

Scope of Work

Location: Naval District Washington (NDW)
Title: Naval Support Activity (NSA) Bethesda
Period of Performance: 18 months after contract award
Project Manager/ Technical Point of Contact (PM/TPOC): NAVFAC Washington Adrian Dascalu (202) 433-2495
Contracting Officer: NSA Bethesda Karrie Reckley (301) 295-3713
Activity Point of Contact(s) (APOCs):

Introduction:

The contract of Natural and Cultural Resources Services will be a task order on a fixed price pre-negotiated contract between the Cooperator and the Government to help increase compliance with Federal Regulations. The Cooperator shall comply with all federal laws, such as but not limited to, the Clean Water Act (CWA), Coastal Zone Management Act (CZMA), Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), National Historic Preservation Act (NHPA) of 1966, as amended, Archeological Resources Protection Act (RPRA) of 1979, Archeological and Historic Preservation Act of 1974, National Environmental Policy act of 1969, Antiques Act, Historic Sites, Buildings, Objects and Antiquities Act of 1935, DOD Instruction 400.35, OPNAVINST 5090.1D, Executive Order 11593, 36 CFR 60, 36 CFR 61, 36 CFT 63, 36 CFR 229, 36 CFR 800, 43 CFR 7, United States Navy 3.01 Data Model, SDSFIE, NAVFAC Washington GIS Data Release form, the Sikes Act, as amended and others that are applicable to NAVFAC Washington installations. Specific tasks are listed below.

A PRE-BID MEETING IS REQUIRED TO ACCESS AND EXISTING SITE CONDITIONS.

Specific Tasks:

Naval Support Activity (NSA) Bethesda Stream Restoration

Stoney Creek is approximately 4,700 feet in length and flows in a northeasterly direction from the intersection of Jones Bridge Road and Wisconsin Avenue, to the property boundary where it crosses beneath the Capital Beltway. Mature trees are present as part of the landscaped buffers between the campus facilities and the Creek. These trees species are considered valuable in the urban canopy, including sycamore, white oak, red oak, tulip poplar, red maple, silver maple, and hemlock as well as horticultural specimen trees such as Colorado spruce and Japanese maple. Vegetated areas buffer Stoney Creek. From an environmental perspective, the Creek and its surroundings are considered a highly valuable resource.

As a result of increased impervious surface on the installation, Stoney Creek has experienced storm water flows of increased volume and intensity from drainage outfalls that discharge

directly in to the creek. These storm water flows have contributed to the observed erosion and widening of the natural creek bed, erosion and undermining of adjacent embankment slopes, damage to several earlier repair or stabilization efforts of the stream channel, and encroachment upon the soils underlying the foundations of pedestrian bridges that currently cross the creek.

Task 1 – Review and Approval of Specifications/Designs/Drawings and Permitting

The Government will provide the Cooperator with designs, drawings, and schematics of previous stream restoration designs (attachment 1). The Cooperator review this documentation and update the drawings to reflect current site conditions. As part of the update, the Cooperator will be required to add armoring to any Washington Suburban Sanitary Commission (WSSC) sanitary sewer that falls within the project LOD. Any modifications to WSSC lines must be reviewed by the Government and WSSC, and approved by WSSC prior to finalizing the drawings for submittal to the Government. The Cooperator is responsible for paying any review fees to WSSC. This step shall be completed prior to Government acceptance of a design and submittal to permitting authorities.

The final specifications will be submitted to the government for approval prior to submitting the designs to United States Army Corp of Engineers (USACE) and Maryland Department of the Environment (MDE).

The Cooperator shall submit the designs to USACE and MDE for permits. The Cooperator shall respond to all Requests for Information (RFIs) during the permit process; responses will be approved by the Navy Technical Representative before being sent. The Cooperator shall be required to obtain all of the necessary permits related to this project; all permit consultations shall be coordinated through the Navy. The Cooperator or its sub-cooperator shall not hold meetings or discussions with Federal or State agencies on behalf of the Navy without consent of the NTR.

Task 2 - Construction

The task will perform the stream restoration construction as permitted and designed in the approved USACE/MDE designs.

- A. Cooperator Project Manager shall set up a kickoff meeting within 3 weeks after receiving the notice to proceed.
- B. Cooperator shall confirm existing site conditions prior to bid.
- C. Cooperator shall present a proposed schedule of critical project milestones, including a site visit schedule, and proposed working dates for discussion at the kickoff meeting.
- D. Cooperator Project Manager and any personnel conducting the tasks identified in this contract must attend the meeting so that they may be introduced to the personnel in charge of any restricted areas.
- E. Cooperator shall provide meeting minutes within 5 business days of the meeting to the government's Project Manager.

- F. Cooperator's Project Manager shall make themselves available for monthly in-person meetings during the construction.
- G. Cooperator Project Manager and/or Project Superintendent must be on-site during all working days.
- H. Plantings will have a 95% survivability rate.
- I. All grounds within and adjacent to the work area shall be maintained in clean and sanitary conditions. Trash shall be disposed of in a satisfactory manner and operations shall be conducted so as to not pollute any waterway.

Submittals:

Task Report

Each task shall include an individual completed draft and final task report. The report will include information obtained through investigations and analyses conducted by the Cooperator. Maps identifying the location of any discovered sites will be included within the reports and may be used along with tables, figures, illustrations and photographs throughout the reports to more efficiently display site related information. All text, maps and illustrations must be of high quality and easily reproducible on standard or color copiers. Measurements and/or quantities identified within the reports prepared under this contract shall be displayed in English and metric units. The Cooperator shall produce draft and final GIS layers. Both shall be submitted on CD-ROM. Draft and final task report submittals shall include two hard copies and two CDs.

Herbicide/Pesticide Reporting

The Cooperator is responsible for entering the appropriate herbicide/pesticide data into the NAVFAC online pesticide reporting system (NOPRS) for each invasive species treatment task within 30 days of treatment.

The Cooperator shall provide a pesticide usage report to the respective Installation Pest Management Coordinator, or coordinator identified in the task order/delivery order (TO/DO), during the period that pesticides are being applied. This report shall consist of daily pesticide application reports and the cost will be considered part of control project TO/DO (NAVFAC Form 6250/3 Pest Management Data System, Outdoor Operations) and/or The Cooperator shall use the NAVFAC PMC approved/provided on-line reporting system to provide an electronic copy of the data. The website for the system is; <https://noprs.pestlogics.com/>. The regional NAVFAC Applied Biology Center should be contacted to obtain a password and instructions to use the system. The report shall include individual daily records of all pesticide or herbicide use.

As-built Drawings

The Cooperator shall provide a draft and final schematic as-built drawings to convey appropriate sizing, placement, and materials.

The draft plan is to be completed within one month of project completion and allowed two weeks for government review and comments. The final plan is to be completed within two months of the contract completion.

Safety Plans

Installation approved safety plans are required for this task order. The safety plans should address safety hazards associated with construction risks and risks associated with performing field surveys. Safety plans will adhere to EM-385 standards. Safety Plans shall be reviewed and approved by the respective installation Safety Officer prior to beginning work (the approval process will take two weeks from the date of submittal). The Safety Plans shall be completed in accordance with UFGS 01 35 26.05 20 and EM-385-1-1, Safety and Health Requirements Manual.

Permit Applications

The Cooperator shall prepare the permit application and submit to the NTR for review. Upon acceptance of the permit package by the NTR, the Cooperator shall submit the permit package to USACE/MDE. If required, the Cooperator will pay any permit application fees to appropriate regulatory entity. The Cooperator will prepare responses to all permit related RFIs, submit them to the NTR for approval, and upon approval submit them the USACE/MDE. All coordination with regulatory agencies must be approved by the NTR prior to any submissions.

Progress Reports

The Cooperator shall prepare and submit monthly progress reports via email to the Government PM. Monthly progress reports shall address: (1) tasks completed during the reporting period, (2) any problems encountered during the reporting period, and (3) tasks to be completed in the next reporting period. In addition, the monthly progress report shall include the percentage of work completed to date, contract number, report date and period, project name, and client name.

Document Requirements:

- A. Document Standards – The Cooperator shall conduct reviews as needed to ensure that all deliverables are of high technical quality, meet Federal government and Navy standards for formatting, and are free of grammatical/spelling errors. All deliverables shall adhere to Navy instructions.
- B. Draft Reports – Draft reports are considered “drafts” only in the sense that they have not been reviewed and approved by the Government.
 - i. In all respects, draft reports shall be complete, free of grammatical/typographical errors, and coherently written.
 - ii. Printed on both sides of at least 25% post-consumer recycled paper with maximum spacing of 1.5 lines.
 - iii. Documents shall display numbered lines

- iv. Logos properly displayed
 - v. Table of Contents
 - vi. References, including copies of applicable standards and regulations
 - vii. Glossary and acronym/abbreviation definitions
 - viii. Sections of the report shall be properly tabbed and organized
 - ix. Text on drawings and figures shall be legible
 - x. The draft report should be in both hard copy and CD copy in the original format (ie. Microsoft Word, Microsoft Excel, etc) in addition to PDF format.
 - xi. Diagrams and drawings should be in the original, executable format (ie. AutoCAD, GIS) in addition to PDF format.
 - xii. Include all official Government correspondence to date, including but not limited to: scope of work, meeting minutes, memorandums, and contract documents.
 - xiii. Bound in a single, durable, hard cover notebook
 - xiv. State and explain all assumptions.
- C. Final reports – The reports should incorporate all items listed under “Draft reports” and include Government comments with Cooperator responses.
- D. Submittal Distribution List – Deliverables shall have separate deliveries to the Government PM and Activity POC.
- E. GIS Deliverables – The Cooperator shall develop GIS compatible layers for all data collected in association with the requirements for this project. The Cooperator shall submit the GIS data in accordance with the Naval District Washington Standards for Geographic Information System (GIS) Deliverables (Appendix A). Additionally, the Cooperator shall coordinate with the installation GIS POC to ensure all data will be compatible with the NAVFAC GIS database.

Documents Required by Cooperator:

- A. All documents referenced in this SOW or other requested documents will be provided as needed to the Cooperator for purposes of completing proposal, initiating work, or for other reasons found necessary by the NAVFAC Washington PM.

General Requirements:

- A. The Cooperator shall coordinate installation access and security passes with the PM and APOC.
- B. The Cooperator shall manage the total work effort and assure full and timely completion of services required under this SOW. Included in this function shall be a full range of management duties including, but not limited to, planning, scheduling, inventory, analysis, and quality control.
- C. The Cooperator shall prepare and submit all required permits to the Contracting Officer via the PM prior to the initiation of any fieldwork that requires permitting.

- D. The Cooperator shall comply with all applicable laws and regulations pertaining to the provision of safe workplace and to provide a work environment free of harassment and intimidation for such party's own employees and third parties.
- E. If applicable, the Cooperator shall conduct literature review, field investigations and interviews with experts and authorities as necessary to accomplish the work described within this Scope of Work. The Cooperator shall, in particular, attempt to contact and utilize information from the local U.S. Navy offices and other professionals who are experienced in technical requirements under this Scope of Work.
- F. The Cooperator shall comply with all applicable federal and state laws, such as, but not limited to, the Sikes Act, CWA, CZMA, ESA, the MBTA and State Historic Preservation Office (SHPO).
- G. The Cooperator shall ensure that the data obtained under the Agreement be scientifically defensible and suitable for publication. Methods of data collection and/or analyses shall be provided in the Cooperator's required submittals. The US Navy, at its discretion, may subject draft reports or draft manuscripts to external peer review.
- H. The Cooperator shall inform, in writing (via email), the Contracting Officer (via the PM) intent to publish or present any data or findings resulting from activities/research completed under this Agreement. In addition to approval from the Contracting Officer and PM, permission from the installation Public Affairs Office must also be obtained prior to such publication or presentation.
- I. The Cooperator shall inform, in writing (via e-mail), the PM and APOC of any unusual activity observed while conducting surveys in the field (e.g. trespassers or person in unauthorized areas). Information should include location, date, time and detailed facts regarding the activity. In addition, information regarding trespassers should be reported to the Installation Security Office as soon as possible via the PM and APOC.
- J. The Cooperator shall allow, throughout the term of the Agreement, the PM and APOC the opportunity to periodically observe the Cooperator'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 Contracting Officer in establishing the Cooperator's performance in fulfilling the requirements of the Agreement.
- K. The Contracting Officer, via the PM, may request updated data (presented on maps, figures and/or tables). The Cooperator 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 Cooperator shall forward electronically the most updated raw data to the Contracting officer, via the PM. The US Navy understands that facilitating the requested most updated data may reduce the amount of work that would normally be

accomplished during the period of time required to complete the request. The Cooperator shall document the amount of efforts and its translated cost estimate that would have been incurred by the Cooperator to complete the request for updated data. This document shall be electronically forwarded to the Contracting Officer (via PM) to review so that the US Navy will have a good grasp on the amount of work displaced that would have normally been accomplished during the period of time required to complete the request.

- L. The Government will not be responsible for the loss of or damage to property of the Cooperator, or for personal injuries to the Cooperator arising from or incident to the use of Government facilities or equipment.
- M. The Cooperator shall indemnify and save harmless the Government, its officers, agents, servants and employees from all liability under the Federal Tort Claims Act (28 U.S.C. Sec 2671 et seq.) or otherwise, for death or injury to all persons, or loss or damage to the property of all persons resulting from the use of the premises by the Cooperator. This covenant shall survive the termination of the Agreement.
- N. In the event of damage, including damage by contamination, to any Government property by the Cooperator, its officers, agents, servants, employees, or invitees, the Cooperator, 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. The Cooperator will be required to obtain insurance. All insurance required by the Agreement shall be in such form, for such periods of time, and with such insurers as the Contracting Officer may require or approve. A certificate of insurance or a certified copy of each policy of insurance taken out hereunder shall be provided to the Contracting Officer's local representative prior to use of the premises and facilities. The Cooperator agrees that not less than thirty (30) days prior to the expiration of any insurance required by the Agreement, it will deliver to the Contracting Officer's local representative a certificate of insurance or a certified copy of each renewal policy to cover the same risks. Cooperator shall furnish the insurance specified as follows and each policy of insurance covering bodily injuries and third party property damage shall contain an endorsement reading substantially as follows:
 - i. 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.
 - ii. NAVFAC Washington shall be given thirty (30) days written notice prior to making any material change in or the cancellation of the policy.
 - iii. The United States of America (Dept. of the Navy) is added as an additional insured in operations of the policy holder at or from premises designated under the Agreement and owned by the United States.

- iv. This insurance certificate is for use of facilities under the Agreement.
- v. Loss, if any, under this policy shall be adjusted with the Cooperator and the proceeds, at the direction of the Government, shall be payable to the Cooperator, and proceeds not paid to the Cooperator shall be payable to the Treasurer of the United States of America.
- P. The Cooperator shall coordinate the work to be accomplished with the PM in the specified work area. In addition, the Cooperator ensures all staff or personnel working under the Agreement shall not violate ARPA, NHPA or the ESA while completing work required under the Agreement.
- Q. The Cooperator shall comply with all security rules, regulations, requirements, and day-to-day operational changes thereto. Unannounced changes to day-to-day operational procedures may, at times, prohibit the Cooperator access to the project area. The primary use of the Installation is for its military mission. Without prior notice, designated areas may become closed to the activities of the Cooperator. In some cases, due to operations or other circumstances, it may be necessary to deny the Cooperator access to the Installation for short periods of time. In such cases, the Cooperator will reschedule this work to the maximum extent possible. Should the U.S Navy require the Cooperator to leave the Installation, for a period greater than thirty (30) days (such as in the case of a national emergency), the Agreement may be terminated by either party unless an alternative agreement is reached between the Cooperator and the U.S Navy through a formal amendment of the Agreement. If the Agreement is terminated, the Cooperator shall not bill for work not completed subsequent to the termination date of the Agreement.
- R. Photography is restricted on the Installation. The Cooperator is required to obtain permission from the U.S Navy prior to taking any photographs on the Installation. Only photographs of Agreement related activities will be permitted. Coordination to obtain a camera permit shall be conducted through the PM.
- S. Access. All Cooperators and Sub-cooperators shall submit a DBIDS Access Request form to the TPOC and APOC for long term project access. At the same time, all Cooperators shall submit the SECNAV 5512/1 (DEPARTMENT OF THE NAVY LOCAL POPULATION ID CARD/BASE ACCESS PASS REGISTRATION) vetting form for all employees to the designated installation security POC for processing via the TPOC/APOC prior to being authorized for installation access. All Cooperator and Sub-cooperator employees approved for access shall be issued a DBIDS photo badge at the Main Installation Pass and ID Office. The DBIDS photo badge shall provide 24-hour access, Monday through Sunday for the length of the contract. Each employee shall wear their badge over the front of the outer clothing. When an employee is no longer employed by the Cooperator or Sub-cooperator, the employee's badge shall be returned to the

Installation the same day. Failure to return the badge as required may be deemed a violation of the contract leading to immediate termination. Employee identification shall not be substituted for the station required badge. Alternatively, a temporary expected visitor pass may be issued to grant access if the Cooperator and/or Sub-cooperator shall be on site for less than 60 days. If necessary, the temporary pass may be renewed/extended as specified by installation policy.

- T. In order for personnel to access U.S Government property in an automobile, a valid driver's license, vehicle registration and proof of insurance are required. Copies of these documents shall be provided to the installation Security Office. All employees assigned to this job must be US citizens.
- U. In addition to any regulatory required permits, the Cooperator shall coordinate with the APOC and PM to obtain any installation specific permits (i.e. Dig Permits, Laydown Requests, Access for Work/Base Outage Requests and Comprehensive Work Approval Permit (CWAP)) required prior to the initiation of any field work. Please be aware that these requests may take up to 14 days for approval and will be coordinated by the PM. The Cooperator must adhere to any installation specific requirements regarding the work approval process, to include be present at all applicable installation-specific required permits/approval process meetings
- V. The Cooperator shall utilize a qualified private utility locating service company to locate all underground utilities in the work area. Any markings made during the utility investigation must be maintained throughout the duration of the field work. The Cooperator must physically verify underground utility locations by hand digging using wood or fiberglass handled tools when any adjacent exploration, excavation or construction work is expected to come within three (3) feet of the utility. The PM will provide current GIS data for utilities, however, these are not guaranteed and additional survey work required as described above.
- W. Any contact/discussion in regards to this project with regulatory agencies shall be initiated/conducted by the PM.

Security Requirements:

No classified information shall be presented in any document prepared under this Task Agreement. The Cooperator shall not release any information regarding the project, particularly the results developed under this Task Agreement, to any Federal, State or local (public or private) agencies or organizations without permission of the Government.

EMS Training - The Cooperator PM is responsible for environmental compliance on projects unless an Environmental Manager is named. The Cooperator PM or Environmental Manager shall complete the Environmental Training specific for the installation working on prior to starting respective portions of on-site work under this contract. In addition, the Cooperator shall ensure that their employees are aware of the roles and responsibilities identified by that

Installation's Environmental Management System and how these requirements affect their work performed under this contract through their General EMS Training. If personnel changes occur for any of these positions after starting work, replacement personnel shall complete the required training within 14 days of assignment to the project.

Submit a certificate of completion for personnel who have completed the installation specific required environmental training. This training maybe web-based and can be accessed from any computer with Internet access using the following instructions. Register for NAVFAC Environmental Compliance Assessment Training and Tracking System, by logging on to <https://environmentaltraining.ecatts.com/>. Obtain the password for registration from the Contracting Officer.

This training has been structured to allow Cooperator personnel to receive credit under this contract and also to carry forward credit to future contracts. Cooperators shall ensure that the Cooperator PM or Environmental Manager reviews their training plans for new modules or updated training requirements prior to beginning work. Some training modules are tailored for specific State regulatory requirements; therefore, Cooperators working in multiple states will be required to re-take modules tailored to the state where the contract work is being performed.

ECATTS is available for use by all Cooperator and sub-cooperator personnel associated with this project. These other personnel are encouraged (but not required) to take the training and may do so at their discretion.

Schedule:

Task 1	
Milestone	Date Due
Kick-Off Meeting	Award + 1 Month
APP	Award + 2 Months
Permitting	Award + 8 Months
Construction	Award + 16 Months
As-builts, Draft	Award + 17 Months
As-builts, Final	Award + 18 Months

The Period of Performance completion date will be 18 months from contract award date.

APPENDIX A:
NAVFAC Washington - Procedures and Specifications for Geographic Information System (GIS) Deliverables:

1. Overview:

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

2. Basic Requirements:

- a. Submittals, Government Review and Acceptance:
 - i. All submittals shall be reviewed for structure and adherence to the required standards by an NDW GeoReadiness Program GIS Analyst before acceptance.
 - 1. Review for accuracy and completeness according to the scope of work is the responsibility of the Project Manager or other designated subject matter expert personnel. NDW GeoReadiness, as part of the NAVFAC Asset Management Business Line, is not responsible for the accuracy and completeness of data acquired by other NAVFAC Business Lines, Navy organizations and commands.
 - ii. The government shall have two weeks to assess the submittal; the Cooperator shall then have two weeks to make any corrections and submit the final deliverable.
 - iii. All source code (ex. Python scripts, html files) and map files (ESRI ArcGIS (mxd)) 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.
 - v. Cooperators should, at a minimum, submit data and documentation samples at 25% and 75% project completion to avoid the rejection of final deliverables.
- b. Data Retention: All data (electronic and paper formats) must be removed from the Cooperator's site and returned to the government at the end of the task order period of performance and before the final invoice is approved.
- c. 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. A copy of the current data model implementation

(specific GIS layers and any required associated tables) shall be provided to the Cooperator.

- ii. If new data is being created and the corresponding data structure does NOT yet exist, the Cooperator 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.

d. Government Source Data:

- i. The Cooperator shall be provided a copy of any GIS data required for the project from the government repository in an ESRI format.
- ii. All data shall be returned in this format and structure unless the government specifies otherwise.
- iii. A completed NAVFAC Washington GIS Data Release form is required prior to data being released to the Cooperator.
- iv. NDW GIS data shall only be released by, or with the written concurrence of NDW GeoReadiness personnel.

e. Attribute Population:

- i. The Cooperator shall consult with the government GIS POC before populating attribute tables to ensure the results match the current NFWASH interpretation of the SDSFIE.
- ii. The Cooperator shall identify the classification, type, location, ID number, and any other necessary attributes (specified by the Government) for all new/updated/edited features.

- f. GIS Data Format: NAVFAC's GIS data is ERSI Geodatabase format, version 10.3.1 as of October 2016. Unless specified otherwise by NDW GeoReadiness, all ESRI format data submittals must also be in a version compatible with 10.3.1. Submittal format shall be determined by the government project manager and the Cooperator project manager.

3. CAD Format Deliverables:

- a. CAD drawings may be accepted as GIS deliverables, but only when specified as such in the scope of work.
- b. All files must be accurately georeferenced and adhere to the requirements regarding the coordinate system, metadata, and the specified data Quality Control and Quality Assurance requirements.
- c. The government shall specify whether files are to adhere to either the SDSFIE or A/E/C CAD standard.

4. Coordinate System and Projection:

All geospatial data, unless specified otherwise, shall be in the delivered in:

- NAD_1983_StatePlane_Maryland_FIPS_1900_Feet
- Projection: Lambert_Conformal_Conic

5. 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 3.01 are:

i. Name: editor

1. **Description:** Cooperator 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.
2. **Data Type:** String (20)

ii. Name: dateEdited

1. **Description:** Date that the feature was edited from its original or previous value.
2. **Data Type:** Date

iii. Name: collectionSource

1. **Description:** Describes how the data was collected and verified. (Example: GPS Field Collected – Mapping Grade).
2. **Data Type:** String (75)
3. **Domain:** CollectionSource

iv. Name: locAccy

1. **Description:** Describes the location accuracy of the data that was collected and verified.
2. **Data Type:** String (50)

v. Name: metaNotes (** use only if needed)

1. **Description:** Describes other details about what was created or edited and why.
2. **Data Type:** String (255)

- 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>.

These elements are to be populated within the Description tab in ArcCatalog:
Under Overview -> Item Description section

- i. **Title:** Current SDS version layer name
- ii. **Credits:** Contract #, Task Order Title, Company Name

- iii. **Description (Abstract):** SDS 3.0 layer definition
- iv. **Summary (Purpose):** Describe briefly in simple terms, methods used to acquire the data and populate the GIS layer.
 - 1. Example: *“This data was received in various formats which included ESRI Shapefile, ESRI Coverage, and AutoCAD format. The data was converted to ESRI Personal Geodatabase format for the analysis, translation, and QA processes, and copied into an ESRI Enterprise Geodatabase (Oracle) as the final step.*
 - 2. Example: *“Wetlands Delineation collected via GPS, imported to an ESRI File GeoDatabase where additional attributes were populated”*
- v. **Use Limitation:** *“For Official Use Only”*

Under Overview -> Topics Keywords section

- vi. **Content Type:** Change to Map Files
- vii. **Theme Keywords:** Common feature name, current version SDS Layer name and Data Set name.
- viii. **Place Keywords:** Region, NAVFAC Washington, all applicable site names. *Example; Naval District Washington, NAVFAC Washington, Indian Head, Stump Neck*

Under Overview -> Citation section

- ix. **Dates Published:** Final deliverable date, after gov’t QA & Acceptance

Under Resources -> References

- x. **Aggregate Information:** Populate if applicable for derived data; information about omissions, selection criteria, generalization, definitions used, and other rules used to derive the data set.

6. Quality Control and Quality Assurance:

The Cooperator shall take all appropriate and needed QA/QC measures to ensure that 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 by the Cooperator before submittal to the government.****
- b. The Cooperator shall add an attribute text field named “QA” to all GIS layer deliverables, and populate each with “Add”, “Modify”, or “Delete” as appropriate. This is necessary for the government to accurately and quickly evaluate the work.
- c. 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.
- d. All required attributes (per SDSFIE version 3.01) shall be populated.
- e. All domain constraints shall be adhered to, unless approved by the government, prior to submittal.
- f. No erroneous overshoots, undershoots, dangles or intersections in the line work.
- g. All area type features shall be closed polygons.

- h. Line features shall be snapped together where appropriate to support networks. For example, do not break linear features for labeling or other aesthetic purposes.
- i. 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.
- j. No sliver polygons
- k. Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer
- l. Geometric network connectivity shall be maintained for utility networks, where specified by the scope of work.

7. Field Collection

- a. Where field data collection is stipulated in the contract, the Cooperator 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 Cooperator shall provide, resource grade GPS collection at an accuracy level of $\pm < 1\text{m}$ and shall use differential correction to target accuracies of $\pm .5\text{ m}$.
- c. Where appropriate (as stipulated in the contract or as otherwise determined by the Government), the Cooperator shall use survey grade GPS, at an accuracy level of $\pm 2\text{ cm}$. 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, equipment list, calibration documentation, survey layout, description of control points, control diagrams, quality control report and field survey data.
- f. 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.
- g. Digitizing/Conversion: Where Digitizing/Conversion is stipulated in the contract, the Cooperator 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.

8. Specifications for GIS Layers and Attributes

The Cooperator 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 Cooperator shall consult with the government points of contact to identify which specific non-required attributes to populate.

1. SDSFIE Required Global Attributes

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

Name: sdsID

Description: A unique identifier for all features and objects in the SDSFIE. The sdsID field enables an organization to identify records that represent the same feature.

Data Type: GUID

Default Value: null

Domain: NA

Key: NA

Name: sdsFeatureName

Description: The common name of the feature.

Data Type: String (80)

Default Value: null

Domain: NA

Key: NA

Name: sdsFeatureDescription

Description: A narrative describing the feature.

Data Type: vChar (MAX)

Default Value: null

Domain: NA

Key: NA

Name: InstallationID

Description: Used to link the record to the applicable Installation record.

Data Type: String (20)

Default Value: null

Domain: NA

Key: Foreign

2. SDSFIE Required Global Metadata Attributes

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

Name: editor

Description: Cooperator 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

3. Project Specific GIS Layer and Attribute Descriptions:

- i. The government GIS POC and the Cooperator shall meet to identify the specific GIS layers and attributes to be populated.

Title: NSA Bethesda Stream Restoration
Contract Number: N40080192XXXX

Date: 28 March, 2019

Attachment 1 Drawings

Title: NSA Bethesda Stream Restoration
Contract Number: N40080192XXXX

Date: 28 March, 2019

Nothing Follows