STATEMENT OF WORK (SOW)
N40192-22-R-8002 (FY2022)
LITTLE FIRE ANT PERIMETER MONITORING/CONTROL AND ERADICATION AT MCBCB UTC, GUAM

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A. INTRODUCTION

Little Fire Ant (*Wasmannia auropunctata)* was first discovered on Guam in 2011, in a green-waste hardfill in Yigo (Raymundo and Miller, 2012). Since its discovery in Northern Guam, Little Fire Ant (LFA) has been confirmed in at least 28 additional locations in Guam, including Marine Corps Base Camp Blaz Urban Training Complex (MCBCB UTC). LFA, originally from Central and South America, have spread throughout tropical regions over the last 100 years, making their way to Hawaii in the 1990s and then to Guam. An arboreal species, LFA have multiple queens that mate within or near the parent colony, where fertilized queens spread on foot nearby with a few workers. These new nests remain connected with the parent colony where food gathering and defense are shared, resulting in large "supercolonies" nesting in the ground up to the canopy. These supercolonies are constantly producing new queens and workers, so colonies can remain viable even after the loss of some workers or queens. LFA are omnivorous and will prey on insects, invertebrates, and small vertebrates; the ants will attack wildlife, cause blindness in pets, and inflict painful stings on people.

B. PURPOSE

The purpose of this Cooperative Agreement (CA) is to

(1) Conduct perimeter monitoring/control for LFA; and
(2) Conduct ground-based treatments at designated LFA sites; and
(3) Develop Site 1 Implementation Plan; and
(4) Conduct ground-based treatments along the interior perimeter at Site 1;

C. LOCATION

1. The project shall be conducted on MCBCB UTC, Guam.

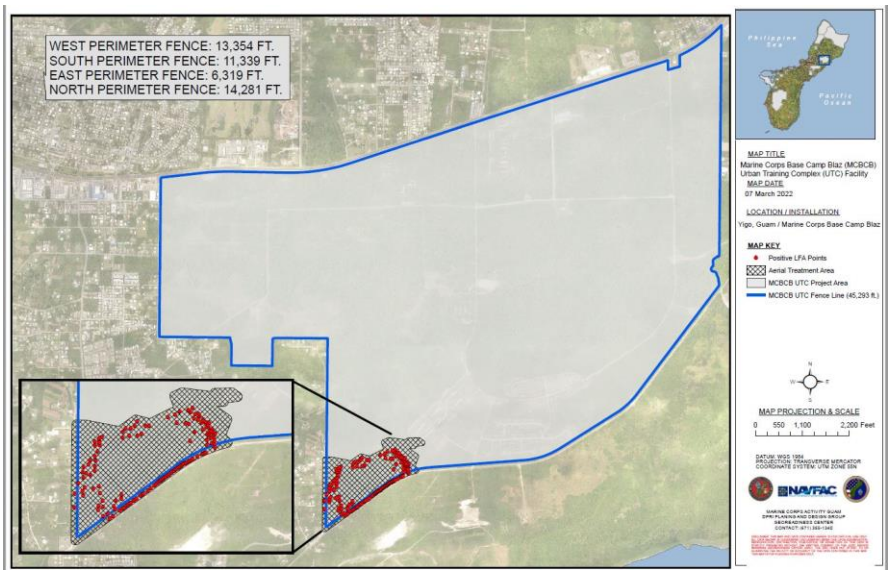

Figure-1. Map depicting the perimeter fence line and site 1 treatment area at MCBCB UTC.

D. DESIGNATED REPRESENTATIVES

(1) The Grants Officer (GO) is Eugene Diaz, Acquisition Director, Naval Facilities Engineering Command, Marianas, PSC 455, Box 195, FPO AP GU 96540-2937, Email: Eugene.Diaz@fe.navy.mil.

(2) The Cooperative Agreement Contract Specialist is Thelman Mark Fontenot, Acquisition Director, Naval Facilities Engineering Command, Marianas, PSC 455, Box 195, FPO AP GU 96540-2937, Email: Thelman.Fontenot@fe.navy.mil.

(3) The Cooperative Agreement Technical Representative (CATR) is officially designated by the GO, and is responsible for monitoring the Recipient's performance, in accordance with the terms and conditions of the Agreement. The CATR shall be the first point of contact of the Recipient concerning issues/concerns regarding any of the requirements and specifications of this Agreement, including base access and project site issues.

a. The CATR for this agreement will be Jerome Perez, Biosecurity Program Manager, NAVFAC Marianas Guam, Marine Corps Base Camp Blaz, Public Works Department, Building 40021, North Ramp, Andersen Air Force Base, Guam; Telephone: (671) 362-7268; Email: Jerome.Perez@usmc.mil.
b. The Alternate CATR for this agreement will be Lauren Gutierrez, Supervisor Natural Resource Specialist, NAVFAC Marianas Guam, Marine Corps Base Camp Blaz, Public Works Department, Building 40021, North Ramp, Andersen Air Force Base, Guam; Telephone: (671 362-7197; Email: Lauren.Gutierrez@usmc.mil.

E. PERIOD OF PERFORMANCE

The period of performance will depend upon the individual proposals received, but the Government anticipates an initial period of performance for the Agreement to be twelve (12) months starting from the date of award. After completion of the initial period of performance, the total performance period can include four (4) option periods of twelve (12) months, each dependent upon the availability of funds and the unilateral election of the Government to exercise an option. The total duration of this CA, including the Option Years and any cost modifications shall not exceed 60 months. The end date is the anticipated date that the Final Report is accepted by the Government.

F. MATERIAL FOR REVIEW

Recipient and/or his/her representative(s) will have access to the following materials and/or equipment through the CATR. The Recipient shall pay for or replace any items borrowed that are damaged, stolen or lost:

- Relevant maps and information pertaining to study sites, to include data and literature generated from previous similar LFA control projects;
- Approved survey protocols and procedures required for the performance of duties; and
- Previous final reports that pertain to the performance of duties;

G. GENERAL REQUIREMENTS

1. The Recipient shall receive approval from the CATR prior to visiting designated project areas. Site visits shall occur as often as necessary, within the limits stated below to accomplish the purpose of this Agreement. It is the Recipient's responsibility to obtain security and entrance clearances and camera passes for himself/herself and his/her personnel and ensure all personnel complete take munitions and explosives of concern (MEC) training (~1 hour). The Recipient must comply with all Installation security rules, regulations, requirements, and day-to-day operational changes thereto.

2. The Recipient shall provide all transportation, meals, and lodging for himself/herself and his/her personnel and all equipment and facilities necessary to complete the work. All equipment utilized on the Base is subject to inspection by and approval of the Installation Safety Officer.

3. The Recipient shall conduct field investigations and interviews with experts and authorities as necessary to accomplish the work described below. The Recipient may utilize information from local offices and personnel of the United State Fish and Wildlife Service (USFWS) and Guam Department of Agriculture, Division of Aquatic and Wildlife Resources.

4. The Recipient shall coordinate field methods with the CATR to ensure approved methodology and protocols are followed.

5. The Recipient shall coordinate all field activities with the CATR so as to minimize conflict with other research, restoration, and mission activities.

6. The Recipient shall submit a draft Accident Prevention Plan (APP) for Government review and comments. All Government comments, additions or revisions shall be incorporated into the final APP. The Government considers the Recipient to be the controlling authority for all work site safety and health of any party performing work on this Agreement. Recipient is responsible for informing all parties performing work on the Agreement of the safety provisions under the terms of the Agreement and the penalties for noncompliance, coordinating the work to prevent one effort from interfering with or creating hazardous working conditions for other efforts, and for inspecting sub-recipient operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person who has authority to bind the firm) preparing the APP, the Recipient, the on-site superintendent, the designated site safety and health officer and any designated Certified Safety Professional (CSP) and/or Corporate Industrial Hygienist (CIH). Activity Hazard Analyses (AHAs) shall be updated as specified in the final APP.

7. The Recipient shall manage the total work effort and assure fully adequate and timely completion of services required under this Agreement. Included in this function shall be a full range of management duties including, but not limited to, planning, scheduling, inventory, analysis, quality control, and for meeting

professional industry standards for conducting field surveys and ESA-listed species conservation management.

8. Non-native invasive species can be purposefully or inadvertently introduced via equipment, foot traffic, vehicles and vessels, and packing materials. In order to address this issue, the Recipient shall submit a site-specific Hazard Analysis and Critical Control Point (HACCP) Plan to ensure that invasive species are not moved, or introduced in associate with applied control techniques. The site-specific HACCP is subject to approval by the CATR.

9. All work conducted under this Agreement shall conform to the requirements of the SOW.

   Due to the complexity of the work, the Recipient shall provide the following key personnel with the following minimum qualifications:

A. **Principle Investigator (PI):** Throughout performance of the Agreement, the Recipient shall provide the required natural resources services required by this Agreement. The Principal Investigator shall have, at a minimum:

- A Bachelor of Science (BS) degree in biology, botany, natural resources, conservation biology or similar field with two (2) years of experience managing entomology-related projects as a senior scientist or project manager working with non-native ant research and any other pest management related work experience.
- This individual shall have at least one year of experience working on insect control in the CNMI/Guam or other Pacific islands and possess the appropriate pesticide applicator certifications (Guam Environmental Protection Agency or DoD pesticide applicator certification).;
- At least 6 months experience identifying invasive ant species of the Pacific in a laboratory setting;
- At least 6 months experience conducting de-limiting and post-treatment invasive ant surveys;

B. **Field Technicians/Technical Field Support Technicians (FT/FST):** In working with the PI and PM, these individuals shall provide field support services; conduct scientific review of literature; assist in the preparation of field activities, logistics and field equipment; manage the project's files, including field notes and database; assist in the preparation of materials for project meetings; and complete other duties as assigned. FT and FST minimum requirements are as follows:

- FTs shall have, at a minimum, at least one (1) year of experience working on entomology-related and/or non-native ant control projects in the CNMI/Guam or other Pacific islands and possess the appropriate pesticide applicator certifications (Guam Environmental Protection Agency or DoD pesticide applicator certification).;
- FSTs shall work under the direct supervision of an FT or Principle Investigator in management of entomology-related projects in the

CNMI/Guam or other Pacific islands and possess the appropriate pesticide applicator certifications.

10. The Recipient shall provide the GO (via the CATR) the names of persons and copies of their resumes being considered for work under this Agreement. After resume submission, the Recipient shall not replace or substitute any submitted personnel member without requesting to substitute, providing name and copy of resume for proposed substitute and receiving prior written approval by the Cooperative Agreement Contract Specialist.

11. In reference to this Agreement, substantial involvement is required between the DoN and the Recipient during the period of performance based on the requirements prescribed in the scope of work. The anticipated involvement between the CATR and PI is deemed appropriate to carry out a public purpose of support to include a direct benefit to the Government. The Government's involvement includes:

    a. Advising Recipient, as needed, in preparing scientific articles destined for peer-reviewed journals;
    b. Providing relevant maps and information pertaining to study sites, to include data and literature generated from previous similar LFA control projects;
    c. Assist with field activities and coordination with Base safety offices to ensure safety procedures are met;
    d. Coordinating with Base Security to facilitate access to DoN lands and obtain required passes;
    e. Assisting with plan of action and milestones (POAM) development;
    f. Accompanying Recipient during perimeter monitoring/control surveys and aerial eradication as often as necessary, to ensure quality assurance and efficacy of actions; and
    g. Conducting monthly post action meetings with Recipient to determine if milestones are on track and met.

12. All work conducted in support of this Agreement shall comply with all applicable Federal, State, and local laws, regulations, or other requirements.

13. The CATR shall be notified immediately when any threatened or endangered fauna species are observed in the project area and work stopped if any activities may adversely affect any of these species.

14. At no cost to the Government, the Recipient shall obtain and maintain of all necessary permits or certifications necessary to conduct the activities stipulated in the Agreement.

15. All parties involved in this Agreement agree to comply with all applicable laws and regulations pertaining to the provision of safe and respectful workplace and to provide a work environment free of harassment and intimidation for such party's own employees and third parties.

16. Vehicle operators shall **not** use cell phones unless the vehicle is safely parked or the driver is using a hands-free device, in compliance with Guam law, installation policies, or any other applicable requirement.

17. All field notes, and forms, electronic storage of field data, photographs, etc. collected and produced as part of this Agreement are property of the DON and shall be provided to the CATR upon request.

18. The data obtained during this Agreement shall be scientifically defensible and suitable for publication. All methods of data collection and analyses shall be standardized with previous studies conducted by the Recipient under past cooperative agreements for this type of work, or when appropriate, analyzed using acceptable new or improved methods as determined in current scientific literature(s). If changes in analyses make results unfit for comparison with previously collected data, the Recipient shall reanalyze all appropriate data sets for comparison. The Grants Officer shall approve (via the CATR) in advance any changes to previously used experimental designs, methods of data collection and/or analysis, which shall be provided in the Recipient's required Work Plan. The CATR at their discretion, may subject draft work plans, draft reports or draft manuscripts to external peer review.

19. In order to avoid impacts to federally listed, rare, or endemic species the Recipient must coordinate all vegetation and ground disturbing activities with the CATR. **Under no circumstances are any federally protected species to be destroyed when completing the work required in this Agreement.** The Recipient shall ensure that all footwear, backpacks, clothing, vehicles and equipment transported to JRM areas are clean of weed seed. CATR will provide a field identification "guide" of protected species and necessary actions when species are encountered. Unauthorized vegetation clearing shall be reported immediately and shall be restored to original condition.

20. Work areas within the JRM AOR may have Unexploded Ordnance (UXO) from World War II. Recipient field personnel shall attend the Naval Facilities Engineering Command (NAVFAC) Marianas UXO Awareness Training prior to conducting any fieldwork. No ground disturbing activities are to take place unless authorized by the CATR.

21. Under no circumstances shall the Recipient violate the Archeological Resources Protection Act. If any objects are found that appear to be cultural or archeological resources, contact the CATR and Cultural Resources Program Manager. If the Recipient accidentally disturbs an archeological and/or cultural resources site, the Recipient shall leave the site immediately (as intact as possible) and contact the CATR and JRM Cultural Resources Program Manager.

22. The Recipient must comply with the JRM Hazardous Waste Management Plan. The Recipient shall manage generated hazardous material, hazardous waste, and hazardous waste residues in accordance with Federal, State, and local regulations.

Transport and dispose of hazardous waste (i.e., batteries) in accordance with Federal, State, local and applicable JRM requirements.

23. The Recipient shall inform the CATR and appropriate installation security via phone and e-mail of any unusual activity observed while conducting surveys in the field (e.g. trespassers or persons in unauthorized areas). Information should include (a) location, (b) date, (c) time, and (d) any detailed facts regarding the activity.

24. The Recipient shall inform the CATR via phone and e-mail of any endangered, threatened, or rare animal or plant species observed while conducting surveys in the field (e.g. species which are federally listed or are Territorial Species of Special Concern). Information should include (a) location, (b) date, (c) time and (d) any detailed facts about the sighting.

25. Throughout the term of this Agreement the CATR shall be afforded the opportunity by the Recipient to periodically observe the Recipient's field activities, to review computer or paper files of raw data, prepared data (such as data analyses, summaries, maps, figures, tables, etc.), or any record deemed appropriate by the Grants Officer in establishing the Recipient's performance in fulfilling the requirements of this Agreement.

26. The DoN, via the Grants Officer, may request updated data presented on maps, figures and/or tables whenever the DoN's need to obtain this information is before the next report required under Section J of this Agreement. The Recipient shall forward the requested data electronically within ten (10) days from the date of request. If the requested data cannot be provided within this time frame, the Recipient shall forward electronically the most updated raw data to the GO, via the CATR. The DoN understands that facilitating the most updated requested data may reduce the amount of work that would normally be accomplished during the period of time required to complete the request. The Recipient shall document the amount of efforts and its translated cost estimate that would have been incurred by the Recipient to complete the request for updated data. This document shall be electronically forwarded to the GO (via CATR) to review so that the DoN will have a firm understanding on the amount of work displaced that would have normally been accomplished during the period of time required to complete the request.

H. SPECIFIC REQUIREMENTS

This Agreement requires the Recipient to develop and implement four (4) technical requirements and six (6) tasks during the period of performance including:

Technical Requirements:

1. Conduct perimeter and monitoring/control for LFA;
2. Continue on-going ground-based treatments at designated sites;
3. Develop Site 1 Implementation Plan;
4. Conduct ground-based treatments along the interior perimeter at Site 1.

Tasks:

Task 1 – Develop and Implement a site specific LFA Perimeter Monitoring/Control Work Plan;

a) Sub-Task 1.a. Site Assessment. The Recipient shall visit and inspect the designated perimeter fence line areas at MCBCB UTC (Fig. 1). The Recipient shall document (i.e. field notes, photographs, Global Positioning System (GPS) points, etc.) respective areas of concern or specific landscape features (i.e. trash pits, residential encroachments, etc.) that may prove problematic for long-term sustainment of an LFA-free perimeter.

b) Sub-Task 1.b. Develop Work Plan. The Recipient shall utilize site-specific documentation from the field work assessment (Sub-Task1.a.) to develop a comprehensive Perimeter Monitoring/Control Work Plan. The Recipient shall research and incorporate the most cost-effective methodology, using the best available LFA Pest Management control measures. Work Plan shall detail methodologies to include, but not limited to: testing interval spacing, monitoring schedules, rapid response procedures, types of pesticide(s), seasonal considerations, etc. for long-term sustainment of an LFA-free perimeter. The recipient shall submit the Draft Work Plan for CATRs approval.

c) Sub-Task 1.c. Field Work. The Recipient shall implement the CATRs approved Final Work Plan. Any deviation/adaptive management from work plan implementation must be submitted for CATR approval prior to change.

Task 2 – Conduct five (5) ground-based treatments at designated sites: The Recipient shall conduct five (5) treatments at each of the LFA sites 6, 7 and 8.

a) Sub-Task 2.a. Field Work. Pesticide(s) to be used will include Tango® insect growth regulator (IGR) applied in a gel-bait suspension to the foliage and one (1) of the following granular ant baits: Siesta®, Amdro Pro®, or Probait® applied to the ground. Five (5) treatments shall be conducted in accordance with the treatment schedule detailed above.

Site Number	Acreage (ac)
6	~2.4
7	~2.9
8	~2.1

Task 3 - Develop and submit a Site 1 Implementation Plan: The Recipient shall develop a site-specific Implementation Plan for an approximately 60 acres of densely forested vegetation at Site 1.

a) Sub-Task 3.a. Draft Implementation Plan. The Recipient shall research the latest available technologies associated with gel-bait and granular bait

dispersal for aerial and ground-based treatments. The Recipient shall evaluate the different technologies and determine the optimal treatment method based on the following parameters: least amount of vegetation clearing required, labor efficiencies, and cost.

b) Sub-Task 3.b. Final Implementation Plan. The Recipient shall submit the Draft Implementation Plan to the Government for review and comment. The Recipient shall address Government comments prior to approval of the Final Implementation Plan.

Task 4 – Conduct ground-based treatment along the interior perimeter at Site 1. The Recipient shall commence treatment and monitoring of the interior perimeter to minimize spread of the infestation at Site 1.

Site 1 Interior Perimeter	~3,019 linear feet

Task 5 – Project Management: The Recipient shall provide project oversight and coordination for all technical requirements and tasks, which also includes maintaining budget, coordination, tracking, and reporting:

a) The Recipient is responsible for providing monthly updates to the CATR and the updates shall include implementation accomplishments, treatment monitoring results/data, budget drawdowns, technical aspects, any project coordination difficulties (e.g. base security staff), safety concerns, adaptive management proposals or actions, agreement's quality control activities and their successful implementation of the APP, AHA and HACCP (see below).

b) The CATR shall inspect all documents that the Recipient is required to provide, inspect all relevant equipment, interview Recipient's staff to determine which actions were taken, and accompany Recipient during field operations to provide adequate Government oversight.

I. MEETINGS/COORDINATION

1. The Recipient or his/her designee will attend (either on site or via telephone) a kick-off meeting with the CATR and/or other necessary parties to ensure coordination of activities. The CATR shall arrange the meeting. The kick-off meeting shall be held on Guam or virtually.

2. The Recipient shall be available for coordination meetings with the CATR and other environmental staff, as required throughout the project.

J. SUBMITTALS AND SCHEDULES

1. Electronic copies of all submittals/schedules/deliverables (examples include, but are not limited to, draft/interim/final reports, progress reports/monthly reports) will be provided to the CATR for retention in the official Agreement file.

2. Submittals
The Recipient shall submit the following:

a. Accident Prevention Plan (APP), Activity Hazardous Analysis (AHA) and Hazard Analysis and Critical Control Plan (HACCP): The Recipient shall develop and maintain a safety program in compliance with Navy Facilities Engineering Command Safety Notices 5100. The Recipient shall prepare and submit a Draft/Final APP and AHA that incorporates Navy and Air Force Safety Regulations that are applicable to the execution of this project. The Recipient shall also prepare a HACCP to ensure that invasive species are not transported or introduced in association with fulfilling the requirements of the Agreement.

(1) The Recipient shall submit the draft APP, AHA and HACCP seven working days prior to the kickoff meeting.

(2) The Recipient shall implement safety measures for all work conducted for the project consistent with the project's Final APP, AHA and HACCP.

(3) The Recipient shall work in a safe manner in the field and comply with all applicable safety regulations. The Recipient's safety records shall be made available upon request.

(4) The Recipient shall ensure work is conducted in accordance with EM 385-1-1 US Army Corps of Engineers Safety & Health Requirements Manual, OSHA, local laws, regulations and requirements.

(5) The Recipient shall prepare a draft APP, AHA and HACCP and submit final versions within seven days prior to the initiation of the project's field activities. A Government reviewed and approved final APP, AHA and HACCP shall be in place prior to the Recipient s initiation of field work. Signatures of all staff shall be included on the draft/final APP and AHA. The documents shall include a job/field site hazard analysis for all tasks reasonably anticipated to be performed as a result of the Agreement's requirements. The documents must provide key identifiers that will ensure a safe working environment for all personnel involved in the project. References used to develop the site-specific plan include: 29 CFR 1¬910.120 (Hazardous Waste Operations & Emergency Response), EM 385-1-1 US Army Corps of Engineers Safety & Health Requirements Manual, and Local Activity safety plans and standard operating procedures.

(6) The Recipient must certify to the GO and CATR that these safety documents have been reviewed with each of the Recipient's employees and Sub-Recipient's employees (as applicable) involved in this project pursuant to the Agreement prior to mobilization and start of fieldwork activities. The APP shall be immediately accessible to the Recipient's PM at all times during the project, and a copy shall be available in all vehicles utilized for work under this Agreement.

b. POAM: The Recipient shall submit a POAM for timely completion of the work, 1 week prior to the kick-off meeting.

c. Draft/Final Work Plan: The Recipient shall submit a Draft/Final Work Plan that will show in reasonable detail the approach (including the project's work schedule milestones

with dates) that will be taken to successfully accomplish the requirements and specifications of the Agreement. The draft/final plan shall include a schedule in table format of field activities and deliverable submittals.

(1) The Recipient shall submit the Draft Work Plan seven days prior to the date of the project's kickoff meeting.

(2) The Recipient shall submit the Final Work Plan five days after the receipt of Government comments. Field activities cannot proceed until the Final Work Plan has been reviewed and acknowledged for proceeding by the Government.

(3) The Recipient shall append to the Draft/Final Work Plan the list of personnel that will be involved in the project with their respective short version of resume. Personnel date of birth, address and social security number shall **not** be included in the resume. The maximum number of pages for resume shall be 5 pages with font size no smaller than "11".

d. Meeting Minutes: The Recipient shall be responsible for taking the minutes of the meetings specified in this Agreement. The Recipient shall submit the draft meeting minutes within five days from the date when the meeting was held.

e. Monthly Progress Reports (PR): The Recipient shall provide monthly PR that details their implementation accomplishments as specified in the scope of work and final work plan. The monthly PR shall also include, but not limited to: challenges, recommendations for improvement, budgetary updates, information on the Recipient's quality control activities and their successful implementation of the APP, AHA and HACCP and biosecurity plan. The first monthly PR shall be submitted following the first month of field surveys and every month thereafter while field work is being conducted.

f. Draft and Final Project Report: The Draft Annual Project Report (DAPR) and Final Annual Project Report (FAPR) shall document all work conducted under this Agreement. CATR will compare monthly reports, knowledge gained during in person oversight of the project, and all other QA/QC actions to determine if FPR contains sufficient detail and incorporates all work conducted under the Agreement.

(1) The DAPR shall be submitted to the CATR for review and comment forty-five (45) days before the end of the performance period. The Recipient shall submit electronic copies via email or other file sharing platform. The DAPR will include all maps, GIS data and appropriate figures/graphics for all work completed.

(2) The FAPR will be submitted to the CATR no later than fifteen (15) days after receipt of comments on the DPR from the CATR. The Recipient shall also submit one (1) hard copy and three (3) electronic copies of the FAPR on CD or DVD. The electronic copies on CD or DVD shall include the following: a) the FAPR in Microsoft Word, b) the FAPR in Portable Document Format (pdf), c) figures and graphics, d) GIS data layers (if relevant) and e) comment matrix. For the comment matrix, the Recipient shall take all comments from the

Government on all reports and incorporate them into a comment matrix. The comment matrix shall identify how each comment was addressed by the Recipient and where in the document (page number, paragraph, and line) the corrections are to be found. The comment matrix will be used as a quality assurance tool.

(3) For the DAPR and FAPR, the Recipient shall reasonably follow the standards provided in Scientific Style and Format; The CSE Manual Authors, Editors, and Publishers, Seventh Edition, Style Manual Committee Council of Science Editors, http://www.scientificstyleandformat.org/Home.html.

(4) All GIS data will contain populated metadata, be SDSFIE compliant, and projected in UTM Zone 55 North, WGS84. All GIS Data must comply with NAVFAC Standards for Geographic Information System (Attachment D) and Specifications for GIS Layers and Attributes (Attachment E)

3. Related Requirements and Information.
The Recipient shall solely be responsible for providing all study design, labor, transportation, equipment, material, tools, supplies, supervision, and administration services required to complete the requirements of this SOW.

a. The Recipient will coordinate and hold a project kickoff meeting with CATR to discuss work expectations.

b. The Recipient will email monthly status reports in electronic format.

c. If unforeseen conditions warrant any deviations from these methods, the Recipient must consult with CATR.

d. Work will be conducted according to the schedule agreed (POAM) during the kick-off meeting. The Recipient shall notify the CATR within two business days of any problems that occur to prevent the scheduled field work. It is recognized that weather conditions, equipment failures and site conditions can interfere with fieldwork and create unforeseen unsafe working conditions. The Recipient will also immediately report any problems or concerns encountered at the field sites.

4. The Recipient shall submit the following deliverables:

Deliverable	**Copies**	**Submittal Date/Timing**
POAM	1 electronic copy (word-format)	**7** days prior to kick-off meeting
Draft APP/AHA/HACCP	1 electronic copy (word-format)	7 days prior to kick-off meeting
Draft Perimeter/Monitoring Work Plan	1 electronic copy (word-format)	7 days prior to kick-off meeting
Kick-off Meeting	1 electronic copy (word-format)	Prior to the start of field work
Final APP/AHA/HACCP	1 electronic copy (word-format)	7 days prior to start of field work

Final Perimeter/Monitoring Work Plan	1 electronic copy (pdf-format), 1 hard copy	5 days after receipt of Government comments
Draft Implementation Plan	1 electronic copy (word-format)	Pending Notice to Proceed (NTP) from CATR
Final Implementation Plan	1 electronic copy (pdf-format), 1 hard copy	10 days after receipt of Government comments
Monthly Progress Reports (MPRs)	1 electronic copy (pdf-format)	Monthly, for the duration of the agreement
Meeting minutes	1 electronic copy (pdf-format)	10 days after each meeting, as needed
Draft Project Report GIS data layers and comment response matrix	1 electronic copy (word-format), & 2 hard copies	30 days prior to the end of the Period of Performance
Final Project Report, to include GIS data	1 electronic copy (word-format) 1 electronic copy (pdf-format) 2 hard copies	NLT 15 days after receipt of Government comments

5. Format for Deliverables

All documents shall be submitted on 8 1/2 by 11-inch paper, 11 by 17-inch foldout maps/figures are acceptable. All reports shall be double sided. All original documentation will be reproducible by black and white xerography with heavy paper or hard covers and the original unbound copy with hard covers that will allow pages to be easily removed. Where possible, all reports shall be printed on recycled paper and limit "blank" pages. Bindings will include a label identifying the report, author(s), and the date of completion.

a. The electronic version/file of the draft and final after comments are addressed shall be submitted in both A) the native format, which Navy requires be a Microsoft product, and B) Adobe Acrobat PDF (or compatible) format. The PDF version of all final deliverables (other than raw analytical and databases) must be a complete, mirror image of the hardcopy, and include appendices, maps, signature pages, etc. At completion of the project with the Final Report submittals, the Recipient will provide an electronic deliverable with a copy of all reports, meeting minutes, point papers, maps and map databases, and briefings. All electronic submittals will be certified "virus free" and include the statement "virus free" on the disk or transmittal message. The Recipient shall verify, with the CATR, the appropriate data management requirements and electronic data deliverables.

b. CD-ROM Requirements
PDF files of final documents shall be provided in the following formats:
The entire document shall be provided as one .pdf file. The .pdf file shall have bookmarks for each item identified in the document's table of contents. The bookmark shall use the same description as provided in the table of contents. If the bookmark is lengthy, abbreviate as needed. Bookmark to the second level (i.e., 1.1, 1.2, 1.3, etc.). Do not bookmark signature page, list of acronyms, individual tables, photos, or figures. Each appendix, regardless of size, shall be provided as an individual pdf file. All maps, figures, and pictures shall be provided at a useable

resolution. All color maps, figures, and pictures shall be provided in color PDF format. All files associated with the document, shall be provided in native file format (e.g. Word, Access, CADD) on deliverable CD copies. In addition, the CDs shall include raw data

The CD jewel case cover (outside front) and CD label shall use the current approved layout and include:

- NAVFAC Marianas logo
- Agreement Number Report Title
- Site
- Location
- Date Report finalized
- The word "UNCLAS"

Standard CD jewel cases shall be used. The jewel case spine shall identify the report title, site, and location. In the event multiple reports are requested on one CD, the jewel case cover (inside) shall include a list of all reports with the date and file name. The jewel case spine shall use "Various Reports" as the report title and also identify the site and location.

c. Photographs
The Recipient will document and record pertinent aspects of the work using color digital imagery. The Recipient will provide camera and all necessary equipment. Photographs of activities documented shall be included as an appendix on CD ROM. All photographs shall become DON property and shall be submitted with the draft and final report. All original photographs shall be appropriately labeled with information to include:

- Date
- Location (specific place and Installation) subject/activity
- Identification of any people in the picture photographed

6. Submittal/Deliverable Standards

All submittals/deliverables are expected to be of the highest professional quality and may be rejected if any of the following exists:

- There are typographical errors, spelling, or grammar mistakes;
- Results and discussion are not tied directly and continually to natural resource management concerns of the installation;
- The document is not organized in a manner that flows well;
- The document does not provide appropriate context, background, literature review, and comparison to other relevant studies, locations, and similar species; or
- The appropriate style guide is not adhered to (in most cases this is the JWM or CSE).

K. DATA AND PUBLICATION

1. This Agreement is subject to, and Recipient shall comply with, 2 CFR 200.315 concerning "Intangible Property," which includes use of research data. Any information or

data protected by federal law will be identified by the Government prior to being provided to Recipient and the Government will notify the Recipient in advance of applicable limitations on such information. Except as to information so identified and limited, there are no restrictions on reporting or publishing reports based upon the fundamental research that is the subject of this Agreement.

The Government has the right to obtain, reproduce, publish or otherwise use the data first produced under this Agreement and authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes. The DoN acknowledges and agrees that the Recipient's fundamental consideration in performing the research under this Agreement shall be Recipient's right to publish the results of such research for academic and scientific purposes. The Recipient shall submit, for review and comment, any proposed professional, scientific or non- scientific report, paper or note published or unpublished or be part of any technical or non-technical presentation or be provided to anyone not a party to this Agreement to the DoN thirty (30) days prior to the submission of the work mentioned above.

2. The acknowledgements for any paper or presentation resulting from this work shall include the following statement: "This research was funded by the DoN on behalf of JRM, Guam." Any publications resulting from this work shall be provided at no cost to the DoN in quantities jointly determined by the DN's representative and the Recipient at the time of publication.

3. The Recipient shall be responsible for ensuring all personnel participating in activities under this Agreement have read and acknowledged the DATA AND PUBLICATION provisions of this Agreement.

L. RELEASE OF INFORMATION

The Recipient shall not respond to any inquiries about this Agreement from the news media or non- governmental organizations or other persons during the term of this Agreement unless it has first consulted with the Government and a determination appropriately made by the cognizant Government representative concerning release of information pursuant to the authority (Federal or State) cited by the requester. All inquiries shall be directed to the JRM Public Affairs Officer at the Region and Public Affairs Officer at NAVFAC Marianas through the CATR.

M. SAFETY

The Recipient will be required to develop an APP following the format in Appendix A of the EM 385-1-1 05 July 2011 or latest edition. A Site Safety and Health Plan (SSHP) is also required if the work is potentially hazardous. Potentially hazardous activities include, but are not limited to:

- Soil boring or digging test pits (excludes manual collection of de minimis surface soil samples);
- All field work on hazardous waste or munitions response sites;
- Work on, in, or near bodies of water where there a danger from drowning;
- Use of heavy equipment, e.g. backhoes, excavators, bulldozers, etc.;

- Excavation, backfilling, and compaction;
- Use of man lifts, ladders, and other climbing apparatus;
- Use of firearms, or other weapons;
- Well drilling and/or well pump repair or replacement;
- Construction, demolition, or repair of site improvements;
- Remediation of hazardous material or waste, i.e. asbestos, paint with lead, and polychlorinated biphenyl (PCB); and
- Work within 10 (ten) feet of high voltage lines, or high pressure gas, steam, or water lines.

The minimum requirement for the SSHP is in Section 28 of the EM 385-1-1. Include an AHA for all tasks reasonably anticipated to be performed as part of this statement of work. Format and instructions for the AHA is in section 1 of the EM 385-1-1. As a minimum, references used to develop the APP, SSHP and AHA are: EM 385-1-1 US Army Corps of Engineers Safety & Health Requirements Manual, and Local Activity safety plans and standard operating procedures. When developing the APP, SSHP and AHA, address all sections that are deemed appropriate for performing the work in this Agreement, while ensuring a safe work environment for all personnel involved. The draft APP, SSHP and AHA have to be reviewed by the NAVFAC Marianas Safety Office prior to start of field work activities.

NOTE: AHA is an attachment required by the APP. SSHP is also an attachment required by the APP if a project includes potentially hazardous activities. Government PM should verify with the NAVFAC Marianas Safety Office prior to directing the recipient to prepare a SSHP. The APP, SSHP and AHA will provide a safe and healthful environment for all personnel involved as well as personnel working near the sites for the DON. The Recipient shall certify to CATR that the final APP, SSHP and AHA have been reviewed with each Recipient employee working on this Agreement prior to mobilization and start of fieldwork activities.

A Draft and Final APP, SSHP and AHA will be submitted concurrently with the Draft Work Plan but shall be printed under a separate cover from the Work Plan. The final APP, SSHP and AHA shall be immediately accessible to the Site Safety and Health Officer (SSHO) and Project Manager at all times during the project, and a copy shall be available in every vehicle utilized for work under this Agreement. The SSHO is required to have completed the 10-hour OSHA Safety Training.

Man-hour reporting is also required by the EM 385-1-1 and the Unified Facilities Guide Specifications (UFGS) -01 35 26, (February 2012) change 2, 08/13. The recipient will provide a Monthly Exposure Report (MER) and attach to the monthly billing request. The CATR will submit a copy of the MER to the NAVFAC Marinas Safety Office.

N. HOLD HARMLESS

1. The Government shall not be responsible for the loss of or damage to property of the Recipient and/or his/her representatives, or for personal injuries to the Recipient and/or his/her representatives arising from or incident to the use of government facilities or equipment. Recipient shall indemnify, hold harmless, defend and save Government

harmless and shall pay all costs, expenses, and reasonable attorney's fees for all trial and appellate levels and post- judgment proceedings in connection with any fines, suits, actions, damages, liability and causes of action of every nature whatsoever arising or growing out of, or in any manner connected with, the Agreement and attendant occupation or use of Government Premises including but not limited to JRM AOR, by Recipient, its employees, servants, agents, guests, invitees, and sub-recipients. This includes, but is not limited to, any fines, claims, demands and causes of action of every nature whatsoever that may be made upon, sustained or incurred by the Government by reason of any breach, violation, omission or non-performance of any term, covenant or condition hereof on the part of the Recipient, its employees, servants, agents, guests, invitees, or sub-recipients. This indemnification also applies to claims arising out of the furnishings of any utilities or services by the Government or any interruption therein or failure thereof, occasioned by the negligence or lack of diligence of Recipient or its respective officers, agents, servants or employees. However, this indemnity shall not extend to damages due to the sole fault of the Government or its employees, agents, servants, guests, invitees or sub-recipients. This covenant shall survive the termination of this Agreement.

2. In the event of damage, including damage by contamination, to any Government property by the Recipient, its officers, agents, servants, employees, or invitees, the Recipient, at the election of the Government, shall promptly repair, replace, or make monetary compensation for the repair or replacement of such property to the satisfaction of the Government.

O. INSURANCE

1. At the commencement of this Agreement, the Recipient shall obtain, from a reputable insurance company or companies satisfactory to the Government, comprehensive general liability insurance. The insurance shall provide an amount not less than a minimum combined single limit of $1,000,000.00 for any number of persons or claims arising from any one incident with respect to bodily injuries or death resulting therefrom, property damage or both, suffered or alleged to have been suffered by any person or persons resulting from or related to the presence or operations of the Recipient, its employees, agents or sub-recipients under this Agreement. The Recipient shall require the insurance company or companies to furnish the Government with a certified copy of the policy or policies, or certificates of insurance evidencing the purchase of such insurance. Each policy of insurance required under this Paragraph shall contain an endorsement reading as follows:

"The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."

2. All insurance required of the Recipient hereunder shall be in such form, for such periods of time and with such insurers as the Government may require or approve. All policies or certificates issued by the respective insurers for public liability and property insurance shall name the United States of America as an additional insured, and shall provide that no cancellation, reduction in amount or any material change in coverage thereof shall be effective until at least 30 calendar days after receipt by the Government of written notice thereof, regardless of any prior act or failure to act or negligence of the Recipient or the

Government or any other person concerning such amount or change in coverage.

3. The Recipient at its sole cost and expense, may insure its activities in connection with this Agreement by maintaining a program of self-insurance that complies with the requirements herein, including coverages specified in Attachment A hereof. Recipient shall also provide a copy of the exempting statute cited in support of its claim of self-insurance pursuant to Section 2 of Attachment A to this Agreement. (The self-insurance clause is applicable only to appropriate state and local governments and qualifying institutions of higher education who provide evidence of a self-insurance program in accordance with this Section and Attachment A, Section 2.)

4. During the entire period the Agreement shall be in effect, the Recipient shall require its sub-recipients or agents or any sub-recipient performing work at the Recipient's or agent's request on the affected Government Premises to carry and maintain the insurance required below:

"Comprehensive general liability insurance in the amount of 1,000,000.00."

5. The Recipient and any of its sub-recipients or agents shall deliver or cause to be delivered promptly to the Agreement Administrator, a certificate of insurance or a certified copy of each renewal policy evidencing the insurance required by this Agreement and shall also deliver no later than thirty (30) calendar days prior to expiration of any such policy, a certificate of insurance evidencing each renewal policy covering the same risks.

6. In the event that any item or part of the premises or facilities shall require repair, rebuilding, or replacement resulting from loss or damage, the risk of which is assumed herein, the Recipient shall promptly give notice thereof to the Government and, to the extent of its liability as provided herein, shall, upon demand, either compensate the Government for such loss or damage, or rebuild, replace or repair the item or items of the premises or facilities so lost or damaged, as the Government may elect. If the cost of such repair, rebuilding, or replacement exceeds the liability of the Recipient for such loss or damage as provided herein, the Recipient shall effect such repair, rebuilding, or replacement if required so to do by the Government, and such excess of cost shall be reimbursed to the Recipient by the Government. In the event the Recipient shall have effected any repair, rebuilding, or replacement which the Recipient is herein required to effect, the Government shall direct payment to the Recipient of so much of the proceeds of any insurance carried by the Recipient and made available to the Government on account of loss of or damage to any item or part of the premises or facilities as may be necessary to enable the Recipient to effect such repair, rebuilding or replacement. In event the Recipient shall not have been required to effect such repair, rebuilding, or replacement, and the insurance proceeds allocable to the loss or damage which has created the need for such repair, rebuilding or replacement have been paid to the Recipient, the Recipient shall promptly refund to the Government the amount of such proceeds.

P. PAYMENTS

1. Partial payments equal to the amount of work accomplished may be made monthly after submission of completed schedules and deliverables in Section J. Recipient shall prepare

itemized invoices according to costs incurred during the reporting period and submit the itemized invoices to the Government for payment. Partial payments shall not exceed 85 percent of the total funding for the Agreement for any individual period of performance.

2. The final payment of the balance of the Agreement funds for a period of performance or 15 percent of the period of performance funding for the Agreement, whichever is less, shall be paid when the final report and all other submittals and deliverables listed in Section J have been received and accepted by the CATR.

3. Any requirement for the payment or obligation of funds, under the terms of this Agreement, shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 USC §1341 et seq. Nothing in this Agreement shall be construed as implying that Congress will, at a later time, appropriate funds sufficient to meet deficiencies.

4. Payments will be made in accordance with Defense Federal Acquisition Regulation (DFAR) 252.232-7006 Wide Area Work Flow Payment Instruction. See Attachment C WAWF Instructions for instructions on payment procedures.

Q. EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT REPORTING

1. Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Recipient to report information on subcontract awards. The law requires all reported information be made public; therefore, the Recipient is responsible for notifying its sub-recipients that the required information will be made public.

2. Unless otherwise directed by the Contracting Officer/Grants Officer, by the end of the month following the month of award of a first-tier subcontract with a value of $25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Recipient shall report the following information at http://www.fsrs.gov for each first-tier subcontract:

(a) Unique identifier (DUNS Number) for the sub-recipient receiving the award and for the sub-recipient's parent company, if the sub-recipient has one.
(b) Name of the sub-recipient.
(c) Amount of the sub-contract award.
(d) Date of the sub-contract award.
(e) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.
(f) Subcontract number (the subcontract number assigned by the Recipient).
(g) Sub-recipient's physical address including street address, city, state, and country. Also include the nine-digit zip code and congressional district.

(h) Sub-recipient's primary performance location including street address, city, state, and country. Also include the nine-digit zip code and congressional district.
(i) The prime Agreement number, and order number if applicable.
(j) Awarding agency name and code.
(k) Funding agency name and code.
(l) Government contracting office code.
(m) Treasury account symbol (TAS) as reported in FPDS.
(n) The applicable North American Industry Classification System (NAICS) code.

3. By the end of the month following the month of a Agreement award, and annually thereafter, the Recipient shall report the names and total compensation of each of the five most highly compensated executives for the Recipient's preceding completed fiscal year at http://www.ccr.gov, if –

(a) In the Recipient's preceding fiscal year, the Recipient received –

(1) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and

(2) $25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm).

(c) Unless otherwise directed by the Contracting Officer, by the end of the month following the month of a first-tier subcontract with a value of $25,000 or more, and annually thereafter, the Recipient shall report the names and total compensation of each of the five most highly compensated executives for each first-tier sub-recipient for the sub-recipient's preceding completed fiscal year at http://www.fsrs.gov, if

(1) In the Sub-recipient's preceding fiscal year, the Sub-recipient received –

(a) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and

(b) $25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and sub grants) and cooperative agreements; and

(d) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at

http://www.sec.gov/answers/execomp.htm).

If the Recipient in the previous tax year had gross income, from all sources, under $300,000, the Recipient is exempt from the requirement to report sub-recipient awards. Likewise, if a sub-recipient in the previous tax year had gross income from all sources under $300,000, the Recipient does not need to report awards to that sub-recipient.

END

ATTACHMENT A

SELF-INSURANCE REQUIREMENTS FORM

INSURANCE MUST CONFORM TO ALL THE REQUIREMENTS LISTED BELOW PRIOR TO RECIPIENT BEING PERMITTED TO USE OR OCCUPY GOVERNMENT PREMISES OR PROPERTY PURSUANT TO THE COOPERATIVE AGREEMENT

1. PUBLIC LIABILITY AND PROPERTY DAMAGE
a. Required minimum amounts of insurance listed below:
$ N/A Fire and Extended Coverage
$ 1,000,000 Third Party Property Damage
$ 1,000,000 Third Party Personal Injury Per Person
$ 1,000,000 Third Party Personal Injury Per Accident

2. **SELF-INSURANCE REQUIREMENTS:** If your organization is self-insured, please provide evidence of self- insurance which meets or exceeds the insurance liability amounts in Item # 1.
The following information, written on your organization‘s letterhead, is also required:
• A brief description of your organization’s self-insurance program, with reference to statutory or regulatory authority establishing the self-insurance program.
• The name and telephone number of your organization’s self-insurance program administrator.
• Reference the appropriate military facility and cooperative agreement number.

3. IF YOUR SELF-INSURANCE PROGRAM DOES NOT MEET THE ABOVE MINIMUM REQUIREMENTS:
• Provide evidence of Excess Liability Insurance in the amount necessary to meet or exceed the minimum requirements in Item #1 above.
• The following endorsements are required for Excess Liability insurance policies:

a. “The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."
b. "The Commanding Officer, Naval Facilities Engineering Command Marianas, Guam shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the self-insurance program."
c. "The United States of America (Department of the Navy) is added as an additional insured in operations of the policyholder at or from the premises licensed/leased from the United States”.
d. "This insurance certificate is for use of facilities at Joint Region Marianas, Guam under this Cooperative Agreement, No. N40192-22-R-8002.”

4. NOTICE: "RIGHT TO USE" DOCUMENTS WILL NOT BE FULLY EXECUTED UNTIL CERTIFICATE IS RECEIVED WITH PROPER ENDORSEMENTS.

ATTACHMENT A (Continued)

NON SELF-INSURED REQUIREMENTS FORM

INSURANCE MUST CONFORM TO ALL THE REQUIREMENTS LISTED BELOW PRIOR TO RECIPENT BEING PERMITTED TO USE OR OCCUPY GOVERNMENT PREMISES OR PROPERTY PURSUANT TO THE COOPERATIVE AGREEMENT

1. PUBLIC LIABILITY AND PROPERTY DAMAGE

a. Required minimum amounts of insurance listed below:
$ N/A Fire and Extended Coverage
$ 1,000,000 Third Party Property Damage
$ 1,000,000 Third Party Personal Injury Per Person
$ 1,000,000 Third Party Personal Injury Per Accident

2. THE CERTIFICATE OF INSURANCE MUST CONTAIN THE FOLLOWING ENDORSEMENTS:

a. "The insurer waives any right of subrogation against the United States of America which might arise by reason of any payment made under this policy."

b. "The Commanding Officer, Naval Facilities Engineering Command Marianas, Guam shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the policy."

c. "The United States of America (Dept. of the Navy) is added as an additional insured in operations of the policyholder at or from the premises licensed/leased from the United States."

d. "This insurance certificate is for use of facilities at Joint Region Marianas, Guam under this Cooperative Agreement, No. N40192-22-R-8002."

e. Loss, if any, under this policy shall be adjusted with Recipient and the proceeds, at the direction of the Government, shall be payable to Recipient, and proceeds not paid to Recipient shall be payable to the Treasurer of the United States of America."

3. NOTICE: "RIGHT TO USE" DOCUMENTS WILL NOT BE FULLY EXECUTED UNTIL CERTIFICATE IS RECEIVED WITH PROPER ENDORSEMENTS.

ATTACHMENT B

DRAFT AND FINAL REPORT FORMAT

The Annual Report shall follow the formats described by Messmer, T.A and M.L. Morrison 2006, in "Unified Manuscript Guidelines for the Wildlife Society Peer-Reviewed Publications in the Journal of Wildlife Management, volume 70, issue 1; pages 304-320, as appropriate, with the following outline:

1. Title page showing the title, date, and CATR representative location and Cooperative Agreement Number

ii. Sub-title page showing:

(a) Title

(b) "Prepared by" listing with affiliations

(c) "Under contract to" listing, and shall include the CATR representative location

(d) Date

(e) Recommended citation

iii. Table of contents, arranged as follows:

(a) Table of contents

(b) List of tables

(c) List of figures (photographs are considered figures)

(d) References/literature cited

(e) List of appendices

iv. Abstract

v. Introduction

vi. Study Area

vii. Methods

viii. Results

ATTACHMENT B (Continue)

DRAFT AND FINAL REPORT FORMAT

ix. Discussion.

xi. Acknowledgments

xii. Appendices

xiii. Electronic Appendices.

Where JWM Manuscript Guidelines do not provide sufficient direction, as appropriate, follow the standards provided in Scientific Style and Format; The CSE Manual Authors, Editors, and Publishers, Seventh Edition, Style Manual Committee Council of Science Editors, http://www.scientificstyleandformat.org/Home.html .

ATTACHMENT C
WAWF INSTRUCTIONS

252.232-7006 WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (JUN 2012)

(a) Definitions. As used in this clause—

Department of Defense Activity Address Code (DoDAAC) is a six position code that uniquely identifies a unit, activity, or organization.

Document type means the type of payment request or receiving report available for creation in Wide Area Work Flow (WAWF).

Local processing office (LPO) is the office responsible for payment certification when payment certification is done external to the entitlement system.

(b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(c) WAWF access. To access WAWF, the Recipient shall—

(1) Have a designated electronic business point of contact in the Central Contractor Registration at https://www.acquisition.gov; and
(2) Be registered to use WAWF at https://wawf.eb.mil/ following the step-by-step procedures for self-registration available at this Web site.

(d) WAWF training. The Recipient should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the "Web Based Training" link on the WAWF home page at https://wawf.eb.mil/.

(e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.
(f) WAWF payment instructions. The Recipient must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order: N40192-22-R-8002

(1) Document type. The Recipient shall use the following document type(s).
NAVY CONSTRUCTION/FACILITIES MANAGEMENT INVOICE

ATTACHMENT C (Continue) WAWF INSTRUCTIONS

(2) Inspection/acceptance location. The Recipient shall select the following

inspection/acceptance location(s) in WAWF, as specified by the contracting officer.

(3) Document routing. The Recipient shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table*

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	N68732
Issue By DoDAAC	N40192/CORESV
Admin DoDAAC	N40192/CORESV
Inspect By DoDAAC	N40192/CORESV
Ship To Code	N/A
Ship From Code	N/A
Mark For Code	N/A
Service Approver (DoDAAC)	N/A
Service Acceptor (DoDAAC)	N40192/CORESV
Accept at Other DoDAAC	N/A
LPO DoDAAC	N40192/CORESV
DCAA Auditor DoDAAC	N/A
Other DoDAAC(s)	N/A

(4) Payment request and supporting documentation. The Recipient shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.

(5) WAWF email notifications. The Recipient shall enter the email address identified below in the "Send Additional Email Notifications" field of WAWF once a document is submitted in the system.

(f) Christopher.Santos@fe.navy.mil, WAWF point of contact.

(1) The Recipient may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact. **NOT APPLICABLE**

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988. (End of clause)

ATTACHMENT D
NAVFAC Standards for Geographic Information System (GIS)

1. Overview:
The GeoReadiness Center (GRC) is the single, authoritative source and distribution point for all geospatial shore installation data within the region. The GRC houses the most current geospatial information for the entire region and provides access to the comprehensive data set and analysis tools to Regional and DOD decision makers/managers, sponsored recipients, and other sponsored individuals via a secure government Internet site.

2. Basic Deliverable Requirements:

a. Submittals, Government Review and Acceptance:

i. All data used and developed under contract is intellectual property of the U.S. Government, and shall be turned over to the U.S. Navy upon completion of this amendment.
ii. All submittals shall be reviewed for accuracy, structure and completeness by a GeoReadiness representative before acceptance. The Recipient shall submit data and documentation samples at 25% and 75% project completion to avoid the rejection of final deliverables.
iii. All source code (e.g. Python scripts, html files, etc.) and map files (ESRI ArcGIS .mpk) shall be provided to the government.
iv. Failure to adhere to any of the stated delivery specifications could result in rejection of deliverables and nonpayment.

b. GIS Data Format: NAVFAC's GIS data is ERSI Geodatabase format, version 10.1 as of May 2014**.** All ESRI format data submittals must also be in version 10.1.

i. All GIS/geospatial projects (i.e., MPK) shall be delivered containing all related source files in a specific project file, including extension, graphics, photos, CAD, source code (non-encrypted, Visual Basic) based on version of ArcGIS Desktop specified for the task order. Submittal format shall be determined by the COR.

ii. Spatial Data (GIS Map Themes): Spatial data shall be delivered as an ArcGIS file geodatabase. File geodatabases are relational databases that contain geographic information. File geodatabases contain feature classes and tables. The names of these geodatabases should reflect the location of the geographic information it contains at the appropriate level of detail (region, special area, activity). The general format of personal geodatabase names is as follows:

Location_yyyymmdd.gdb

iii. Location = Location of the geographic information, defined to the appropriate level of detail. Names begin at the regional level, using the 2-digit country code from iNFADS (e.g. HI=Hawaii, GQ=Guam, JA=Japan, etc.) and may narrow into an area of interest within the region (e.g. Pearl Harbor, Yokosuka, Apra Harbor, etc.). The location can be further narrowed down to the activity level where the geodatabase can be identified by the activity's UIC (N68032, N58003, etc.)

iv. yyyymmdd= Date that the geodatabase was created or amended, as expressed in year (yyyy), month (mm), and date (dd).

c. Data Retention: all data (electronic and paper formats) must be removed from the Recipient's equipment and possession and returned to the government at the end of the period of performance and before the final invoice is approved.

d. Data Structure:
   i. Unless specifically directed otherwise, all data shall be structured according to the current version of the Spatial Data Standards (SDSFIE) in use by NAVFAC. This is version NDM 3.03 as of December 2015**.** Information on the SDSFIE data model can be found at: https://sdsfie.org, and a copy of the current data model implementation shall be provided to the Recipient.
   ii. If new data is being created and the corresponding SDSFIE data structure exists, the government shall provide unpopulated layers to the Recipient structured per current NAVFAC standards.
   iii. If new data is being created and the corresponding data structure does NOT yet exist, the Recipient shall provide the GRC with a data dictionary identifying all of the SDSFIE Entity Types, attributes, and/or domain values associated with the new feature(s), the geographic area(s) covered by the data and Spatial extent information prior to the creation/editing of GIS data. Acceptable formats: MS Excel or MS Word. (Adobe PDF is not an acceptable format. New non-SDS compliant attributes (meeting SDSFIE criteria) will require precise schema definitions.

e. Government Source Data: The Recipient will be provided access to any GIS data required for the project via a government computer, which will require Contractor Common Access Card (CAC). Government GIS repository is in an ESRI format. All data shall be returned in this format

and structure unless the government specifies otherwise. A completed NAVFAC GIS Data

Release form is required prior to data being released to the Recipient if editing is required to be completed on Recipient's equipment.

f. Attribute Population:
    i. The Recipient shall consult with the COR before populating attribute tables to ensure the results match the current GeoReadiness interpretation of the SDSFIE.
    ii. The Recipient shall identify the classification, type, location, ID number, and any other necessary attributes (specified by the Government) for all new/updated/edited features.
    iii. For new field collected data, attribution must include the date collected in the following format.
        1. **Name: <u>Date</u>**

Description: Date that the feature was edited from its original or previous value.
Data Type: Date
Default Value: null

3. Data Integrity

a. Data accuracy standards for all deliverables will be in accordance with those set forth in the section entitled 'Data Collection Procedures'. All deliverables should include an accuracy report in the metadata.
b. The Recipient shall employ appropriate QC standards to ensure that data is topologically correct, accurate and complete (to include):
c. No erroneous overshoots, undershoots, dangles or intersections in the line work
d. Point and line features will be snapped together where appropriate to support networks. For example, do not break linear features for labeling or other aesthetic purposes.
e. Lines should be continuous and point features should be digitized as points. For example, point features, such as manholes, should not be drawn using only a circle (polygon) to represent its location. Preferably, use an attribute block symbol that has an insertion point in the center of the manhole.
f. No sliver polygons
g. Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer
h. Geometric network connectivity must be maintained for utility networks.

Note: This excludes field collected "walked" survey transect data

ATTACHMENT D (Continue) NAVFAC Standards for GIS

A summary of the methods used to correct inconsistencies and any remaining errors by case

should be included in the metadata under the 'Logical Consistency Report' and 'Completeness Report' sections.

4. CAD Format Deliverables:

a. CAD drawings may be accepted as GIS deliverables, if COR approves.
b. All files must be accurately georeferenced and adhere to the requirements regarding the coordinate system, metadata, and the specified data Quality Control requirements.
c. The government shall specify whether files are to adhere to either the SDSFIE or A/E/C CAD standard.

5. Coordinate System:

All geospatial data, unless specified otherwise, shall be in the Geographic Coordinate System: GCS_WGS_1984, Datum: D_WGS_1984.

6. Metadata:

a. **Feature Level Metadata:** Feature-level (record level) attribute metadata is required to be populated for each GIS feature/record, per the current SDSFIE version.

Attributes for version 3.03 are listed in **APPENDIX C**

b. **Layer Level Metadata:** Layer level metadata is required for all deliverables, structured according to the FGDC Content Standard for Digital Geospatial Data (CSDGM). Details on the standard can be found at http://www.fgdc.gov/metadata/geospatial-metadata-standards.

7. Quality Control (QC):

The Recipient shall take all appropriate and needed QC measures to ensure data is complete, topologically correct, accurate, structured correctly, and formatted correctly per the scope of work and complete (to include):

a. **All data shall be visually inspected before submittal to the government.**
b. The numbers of records for all joined tables shall match, or the specific unmatched records shall be identified and explained to the satisfaction of the government.
c. All required attributes (per SDSFIE version 3.03 shall be populated.
d. All domain constraints shall be adhered to, unless approved by the government, prior to submittal.
e. No erroneous overshoots, undershoots, dangles or intersections in the line work.

ATTACHMENT D (Continue) NAVFAC Standards for GIS

f. All area type features shall be closed polygons.

g. Line features shall be snapped together where appropriate to support networks. For example, do not break linear features for labeling or other aesthetic purposes.
h. Lines shall be continuous and point features shall be digitized as points. For example, point features, such as manholes, shall not be drawn using only a circle (polygon) to represent its location.
i. No sliver polygons
j. Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer
k. Geometric network connectivity shall be maintained for utility networks, where specified by the scope of work.

8. Field Collection

a. Where field data collection is required, the Recipient shall utilize conventional and other methods, such as a total station, or Global Positioning System (GPS) in accordance with the applicable Geospatial Positioning Accuracy Standards published by the Federal Geographic Data Committee (FGDC).
b. At a minimum, the Recipient shall provide resource grade GPS collection at an accuracy level of +/- < 1m and shall use differential correction to target accuracies of +/- .5 m.
c. Where appropriate (as stipulated in the contract or as otherwise determined by the Government), the Recipient shall use survey grade GPS, at an accuracy level of +/- 2 cm. Global Positioning System (GPS) data collection activities will be based on a post-processed environment using an accurately sighted base station. Base station files for post processing acquired locally (off-site CORS Continuous Operating Reference Station) will be verified for accuracy.
d. GPS data on the location of utility lines and other features shall be captured at a minimum every 50ft and at each turn or bend in the line and processed as a line feature type. GPS data on the location of utility points and other features shall be captured at the centroid of the feature unless signal obstruction or access prohibits; otherwise points will be captured at a uniform distance and direction from the centroid and the offset captured in the metadata for that feature. Data on polygon features shall be collected at every vertex of the feature and processed as a polygon.
e. All survey-grade data collected shall be provided to the Government in a digital format with an attached Survey Report identifying survey method,

f. equipment list, calibration documentation, survey layout, description of control

points, control diagrams, quality control report and field survey data.

g. A digital Survey Control Database (consisting of a survey marker database and a survey traverse database) will be produced for all survey control points established under this contract, including the horizontal and vertical order and coordinate location of each point.
h. Digitizing/Conversion: Where Digitizing/Conversion is stipulated in the contract, the Recipient shall digitize/convert features from designated sources (including remotely sensed data, hardcopy scans and vector data) to support various GIS applications. Digitizing/conversion routines will insure that 90 percent of all features will measure within 0.01 inches when reproduced at the scale of original imagery or data source

9. Photography.

a. Photography on-base must be approved in advance of visiting the base, the Recipient shall identify the personnel designated as photographers for this contract and shall identify the proposed areas/facilities to be photographed and provide installation (via COR) with any required photographic equipment information.
b. All photographs to be delivered/used in the final report must be geotagged with the UTM of the picture location

ATTACHMENT E
Specifications for GIS Layers and Attributes

The Recipient shall consult with the government points of contact to ensure data is placed into the appropriate layer.
This section lists:

- **SDSFIE Required Global Attributes:** These must be populated for each record in all layers
- **SDSFIE Required Global Metadata Attributes:** These must be populated for each record in all layers
- **Project Specific GIS Layer and Attribute Descriptions:** Specific to the scope of work, this section provides the full descriptions of each layer and available attributes. The Recipient shall consult with the government points of contact to identify which specific non-required attributes to populate.

Name: FeatureName
Description: The common name of the feature.
Data Type: String (80)
Default Value: null
Domain: NA
Key: NA

Name: FeatureDescription
Description: A narrative describing the feature.
Data Type: vChar (MAX)
Default Value: null
Domain: NA
Key: NA

1. **SDSFIE Required Global Metadata Attributes**

These attributes must be populated in each record in all layers.

Name: editor
Description: Recipient or person that edited the feature attribution or geometry from its original or previous value. Last Name of the person and first initial. For example, Jane Smith would be attributed as SmithJ.
Data Type: String (20)
Default Value: null
Domain: NA
Key: NA

Name: dateEdited

Description: Date that the feature was edited from its original or previous value.
Data Type: Date
Default Value: null
Domain: NA
Key: NA

Name: collectionSource
Description: Describes how the data was collected and verified. (Example: GPS Field Collected – Mapping Grade).
Data Type: String (75)
Default Value: null
Domain: CollectionSource
Key: NA

Name: locAccy
Description: Describes the location accuracy of the data that was collected and verified.
Data Type: String (50)
Default Value: null
Domain: NA
Key: NA

Name: metaNotes (** use only if needed)
Description: Describes other details about what was created or edited and why.
Data Type: String (255)
Default Value: null
Domain: NA
Key: NA