

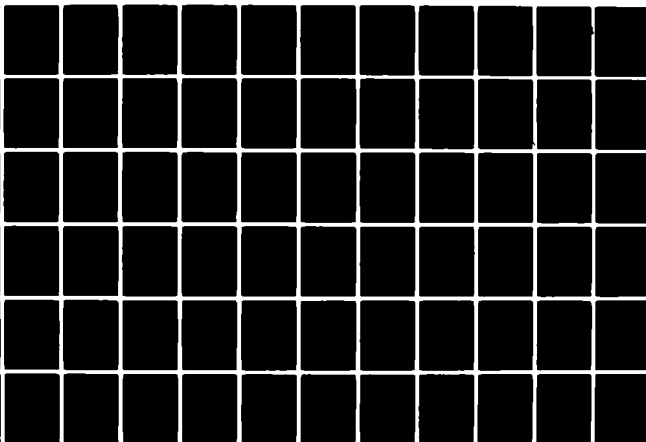
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FOREST MANAGEMENT GUIDANCE PACKAGE: HOW TO CONDUCT FOREST PRODU--ETC(U)
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Forest Management Guidance Package

How To Conduct Forest Product Sales and Handle Forest Management Service Contracts

HQ, AIR FORCE ENGINEERING & SERVICES CENTER
TYNDALL AIR FORCE BASE, FLORIDA 32403

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PREPARED BY
MAJ PAUL S. FRANK, JR.
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AIR COMMAND & STAFF COLLEGE

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PREFACE

This document is intended to assist the base civil engineer in developing sales and service contract technical provisions for use in carrying out forest management responsibilities. It was written with the sponsorship of Mr. William M. Kornman, Chief, Natural Resources Division, Headquarters, Air Force Engineering and Services Center (HQ AFESC/DEVN, Tyndall AFB, FL 32403). Assistance was also obtained from Mr. Robert W. Britt, Chief, Natural Resources Division, Headquarters, Armament Division, Air Force Systems Command (AD/DEEVN, Eglin AFB, FL 32542); Mr. Michael A. Neuzil, Command Forester, Headquarters, Strategic Air Command (HQ SAC/DEVN, Offutt AFB, NE 68113); Mr. Ernest W. Looney, Command Forester, Headquarters, Tactical Air Command (HQ TAC/DEMM, Langley AFB, VA 23665); and Mr. Richard Williams, Environmental Coordinator, 354th Civil Engineer Squadron (354 CES/DEEV, Myrtle Beach AFB, SC 29577) who contributed the examples of contracts and contract technical provisions shown in the appendices. Their encouragement is greatly appreciated and their advice was most helpful. The assistance of members of the staffs of the Alabama Forestry Commission, the Alabama Department of Conservation, and the U.S. Forest Service Office in Montgomery is also acknowledged. I especially wish to acknowledge the diligence and hard work of my wife, Marlene, who typed and edited both the draft and the final copies of this project.

The author is a graduate of West Virginia University with a Ph.D. degree in Forest Resource Sciences. He is also a member of the 167th Tactical Airlift Group, West Virginia Air National Guard. There, he is the Disaster Preparedness Officer.

The content of this Air Command and Staff College project has been reviewed and approved by HQ AFESC/DEVN.

Maj Paul S. Frank, Jr.
Air Command and Staff College
March 1982

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FOREST MANAGEMENT GUIDANCE PACKAGE: HOW TO CONDUCT FOREST
PRODUCT SALES AND HANDLE FOREST MANAGEMENT SERVICE CONTRACTS

1. PURPOSE. This document has been developed to provide you, the base civil engineer, with guidance in managing the forest lands at your installation as outlined in AFR 126-1, Chapter 4. Procedures and regulations which are printed elsewhere in Air Force publications will not be repeated here. However, you will find suggestions for developing the technical provisions, for which you are responsible, of sales and service contracts. If you do not employ full-time forestry personnel, you will find this document especially useful.

a. A sustained revenue may be derived from selling forest products during the rotation period of the forest. For example, pulpwood, firewood, and fence posts may be the intermediate products of a timber crop. Receipts from the sale of forest products can be used to finance your forest management program in accordance with AFR 126-1, Chapter 4.

b. Your major responsibility, as the base civil engineer, in managing forest land on the installation is the preparation of contracts for services and sales (AF DAR Sup (C3) para 4-5203). It is important for you to realize that forest management is based on the forest management plan for your installation which will serve as your guide in conducting forest management operations. Although you are responsible for the forest management program, the resources to carry out that responsibility may not be available at your Air Force Installation. Therefore, it may be necessary to obtain most of your forest management services from agencies or contract sources. It is necessary to prepare, in advance, the technical provisions (specifications) for services to be performed (AFR 126-1, para 4-9a) and for forest products to be sold (AFR 126-1, para 4-9b) in order to contract complete, accurate, and successful services and sales.

2. TECHNICAL ASSISTANCE.

a. When professional forestry expertise is not available at the installation, you may obtain assistance from the following, listed in priority.

- (1) MAJCOM and AFESC/DEVN, Appendix A.
- (2) Other MAJCOMs or Air Force Bases, Appendix A.
- (3) Other military services - Navy, Marine Corps, Army (including the Army Corps of Engineers). Refer to Directory, Natural Resources Personnel for the Department of Defense.
- (4) State and County Forestry Offices, Appendix B.

- (5) U.S. Forest Service (Regional Offices, Appendix C, or State and Private Forestry Offices, Appendix D).
- (6) University Extension Service and Forestry Colleges.
- (7) U.S. Soil Conservation Services. (State and Regional Offices.)
- (8) Private Consulting Foresters — information may be obtained from the Society of American Foresters, 5400 Grosvenor Lane, Bethesda, MD 20814.

b. When you request assistance from agencies other than the Air Force, technical provisions for the required services must be prepared. You will find examples of service contracts in Appendices M through R.

3. SALE CONTRACTS. Sale contracts state the conditions under which forest products will be sold. They describe the products for sale and the location of the sales area, as well as the technical provisions for harvesting. All trees to be sold must be marked or otherwise designated by a qualified individual according to a prescription prepared by a professional forester. Sale contracts also prescribe the method of payment and techniques used for protecting all resources which are not part of the sale. There are three methods of selling timber.

a. Unit Price Sale (Appendix I). Under the unit price sale, bids are invited on a per-unit price. Forest products are sold (1) by species or groups of species, (2) by designated logging area or areas, or (3) by product, i.e. sawtimber, poles, pilings, or pulpwood.

(1) Units may be cords, number of pieces, thousand board feet (M B F), tons, or any easily measurable quantity for which a fair market price can be established.

(2) A qualified base scaler or forester, or a qualified third party may determine the number of units harvested by any of the following methods or combination thereof: actual tree measurement, log scale, weight, unit count, or unit measurement.

(3) The determination of the number of units of forest product harvested must be accomplished prior to removal from Air Force property or by other arrangements as described in the sale contract. A tally must be kept of the number of units removed from Air Force property.

(4) Provisions must be made to insure that payment is made for all forest products removed from Air Force property. Two payment methods are provided for illustration:

(a) One payment method requires an advanced deposit based on a specified number of units to be harvested, with additional deposits paid as necessary when the value of the units harvested reaches the amount of the deposit. Advance notice for a new deposit must be given to the contractor to insure continuous operation.

(b) An alternate payment method requires the purchase of a bond prior to the removal of harvested units. This method eliminates the need for advanced deposits for units removed from Air Force property. Periodic payments are then made for actual products harvested in accordance with the sale contract.

b. Lump Sum Sale (Appendix J). Designated trees or entire sale areas may be sold with this method. Individual trees are marked for sale in some manner designated in the contract, or all the trees in a certain area may be sold. The bid is for all the forest product as designated in the sale contract, payable as a sum determined by the value of all the trees sold. The value of the individual trees or area is determined by measuring the trees prior to contracting for the sale.

(1) Payment varies, depending on the size of the sale, length of contract, and financial capabilities of the contractor.

(a) On small sales (less than \$5,000) with short-term contracts, total payment is made at the time the bid is accepted and prior to the commencement of harvesting.

(b) With medium sales (\$5,000 to \$25,000), payments may be received as a lump sum or by payment units, i.e., a 20 percent deposit with the bid, 40 percent deposit prior to cutting, and the remainder deposited when cutting operations are 50 percent completed. The contract length with this size sale is usually one year or less.

(c) With large sales (greater than \$25,000) or sales with a period of a year or longer, administration is facilitated (less financial burden is placed on the contractor) by dividing the sale into payment units. The use of payment units enables smaller contractors to participate in the bidding, since they cannot afford the immobilization of large portions of their financial resources. Payment units of 20 percent have been used successfully (Appendix J).

(2) The rule of thumb is to use the most practical payment method that will enhance competition for all sales.

c. Small Lot Sale (Appendix K). Under the small lot sale, forest products worth \$2,000 or less may be sold by a cash permit. This method is used to enable the Air Force to sell forest products generally of little competitive value to commercial contractors.

(1) Specifications describing the conditions under which the permit is issued should be provided with each permit.

(2) Locations in which the permitted activity may be conducted should be clearly delineated, preferably with a map or diagram.

(3) The specifications should also include safety rules, permit costs, and the method of obtaining permits.

(4) Forest products sold in this manner may include small volumes of insect or disease infested trees; trees in the path of construction; dying,

dead and cut trees; firewood; tops of trees harvested for other purposes; pine straw; fence posts; Christmas trees; and other special forest products.

(5) Units of measure may include the cord, pick-up truck load, individual count, or other appropriate unit.

d. Procedures for Conducting a Sale. Preparation of all sales requires that you have the value of the forest product appraised (Appendices E and F).

(1) You must make a report to the base contracting office prior to the sale. This report will include the technical provisions for the sale and describe the forest products to be sold, i.e. quantities, fair-market value/appraisal, and location (AF DAR Sup(C3) para 4-5203.3a).

(a) The method and rate of harvest of the forest products should be in accordance with the requirements of the base forest management plan.

(b) Sales should be large enough to provide a practical operation.

(c) Sales should be varied in quantity to allow both small and large contractors the opportunity to bid. Payment methods should enhance competition.

(d) Sales contracts should normally be complete within one year.

(e) Sales should be based on the fair-market value; however, reappraisal may be necessary if bidder response indicates an unreasonable fair-market value estimate.

(2) You and the contracting officer must insure that the contract wording and specifications are understandable to local contractors and that unnecessary provisions are not included in the sales contract.

(3) You, or your designated representative, will be the technical representative of the contracting officer for performing inspections and technical surveillance (AF DAR Sup (C3) para 4-5203.1).

(4) At the completion of a sale under contract, excluding small lot sales, you must submit a completion report to the base contracting officer (Appendix G). This report will indicate that a field inspection of the sale area was made and that all work was satisfactorily accomplished in accordance with the sale contract.

e. Technical Provisions for a Sale. Most forest product sales contracts will require specific paragraphs to describe the technical provisions of the sale. The actual wording of these paragraphs may be found in Appendices I, J, and K. A suggested outline for the arrangement of the paragraphs includes the following:

(1) GENERAL INFORMATION. This paragraph indicates the forest

products to be sold, the area where the product is located, definitions of terms, and other basic information.

(2) PAYMENT. This paragraph indicates the type of payment (lump sum, unit price) and the conditions under which the payment will be made. It also includes penalties for such improprieties as leaving designated trees uncut, cutting and damage to undesignated trees, leaving merchantable material on the site in the form of tree tops, high stumps and the like.

(3) REMOVAL REPORTS. This paragraph describes the method used by the contractor to account for the quantities of forest product harvested and removed from the sale area.

(4) VISIT TO SITE. This paragraph invites bidders to inspect the site to satisfy themselves of the forest products to be sold and of the conditions under which they must be harvested.

(5) PERIOD OF CONTRACT. This paragraph states the amount of time the contractor will have to harvest the forest products. In some cases, the circumstances might indicate a required extension (Appendix H).

(6) TIMBER DESCRIPTIONS. This paragraph describes the product to be sold, sale area(s), designation of boundaries, species composition, size of trees to be harvested, and the like.

(7) ESTIMATED QUANTITIES. This paragraph contains remarks concerning the estimated quantity of forest products to be harvested including definitions, government guarantees, and tables showing estimated quantities by species or by forest product.

(8) MERCHANTABLE TIMBER. This paragraph defines merchantable timber by size ranges, presence or absence of designation by tree marking paint, or by marked boundaries.

(9) UTILIZATION REQUIREMENTS. This paragraph defines the portion of a tree to be harvested. This is usually determined by the top diameter. The maximum length of time a cut tree may remain in the sale area and the disposition of tree slash defined to be unmerchantable will be stated here.

(10) LOCATION. This paragraph describes the location of sale areas on the installation, usually referring the reader to an attached map or diagram.

(11) LOGGING CONDITIONS. This paragraph describes the pertinent topographic, drainage, and other features of the sale area that require consideration by the contractor.

(12) PERFORMANCE SCHEDULE. This paragraph indicates the order in which sale areas will be harvested, the time allowed to begin harvesting after notification to commence, the hours during which work is permitted, and other statements referring to the scheduling of the harvest.

(13) **CONTRACTOR REPRESENTATIVE.** This paragraph states that the contractor will have a representative in the sale area who has authority to respond to instructions and notices from the government regarding the performance of the contractor.

(14) **STATEMENT OF WORK.** This paragraph lists the specifications and limitations (where needed) for equipment, harvesting, loading, fires, littering, roads and road maintenance, protection of soil and water, slash treatment and stump height, repairing damage caused by contractor negligence, sanitation, clean-up, timber marking equipment, protection of government property including standing trees, temporary facilities, repair or replacement of damaged facilities such as fences and utility lines, and safety precautions.

(15) **WARNING: HAZARDOUS CONDITIONS AT SITE.** This paragraph warns the contractor of unexploded ordnance and/or metal in the trees. Procedures to be taken on the discovery of unexploded ordnance, safety requirements concerning the identification of ordnance, and employee education procedures concerning ordnance hazards are stated in this paragraph.

(16) **INSPECTION AND ACCEPTANCE.** This paragraph identifies the designated representative of the contracting officer and states the representative's function.

(17) **ENDANGERED SPECIES.** This paragraph describes how certain endangered or threatened species may be identified and reminds the contractor of the responsibilities or penalties incurred in protecting these species.

(18) **LIQUIDATED DAMAGES.** This paragraph lists penalties the contractor will pay for certain damages or failure to meet the contract specifications. This paragraph would be included separately, in lieu of such a statement in the **PAYMENT** paragraph.

4. SERVICE CONTRACTS. Service contracts state the conditions under which forest developments will be performed. They describe the desired service through the contract technical provisions. It is your responsibility to provide the contracting officer with a complete statement of the technical provisions of the service you desire to be performed, including the duration of the service (AF DAR Sup (C3) para 4-5203.2). As with sales contracts, it is important for you, the base civil engineer, to insure the wording and content of the services contract is understandable to those who will be interested in bidding and in performing the service. In addition, while the service is being performed, and after its completion, inspections must be conducted to insure the performance of the service is according to the technical provisions of the contract.

a. **Types of Services.** You may require the following services in order to carry out provisions of the forest management plan for your installation. Examples of the technical provisions for these services are in Appendices M through R.

(1) The forest inventory service provides you with information such as the estimated amount of forest products, growth information, forest type map, and recommendations for managing the forest at your installation.

(2) The timber marking service provides you with trees marked in preparation for a sale of forest products, either marked or unmarked trees may be sold.

(3) The prescribed burning service will reduce the amount of fuel for wildfire on the forest floor and will eliminate undesirable seedlings from the forest.

(4) The timber stand improvement service provides many different types of work in the forest, i.e. pruning, vine elimination, and elimination of cull trees.

(5) The site preparation service improves an area so it is ready to receive either seed or seedlings for the establishment of a forest.

(6) The planting service provides the reforestation of an area, i.e. the beginning of the next forest crop.

b. Procedures for Requesting a Service:

(1) Be sure the forest management plan for your installation indicates that the service may be required.

(2) Check the area to insure that the service is actually necessary in that area.

(3) Submit a request, including the technical provisions, for the service to the base contracting officer. This request will be similar to Appendix E and will reference the installation forest management plan as a basis for the requirement.

(4) You, and the contracting officer, must insure that the contract wording and specifications are understandable to local contractors and that unnecessary provisions are not included in the service contract.

c. Technical Provisions for a Service. Most services contracts will require specific paragraphs to describe the technical provisions of the service.

(1) GENERAL INFORMATION. This paragraph provides an overall description of the desired service, and the area. This paragraph may also prescribe that the contractor present evidence of ability, experience, and facilities to complete the service satisfactorily.

(2) PAYMENT. This paragraph describes how payment will be made to the contractor.

(3) VISIT TO SITE. This paragraph invites bidders to inspect the site to satisfy themselves of the conditions under which they will be working.

(4) PERIOD OF CONTRACT. This paragraph states the length of time available for performing the service.

(5) PERFORMANCE SCHEDULE. This paragraph delineates the work schedule and the time work can be performed during the day.

(6) LOCATION. This paragraph identifies the particular area in which the service will be performed. Detailed maps or diagrams should normally be attached.

(7) VEGETATION DESCRIPTION. This paragraph describes the situation or vegetation in which the service is to be performed. The description may include forest stand size and volume as well as other appropriate characteristics.

(8) CONTRACTOR REPRESENTATIVE. This paragraph states that the contractor will have a representative in the work area who has authority to respond to instructions and notices from the government regarding the performance of the contractor.

(9) SITE CONDITIONS. This paragraph describes pertinent topographic, drainage and other characteristics of the area that might have an effect on the performance of the service.

(10) STATEMENT OF WORK. This paragraph prescribes the detailed services to be accomplished, the manner in which the service will be performed, including methods, qualifications of personnel, and other items such as those listed in para 3e(14).

(11) SAFETY REQUIREMENTS. This paragraph lists safety requirements and indicates location of written safety requirements for contractor employee reference.

(12) WARNING: HAZARDOUS CONDITIONS AT SITE. This paragraph contains the same information found in the technical provisions for a sale, para 3e(15).

(13) INFORMATION REQUIRED. This paragraph prescribes the type and manner of data that must be presented to the contracting officer as a product of the service. The appropriate dates for delivery will also be specified.

(14) INSPECTION AND ACCEPTANCE. This paragraph contains the same information found in the technical provisions for a sale, para 3e(16).

(15) ENDANGERED SPECIES. This paragraph contains the same information found in the technical provisions for a sale, para 3e(17).

(16) LIQUIDATED DAMAGES. This paragraph contains the same information found in the technical provisions for a sale, para 3e(18).

5. CONTRACT PREPARATION, IMPLEMENTATION, AND CONCLUSION CONSIDERATIONS. The following steps provide a method of developing a service or sale contract, implementing the contract, and concluding the contract.

a. Determine in accordance with the approved forest management plan, when, where, and what type of service or sale is required.

b. Prepare the technical provisions (specifications) for the service or sale.

c. Submit the request for service or sale with technical provisions to the base contracting officer.

(1) Coordinate with the contracting officer concerning the wording of the contract and to insure the provisions included are pertinent to the local situation.

(2) Coordinate with the contracting officer to be sure the payment schedule enhances competition.

d. Provide tours of the job site to prospective bidders.

e. Accept responsibility as the installation's contracting officer's representative.

f. Hold a precontract performance conference in which the following technical provisions are stated and thoroughly understood by the civil engineering and the contracting officer representatives, as well as by the contractor.

(1) Contract Objectives:

(a) Installation's interest in conservation of natural resources.

(b) Purpose of installation's overall forestry program.

(c) Specific purpose of contract in meeting program goals.

(2) Cooperation of Parties.

(a) Designation of contracting officer's and contractor's representatives.

(b) Full understanding of methods of reporting.

(c) Inspector's responsibility to government and to contractors.

(d) Contractor's responsibility to government and to employees.

(3) Pre-Contract Requirements.

(a) Government inspection of contractor's equipment.

(b) Understanding of installation regulations as they apply to the contractor or his agents.

(4) Contract Specification Review.

(a) Period of contract, extensions, time waivers, work hours, etc.

- (b) Methods of payment and billing procedures.
- (c) Determination of percentage of completion for payment purposes.
- (d) Penalties for inadequate work performance.
- (e) Exact location of work area.
- (f) Manner of timber designation, individual tree, area, diameter, species, etc.
- (g) Utilization and merchantability standards, i.e. maximum stump heights, top utilization, etc.
- (h) Systematic work or harvest procedures.
- (i) Protection of residual trees not designated to be harvested, streams, road shoulder, wetlands, etc.
- (j) Slash disposal requirements.
- (k) Fire prevention and protection responsibilities.
- (l) Disposal of damaged trees.
- (m) Work stoppage due to weather or military requirements.
- (n) Road maintenance responsibilities.
- (o) General clean-up and final inspections.

g. Maintain surveillance on work progress.

h. Develop and maintain a good working relationship with the field crew.

i. Perform final inspection/acceptance of all work and reports.

j. As the contracting officer's representative, certify that all work has been satisfactorily completed, and all payments have been made.

6. FIELD INSPECTION. Field inspections are necessary during and at the conclusion of both sales and service contracts. Field work accomplishments by these contracts are often difficult to monitor. Many of the technical provisions are based on qualitative measures that can vary from one given forest area to another. Where available, inspectors with knowledge of woods operations should be utilized. Key points of field inspections include the following:

- a. Know when and where the contractor is operating.
- b. Make at least two checks during each week of operation.

- c. Make one thorough check of the area where work has been completed.
- d. Contact the contractor's representative after the checks. Inform him of deficiencies and of good work.
- e. Check cut stumps for paint marks and height specifications when applicable.
- f. Check for damage to government property, i.e. fences, roads, residual trees, streams, road shoulders, wetlands, etc.
- g. Use good judgment on qualitative provisions of the contract, such as normal damage, fair wear-and-tear, etc.
- h. When in serious doubt on important points, contact local governmental forestry agencies for assistance. When local assistance cannot be obtained, see para 2 and Appendix A for assistance from other agencies.
- i. Make a check of the entire contract area with the contractor's representative before reporting completion of the contract. This should be done before the crews and equipment are removed.

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B. RELATED SOURCES

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Davis, K. P. Forest Management: Regulation and Valuation. New York, N.Y.: McGraw-Hill Book Company, Inc., 1966.

Smith, D. M. The Practice of Silviculture. New York, N.Y.: John Wiley and Sons, Inc., 1962.

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Headquarters, U.S. Air Force. Natural Resources - Forest Management
Air Force Manual 126-3. Washington, D. C. DRAFT.

Headquarters, AFESC/DEVN. Air Force Forest Management User Handbook.
Tyndall AFB, FL. DRAFT.

APPENDIX A

AIR FORCE FOREST MANAGEMENT REFERENCES AND FORESTRY PERSONNEL

1. FOREST MANAGEMENT REFERENCES:

- a. AFR 126-1 Conservation and Management of Natural Resources - Outlines Air Force policies, programs and procedures for managing natural resources.
- b. AFM 126-3 Forest Management - Describes technical forest management practices and procedures for all military services.
- c. Air Force Forest Management User Handbook - Describes the Air Force procedures for conducting a forest inventory, implementing the forest management information system (FMIS), and developing a forest management plan.
- d. Forest Management Guidance Package: How to Conduct Forest Product Sales and Handle Forest Management Service Contracts - Describes the methods of obtaining technical assistance by base civil engineers who are without full-time foresters.

2. AIR FORCE FORESTRY PERSONNEL:

- a. HQ AFESC/DEVN, Forester, Tyndall AFB, FL 32403, AV 970-6481
- b. HQ SAC/DEVN, Command Forester, Offutt AFB, NE 68113, AV 271-6324
- c. HQ TAC/DEMM, Command Forester, Langley AFB, VA 23665, AV 432-2071
- d. 56 CSS/DEN, Forester, Avon Park AFB, FL 33825, AV 968-1119/1130
- e. 2d CES/DEEVF, Forester, Barksdale AFB, LA 71110, AV 781-3353
- f. AD/DEEVN, Forester, Eglin AFB, FL 32542, AV 872-4054/4055
- g. 4756 ABG/DEN, Forester, Tyndall AFB, FL 32403, AV 970-2641
- h. USAFA/DEEVF, Forester, USAF Academy, CO 80840, AV 259-4415

APPENDIX B

STATE FORESTRY OFFICES:¹

Alabama Forestry Commission, 513 Madison Ave., Montgomery 36130,
(205) 832-6587

Alaska Department of Natural Resources, Division of Forest, Land, and
Water Management, 323 E. Fourth Ave., Anchorage 99501 (907) 279-5577

Arizona Land Department, Forestry Division, 1624 W. Adams, Phoenix 85007
(602) 255-4627

Arkansas Forestry Commission, Box 4523, Asher Station, 3821 W. Roosevelt
Road, Little Rock 72214 (501) 371-1732

California Resources Agency, Department of Forestry, 1416 Ninth Street,
Sacramento 95814 (916) 445-3976

Colorado State Forest Service, Colorado State University, Fort Collins
80523 (303) 482-8185

Connecticut Department of Environmental Protection, State Forester, State
Office Bldg., 165 Capitol Ave., Hartford 06115 (203) 566-5348

Delaware Department of Agriculture, State Forester, Drawer D, Dover 19901
(302) 736-4820

Florida Department of Agriculture and Consumer Services, Division of Forestry,
State Capitol, Tallahassee 32301 (904) 376-1990

Georgia Forestry Commission, Box 819, Macon 31298 (912) 744-3211

Guam Department of Agriculture, Division of Forestry, Agana 96910 734-3941

Hawaii Department of Land and Natural Resources, Division of Forestry,
1151 Punchbowl Street, Honolulu 96813 (808) 548-2861

Idaho Department of Agriculture, Division of Plant Industries, P.O. Box
790, Boise 83701 (208) 384-3240

¹J. Bryant, Ed., Conservation Directory 1981 (Washington: The National
Wildlife Federation, 1981).

Illinois Department of Conservation, Forestry Division, 605 Stratton Office Bldg., Springfield 62706 (217) 782-6302

Indiana Department of Natural Resources, Division of Forestry, 608 State Office Bldg., Indianapolis 46204 (317) 232-4105

Iowa State Conservation Commission, State Forester, Wallace State Office Bldg., Des Moines 50319 (515) 281-8656

Kansas State and Extension Forestry, Kansas State University, 2610 Claflin Road, Manhattan 66502 (913) 523-5752

Kentucky Department for Natural Resources and Environmental Protection, Division of Forestry, 5th Floor, Capital Plaza Tower, Frankfort 40601 (502) 564-3350

Louisiana Department of Natural Resources, Office of Forestry, P.O. Box 1628, Baton Rouge 70821 (504) 925-4510

Maine Department of Conservation, Bureau of Forestry, State House, Station #22, Augusta 04333 (207) 289-2791

Maryland Department of Natural Resources, Forest and Park Services, Tawes State Office Bldg., Annapolis 21401 (301) 269-3776

Massachusetts Department of Environmental Management, Division of Forests and Parks, 100 Cambridge Street, Boston 02202 (617) 727-3163

Michigan Department of Natural Resources, Forest Management Division, Box 30028, Lansing (517) 373-1275

Minnesota Department of Natural Resources, Division of Forestry, 300 Centennial Bldg., 658 Cedar Street, St. Paul 55155 (612) 296-4484

Mississippi Forestry Commission, 908 Robert E. Lee Bldg., Jackson 39201 (601) 354-7124

Missouri Department of Conservation, Forestry Division, P.O. Box 180, Jefferson City 65102 (314) 751-4115

Montana Department of Natural Resources and Conservation, Forestry Division, 2705 Spurgin Rd., Missoula 59801 (406) 728-1300

Nebraska Natural Resources Commission, 301 Centennial Mall South, P.O. Box 94876, Lincoln 68509 (402) 471-2081

Nevada Department of Conservation and Natural Resources, Division of Forestry, Capitol Complex, Nye Bldg., 201 S. Fall St., Carson City 89710 (702) 885-4350

New Hampshire Department of Resources and Economic Development, Division of Forests and Lands, P.O. Box 856, Christian Mutual Building, Concord 03301 (603) 271-2214

New Jersey Department of Environmental Protection, Division of Parks, Forestry, and Green Acres, P.O. Box 1420, Trenton 08625 (609) 292-2733

New Mexico Natural Resources Department, Forestry Division, Land Office Bldg., Box 2167, Santa Fe 87503 (505) 827-2312

New York Department of Environmental Conservation, Division of Lands and Forests, 50 Wolf Road, Albany 12233 (518) 457-2475

North Carolina Department of Natural Resources and Community Development, Forest Resources, P.O. Box 27687, Raleigh 27611 (919) 733-2162

North Dakota State Forest Service, North Dakota State University, Bottineau Branch and Institute of Forestry, Bottineau 58318 (701) 228-2278

Ohio Department of Natural Resources, Division of Forestry, Fountain Square, Columbus 43224 (614) 466-7842

Oklahoma State Board of Agriculture, Forestry Division, Room 122, State Capitol, Oklahoma City 73105 (405) 521-3886

Oregon State Department of Forestry, 2600 State Street, Salem 97310 (503) 378-2560

Pennsylvania Department of Environmental Resources, Bureau of Forestry, 9th Floor, Fulton Bldg., Box 2063, Harrisburg 17120 (717) 787-2703

Puerto Rico Department of Natural Resources, P.O. Box 5887, Puerta de Tierra, San Juan 00906 (809) 724-8774

Rhode Island Department of Environmental Management, Division of Forest Environment, 83 Park Street, Providence 02903 (401) 647-3367

South Carolina State Commission of Forestry, Box 21707, Columbia 29221 (803) 758-2261

South Dakota Game, Fish, and Parks Department; Forestry Division, Sigurd Anderson Bldg., Pierre 57501 (605) 773-3623

Tennessee Department of Conservation, Division of Forestry, 2611 W. End Ave., Nashville 37203 (615) 741-2301

Texas Forest Service, College Station 77843 (713) 845-2641

Utah State Department of Natural Resources, Division of State Lands and Forestry, All Empire Bldg., 231 East Fourth South, Salt Lake City 84111 (801) 533-5381

Vermont Agency of Environmental Conservation, Department of Forests, Parks,
and Recreation, Montpelier 05602 (802) 828-3375

Virgin Islands Department of Conservation and Cultural Affairs, Division
of Natural Resources Management, P.O. Box 4340, St. Thomas 00801
(809) 774-6420

Virginia Department of Conservation and Economic Development, Division of
Forestry, Box 3785, Charlottesville 22903 (804) 977-6555

Washington Department of Natural Resources, Division of Forest Land Management,
Public Lands Bldg., Olympia 98504 (206) 753-0671

West Virginia Department of Natural Resources, State Forester, 1800
Washington Street, East Charleston 25305 (304) 348-2754

Wisconsin Department of Natural Resources, Bureau of Forestry, Box 7921,
Madison 53707 (608) 266-0842

Wyoming State Forestry Division, 1100 West 22nd Street, Cheyenne 82002
(307) 777-7586

APPENDIX C

U.S. FOREST SERVICE REGIONAL OFFICES:¹

Region 1, Northern Region (Montana, northern Idaho, North Dakota, and northwestern South Dakota) Federal Bldg., Missoula, MT 59807; Office of Information, phone (406) 329-3771

Region 2, Rocky Mountain Region (Colorado, Kansas, Nebraska, South Dakota, and eastern Wyoming) 11177 W. 8th Ave., Box 25127, Lakewood, CO 80225; Office of Information, phone (303) 234-3418

Region 3, Southwestern Region (Arizona and New Mexico) Federal Bldg., 517 Gold Ave. S.W., Albuquerque, NM 87102; Office of Information, phone (505) 766-2444

Region 4, Intermountain Region (Southern Idaho, Nevada, Utah, and western Wyoming) Federal Bldg., 324 25th St., Ogden, UT 84401; Office of Information, phone (801) 626-2121

Region 5, Pacific Southwest Region (California and Hawaii) 630 Sansome St., San Francisco, CA 94111; Office of Information, phone (415) 556-1932

Region 6, Pacific Northwest Region (Oregon and Washington) 319 SW Pine St., Box 3623, Portland, OR 97208; Office of Information, phone (503) 221-2971

Region 7, Does not exist

Region 8, Southern Region (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virgin Islands, and Virginia) 1720 Peachtree Road, NW, Atlanta, GA 30367; Office of Information, phone (404) 881-4191

Region 9, Eastern Region (Connecticut, Delaware, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, West Virginia, and Wisconsin) 633 W. Wisconsin Ave., Milwaukee, WI 53203; Office of Information, phone (414) 291-3640

¹J. Bryant, Ed., Conservation Directory 1981 (Washington: The National Wildlife Federation, 1981).

Region 10, Alaska Region (Alaska) Federal Office Bldg., Box 1628, Juneau, AK
99802; Office of Information, phone (907) 586-7282

APPENDIX D

U.S. FOREST SERVICE STATE AND PRIVATE FORESTRY OFFICES:¹

Region 1, Northern Region (address in Appendix C); Deputy Regional Forester, phone (406) 329-3319

Region 2, Rocky Mountain Region (address in Appendix C); Deputy Regional Forester, phone (303) 234-3711

Region 3, Southwestern Region (address in Appendix C); Deputy Regional Forester, phone (505) 766-2296

Region 4, Intermountain Region (address in Appendix C); Deputy Regional Forester, phone (801) 626-3186

Region 5, Pacific Southwest Region (address in Appendix C); Deputy Regional Forester, phone (415) 556-4310

Region 6, Pacific Northwest Region (address in Appendix C); Deputy Regional Forester, phone (503) 221-3669

Region 10, Alaska Region; Director, Suite 107, 2221 E. Northern Lights Blvd., Anchorage, AK 99502, phone (907) 276-0939

NORTHEASTERN AREA

(Same states as Region 9, see Appendix C); 370 Reed Road, Broomall, PA 19008; Director, phone (215) 461-3125

Field Offices:

Madison, WI 53705, Box 5120, North Walnut St., phone (608) 264-5600

Milford, PA 18337, Pinchot Institute for Conservation Programs

Morgantown, WV 26505, Forestry Science Lab., 180 Canfield Street

¹J. Bryant, Ed., Conservation Directory 1981 (Washington: The National Wildlife Federation, 1981).

Portsmouth, NH 03801, Federal Bldg., 80 Daniel Street

St. Paul, MN 55108, 1992 Folwell Avenue

SOUTHEASTERN AREA

(Same states and addresses as Region 8, see Appendix C) Director, phone
(404) 881-7930

Field Offices:

Alexandria, LA, 2500 Shreveport Highway, Pineville, LA 71360, phone (318)
473-7280

Asheville, NC 28813, Box 5895, phone (704) 258-2850

Doraville, GA 30340, 3620 Interstate 85 NE, phone (404) 221-4796

Jackson, MS 39201, 910 Milner Bldg., 210 S. Lamar St., phone (601) 969-4357

Macon, GA 31208, Southern Forest Fire Laboratory, Box 5106, phone (912)
744-0241

Yazoo-Little Tallahatchie Flood Prevention Project, Federal Office Bldg.,
Box 69, Oxford, MS 38655, phone (601) 234-6981

APPENDIX E

SAMPLE TIMBER SALE REPORT TO BASE CONTRACTING OFFICER ON PROPOSED SALES

1. This report consists of a letter requesting the base contracting officer prepare a timber sale contract and provides the technical provisions and a map or diagram showing the location of the sale area(s). Only the letter samples are included in this appendix.

2. SAMPLES:

a. Sample 1:

(Date)

(Base Civil Engineering Official, Office Symbol)

Hazelwood Pond Timber Sale

(Base Contracting Office Symbol)

1. Request you offer for sale an estimated 4,000 tons of pine timber.
2. This should be a term sale for which the contractor pays on a "price-per-unit" basis, and makes an advance payment before removing any timber.
3. The fair-market price for this timber is estimated to be \$6.00 per ton.
4. A period of 365 calendar days should be allowed for removal.

(Signed)

Chief, Natural Resources Dev Br (Appropriate Base Civil Engineering Official)

2. Atch.

1. Technical provisions

2. Map

b. Sample 2:

(Date)

(Base Civil Engineering Official. Office Symbol)

Timber Sale

(Base Contracting Office Symbol)

1. Request sale of pine timber suitable for sawlogs, marked and ready to cut on the East Reservation. Authority for the sale has been granted in the 1978 Certified Prescription Reports (RCS: HAF-PRE(A)-7135) and AFR 126-1. Specifications for cutting, removal, and maps showing location of the sale products are attached.
2. There are 5,035 pine trees marked for cutting. They contain 1,021,553 board feet of lumber by the International Log Scale Form Class 78 or 693,492 board feet of lumber by the Doyle Log Scale Form Class 78. The estimated value of these products is \$95.13/M bd. ft. International Log Scale or \$139.85/M bd. ft. Doyle Log Scale, total approximately \$97,000.00, if sold by small business set aside sale. If sold by unrestricted sale, the estimated price received would be \$136.00/M bd. ft. International Log Scale or \$200.00/M bd. ft. Doyle Log Scale, total approximately \$138,000.00. These estimates were made from data obtained from the Louisiana Department of Agriculture, Quarterly Timber Report Vol. XXIV, Report Number 1 and from telephone communication with area foresters and forest consultants who are selling or buying by open bid. These figures are only estimates. There are many variables that affect any one bidder's quotation on a given tract of timber at a specific date. Therefore, no exact figure can be given on the price the government will receive on this timber.
3. The time for removal of the sale products of this contract should be 365 calendar days after contract is signed.
4. For the personal safety of the contractor and his employees, there will be no timber harvesting operations permitted during the 12-day deer hunting season, the dates are 10, 11, 12, 26, 27, 28 November, and 26, 27, 28, 29, 30, 31 December 198- on (name) Air Force Base

(Signed)

Base Forester

2. Atch.
1. Technical provisions
2. Maps

APPENDIX F

SAMPLE SMALL LOT SALE APPRAISAL REPORT

1. SAMPLE 1:

(Date)

(Base Civil Engineering Official, Office Symbol)

Sand Pine Cone Collection Sale

(Contracting Office, Office Symbol)

The appraised value of this pine timber product is \$7.00 per ton.
The appraisal was made by a qualified forester.

(Signed)

(Civil Engineering Official)

2. SAMPLE 2:

(Date)

(Base Civil Engineering Official, Office Symbol)

Miscellaneous Forest Products

(Contracting Office, Office Symbol)

1. The following is my estimate of the MINIMUM ACCEPTABLE price for miscellaneous forest products to be sold under the terms and conditions of the permit for small lot sales.

Douglas Fir and Other Species Fuelwood -	\$6.00/cord
Fence Posts	.40/each
Corral Poles	.60/each
Fir Boughs	.25/each

2. I certify I have inspected the products described above and that the above listed prices represent my best judgment of the minimum acceptable price for the products to be sold on a continuous, per-unit basis for the period 1 July 198- through 31 December 198-.
3. I further certify that I have no present or future intended interest in the property and that my employment and compensation are not contingent on the appraised valuation.

(Signed)
Forester

APPENDIX G

SAMPLE TIMBER SALES COMPLETION REPORT

(Date)

(Base Civil Engineering Official, Office Symbol)

Contract F08651-81-S-0009

(Base Contracting Office Symbol)

A field inspection of this sale area was conducted by (name) on (date). All work has been completed as required; therefore, this contract has been satisfactorily completed as of (date).

Attached are all removal tickets from (contractor's name) covering wood harvested under this contract.

(Signed)

(Civil Engineering Official)

1. Atch.
2. Reports

APPENDIX H

SAMPLE TIMBER SALES CONTRACT EXTENSION REQUEST

(Date)

(Base Civil Engineering Official, Office Symbol)

30-DAY EXTENSION OF CONTRACT NUMBER FL16602-73-S-0110

(Base Contracting Office Symbol)

I recommend a 30-day extension of (company) timber sale (service) contract number FL16602-73-S-0119. Rainfall has been heavy during July, August, and September of 198-. The area left to log is flat and poorly drained. Logging during the past wet season would have damaged the soil. This extension will not cause loss to the government.

(Signed)
(Appropriate Official)

APPENDIX I

SAMPLE UNIT PRICE TIMBER SALE CONTRACT TECHNICAL PROVISIONS

1. The following includes the technical provisions for a unit price timber sale. These unit price timber sale technical provisions are presented as a sample. Some items are not applicable in some locations, since the sample paragraphs are composite statements from several different sets of technical provisions. Sample paragraph 14, STATEMENT OF WORK, includes statements of many general specifications that you might wish to consider as part of any sales or services contract. All sample paragraphs should be modified as necessary to meet the requirements of your local situation.

2. Sample:

TECHNICAL PROVISIONS

BRIAR CREEK TIMBER SALE

1. GENERAL INFORMATION. This sale consists of harvesting all specified merchantable pine trees from sale areas which are being prepared for natural regeneration.

2. PAYMENT:

a. In no event will the contractor be authorized to cut or remove timber in excess of the amount of the advance payment which has been made. The contractor will keep the amount of the advance payment current throughout the contract period.

b. Payment will be made on a "Price-per-unit" based on weight tickets furnished by the contractor. Payments, with removal reports as required by paragraph three below, will be submitted no less frequently than weekly. The initial payment will be made within 14 days after operations commence.

c. Final payment will be adjusted based on weight tickets furnished by the contractor, and any remaining advance payment will be refunded promptly by the government.

d. Payments shall be identified by the contract number and sent to the contracting officer, office symbol, Air Force Installation name, state, and zip code, or other address elements.

3. REMOVAL REPORTS:

a. The contractor will maintain a tally on all timber removed under this contract. He will submit removal reports, with corresponding weight tickets attached, on a weekly basis. The initial removal report will be submitted within fourteen days after operations commence. The removal reports will include the following information.

- (1) Contractor's name.
- (2) Contract number.
- (3) Date of report.
- (4) Period covered by report.
- (5) Date of delivery, weight ticket number, and number of tons for each load removed.
- (6) Total net tons removed for the period covered.

b. Each load of timber removed will be weighed on scales which are currently certified correct by the Division of Weights and Measures of the state in which they are located. Each weight ticket will show the following information.

- (1) Location of weight scales.
- (2) Delivery destination (if different from location of scales).
- (3) Weight ticket number.
- (4) Date and time of delivery.
- (5) Contract number.
- (6) Gross, tare, and net weight of load.
- (7) State license tag number of haul vehicle.

c. Removal reports, with corresponding weight tickets attached, will be sent to: (office symbol, address, and phone number of the base civil engineering official responsible) and an information copy of the removal report will be furnished directly to: (office symbol, address, and phone number of the contracting officer responsible).

d. At the time of the pre-performance briefing for this contract, the contractor will provide (office symbol of the responsible base civil engineering official) with:

(1) A list of all haul vehicles identified by state license tag numbers. This listing will be kept up-dated should changes occur during the contract period.

(2) A statement (listing) of the weight scale(s) location(s) to be used by the contractor with documentation that these weight scale(s) are currently certified correct by the Division of Weights and Measures in the state in which the scales are located.

e. The contracting officer or his representative may inspect the contractor's weight scales, certification, and weighing procedures on an unscheduled basis throughout the contract period.

4. VISIT TO SITE. Prospective bidders are expected to visit the harvest area(s) and to satisfy themselves about the volume of timber to be cut and logging conditions.

5. PERIOD OF CONTRACT. This contract will be effective for a period of one year after notice of acceptance by the government. The contractor will notify the (name, office symbol, address, phone number of appropriate representative) before starting and upon completion of work under this contract.

6. TIMBER DESCRIPTION. Timber to be cut and removed is Longleaf, Slash, Sand, and Loblolly pine. All merchantable trees will be harvested as specified herein.

7. ESTIMATED QUANTITIES. For purposes of this contract, one ton of timber shall equal two thousand (2,000) pounds of solid wood including bark. The government makes no guarantee as to actual quantities of timber to be cut and removed from the designated area(s).

<u>Forest Product</u>	<u>Estimated Tons</u>	<u>Estimated Area</u>
Pine sawtimber	8,450	424
Pine pulpwood	<u>4,550</u>	<u>220</u>
TOTAL	13,000	TOTAL 644

8. MERCHANTABLE TIMBER. Pine trees 5.0 inches in diameter and larger, measured 4-1/2 feet from ground level (DBH), and marked with one spot of yellow paint at eye level and one spot of yellow paint at ground level will be considered merchantable.

9. UTILIZATION REQUIREMENTS. All merchantable pine trees will be utilized to a 4-inch top diameter outside bark. That portion of certain pine trees containing worked navel stores "Faces" will be left in one location on loading decks only. All trees will be removed within two weeks after felling.

10. LOCATION. See attached map dated _____ (date) . (not included in this sample.)

11. LOGGING CONDITIONS. The sale areas are located in sand hills and flatwoods.

12. PERFORMANCE SCHEDULE. The contractor has the option of performing during all daylight hours, including weekends and holidays, due to the nature and timing of this contract. If the contractor desires to carry on work outside the regular hours, or on Saturdays, Sundays, or holidays, he will submit application to the officer in charge, but will allow ample time to enable satisfactory arrangements to be made by the government for inspecting the work in progress. Such application will be made at least 48 hours in advance. The daily work schedule will be coordinated through the Base Forester (appropriate official). All phases of the operation will proceed in an orderly manner.

13. CONTRACTOR REPRESENTATIVE. In each work area, the contractor will have a representative readily available, who will be authorized by the contractor to receive instructions in regard to the total performance of the contractor under this contract.

14. STATEMENT OF WORK:

a. All pine trees designated for removal and located in the designated work area under this contract will be cut and removed by the contractor.

b. All tops located within 200 feet of any improved road will be lopped within 36 inches of the ground. All remaining tops will be lopped within 72 inches of the ground.

c. Trees will be topped and limbed where felled before skidding.

d. Trees which are lodged during felling will be pulled down immediately by the operator.

e. Contractors are warned that timber may contain metal.

f. Stumps will not be left higher than 6 inches above ground.

g. All slash and other logging debris will be removed by the contractor to a minimum distance of 10 feet from all improved grounds, rights-of-way, roads, fences, bridges, culverts, streams, and other similar areas. Slash and other logging debris deposited in streams and/or roads will be removed immediately by the contractor.

h. Necessary logging trails outside of the specific work area may be cleared by the contractor, but must be approved by the contracting officer in advance.

i. All loading ramps will be located within the boundaries of specific work areas and a minimum distance of 200 feet from any major road. The contracting officer may give approval for locating loading ramps outside of specific work areas should it become necessary.

j. Existing roads, bridges, culverts, fences, and other improvements damaged beyond normal wear-and-tear by operations of the contractor will be repaired or replaced as directed by the contracting officer at the expense of the contractor. Repaired or replaced items will be in a condition as good as existing items prior to the start of the work. Existing roads used by the contractor will, at all times, be maintained and will be kept passable and clear for official activity traffic. All felled trees on adjacent private land will be removed and fences repaired immediately.

k. No fires of any type will be made at any time by the contractor or his employees while on the (name) Air Force Installation. All fires observed by the contractor or his employees will be reported to (name and phone number of appropriate agency) as soon as possible. Refer to Appendix Q sample para 10 j. and modify to meet your local requirements.

l. The contractor will insure that his trucks are in such condition as to prevent the spilling or scattering of logs or other materials on the (name) Air Force Installation.

m. All trucks or other equipment used by the contractor will be in a safe condition so as to meet minimum safety standards required by (name) State Law at all times while on (name) Air Force Installation.

n. Mufflers on trucks or other vehicles entering (name) Air Force Installation must be in good condition. The ends of the tail pipes must not be turned toward the ground.

o. Dumping, disposing, storing, or littering of any form (garbage, refuse, oil cans, tires, equipment, etc.) is prohibited on (name) Air Force Installation. Violation of this prohibition may render the contractor liable for damages for failure to protect government buildings, equipment, and vegetation under the provisions of this contract.

p. The harvesting of trees under this contract will be accomplished with the use of conventional logging equipment. The use of crawler-type or caterpillar equipment in the woods will be restricted to: (1) the maintenance of established trails currently graded and maintained by the Base, (2) the construction and maintenance of haul trails in the harvest areas as approved by the contracting officer, and (3) the assistance of disabled vehicles. No other uses shall be permitted without prior approval.

q. All contractor operations will be conducted in a manner to minimize the damage to young growth, unmarked timber and endangered wild flowers. All unmarked timber cut, felled, or otherwise seriously damaged through negligence by the contractor's operations will be paid for by the contractor at triple the selling price of the timber. Trees for which the contractor is so penalized will be considered as marked trees and at the contractor's option may be cut and removed. Slash from such trees is to be disposed of as indicated in sample paragraphs 14 b and 14 g in this appendix.

r. The construction of temporary structures, roads, or other improvements necessary for logging of the timber will be permitted providing that the plans, locations, and arrangements for removal of such facilities are approved in advance.

s. Adequate sanitary facilities of an approved type, properly secluded from public observation, will be installed and maintained in the work area in an approved manner for the use of the contractor's employees. All temporary structures and the ground adjacent will be maintained in a clean, sanitary condition.

t. All operations, including construction of roads and other facilities, will be conducted so that damage to stream courses and streambanks will be minimized. Logs will not be hauled, skidded, or yarded in or across any stream course without prior approval. Stream courses will be cleared of logs, chunks, and debris resulting from operations under the contract. This includes lake areas.

u. The contractor will take all necessary precautions to prevent soil erosion and soil damage. After harvesting operations have been completed on the total area or any part thereof, the contractor will repair in a satisfactory manner all damage resulting from his operation which will cause accelerated soil erosion or reduce the productivity of the soil.

v. When temporary structures or other improvements are moved to another location or are abandoned, the contractor will dispose of all abandoned structures and shall clean up the site. Upon completion of the work, the contractor will remove his plant, tools, materials, and other articles from the property of the government.

w. The contractor, his subcontractors, agents, servants, and employees are prohibited from bringing into the Base, or having in their possession while on said activity, paint or equipment for painting. Any violation of this provision will make this contract, at the option of the contracting officer, subject to default.

15. WARNING: HAZARDOUS CONDITIONS AT SITE:

a. Notice to Contractor. The site, entrance routes, or adjacent areas to the site at which you and your employees and your subcontractor will be working have been used by the Air Force as an ammunition testing range. There exists a possible danger to person and property from unexploded weapons in and on the ground. Live bombs, missiles, and other explodable ordnance material may be embedded or partially embedded in the trees or soil. In no event should you or your employees, or your subcontractors or their employees, attempt to remove or otherwise tamper with such material or objects. Removal of such items from the site by unauthorized persons is considered MISAPPROPRIATION OF GOVERNMENT PROPERTY, AND MAY BE SUBJECT TO PENALTIES UNDER LAW. However, more important is the potential serious or fatal injury to the individual.

b. Agreement. The contractor agrees that if, during the performance of work under this contract, his employees or subcontractors or their employees should encounter any of these munitions, or other unidentifiable objects which resemble ordnance material he will stop work in the immediate area, report such encounter to the Government Inspector by the most expeditious method, advising him of the exact location and description of the object, and proceed as directed. The contractor further agrees to cause this warning to be brought to the attention of each one of his employees, and to each subcontractor and his employees who will be working at the site.

c. Procedures for Assuring Safety.

(1) A poster describing the various items discussed above will be furnished the contractor at the pre-performance briefing. The contractor will display this poster in a prominent place at the construction site, readily available for inspection of all personnel.

(2) At the conclusion of the pre-performance briefing, the contractor will be required to signify on an appropriate form that the existence or possible existence of hazardous munition items has been discussed, and that he agrees to brief all employees and subcontractors, and will require subcontractors to brief their employees on the contents of this clause.

(3) The contractor agrees to include the warning and briefing requirements of this clause in all subcontracts.

16. INSPECTION AND ACCEPTANCE. The (title of proper official) is designated representative of the contracting officer for the purpose of surveillance and acceptance of performance under this contract. This designation does not include authority to direct or authorize the contractor to make changes in the scope of terms of the contract without written authority of the contracting officer.

17. ENDANGERED SPECIES. Trees marked with double bands of white paint at eye level will not be cut or damaged. Violation of this prohibition may render the contractor liable for damages under provisions of the Endangered Species Act of 1973, as amended.

18. LIQUIDATED DAMAGES. Without derogation of any other rights afforded it by this contract, the government through its contracting officer may determine the extent of damages arising from any of the causes hereinafter set forth, and the purchaser agrees to pay a penalty therefor in an amount to be determined by the contracting officer as liquidated damages for the injury and/or cost suffered by the government; but in no event to exceed the maximum penalty shown in the schedule below.

CAUSE OF VIOLATION

MAXIMUM PENALTY¹

- | | |
|--|--|
| 1. Cutting or damaging undesignated trees intentionally or through negligence or carelessness. | Triple the unit sale price or fair market value for the respective forest product. |
| 2. Failure to utilize merchantable material. | Unit sale price for the respective forest product. |
| 3. Removal of material harvested from the designated sale area without measurement in accordance with the terms of the contract. | Double the unit price for the respective forest product. |
| 4. Continued failure to cut stumps in accordance with specifications. | Fifty (50) cents per stump. |

¹When sale is under the lump sum method, the unit sale price(s) will be determined through appraisal by the contracting officer.

APPENDIX J

SAMPLE LUMP SUM TIMBER SALE CONTRACT TECHNICAL PROVISIONS

1. The following includes the technical provisions for a Lump Sum Timber Sale. Two samples are provided, the first requires total payment at once, while the second provides for payment units of twenty percent each. All sample paragraphs should be modified as necessary to meet the requirements of your local situation.

2. Sample 1:

TECHNICAL PROVISIONS

TIMBER HARVEST

1. GENERAL INFORMATION. Refer to Appendix I, sample para 1; modify to fit your situation.

2. PAYMENT. Payment for this sale will be on a lump sum basis for the marked trees.

3. REMOVAL REPORTS. Not necessary for a Lump Sum Timber Sale unless a removal report is required by the base contracting officer. The content and format of the removal report will then be specified.

4. VISIT TO SITE. Refer to Appendix I, sample para 4; modify to fit your situation.

5. PERIOD OF CONTRACT. Refer to Appendix I, sample para 5, modify to fit your situation.

6. TIMBER DESCRIPTION. Refer to Appendix I, sample para 6; modify to fit your situation.

7. ESTIMATED QUANTITIES. An estimate is furnished to assist in determining quantities of timber to be harvested. This estimate was made by a qualified forester; however, the government gives no guarantee, expressed or implied, to the total volume of stumpage which may be harvested. Each bidder must determine his own best estimate and make his bid accordingly. The sale area consists of approximately 64 acres and includes 1,590 trees with a total volume of 151,370 board feet and 220 cords. Table 1 shows a breakdown by species of the estimated volumes.

TABLE 1
Estimated Volumes by Species¹

<u>SPECIES</u>	<u>NUMBER OF TREES</u>	<u>VOLUME</u>
White Pine	505	124,225 bd. ft. ²
Elm	83	10,500 bd. ft.
etc.	etc.	etc. ³
Pine Pulpwood	593	154.89 cords ³
Maple Pulpwood	65	27.37 cords ⁴
etc.	etc.	etc. ⁴
TOTAL	1,590	151,370 bd. ft. and 220.05 cords

NOTES:

¹ Additional bid information concerning volumes by record units, species, diameter, number of trees, and volume are available upon request at the civil engineer's office.

² Board feet expressed in International 1/4-inch Log Rule.

³ One standard cord equals 128 cubic feet.

⁴ For illustration purposes, the table is incomplete.

8. MERCHANTABLE TIMBER. Paragraphs 8 through 18 will be similar to those illustrated in Appendix I. Modify them to fit your situation.

3. Sample 2:

TECHNICAL PROVISIONS

TIMBER HARVEST

1. GENERAL INFORMATION. Refer to Appendix I, sample para 1; modify to fit your situation.

2. PAYMENT. Payment for this sale will be on a Lump Sum Basis divided into payment units as follows:

a. Payment will be made in advance, in five 20-percent payments.

b. Payment will be based on percent completion of the total sale area in acres. For example, when the purchaser has completed the harvest on 60 acres in accordance with the terms of the contract, the sale will be considered 20 percent complete. For example:

$$\frac{60 \text{ completed}}{300 \text{ total}} = 20\%$$

c. The percentage completed will be calculated by the contracting officer's designated representative.

d. The initial 20 percent bid deposit will be retained as the first payment. When the harvest is 20 percent complete, as calculated above, an additional 20 percent payment will be required. This procedure will be followed until the harvest is complete (Table 2).

TABLE 2
PAYMENT SCHEDULE

PAYMENT NUMBER	PERCENT COMPLETE	AMOUNT OF PAYMENT
1.	0	20%
2.	20	20%
3.	40	20%
4.	60	20%
5.	80	20%

e. Checks will be made payable to the Treasurer of the United States and mailed or delivered to the procurement division (address).

3. REMOVAL REPORTS. Not necessary for a Lump Sum Timber Sale unless removal reports are requested by the base contracting officer. The content and format of the removal report will then be specified.

4. VISIT TO SITE. Paragraphs 4 - 18 will be similar to those illustrated in Appendix I and Appendix J, Sample 1, sample para 7. Modify them to fit your situation.

APPENDIX K

SAMPLE SMALL LOT SALE CONTRACT TECHNICAL PROVISIONS

1. The following includes the technical provisions for a small lot timber sale. The contents of these provisions will be included in a permit issued to the contractor/purchaser at the time of the sale. Sample woodcutting permits are included in Appendix L. All specific paragraph headings for the technical provisions of a sale are included in the sample for your consideration even though this sample does not require the use of all of the paragraphs. You should consider modifying the sample paragraph to meet your local requirements.

2. Sample.

MISCELLANEOUS FOREST PRODUCTS

1. GENERAL INFORMATION. This sale consists of the harvest of an estimated 500 cords of fuelwood and an unspecified volume of other miscellaneous forest products located on the (name) Air Force Installation. Advertising will be by posted notices and will be continuous until all fuelwood is harvested.

2. PAYMENT.

a. Fuelwood sales will be made on a small lot basis as desired by the purchaser with a minimum sale value of five dollars.

b. Sales will be documented on a single page contract form and payments and records will be handled in a conventional manner.

c. The price of the fuelwood will be five dollars per cord, payable when the contract form is signed and the permit to enter the area is issued.

3. REMOVAL REPORTS. Not needed.

4. VISIT TO SITE. Not needed.

5. PERIOD OF CONTRACT. Contract term will be dependent upon volume sold, but will normally not exceed 30 calendar days for a minimum volume sale.

6. TIMBER DESCRIPTION. The material for sale consists of unmerchantable material five inches or larger on the large end and eight feet or more in length, or 12 inches or more in diameter regardless of length. This material was decked in (name) commercial sale area by the contractor as part of his contract. Limbs, tops, broken pieces of trees, and portions of trees unmerchantable because of rot, crooks, and forks make up the material for sale.

7. ESTIMATED QUANTITIES. Not needed.

8. MERCHANTABLE TIMBER. Not needed.

9. UTILIZATION REQUIREMENTS. Not needed.

10. LOCATION. Refer to the attached map or diagram. (Not included in this sample.)

11. LOGGING CONDITIONS. Not needed.

12. PERFORMANCE SCHEDULE. Harvest of the sale material may be performed during the normal work day and on Saturdays between 0900 and 1500.

13. CONTRACTOR REPRESENTATIVE. Not needed.

14. STATEMENT OF WORK. Refer to Appendix L; extract specifications from the sample small sale permits to fit your local conditions and add other specifications you feel are necessary.

15. WARNING: HAZARDOUS CONDITIONS AT SITE. Not needed.

16. INSPECTION AND ACCEPTANCE. The work area will be inspected at irregular intervals several times daily for violations of the conditions stated on the permit. Failure to comply will result in revocation of future wood cutting privileges.

17. ENDANGERED SPECIES. Not needed.

18. LIQUIDATED DAMAGES. Not needed.

APPENDIX L

SAMPLE SMALL FUELWOOD SALE PERMIT

1. There are three samples of fuelwood permits in this appendix. You may wish to develop your own permit to meet the requirements of your local situation.
2. Sample 1.

AIR FORCE BASE WOODCUTTING PERMIT

1. _____, is hereby authorized to cut wood marked in Area _____. Wood may be cut from (date) to (date). There will be no extensions.
2. Stumpage will be paid in advance at the rate of _____ per cord. There are _____ cords marked in the designated area.
3. This permit must be returned on, or before, the date of expiration. Failure to do so will result in revocation of further woodcutting privileges. The area will be inspected to assure compliance with all rules.
4. CONDITIONS:
 - a. Only those trees marked with (color) paint may be cut.
 - b. All stumps must be no higher than 6 inches off the ground.
 - c. Slash and tops must be lopped and scattered so as to be no deeper than 24 inches above ground.
 - d. Limbs and tops left in woods must be no larger than 3 inches in diameter.
 - e. There will be no trash (paper, plastic, bottles, cans, etc.) left in the area.
 - f. The permit must be in possession of the authorized person while cutting or removing timber. Permits will be checked in the cutting area and at the base gate.
 - g. Permit holders must furnish own equipment.

h. Timber cutting and removal will not be allowed in other than designated area. Timber cutting in other areas is forbidden. Penalty for violation of this permit is denial of continued cutting privileges on a permanent basis.

i. The government is not liable for any accident incidental to timber cutting or removal authorized by this permit.

j. Permit fee is not refundable in whole or in part for any reason.

5. I have read and understand the above provisions and do agree to comply with them as I participate in the firewood cutting program.

SIGNATURE

DATE

Permit issued by:

SIGNATURE

DATE

3. Sample 2.

FUELWOOD PERMIT

_____ is hereby given a permit to cut fuelwood on _____
Air Force Base subject to the provisions of this permit.

Lot No. _____ located north of the haul road bordering the _____
is designated as _____ cutting area. Lot locations are shown on the
attached map. (Not included in this sample.) Lots are marked by red flagging
along the boundary lines and small signs with lot numbers indicating the correct
lot. Only trees within this cutting area shall be cut.

Trees to be cut are marked by a red paint spot at eye level and a paint mark
on the stump. All marked trees are to be cut as close to the ground as
possible, but above the paint on the stump. Wood, 3 inches in diameter and
larger, is to be removed from the site. Only trees that have been marked
with paint shall be cut. No paint or painting tools will be allowed on the
cutting site.

Tree tops and slash are to be laid as close to the ground as possible and
shall be no higher than 2 feet above the ground. Slash and tops shall be
removed from all roads and trails.

Removal equipment is limited to wheeled tractors and trucks or pickups. No skidders will be allowed in the cutting area. Cutting and removal of trees will be done in a way to minimize damage to unmarked trees in the stand. Excessive damage will be considered cause for permit termination.

If any provisions of this permit are violated, the permit shall be immediately revoked by the inspecting officer.

A fee of \$25.00 is charged for this permit to cut an estimated volume of two standard cords of fuelwood.

I, (name), agree to comply to the conditions of this permit. Either ~~my~~ representative or I will have this permit on the lot at all times while doing any cutting. I absolve the Air Force of any liability for injuries or accidents while cutting in this area. I, also agree that the wood taken from this stand is strictly for personal use and is not to be sold for profit.

PAYMENT RECEIVED

DATE

PERMIT AUTHORIZED BY

This permit is valid for 90 days from the date of receipt of payment.

4. Sample 3.

a. Front of Permit.

PERMIT FOR REMOVAL OF WOOD

Name			No.		
Address					
Issuing Station		Date Issued		Issued By	
Sales Slip No.		Quantity		Product	
Vehicle Identification			Authorized Zone No.		
Fuelwood Delivery Destination					
CHECK-IN/CHECK-OUT					
DATE	TIME IN	CHECKED BY	TIME OUT	CHECKED BY	CORDS REMOVED
I certify that I understand and will comply with the rules and instructions outlined on reverse of this permit.					
Signature				Expiration Date	
NOT TRANSFERABLE					

b. Back of Permit.

RULES FOR PERMIT HOLDER

1. This permit authorized entry into stated zone and for specific period of time only.
2. This permit must be carried on person while engaged in removal or transportation of salvage forest products.
3. Permittee assumes the responsibility of damage to property or personal injury while on (name) Air Force Base Reservation.

Cutting Instructions

4. Fuelwood will be cut no longer than four feet in length. Cutting of fence posts is prohibited.
5. Stumps will be left no higher than six inches from the ground.
6. The following trees are approved for removal: (a) dead and down trees and (b) living scrub oak or live oak that is less than seven inches in diameter at ground level.
7. Cutting and removal of red cedar and juniper are prohibited.
8. No trees shall be left lodged against other trees.
9. Tree tops felled by the permittee shall be moved to a distance of ten feet from all improved grounds, rights-of-way, roads, fences, bridges, culverts, streams, and other similar areas.

Safety Precautions

10. Do not enter into designated DANGER areas or go beyond range gates into DANGER areas.
11. Ordnances discovered on the reservation should not be moved or otherwise handled. Location of such items should be marked and reported to Security Police, (phone number) or Natural Resources Division (phone number).

APPENDIX M

SAMPLE FOREST INVENTORY SERVICE CONTRACT

TECHNICAL PROVISIONS

1. The following includes the technical provisions for a sample forest inventory and forest management recommendations service contract. Refer to the Air Force Forest Management User Handbook for specific guidance, information, format, and definitions. Consider modifying the paragraphs in the sample to meet the requirements of your local situation.
2. Sample.

TECHNICAL PROVISIONS FOR A TIMBER INVENTORY

1. GENERAL INFORMATION. The work to be performed under this contract consists of furnishing all materials, equipment, supplies, labor, and transportation required for a forest inventory, including management recommendations for (name) Air Force Installation. Refer to Appendix R, sample para 1 d, for an example you may wish to modify for your local situation.
2. PAYMENT. Work performed under these specifications and this contract will be paid with a lump sum price, set forth in the contract, upon completion of the services rendered. Also refer to Appendices Q and R, sample para 2, modify to your local conditions.
3. VISIT TO SITE. Refer to Appendix I, sample para 4 and Appendices N, Q, and R, sample para 3; modify to fit your situation.
4. PERIOD OF CONTRACT. Refer to Appendix I, sample para 5, and Appendices N, Q, and R, sample para 4; modify to fit your situation.
5. PERFORMANCE SCHEDULE. Refer to Appendix I, sample para 12, and Appendices N, O, Q, and R, sample para 5; modify to fit your situation.
6. LOCATION. Refer to Appendix I, sample para 10, and Appendices N, Q, and R, sample para 6; modify to fit your situation.
7. VEGETATION DESCRIPTION. Not required for this contract, since the service requested is to describe the forest area.

8. CONTRACTOR REPRESENTATIVE. Refer to Appendix I, sample para 13, and Appendix N, sample para 8; modify to fit your local situation.

9. SITE CONDITIONS. Refer to Appendix I, sample para 11, and Appendices N and R, sample para 9; modify to fit your situation.

10. STATEMENT OF WORK:

a. The installation will be broken into administrative units for inventory purposes, subsequent operations, and record keeping. Normally, the installation will be divided into ten units of equal or nearly equal size called compartments.

b. Boundaries of compartments should be located on established features of the area, i.e., highways, major streams, power lines, secondary access roads, etc.

c. Compartments will be numbered consecutively beginning with one. Each compartment will be divided into individual stands which will be numbered consecutively beginning with one.

d. The inventory will be performed according to local inventory systems and sampling procedures.

e. Work described in these specifications will be performed by a professional forester. The forester may be aided by a forest technician, trained in inventory procedures, provided the technician is directly supervised by the forester.

f. The inventory data will be summarized by species groups, softwoods (conifers), hardwoods, tree sizes, compartments, and stands.

g. Adequate, usable stand and stock tables will be required from the data collected during the inventory field work.

h. Sampling error will be within a standard deviation of plus or minus five percent for the entire forest area and within ± 20 percent for any individual stand.

i. Other items may be required in this paragraph for the general conduct of the work. Refer to Appendix I, sample para 14, and make appropriate modifications for your situation.

11. SAFETY REQUIREMENTS. You may include safety requirements in sample para 10 above or list them separately here according to your local installation requirements. Refer to Appendix I, sample para 14, for a general list of hazards and unsafe work conditions that you may want to consider in this paragraph.

12. WARNING: HAZARDOUS CONDITIONS AT SITE. Use this paragraph as necessary. Refer to Appendix I, sample para 15; modify to fit your situation.

13. INFORMATION REQUIRED. The contractor will furnish the following information to the contracting officer within three weeks of completion of the inventory field work.

- a. Maps showing compartment and stand boundaries and numbers.
- b. An explanation of the inventory system used, including the sampling intensity used to compute the basic inventory data.
- c. Information necessary for completion of the following tables:
 - (1) Stand Inventory Information.

TABLE 1

STAND INVENTORY INFORMATION

Installation name and number _____	
Compartment number _____	Stand number _____
Land class code ¹ _____	Number of acres _____
Stand origin _____ (natural, planted, seeded)	Year of stand origin _____
Stand condition code ¹ _____	Forest type code ¹ _____
Average number of trees/acre _____	Mean stand diameter breast height (DBH) _____ (nearest whole inch)
Mean stand total height _____ (nearest whole foot)	Mean stand basal area per acre _____ (nearest whole square foot)
Softwood sawtimber (board feet per acre) _____ (International 1/4 inch Log Rule)	Hardwood sawtimber (board feet per acre) _____ (International 1/4 inch Log Rule)
Softwood pulpwood _____ (Standard cords per acre)	Hardwood pulpwood _____ (Standard cords per acre)

Growth:

Softwood sawtimber _____ Hardwood sawtimber _____
(rings per inch) (rings per inch)

Softwood pulpwood _____ Hardwood pulpwood _____
(rings per inch) (rings per inch)

Timber management objective _____
Code _____ Site index _____

Featured wildlife species _____
Code _____ Wildlife habitat condition _____

NOTE: 1 See Air Force Forest Management User Handbook for code.

(2) Compartment Forest Land Acreage by Land Classes.

TABLE 2

COMPARTMENT FOREST LAND BY LAND CLASSES (ACRES)

Compartment	Commercial Forest Land				Non-commercial Forest Land	Total Forest
	Regulated	Modified	Restricted	Total		
1						
2						
etc.						
TOTAL						

(3) Compartment Volume and Growth Data.

TABLE 3

COMPARTMENT COMMERCIAL FOREST LAND VOLUME AND GROWTH

Compartment	Total Volume		Volume per acre		Total Annual Growth		Annual Growth per acre	
	Pulp-wood (Standard Cords)	Saw-timber (MBF ¹)	Pulp-wood (Standard Cords)	Saw-timber (Board Feet)	Pulp-wood (Standard Cords)	Saw-timber (MBF ¹)	Pulp-wood (Standard Cords)	Saw-timber (Board Feet)
1								
2								
etc.								
Total								

NOTE: 1 Thousand board feet expressed in International 1/4-inch Log Rule.

(4) Forest Types, Products, Volume, and Growth Data.

TABLE 4

FOREST TYPES, PRODUCTS, VOLUME, AND GROWTH

Class	Product	Volume		Total Annual Growth		Growth Percent	
		Standard Cords	MBF ¹	Standard Cords	MBF ¹	Standard Cords	Board Feet
Pine	Sawtimber	XXXXXXX		XXXXXXXXXXXX		XXXXXXXXXXXX	
	Pulpwood		XXXXX		XXXXXXXXXX		XXXXX
	Peeler Log	XXXXXXX		XXXXXXXXXXXX		XXXXXXXXXXXX	
	etc.						
Subtotal							
Hard-wood	Sawtimber	XXXXXXX		XXXXXXXXXXXX		XXXXXXXXXXXX	
	Pulpwood		XXXXX		XXXXXXXXXX		XXXXX
	Peeler log	XXXXXXX		XXXXXXXXXXXX		XXXXXXXXXXXX	
	etc.						
Subtotal							
Total							

NOTE: 1 Thousand board feet expressed in International 1/4-inch Log Rule.

(5) Forest Productivity Data.

TABLE 5

FOREST PRODUCTIVE CAPACITY

Site Index	Site Class	Acres	Area Percent
50	Poor		
60	Fair		
70			
80	Good		
90			
100			
Total			100 percent

d. Forest type map.

(1) The cover type map will indicate the appropriate cover types described in the Air Force Forest Management User Handbook.

(2) Plantations will be shown with species, date planted, and acreage indicated.

(3) Areas suitable for reforestation will be depicted with recommended species, acreage, and recommended dates for planting.

e. Management recommendations:

(1) Recommendations for forest management at (name) Air Force Installation will include a discussion of silvicultural, harvest, and planting practices. Other potentially valuable information, such as forest protection, unique characteristics, and wildlife enhancement will also be included.

(2) Work priorities for the next five years for recommended harvests, reforestation, and improvement practices should be established by compartments, stands, and by fiscal years.

f. Timber Values. Calculate the present total value of all merchantable timber by (1) sawtimber and cordwood, (2) the value of timber to be harvested during the next five years (sawtimber and cordwood), and (3) the value of the timber stand at the end of the five-year period. (Sawtimber and cordwood excluding the value of harvested timber.)

14. INSPECTION AND ACCEPTANCE. Refer to Appendix I, sample para 16 and Appendices Q and R, sample para 14; for examples you may modify to fit your requirements.

15. ENDANGERED SPECIES. Not required unless you desire this paragraph in your local situation. Refer to Appendix I, sample para 17; modify to your local situation.

16. LIQUIDATED DAMAGES. Not required unless you desire this paragraph in your local situation. Refer to Appendix I, sample para. 18; modify for your local situation.

APPENDIX N

SAMPLE TIMBER MARKING SERVICE CONTRACT TECHNICAL PROVISIONS

1. The following includes technical provisions for a Timber Marking Service Contract. You should consider modifying the sample paragraphs to meet the requirements in your local situation.
2. Sample.

TIMBER MARKING SERVICES

1. GENERAL INFORMATION. The work to be performed under this contract consists of furnishing all materials, equipment, supplies, labor, and transportation required for marking timber, on 65 acres, for a timber harvest, and the marking for a precommercial thinning of 16 acres of young forest at (name) Air Force Installation. The volume of timber to be marked is estimated at 148 MBF sawtimber and 189 cords pulpwood; however, this volume could vary considerably. Refer to Appendix R, sample para 1 d, for an example you may wish to modify for your local situation.
2. PAYMENT. Refer to Appendix M, sample para 2. Adapt the sample to your local situation.
3. VISIT TO SITE. Prospective bidders are expected to visit the site and to satisfy themselves about the conditions under which the work will be performed. Also refer to Appendix I, sample para 4 and Appendices Q and R, sample para 3; modify to meet your local situation.
4. PERIOD OF CONTRACT. This contract shall be effective for a period of 90 days after the contractor receives a notice to proceed from the government. The contractor shall notify the (name, office symbol, address, and phone number of appropriate representative) before starting and upon completion of work under this contract. Also refer to Appendix I, sample para 5 and Appendices Q and R, sample paragraph 4; modify to fit your local situation.
5. PERFORMANCE SCHEDULE. The contractor has the option of performing work during all daylight hours, including weekends and holidays, due to the nature and timing of this contract. Also refer to Appendix I, sample para 12 and Appendices O, Q, and R, sample para 5; modify to fit your local situation.

6. LOCATION. The site of the work is (name) Air Force Installation, (state), (zip code). The Base is accessible by U.S. Route 17 and (state) Highway 707. Also refer to Appendix I, sample para 10 and Appendices Q and R, sample para 6; modify to fit your local situation.

7. VEGETATION DESCRIPTION. (name) Air Force Installation, (state), Compartment 3, Stands 1, 2, 5, 6, and 7, as indicated in Table 1 and shown on the attached drawings (not included in the sample) which form a part of these specifications. Also refer to Appendices O and P, sample para 7; modify to fit your local situation.

TABLE 1

STANDS TO BE MARKED¹

<u>COMPARTMENT NUMBER</u>	<u>STAND NO.</u>	<u>PRODUCTS</u>	<u>ACRES</u>	<u>VOLUME</u>
3	2	Pine fuelwood	5	—
3	5	Elm timber	22	81 MBF ² 10 cds. ³
3	6	Pine timber and pine pulpwood	10	7 MBF 46 cds.
3	7	Hardwood timber and hardwood pulpwood	18	31 MBF 44 cds.

NOTES: 1 For illustration purposes, the table is not complete. 2 Thousand board feet expressed in International 1/4-inch Log Rule. 3 One standard cord equals 128 cubic feet.

8. CONTRACTOR REPRESENTATIVE. The contractor shall have a representative readily available in the work area who has the authority to receive instructions regarding the total performance of the contractor under this contract. Also refer to Appendix I, sample para 13; modify to fit your local situation.

9. SITE CONDITIONS. The stands to be marked are located in sand hills and flat woods. Also refer to Appendix I, sample para 11 and Appendix R, sample para 9; modify to fit your local situation.

10 STATEMENT OF WORK:

a. All trees to be harvested will be marked with yellow tree marking paint.

b. Each tree will be marked twice with a paint spot at least three inches in diameter. One spot shall be made on the stump of the tree at ground level,

and one spot at eye level (approximately six feet above the ground).

c. Cull trees (trees with doubtful merchantability) will be marked with a cross (X) about four and one-half feet above the ground and with a spot on the stump at ground level.

d. Crop trees (left standing) in the precommercial thinning will be marked with one spot of blue paint at a point four and one-half feet above the ground while trees to be removed/killed will be marked with yellow paint as described in sample para 10 b above.

e. The markings on trees in each area designated for sale will be done facing one direction (preferably toward the direction of entrance or of travel into the area).

f. Timber marking will be performed by a professional forester, or by a forest technician trained in the art of marking timber. Marking will be done in accordance with accepted silvicultural practices. Forest technicians will be directly supervised by a professional forester.

g. Marking Instructions:

(1) Stands 2, 17, and 13. Sixteen acres will be marked for precommercial thinning to release crop trees. Individual crop trees to remain will be marked with blue paint and competing stems will be marked with yellow paint.

(2) Stand 5. Volumes of approximately 81 MBF and 10 cords should be marked, with emphasis placed on diseased and dying hardwoods.

(3) Stand 6. Volumes of approximately 7 MBF of sawtimber and 46 cords of pulpwood should be marked in a light selective thinning. A minimum basal area of 90 square feet of well spaced trees should remain.

(4) Stand 7. Mark all merchantable hardwood, involving approximately 31 MBF of sawtimber and 44 cords of pulpwood.

(5) Stand 23. All low quality competing hardwoods should be marked. The volumes involved approximately 29 MBF of sawtimber and 89 cords of pulpwood.

h. The contractor should ascertain that the volume of timber marked will be of sufficient quantity, both totally and per acre, to interest local buyers and stimulate subsequent bidding for sale purposes.

i. The paint used for this marking of trees will remain legible for a minimum of two years.

j. Care will be taken to insure that stump marks will have paint well distributed in bark crevices so paint will not flake off the bark when the tree is cut.

k. You may desire other statements of work concerning clean-up, damage, and the like. Refer to Appendix I, sample para 14, for examples of these statements of work.

11. SAFETY REQUIREMENTS. Develop this paragraph to meet your local safety requirements. Also refer to Appendix I, sample para 14.

12. WARNING: HAZARDOUS CONDITIONS AT SITE. Use this paragraph as required by your local conditions. Appendix I, sample para 15, has a statement.

13. INFORMATION REQUIRED. The contractor will furnish the following information to the contracting officer within two weeks of the completion of the total marking job. Also refer to Appendix M, sample para 13; modify to your local requirements.

a. The number and volume of trees marked by species and by two-inch diameter classes for each stand.

b. The total number and volume of all marked trees, not including cull trees.

c. The fair market value of marked trees by species, products, and the total value of all timber marked.

d. Information concerning volumes, conditions, areas, and the like (excluding the precommercial thinning) to supply prospective bidders with the necessary data to submit a bid for the proposed sale.

e. Cutting procedures and a list of required state or local laws concerning cutting practices.

14. INSPECTION AND ACCEPTANCE. Adapt to your local needs from the samples in Appendix I, sample para 16 and Appendices Q and R, sample para 14.

15. ENDANGERED SPECIES. Not required for these technical provisions unless such species are present. An example is shown in Appendix I, sample para 17.

16. LIQUIDATED DAMAGES. Appendix I, sample para 18, has an example you may modify to meet your local situation.

APPENDIX O

SAMPLE PRESCRIBED BURNING SERVICE CONTRACT TECHNICAL PROVISIONS

1. The following includes technical provisions for a prescribed burning service contract. You should consider modifying the sample paragraphs to meet the requirements of your local situation.
2. Sample.

PRESCRIBED BURNING

1. GENERAL INFORMATION. The work to be performed by this project consists in furnishing all equipment, labor, materials, supplies, transportation, and performance of all operations in connection with prescribed burning on approximately 497 acres at (name) Air Force Installation. Refer to Appendix R, sample para 1 d, for an example you may wish to modify for your local situation.
2. PAYMENT. Refer to Appendix M, sample para 2, for an example. Adapt the sample to your local situation.
4. PERIOD OF CONTRACT. Refer to Appendix I, sample para 5, for examples. Adapt the sample to your local situation.
5. PERFORMANCE SCHEDULE. Refer to Appendix I, sample para 12, and Appendices N, Q, and R, sample para 5, for examples. Adapt the sample to your local situation. The following drawings (not included in the sample) will be used to guide the performance of this prescribed burning.
6. LOCATION. Refer to Appendix I, sample para 10, and Appendices N, Q, and R, sample para 6 for examples. Adapt the sample to your local situation.
7. VEGETATION DESCRIPTION. Areas to be prescribed burned are delineated on the attached drawing (not included in the sample). The following stands are described in Table 1. Also refer to Appendices N and P, sample para 7; modify to fit your local situation.

TABLE 1
VEGETATION DESCRIPTION

<u>Compartment Number</u>	<u>Stand Number</u>	<u>Acres</u>
6	1	26
8	2	31
etc.	etc.	etc.
Approximate Total Acres		497

NOTE: Table abbreviated for sample.

8. CONTRACTOR REPRESENTATIVE. Refer to Appendix I, sample para 13 and Appendix N, sample para 8 for examples. Adapt the sample to your local situation.

9. SITE CONDITIONS. Refer to Appendix I, sample para 11 and Appendices N and R, sample para 9 for examples. Adapt the sample to your local situation.

10. STATEMENT OF WORK:

a. Use the following information to guide prescribed burning periods, firing methods, and weather conditions. Actual practices will depend on the existing situation at the time of burning.

- | | |
|--|--|
| (1) Type of fire | backfire |
| (2) Time of burning | night |
| (3) Air temperature | below 60°F |
| (4) Relative humidity | between 20 & 50 percent |
| (5) Fuel moisture | between 5 & 10 percent |
| (6) Days since last rain of
at least 1/2 inch | not to exceed ten days |
| (7) Wind velocity | steady, not to exceed 12 mph
based on a standard anemometer |
| (8) Wind direction | preferably SW |
| (9) Crown scorch | minimum possible |
| (10) Time of year | January through February |

It is recommended that weather predictions, based on data provided by the U.S. Weather Bureau, Fire Weather Station, be secured from the (state name)

Forestry Commission immediately prior to the initiation of burning.

b. The contractor shall provide reasonable advance notice of intention to burn to the base fire chief through the base contracting officer.

c. Burning will be initiated only after approval is received from the base fire chief.

d. The contractor will be responsible for notifying agencies or individuals that may be concerned with burning operations, such as the (state name) Forestry Commission, (state name) Highway Patrol, adjacent landowners and residents, etc.

e. Other items that might be included in this Statement of Work may be found in the sample in Appendix I, sample para 14, and modified to fit your situation.

11. SAFETY REQUIREMENTS. The following will be considered the minimum acceptable safety precautions.

a. A plowed fire line sufficient to confine the fire and accomplish the burning within a reasonable time lapse, shall be constructed.

b. Adequate equipment and personnel shall be available to prevent the fire from escaping or damaging timber.

c. All burning snags will be felled and extinguished.

d. All burning material will be extinguished within 100 feet of any unburned areas or facilities designated by the base fire chief.

e. Additional requirements may be added to fit your local situation.

12. WARNING: HAZARDOUS CONDITIONS AT SITE. Use this paragraph as you require in your local situation. Appendix I, sample para 15, has a sample statement you may wish to modify to fit your requirements.

13. INFORMATION REQUIRED. Use this paragraph as you require in your local situation. You will find samples for other services in Appendices M and N, sample para 13.

14. INSPECTION AND ACCEPTANCE. Adapt to your local needs from the samples in Appendix I, sample para 16 and Appendices Q and R, sample para 14.

15. ENDANGERED SPECIES. Use this paragraph as required by your local situation. Appendix I, sample para 17, contains a sample you may modify to meet your requirements.

16. LIQUIDATED DAMAGES. Use this paragraph as required by your local situation. Appendix I, sample para 18, contains an example you may modify to meet your requirements.

APPENDIX P

SAMPLE TIMBER STAND IMPROVEMENT SERVICE CONTRACT TECHNICAL PROVISIONS

1. The following includes technical provisions for a Timber Stand Improvement (TSI) Service Contract. In the Statement of Work, sample para 10, there are several examples of some subparagraphs which illustrate various methods that may be used. This example is a composite of several different TSI methods. TSI technical provisions can be very complex with complexity varying with different areas. In some cases (illustrated in para 1) individual trees must be marked either for treatment or for no treatment. All sample paragraphs should be modified as necessary to meet the requirements of your local situation.

2. Sample:

TIMBER STAND IMPROVEMENT

1. GENERAL INFORMATION. The work to be performed under this contract consists of furnishing all materials, supplies, transportation, labor, and equipment necessary to: (Several samples of work considered TSI are illustrated.)

a. SAMPLE I: Inject cull hardwood trees, or perform a release and pre-commercial thinning by cutting down small softwoods to decrease the number of stems per acre and to kill hardwood trees overtopping the young pine. Crop trees (trees to be left) are marked in blue¹ paint and are to remain undamaged.

b. SAMPLE II: Perform timber stand improvement, pruning work, and vine control in black walnut timber and other forest stands. All trees marked with yellow¹ paint will be removed. All black walnut trees marked with red¹ paint will be pruned. Any vines growing in live walnut and other crop trees will be killed as indicated.

There are approximately 500 acres located in compartments 17 and 20 on (name) Air Force Installation. Refer to Appendix R, sample para 1 d, for an example you may wish to modify for your local situation.

2. PAYMENT. Refer to Appendix M, sample para 2 for an example. Modify the sample to fit your situation.

¹Paint colors can vary according to local preferences.

3. VISIT TO SITE. Refer to Appendix I, sample para 4, and Appendices N, Q and R, sample para 3, for examples. Modify the sample to fit your situation.

4. PERIOD OF CONTRACT. Refer to Appendix I, sample para 5, and Appendices N, Q and R, sample para 4, for an example. Modify the sample to fit your situation.

5. PERFORMANCE SCHEDULE. Refer to Appendix I, sample para 12 and Appendices N, Q, and R, sample para 5, for examples. Modify the sample to fit your requirement.

6. LOCATION. Refer to Appendix I, sample para 10 and Appendices N, Q and R, sample para 6 for examples. Modify the sample to fit your situation.

7. VEGETATION DESCRIPTION:

a. Compartment 17.

(1) Stand 2 is an 18 acre plantation of sapling size white pine (overstocked with a basal area of 230 sq. ft. per acre) which has stagnated. The two most promising areas of the stand have been marked to remove the over-topping hardwoods and overstocked pine, leaving a basal area of 100 sq. ft. per acre.

b. Other samples of VEGETATION DESCRIPTION may be found in Appendix N and Appendix O, sample para 7. Modify these examples to fit your local situation.

8. CONTRACTOR REPRESENTATIVE. Refer to Appendix I, sample para 13, and Appendix N, sample para 8, for an example. Modify the sample to fit your situation.

9. SITE CONDITIONS. Refer to Appendix I, sample para 11, and Appendices N and R, sample para 9 for examples. Modify the sample to fit your local situation.

10. STATEMENT OF WORK: SAMPLE I - REMOVAL OF UNDESIRABLE SPECIES, PRE-COMMERCIAL THINNING, RELEASE.

a. All live hardwood trees one-inch diameter breast height (DBH) and larger within the designated area on the drawing (not included in the sample) are to be injected,

OR

a. Treatment shall be performed to undesirable trees one and one-half inches in diameter and larger at ground level, i.e. scrub oak, willow oak, turkey oak, scarlet oak, black oak, post oak, all hickories except scalybark or shagbark.

b. Trees and shrubs in the following locations or of the following species shall not be injected.

- (1) Trees within the flood plain of all natural drains or streams.
- (2) Trees that will fall on power lines, roads, telephone lines, buildings, within 12 feet of paved roads, etc.
- (3) One den tree and four nut or acorn bearing trees per acre where possible.
- (4) Flowering dogwood, eastern redbud, black cherry, chinkapin, red oak, yellow poplar, walnut, white oak, flowering shrubs, cedar trees, pecan, water oak, beech.
- (5) Trees in areas delineated by yellow flagging.

c. Treatment of undesirable hardwood trees will consist of the following:

- (1) Sawed down within six inches of the ground and the stump treated with herbicide.
- (2) Injected with 2-4-D Amine of at least four pounds acid equivalent.
- (3) Injection cuts will be horizontal, completely through the bark and cambium layer into the sapwood.
- (4) Spaces between injection cuts will not exceed one and one-half inches on all species except hickory on which the spaces will not exceed one-inch.
- (5) Injection cuts will be made completely around the base of the tree as close to the ground as possible. (Or within six inches of the ground.)
- (6) Treatment will be performed by the injector method using a Jim Gem tree injector or approved equal.

OR

- (6) Treatment will be performed by the injector method using metered injectors.

OR

- (6) Treatment will be performed by frilling with axe or chainsaw cutting through the bark and cambium into the sapwood and applying herbicides into the frill by pouring or spraying.

OR

- (6) Treatment will be performed by using tree injection or hypo-hatchet.

(7) Apply 2-4-D Amine at a rate of one c.c. per injection when a metered injector is used.

(8) Treatment will be by suitable manual methods. Mechanical treatment requiring bulldozers, discs, rolling choppers or other mechanical equipment will not be permitted.

d. Treatment of undesirable pine trees will consist of cutting them down to within six inches of the ground.

e. Cut trees will be felled in a manner that does not damage the trees left standing.

f. Felled trees may be left in place provided they are not hanging or leaning against standing trees, lying on fences, in mowed fields, rights-of-way, fire breaks, agricultural fields, pasture lands, ditches, streams, or roads.

g. All marked leave trees will be left undamaged and in their present condition.

h. All empty chemical containers will be removed from government property at the end of each working day.

i. Care will be taken by the contractor to prevent chemicals from contaminating streams and lakes by run-off or other directly related pollution mishaps.

j. A kill, within one year after treatment is completed, of at least 80 percent of the trees treated with herbicide will be guaranteed by the contractor. In the event the kill is less than 80 percent, the contractor will return to site within six months of the end of the one year period and retreat, at no cost to the government, all trees that survived the previous treatment.

k. Refer to Appendix I, sample para 14, for additional general provisions which you should modify to meet your local requirements.

10. STATEMENT OF WORK: SAMPLE II - RELEASE, PRUNING, AND VINE CONTROL.

a. Release. All trees marked with yellow paint at approximately five feet above the ground will be killed by being sawed down or by metered injection.

b. Release. Inject cull hardwood trees to release marked crop trees by cutting down small softwoods to decrease the number of stems per acre and to kill hardwood trees overtopping the young pine. Crop trees (trees to be left) are marked with blue paint and are to remain undamaged.

c. Release. Walnut trees designated for removal will be sawed down within six inches of the ground. No herbicides will be used on these trees

because of the possibility of damaging crop trees through the translocation of herbicide through natural root grafts.

d. Pruning. All walnut trees marked with red paint approximately five feet above the ground shall be pruned according to the following rules:

(1) Trees should be pruned to 12 feet above the ground, but not more than one-half of the total live length of the bole, or to a major fork or crotch, which would make further pruning impractical.

(2) All live branches under two and one-half inches diameter will be pruned. Larger branches will be left.

(3) All dead limbs and stubs will be removed.

(4) Pruning will be done with saws. Axes, brush hooks, and machetes will not be used for pruning.

(5) Pruning cuts will be made smooth and flush with the main stem of the tree.

(6) Cutting and ripping the bark of the main stem, around and below the limbs will not be acceptable.

e. Vine Control. All vines growing in any live walnut tree in Compartments 17 and 20, Stands 2, 12, 16, 20, and 23, and all vines in the other treatment areas will be severed by use of axe, saw, or machetes. The fresh stump cuts will be sprayed with 2-4-D Amine of at least four pounds acid equivalent.

OR

e. Vine Control. All vines growing in any live walnut tree in Compartments 17 and 20, Stands 2, 12, 16, 20, and 23 and all vines in the other treatment areas will be treated with 2-4-D Amine of at least four pounds acid equivalent as follows:

(1) The rooted intervals of these vines or parts of a vine which are rooted on both sides will also be cut midway with both stems sprayed with herbicide.

(2) Vines to be treated include, but are not limited to: grape, poison ivy, Virginia creeper.

(3) Care must be taken, in cutting vines, not to penetrate the bark of trees causing damage.

(4) Excessive run-off of herbicide onto the walnut trees will not be allowed, since it could damage or kill them.

(5) Vines from the edges to 30 feet inside the treatment areas will not be killed. These vines will be left to provide a screening effect and to benefit wildlife by providing food and cover.

(6) A kill guarantee similar to SAMPLE I, para j, above, may be included.

f. Also refer to Appendix I, sample para 14, and Sample 1, para 10, above, for additional general provisions which you should modify to meet your local requirements.

11. SAFETY REQUIREMENTS. Refer to Appendix I, sample para 14, for samples and adapt the samples to your local requirements.

12. WARNING: HAZARDOUS CONDITIONS AT SITE. Refer to Appendix I, sample para 15. Use as required by your local conditions.

13. INFORMATION REQUIRED. Sample paragraph 13 in Appendices M and N contain wording for those services which you might adapt to your local situation.

14. INSPECTION AND ACCEPTANCE. Adapt to your local needs from Appendix I, sample para 16, and Appendices Q and R, sample para 14.

15. ENDANGERED SPECIES. Adapt to your local needs from Appendix I, sample para 17.

16. LIQUIDATED DAMAGES. Adapt to your local needs from Appendix I, sample para 18.

APPENDIX Q

SAMPLE PLANTING SITE PREPARATION SERVICE CONTRACT TECHNICAL PROVISIONS

1. The following includes technical provisions for the Planting Site Preparation Service Contract. Technical provisions contained in this sample will require adaptation to local policy and procedure.
2. Sample.

SITE PREPARATION

1. GENERAL INFORMATION. The work to be performed under this contract consists of furnishing all materials, equipment, supplies, labor, transportation, and supervision required for preparing 32 separate plots of land consisting of about 1,608 acres for future reforestation. Acreage was determined by calculating actual scale of aerial photographs of the plots and by using a dot grid. Merchantable pine timber has been removed from these plots. The plots are located on (name) Air Force Installation. Refer to Appendix R, sample para 1 d, for an example you may wish to modify for your local situation.
2. PAYMENT. Although bids will be based on the approximate acreage stated, payment will be made on the actual acreage satisfactorily prepared and completed as determined by the government.
 - a. Also see Appendices M and R, sample para 2, and adapt to your local conditions.
 - b. In the event the actual quantity of a unit price item, measured as specified, varies by more than 25 percent from the stated quantity, adjustment in the contract unit price and/or the time for completion will be made in accordance with the terms of the contract for the quantity of work beyond the limits of 25 percent more or less than the quantity stated.
3. VISIT TO SITE. Refer to Appendix I, sample para 4, and Appendices N and R, para 3; modify to suit your local conditions. Also consider the following paragraph.

Bidders are expected to satisfy themselves as to the general and local conditions that may affect the cost of the performance of the work to the extent that such information is reasonably obtainable through a site inspection. Bid submission will be considered as certification that the site has been inspected and that the physical conditions at the site, the nature of the work, and the effect of existing and/or adjacent work has been determined. Inspection of the sites is invited between _____ a.m. and _____ p.m., Monday through Friday

by arrangement with _____, phone number _____.

4. PERIOD OF CONTRACT. This contract shall be completed within 180 days after the date of receipt of a notice of award or any other communication authorizing the contractor to proceed. Also see Appendix I, sample para 5 and Appendices N and R, sample para 4; modify to fit your local conditions.

5. PERFORMANCE SCHEDULE. The government may direct the order in which areas to be cleared will be chopped. Refer to Appendix I, sample para 12 and Appendices N, O, and R, sample para 5; modify to fit your local conditions.

6. LOCATION. Refer to Appendix I, sample para 10 and Appendices N and R, sample para 6, for examples; modify to fit your local situation. Within the confines of the Base, 32 plots are located as shown on the attached map(s) or drawing(s). (Not included in this sample.) Maps are the property of the government and will not be used for any purpose other than intended by this contract.

7. VEGETATION DESCRIPTION. Acreage of each plot and plots designated to be double chopped are shown in Table 1. Adapt to local needs from Appendices N, O, and P, sample para 7.

Table 1

REFORESTATION AREAS

PLOT NO.	ACRES	PLOT NO.	ACRES	PLOT NO.	ACRES
1	58	19	79	36	31
2	52	20	50	37	50

NOTE: Table abbreviated for sample.

8. CONTRACTOR REPRESENTATIVE. Adapt to local needs from Appendix I, sample para 13 and Appendix N, sample para 8.

9. SITE CONDITIONS. Adapt to local needs from Appendix I, para 11, and Appendices N and R, sample para 9.

10. STATEMENT OF WORK:

a. Equipment for brush chopping will consist of dozers pulling tandem-drum type brush choppers. For contract purposes, one unit of brush chopping equipment will equal one dozer and one set of tandem brush choppers.

(1) Each dozer will be equipped with either an angled blade or bar positioned on the front of the dozer in a manner that will push or throw standing trees and brush toward the unchopped side of the plot. Dozers with

only a "C" frame on the front are not acceptable under this contract. Dozers must be capable of pulling the chopper at an average speed of three miles per hour. Dozers must be equipped with protective canopies and fire extinguishers.

(2) The brush choppers must perform chops that are either 7, 8, or 10 feet wide. The minimum weight for sets of brush choppers under operating conditions is as follows: 7 feet wide - 24,000 pounds, 8 feet wide - 27,000 pounds, 10 feet wide - 34,000 pounds. Regardless of the width of the brush choppers used, the rear chopper will be set in position at an angle of 115 degrees from the direction of travel of the front chopper. The front chopper angle will be set by drawbar chain lengths prescribed by the manufacturer's recommendations. The blade arrangement of the chopper must consist of alternating six and eight inch (HI/LO) blades. Brush chopper blades which are badly worn (measuring less than one and one-half inches between cutting edge and top of bracket), deeply chipped, broken, loose or not fitting properly on the brackets are not acceptable for use under this contract.

b. Double chopping will be performed on designated plots. A 45-day waiting period will be observed between the completion of the first chop and the beginning of the second chop.

c. Each row of chopping will overlap the preceeding row by a minimum of six inches to assure complete chopping of the plots.

AND/OR

Chopping shall be accomplished with a chopper heavy enough so that it will not "ride" the brush. Two passes at right angles are required.

d. Pine and hardwood trees larger than nine inches diameter, measured 36 inches from the ground, will be left standing undamaged.

e. When "leave" hardwood trees are fewer than four per acre, clumps of smaller trees shall be left to compensate for lack of larger trees.

(1) Clumps of smaller trees shall not exceed 200 feet in length and 50 feet in width.

(2) One clump shall be left per five acres of plot area.

(3) Minimum separation between clumps shall be 150 feet in all directions.

f. Trees or shrubs of aesthetic value, i.e., holly, hawthorne, dogwood blueberry, yaupon, chinquapin, and magnolia, will be left on all plots where possible.

g. The contractor will keep available in each work area the necessary tools for removing filler or inspection plugs on any brush chopper drum requiring water to meet minimum weight requirements.

h. Contractor will be required to either load his equipment or use rubber tires for protection to cross paved roads.

i. Established roads traversing certain plots will not be chopped.

j. The contractor will exercise due diligence, both independently and upon request of the government, to prevent and suppress uncontrolled forest fires. During the period of this contract, the contractor shall, both independently and in cooperation with the government, take all reasonable and practicable action to prevent and suppress forest fires on the contract area and vicinity. The contractor agrees to reimburse the government for the cost of fire suppression incurred as the result of his negligence and/or willful acts. All fires will be reported immediately to the officer in charge or his authorized representative. Also see Appendix I, sample para 14 k.

k. Brush will be uprooted and chopped into lengths of not over three feet.

l. Bulldozing will be required on heavy brush areas.

(1) Brush will be piled and burned.

(2) After burning, the area will be chopped with one pass.

(3) A heavy duty construction type harrow or equivalent may be used after bulldozing in lieu of a brush chopper.

m. Trees too large to bulldoze or chop will be felled and cut into lengths not over ____ inches, or satisfactorily girdled and poisoned.

(1) Poisoning will be accomplished (Refer to Appendix P, Sample I, sample para 10 c, and Sample II, sample para 10 e; modify to fit your local conditions).

n. Refer to Appendix I, sample para 14 for other general statements of work; modify to fit your local requirements.

11. SAFETY REQUIREMENTS. Refer to Appendix I, sample para 14 for examples. Develop this paragraph to reflect local safety requirements.

12. WARNING: HAZARDOUS CONDITIONS AT SITE. Refer to Appendix I, sample para 15. Modify as required by your local conditions.

13. INFORMATION REQUIRED. Adapt to your local needs. See Appendices M and N, sample para 13, for examples of the information required for those services.

14. INSPECTION AND ACCEPTANCE. The work is subject to government inspection during the contractor's operation and after completion of the work. Unsatisfactory work will be corrected promptly. Each unit of brush chopping equipment used under this contract will be inspected by the contracting officer. Also refer to Appendix I, sample para 16, and Appendix R, sample para 14 for examples you might adapt to your requirements.

a. Each brush chopping unit will be made available for inspection not later than one workday prior to the beginning of work.

(1) All brush chopping units will be operational at the time of inspection.

(2) Certified weight tickets from government inspected weight scales will be furnished by the contractor to verify the actual weight of each set of brush choppers to be used under this contract at the time of the inspection.

(3) If brush chopper drums must be filled with water to meet minimum weight requirements, they may be filled after the brush choppers are unloaded at the site.

(4) Operating weight of brush choppers is the sum of the weight of the brush chopper and the weight of the water required to fill the brush chopper drums.

(5) Any brush chopping unit not meeting the approval of the contracting officer will be replaced, repaired, or modified in a manner which meets the specifications of the contract before any work is performed by that unit.

b. Frequent unscheduled inspections of brush chopping equipment and performance will be made during the period of the contract to insure that equipment specifications and performance requirements under the contract are maintained. A QAE checklist is provided in Table 2.

TABLE 2

QAE CHECKLIST

<u>CONTRACT REQUIREMENTS</u>	<u>OBJECTIVE</u>	<u>METHOD OF SURVEILLANCE</u>
Contractor must replace blades which are badly worn (measuring less than 1-1/2" between cutting edge and bracket), deeply chipped, broken, loose, or misfitting.	To achieve satisfactory results.	Periodic visual inspections.
On both the first and second chop, each row of chopping will overlap the preceding row by a minimum of 6" to assure that plots are completely chopped.	To assure that entire plot is chopped.	Periodic visual inspections.
A waiting period of 45 days is required between the completion of the first chop and the beginning of the second chop.	To assure that chopped material decomposes properly.	Written documentation including date the first chop was completed.
Leave trees and clumps: trees measuring 9" in dia., and larger, must be left standing and undamaged. Clumps of smaller trees must be left on plots with fewer than 4 "leave" trees per acre.	To maintain "mast" trees and cover for wildlife and for aesthetic value.	Periodic visual inspections and close coordination with the contractor and his equipment operators.

15. ENDANGERED SPECIES. Adapt to your local needs from Appendix I, sample para 17.

16. LIQUIDATED DAMAGES. Adapt to your local needs from Appendix I, sample para 18.

APPENDIX R

SAMPLE REFORESTATION PLANTING CONTRACT TECHNICAL PROVISIONS

1. This sample of Reforestation Planting Contract Technical Provisions contains three examples of reforestation procedures. Sample paragraphs 1, 7, 10, and 14 contain procedures for random planting, row planting, and direct seeding. Sample paragraph 7 describes the specifications to be used in purchasing seedlings or seeds. Other sample paragraphs lend themselves to general specifications applicable to each method of reforestation. All sample paragraphs should be modified to meet your local requirements.

2. SAMPLE: REFORESTATION.

1. GENERAL INFORMATION. The work covered by these specifications consists of furnishing all services, labor, equipment, materials, and in performing all operations in strict accordance with this section of the specifications and subject to the terms and conditions of the contract. Work consists of reforestation activities on approximately 1,819 acres on 37 separate plots located on (name) Air Force Installation and shown on the attached maps and drawings. (Not furnished with this sample.)

a. The government will furnish tree seedlings (seed).

b. The contractor will obtain seedlings at the Jackson Guard Station and transport them to the job site at no additional cost to the government.

(1) The contractor will notify the contracting officer at least five days in advance of planting so seedlings can be furnished on time.

(2) All seedlings will be signed for by the contractor who will be held accountable for all seedlings issued.

(3) Seedlings damaged through contractor negligence will be paid for by the contractor at the rate of (price per thousand).

c. The government will provide helicopter landing and loading sites within the work areas for aerial seeding purposes.

d. Bid will be accepted only from contractors who, in the opinion of the government, can show evidence of the ability, experience, and facilities

to completed the work successfully. A summary of tree planting (seeding) experience will be submitted upon request.

2. PAYMENT:

a. Payment for work covered by these technical provisions will be made in accordance with DAR (ASPR) 7-103.7, as listed in the General Provisions of the contract.

b. The following payment clause is added. Final inspection and acceptance in writing will be made by the government contracting officer and will precede payment for planting. Payment will be made on the basis of the actual quantity of trees satisfactorily planted, as set forth in para 10 of these technical provisions, at the unit price bid.

3. VISIT TO SITE. Prospective bidders are expected to make their own estimates of the facilities needed and the difficulties attending the execution of the contract, including local conditions, availability of labor, uncertainty of weather, and other contingencies. In no case will the government assume any responsibility whatsoever for any interpretation, deduction, or conclusion drawn from the examination of the planting area. Prospective bidders will be given an opportunity to study aerial photographs and actual field conditions of the area through arrangements with (name) (telephone number) (day(s) and times). Also refer to Appendix I, sample para 4, and to Appendices N and Q for other examples which you may modify for your local conditions.

4. PERIOD OF CONTRACT. The entire work shall be completed within (time period) after date of receipt of a notice of award or any other communication authorizing the contractor to proceed. Extensions will be granted for time losses resulting from government operations and the following:

a. Insufficient soil moisture.

b. Too wet soil conditions or excessive rainfall.

c. Freezing weather.

d. Shortage of planting stock caused by freezing weather at the nursery, by transportation delays, or by other unforeseen, uncorrectable conditions not the fault of the contractor.

e. Also refer to Appendix I, sample para 5 and to Appendices N and Q, sample para 4 for examples you may wish to modify for your local situation.

5. PERFORMANCE SCHEDULE:

a. No seedlings will be planted before (date) nor later than (date) unless approved by the Chief, Natural Resources Division (appropriate official).

b. The contractor will submit, for government approval, a work schedule beginning within the first five days of the performance period. This work schedule will be submitted in writing to (responsible official, address, phone number) no later than (date).

c. A revised work schedule may become necessary due to possible delays in work time caused by overriding government missions or unfavorable weather conditions. A revised schedule will be processed within one week of its submission by the contractor to (responsible official).

d. See Appendix I, sample para 12 and Appendices N, O, and Q, para 5 for additional provisions that may be necessary. Modify the samples to fit your local conditions.

6. LOCATION:

a. The attached drawing (not included in this sample) shows the general location of the 1,819 acres to be planted (seeded).

b. If any of the areas are declared a danger area or an area needed for operations by the government, other areas similar to the ones listed may be substituted by the government to meet the requirements of this contract.

c. Areas covered by this contract are listed in Table 1.

d. Refer to Appendix I, sample para 10, and Appendices N and Q, sample para 6 for examples you may wish to modify for your local situation.

TABLE 1
REFORESTATION AREAS¹

<u>PLOT NO.</u> ²	<u>ACRES</u>	<u>PLOT NO.</u>	<u>ACRES</u>
3	55	48	23
6	56	49	<u>53</u>
TOTAL			1,819

NOTES: ¹Plots 3, 5, 30, and 20 are to be planted with sand pine. All remaining plots will be planted with slash pine.

²Table is incomplete in this example.

7. VEGETATION DESCRIPTION. When the contractor furnishes seedlings, minimum acceptable slash pine seedlings (seeds) will have the following characteristics: (Also refer to Appendices N, O, and P, sample para 7 for examples; modify them to fit your situation.)

a. Length of top: three to eight inches.

b. Stem diameter: 1/16 to 1/8 inches at ground level (root collar).

- c. Foliage: at least five bundles of secondary (long) needles.
- d. Root length: at least five inches with a well-developed lateral root system.
- e. Age: one year.

OR SEEDS

- a. Species: longleaf pine (Pinus palustris).
 - b. Quantity: 6,400 pounds.
 - c. Geographic source:
 - (1) South Carolina.
 - (2) North part of Florida.
 - (3) South part of Georgia.
 - d. Delivery location: Seeds are to be refrigerated and transported to the (address). Seed delivery will be from (day(s) and times).
 - e. Delivery date: Not later than (date).
 - f. Germination: 60% minimum.
 - g. Dewinged: Seeds are to be dewinged and 95 percent sound (see enclosed diagram of seeds).
 - h. Purity: 90 percent minimum.
 - i. Moisture content: 10 percent maximum.
 - j. Year collected: 19 __/____ (date).
 - k. Containers: Fiber drums with metal top and bottom lined with a plastic bag.
 - l. Seed lots: Bidders may submit more than one seed-lot to make the total of 6,400 pounds.
 - m. Germination test: The successful bidder will furnish a Germination and Sowing Rate Report from the (name) Tree Seed Laboratory (address) on each seed lot at time of delivery.
8. CONTRACTOR REPRESENTATIVE. Refer to Appendix I, sample para 13 and Appendix N, sample para 8 for examples; modify for your local situation.

9. SITE CONDITIONS:

- a. Terrain is flat to gently rolling.
- b. Sites have been double chopped.
- c. Clumps and single game-food trees are reserved.
- d. Soil is sandy.
- e. Access roads are available.
- f. Ground cover consists of grass, weeds, and vegetation native to this area.
- g. Also refer to Appendix I, sample para 11, and Appendix N, sample para 9; modify for your local conditions.

10. STATEMENT OF WORK:

SAMPLE I - RANDOM PLANTING

a. Where possible, the contractor will begin planting near the center of the plot around a clump of trees or large hardwoods to insure an irregular pattern is established throughout the plot.

(1) The method of planting seedlings to accomplish a random appearance and provide the proper number of seedlings per acre may vary due to the layout and number of trees left on the plots.

(2) Planting will not begin on plots by following straight lines, such as roads or other man-made perimeters.

(3) Seedlings will be planted randomly eight feet by eight feet or approximately 700 per acre.

(4) Spacing requirements may be modified due to presence of debris piles, large trees, or established reproduction, to a minimum of six feet by six feet or a maximum of 10 feet by 10 feet. Spacing variations greater or less than these will not be accepted.

SAMPLE II - ROW PLANTING

a. Seedlings will be planted with the following spacing:

(1) Slash Pine seedlings will be planted 11 feet apart within rows and rows will be 12 feet apart or approximately 350 seedlings per acre (11 feet by 12 feet spacing).

(2) Sand Pine seedlings will be planted eight feet apart within rows and the rows will be eight feet apart or approximately 700 seedlings per acre (eight feet by eight feet spacing).

(3) Spacing requirements may be modified, if necessary, due to the presence of debris piles, trees, or established reproduction. Modification must be kept to a minimum.

(a) Slash Pine spacing may be modified to a minimum of eight feet by eight feet to a maximum of 14 feet by 14 feet.

(b) Sand Pine spacing may be modified to a minimum of six feet by six feet to a maximum of 10 feet by 10 feet.

(c) Spacing variations greater or less than these will not be accepted.

OR

(3) Tolerance for deviation in the number of seedlings will be allowed to the extent that no planted area will vary from the prescribed spacing more than 10 percent above or 10 percent below the required number of seedlings to be planted in each area.

(a) Requirements will be modified, if necessary, to fit conditions for debris piles, tree tops, or established reproduction.

(b) If the number of seedlings satisfactorily planted falls more than 10 percent below the prescribed number for any area, the shortage must be corrected as directed by the government inspector.

(c) No credit will be allowed for seedlings planted in excess of the specified number plus 10 percent.

GENERAL SPECIFICATIONS FOR SAMPLES I AND II

b. Machines for planting seedlings will be the heavy duty tow type with hydraulic control coulter lift.

(1) Planters will be mounted on four pneumatic tires with the two rear wheels set at an angle for compacting the soil around pine seedlings. Tires will be of suitable size for adequate compaction around seedlings as directed by (appropriate official).

(2) Planters will be equipped with a rolling cutting coulter followed by a plow which opens a furrow to receive the seedlings.

(3) All planting machines will be the standard product of a manufacturer regularly engaged in the production of planting machines and will be approved by (appropriate official).

(4) A dibble will be used for hand planting seedlings.

c. Seedlings will be planted at a slightly greater depth (up to two/one inches deeper/at the same depth) than grown in the nursery. (Specify the depth you require.) Care must be taken so that the root collar is not left exposed.

(1) Soil will be packed firmly around the roots during planting to prevent air pockets in holes around seedlings.

(2) Seedlings planted with "J" roots are not acceptable.

(3) Seedlings will be planted by machine except small rough areas and skips in rows which will be hand planted.

d. Seedlings will be cared for prior to planting.

(1) Seedlings will not be transported from the storage area to the planting site on vehicles used for hauling fuel.

(2) Seedlings will be protected from freezing, drying, heating, and sunlight until they are planted. (Seedlings will not be exposed to less than 40 degrees Fahrenheit nor more than 70 degrees Fahrenheit before planting.)

(a) Seedling bundles must be kept in shade while being transported and while in the field.

(b) A five gallon can of fresh water will be kept with each crew for keeping seedlings damp while in planting bags or containers.

(c) Planting bags containing seedlings or seedlings placed in planting machines will be kept covered with wet moss or water and handled so that the roots are adequately protected from drying until the seedlings are actually planted.

(3) If weather or other conditions prevent transplanting for a period of more than one day, the seedlings must be "heeled in". Over a weekend, broken bundles of seedlings will be protected from drying by covering them with wet moss or by "heeling in" and watering at least once.

e. Roots will not be trimmed unless authorized by the government inspector.

f. One individual will be the foreman for the contractor and will supervise the crew. This individual will carry out the directions of the government inspector. As long as satisfactory performance is maintained, the foreman can be a "work leader" and actually participate in the planting.

g. Refer to Appendix I, sample para 14, for other general specifications; modify them to meet your requirements.

SAMPLE III - DIRECT SEEDING

a. The contractor must complete Air Force Forms 180, 181, and 203 requesting approval for landing at an Air Force Installation. The forms will be provided by the government upon award of the contract.

b. The helicopter used in this operation will be equipped with a two-way radio with VHF communication capability.

(1) The pilot will maintain radio contact with (appropriate facility).

(2) Prior to landing and for all work activities under this contract, a flight plan must be filed with (name) Operations, (address, phone).

c. Helicopters will be equipped with a low-volume belly-mounted spreader which incorporates an air blown (SIMPLEX or equal) transfer method of transporting the seed to the slinger dish through an oversized cylinder, gently, without causing mechanical damage to the pine seed. Helicopters incorporating a hydraulic or electrically driven seed-transfer method are not to be used under this contract.

d. Seed will be dispensed below the helicopter understructure (skids).

e. Seed will be applied at the rate of either two or four pounds per acre (specify the rate). (Plots are designated by treatment in para 6 above.)

f. The seeder will be turned off at the end of each run and during the time a turn is being made.

g. Flying altitude will not be less than 50 feet or more than 150 feet during the seeding operation.

h. Seeding will not be done if the wind is gusting, shifting, or above 10 mph at ground level.

i. The seeding system will be equipped with a warning light, buzzer, or other suitable device to alert the pilot, if the seeder is not dispensing seed.

j. Seeding will be done in a manner that results in an even distribution of seed over the plot. "Windrowing," caused by dispersing seed at improper altitude, flying crosswind, or other factors is not acceptable.

k. Refer to Appendix I, sample para 14, for other general specifications. Modify them to meet your requirements.

11. **SAFETY REQUIREMENTS.** Refer to Appendix I, sample para 14. Modify the example to meet your requirements.

12. **WARNING: HAZARDOUS CONDITIONS AT SITE.** Refer to Appendix I, sample para 15 for an example. You may modify the example to fit your local situation.

13. **INFORMATION REQUIRED.** If needed, refer to Appendices M and N, sample para 13, for examples. Modify the examples to fit your requirements.

14. **INSPECTION AND ACCEPTANCE:**

a. The government will check the calibration of the seeder system with the contractor prior to the start of seeding operations.

b. The rate of discharge from the seeder system will be checked periodically during operations.

OR

a. The government inspector will dig up at least five seedlings per day per planter for inspection purposes.

b. For purposes of this contract one unit of planting equipment will equal one dozer or rubber tired tractor and one tree planter. Each unit of planting equipment used under this contract will be inspected by the contracting officer.

(1) Each planting unit will be made available for inspection not later than one work day prior to the beginning of work. All planting units will be fully operational at the time of this inspection.

(2) The contracting officer will make frequent unscheduled inspections of planting equipment and performance during the period of the contract to insure the equipment and performance requirements are maintained. Table 2 contains a QAE checklist.

TABLE 2

QAE CHECKLIST - PLANTING PINE SEEDLINGS

<u>CONTRACT REQUIREMENTS</u>	<u>OBJECTIVE</u>	<u>METHOD OF SURVEILLANCE</u>
Contractor must use heavy duty drag type planters, with hydraulic coulter and pneumatic tires.	To achieve satisfactory results.	Periodic visual inspections.
Contractor must plant seedlings eight feet by eight feet or approximately 680 per acre.	To achieve satisfactory stocking level.	Periodic visual inspections and establishing 1/10 acre plots.
Seedlings shall be protected from drying out, freezing or other damage.	To keep seedling mortality to an acceptable level.	Periodic visual inspection.

CONTRACT REQUIREMENTS

Contractor must plant seedlings in a random manner with no "J" roots.

OBJECTIVE

To achieve a satisfactory stocking level.

METHOD OF SURVEILLANCE

Periodic visual inspections and by digging up at least five seedlings per day.

FOR BOTH PLANTING AND SEEDING WORK

c. Refer to Appendix I, sample para 16, and Appendix Q, sample para 14, for other considerations. Modify the examples to fit your local requirements.

15. ENDANGERED SPECIES. Refer to Appendix I, sample para 17.

16. LIQUIDATED DAMAGES. Refer to Appendix I, sample para 18.

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