

**Award Number:** NAU-446

**Project Number:** P14AC00928

**CDFA #:** 15.945

**Park/NPS Unit:** Flagstaff Area National Monument/Wupatki National Monument

**Title of Project:** Assess Condition and Conduct Architectural Documentation at 2 VT Pueblos

**Administered through the :** Colorado Plateau Cooperative Ecosystem Studies Unit Cooperative Agreement Number H1200090005

**CESU Partner:** Northern Arizona University

**PROJECT CONTACTS:**

**Principal Investigator:** *Dr. Christian E. Downum, Northern Arizona University, Anthropology Labs, P.O. Box 15200, Flagstaff, AZ 86001, Tel. (928)523-6275 Fax. (928)523-3811, Chris.Downum@nau.edu*

**Partner Administrative Contact:** *Cindy Judge, Grants & Contracts Admin. P.O. Box 4130, Flagstaff, AZ 86011-4130, (928)523-6197, Fax (928)523-1075, Cindy.Judge@nau.edu*

**NPS Certified ATR:** *Lisa Baldwin, Flagstaff Area National Monuments, Wupatki National Monument, 6400 N. Hwy. 89, Flagstaff, AZ 86004 Tel. (928)526-1157, Ext. 233 Fax (928)526-4259; Lisa\_Baldwin@nps.gov*

**FUNDING INFORMATION:**

**Amount Funded:** \$78,793.00

**NPS Account Numbers (amounts in parentheses):** PPIMFLAGR2 PPMRSCR1C.CA0000

PX.P0185376A.00.1 (\$78,793)

**Fund Source (e.g., ONPS, FLREA, CRRP, CESU, etc):** Cultural Resource Project Fund Source

NPS Funding

**PROJECT DATES:**

**Start Date:** July 1, 2014

**NOTE:** *This Task Agreement will become effective on the date of final signature or the effective date of the Award document, whichever is later.*

**End Date:** September 30, 2015

**NPS Administrative Contacts:**

**Interim CESU Coordinator:** Todd Chaudhry, NPS/CPCESU, NAU P.O. Box 5765, Flagstaff, AZ 86011, 928-523-6638, Fax: 928-523-2014; todd\_chaudhry@nps.gov

**Intermountain Region Administrative Contact:** Kelly Adams, Grants and Agreements Specialist, National Park Service, 12795 West Alameda Pkwy, Lakewood, CO 80228. Phone: 303-969-2303; Fax: 303-969-2992; kelly\_adams@nps.gov

**Federal Financial Reports** (Check as required for project based on spending plan, period of performance, risk, cooperator history, etc.)

{ } Quarterly            {X } Semi-annually            { } Annually

Final (required)

## **PROJECT SCHEDULE AND TECHNICAL REPORT DEADLINES:**

List all technical reports and products in sequential order as required in the scope (more lines and milestones can be added as needed):

*Project Start Date* – July 1, 2014

*Technical progress reports* – { } Quarterly            {X } Semi-annually            { } Annually  
(Check as needed from PI to monitor progress of specific project. Content should be addressed in the scope.)

*Investigator's Annual Report (IAR)* – July 1, 2015

*Database, Collections/Specimens, Archives, and Maps provided to the NPS ATR or Technical Expert* – insert date

*Draft Final Report* – July 1, 2015

*Final Report* – August 30, 2015

*Project End Date* – September 30, 2015 (project reports/deliverables are due)

*Final SF425 FFR* must be submitted within 90 days of project end date—December 30, 2015

## **PAYMENTS**

**2 CFR PART 215.22:** Cash advance (drawdown) to recipient organization shall be limited to the minimum amounts needed and be timed to be in accordance with the actual immediate cash requirements of the recipient organization in carrying out the purpose of the approved program or project. The timing and amount of cash advances shall be as close as is administratively feasible to the actual disbursements by the recipient organization for direct program or project costs and the proportionate share of any allowable indirect costs.

**2 CFR PART 215.25 (8)(e)(1):** Incur pre-award costs 90 calendar days prior to award or more than 90 calendar days with the prior approval of the Federal awarding agency. All pre-award costs are incurred at the recipient's risk. (i.e. the Federal awarding agency is under no obligation to reimburse such costs if for any reason the recipient does not receive an award or if the award is less than anticipated and inadequate to cover such costs.)

## **CESU REQUIRED PRODUCTS (may be different from those products required by the ATR – See Statement of Work for Products required by the NPS unit):**

The Principal Investigator will prepare a brief report abstract suitable for public distribution and two hard copies and an electronic version (in PDF file format) of the final report and mail all to Todd Chaudhry, National Park Service, CPCESU, NAU P.O. Box 5765, Flagstaff, AZ 86011. Please be sure to include the project number (e.g.; NAU-###, UMT-###, UAZDS-###) and the P number on the cover page of the final report.

## **PROJECT ABSTRACT:**

This project will complete architectural documentation, detailed wall-by-wall condition assessments, and mapping at two backcountry masonry pueblo sites (WS1680 and 1685), located in Wupatki National Monument. Although the sites are closed to public visitation, they are visible and easily accessible from the main monument access road. These sites are the material remains of the Ancestral Puebloan, a group unique to Northern Arizona, and date to AD1100–1250. NPS and NAU will complete this project to address information on the integrity and condition of the structure and determine the treatments needed at each site to keep architecture in good, safe and stable condition. This project will provide additional information on the chronology and cultural history of the Ancestral Puebloan people which will aid in the public interpretation of the monument's cultural resources. The data collected during this project will help effectively manage fragile, non-renewable resources, and collected baseline information will be used to develop site-specific preservation and management plans.

This project will also provide valuable training and experience for student participants (undergraduates, graduate students, and recent graduates). Students will learn the Secretary of the Interior's Standards for Archaeological Documentation, with emphasis on archaeological site preservation, field mapping procedures, condition assessment and architectural data collection, standards in photographic methods and archiving, and document production. Such training will provide vital experience and knowledge for future employment.

#### **SCOPE OF WORK:**

This project proposes the completion of detailed wall-by-wall condition assessment and architectural documentation at two previously stabilized masonry pueblos (WS 1680 and 1685) located in the backcountry (wilderness eligible) of Wupatki National Monument. The pueblos total approximately eight rooms each and exhibit a variety of construction styles and materials, with standing walls constructed of sandstone, basalt, and limestone. Specific analysis will include detailed photography, description of architectural characteristics, description of condition and agents of deterioration, possible rate of deterioration, and treatment/documentation recommendations for every standing wall identified. In addition, NAU will complete high-resolution mapping of the site architecture, features, and relevant landscape features. Field work will be followed by computerized data entry of condition assessment and architectural field forms and field photo logs, digitization of wall annotations and field maps, and the completion of a professional-quality report describing and analyzing the field work.

This proposal serves to establish specific responsibilities pursuant to Cooperative Agreement No. (H1200-009-0005). Under the conditions of this agreement, the National Park Service (hereafter referred to as the Service) will utilize up to six Northern Arizona University (hereafter referred to as the University) faculty, staff, and students to assist in condition assessment and architectural documentation, photography, and mapping of two sites (WS 1680 and 1685) within Wupatki National Monument (WUPA). This work is consistent with the objectives of the Colorado Plateau Cooperative Ecosystem Studies Unit (CPCESU) in that it provides an opportunity for research with WUPA archaeological resources and engages students in professional archaeological training opportunities. This project is a cooperative venture between the Service and the University whereby both entities will be cooperating in the development and implementation of a research program directly related to the research and management of cultural resources within WUPA. WUPA is providing funding to NAU to sponsor University participation in the project. The University will provide technical assistance through faculty, staff, and students in support of the project. The project will be implemented during FY 2014 and completed in FY 2015.

## **Background**

The two sites (WS 1680 and 1685) are located in a portion of the park closed to visitors, but are easily visible and accessible. The two sites were most recently described from archaeological survey-level data collected in the 1980s. The survey-level information on hand does not describe the condition of the resource and only describes, to a very general degree, potential impacting agents (e.g., notes from the original survey such as “visitors may come up to the site”), meaning that at present, there is no current information regarding preservation concerns, impacting agents, or site/structure condition for these sites, and therefore this data is not available for long-term preservation or park planning.

Collecting baseline architectural and condition information is vital to determine condition, establish site monitoring protocols, and develop preservation plans in the event the sites are deemed in need of treatment to meet management goals and objectives. WS 1680 and 1685 received preservation treatment in 1989 and have been sporadically monitored, most recently in 2012, as part of the List of Classified Structures (LCS) update. A thorough condition assessment of these sites is necessary to ascertain treatment effectiveness and to protect past management investment in these resources.

The current scope of work outlines methods and tasks for completing the condition assessment work and photography of these two sites within Wupatki National Monument. This scope of work also documents the procedures for creating digital files and databases related to the field work, and sets forth the nature of reporting that will be done to document the conduct and progress of the project.

## **Justification**

The proposed project fulfills objectives of the CPCESU by providing technical assistance to the Service and by providing research, management experience, and educational opportunities for NAU faculty, staff, and students. The Department of Anthropology at NAU has been a pioneering institution in working with the Service in all aspects of preserving park resources and resource values, especially within the context of the Vanishing Treasures program, and thus has the experience and technical expertise to assist WUPA with its planned architectural documentation, condition assessment, photography, and mapping activities at these two sites (WS 1680 and 1685).

## **Methodology and Task Responsibilities**

This project is collaboration between NPS and NAU in which the partners aim to complete systematic wall-by-wall architectural and condition assessment document and high-resolution mapping at two standing, open-air architectural sites within Wupatki National Monument. NPS employees assigned to the project will assist in coordinating all activities of NAU personnel. All existing site information will be compiled through use of NPS site files located in the administrative offices of Flagstaff Area National Monuments and the Museum of Northern Arizona (MNA). All site documentation standards, database formats, and photographic archiving procedures will be provided by NPS. An NPS archaeologist will work with NAU staff prior to and during field documentation to ensure the project meets the standards of NPS while staying manageable for NAU. Project oversight will be through NPS program management.

NPS will also provide specialized training and technical support to the NAU team in the form of an in-field course in mapping archaeological sites using a series of techniques pioneered by Jacob DeGayner at Tonto National Monument. Mr. DeGayner’s techniques include the use of terrestrial 3D laser scan (LiDAR) mapping and digital close-range photogrammetry (3-D photo modeling) to produce high-resolution scale site maps. Training will also include equipment use and care, as well as post-processing of the data collected and map production. As part of this training, the NAU team will apply the techniques learned from Mr. DeGayner at the two sites in Wupatki National Monument.

Condition assessments are accomplished by making the necessary observations to complete the Architectural Documentation and Condition Assessment forms developed by Mesa Verde National Park and adapted for use at Flagstaff

Area Monuments. NAU supervisory archaeologists and students will be responsible for completion of these forms in the field, with NPS oversight. Likewise, NAU will complete detailed photography (digital and film) in coordination with the NPS photographer. NAU will also complete detailed mapping of the sites showing all structures, features, and other significant site elements. Fieldwork will be followed by computerized data entry. NAU personnel will complete data entry of the Architectural Documentation and Condition Assessment Forms into the FLAGARCH database. NAU personnel will complete digitization of the field maps and wall annotations using Adobe Illustrator CS6, data entry of non-Condition Assessment field forms such as photo logs into electronic versions in MS Word, and report writing, which will require a document production software such as MS Word or Adobe Indesign CS6 for final document completion of professional quality. The final report will include site histories, site/wall descriptions for each investigated site, analysis of site/wall condition, and recommendations for future treatment and management of individual wall faces, walls, rooms, structures, and sites.

## **Tasks**

### ***Task 1. Archival Research***

This task will include:

- a. Compilation of existing site information using files located in the administrative offices of WACA and the Museum of Northern Arizona (MNA) and in the NPS List of Classified Structures Database.
- b. Compilation of information and photographic material relevant to developing site histories, including previous survey documentation, mapping efforts, monitoring data, condition assessments, and/or preservation treatment for each site.

### ***Task 2. Completion of Architectural Documentation and Condition Assessment forms.***

This task will include:

- a. Making the relevant field observations and measurements of all individual structures and walls or wall segments at WS 1680 and 1685.
- b. Filling out the standard NPS Architectural Documentation and Condition Assessment forms as developed by Mesa Verde National Park and adapted to the Flagstaff Area National Monuments.
- c. Taking digital and film photographs of sites, structures, walls, and wall segments, using NPS protocols for site photography as developed by Mesa Verde National Park and adapted to the Flagstaff Area Monuments.
- d. Making detailed annotations to digital prints of each wall or wall segment to document architectural attributes and condition.

### ***Task 3. Database Entry for Forms and Field Photo Logs***

This task will include:

- a. Transferring field-recorded data on architecture and condition into the FLAGARCH electronic database.
- b. Entering field photo logs into standard NPS computerized photo log forms.
- c. Labeling all photographic prints and electronic files pertaining to digital photographs with accurate information relating to the subject and date of the photographs, as well as any other pertinent information.

### ***Task 4. Mapping of Sites***

This task will include:

- a. Organizing and participating in a mapping course (training) led by Jacob DeGayner of Tonto National Monument.
- b. Creating detailed, high-resolution maps of site architecture, topography, and other features for each site.
- c. Creating digital versions of the site maps by use of the computerized drafting software Adobe Illustrator CS6.

#### ***Task 5. Digitizing Wall Annotations***

This task will include:

- a. Scanning printed wall images annotated in-field to depict architectural details and condition of each wall and wall segment to PDF format
- b. Creating digital versions of the annotations by use of the computerized drafting software Adobe Illustrator CS6.

#### ***Task 6. Write a Draft and Final Report***

This task will include:

- a. Preparing a descriptive and analytical report on the results of architectural documentation, condition assessment, and mapping at the two WUPA sites. The draft and final reports will include site histories, basic tabular data on architectural details, agents of deterioration and other condition details, site maps, and comparative photographs. The report will also include a ranking of sites according to preservation needs and recommendations for treatment and future management.

#### **University and Service Involvement**

The University will provide a Principal Investigator (Dr. Christian E. Downum), a project director, student researchers and course participants, and a graphics specialist to assist in architectural documentation, condition assessment, mapping, photography, data entry, analysis of site/wall architecture and condition aimed at constructing recommendations for treatment and future management, and report preparation.

#### **Utilization of University Facilities**

Faculty, students, and staff will utilize University facilities (the NAU Anthropology Laboratories) to accommodate the completion of report writing, data entry and management, as needed, and graphics production. Space has been allocated by the Department of Anthropology to accommodate activities to be conducted under this proposal.

#### **Service Substantial Involvement**

The Flagstaff Area National Monuments NPS Staff will provide the necessary support, permission, and legal compliance necessary for NAU to achieve timely completion of field work and report writing responsibilities. NPS will also provide support by providing NPS archaeologists as needed, as well as a supervisory archaeologist to aid with training, project goals, and general project management. Through cooperation with Tonto National Monument, NPS will also provide a specialized training course in new archaeological site mapping techniques led by Jacob DeGayner. The Service will obligate a not to exceed amount of \$78,793 to complete this project.

#### **COOPERATIVE AGREEMENTS OR TASK AGREEMENTS INVOLVING COOPERATORS WORKING ON-SITE**

## **Background**

In cooperative agreements or task agreements with universities where the university utilizes interns, student employees, research associates (RAs) or cooperators on-site (hereafter called “cooperator personnel”), these cooperator personnel sometimes work on government sites in close proximity to federal employees. It is illegal (without specific statutory authority) for federal employees to directly supervise the cooperator personnel or any university employees or for the students or other university employees to supervise federal employees. When cooperator personnel are working on an NPS site, it is important that there is a clear distinction between students and federal employees.

## **Office Environment and Vehicles**

- The office space of the cooperator personnel and NPS personnel should be clearly labeled (Name and NPS or University affiliation on office or cubicle space).
- Cooperator personnel should be listed separately from NPS personnel in telephone lists, other identification or organizational rosters, and publication credits.
- Cooperator personnel should not receive “all-employee” e-mail or other communications intended for NPS personnel (unless it relates directly to the work the cooperator is doing for the NPS). When the e-mail does relate to the work being done, a copy of the same e-mail message should be sent to the University or cooperator’s supervisor.
- Cooperator personnel may use NPS e-mail systems when the communication relates directly to the work the cooperator is doing for the NPS. The e-mail addresses of the cooperator personnel must include a label associated with their NPS e-mail address that identifies the cooperator’s status (i.e., “Linda Webb, Cooperator” would be the label associated with the e-mail address, [linda\\_webb@contractor.nps.gov](mailto:linda_webb@contractor.nps.gov)). Doing so clearly identifies this individual each time they send an e-mail message using the NPS system, and it identifies their status as a research associate, student intern or student employee in the e-mail directory.
- Unless stipulated in the agreement, cooperator personnel should not drive government vehicles.
- Unless stipulated in the agreement, cooperator personnel should not ride as a passenger in a government vehicle. When this is planned as part of the agreement, an appropriate amount of liability insurance should be negotiated.
- Prior written approval by the Park Superintendent or Center Manager must be obtained in order for a task to allow cooperator personnel to drive or ride in government vehicles.

## **Supervision and Scheduling**

- Each task must specify the university’s/cooperator’s supervisor for the cooperator personnel.
- Unless stipulated in the agreement, NPS staff should not set hours for cooperator personnel, specify where the work should be done, or conduct performance appraisals. National Park Service staff may give performance feedback to the cooperator personnel supervisor.
- Cooperator personnel should report leave, scheduling, and other related issues to the university or cooperator’s supervisor, not to NPS employees. The supervisor of the cooperator personnel should then communicate with the NPS. National Park Service employees cannot directly supervise cooperator personnel on a day-to-day basis. Work should be given to the cooperator personnel (via the cooperator’s supervisor) on a “task basis.” Cooperators should work without NPS supervision to accomplish each task, although technical consultations and cooperation is permissible.
- The Cooperator will be responsible for any disciplinary action needed to correct student employee conduct or performance problems. The NPS agreements technical representative will inform the university/cooperator’s supervisor of any conduct or performance problems.
- The Cooperator will remove student employees from their positions if they fail to improve performance or address conduct issues.
- The NPS will review and provide feedback to students or interns regarding work assignments.
- The NPS will inform the cooperator of conduct or performance problems with cooperator personnel so that the university can counsel employees and correct the performance problems.

- The NPS will recommend to the cooperator dismissal of cooperator personnel based on conduct or performance issues.
- The Cooperator will hire students, interns or RAs to work on NPS tasks identified in the agreement. Hiring will be conducted in consultation with the NPS Agreements Technical Representative (ATR).
- The Cooperator will: pay students, interns or RAs for hours they have worked in support of the agreement.

### **Representation and Communication**

- Cooperator personnel cannot in any way represent themselves to the public as NPS employees.
- Cooperator personnel are required to wear visible identification at all times.

### **Other Issues**

- Cooperator personnel should not list an NPS affiliation on publications, but rather should list the cooperative agreement under which the work was performed.
- Cooperator personnel should not be invited to official NPS “social” events.
- Cooperator personnel will follow the local policy of the facility when federal facilities are closed due to early release for holidays, snow days, etc.

### **PRODUCTS:**

1. All field notes, completed forms, maps, and photographs (film and digital).
2. Digital copies of drafted field maps and wall annotations.
3. Data entry of completed forms into the NPS condition assessment system.
4. Progress report by 03/01/2015.
5. A draft report by 07/01/2015.
6. Final report by 08/30/2015.

**BUDGET:** *See attachment*