

FORMATIONS INC.

COMPREHENSIVE PLAN INCLUDING PROJECT MANAGEMENT

Introduction

Formations is strongly committed to the systematic processes of interpretive planning, design, and fabrication. These processes will be fulfilled through a spirit of teamwork among Formations, HFC and park staff, Formations' subcontractors, and other selected consultants involved in the project. Our team based approach ensures the participation and involvement of staff members and advisors throughout the entire exhibit process. It also provides the cohesiveness that is critical to producing interpretive exhibits that will attract, engage, and motivate visitors for years to come. Our shared goal will be to develop first-class visitor attractions—educationally effective, memorable, and well attended. As attested to by Formations' clients, we have an excellent track record for maintaining budgets and schedules, and meeting all milestone deadlines. Through conscientious and strong project management, adherence to the design process, and thorough in-house communication, Formations has completed all installations on or prior to the scheduled openings.

PLAN OF WORK:

PROJECT MANAGEMENT

Craig Kerger, Formations' Exhibit Designer/Project Manager, will fulfill the role of Base Contract Project Manager, acting as primary point of contact for the National Park Service Contracting Officer and the COR on all Task Orders. Craig will update the COR promptly on any issues affecting Task Orders and will inform NPS regarding changes to scheduling, staffing, or contact information for Formations or subcontractors. He will also prepare detailed status reports for all open Task Orders every six months.

On each specific Task Order, the role of Project Manger will be fulfilled by the Exhibit Designer assigned to the project, either Craig Kerger or Stephen State. Throughout each phase of the project, Craig and Stephen will ensure quality control and timely fulfillment of deliverables, through a program of continuous monitoring of work in progress and ongoing communication with NPS, the Formations team, Formations' subcontractors, and architectural or engineering contractors. As Project Managers, Craig and Stephen will have full authority to act for Formations, responding quickly to requests for information and assistance, and facilitating a proactive, troubleshooting approach. Their aim will be to foresee and prevent most problems, and to devise and implement workable solutions as needed. They will also draft and enforce schedules and budgets for each Task Order in planning and design, while providing the COR with regular updates. Additionally, Craig will attend the **post-award meeting** at Harpers Ferry if we are awarded this contract.

Craig or Stephen will review all production submittals, ensuring that they are complete, readable, accurate, internally consistent, and that they meet all contract requirements. During fabrication, they will distribute NPS comments, instructions, and materials to appropriate Formations personnel and subcontractors for implementation. They will review shop drawings, ensuring they are complete, accurate, and up to the required codes. They will also draft schedules for meetings and site visits, submit them to the COR for review, and revise as indicated. Using Microsoft Project Management software, the Exhibit Designer/Project Managers will monitor project schedules and the status of all active Task Orders in production; thorough status reports will be submitted electronically every month. They will prepare all submittals in accordance with general and specific requirements in the contract and in individual task orders, and will submit them to the COR in a timely fashion.

With over 35 years of experience in the field, Craig Kerger has acquired a national reputation for excellence and innovation in museum planning and interpretive exhibit design. He pioneered an interactive approach to the design of social and natural history exhibits, and has created innovative, cost-effective, easy to recycle and modify exhibit components. Stephen State, head of Formations' Design Department for several years, has developed expertise from schematic design through final production, ensuring that our clients receive exhibits of the highest quality. During his 18 years with Formations, Steve has worked on nearly every company project.

EXHIBIT PLANNING & DESIGN

Formations uses a collaborative approach to planning and design, calling upon the HFC and park team, with your subject matter expertise and time-honored commitment to interpretation, to join forces with the interpretive planning/design experience and creativity of the Formations team.

Pre-Design Charette

In preparation for our work on each Task Order, we will ask park staff to provide us with a preliminary bibliography and existing plans, facility and site overviews, and other documentation that will enable us to become familiar with the park's history, resources, and interpretive goals.

Formations will take a lead role in planning one or more charettes to focus our planning efforts; these will be held at the park or at other locations as specified by the National Park Service. To begin team unification, Formations will make a site visit, including a **start-up charette** lasting two or more days. Agendas will be tailored to suit the needs and requirements of each Task Order, and will be submitted in advance to the COR for review and approval. An example of a two-day charette agenda follows:

On Day 1, an Exhibit Designer/Project Manager (Craig Kerger or Stephen State) and an Exhibit Developer/Writer/Editor (Lisa Berndt & Marie Naughton for West Coast projects, or Deedee Jacobsohn for East Coast projects) will arrive at the park. With key staff, we will spend the morning touring the park, reviewing current interpretive resources, including documents, photos, film, and objects, and getting up to date on recent planning documents. We will continue our process of gathering data to develop a defined program that responds to your project requirements and special needs. In the afternoon, the Formations team will begin by discussing the interpretive planning process with the designated planning committee. Then we will review the client's goals and values and relate these to the park mission statement.

Together, we will focus on thematic content, seeking to flesh out methods for conveying key goals and objectives, values, ideas, and facts through interpretive media and visitor experiences. We will also gather information that will enable us to recommend detailed planning strategies.

On Day 2, the team will continue to discuss key interpretive themes and goals, and will review the size and composition of current and targeted audiences. We will elicit information about known needs and requirements for interpretive media. The team will also address the client's goals for research and education, as well as relevant cultural, curatorial, and conservation concerns. We will also discuss interpretive information as it relates to a front-end evaluation, identifying information that would be most valuable to test. The Exhibit Designer/Project Manager will also review the architectural space, measuring and photographing areas of concern or unique interpretive potential. If applicable, we will meet and exchange contact information with the general contractor involved with the project.

Immediately following the workshop, Formations' planners will provide a summary report to all participants. Soon afterward, we will create a preliminary scenario describing a framework for interpretation. Preliminary interpretive messages, planning strategies, and goals will be outlined in detail, based on the findings from the start-up charette. The document will also include a Resource Package Abstract, reviewing available or desired resources, as well as a preliminary project budget (Class "C" Cost Estimate) and schedule. Typically, we do not submit a life-cycle cost analysis until the Schematic Design phase, when exhibit components have been further developed. The Exhibit Designer/Project Manager and the Exhibit Developer/Writer/Editor will submit this preliminary Project Brief to the COR and the park's planning team.

If a front-end evaluation is included in the Task Order, Formations will also submit an evaluation plan to the COR for review and approval. Once approval has been granted, Exhibit Evaluator Barbara Becker will begin the front-end evaluation to gather information on visitors' knowledge, experiences, misconceptions, interests, and attitudes. This valuable data will assist in design strategies for various learning styles,

media, and interactives. Formations recommends that initial focus groups, interviews, or other evaluation studies be implemented and the results summarized for submittal to the COR and the park planning team immediately for comments. Evaluations will be conducted on-site over a few days.

Where funding limitations make it necessary to select among front-end, formative, and summative options, we strongly recommend that efforts be directed toward front-end evaluation. Awareness of what visitors know, and what they want to know, about proposed exhibit topics helps planners and designers make informed decisions about interpretive methods and relative emphasis to be placed on various topics. Front-end evaluations can also be performed after the Schematic I Plan has been developed to validate and fine-tune the direction of the Schematic Plan.

Schematic Design

Comments on the meeting summary, the preliminary Project Brief, and the front-end evaluation will guide us as we develop a Schematic I Plan. Framed by a discussion of project background, design approach, and interpretive goals, the Exhibit Developer/Writer/Editor will begin researching content identified as important in the start-up charette. The Schematic I Plan will include a vivid exhibit walkthrough of the proposed exhibits, with detailed descriptions of interpretive methods and visitor experiences. Formations will develop multiple schemes for delivering messages, describing the unique benefits for each. "Every great idea is simple," Tolstoy wrote. We will find those great, simple ideas and interpretive approaches that can become vehicles for complex, multi-layered messages.

These design principles will guide our planning process:

Formations' planners and designers follow Freeman Tilden's definition of interpretation, seeking to reveal the larger truths that lie behind statements and facts. Our aim is to motivate visitors by guiding them through a questioning process that leads to discovery. Successful interpretation helps visitors think cogently and creatively about a subject, relating those thoughts to their own lives.

We seek to awaken visitors' senses and focus their learning through dramatic techniques. Varied interpretive media, emphasis on visual imagery and three-dimensional objects, and design for accessibility make exhibits work for visitors of all backgrounds and learning styles. To further engage visitor interest and to reinforce key messages, we will suggest ways to incorporate key messages into building and landscape architecture.

Equally important are cost-effectiveness and efficiency from a staff viewpoint. Interpretive media must be built to withstand heavy use. All components should be simple to operate and maintain. Designs should have some changeability and flexibility

built in, so that staff can readily add new information and create fresh looks.

The content of the Schematic I Plan will vary according to the scope of work of the individual Task Order. In addition to the exhibit walkthrough, each Schematic I Plan will include a number of key components. Concept sketches will illustrate the look and feel of the exhibits. A schematic floor plan will show locations and interrelationships of thematic areas, as well as visitor pathways within the exhibit area. The plan will also include lists of key artifact, graphic, film, and audio resources, and information about outside experts to be consulted. The Schematic I Plan will make note of any architectural modifications that would be necessitated by the proposed exhibit design approach, and Formations' Exhibit Designer/Project Manager will communicate these modifications to the general contractor, if applicable. Class "B" and life-cycle cost estimates will also be a vital component of every Schematic I Plan.

The following table of contents includes basic components of a Schematic Plan and examples of additional items that might be included in a specific Task Order:

ANALYSIS

- Mission and vision for NPS and the individual park
- Key messages to be conveyed by interpretive media: the most important "takeaway" ideas; key misconceptions to be addressed and corrected; values to be conveyed by interpretive exhibits; tone, "look and feel," experiential effect of media
- Visitor experience: arrival and entry, traffic flow, circulation, signage, orientation
- Sites and facilities: space requirements, lighting and environmental control, outdoor conditions, trails, waysides, etc.
- Resources for interpretive media (Resource Package Level I): collections: overview and reference visuals, noting key objects to be displayed; images: overview and reference visuals, noting key images to be displayed; audiovisual resources: displayable film, video, audio; expertise: past/present research to be featured
- Curatorial and conservation concerns: archival and curatorial needs
- Functional considerations: how interpretive media will relate to other functional areas of the park, public and non-public; interrelationship of the park with nearby visitor attractions and facilities

RECOMMENDATIONS/DOCUMENTATION

- Interpretive themes: dynamic organizing concepts that integrate the visitor's experience with the client's vision and values
- Samples of writing styles to be used in the exhibit
- Site plans and floor plans based on key concepts, experiences, and park resources
- Perspective drawings: first-look sketches that dynamically convey the planning team's ideas for interpretive media

- Preliminary cost estimates for production and the life of the exhibits
- Recommended schedule for project implementation

Formations' Exhibit Designer/Project Manager and Exhibit Developer/Writer/Editor will present the Schematic I Plan at a **second charette**. Following your review, Formations will respond to client comments, clarifying questions and requests in writing. Comments from the team will then be incorporated in two possible ways:

- (1) In the event that Value Analysis is called for at this stage, Formations will prepare interpretive information, updated Class "B" Cost Estimates, budget narratives, life-cycle and reliability estimates, to be discussed with the National Park Service. As part of Value Analysis, Formations will participate in a workshop or telephone conference, including discussion of alternatives to the proposed interpretive plans. Following the VA, recommendations and revisions furnished by NPS will be used to revise or correct the Schematic I Plan. If Value Analysis is conducted during Design Development, results will similarly be incorporated into the final deliverables for either phase.
- (2) If no VA is held at this stage, Formations will incorporate your comments and corrections into a Schematic II Plan document and will present it to the COR for review and approval.

Following review and comments on the Schematic I Plan (and the outcome of Value Analysis if applicable at this phase), the Formations team will correct and expand the interpretive exhibit walkthrough based on the preferred design alternative. The themes will be presented as a visitor would experience them, through a fascinating, discovery-based series of interpretive media. Interpretation is placed in relationship to other functional areas of the park, describing the visitor experience from entry to exit.

Our Exhibit Developer/Writer/Editor will also begin to gather comprehensive information about images and artifacts, and will conduct intensive, focused research to pinpoint key concepts and facts to be conveyed to visitors. A cost-effective plan outlining research methods, sources, and sites will be submitted to the COR in advance for review and approval.

Formations will assemble a Resource Package Level II containing reference images, notes, and other pertinent source materials. All resources will be thoroughly documented in accordance with NPS standards. Our goal will be to put together approximately 1.5 times the amount of graphic and artifact references required by the exhibit, and about 3 times the required amount of information. A significant portion of the Resource Package Level II will be compiled using the National Park Service's Museum Exhibit Planner application.

The Schematic II Plan will also include a revised floor plan, sample elevations, revised concept drawings, and revised schedules and cost estimates. Additionally, a plan for accessibility will be developed and presented to the client, to include design guidelines and standards that ensure exhibits are accessible to as many visitors as possible. The strategies included in this plan will be incorporated in revised site plans and floor plans, and in the revised exhibit walkthrough.

Formations will present the Schematic II Plan package to the COR and the park planning team at a **third meeting**, to take place at your facility. Once we have received the client's comments and requests, the Exhibit Designer/Project Manager will respond in writing with any additional questions or concerns.

Design Development

During this key phase, the revised and approved Schematic II Plan, Resource Package Level II, and front-end evaluation results (where applicable) become the basis for detailed exhibit design. Formations, HFC, and the park will work closely on development of visitor spaces, so that visitors will experience the interpretive media, building, and site as a unified whole delivering a coherent message. This is where the creativity of our designers meshes with your subject matter expertise, resulting in a unique design that is a perfect expression of your story line.

We will design an engaging, entertaining, and innovative series of visitor experiences that embody a timeless appeal and that will provide many years of service. Interpretive media will be designed for durability, ready access, hassle-free maintenance, and resistance to deliberate damage. Significant changeability and flexibility will be designed into the exhibits, so that your in-house staff can keep them fresh and up-to-date. Interpretive media will be easy for visitors of all ages and abilities to access, understand, and operate.

During the first step of Design Development, the Formations team will develop a detailed floor plan of the exhibit area and elevations of all interpretive elements, annotated with brief descriptions of interpretive content and visitor experience. Proposed architectural modifications will be noted on the floor plan and elevations. A separate narrative and cost estimate for these modifications will also be developed after coordination with any additional architectural or engineering contractors on the project. Exhibits will be named in accordance with the approved walkthrough and numbered using the NPS system. Exhibit elevations will include draft text of headlines and hand-drawn details of key graphics and objects.

Formations will create sample boards showing our recommendations for color, materials, typography, sample graphic layouts, and art and illustration styles. An interpretive outline, keyed to the exhibit floor plan and elevations, will describe the topics covered, the visitor experience, key objects (including props and specialty items)

and images, and the interpretive goals fulfilled by each exhibit element. We will also begin to develop a Content Management System using the same numbering system in the drawings. Formations will also update the schedule, if needed, as well as Class "B" and life-cycle cost estimates.

Audiovisual treatments will translate into words the visitor's experience as (s)he watches a video or participates in a computer interactive. Formations' creative approach to treatments highlights the complementary relationship between interpretive exhibits and audiovisual/interactive components. We seek to create memorable experiences that can be found nowhere else. Evocative descriptions of participants, roles, dialogue, scenes and locations, program length, and key visuals will give NPS reviewers a clear idea of program content and interpretive objectives. Formations' talented and highly experienced audiovisual subcontractors, Steve Heiser of Odyssey Productions (West Coast projects), Michal Carr of Hillmann & Carr (East Coast projects), and Gabe Kean of Belle & Wissell are nationally known for their excellence and originality in developing high-quality interpretive experiences for a variety of settings and audiences. The AV subcontractors and the Formations design team will work closely with Chris Williams, Audiovisual Hardware Systems Designer, to select the optimum formats and equipment to accomplish each project's interpretive goals.

The Design Development I will be presented to the COR and the park planning team at a **fourth meeting**. Following this presentation, NPS will have a scheduled period for review and comment. Then the design team will incorporate your consolidated comments into the Design Development II package.

Formations will revise the exhibit floor plan and elevations. We will also produce a revised interpretive outline, first draft text, final audiovisual/computer interactive treatments, reference materials for all content specialty items, and facsimiles of a majority of the graphics and artifacts proposed for possible inclusion in the exhibit, as well as a narrative description of the type and extent of graphics and objects still to be identified. This information will all be organized into a Content Management System using the NPS Museum Exhibit Planner application.

In the course of Design Development, Formations' Exhibit Developer/Writer/Editor and the Exhibit Researcher will work with the client to find and select all graphics and artifacts for the exhibit. Formations will meet all NPS requirements for facsimiles and information concerning identification, sources, and user fees.

Formations will also create graphic layouts for all exhibits at this time. Full-color graphic layouts will show type styles, color palettes, graphic design approach, art and illustration styles in detail, as well as all selected FPO images and first draft text.

Formations will develop basic requirements for AV and computer equipment. Revised

Class "B" and life-cycle cost estimates for exhibit fabrication and installation will complete the package. All of these materials will be presented to the COR at a **fifth meeting**. If specified in the Task Order, this submittal will also include a detailed evaluation methodology plan for a formative evaluation, written by Museum Evaluator Barbara Becker.

Once the evaluation methodology plan has been approved, Barbara Becker will begin testing on-site. The most complex and critical exhibits will be mocked up to present to various user groups. We will quickly learn what visitors do, feel, and comprehend when confronted with instructions, labels, objects, and interactives. Small samples of potential visitors will be selected. It will become obvious after testing five visitors whether directions for an interactive are confusing. If they are problematic, we will stop, correct, and continue testing. The goal will be to improve exhibit elements before production. Barbara will write her results in a report that will be presented to the COR and the park at the end of the Design Development phase, and will recommend ways to best incorporate the results in the exhibits.

Review comments by the COR and results from the formative evaluation, if applicable, will be the basis for Formations to produce the Production Documents.

PRE-PRODUCTION

Production Documents

Based on the approved and revised Design Development documents, Formations will complete the Document Preparation phase. Formations' Exhibit Developer/Writer/Editor will draw upon further research, meetings with park staff, and review comments/revisions to revise exhibit text. Exhibit text, graphics and artifacts, and audiovisual and interactive components will be keyed to exhibit layouts using the NPS exhibit numbering system. AV scripts will also be included for review.

The design team will update graphic layouts for all exhibits. The layouts will include low-resolution images, representations of objects and artifacts to scale, as well as second-draft exhibit text and other graphic elements. Identification numbers for graphics, artifacts, and labels, as well as panel dimensions, will be displayed separately from the graphic material. Formats, identifiers, software applications, and document size will be in conformity with NPS criteria.

Shop Drawings

Formations will also prepare a drawing package including facility and exhibit area floor plans, referenced to exhibit detail drawings. Building modifications will be shown in a separate floor plan and elevations. Plan and elevation views of each exhibit will be provided, showing all artifacts, graphics, and labels with identification numbers.

Shop drawings will be thoroughly documented for each exhibit element. This design control drawing set will also include a reflected ceiling plan that locates new lighting fixtures and hardware, augmented by a lighting schedule; an electrical plan; comprehensive listing of colors, materials, and finishes; itemization and complete source information for all buyouts; technical specs and cut-sheets; location of remote AV equipment and routing of AV signal wiring; and exhibit power, lighting, and AV switch locations. A preliminary draft of the maintenance manual will also be compiled at this time, to include contract information; access, cleaning, and maintenance instructions for all exhibits; as well as information on electrical, mechanical, and audiovisual components.

A description of exhibit start-up, operation, and shut-down procedures completes the drawing package, which will be produced in conformity with all NPS standards for both electronic and paper versions.

Before shop drawings and the preliminary maintenance manual are submitted to the COR, Craig or Stephen will review them for quality, completeness, and compliance with original exhibit design drawings and with contract specifications. They will also ensure that shop drawings are numbered according to NPS' standards.

This deliverable will also include facsimile pages for all graphics and artifacts to be used in the exhibit. Comprehensive reference materials will be provided for development of custom interpretive elements such as original illustrations, maps, models, dioramas, taxidermy, etc. Complete production schedules for graphics, artifacts, equipment, contract art, and digital graphic layouts will be submitted using the appropriate format in the Museum Exhibit Planner application.

A detailed Class "A" Production Cost Estimate and a life-cycle cost estimate keyed to individual exhibit areas and interpretive elements will be submitted as a computer file accessible through Microsoft Word, Microsoft Excel, or FileMaker Pro.

Formations will **submit** the 95% complete Production Documents package to the COR for review and approval.

Image Acquisition

Jennifer Evans, Exhibit Researcher, will then begin acquiring historic and contemporary images, negotiating use and reproduction fees with each source and ordering appropriate reproducibles, such as negatives, photo prints, slides, and digital scans. Handling each source with care, Jennifer will label and store all reproducibles in a three ring binder with archival sleeves and envelopes. Digital files will be stored on CD-ROM or DVD-ROM and also kept in this binder. After tracking all sources in, including negatives, prints, transparencies, or other media, as well as digital files, each one will be reviewed by one of our Graphic Designers to determine if a clear, high-resolution image

can be produced from it at the final size specified for the layout. Once images have been scanned, Jennifer will track them out and return images to their owners.

Jennifer will license each image for one-time use for the life of the exhibits, ensuring that required credit information is recorded and incorporated in the Content Management system and the graphic layouts. Image use rights will be supported by signed documentation. All use fees associated with licensing will be presented to the COR for approval prior to image acquisition. If any source materials are found to be of insufficient quality, Jennifer will coordinate with the COR to obtain a better source or a replacement image.

Formations will present the Final Production Documents to the NPS planning team at the **sixth meeting** to be held on-site. This will consist of revised 95% complete Production Documents package, as well as a detailed fabrication and installation schedule.

Scoping Trip

In preparation for production, Craig Kerger or Stephen State will meet with the COR and NPS staff to review the details of the project, such as the scope of work, individuals' responsibilities, and the proposed schedule, including all submittal dates, and a Class "A" Production budget and life-cycle cost estimate. NPS and Formations will also review contact lists and subcontractors involved in fabrication. The designers will review all project materials with park staff, making note of any areas that may need special attention.

Craig or Stephen will also photo-document and measure existing conditions at the facility, noting any new structures or conditions that may impede the installation, proper fit, or correct function of an exhibit. Their review will include a thorough examination of all electrical and lighting systems to determine the effects they will have on exhibits.

Following the scoping trip, we will submit a meeting summary to the COR and to all relevant Formations' staff and subcontractors, summarizing the topics covered at the meeting and any action points that are required from either party. The Exhibit Designer/Project Manager will promptly follow up with the park on any action points that require response by Formations or subcontractors.

Throughout the entire process, Formations will rely on your team of experts to guide, clarify, and share your unique knowledge of the National Park system and of individual parks. Formations will work closely with your team, seeking feedback, approvals, and information on a regular basis, and notifying you of all milestones for your review and approval.

Graphic Production Files

After image acquisition and the submittal of the Final Production Documents, the graphic department, under the guidance of Bryan Stevens, Graphics Shop Supervisor, will form a production schedule for graphic outputs. Bryan will develop a substrate list, which will list each separate panel or surface with a graphic on it, the panel's size, and the production method for each substrate. The substrate list will be used to confirm panel sizes with shop drawings and to track layouts as they are produced in-house or sent to subcontractors for production.

Depending on the Task Order, Bryan may also oversee or create original artwork, such as maps, photographs, illustrations, graphs, charts, and hand-painted murals. The artwork will all be completed according to the reference previously submitted in the Reference Package for Custom Interpretive Elements. If additional reference is required by the artists, Jennifer will assist Bryan to ensure that the correct reference materials are found. Bryan will also send samples of proposed artists to the COR for approval, and will develop a schedule for artwork to be approved by the client.

Jeff Dowell and Corrie Greening, Graphic Designers, will then begin the process of creating graphic production files using Adobe InDesign. First, they will confirm that the layouts are the same size as their corresponding panels. Then, they will review each file, ensuring that the source images are the same as the FPO images in the layouts. They will replace all FPO images with high-resolution image files. If required, they will also scan original photos or artwork to the size and resolution specified. Finally, our Graphic Designers will review the layouts, color correcting files, checking all bleeds and photo crops, and preparing layouts for the outputs specified by the Task Order.

Bryan will review the completed layouts for quality, consistency, readability, composition, and size. He will also check text sizes and contrast levels to ensure that they meet ADA requirements. Once he has approved them, a **submittal**, consisting of proofs of all graphics layouts, will be sent to the COR for review and comments. The proofs will be bound in an 11" x 17" document that can be marked with comments and returned to Formations. After receiving comments, Formations will incorporate NPS' changes. We will then prepare and send a **submittal**—full-size paper proofs of all layouts as well as full-size samples of each type of output media that will be used, a sample of each mounting substrate and laminate, and samples of screen prints. The COR will have an opportunity to comment on each of the final layouts and the samples before graphics are produced

PRODUCTION

Our fabrication team has the experience, resources, and skills to successfully implement the National Parks Service's vision for strong, effective interpretive exhibits that are durable. With quality control built into every step of our process, we can ensure that the

interpretive exhibits we build will become a strong and enduring part of NPS' interpretive legacy.

Fabrication - Exhibit Structures

Fabrication of exhibit structures will begin with a meeting between the Craig or Stephen, Phil, and all Formations staff involved in fabrication or graphic production. The Exhibit Designer/Project Manager will review all final shop drawings with the team at this meeting, as well as the fabrication and installation schedule, which has been previously approved by the COR. The schedule will detail deadlines for ordering materials, graphic production, exhibit construction, as well as packing, shipping, and installation. Craig or Stephen will highlight any exhibit structures that may be problematic, and, together, the team will form the best plan for addressing those areas. Graphic production will be coordinated with fabrication to ensure that all graphics fit their corresponding exhibit structures and are ready on schedule.

Following the fabrication team's meeting, Operations Managers Phil Buettner and Fabrication Shop Supervisors, Roger Rau and Keith Sandbloom, will begin mobilization of the shop staff to prepare for fabrication of exhibits. They will assign specific exhibits to our Exhibit Specialists in Fabrication and will inform Charlie Hutchens, Artifact Mounter, of the exhibits that will require his expertise. Roger will then order all fabrication materials, inspecting them for quality as they arrive. All materials will correspond to the samples sent to NPS during design. Materials will be stored in our safe, dry shop, along with all incomplete and completed exhibit structures.

All cabinetry and laminate work will meet the Architectural Woodwork Institute's Quality Standards, and will be completed in Formations' shop. Roger and Keith will inspect progress in the shop daily, enforcing the AWI's Quality Standards and ensuring that the schedule is being met. Formations will photograph all exhibit structures at the end of each week, and Craig or Stephen will send the photographs to the COR for review and comments. As changes are requested by the COR or park staff, the Exhibit Designer/Project Managers will communicate those changes to shop staff and ensure that they are incorporated into exhibits the next week, prior to new photos being submitted. They will also work with the Exhibit Detailers to update shop drawings to reflect the exhibits as they are actually built.

Once fabrication is underway, Roger will begin ordering specialty items that are to be used as props in the exhibits. Props are items that are replaceable, and often they are meant to be touched or handled by park visitors. Props can also include reproduction historical objects or mannequins. The props in each exhibit will always be specified in the Content Management System during design so that NPS can review them for appropriateness. Upon receiving specialty items from vendors, Roger will inspect them for quality, and he will confirm that the prop will fit properly within exhibit structures.

Artifact cases will be built using only materials and construction methods that ensure the safe display of irreplaceable artifacts. If requested, our Exhibit Specialists will create a controlled environment within artifact cases that features regulated temperature, humidity, and light exposure. Humidity will be controlled using a silica gel humidity ballast, according to NPS' Exhibit Conservation Guidelines. Roger and Keith will test all artifact cases prior to shipping to ensure that the conditions inside each case are within specified ranges.

Inside the cases, each artifact will be mounted with its own custom mount. Drawings of each mount are included in the shop drawings that are produced and approved prior to fabrication. Charlie will build all custom artifact mounts. Mounts will support artifacts evenly and they will not use any adhesives or other substances that may damage artifacts. Mounts will not be attached to the artifact permanently, allowing for ease in the removal of artifacts by park staff.

All dioramas and model work will be performed by Jonquil LeMaster under the supervision and guidance of the Exhibit Designer/Project Manager, Phil, and Roger. Jonquil has over 25 years of experience as a diorama and model maker, and she will create installations that are lifelike and accurate. Once internal structures have been built to support her work, Jonquil will begin creating models according to the shop drawings with the help of reference organized in the Reference Package. If additional reference is required, Jennifer will research the information needed and obtain approval from the COR before providing the research to the shop. Jonquil will oversee all model and diorama construction all the way through to the final finish and natural elements. She will also incorporate taxidermy, models, and other custom elements in the dioramas as required.

Electrical/Electronic

As cabinetry and other exhibit elements are built, Chris Williams, our Audiovisual Hardware Systems Designer/Electrical Technician, will order all electrical and audiovisual equipment as specified in the shop drawings. Chris has extensive experience developing and installing electrical and audiovisual components for museum exhibits, and he will guarantee that all electrical elements are safe, up to all required codes, and that they function properly. As exhibits are being constructed, Chris will check that all electrical and audiovisual components fit within built exhibit structures and that electrical components can be accessed easily. Chris will also test all equipment thoroughly to ensure that it functions, that heat is ventilated away from equipment properly, and that the power demand does not exceed the power supply available at the site. All of this testing will be completed prior to shipping. Chris will install electrical and audiovisual components into the exhibits for the COR's review during his or her visit to Formations.

Audiovisual Production

While exhibits are in production, Odyssey Productions, Hillmann & Carr, and Belle & Wissell will work to film, edit, program, and produce all audiovisual programs using approved scripts and treatments. Roughs of the programs will be provided to the COR regularly for review and comments. Once the programs are completed, they will be sent to Formations to be uploaded to the correct hardware.

At this time, Chris will load all audiovisual programs from the subcontractor onto the assembled hardware. Chris will confirm that the equipment and the audiovisual programs interface properly and that power cables do not interfere with audiovisual signal cables, before packaging all electronic components in their original packaging for shipment. Keith will oversee all aspects of Chris' work on electrical/audiovisual components, and he will keep the COR informed at every step in his weekly reports. Roger will order lighting equipment during exhibit construction, and Chris will test all lighting for functionality, heat output, and light levels, especially when used in artifact cases.

Graphic Production

Once graphics, output media, and substrates have been approved by NPS, our Graphic Designers will either produce layouts in-house or send them to our subcontractors that specialize in different output media. Paper outputs as well as all vinyl are produced in-house. Color photos, black and white photomurals, cibachrome, and photographic laminated outputs, and silkscreened elements are sent to photo houses.

Following graphic production, Jeff Dowell, our Exhibit Specialist in Graphics, will check that all layouts are complete and free of defects. He will then mount the photos to substrates ensuring that they are mounted securely, properly sized, entirely flat, and trimmed neatly. Jeff will then reviews all mounted photos with Craig or Stephen and Bryan to ensure that all graphics have been completed properly.

Setup/Installation

After all exhibit elements, including exhibit structures, electrical and audiovisual components, and graphic panels, have been produced and reviewed for quality by the Exhibit Designers/Project Managers, the COR will travel to Formations for a pre-installation meeting. At that meeting the COR, Craig or Stephen, and the installation team will review the work that has been done to date on the exhibits and the upcoming installation. For the installation, the group will go over existing site features, work by the general contractor that may interfere with installation, and possible storage sites for the exhibits as they are being installed. The Exhibit Designer/Project Manager will outline the installation schedule, which will detail the number of days and hours required to install the exhibits, and the sequence in which components will be shipped, unloaded, and installed. He will also present the final maintenance manual for the COR to review at this meeting.

Following the meeting, the COR will have the opportunity to walk through all exhibits in their complete form. Exhibits will be arranged in the same configuration they will have on-site at the park, with electrical elements all plugged into electrical sources making them completely functional. Craig or Stephen will walk the COR through the exhibits, demonstrating how each one functions and inviting the COR to try them first-hand.

The pre-installation site visit to Formations will end with the COR approving exhibits or requiring changes to be made before approval will be granted. If any alterations are requested by the COR during the walkthrough, the Exhibit Designer/Project Manager will oversee implementation of them in a timely manner. Photos of the altered exhibits will be sent to the COR in order to obtain COR approval on all exhibits before shipping. Once the COR signs off on all the exhibits, they will be packed for installation.

Formations will disassemble, pack, and ship each exhibit element in such a way that it is not damaged. All audiovisual equipment will be packaged in the containers and packing materials provided by the manufacturer. Formations will also ship all required tools, cleaning products, and materials needed for installation, including a vacuum cleaner.

The installation crew will consist of a Fabrication Shop Supervisor, the Exhibit Specialists in Fabrication, the Artifact Mounter, the Audiovisual Hardware Systems Designer/Electrical Technician, and, if required, the Exhibit Specialist in Graphics. The installation crew will first prepare the site with floor coverings and other protective tarps so that no areas of the site are damaged or soiled as a result of installation. This includes all areas over which exhibit elements must be transported to reach the installation site. Formations prides itself on maintaining a clean work site and will arrange for disposal of all debris created by the installation. We will remove and dispose of any existing exhibit structures and complete building prep work, as specified in the Task Order. The Exhibit Designer/Project Manager will coordinate with the COR before any permanent modifications of existing structures are made, such as drilling or cutting.

The Exhibit Specialists in Fabrication as well as the Artifact Mounter will unpack all exhibit elements, inspect them for damage, and install them at the park site. Installation will follow the installation specifications in the final shop drawings, and the Exhibit Specialists will also draw upon their intimate knowledge of each exhibit structure to maintain safe and sturdy construction.

After installation of all exhibit components except electrical/audiovisual equipment and artifacts, Formations' staff will thoroughly clean exhibit elements to remove dust, fingerprints, and grime. Every element of the exhibits—glass, acrylic, carpets, graphic panels, exhibit surfaces, cabinetry—will be cleaned with the appropriate products and

methods, including vacuuming all carpets.

Chris, our Audiovisual Hardware Systems Designer/Electrical Technician, will then unpack and install all audiovisual and electrical hardware in the exhibits, carefully labeling all connections. Chris will ensure that the electrical systems are up to the required codes and that they are safe and working properly. He will also make any necessary adjustments to the electrical system on-site, as required in the specific Task Order. Exhibit Specialists in Fabrication will install and test all exhibit lighting, filters, and other accessories after Chris has tested all electrical systems. They will turn on all exhibit lighting in order to adjust its wattages and beam spread. They will also aim light in the correct directions and note the placement of all lighting fixtures, filters, and lighting levels.

Our Artifact Mounter will then carefully install all artifacts on their respective mounts, taking care not to damage or stress them in the process.

Once installation is complete, Craig or Stephen, the COR, and park staff will conduct a final walkthrough inspection at a scheduled time. Any items requiring alterations will be placed on a punchlist, which the Exhibit Designer/Project Manager will create and maintain. The walkthrough will include demonstrations of all electrical, mechanical, and audiovisual elements. The Exhibit Designer/Project Manager will also show how each exhibit can be accessed by park staff.

Formations will provide two copies of the maintenance manual for all exhibit components at this time. This manual will include final contract information, cleaning instructions, repair instructions, artifact care and handling instructions, a list and cut sheets for all products purchased for the exhibits, warranties for all purchased products, access instructions, electrical and mechanical instructions, color and finish samples, as-built exhibit plans, and as-built exhibit drawings. The manual will have a second volume, which will feature wiring diagrams and troubleshooting instructions for all audio, computer, and video elements.

Following the walkthrough, a training session will be held for the COR and all park staff in order to train all staff in the daily operation and maintenance of the exhibits. The training session will demonstrate how to clean exhibits, make small repairs, and access all exhibit elements. Staff will also learn how to turn on and shut down all audiovisual equipment and other electrical equipment. A maintenance kit that holds touch-up products, cleaning products and materials, and access keys for all exhibits will also be presented at this time. During the closeout phase of the project, Formations will provide park staff with a video that again demonstrates all of the instructions covered in the training session.

The final steps of installation will involve addressing all of the items on the punchlist and photographing the completed exhibits. Craig or Stephen will set up a schedule with the COR for completion of all punchlist items and will ensure that they are all completed in a timely manner. The exhibits will be photographed by a Formations employee or by a professional photographer, who Formations will contract. We will coordinate with the COR so that the photographer has access to the exhibits when he or she arrives.

Project Closeout

To bring the project to completion, the Exhibit Designer/Project Manager will oversee the organization of our **final submittal**, a closeout package, which returns all government-furnished items to the COR. The closeout package consists of all digital layouts archived on CD-ROM or DVD-ROM; high resolution scans of all photos, also archived on CD-ROM or DVD-ROM; original source materials such as photo prints,

negatives, transparencies, and others; government-furnished exhibit drawings and plans; all reference materials; all samples; one additional copy of the maintenance manual; and photographs of the installed exhibits.

After project closeout, a summative evaluation may be completed if required by contract documents. Barbara Becker will plan and complete the summative evaluation, and write a summary of her results for the park.

Warranty

Formations warranties our finished products for one full year. We warrant that the materials and equipment furnished under this agreement will be of good quality and free of defects in workmanship and materials for one year after the work has been completed, and that the work will conform with the requirements of Contract Documents. Formations will replace and repair, at our expense, all work that is found to be defective or wears out within one year of installation. The Exhibit Designer/Project Manager will oversee all repairs needed during the warranty period.