

## SPECIFICATIONS FOR TRAIL CONSTRUCTION

### 1. GENERAL

1.1. SCOPE OF WORK. The work to be performed is the complete construction of the segment of the Ozark Trail described in this solicitation. The contractor shall furnish all necessary labor, materials, equipment, tools, transportation, and supplies to complete the project in accordance with the specifications, drawings, and provisions of this contract.

All work shall be performed to the satisfaction of the Contracting Officer or the Contracting Officer's authorized representative (COR).

1.2. LOCATION AND DESCRIPTION. The work is located on Norfolk Lake project lands, U.S. Army Corps of Engineers, in Baxter County, Arkansas as shown on the attached maps.

1.2.1. Project Location. From the end of County Road no. 282, Sycamore Highlands subdivision road, constructing the trail to the Georges Cove Park entrance road; located in the West 1/2 of Section 27, Township 19 North, Range 12 West.

1.2.2. Access. This project is accessible by a two wheel drive vehicle at the beginning point and the ending point. The remaining portions of the segment are accessible by walking on Corps of Engineers land or by crossing private property. Any authorization to cross private land must be arranged with the landowner by the Contractor.

1.2.3. Identification of Project Area. The general route of the trail is depicted on drawing #1. The specific route is marked on the ground the entire length with blue surveyors flagging.

1.2.4. Start and Progress of Work. The Contractor shall, after receipt of delivery order, start work within seven (7) days and complete work in an uninterrupted manner along the route of the trail from the starting point at the end of County Road no. 282.

1.2.5. Hours of Work. Hours of work shall be from 7 A.M. to 5 P.M., Monday through Friday. Prior arrangements may be made with the COR to allow for working alternate days and times.

### 2. SPECIFICATIONS.

2.1. Trail Construction Standards. Because of the inherent nature of trails and the objective, over-constructing the trail should be avoided. The Contractor shall refrain from defacing any trees. Chain saws, weed whips, brush saws, trail building machines, or similar equipment are the only mechanized equipment permitted on the project unless specific written permission is given. To keep the trail aligned and prevent unnecessary construction, the route flagged on the ground is to be followed closely.

2.1.1. Trail Clearing.

(a) This work consists of clearing, grubbing, and removing rock and roots from the clearing limits of the trail. It includes trimming, removing, and disposing of, or treatment of, live and dead timber, construction slash, and debris from within the trail route as shown on drawing #1 and as indicated by on-site flagging. Also included is the protection from injury or defacement of trees and the treatment or removal of damaged trees.

(b) The area to be cleared within the trail corridor shall be in accordance with the dimensions shown on drawing #2.

(c) All debris, trees, logs, branches, brush, plants, rocks, roots, and other protruding obstructions within the clearing limits shall be removed and disposed of in accordance with paragraph (h) below, except the following:

1. Live, sound, and firmly rooted trees 3" diameter breast height or larger.

2. Live brush and herbaceous plants between the trailway and the clearing limits that are less than twelve (12) inches in height and less than 1/2 inch in diameter at the ground line.

(d) Except as provide above, all limbs and branches that extend into the clearing limits shall be cut flush with the tree trunks or stems or cut at the ground surface as shown in drawing #3. If a tree is limbed significantly on the cleared side, and there are opposite limbs left on the other side, these limbs shall be removed so that the form of the tree is balanced as shown on drawing #3.

(e) Felling, cutting, and trimming methods shall not cause bark damage to standing timber. If damage does occur to standing timber, repair or restoration shall be made to the satisfaction of the COR. Trees with major roots exposed by construction that are rendered unstable shall be felled and disposed of in accordance with paragraph (h) below.

(f) All stumps within the trailbed shall be removed. Stumps located between the edge of the trailbed and the edge of the trailway that cannot be cut flush within the finished slope, or are not tightly rooted, shall be removed.

(g) All rock smaller than .5 cubic foot and which protrudes above the gradeline of the trail shall be removed.

(h) All logs, limbs, lopped tops, and grubbed stumps and roots shall be scattered on the downhill side of and outside the clearing limits. Logs and large limbs shall be placed parallel to the direction of the slope. The following are exceptions:

1. Limbs, brush, and lopped tops from trees felled on the uphill side of the clearing limits shall be scattered below the trailway, except where the sideslope above the trail is less than ten (10) percent; such material may be scattered above the trail.

2. Logs may be left on the uphill side of the trailway if they are placed so that they will not move into the clearing limits and they do not change natural drainage patterns.

(i) Debris from clearing and grubbing operations shall not be placed in streams, water courses, lakes, glades, or in a location that will impede flow through or from drainage facilities.

#### 2.1.2. Tread Construction

(a) This work shall consist of the excavation and placement of all excavated material from within the trailway limits. Included shall be the excavation and embankment construction required to shape and finish the trailbed, ditches, backslopes, fill slopes, and drainage dips. General excavation and embankment methods are indicated on drawing #4.

(b) The trail tread shall be built to the dimensions and grades shown in drawing #2, trail terms & dimensions and drawing #4, typical cross sections. The trail tread shall be constructed in a manner to positively shed water and prevent channeling, ponding, and pooling at all times. Trail tread in switchbacks shall be 24 inches in width in the turn and for five (5) feet above and below the turn.

(c) The trail tread shall be approximately in the middle of the cleared area. MINOR deviation in the trail alignment and grade will be permitted to avoid or minimize disturbance of physical terrain.

(c) No excavation of solid rock shall be required. Solid rock shall be considered a piece larger than .5 cubic feet. MINOR deviation of the trail alignment shall be permitted. Rocks smaller than .5 cubic foot in size shall be placed beyond the trailbed edge on the downslope side. Placement and distribution shall ensure no blockage of drainage. Any rock along or above backslopes that becomes unstable as a result of excavation shall be removed and disposed of as specified.

(d) Organic matter including leaves, duff, surface roots, and stumps shall be removed from the tread and spread not more than four (4) inches in depth and placed so as not to obstruct drainage. Roots less than 50% exposed and over two (2) inches in diameter need not be removed from the tread.

(e) Unless otherwise shown on drawings, the trailbed shall be outsloped 3/4 of an inch to 1 1/4 inches per foot of width.

(f) All disturbed soil within the trailbed shall be re-compacted. Finished slopes shall conform reasonably to the lines shown on drawing #4 and shall be left in a roughened condition to facilitate vegetative growth.

#### 2.1.3. Trail Blazing

(a) This work shall consist of furnishing all materials and painting trail blazes as specified.

(b) Paint for blazing shall be exterior oil base standard tree marking paint in a blue color.

(c) Blazes shall be a standard 6" tall by 2" wide rectangular solid paint blaze, with square corners at the top and bottom, and placed on hardwood trees only at approximately eye level. The edges of the blaze shall be crisp, smooth lines.

(d) Placement of the blazes shall be easily visible both in a fore and aft direction, so that they are evident when traveling in either direction. Blazes shall only be placed on trees 4 inches diameter breast height or greater. No more than one blaze shall be placed on each tree.

(e) Blazes shall be spaced so that a subsequent blaze is visible when standing abreast of any one blaze.

(f) The tree bark where the blaze is to be painted shall be scraped smooth so that a clean, crisp paint edge can be applied. The bark shall not be scraped down to the tree's inner bark.

### 3. QUALITY ASSURANCE

3.1. Qualification of Bidders. Those submitting bids to do this work must be able to demonstrate an understanding of trail construction and use concepts and should possess some experience in the construction of hiking trails.

3.2. Pre-award Survey. Before award of this contract, the apparent low bidder will be required to meet with Norfolk Project personnel and furnish proof that he or she has sufficient labor, equipment, and resources to complete the services described in this solicitation.

3.3. Pre-work Conference. A pre-work conference at the Mountain Home Resident Office is required between the Contractor and Government representatives before beginning work under this contract.

3.4. Inspection of Services. The contractor shall report to the Contracting Officer's Representative when he has completed work on a maximum of .5 mile of trail. A minimum of ten (10) percent of the length of the trail segment shall be inspected by Government inspectors to insure that all work has been properly completed. The area of inspection will be chosen at random by the COR. For the purpose of the inspection, any deficiencies found in the inspected area will be assumed to exist along the entire length of the completed trail.

3.5. Deficiencies of Services. All work shall be performed as directed by the COR. If services are found to be defective or not in conformity with the specifications and requirements, the Government will have the right to reject such service and the work shall be done without additional costs to the Government. Payment for incomplete or deficient services will be withheld.

### 4. PAYMENT

4.1. Invoice Procedures. The contractor shall be paid only for work accomplished and performed in accordance with these specifications. The original plus one (1) copy of the invoice shall be submitted. Payment will be made approximately 45 days from the date the contractor

submits an invoice and work is verified and accepted.

4.2. Method of Payment. The Government will make payment for the complete clearing, construction, and blazing of the entire trail segment listed in this solicitation.

## 5. SAFETY

5.1. All contractor operations, including equipment, shall be in accordance with and comply with the Corps of Engineers Safety Manual, EM 385 -1-1, dated October 1992. Refer to the sections for Medical and First Aid, page 19, and Hand and Power Tools, page 203. All employees shall wear clothing suitable for weather and working conditions. The minimum shall be short sleeved shirt, long trousers, and protective work shoes or boots. No contractor or employees shall report for work under the influence of alcohol or drugs.