

**FOREST AND TIMBER RESOURCE INVENTORY  
U.S. ARMY CORPS OF ENGINEERS  
UNION VILLAGE DAM  
THETFORD VERMONT  
Performance Work Statement  
January 2018**

**A. General**

1. **Scope** – Furnish all labor, materials and equipment to inventory approximately 1000 acres at Union Village Dam. Maps and reports shall be submitted for all inventory work and analysis.
2. **Location** – Project area is located at 2 Main Street, East Thetford, Vermont.
3. **Site Visit** – Contact the Technical Point of Contact, Heather Morse, at the North Hartland Lake office at 802-295-2855 or [heather.l.morse@usace.army.mil](mailto:heather.l.morse@usace.army.mil) to arrange a site visit.
4. **Schedule** – The work shall be completed no later than 8 months after contract award. Work shall be performed Monday through Friday 7:00 AM to 3:30 PM unless otherwise approved by the Technical Point of Contact. No work shall be done on weekends or Government holidays. The contractor shall provide a minimum of seven days notice prior to the start of work. The anticipated schedule is as follows:

a. Field Work	90 days after Contract Award
b. Comprehensive Report [DRAFT] Completed	60 days after Field Work
c. Government Review of Draft Report Completed	15 days after Comprehensive draft report
d. Comprehensive Report [FINAL] Completed	30 days after Government review
5. **Safety – Safety Requirements-** All work shall be conducted in accordance with the U.S. Army Corps of Engineers Safety and Health requirements Manual (EM 385-1-1, most recent edition), and all applicable federal, state, and local safety and health requirements. A copy of EM 385-1-1 can be accessed electronically at Headquarters USACE website under publications using the following link:

[http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM\\_385-1-1.pdf](http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1.pdf)

5.1 Modified Activity Hazard Analysis:

A Modified AHA shall be submitted and must cover all the major phases of work. A major phase of work is defined as an operation involving a type of work presenting hazards not experienced in previous operations or where a new subcontractor or work crew is to perform the work. The analysis shall define all activities to be performed, identify the sequence of work, the specific hazards anticipated, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level. Work shall not proceed on a phase of work until the AHAs have been accepted by the GDA. A preparatory meeting shall be conducted by the prime contractor to discuss the Modified AHA's contents with all effected onsite employees. The Modified AHA shall be continuously reviewed and revised to address changing site conditions as appropriate. The AHA's shall interface with the Contractor's overall safety and health program.

Emergency Reponses Procedures shall be documented in the Modified AHA and will include a map with directions to the nearest hospital, emergency contact numbers, and onsite First Aid/CPR responders.



Modified AHA  
2016.pdf



AHATemplate-Fillable  
.pdf

## 5.2 Required Personnel:

The Contractor shall designate one employee as the site's Competent Person (CP) who is responsible for ensuring a safe environment for all employees. The CP shall be present at the project site and report to the contractor's upper management. The CP is required to have related construction and/or service experience.

In addition, when emergency medical services are not accessible within 5 minutes of the work location and there are 2 or more workers onsite, at least 2 employees shall be trained in First Aid and CPR. Minimum qualifications are listed in EM 385-1-1, Section 03.A.02.c.

## 5.3 Accident Reporting:

All accidents and near misses shall be investigated by the Contractor. All work-related recordable injuries, illnesses and property damage accidents (excluding on-the-road vehicle accidents), in which the property damage exceeds \$5,000.00, shall be verbally reported to the GDA within 4 hours of the incident. Serious accidents as described in EM 385-1-1 Section 01.D shall be immediately reported to the GDA. ENG Form 3394 shall be completed and submitted to the GDA within five working days of the incident.



ENG\_FORM\_3394\_1  
999-fillable.pdf

The Contractor shall complete the attached "USACE Contractor Monthly Summary Record of Injuries/Illness and Work Hour Exposure" (for prime and its subcontractors) and forward the completed form to the GDA no later than close of business on the 5th calendar day of the following month. The method of transmission by the prime contractor to the GDA shall be electronically.



Contractor Monthly  
Record of Accidents

- 6. Pre-Work Conference** – Prior to the start of any work, the Technical Point of Contact will schedule and conduct a "Pre-work Conference". The Contractor's Project Manager and Quality Control Personnel will attend this meeting. This conference will be held at the time and location agreeable to

the government and contractor. No work may be performed under this contract prior to this conference. The purpose of the conference is to enable the Technical Point of Contact to outline the procedures that will be followed by the Government in its administration of the contract, and to discuss the performance that will be expected from the Contractor. This conference will allow the Contractor an opportunity to ask questions about the Government's administration and inspection of contract work or obtain other pertinent information that might be required. At the Pre-work conference the contractor shall provide the Technical Point of Contact the name of the project superintendent with a telephone number for project coordination.

The following is a general list of items for discussion during this Pre-work Conference:

- a. Authority of the Technical Point of Contact.
  - b. Contractor's Safety Program (including sub-contractors).
  - c. Accident Prevention Plan and Activity Hazard Analysis (Submitted & accepted prior to start of work on site)
  - d. Contractor's Equipment
  - e. Correspondence, Communication and Administrative Procedures.
  - f. Contractor Utilities.
  - g. Invoice and payment.
7. **Permits** – The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses, permits, and letters of certification. The Contractor shall comply with any applicable Federal, State, County, and Municipal laws, codes, and regulations in connection with the performance of the work specified under this contract.
8. **Security** – The contractor will comply with all established security policies at Union Village Dam. Due to periods of heightened security that may affect the access to the areas covered under this contract, the Government reserves the right to close any property or portion of property and reschedule and/or cancel any subsequent service. The Contractor shall be given at least 24 hour notice of any such closure.
9. **Contractor Conduct** – Alcohol and firearms are prohibited on project grounds. Contractor and employees must comply with CFR 36 Rules and Regulations.
10. **Payment** – After final inspection and acceptance by the Government, the Contractor must submit an invoice to the Technical Point of Contact. The invoice shall include the invoice date, contract number, dates of service, description of work, quantities, and total amount due per line item.

All invoice may be mailed to:

U.S. Army Corps of Engineers  
PO Box 55  
North Hartland, VT 05052

Or Emailed to: [heather.l.morse@usace.army.mil](mailto:heather.l.morse@usace.army.mil)

## **B. Technical Requirements:**

### **General Requirements:**

1. **Summary** – Furnish all labor, materials and equipment to perform forest and timber resource inventories at Union Village Dam in Thetford, Vermont.
2. **Clean Up and Waste Disposal** – The contractor shall keep the work area free from accumulation of waste materials. Any and all disturbed areas resulting from contractor activities shall be restored by the contractor to the satisfaction of the Technical Point of Contact.
3. **Other Contracts**- The Government may undertake or award other contracts for additional work not related to this contract, and the Contractor shall fully cooperate with other Contractors and Government employees. The contractor shall not commit or permit any act, which will interfere with the performance of work by another contractor, or by Government employees.
4. **Damage to Government and Private Property**- The Contractor shall be responsible for restoring any Government facilities or structures damaged as a result of the Contractor's actions. The Contractor shall also be responsible for any damage to private property or injury to any person as a result of the company's operations. The Contractor shall notify the Technical Point of Contact immediately of damage to Government and private property and injury to any person resulting from the Contractors' operation. Also, the Contractor shall notify the Technical Point of Contact of damage to Government facilities due to vandalism or other causes on the day such damage is first noticed. The Contractor shall also restore features (roadways, culverts, vegetation, etc.), which are damaged or destroyed by the company's operation.
5. **Environmental Protection** – Water, air and land resources shall not be adversely impacted during the course of the work. Contractor will take necessary steps to ensure all federal, state, and local environmental regulatory requirements are met.
6. **Government Resources** – The contractor is responsible for providing all materials and equipment to complete the project. The contractor may use the existing restroom facility at Union Village Dam. Unless specified in the contract, the Government will not provide any equipment, telephone services or other resources.
7. **Omissions** – This contract may not cover all specified activities, steps, and procedures required to supply the contract product. In case of omission, the normal industry, state, or federal standards, practices, specifications, and/or guides shall prevail. In no instance shall an omission be reason to produce less than an acceptable product.
8. **Receiving and Storing Materials** – The Corps of Engineers will provide a storage area and parking for contractor personnel. The contractor is responsible for protecting any stored material until it is placed in service. The contractor is responsible for receiving and unloading of delivered goods. Government employees will not receive material or supplies for the contractor and will not be responsible for damage to the contractor's equipment or materials.
9. **Required Personnel, Experience & Education**
  - a. Contractor shall have sufficient personnel to adequately perform the tasks outlined in this scope and meet the deadline.

- b. Field biologists shall have a minimum of a Bachelor of Science degree from an accredited university in Natural Resources/Biology/Ecology or related field.
- c. Contract personnel must have at least 2 years of professional experience with GIS and be capable of producing high quality professional maps.
- d. Contractor must have a minimum of 5 years of experience in conducting timber surveys and produce completed studies of a similar scope
- e. This contract requires field work in remote wooded locations, foot travel over uneven terrain, exposure to insects and possible inclement weather.

10. **Submittals** – Although the Government technically reviews submissions required by this Performance Work Statement, it is emphasized that the Contractor’s work must be prosecuted using proper internal controls and review procedures. The documents identified below must be prepared in accordance with the applicable standards, submitted for review and accepted by the Government prior to the commencement of any field activities.

- Modified Accident Prevention Plan (APP) to include Activity Hazard Analysis (AHA) – prior to the start of field work.
- Inventory Reports Electronic and Bound Hard copies – Provided at the completion of the field work and prior to the final payment. All electronic submittals will be in a manner approved by the Technical Point of Contact.
- GIS shapefiles ArcGIS 10.2 - Provided at the completion of the field work and prior to the final payment. Spatial reference requirements: NAD 1983 State Plane Vermont FIPS 4400.
- Proof of natural resource professional work
- Education requirements showing Natural Resources degree
- First aid / CPR certifications.

11. **References & Standards-** All work shall be in conformance with:

- a. Thompson, E.H. and E.R. Sorenson. 2005. Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont.
- b. Wenger, Karl, F. 1984. The Forestry Handbook.

## Service Requirements

### 1. General

- a. **Equipment** – It is the contractor’s responsibility to furnish and supply his/ her personnel with the proper personal protective equipment (PPE).
- b. **Workmanship** – The contractor shall establish and maintain a quality control system to assure compliance – with the contract requirements.

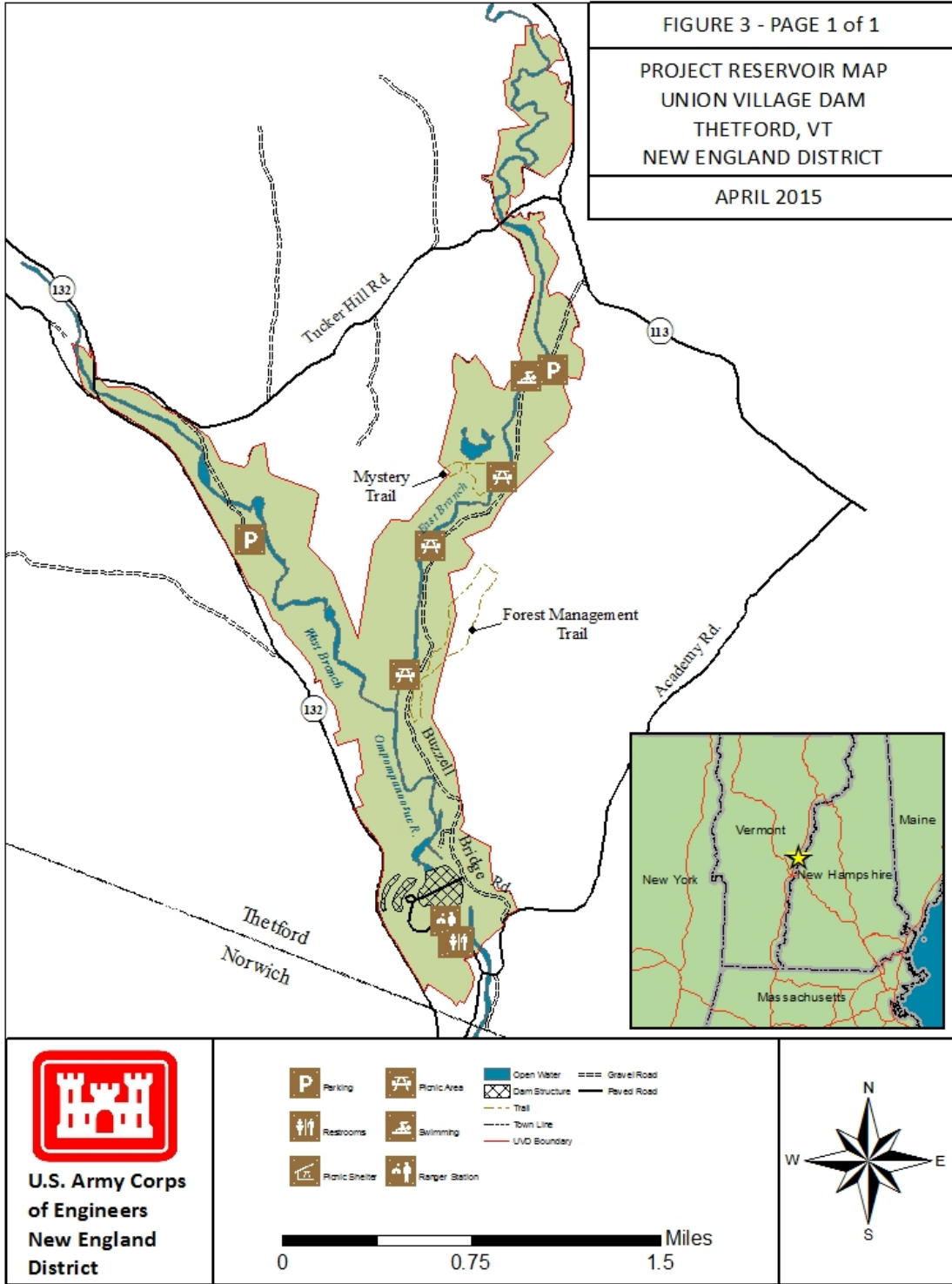
### 2. Field Inspection and Survey

- a. **Timber Resources Inventory and Planning-** Contractor shall perform a physical survey of the project. The goal is to identify and quantify the forest resources of the project. Provide a 10 year forest management plan which will closely mimic the standards set forth in Vermont’s Forestry Use Value Appraisal Standards.
  - i. A timber cruise will be performed for the property within defined operable areas to conduct a forest inventory and timber resource evaluation.

- ii. The forest inventory will be completed using variable radius point sampling. Statistical results will be within a 10% allowable error at a 95% confidence limit. Selection of sample trees will be determined using either a 15 or 20 Basal Area Factor (BAF) prism. Cruise points will be laid out on a pre-planned systematic grid. Point locations will not deviate from the per-planned sample grid location in an attempt to achieve uniform coverage.
  - iii. Data collection on sample trees will include species identification by code, diameter breast height (D.B.H.) to the nearest 1 inch class and product data assigned to each 8 foot section of the tree from the stump to the limit of merchantability.
    - 1. D.B.H. measurements will be taken using either a diameter tape or calipers to the nearest .1 inch in order to facilitate checking borderline trees. All borderline trees will be checked.
    - 2. Merchantability Standards with tree form considerations are as follows:
      - a. *Softwood Sawlogs*  
Minimum D.B.H. of 10 inches with minimum top diameter inside bark (D.I.B.) of 7.9 inches.
      - b. *Hardwood Sawlogs*  
Minimum D.B.H. of 11 inches with a minimum top D.I.B. of 9.9 inches.
      - c. *Softwood & Hardwood pulp + cordwood*  
Minimum D.B.H. of 4 inches with a minimum top D.I.B. of 3.9 inches.
  - iv. Limitations, either because of steep slopes or access, on harvesting will be noted
  - v. Invasive Species shall be identified, mapped and estimate approximate area impacted
  - vi. Include if the area is considered a deer yard
- b. **Detailed and Comprehensive Reports** – The contractor shall prepare written reports of all findings including narratives, maps, graphs, tables, and photographs for the following:
- i. Forest inventory and timber volume evaluation, forest stand number and associated acreage, site class for productivity, stand history, stand description including: age class structure, quadratic mean stand diameter, stand cover type, total basal area, acceptable growing stock basal area, unacceptable growing stock basal area, regeneration data, forest health conditions, long range silvicultural objectives including age management, scheduled and prescribed silvicultural treatments, and ten year management schedule with associated maps and tables.
  - ii. Recommendations based on findings and in conjunction with forest management objectives, management techniques shall be prescribed for game and nongame species with special attention given to rare, threatened and endangered species.
  - iii. All reports shall include:

1. Methodology
2. Definition of Key Inspection Terms
3. Narrative of findings
4. Maps in GIS depicting stands
5. Recommendations for stands founds
6. Tables summarizing data including common and scientific names

**FOREST AND TIMBER RESOURCE INVENTORY  
 U.S. ARMY CORPS OF ENGINEERS  
 UNION VILLAGE DAM  
 THETFORD VERMONT  
 Performance Work Statement  
 January 2018**





**FOREST AND TIMBER RESOURCE INVENTORY  
U.S. ARMY CORPS OF ENGINEERS  
UNION VILLAGE DAM  
THETFORD VERMONT  
Performance Work Statement  
January 2018**

Bid Schedule

ITEM NUMBER	UNIT	QTY	UNIT PRICE	TOTAL
1. Union Village Dam Forest and Timber Resource Inventory	Job	1		
			Total	