has been used for scholarly research, monographs, children's books, local and traveling exhibitions, building restoration, and PBS, BBC and cable television documentaries, but the finding aid must be revised and expanded to meet new standards for the arrangement and description of architectural archives. Newer Morgan donations totaling 174 linear feet are large, complex, and inadequately organized. Arrangement and description of all of Cal Poly's Morgan collections using EAD DTD will not only provide researchers with access to a wealth of essential Morgan materials in one location, but also will enhance the utility of related Morgan collections at the University of California at Berkeley, providing unprecedented customized intellectual access for historians, biographers, filmmakers, architects, and preservationists, and scholars of California art and architecture, landscape architecture and women's studies.

Julia Morgan [signature]

ARRANGEMENT AND DESCRIPTION OF THE
JULIA MORGAN ARCHITECTURAL ARCHIVES

4. NARRATIVE
a. Significance

Value For Research, Education, and Public Programming in the Humanities

Overview of the Morgan Collections

Julia Morgan's "prolific and trailblazing career helped open the field of architecture for women."[1] Many myths surround Julia Morgan's career, but one of the most persistent is the legend that she destroyed the records of her fifty-year practice when she retired in 1951. In fact, she carefully preserved thousands of architectural plans, drawings, photographs, correspondence, project files, and other personal and professional papers, which were given to California Polytechnic State University (Cal Poly) by her heirs.

Nine significant additional gifts of unarranged Morgan materials, including the papers of Sara Holmes Boutelle, Morgan's seminal biographer, have also been given to Cal Poly. The extensive research files and visual media in the Boutelle Collection complement the original Julia Morgan Collection, providing visual and written documentation on Morgan commissions; preserving notes from interviews with members of Morgan's staff, now deceased; and supplementing the only extant personal papers of an architect who closely guarded her privacy.

Together these ten gifts represent the largest and most comprehensive Morgan archives in the country, comprising nearly 300 linear feet of architectural drawings, documents, and photographs in one location. Complementing Morgan holdings at the University of California at Berkeley, the Cal Poly collections contain unique and never-used materials on her *fin-de-siècle* Beaux-Arts education in Paris; her participation in the influential Arts and Crafts movement in early twentieth century California; project files and drawings for commissions by professional women and women's organizations; extensive records relating to her masterworks, the seaside retreat, Asilomar, built for the Young Women's Christian Association (YWCA), and the legendary estates at San Simeon and Wyntoon for publisher W.R. Hearst.

Research Potential of the Morgan Collections

Perhaps the greatest fallacy surrounding Morgan's work is the idea that W.R. Hearst plucked her from obscurity, gambling on her qualifications for building San Simeon and monopolizing her practice. However, when Morgan began her work there in 1919, she was at the midpoint of a long and varied career designing residences, institutions, churches, and community buildings for at least 700 other commissions, many of which are documented in the Morgan collections at Cal Poly.

To date, most research has focused on Morgan's work for the flamboyant Hearst. Rich documentation of the extent and influence of Morgan's career apart from Hearst is provided at Cal Poly, but research has been deterred by the lack of intellectual access to the bulk of the materials. Thus, Morgan's larger contributions to the history of women, of architecture, and of California, remain undiscovered.

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[1] Elinor Richey, "Julia Morgan," *Notable American Women, The Modern Period: A Biographical Dictionary*, eds. Barbara Sicherman and Carol Hurd Green (Cambridge: Belknap Press of Harvard University Press, 1980) 499-500.

"A treasure-trove of material awaits the eager [Morgan] researcher at various archives around the state, the most extensive and important of which resides at Cal Poly," observes doctoral candidate Karen McNeill, who has used the Julia Morgan Collection extensively. "I have discovered a different Julia Morgan in the correspondence between her parents; in the letters, diaries, and notebooks from her years at the École des Beaux-Arts … in the extensive business records she kept. These documents … offer unparalleled insight into the struggles aspiring female architects faced in the almost exclusively masculine turn-of-the-century world of architects, engineers, contractors, builders, laborers, and artisans. And they uncover how deeply Morgan touched people's lives — as an architect, an employer, a woman, a friend, a daughter, a sister, an aunt. My work will only begin to scratch the surface of this complex figure. As the collections at Cal Poly becomes more easily available to the public and comes to incorporate the extensive notes, artifacts, and interviews of her biographer, Sara Boutelle, so will the dynamic story of Julia Morgan's life and career be revealed."[2]

The Morgan collections at Cal Poly not only provide researchers with a better understanding of Morgan's influence and her place in architectural history, but also furnish insight into her unique approach to the practice of architecture: her notable willingness to listen to clients' needs and provide them with structures reflecting the clients' hopes and values rather than the architect's ego; an unapologetic refusal to marry her style to one design philosophy; the divergent sources of her ideas and inspiration, and her predominant desire to satisfy her clients with flawless buildings in which they could live, work, meet, or learn.

Her urban commissions often served diverse populations, most notably the Honolulu YWCA and the Chinese and Japanese YWCA buildings in San Francisco. Women's studies scholars will find in Morgan's client list and records evidence of the activities of professional women, women's colleges, and charitable organizations throughout California. As Morgan biographer Sara Holmes Boutelle observed, "Most of her important clients developed…from recommendations from former clients and a network of both women of wealth and women professionals of more modest economic means."[3] In addition to informing architectural history, theory, and criticism, the Morgan collections will also contribute to scholarly and public understanding of landscape design and the built environment of California.

Value of Architectural Records to Humanities Research

The archival profession is increasingly recognizing the research value of architectural records. As stated in Philadelphia at the 2000 Architectural Records Conference at the Conservation Center for Art and Historic Artifacts:

> *Architectural records are significant not only for their data, but also as documents of an artistic process. Indeed, many of the architectural drawings in our holdings have great intrinsic beauty and are works of art in their own right. They are also important as records of a society, as tools for the maintenance and renovation of existing buildings, as historical records of buildings that no longer exist, as documentation of unbuilt designs, and as legal evidence. Architecture distinguishes itself from other art forms in that it is a product of society as a whole rather than*

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[2] Researcher letters of support are located on pages 84–90 of this proposal.

[3] Sara Holmes Boutelle, "Julia Morgan," *Women in American Architecture: A Historic and Contemporary Perspective*, Susana Torre, ed. (New York: Watson-Guptill Publications, 1977) 82.

the vision of a single artist. Especially in America, architecture embodies the values and ideals of the people and documents the character of the time and place in which it was created.[4]

Nancy Loe, who will serve as project director, has contributed to the archival profession's emerging scholarship in this area, presenting five papers on architectural collections management at annual meetings of the Society of American Archivists. She has also published three books on Morgan's work at with Hearst at San Simeon and Wyntoon. More information is located in Loe's résumé on pages 70–71.

Why NEH Funding Is Needed

The Special Collections Department at Cal Poly is staffed primarily to meet the public service needs of the department, including providing reference and researcher assistance, teaching classes using the department's holdings, and responding to non-profit and commercial requests for permission to publish or produce from the collections. Traditionally, arrangement and description projects have received a level of institutional support that must be supplemented by external funding assistance.

Project Goals

NEH funding is crucial to arrange, describe, and preserve the Morgan collections at Cal Poly. The legacy finding aid for the original Julia Morgan Collection, created before national standards existed for architectural archives description, will be revised and updated. Eight smaller gifts of materials will be arranged, described, and added to the revised Julia Morgan Collection finding aid. The existing MARC record will also be updated.

The Sara Holmes Boutelle Collection on Julia Morgan will be arranged and described for the first time in a separate finding aid and MARC record. The two electronic finding aids will be marked up using Encoded Archival Description – Document Type Definition (EAD DTD), which provides a framework for metadata that enables researchers to compile, search, retrieve, and otherwise customize the finding aids according to their research needs. This project will be the first implementation of EAD at Cal Poly.

This two-year project will: 1) **Arrange, describe, and preserve 291 linear feet of archival material** in the Morgan and Boutelle collections according to national practices and standards for architectural archives; 2) **Create 25 digital images and two electronic finding aids with search capability,** using Encoded Archival Description – Document Type Definition (EAD DTD); 3) **Enhance access for researchers** by delivering electronic finding aids on the Web through a single portal, the Online Archives of California, which federates special collections of materials from libraries, museums, and archives across California, in an integrated searchable database; 4) **Create two MARC catalog records** for the Morgan and Boutelle collections, providing bibliographic access for users of WorldCat, OCLC's union catalog, and Polycat, the Kennedy Library's online public access catalog; and 5) **Create a digital image database** of 3,500 slides from the Boutelle Collection, providing researchers with mediated online access to visual information about Morgan buildings. Detailed information on the project's goals is available in the Work Plan section beginning on page 26.

Julia Morgan Biographical Sketch

Born in San Francisco, Julia Morgan (1872–1957) grew up in Oakland in a spacious Victorian house. Gifted in mathematics and encouraged by her mother, Morgan was further influenced by her mother's cousin, Pierre Le Brun, who designed an early skyscraper, the Metropolitan Life Insurance Tower in

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[4] "Architectural Records Conference Report," (Philadelphia: Conservation Center for Art and Historic Artifacts, 2000) http://www.ccaha.org/arch_rec/Introduction.htm

Manhattan. In 1890, she enrolled in the undergraduate civil engineering program at the University of California at Berkeley, because there were no architectural schools on the West coast at that time. After graduation, Berkeley instructor and practicing architect Bernard Maybeck recommended further study at his alma mater, the Beaux-Arts, where the curriculum was renowned for the scope and majesty of its assignments: apartment suites in palaces, art galleries, opera houses, and other opulent environments fit for lavish, if imaginary, clients. Once in Paris, Morgan failed the entrance exam twice. In a letter to Le Brun, Morgan wrote of her discovery that the faculty, who "did not wish to encourage young girls," had failed her deliberately. "I'll try again next time anyway even without any expectations, just to show '*les jeunes filles*' are not discouraged."[5] The faculty relented and Morgan went on to win medals for her work in mathematics, architecture, and design. She traveled throughout Europe in her free time, filling sketchbook after sketchbook with accomplished watercolors, pastels, and line drawings. In 1902, Morgan was certified by the Beaux-Arts in architecture.

Returning to California upon graduation, Morgan became the first woman licensed as an architect in California, working first for John Galen Howard on several significant University of California buildings, In 1904, Morgan opened her own office in San Francisco. One of her first commissions, a campanile for the Oakland campus of Mills College, withstood the San Francisco earthquake and fire of 1906, bringing her local acclaim and new commissions, including rebuilding the earthquake-damaged Fairmont Hotel. From this point Morgan's career was assured, and her practice thrived.

Morgan designed her first YWCA building in Oakland in 1912. The next year, Morgan began work on 13 buildings in the Arts & Crafts style for Asilomar, the seaside YWCA retreat near Monterey. Host to thousands of visitors since its founding in 1913, Asilomar is now a state historical park and conference center. Morgan eventually designed 28 YWCA buildings in fifteen cities in California, Utah and Hawaii.

Publisher William Randolph Hearst first retained Morgan in 1910 for a residence in Sausalito, but it was never built. In 1915, she completed a notable Mission Revival building for the Los Angeles *Examiner*, Hearst's flagship newspaper. Hearst was so delighted by the structure that he commissioned Morgan to design his legendary estate at San Simeon, situated on a crest of the Santa Lucia Mountains of central California. Popularly known as Hearst Castle, the estate is now a state historical monument that has attracted 35 million visitors since it opened to the public in 1958. Morgan's classical Beaux-Arts training, joined with her engineering degree and expertise with reinforced concrete, made her the ideal architect for this commission, which absorbed both architect and client from 1919 to 1947. Morgan designed the main building (Casa Grande), and guesthouses (Casa del Mar, Casa del Monte, and Casa del Sol), workers' camps, grounds and terraces, indoor and outdoor pools, tennis courts, zoo and aviary, animal shelters, a five-mile pergola, and a seaside village for the estate's supervisors.

In 1930, Hearst commissioned Morgan to build Wyntoon, a Bavarian village on the McCloud River, to replace Phoebe Hearst's Maybeck-designed castle that had recently been destroyed by fire. Other Hearst commissions documented in the Cal Poly collections at include the unbuilt hacienda at Babicora, his million-acre ranch in Mexico; the unbuilt "Hopi" residence at the Grand Canyon; and the Phoebe Apperson Hearst Memorial Women's Gymnasium at UC Berkeley. Morgan also supervised the remodeling of Marion Davies' vast beach house in Santa Monica and the unrealized plans to create a wing of the de Young Museum from an entire Spanish monastery Hearst purchased, dismantled, and had shipped to San Francisco.

Historian Elinor Richey wrote, "Morgan's work was outstanding not only for its thoroughness, diversity, and volume … but also for its stylistic innovation and influence. Her early redwood shingle houses

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[5] Julia Morgan to Pierre Le Brun, December 12, 1897, Record Group I: Personal Papers, Series 04: École des Beaux-Arts Correspondence, Box 2, Folder 1, Julia Morgan Collection, Special Collections, California Polytechnic State University.

contributed to the emergence of the Bay Area shingle style. She was also a decade ahead of most of her contemporaries in using structure as a means of architectural expression. Unlike the work of most San Francisco architects of her time, Morgan's was reflective of that being done outside the Bay area."[6]

Despite shortages of building materials and skilled labor, Morgan remained active professionally through World War II. In 1951, she closed her San Francisco office and retired. After several years of poor health, Julia Morgan died in San Francisco in 1957 at the age of 85. Her distinguished and influential career is captured in the inscription on her 1929 honorary doctorate from Berkeley:

Distinguished alumna of the University of California; Artist and Engineer;
Designer of simple dwellings and stately homes, of great buildings nobly planned to further the
centralized activities of her fellow citizens;
Architect in whose works harmony and admirable proportions
bring pleasure to the eye and peace to the mind[7]

<u>Julia Morgan Collection 1836-1980 (MSS 010)</u>

Nature, Size, and Intellectual Content

The first collection in this proposal contains 57 linear feet of Morgan's personal and professional papers and 60 cubic feet of architectural drawings donated by her heirs to Cal Poly in 1980. This original Julia Morgan gift to Cal Poly contains irreplaceable and comprehensive documentation of Morgan's long and distinguished professional career. The Julia Morgan Collection bequeathed by her family also contains the only known family photographs, personal papers and correspondence of this very private individual, as well as sketchbooks, competition drawings and notes, and medals from her years at the Beaux-Arts.

The collection also contains Morgan's extensive personal and professional correspondence with numerous clients, architects Bernard Maybeck (1862–1957) and Pierre Le Brun; art dealers Arthur Byne (1883-1935) and Mildred Stapley Byne (1987-1941); staff members Walter Steilberg, George Loorz, Herbert Washburn, Dorothy Coblentz, Thaddeus Joy, Bjarne Dahl; and artisans Charles Cassou, Charlotte Knapp, Jules Suppo, Orrin Peck, Ed Trinkkeller, and John Van der Loo.

Other records in the collection document Morgan's extensive work for the YWCA, with 41 commissions in California, Utah, and Hawaii; her many residential commissions in the East Bay neighborhoods of Claremont, Piedmont, Oakland and Berkeley; and her buildings for professional women and women's organizations throughout California. Twenty-seven years of correspondence with Hearst and more than one thousand photographs, glass plate negatives, architectural plans, sketches, elevations, plot plans, and structural and decorative detail drawings relating to W.R. Hearst commissions are also available.

Eight additional gifts of original Morgan materials have subsequently been given to Cal Poly. They include 192 San Simeon sketches and plans representing some of Morgan's earliest design processes as she conceived a main building and guesthouses for the estate modeled after a Mediterranean village. This gift also includes 175 plans and drawings for Wyntoon, another Hearst estate near the Oregon border. The Wyntoon drawings are pencil or colored pencil on tracing paper showing conceptual and design development processes. The Hearst Corporation still owns Wyntoon and it is never open to the public; thus, the drawings represent one of the few ways researchers have to evaluate Morgan's work there.

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[6] Richey, 501.

[7] Honorary Doctorate, Record Group I: Personal Papers, Series 06: Honors, Awards, Certificates, Box 2, Folder 2, Julia Morgan Collection, Special Collections, California Polytechnic State University.

Finally, an additional 20 linear feet of drawings and documents have been donated, which document Morgan buildings in Berkeley, Fresno, Pacific Grove, Santa Barbara, San Luis Obispo, and Santa Maria, California, most representing significant works commissioned by women's organizations.

Research on Julia Morgan can be difficult because she shunned publicity of any kind, even forbidding the use of signboards bearing her name at construction sites. Neither did she lecture or write about her work and refused most honorary degrees. A woman of few public words, Morgan averred that her buildings spoke not only for themselves, but for her as well. In this regard, Morgan was half-right. Her building legacy does indeed speak for itself, but the thousands of architectural drawings and records in the Morgan collections at Cal Poly speak as well of her innovation, professional philosophies, and creative gifts.

In 2003, Cal Poly retained architectural archives consultant Tawny Ryan Nelb as part of the strategic long-range planning process for the architectural collections. In her assessment of the Julia Morgan Collection's research significance, quality, and accessibility, Nelb wrote:

> *The Julia Morgan Papers and its ancillary collections are the true centerpiece of the architectural holdings at the Special Collections Department at Cal Poly. …A wealth of material still exists for historians, students, and other researchers to use. Travel correspondence from…trips abroad provide much valuable information on her life, study, and travel in Europe.*
>
> *The correspondence with Earl and Wright Company and correspondence with William Randolph Hearst are wonderful resources and provide some fabulous intellectual content in the letters, calculations, notes, and telegrams regarding the commissions. There is substantial correspondence relating to the construction of San Simeon. There is an amazing amount of visual material documenting most of the design phases of San Simeon, including construction photographs, sketches, and design development and working drawings. It is no wonder that this collection has become a magnet for cable television programs focusing on the history and design of this unique structure.*
>
> *William Randolph Hearst's habit of making annotations on Morgan's drawings pointing out his pleasures and displeasures make the drawings incredibly valuable for research and exhibition. Although many of the project records were destroyed, the collection has a substantial amount of drawing records that survive. These are a testament to the voluminous and diverse work that Morgan did throughout her life and make the collection valuable beyond the documentation of her relationship with Hearst and his many projects.[8]*

Digital scans representing some of the primary sources available to researchers in the Julia Morgan Collection are included in Appendix A on pages 38–43 of this proposal.

Present Level of Intellectual Description

The *Descriptive Guide to the Julia Morgan Collection*, a folder-level finding aid, was prepared in 1985 by Cal Poly archivist Nancy Loe. In response to increasing researcher demand for some photographs and drawings in the collection has been great enough that some item-level description was added, most notably for photographs of Morgan herself and renderings of her more famous commissions. This 1985 *Guide* was placed on the Special Collections Web site in HTML in 1996, where it continues to be accessed intensively by researchers, who then contact Special Collections staff for reference and research assistance. However, this finding aid was completed well before the 2000 publication of Kelcy Shepherd and Waverly Lowell's *Standard Series for Architecture and Landscape Design Records: A Tool for the*

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[8] Tawny Ryan Nelb. "Archives for the Study of California Architecture Feasibility Study," (March 14, 2004) 25-28.

Arrangement and Description of Archival Collections (Environmental Design Archives, 2000), and thus requires updating to meet these new professional standards. The collection summary, scope and content note, container list, and a representative page from the folder list from the 1985 *Descriptive Guide to the Julia Morgan Collection* are included as Appendix B on pages 44–49 of this proposal.

Of the 1985 finding aid for the Morgan Collection, consultant Nelb noted:

> *Although the [guide] is extensive and sometimes drills down to the item level [for photographs], it is somewhat confusing to use. Individual folder titles are barebones and force the researcher to go back to the inventory with each new folder use to figure out what is being examined. Some additional information beyond the date, such as identifying that IV/01/11/02 contains the École des Beaux-Arts photos or that III/01/05/1 contains Hearst/Morgan correspondence, would make it easier for the researcher.[9]*

Eight additional gifts of Morgan materials from various donors detailed above are unarranged, except for drawing counts and container lists created at the time of acquisition for the deeds of gift. They will be added, according to recommendations in Shepherd and Lowell's *Standard Series*, as additional record groups to the original Julia Morgan Collection, and the legacy finding aid will be updated and enhanced.

Physical Condition and Storage of the Materials

The Julia Morgan Collection received in-house preservation treatment at the time it was arranged and described in 1985, including inspection for pests and mold, relaxing of drawings for flat storage, surface cleaning, removal of metal objects, and rehousing into folders, containers, and flat file furniture meeting archival standards for preservation of architectural materials.

Because there is no in-house conservation specialist or lab at Cal Poly, Special Collections used the professional services of the Western Regional Paper Conservation Laboratory (WRPCL) at the California Palace of the Legion of Honor Museum in San Francisco. Four plot plans were treated at the WRPCL for removal of rusted straight pins, repair of holes, and deacidification. (Morgan used straight pins in her earliest plot plans for San Simeon, to "move" buildings to alternative locations on the building site.) The major correspondence series were microfilmed at the time of acquisition because of the presence of highly acidic sulfur paper that was used as cheap paper for second copies and telegrams in the 1920s and 1930s.

Because the collection has been used intensively for nearly 20 years, however, staff will use the opportunity provided by the rearrangement of the Julia Morgan Collection to replace worn archival folders, buffer the sulfur paper located in six linear feet of the collection to prevent acid migration, and create copy negatives and prints for glass plate negatives.

At the same time, staff will assess current and emerging conservation issues in the Morgan Collection and prepare detailed condition reports for qualified conservators, so that they may complete treatment proposals and cost estimates for future in-house budget planning and grant applications. Of the condition of drawings in the Morgan Collection, consultant Tawny Nelb noted:

> *Some … survive only as blueprint copies but, like the rest of the collection, they are mostly in good condition. The blueprints have been well protected from light and maintain their Prussian blue coloration. Some of the blueprints have rips and losses. Some of these are relatively easy to*

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[9] Nelb, 16.

repair and other will require more extensive work. The more seriously damaged drawings require professional conservation.[10]

Sara Holmes Boutelle Collection on Julia Morgan (MSS 027)

Nature, Size, and Intellectual Content

The second collection in this proposal is the papers of the late architectural historian Sara Holmes Boutelle (1909-1999), Morgan's seminal biographer, who researched and collected material on Julia Morgan for twenty-seven years. Boutelle's lecturing and writing on Morgan not only preserved important documentary evidence of her practice, but also lifted the architect from obscurity, inspiring others to study Morgan and her work.

Bequeathed to Cal Poly at her death, the collection contains 100 linear feet of Boutelle's research correspondence, notes and interviews; subject files; project files; and visual media, assembled primarily during the research for her book, *Julia Morgan, Architect* (Abbeville Press, 1988, revised 1995).

There are also 12 cubic feet of original Morgan documents and drawings, including Morgan's holographic journal of her travels in Europe in 1938, correspondence with painter, muralist, and landscape designer Bruce Porter (1865–1953); rare vintage prints of Morgan residential commissions under construction; and more than 100 architectural drawings, which were given to Boutelle in the course of her research by Morgan's friends and staff members. Documentary evidence of Morgan commissions believed to be demolished is contained in the collection.

This collection is particularly rich in visual media, including scores of vintage and copy prints and 4,954 35mm transparencies of Morgan commissions, both at the time of construction and from the present day. The visual media and Boutelle's accompanying notes will greatly inform the on-going process of identifying Morgan buildings and determining whether they survive or were demolished. The Boutelle Collection images are unique; none of these images are available elsewhere.

Unlike the handful of other women who practiced architecture in Morgan's day, Julia Morgan earned her living from her practice; Boutelle's research materials provide striking documentation of the scope and extent of Morgan's work. Access to the Boutelle Collection is a top priority for researchers seeking a greater understanding of the nature and development of architecture in this country, particularly the materials on Morgan's education, the management of her practice, her facility with various design styles, and individual commissions and clients.

A graduate of Mount Holyoke, the Sorbonne, and Hamburg University, Sara Boutelle taught art and architectural history for many years at the Brearley School in Manhattan. Boutelle first toured the San Simeon estate in 1972, and was shocked to find interpretation at the state historic site that referred to Julia Morgan as W.R. Hearst's private secretary. Boutelle dedicated the remainder of her life to researching and collecting material by and about Julia Morgan. In 1989, her biography, *Julia Morgan, Architect,* was awarded the California Book Award Silver Medal. For her continuing work as lecturer and preservationist, Boutelle was named an honorary member of the American Institute of Architects, the highest award given to a non-architect.

Of the Boutelle Collection, consultant Tawny Ryan Nelb wrote:

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[10] Nelb, 16.

> *This collection is high on the priority list for processing due to the significant number of important original documents about Morgan stored within. They include construction photographs, negatives, slides, magazine and newspaper clippings, sketches, scrapbooks, correspondence with family, friends, clients, and colleagues of Morgan…. There are also significant subject files relating to Ms. Boutelle's book, lectures, and research correspondence that document her work as a historian.*

Digital scans representing some of the primary sources available to researchers in the Boutelle Collection are included in Appendix A on pages 38–43 of this proposal.

Present Level of Intellectual Description

The Boutelle Collection is large, dense with information, and minimally organized. The original order of her voluminous Morgan project files appears to be rather haphazard: some are arranged by building location (Berkeley, Oakland, etc.), others by client name. Boutelle's original order will, of course, be preserved where possible. Because Boutelle did not use a computer, at least three Rolodex files (client, address, and job number) present in the collection appear to have functioned as a database.

This collection is unarranged except for container lists and drawing counts created at the time of the deed of gift. At present, researchers are solely dependent on Special Collections staff to alert them to materials in the Boutelle Collection that advance their work.

A detailed departmental assessment of arrangement, description, and preservation needs for the Boutelle Collection is included as Appendix C on pages 50–52 of this proposal.

Physical Condition and Storage of the Materials

The Boutelle Collection contains important original photographs in brittle, acidic scrapbooks, for which copy negatives and prints will be created. Vintage photographic prints are also stored in glassine envelopes, or are still attached to pre-press media that were sent directly to her publisher.

Consultant Tawny Nelb noted, "There are also significant subject files relating to Ms. Boutelle's book, lectures, and research correspondence that document her work as a historian. Unfortunately, these include material in many obsolete storage formats including Betamax video and photograph formats, such as slides, that are difficult for researchers to use."[11] The slide collection, many of which are in deteriorating cardboard mounts, will be appraised for research value and reformatted digitally using a dedicated slide scanner to maximize quality of the digital capture.

Preservation treatment for the Boutelle Collection has been limited to inspection for pests and mold and rehousing into appropriate archival containers. At the time of arrangement and description, we will refolder and store drawings in flat file furniture; refolder project and research files into appropriate archival folders and containers; remove metal, i.e., staples, brads, pins and paper clips; rehouse photographs in Mylar® sleeves; complete preservation photocopying of correspondence and plans on unstable media; and create copy negatives and prints for unstable photographs.

As the collection is arranged and described, we will assess current and emerging conservation issues in the Boutelle Collection and prepare detailed condition reports for qualified conservators, so that they may complete treatment proposals and cost estimates for future in-house budget planning and grant applications.

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[11] Nelb, 33-34.

<u>Past, Present, and Future Use</u>

A three-page selected bibliography of scholarly works already created using the Julia Morgan Collection (MSS 010), including monographs, journal articles, documentaries, and exhibitions, is contained as Appendix D on pages 53–55 of this proposal. Researchers range from junior high school students preparing for the statewide History Day competition and the recipient of a Summer Younger Scholars Grant from NEH (#FI-26516-93) to postdoctoral students and major biographers.

The Sara Holmes Boutelle Collection on Julia Morgan (MSS 027) and the eight smaller collections are largely unused at this time because of the absence of intellectual access to the materials, which hinders research. A more complete understanding of the scope of Morgan's innovation and influence is not possible without improved access for researchers to this material.

Specific examples of current projects that will be enriched by access to the Boutelle Collection include "Building the California Women's Movement: Architecture, Space and Gender in the Life and Work of Julia Morgan," the dissertation in progress by Karen McNeill, a UC Berkeley doctoral student, and an as-yet untitled illustrated children's biography of Julia Morgan, to be published by Viking Press, by award-winning children's book author Celeste Mannis. Letters of support from researchers are found in the appendices on pages 84–90.

The extensive visual media in the collection, together with Boutelle's research files, contains information that will allow researchers to refine the list of nearly 700 known Morgan commissions. The collection also contains documentary evidence of Morgan commissions believed to be demolished, a subject of considerable interest to architectural historians.

Humanities researchers will benefit from simultaneous intellectual access to the complementary Morgan and Boutelle collections, particularly with the searching capability provided in electronic finding aids using Encoded Archival Description – Document Type Definition (EAD DTD), which provides a framework for metadata that will enable researchers using the Morgan and Boutelle collections to compile, search, retrieve, and otherwise customize the finding aids according to their research needs.

One example of the complementary nature of the two collections relates to Julia Morgan's detailed approach to unifying design elements. In 1929, Morgan designed every aspect of the Berkeley Women's City Club, including decorative details for tile, linens, and china. The pastel decorative detail sketches are located in the Morgan Collection, while correspondence on the design elements and the only extant place setting of the vintage china is located in the Boutelle Collection. Digital images of these items are located in Appendix A on pages 38–43 of this proposal.

Other examples of the synergy between the Cal Poly collections include the Boutelle Collection's photographic documentation that informs the records of specific architectural commissions found in the Julia Morgan Collection, and the addition of Morgan's 1938 European travel journal, previously thought lost, to sketches she made during that trip, located in the Morgan Collection.

A significant number of reference inquiries in Special Collections ask whether Julia Morgan designed specific buildings throughout the state. The visual documentation of Morgan buildings in the Boutelle Collection, reformatted from 35mm slides to digital images, combined with a database of verified Morgan commissions, would improve researcher access for these inquiries. Allowing researchers direct access to a searchable database of digital images on the library's server will be pursued upon completion of these project goals, as part of Special Collections' long-range strategic plan.

Current and future uses of the Morgan collections include scholarly research, lectures, monographs, biographies, children's books, local and traveling exhibitions, historic house interpretation, building restoration, documentaries on public and cable channels, and other scholarship that advances public and scholarly understanding of architecture, the built environment in California, and the humanities disciplines.

Institutional Commitment

This project is a high priority for the university because of Cal Poly's institutional commitment to architectural education and research.

About the Special Collections and University Archives Department

This project is part of the department's broader mission to serve as a major repository for archival collections on California architects and architecture. Special Collections promotes the preservation and study of architectural records as an integral part of California's cultural heritage by acquiring and preserving original architectural materials; delivering electronic finding aids; assisting students, faculty and researchers; providing materials for study, publication, exhibition and broadcast; and assisting with architecture classes, lectures, and public programming. A complete list of the other architectural collections at Cal Poly is contained in Appendix E on page 56–57 of this proposal.

Staffed with a professional archivist at the rank of full professor, two support staff positions, student assistants, volunteers, and interns, the department has assisted researchers from 32 states and seven countries using the architectural collections at Cal Poly. These collections include original drawings and prints, personal and professional correspondence, published and unpublished writings, business records, visual media, diaries, personal papers, biographies, oral histories, ephemera, and other original materials relating to architects and architecture, landscape architecture, environmental design, urban planning and engineering in California, with special emphasis on southern California and coastal communities, and under-collected areas of the state, including the San Joaquin Valley.

Researchers also use the department's collection of rare architecture monographs, primarily published in the late nineteenth century and early twentieth century, with special emphasis on sketchbooks, portfolios, and pictorial works. Titles in English, French, German and Italian are held in the collection, with an emphasis on monographs published by L'École des Beaux-Arts at the turn of the century, including *Medailles et Mentions, Les Concours Décole*, and other printed examples of Beaux-Arts work. The collection also contains all monographs on architecture published by Cal Poly faculty.

Of the Special Collections Department, consultant Nelb noted:

> *Although one of the focuses of the [report] has been to give recommendations on ways to improve the preservation, arrangement, description, and housing of the architectural collections, these materials have been well cared for. Architectural records, especially drawings, are among the most difficult for archivists to preserve and make available for research because of their varied and temporal media and complicated lexicon. Many archives ignore them completely because of the inherent problems of dealing with them properly. The Special Collections Department, on the other hand, has tackled these often difficult materials fearlessly in the face of limited staffing and resources and has done an amazing amount of work to preserve the material and make them available for research.[12]*

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[12] Nelb, 120.

About the Robert E. Kennedy Library

At the heart of Cal Poly's learn-by-doing philosophy is the Robert E. Kennedy Library, named for the university's seventh president. As a campus leader in information management, the Kennedy Library integrates traditional resources with technology to advance Cal Poly's distinctive polytechnic programs.

The Kennedy Library plays a vital role on campus as a place of learning, discovery, and scholarship, where each week 28,000 students, faculty, and researchers use our collections, attend classes, work collaboratively, or consult with members of the library faculty and staff. Tens of thousands more use our Digital Teaching Library, where resources are available 24 hours a day from any location via proxy servers. As the largest library between Santa Cruz and Santa Barbara, the library also plays a critical role in the surrounding community. Our digital initiatives have been featured in *American Libraries, Library Journal*, and at national professional conferences.

About Cal Poly's College of Architecture and Environmental Design

An estimated one of every five architects in California is a graduate of Cal Poly's College of Architecture and Environmental Design (CAED). Nearly 1,600 CAED students are enrolled in undergraduate programs in architectural engineering, architecture, construction management, city and regional planning, and landscape architecture; and graduate programs in architecture and city and regional planning. Admission to the program is highly competitive, as only one in four qualified applicants is selected. The college draws its faculty from both professional educators and practicing professionals of the built environment industry. Together, they offer students instruction in the human and built environment at all scales, from rooms and interiors, to single structures and complexes, to site planning, to urban and regional systems, including visual and spatial relationships among elements of the physical environment.

Sessions of the following classes are taught in the Special Collections Department using Morgan and other architecture collections: History of Architecture (ARCH 217, 218, 219), Foundation Design (ARCE 422), and Architectural Design (ARCH 351, 352, 353), and Seminar in Architectural History (ARCH 420). Professors teaching women's studies, California history, art and design, and landscape architecture also use the Julia Morgan Collection.

About California Polytechnic State University

California Polytechnic State University (Cal Poly) is a nationally ranked, four-year, comprehensive public university. Founded in 1901, the 6,000-acre campus is located in the foothills of San Luis Obispo, along California's scenic central coast and midway between Los Angeles and San Francisco. With a budget of $168.5 million, the university has an enrollment exceeding 17,000 students and employs more than 2,000 faculty and staff members. Cal Poly is part of the 23-campus California State University system.

Related Collections In Other Repositories

Significant collections of architectural plans, project files, and correspondence by and about Julia Morgan exist at the Environmental Design Archives and The Bancroft Library, both at the University of California at Berkeley. An NEH-funded EAD finding aid for the Julia Morgan materials at the Environmental Design Archives is available to researchers through the Online Archive of California portal.

Arrangement and description of Cal Poly's Morgan collections using EAD will not only provide absolutely essential intellectual access to the largest and most comprehensive collection of Morgan materials in one location, but also will enhance the utility of Morgan collections at Berkeley, providing researchers with unprecedented customized intellectual access to Morgan collections at both institutions.

Related collections include:

The Bancroft Library, University of California, Berkeley, CA
- Julia Morgan Architectural Drawings (BANC MSS 71/156, 77/127)
- Architectural Drawings of University of California Buildings (CU-402)
- Phoebe Apperson Hearst Papers, 1842-1919 (BANC MSS 72/204 c)
- Photographs from the Phoebe Apperson Hearst Papers, 1842-1919 (BANC PIC 1972.015)
- William Randolph Hearst Letters to Phoebe Apperson Hearst, 1863-1951 (BANC MSS 87/232 c)
- Transcripts, Julia Morgan Architectural History Project, Regional Oral History Office, Bancroft Library, University of California, Berkeley, 1976.
- Transcripts, Hearst San Simeon State Historical Monument Oral History Project, 1977 – 1991.

Environmental Design Archives, University of California, Berkeley, CA
- Julia Morgan/Forney Collection (ARCH 1983-2)
- Julia Morgan Collection (bulk 1893-1940) (ARCH 1959-2)
- Edward Hussey Collection (ARCH 1977-2)
- Bernard Maybeck Collection (ARCH 1956-1)
- Walter Steilberg Collection (ARCH 1973-1)

Hearst San Simeon State Historical Monument
- Architectural Drawings Collection (not open to researchers)

History, Scope, and Duration

This proposal is the first request for NEH funding by Special Collections at Cal Poly. This two-year project will: 1) **Arrange, describe, and preserve 291 linear feet of archival material** in the Morgan and Boutelle collections according to national practices and standards for architectural archives; 2) **Create 25 digital images and two electronic finding aids with search capability,** using Encoded Archival Description – Document Type Definition (EAD DTD); 3) **Enhance access for researchers** by delivering electronic finding aids on the Web through a single portal, the Online Archives of California, which federates special collections of materials from libraries, museums, and archives across California, in an integrated searchable database; 4) **Create two MARC catalog records** for the Morgan and Boutelle collections, providing bibliographic access for users of WorldCat, OCLC's union catalog, and Polycat, the Kennedy Library's online public access catalog; and 5) **Create a digital image database** of 3,500 slides from the Boutelle Collection, providing researchers with mediated online access to visual information about Morgan buildings.

This project will be Cal Poly's first implementation of EAD, which will enable researchers to compile, search, retrieve, and otherwise customize the finding aids according to their research needs. These needs, whether traditional or innovative, can then be fulfilled in a potentially infinite number of ways, including some of which would have been unimaginable to archivists creating and providing access using legacy analog finding aids. The finding aids will be resident on the servers of the Online Archives of California, an information resource hosted by the California Digital Library (CDL).

Preliminary Research and Planning

This project proposal is the first step in the Kennedy Library's larger strategic plan to improve and enhance intellectual access to architectural holdings in Special Collections. In 2002, Cal Poly's Dean of Library Services provided funding to retain architectural archives consultant Tawny Ryan Nelb to

complete a needs assessment of the architectural collections. In particular, Nelb was asked to assess the significance, research quality, and accessibility of these collections. Nelb's specific findings regarding research value, intellectual description, and physical condition for the Morgan collections have been cited throughout this proposal. Nelb's letter of support for this project is found on pages 88–89 of this proposal.

Nelb also addressed the feasibility of creating a formal architectural archives at Cal Poly to: 1) advance the preservation and study of the state's built environment, 2) acquire, arrange, describe, and preserve new and existing architectural archives collections, and 3) attract additional campus and external funding in support of Special Collections and the Kennedy Library's mission. Nelb's conclusions regarding the establishment of the Archives for the Study of California Architecture (ASCA) at Cal Poly stated:

> *After looking at the existing and potential collections available to the ASCA, it is clear that such an organization would be a valuable asset to the university itself and to outside scholars. Competition for collections will be a challenge, but even with that reality, the ASCA could be successful if it received adequate financial support from within and outside the university. The university is known as one of the premier institutions for architectural training in the United States. The ASCA would enhance that reputation and offer another tool to attract students, faculty, and outside scholars to its campus.*[13]

Staff Development

Cal Poly's Dean of Library Services also provided professional development funds in 2003 to Information Technology Consultant Patrick Kammermeyer, who completed the "Basic EAD" and "Style Sheets for EAD—Delivering Your Finding Aids on the Web" workshops and Library Assistant Catherine Trujillo, who completed "Style Sheets for EAD—Delivering Your Finding Aids on the Web." Both staff members will be participating in this project, distilling the insights gained in the EAD training into workable solutions for this project.

b. Methodology and Standards

Appraisal

The Julia Morgan Collection was appraised as it was arranged and described in 1985. Materials that had no lasting historical value were returned to the donors, per the deed of gift. Written collecting policy for architectural collections specifies retention of initial concept sketches; presentation drawings; renderings; floor plans; elevations; sections; decorative, structural, and full-scale details, and other original drawings that inform the design process. Shop drawings are usually withdrawn, as are duplicates, particularly unstable diazotype copies.

When the Boutelle Collection is processed, there will be research photocopies and photographic copy prints from Cal Poly's holdings and related collections at UC Berkeley, which will be withdrawn. Deaccessioning materials whose intellectual property rights are owned and administered by institutions other than Cal Poly clarifies the collections for both researchers and staff. All rights to Boutelle's materials were conveyed to Cal Poly by the terms of the deed of gift, signed by her executor and countersigned by the head of Special Collections.

Arrangement and Description

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[13] Nelb, 120.

The collections included in this proposal will be arranged and described at the folder level, with the exception of digital images, which will be tagged using media management software at the item level for searching and retrieval. Shepherd and Lowell's *Standard Series for Architecture and Landscape Records* will provide the framework to organize and describe our architectural collections. The legacy finding aid in this project, *Descriptive Guide to the Julia Morgan Collection*, will require updating to the record groups and series described in *Standard Series*, and the addition of two new sections: a Project Index, listing all commissions by Client/Project Name, and a new record group for Additional Donations, with each new donation listed as a subseries. The latter provides for incorporation several smaller gifts of primary source materials from various donors for Morgan buildings in Berkeley, Fresno, Pacific Grove, Santa Barbara, San Luis Obispo, and Santa Maria, California, as well as San Simeon and Wyntoon. Shepherd and Lowell's *Standard Series* also facilitates creation and use of electronic finding aids, application of EAD DTD, and, ultimately, ease of use for the researcher.

Preservation and Conservation

As consultant Tawny Ryan Nelb noted, "Architectural records, especially drawings, are among the most difficult for archivists to preserve and make available for research because of their varied and temporal media and complicated lexicon."[14]. The department's preservation measures are based primarily on the recommendations in Eléonore Kissel and Erin Vigneau's *Architectural Photoreproductions: A Manual for Identification and Care* (Oak Knoll Press, 1999), which provides professional standards for architectural archives' housing and storage files, particularly relating to the treatment of unstable media, such as diazotypes and their interaction with alkaline environments. In-house preservation measures are further informed by the use of Tawny Ryan Nelb's "Architectural Records Media/Support and Preservation Chart." Created for the Michigan CoPAR (Cooperative Preservation of Architectural Record) in the 1990s, the chart is an excellent ready reference source for the identification of the varied original and photomechanical media present in architectural archives. This chart is included as Appendix F of this proposal on pages 58–59.

The project director, Nancy Loe, has 22 years of experience working with architectural records. She and the project archivist will be responsible for the identification of media used for architectural drawings and plans, which is crucial to the determination of appropriate archival housing and storage. The project director is also responsible for implementation of in-house preservation measures, which include inspection for pests and mold, relaxing of drawings for flat storage, surface cleaning, removal of metal objects, and rehousing into folders and containers meeting archival standards for preservation of architectural materials. Because there is no in-house conservation specialist or lab at Cal Poly, materials requiring treatment beyond these basic preservation measures will be identified for care by professional conservators.

Finding Aids, EAD Web Sites, and MARC Records

Both traditional paper and electronic finding aids will be created. Finding aids will be based on Kelcy Shepherd and Waverly Lowell's *Standard Series for Architecture and Landscape Design Records: A Tool for the Arrangement and Description of Archival Collections*. The project's primary means of creating intellectual access for researchers is electronic finding aids using Encoded Archival Description Document Type Definition (EAD DTD) on the World Wide Web.

Projections have determined that it is not only more cost-effective to use an outside vendor to encode finding aids, but it also preserves project staff time for arrangement, description, and digital objectives. SAA workshops and other institutions recommend APEX Data Services, a vendor with significant years

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[14] Nelb, 120.

of experience with the EAD format, whose quoted rate is $5 per page. Finding aids marked up by external vendors will be reviewed by project staff for quality control purposes and then uploaded to the Online Archive of California (OAC). Using an integrated online repository such as the OAC as host for the electronic finding aids also promotes online access to collections via a single portal.

The electronic finding aids will be created and maintained by project staff according to the best practice guidelines, which are reviewed and updated annually. The current standard as of this writing is *Best Practice Guidelines for Encoded Archival Description, (OAC BPG EAD), Version 1.1* (2004) at http://www.cdlib.org/inside/projects/oac/ead/onres_ead_encodingstandards.HTML. The *OAC BPG EAD* categorizes finding aids into three possible encoding schemes. The collections included in this proposal will be reported at the third or full level: "This descriptive scheme encompasses the 'deepest' encoding supported by the OAC, i.e., a collection-level description with series and/or subseries (if applicable), and a container list."[15]

The Special Collections and Digital Teaching Library sites on the library's server will also offer downloadable versions of the finding aids using Adobe's Acrobat® Portable Document Format (PDF) files. While this may appear to be duplication of effort given EAD's acceptance in the archival profession, we note continual demand by Special Collections' researchers to be able to download the entire Julia Morgan Collection finding aid. In addition, Cal Poly, as part of the California State University, is strongly committed to providing access for users protected by the Americans with Disabilities Act. The California State University has determined that frames-based Web sites are not compliant with ADA. Providing easily downloaded PDF files ensures adherence to CSU best practices for ADA access,

One MARC bibliographic record will be updated for the Julia Morgan Collection and one MARC bibliographic record will be created for the Boutelle Collection. The MARC records will be added to Polycat, Cal Poly's online catalog, and WorldCat, OCLC's union catalog. (The existing MARC record for the original Julia Morgan Collection is included as Appendix G on pages 60–61.)

Access and Provisions for Use

Special Collections subscribes to the 1994 "ALA-SAA Joint Statement on Access to Original Research Materials," which provides the ethical framework for use of special collections and acknowledges the responsibility of repositories both to preserve and to make available original research materials on equal terms of access.[16]

Our procedures for use are designed to assure proper handling of materials consistent with the library's commitment to preserving its collections for future generations. Researchers must sign a registration form agreeing to the rules for use. This form is included as Appendix H on pages 62–63 of this proposal. Written permission to quote from our holdings is required for non-profit publication, exhibition or production. Licensing agreements are negotiated for images released for commercial publication, exhibition, or production. The project's finding aids and MARC records will acknowledge NEH funding.

Preparation and Processing of Material

This proposal includes two digitization projects: 1) digital images created to accompany the electronic finding aids, and 2) a searchable digital image database reformatted from the Boutelle Collection's

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[15] "Doing EAD Locally: Section 3.1 Encoding Strategies," http://www.cdlib.org/inside/projects/oac/ead/local3_ead.HTML
[16] "ALA-SAA Joint Statement on Access to Original Research Materials," ACRL Standards & Accreditation Committee, ACRL Board of Directors, and the ALA Standards Committee, February, 1994.
http://www.ala.org/ala/acrl/acrlstandards/jointstatement.htm

outmoded media. The intent with both digitization projects is to create digital masters that are sufficiently high end to be useful over time, yet cost effective and manageable. Special Collections recognizes that digital standards, systems, and products are evolve over time and that data will need to be refreshed and migrated periodically. The standards provided by the California Digital Library and the Online Archive of California govern the specifics of this proposal. We also rely on Anne R. Kenney and Oya Y. Rieger's *Moving Theory in Practice: Digital Imaging for Libraries and Archives* (Mountain View, Calif: RLG, 2000).

In all instances, the high-resolution TIFF (Tagged Image File Format) files will be stored offline, and will be used to generate lower resolution surrogates for the electronic finding aids, researchers, and classroom assignments.

Digitization of Images for Electronic Finding Aids

The first project is digital capture of 25 items for the electronic finding aids, 12 to 13 items from the Morgan Collection and 12 to 13 from the Boutelle Collection. Images will be chosen for their research value, format (primarily architectural sketches or photographs of structures), and representation of the span of Morgan's career.

Visual media smaller than 11"x17" will be selected for in-house direct digital capture, entering the technical, administrative, and descriptive metadata, and linking the digital images to the electronic finding aid. The current standard as of this writing is *California Digital Library's Best Practices for Image Capture, Version 1.0* and *Digital Image Format Standards*. Digital master files will be scanned at 600ppi resolution, TIFF lossless compression, 8-bit grayscale or 24-bit color. Access files will be created in JPEG (Joint Photographic Experts Group) format, 8-bit grayscale or 24-bit color. Thumbnails will be created as GIFs (Graphic Interchange Format) files, 4-bit grayscale or 8-bit color. The RGB data will be captured in the native colorspace of the scanner. Color balance, brightness, and contrast of the scans will be adjusted to the values specified by CDL. As of this writing, we plan to use an Epson 1640XL flatbed scanner connected to a Macintosh G5 1.6GHz workstation, with 512MB RAM, 80GB hard drive, and Firewire (IEEE 1394) connection.

Visual media larger than 11"x17" will be photographed and the resulting 4"x5" color transparencies will be scanned. Specializing in architectural photography and preservation photography assignments for archives, museums, and fine art clients, Forrest Doud has produced publication-quality 4"x5"s for Special Collections for nearly two decades. The project's 4"x5"s have the further advantage of being retained in the collections for low- or no-cost use by non-profit researchers needing publication-quality images.

It is worth noting that the 600ppi resolution recommendations for large media are the subject of debate in the archival profession at the present time. We recognize that digital standards are evolving; thus, our plans are to follow the best practices recommended by the California Digital Library at the actual time of production. As of this writing, the *CDL Digital Image Standards* note:

> *Oversize originals such as posters and maps can be especially difficult to scan at the recommended resolution of 600ppi. Few libraries own flatbed scanners capable of scanning originals larger than 11" x 17," and even if they do, the problems of handling image files larger than about 120MB are daunting. These problems may lead to the use of a lower standard of capture resolution, such as 300ppi or 3000 pixels in the longest dimension (the "alternative minimum"), with the understanding that the useful life of the files may be limited and digital image capture for these objects will need to be repeated in the future.*[17]

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[17] *California Digital Library Digital Image Format Standards* (July 2001) 6.

Digitization of Boutelle Slide Library

The second digitization project manages the outmoded visual formats – predominantly 4,954 35mm color slides – found in the Boutelle Collection. The digital slide library serves two purposes: 1) delivering the visual information to researchers effectively and 2) removing outmoded formats and deteriorating slide mounts from the collection.

The slides in the collection have original research value that is lost to researchers in the 35mm slide format. They will be scanned in-house, again conforming to the California Digital Library's *Best Practices for Image Capture*, as specified above. The 35mm format has a resolution standard of 4200 pixels in the longest dimension. Scanning the 35mm format, which is 1.5" on the longest side, at 2800ppi will result in compliance with the 4200 pixel standard. We estimate that 3,500 of the 35mm slides will be retained in the collection in digital form. Given the number of slides in need of reformatting, we will use a dedicated slide scanner. As of this writing, the Nikon Coolscan IV ED is the cost-effective choice, providing automatic removal of surface defects, restoration of color, and film grain minimization of scans from 35mm sources.

The media management and delivery software chosen for this project is EmbARK by Gallery Systems. EmbARK is an extremely flexible system that is cross-platform, compatible with our local systems, and Web-enabled. Their Web Kiosk component provides staff and researchers with intellectual access to and delivery of the thousands of digital images from the Boutelle Collection. EmbARK was also chosen because of cost-for-value considerations and flexibility of design. Additionally, it is the software of choice not only on campus in the Art and Design Department and the College of Architecture and Environmental Design, but is also being used by the California Digital Library's IMAGE Project. The California State University is in the preliminary stage of a pilot project to add two collections to IMAGE: CIELO (art history survey) and WorldArt (historical images from variety of disciplines) databases. Managing our digital images from this project in EmbARK will facilitate our eventual inclusion in the CSU image databases added to IMAGE. Catherine Trujillo in Special Collections is an experienced user of this software and will train project staff and students completing the scans and data entry. The half-time grant-funded technology position (Information Technology Consultant – Career classification) will install the software; manage documentation, interfaces and password authentication; coordinate the data and backups; and upload files into the Online Archive of California. See Appendix I on pages 64–66 for sample data entry sheets, records, and screen displays created with EmbARK demonstration software.

The Cataloguer component of EmbARK is built with images as the central navigational principle and provides a relational and flexible template for metadata. Indexes and authority files are easily created in the system and all surrogates are linked to high-resolution TIFFs.

Organization of and Access to Material

The linked electronic finding aids and digital images in this proposal will conform to the specific guidelines developed for EAD submission as stated in the *Online Archive of California's Best Practices Guidelines for Encoded Archival Description, Version 1.1*. This ensures a base level in the content and structure of finding aids found on the OAC site. OAC's information sheet is included as Appendix J on page 67 of this proposal.

The project archivist will compile original MARC records, using the 856 field for hyperlinks to the electronic finding aids. Original MARC records at the Kennedy Library are reported to OCLC, the

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http://www.cdlib.org/news/pdf/CDLImageStd-2001.pdf

national bibliographic utility, and its online catalog, WorldCat. The Kennedy Library's online public access catalog, Polycat, will host the MARC records. Polycat is delivered to researchers using Innovative Interfaces' Millennium, an automated library system. Because Millennium is Web- and Java™-based, researchers have global access and need only a standard Web browser with Internet access to remotely browse the library's catalog from any place at any time. Millennium offers full-search capabilities by author, title, subject, author/title, keyword, browse, and other access points. In addition to MARC records, the Kennedy Library's Digital Teaching Library and the Special Collections Web sites will also contain hyperlinks to the electronic finding aids on the OAC servers.

Controlled language and authority lists for the digital slide library are based on our existing authority list for architecture collections, derived from *Art & Architecture Thesaurus*, published by the Getty Art History's Information Program. The *Thesaurus* is also embedded in EmbARK, our media management application.

Storage, Maintenance, and Protection of Data

The EAD finding aids, their digital images, and the Boutelle Collection's digital slide library are an extension of the Kennedy Library's digital initiatives and they will receive the same organizational commitment to refreshment and migration. The Kennedy Library, in its mission and strategic planning, views its digital collections as a core component of its services, supporting both the academic programs of Cal Poly and the research needs of the greater academic community.

Servers, Backups and Data Security

The project's digital files will be stored on a Dell Powervault NAS (Network Attached Storage) device, running Windows 2003 Storage Services. The hard drive technology is RAID (Redundant Array of Inexpensive Disks), which eliminates any one hard drive as a single point of failure. The NAS device resides in a rack in a climate- and access-controlled room. A General Power UPS (Uninterrupted Power Supply), providing two hours of runtime, is in turn connected a smaller APC UPS unit which shuts down the NAS if power outages last longer than two hours.

The project's digital files will be backed up and stored on: 1) fault-tolerant RAID drives; 2) a NAS server running Executive Software's Undelete, providing capability to restore accidentally deleted files; 3) a second NAS very high-speed hard drive array connected by a private Gigabit network holding two days of complete backups, allowing emergency backups to be performed in minutes rather than hours; 4) an on-site tape autoloader device holding one week of complete and/or incremental backups; and 5) a weekly backup tape, stored in another building on campus, and a monthly backup tape stored off campus.

The longevity of and long-term access to the project's digital files are ensured in the following ways:

- Win2003 operating system (OS) stands apart from the Web and database servers delivering content.
- This OS provides numerous protocols for access (i.e., the data can be accessed by Windows, Linux, Unix, and/or Mac OS servers.
- The OS uses Active Directory, a very sophisticated and granular means of controlling access and delegating rights to site and data operators.
- Master files will be stored as industry-standard TIFFs and lower resolution surrogates stored as JPEGs. Both are relatively mature formats that have solidified, will be used well into the future, and are very likely to be included in "backward compatibility" elements of new technology.

Security of the project's data is handled in the following ways:

- The Windows 2003 Storage Server version used on the NAS device is by definition an additionally "hardened" version of the OS, and thus is even more secure than Win2003 Standard Server.
- The room where the NAS resides is physically secured and access-controlled.
- All servers and workstations for this project have Symantec Antivirus Corporate auto-updated.
- An SUS (Software Update Services) server supplies up-to-date Microsoft Patches to the project's servers and workstations.
- The NAS, database, and Web servers are all "hardened" by our technicians using standard security "best practices" checklists during initial loading.
- All Windows boxes are periodically scanned for security vulnerabilities using Microsoft Baseline Analyzer (MBSA).
- Server security logs are monitored on a regular basis.
- The campus perimeter is protected by an industry-standard Cisco PIX firewall.

Security and Preservation of Original Source Material

The architectural collections included in this proposal are housed in secure stack areas in a stable environment in the Special Collections Department of the Robert E. Kennedy Library, itself a secure facility. Special Collections' reading room, stacks, and flat file storage areas are monitored for temperature, relative humidity, and relative indoor light level measurements using MicroDAQ.com's HOBO U12 Data Logger. Because of cost overruns at the time of construction, the Kennedy Library only has humidity controls. However, because of our temperate climate and the assistance of building engineering staff, the department avoids extreme cycling of temperature, using the principles advanced in Richard L. Kerschner and Jennifer Baker's *Practical Climate Control: A Selected, Annotated Bibliography*. They note:

> *Until the early 1980's, there was limited discussion of methods to improve environmental conditions other than complete climate control, since complete systems were required to achieve the recommended conditions of 48%ˇ52% RH and 65ˇ68°F…. During the mid 1980's, several U.S. conservators initiated a different approach to environmental control. They began to investigate simpler, low cost methods for improving collection environments. Adopting methods developed in Canada and the United Kingdom during the 1970's, their goal was not to achieve a "perfect" climate, but rather to improve existing conditions by allowing temperature and relative humidity levels to float seasonally within broader limits while limiting temperature and RH extremes. This holistic approach led to the investigation of practical climate control measures.[18]*

Special Collections staff members are, however, well aware of the need for improved climate control capabilities. Therefore, local and/or system funds from The California State University for a permanent HVAC system meeting the standards of the archival profession are being explored. Ultraviolet-filtering plastic has been applied to exterior windows and relatively low UV florescent lamps are used in combination with UV filters for the reading room and stack areas. Visible light has been eliminated from storage areas as much as possible and carefully controlled in other areas. Special Collections already has sufficient flat file storage furniture, which is new steel, powder-coated and heat-cured. Shelving is flat enamel. Drawings and plans too large to be housed flat will be stored rolled on acid- and lignin-free tubes.

The security system for Special Collections was entirely replaced and upgraded in 2003 and features coded entry for each staff member recording date and time of access, silent alarms to the university

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[18] Richard L. Kerschner and Jennifer Baker, "Practical Climate Control: A Selected, Annotated Bibliography." http://palimpsest.stanford.edu/byauth/kerschner/ccbiblio.HTML

police, duress codes, motion detectors, multi-level off-master keys to collection stack areas, and other features, which are not shared publicly. Special Collections has written security policy and procedures.

c. Work Plan

The project will begin in May of 2005 and proceed for two years in several phases during the time periods indicated below. Once begun, phases may overlap as archival and technology staff members meet their objectives in a collaborative and cost-effective way. A detailed project timeline by phases as a bar chart is located as Appendix K on pages 68–70 of this proposal.

The phases of the project are as follows:

Phase 0:   Pre-Award Planning (6 weeks) Mid-March - April 2005

Prepare for Library Assistant I recruitment (Loe)
Prepare for Information Technology Consultant – Career recruitment (Loe and Chu)
Prepare sole source justification and contract for the project archivist, EAD vendor, and preservation
     photographer (Loe and Edwards)
Create project site on the library's intranet to provide central location for general information about the
     project, links to best practices Web sites, project work plans and deadlines, other deliverables
     (Kammermeyer)

Phase I: Preparation (2 months) May – June 2005

Fiscal:
Set up financial accounts with the Sponsored Programs unit of the Cal Poly Foundation (Edwards)
Review NEH reporting requirements with Grants Development Office (Loe and Edwards)
Processing:
Develop press release for university's Public Affairs Office to announce grant award (Trujillo)
Recruit, select, and appoint LA I and student assistant(s) (Loe, search committee)
Refresh training of archival staff (Loe and Trujillo)
Hold planning meetings of the Implementation Team to review assignments, deadlines, and best practices
     for uniformity of arrangement and description, content, encoding, and preservation (all project staff)
Order archival supplies (Trujillo and Fourie)
Develop arrangement and description plans and workflow (Loe and Fourie)
Technology:
Recruit, select, and appoint ITC – Career position (Loe, Chu and search committee)
Select, purchase and install project hardware and software (Chu, Kammermeyer, Smith, ITC)
Consult with OAC mentor on current best practices and other recommendations (Loe and ITC)

Phase II: Revise Legacy Morgan Finding Aid (9 months) July 2005 – March 2006

Fiscal:
Track expenditures and prepare quarterly reports (Edwards and Loe)
Archival:
Orient LA I and students to department practices and policies (Trujillo)
Supervise archival staff (Loe, Fourie)

Revise record groups, series and subseries for Morgan Collection and legacy finding aid (117 linear feet) to conform to *Standard Series for Architecture and Landscape Design Records: A Tool for the Arrangement and Description* (Loe, Fourie, Trujillo)

Update collection records (Trujillo)

Review and refresh acid-free and other archival housing in original collection as needed (LA I, student assistant)

Review of all Morgan gifts for possible inclusion in Additional Donations (Loe and Fourie)

Process Additional Donations to the collection at folder level, including 62 linear feet of newly donated materials on Morgan commissions in San Simeon, Wyntoon, Berkeley, Fresno, Santa Barbara, San Luis Obispo, Pacific Grove, and Santa Maria (Fourie, Trujillo, LA I, student assistant)

Create Project Index, listing all commissions by Client/Project Name (Fourie, Trujillo, LA I, student(s))

Assess collection for current and emerging conservation issues and produce detailed condition reports for future use in treatment proposals and cost estimates by qualified conservators (Trujillo)

Train staff on EmbARK software (Trujillo)

Create authority lists and controlled language for digital images in EmbARK (Loe and Fourie)

Identify architectural drawings needing 4"x5" color transparencies for scanning purposes (Loe and Fourie)

Identify photographs and glass plate negatives needing preservation copy prints and negatives (Loe and Fourie)

Select, scan and enter metadata for 12 items for inclusion in electronic finding aids (Fourie and Trujillo)

Update existing MARC record and report to OCLC (Fourie)

Compile, write front matter, and edit revised finding aid (Fourie)

Send hard copies of revised finding aid to institutions holding hard copies of legacy Morgan finding aid (LA I)

Technology:

Supervise project technology staff (Chu)

Send project staff for EAD training at SAA, as needed (ITC)

Send revised finding aid to EAD vendor for markup (ITC)

Review electronic finding aid marked up by vendor for quality control purposes (Kammermeyer and ITC)

Link 13 images from Julia Morgan Collection for inclusion in electronic finding aid (ITC)

Upload electronic finding aid and digital images to OAC (ITC)

Create PDF file of revised finding aid and upload to Kennedy Library's Digital Teaching Library (ITC)

Redesign of Special Collections' Web pages to link to electronic and PDF versions of finding aids (Kammermeyer and ITC)

Maintain Web sites (ITC)

Maintain servers and backups (Smith and ITC)

Maintain EmbARK software and data (ITC)

Phase III: Arrangement and Description – Boutelle Collection (9 months) April 2006 – Dec 2006

Fiscal:

Track expenditures and prepare quarterly reports (Loe and Edwards)

Archival:

Supervise archival staff (Loe)

Appraise collection for duplicate materials, photocopies, and copy prints of materials from other institutions in research and visual files (Loe, Fourie, Trujillo)

Determine record groups, series and subseries structure for the new finding aid according to relevant manuscript description standards (Loe and Fourie)

Arrange and describe appraised collection to folder level, including rehousing, refoldering, and removing metal objects (Fourie, Trujillo, students)

Create Project Index, listing all commissions by Client/Project Name (Fourie, Trujillo, LA I, student assistant)
Review authority lists and controlled language for digital images in EmbARK (Loe and Fourie)
Identify 35mm slides with research value for reformatting (Loe and Fourie)
Scan 35mm slides and enter metadata for digital images (LA I and students)
Identify architectural drawings needing 4"x5" color transparencies for scanning purposes (Loe and Fourie)
Work with preservation photographer to create preservation copy prints and negatives for at-risk photographic prints (Loe and Fourie)
Select, scan and enter metadata for 13 items for inclusion in electronic finding aids (Fourie and Trujillo)
Identify other outmoded storage formats (Betamax, etc.) and reformat (Trujillo)
Assess collection for current and emerging conservation issues and produce detailed condition reports for future use in treatment proposals and cost estimates by qualified conservators (Trujillo)
Compile, write front matter, and edit finding aid (Fourie)
Create new MARC record and report to OCLC (Fourie)
Technology:
Supervise project technology staff (Chu)
Send revised finding aid to EAD vendor for markup (ITC)
Review electronic finding aid marked up by vendor for quality control purposes (Kammermeyer and ITC)
Link 13 images from Boutelle Collection for inclusion in electronic finding aid (ITC)
Upload electronic finding aid and digital images to OAC (ITC)
Create PDF file of new finding aid and upload to Kennedy Library's Digital Teaching Library (ITC)
Update Special Collections' Web pages to link to electronic and PDF versions of finding aids (ITC)
Maintain Web sites (Kammermeyer and ITC)
Maintain servers and backups (Smith and ITC)
Maintain EmbARK software and data (ITC)

Phase IV: Review, Dissemination, and Assessment (4 months) January – April 2007

Fiscal:
Track expenditures and prepare final reports (Edwards and Loe)
Archival:
Announce availability of traditional and electronic finding aids in professional literature and press releases to educational institutions and architectural organizations and promote online access to collections via a single OAC portal (Trujillo and Loe)
Host informational and training sessions for researchers and colleagues (Fourie and Loe)
Hold final meeting of the Implementation Team to identify transition issues for continuing operation after close of project (Loe and project staff)
Prepare completion reports (Loe)
Technology:
Supervise technology staff (Chu)
Beta-test and troubleshoot electronic finding aids and Boutelle digital images on library's Digital Teaching Library server and OAC's servers (ITC and Kammermeyer)
Design e-metrics to gather use statistics on electronic finding aids available on library's Digital Teaching Library server (ITC and Kammermeyer)
Maintain Web sites (Kammermeyer)
Maintain servers and backups (Smith)
Maintain EmbARK software and data (Kammermeyer)

Phase V: Continuing Operations (Ongoing) Beginning in May 2007

Review other manuscript collections/guides for EAD Web sites using skills, training, and infrastructure from NEH grant (Loe, Chu and respective staff)

Prepare in-house Programming Planning & Review (PP&R) budget requests for identified guide conversions (Loe and Chu)

Maintain EmbARK software and data and project Web sites (Kammermeyer)

Maintain servers and backups (Smith)

d. Staff

Project Participants From Kennedy Library Staff

Experienced Cal Poly library faculty and staff will participate in the Julia Morgan Architectural Archives project. Please see Appendix L on pages 70–78 for résumés of the major participants.

Nancy Loe, Assistant Dean for Collections Management and Special Collections (.50 FTE), will serve as project director and lead archivist. She will monitor expenditures; prepare project reports; direct the arrangement and description of the records according to standard archival practices, including appraisal, identifying media and determining preservation measures, determining arrangement and description workflow and hierarchy, and controlled language. The lead archivist will also train the project's archival staff, coordinate with the project archivist/consultant on arrangement and description objectives and coordinate with the Head of Digital Services on digitization objectives.

Catherine Trujillo, Library Assistant III, Special Collections (.50 FTE) will prepare and maintain collection records, arrange and describe additional donations and other records, compile project/client lists, prepare collection summaries and statistics, train staff on media management software, create project indexes using information from original materials, and provide other project support for architectural collections. Trujillo will also gather information for conservation treatment proposals.

Helen Chu, Head of Digital Services, Kennedy Library (.15 FTE) will coordinate with the project director on the project's digital deliverables and their integration with the library's Special Collections Web site and Digital Teaching Library, supervise the project's dedicated technology half-time position, and design e-metrics to measure use of the project's digital products and services.

Patrick Kammermeyer, Information Technology Consultant – Career, Digital Services (.16 FTE) will work with the project's dedicated technology half-time position on software installation and troubleshooting, digital images, CDL/OAC best practices and EAD standards, and Special Collections data protection.

Mark Smith, Information Technology Consultant – Career, Digital Services (.16 FTE), will work with the project's dedicated technology half-time position to manage server infrastructure, including network security, permissions and privileges, account creation, and backups.

Fran Edwards, Library Accounting Technician III, Library Administration (.125 FTE) will coordinate purchasing supplies and equipment, expedite reimbursement for services, prepare fiscal reports and liaise with Cal Poly Foundation and the project director.

Project Staff Positions

Denise Fourie, Project Archivist/Consultant (.33 FTE). Fourie will work with the lead archivist to arrange and describe the records according to standard archival practices, including surveying the collections in order to establish a proposed arrangement; identifying media and determining preservation measures;

appraising the Boutelle Collection for materials for research copies of materials owned by other institutions; physically reorganizing the collection in accordance with the arrangement plan; supervising the refoldering, reboxing, rehousing, and other preservation efforts; supervising the creation and entry of digital images and metadata into the media management software; compiling the finding aids and MARC records; and providing training sessions for users. Fourie has worked extensively as a consulting archivist both in Special Collections and at Hearst San Simeon State Historical Monument both arranging and describing collections and providing intellectual research consultation and access to researchers. Please see the Budget section on page 32 for narrative on the cost-effectiveness of Fourie's consultant status. Fourie's résumé is located on pages 69–70 and her job description is on pages 75–76 of this proposal.

The job descriptions for the following positions are in located in Appendix M on pages 78–83.

Library Assistant I, Special Collections (1.0 FTE 18 months). A full-time LA I will be hired to assist the project archivists with arrangement and description, as well as digital scanning and metadata entry. This position will compile folder-level finding aid information, assist with locating relevant secondary sources, and provide support for other arrangement and description tasks outlined above.

Information Technology Consultant – Career, Digital Services (.50 FTE 20 months). A half-time position at the classification of Information Technology Consultant – Career will be hired to manage and deliver the project's digital products and services according to EAD and CDL/OAC standards, including integrating digital images with the electronic finding aids, working with the encoding vendor, uploading the finding aids to OAC, maintaining media management and delivery software, maintaining project data and backups, and fulfilling numerous similar and related digital tasks required by this project.

Student Assistant(s), Special Collections (.50 FTE 18 months) will assist with preservation tasks, data entry, and digitization duties, under the direct supervision of professional staff.

e. Dissemination

Researchers will access the electronic finding aids at the Online Archives of California through hyperlinks on Special Collections and Digital Teaching Library pages and in MARC records in the Kennedy Library's online catalog, Polycat, and OCLC's WorldCat, and (with hyperlinks to the OAC sites), and through the OAC's search function at www.oac.cdlib.org.

Special Collections faculty and staff will offer instruction and orientation sessions on the electronic finding aids and their use for researchers and colleagues. Availability of the project's finding aids will be announced in the professional literature and further promoted through conference presentations.

All materials arranged, described, and preserved during the project will be available for research on-site. Requests for reproduction for research and study are filled at cost. Requests to publish or produce by non-profit institutions are honored at cost; licensing agreements are used for commercial requests to publish or produce, all according to written Special Collections policies and procedures.

The project's finding aids and MARC records will acknowledge NEH funding.