STATE OF OHIO
DEPARTMENT OF ADMINISTRATIVE SERVICES
GENERAL SERVICES DIVISION
OFFICE OF PROCUREMENT SERVICES
4200 SURFACE ROAD, COLUMBUS, OH 43228-1395

REQUIREMENTS CONTRACT: OHIO GYPSY MOTH AERIAL SPRAYING PROGRAM

CONTRACT No.: OT905808 EFFECTIVE DATES: 02/01/08 to 01/31/11

The Department of Administrative Services has accepted bids submitted in response to Invitation to Bid No. OT905808 that opened on 12/21/07. The evaluation of the bid response(s) has been completed. The bidder(s) listed herein have been determined to be the lowest responsive and responsible bidder(s) and have been awarded a contract for the items(s) listed. The respective bid response, including the Terms and Conditions for Bidding, Standard Contract Terms and Conditions, and Supplemental Contract Terms and Conditions, special contract terms & conditions, any bid addenda, specifications, pricing schedules and any attachments incorporated by reference and accepted by DAS become a part of this Requirements Contract.

This Requirements Contract is effective beginning and ending on the dates noted above unless, prior to the expiration date, the Contract is renewed, terminated or cancelled in accordance with the Contract Terms and Conditions.

This Requirements Contract is available to LIMITED DISTRIBUTION - OHIO DEPARTMENT OF AGRICULTURE, PLANT PEST CONTROL SECTION, 8995 EAST MAIN STREET, REYNOLDSBURG, OH 43068-3399, as applicable.

Agencies are eligible to make purchases of the listed supplies and/or services in any amount and at any time as determined by the agency. The State makes no representation or guarantee that agencies will purchase the volume of supplies and/or services as advertised in the Invitation to Bid.

SPECIAL NOTE: State agencies may make purchases under this Requirements Contract up to $2500.00 using the state of Ohio payment card. Any purchase that exceeds $2500.00 will be made using the official state of Ohio purchase order (ADM-0523). Any non-state agency, institution of higher education or Cooperative Purchasing member will use forms applicable to their respective agency.

Questions regarding this and/or the Requirements Contract may be directed to:

Michael S. Shaw, CPPB
michael.shaw@das.state.oh.us

This Requirements Contract and any Amendments thereto are available from the DAS website at the following address:

http://www.ohio.gov/procure

Signed: _____
Hugh Quill, Director Date

TABLE OF CONTENTS

CLAUSES	PAGE NO.
Special Contract Terms and Conditions	3-4
Amendments to Contract Terms and Conditions	3
Incurred Costs	3
Specification Questions	3
Mandatory/Required Submissions	3
Evaluation	3
Contract Award	3
Descriptive Literature	3
Liability Insurance	3
Required Documentation Submittals	3
Delivery and Acceptance	4
Fixed-Price With Economic Adjustment	4
Liquidated Damages	4
Exceptions	4
Usage Reports	4
Specifications and Requirements	5-38
Reference Table of Contents	5-7
I. Scope	8
II. Definitions and Stipulations	8-10
III. Awarding of the Contract	10-11
IV. Insurance	11-13
V. Contract Specifications Summary	13-15
VI. Obligations of the State	15-17
VII. Contractor Obligations	17-20
VIII. Insecticides and Adjutants	20-21
IX. Aircraft	21-27
X. Ground Support Equipment	27-28
XI. Contractor Personnel	29-30
XII. Application Specifications, Conditions, & Restrictions	30-32
XIII. Safety Requirements and Procedures	32-35
XIV. Agreed Damages for Failure to Perform	35-37
XV. Contract Change Orders and Cost Adjustments	38

CONTRACT ITEMS	
Price Schedule	39
Contractor Index	40
Attachment “A”, Aircraft and Pilot Information	41-46

SPECIAL CONTRACT TERMS AND CONDITIONS

AMENDMENTS TO CONTRACT TERMS AND CONDITIONS: The following Amendments to the Contract Terms and Conditions do hereby become a part hereof. In the event that an amendment conflicts with the Contract Terms and Conditions, the Amendment will prevail.

INCURRED COSTS: The State is not liable for any costs incurred by the Bidder prior to issuance of a Contract.

SPECIFICATION QUESTIONS: Information regarding submission of questions and clarifications for this Bid is provided on page one (1) of the Bid. Through the indicated inquiry closure date, Bidders may visit the Procurement Services website to post Bid related questions at <www.ohio.gov/procure>. Answers to all Bidder questions will be posted on the Procurement Services website and linked to the Bid Number. Bidders can make their own inquiry and/or review all inquiry questions/responses from the same website page from which the Bid document is downloaded The State will make every effort to respond to website inquires within forty-eight (48) hours of receipt. The State will not respond to any verbal or written questions received through any other medium. No prospective Bidder shall respond to any verbal instructions or changes to this Bid. Only Bid communications, issued by the Department of Administrative Services, Office of Procurement Services, in a public, published format, will be considered valid.

MANDATORY/REQUIRED SUBMISSIONS: As specified, mandatory submissions must be submitted with the Bid Response. Required documentation/materials should be submitted with the Bid. If not submitted with the Bid, the Bidder must provide the said documentation/materials within five (5) business days, after notification, to the Office of Procurement Services. Failure to provide mandatory submissions with the Bid Response or failure to provide the required documentation/materials, as applicable, within the stated time period will result in the Bidder being deemed as not responsive and the Bid Response will be immediately disqualified with no further consideration given for potential awarding of the Contract.

For specific submission requirements, Bidders should refer to Specifications and Requirements and the Bid Submission Check List for a listing of those mandatory submissions due with the Bid Response and those other submissions that should be submitted with the Bid Response, but which do not become mandatory until requested during the Bid evaluation period.

EVALUATION: Bids will be evaluated in accordance with Article I-17 of the “Instructions to Bidders”. ”. In addition, for each of the six insecticide formulations, under both fixed wing and rotary aircraft, the State will multiply the total cost per acre by the following acreage projections: 2,999 acres, 9,999 acres, and 10,000 acres. The three sums will be added together for a formulation total. This will be done for each of the six insecticide formulations under both fixed wing and rotary aircraft and the totals will be added together for a lot total cost per acre using both fixed wing and rotary wing aircraft.

CONTRACT AWARD: The Contract will be awarded to the lowest responsive and responsible Bidder by low lot total. Low lot total will be determined by multiplying the unit cost by the estimated usage listed in the Bid and then adding each of the totals together to arrive at a total for all items. Failure to bid all items may result in the Bidder being deemed not responsive.

DESCRIPTIVE LITERATURE: The Bidder shall submit descriptive literature of the supplies or services being offered as part of their Bid Response. The literature will be used in the evaluation process to determine the lowest responsive and responsible Bidder. Any references, that may appear in the descriptive literature, that may alter the terms and conditions and specifications of the Bid (i.e. F.O.B. Shipping Point or Prices Subject to Change), will not be part of any Contract and will be disregarded by the state of Ohio. Failure of the Bidder to furnish descriptive literature as part of their Bid Response will deem the Bidder not responsive.

LIABILITY INSURANCE: Each vendor shall carry liability insurance with minimum limits as stated in Section IV, Items A and B. A letter of guarantee showing the types of coverage must be submitted with the Bid (see Section II, Item A).

REQUIRED DOCUMENTATION SUBMITTAL: Evidence of A, B, and C below must be submitted with the Bid. Failure to do so may be reason for disqualification.

A. The Contractor shall employ and use for this work trained personnel who are experienced in work of this type and who are licensed by the Ohio Department of Agriculture. Resumes of these technicians shall be provided with the Bid for review (see Section II, Item C of the Specifications and Requirements).

B. Bidder shall provide evidence of previous/present contracts of this type. Bidder shall give names, addresses, and telephone number of three (3) customers with whom he has provided such services.

C. Bidder shall provide his Ohio Department of Agriculture Applicator's Number.

SPECIAL CONTRACT TERMS AND CONDITIONS

DELIVERY AND ACCEPTANCE: Services will be performed as set forth in the Contract and in accordance with paragraphs S-8, S-9, and S-10 of the SUPPLEMENTAL CONTRACT TERMS AND CONDITIONS. The location of performance will be noted on the purchase order issued by the participating agency. Payment for services rendered will occur upon the inspection and written confirmation by the ordering agency that the services provided conform to the requirements set forth in the Contract. Unless otherwise provided in the Contract, payment shall be conclusive except as regards to latent defects, fraud, or such gross mistakes as amount to fraud.

FIXED-PRICE WITH ECONOMIC ADJUSTMENT: The Contract prices(s) will remain firm for the first six (6) months duration of the Contract. Thereafter, the Contractor may submit a request to increase their price(s) to be effective thirty (30) calendar days after acceptance by DAS. No price adjustment will be permitted prior to the effective date of the increase received by the Contractor from his suppliers, or on purchase orders that are already being processed, or on purchase orders that have been filled and are awaiting shipment. If the Contractor receives orders requiring quarterly delivery, the increase will apply to all deliveries made after the effective date of the price increase.

The price increase must be supported by a general price increase in the cost of the finished supplies, due to increases in the cost of raw materials, labor, freight, Workers' Compensation and/or Unemployment Insurance, etc. Detailed documentation, to include a comparison list of the contract items and proposed price increases, must be submitted to support the requested increase. Supportive documentation should include, but is not limited to: copies of the old and the current price lists or similar documents which indicate the original base cost of the product to the Contractor and the corresponding increase, and/or copies of correspondence sent by the Contractor's supplier on the supplier's letterhead, which contain the above price information and explains the source of the increase in such areas as raw materials, freight, fuel or labor, etc.

Should there be a decrease in the cost of the finished product due to a general decline in the market or some other factor, the Contractor is responsible to notify DAS immediately. The price decrease adjustment will be incorporated into the Contract and will be effective on all Purchase Orders issued after the effective date of the decrease. If the price decrease is a temporary decrease, such should be noted on the invoice. In the event that the temporary decrease is revoked, the Contract pricing will be returned to the pricing in effect prior to the temporary decrease. For quarterly deliveries, any decrease will be applied to deliveries made after the effective date of the decrease. Failure to comply with this provision will be considered as a default and will be subject to Provision I.C. “Termination/Suspension” and Provision II. of the “Contract Remedies:” of the “Standard Contract Terms and Conditions”.

Refer Bid Section XV for Contract specific conditions for submitting a petition for price increase.

LIQUIDATED DAMAGES: In the event that an awarded Contractor fails to perform within the timeframe specified by the Contract and/or Purchase Order, the agency will contact the Contractor to determine when the Purchase Order will be fulfilled. If the Contractor cannot fulfill the Purchase Order requirements within a timeline acceptable to the agency, the agency may procure like-kind supplies/services from another resource and invoice the Contract provider for the full additional amount charged by the third party provider. Invoices for said liquidated damages must be deducted from subsequent Contractor invoices prior to payment by the agency.

Under these damage recovery provisions, the agency may: (1) elect to procure any portion of the original order from another source; (2) charge the Contractor for any difference in cost for the merchandise/service procured; and/or (3) cancel any portion of the original order without Contractor penalty. Also reference Supplemental Contract Terms and Conditions, Article S-9, Time of Delivery, and Standard Contract Terms and Conditions, Section II, Contract Remedies.

EXCEPTIONS: Any exceptions to these specifications must be explicitly detailed in the Bidder’s Response. Exceptions will not disqualify a Bidder’s Response, except in cases where specifically noted. It is the intention of the State to fully evaluate all acceptable alternate equal Bid Responses that meet the overall requirements of these specifications. State personnel will evaluate exceptions to determine whether variances are material enough to represent a violation of the specification intent or would give the Bidder a competitive advantage. However, exceptions to the stated levels of performance, reliability, and timeliness would represent such a violation of the intent of these specifications that would necessitate rejection of the Bid Response.

USAGE REPORTS: Every twelve (12) months the Contractor must submit a report (written or on disk) indicating sales generated by this Contract. The report shall list usage by customer, by line item, showing the quantities/dollars generated by this Contract. The report shall be forwarded to the Office of Procurement Services, 4200 Surface Road, Columbus, OH 43228-1395, Attn: Michael Shaw.

SPECIFICATIONS AND REQUIREMENTS

GYPSY MOTH AERIAL SPRAYING

REFERENCE TABLE OF CONTENTS

SECTION	**PAGE REFERENCE**
I. SCOPE	8
II. DEFINITIONS & STIPULATIONS	8-10
A. INSTRUCTIONS TO BIDDERS	8
B. DEFINITION OF TERMS	8-9
C. BIDDER QUALIFICATIONS	9-10
D. USE OF SUBCONTRACTORS	10
E. SCOPE OF AGREEMENT	10
F. SPECIAL PROVISIONS	10
III. AWARDING CONTRACT	10-11
A. BASIS OF AWARD	10
B. CONDITIONS TO BE MET	11
IV. INSURANCE	11-13
A. INSURANCE REQUIREMENTS	11-12
B. REQUIREMENTS TO BE FOLLOWED	12
C. WORKERS COMPENSATION	12
D. INDEMNIFICATION	13
E. SIGNED AGREEMENT	13
V. CONTRACT SPECIFICATIONS SUMMARY	13-15
A. LOCATION OF SPRAY BLOCKS	13
B. ESTIMATED NUMBER OF ACRES	13
C. ESTIMATED STARTING & COMPLETION DATES	13
D. AIRCRAFT REQUIREMENTS	13-14
E. INSECTICIDES & RATES OF APPLICATION	14-15
F. LOADING & LANDING ZONES	15
G. DEPARTMENT PROGRAM MANAGER	15
VI. OBLIGATIONS OF THE STATE	15-17
A. DEPARTMENT PERSONNEL & RESPONSIBILITIES	15-16
B. SUPPLIES, MATERIALS, & EQUIPMENT	16
C. SERVICES	17
VII. CONTRACTOR OBLIGATIONS	17-20
A. CONTRACTOR PERSONNEL	17
B. SUPPLIES, MATERIALS & EQUIPMENT	17-18
C. SERVICES	18
D. PESTICIDE APPLICATOR LICENSES	18
E. SPRAY MATERIALS	18
F. CHAIN OF CUSTODY	19
G FAA CONGESTED AREA PLANS	19
H. LANDING & LOADING ZONES	19
I. PROJECT MEETING	19
J. EQUIPMENT MAINTENANCE	19
K. EQUIPMENT RELOCATION	19
L. SECURITY OF EQUIPMENT	19
M. SECURITY OF PESTICIDES	19
N. SECURITY OF AIRCRAFT	19
O. FIELD EXPENSES & TRANSPORTATION	20
P. SPILL CLEANUP EXPENSES	20
Q. SAFETY & SPILL PLAN	20

SPECIFICATIONS AND REQUIREMENTS

GYPSY MOTH AERIAL SPRAYING

REFERENCE TABLE OF CONTENTS

SECTION	**PAGE REFERENCE**
VIII. INSECTICIDES AND ADJUTANTS	20-21
A. PURCHASING, STORAGE, & TRANSPORTATION	20
B. STICKERS	21
C. OPERATIONAL PROBLEMS	21
D. CONTAINER DISPOSAL	21
E. INSECTICIDE MIXING, HANDLING, & HOLDING	21
IX. AIRCRAFT	21-27
A. GENERAL SPECIFICATIONS & OPERATIONAL LIMITATIONS	21-22
B. AIRCRAFT SPRAY SYSTEMS	22-24
C. CALIBRATION / CHARACTERIZATION	24
D. RADIO COMMUNICATION EQUIPMENT	24
E. AIRCRAFT GUIDANCE EQUIPMENT	25-26
F. RADIO PROGRAMMING	26
G. SERVICE AND MAINTENANCE	27
H. TELEPHONE COMMUNICATIONS IN THE FIELD	27
X. GROUND SUPPORT EQUIPMENT	27-28
A. INSPECTION & CERTIFICATION	27
B. ACCESSORY EQUIPMENT	27
C. EQUIPMENT CLEANING	27
D. FIELD TRUCKS	27
E. TANKS	27-28
F. PUMPS	28
G. METERS	28
XI. CONTRACTOR PERSONNEL	29-30
A. PROJECT SUPERVISOR	29
B. GROUND SUPPORT PERSONNEL	29
C. PILOTS FOR SPRAY AIRCRAFT	29-30
D. CONTRACTOR PERSONNEL BACKGROUND CHECKS	30
E. DEPARTMENT REVIEW OF CONTRACTOR PERSONNEL	30
XII. APPLICATION SPECIFICATIONS, CONDITIONS & RESTRICTIONS	30-32
A. LOGISTICS	30
B. WEATHER RESTRICTIONS	30-31
C. FOLIAGE & INSECT CONDITIONS	31
D. TIME OF SPRAY RESTRICTIONS	31
E. NO SPRAY ZONES & BUFFER ZONES	31
F. SPRAY TIME POLICY	31
G. NAVIGATIONAL ASSISTANCE	31
H. RECONNAISSANCE	31
I. MAPS AND SPRAY BLOCK ID	31-32
J. FERRY FLIGHTS AND OVER FLIGHTS	32
K. AIRSPEED, APPLICATION ALTITUDE, TURNS	32
L. ACCURACY	32
M. PRE-SPRAY BRIEFING AT START OF PROGRAM	32

SPECIFICATIONS AND REQUIREMENTS

GYPSY MOTH AERIAL SPRAYING

REFERENCE TABLE OF CONTENTS

SECTION	**PAGE REFERENCE**
XIII. SAFETY REQUIREMENTS & PROCEDURES	32-35
A. GENERAL	32
B. CONTRACTOR SAFETY & SPILL PLANS	33
C. PERSONAL PROTECTION EQUIPMENT	33
D. INSECTICIDE HANDLING & MIXING	33
E. SAFETY ZONES	33
F. MSDS	33
G. PLACARDS & HAZARD REGULATIONS	33
H. FIRE EXTINGUISHERS	33
I. REFUELING REQUIREMENTS & PROCEDURES	34
J. ACCIDENT & INCIDENT REPORTING	34
K. HAZARDS IN & NEAR SPRAY BLOCKS	34
L. RADIO COMMUNICATIONS	34
M. PILOT FLIGHT LIMITATIONS	34-35
XIV. AGREED DAMAGES FOR FAILURE TO PERFORM	35-37
A. INTRODUCTION	35
B. LATE ARRIVAL	35-36
C. TARDINESS	36
D. DELAYS	36
E. WORK SITES & LANDING ZONES	36
F. IMPROPER SPRAYING	36
G. STORED MIXED INSECTICIDE	36
H. OTHER SPRAYING	36
I. IMPROPER MIXING	36-37
J. INSECTICIDE LOSSES, SPILLS & DUMPS	37
K. POOR PILOT PERFORMANCE	37
L. MECHANICAL FAILURES	37
M. AIRCRAFT & PILOT SUBSTITUTIONS	37
N. DOCUMENTATION	37
XV. CONTRACT CHANGE ORDERS AND COST ADJUSTMENTS	38
A. CANCELLATION CLAUSE	38
B. PASS THROUGH COSTS	38
BID PRICE PAGE	39
BID PRICE PAGE ATTACHMENT A	40
INSURANCE CERTIFICATE ENDORSEMENTS	41
AUTOMOBILE LIABILITY INSURANCE CHECKLIST	42
CONTRACTOR DISCLOSURE CERTIFICATION	43
BIDDER DISCLOSURE STATEMENTS	44
OBM CONTRACTOR INFORMATION FORMS	45
BID SUBMISSION CHECKLIST	46

SPECIFICATIONS AND REQUIREMENTS

I. SCOPE: INTRODUCTION TO THE OHIO GYPSY MOTH AERIAL SPRAYING CONTRACT

A. Bids are requested for the aerial application of certain insecticides over certain forested and residential areas in the state of Ohio to prevent defoliation of trees by the gypsy moth, *Lymantria dispar.*

B. The types of aircraft required for this Contract are detailed in Section IX. The Contractor is required to provide the insecticide as specified in Section VIII, and its cost must be included in the per acre bid.

C. The acreage designated for treatment will vary from year to year and be located throughout Ohio.

D. The specifications, which follow, apply to all purchases and become a definite part of each formal bid, Purchase Order, or other award, unless otherwise specified. Bidders or their authorized representatives are expected to fully inform themselves as to the conditions and specification before submitting bids. Failure to do so will be at the Bidders own risk and he/she cannot secure relief on the plea of error.

E. After award of the Contract, the State's point of contact concerning these Contract specifications will be the Program Manager. The Contractor shall contact:

Mr. David Adkins
Ohio Department of Agriculture
Plant Pest Control Section
8995 E. Main St., Bldg. #2
Reynoldsburg, Ohio 43068
Office: (614) 387-0907, Fax: (614) 728-6453

II. DEFINITIONS AND STIPULATIONS

A. INSTRUCTIONS TO BIDDERS: It is the responsibility of each Bidder to read the entire Invitation To Bid and accompanying documents. In addition, once the Bid is awarded, all personnel for the Contractor and Subcontractor that will work on this Contract must read this document and become familiar with the specifications, requirements, and safety procedures.

1. All sections of the attached Bid Quotation Reply Section must be executed completely and correctly (Attachment A, and the Bid Price Page constitute the Bid Quotation Reply Section). See each section for instructions on how to complete each form.

2. IMPORTANT NOTE: Each Bidder must submit with his/her Bid a letter of guarantee of necessary coverage from the Bidder's insurance company stating that proper polices will be issued to the successful Bidder within twenty (20) days of notification of award. Reference Bid Section IV for coverage limit requirements. A compliant certificate of insurance must be submitted to the Division of Plant Industry within twenty (20) days after notification. A certificate of insurance is not required to be turned in with the Bid response.

3. The signed cover page and the Bid Quotation Reply Section must be returned to the Office of Procurement Services by 1:00 o'clock p.m., on Bid opening date, to be considered for award.

B. DEFINITION OF TERMS - Wherever used in these specifications or in the other Contract documents, the following terms shall have meanings indicated which shall be applicable to both the singular and plural thereof:

Bid - That public notice or direct offer issued by the Department inviting prospective vendors to seek or present a Bid for goods and/or services required therein.

Bidder - Any individual, company, partnership or other organization responding to bids issued by the Department and offering to enter into contracts with the State.

Bonds (Insurance) - Performance bonds and other/or instruments of security furnished by the Contractor and his surety in accordance with the Contract documents.

SPECIFICATIONS AND REQUIREMENTS

Contract - The written agreement between the Department and the Contractor covering the work to be performed, including the Contractor's Bid, bonds, and all Contract documents.

Contract Price - The total monies payable to the Contractor under the Contract documents.

Contract Time - The total number of calendar days, and any completion dates for phases or segments of the Contract work stated in the Contract documents.

Contractor - Any individual, company, partnership or other organization given an award by the State and entering into a Contract with the State.

Contractor's Project Supervisor - The designated Contractor's representative at the site, who shall have authority to act on behalf of the Contractor (usually the person signing the Bid).

Department - the Ohio Department of Agriculture (the owner), also know as the agency.

Field Work Order - A written order to the Contractor, authorized by the inspector, for minor changes or alterations in the work, not involving extra cost and not inconsistent with the overall intent of the Contract documents.

Inspector - An authorized representative of the Department assigned to on-site inspection of any feature of materials or work entering into the Contract.

Job Site - The area where the Contract work is to be performed.

Project - The work to be performed as provided in the Contract documents.

Program Manager - The Department's representative, who shall have authority to act on behalf of the Department.

Project Supervisor - The Department’s representative, who administers the spray project.

Provide - Furnish and install.

Specifications - The administrative specifications and the technical specifications.

State - state of Ohio.

Subcontractor - An individual, firm or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the work at the site.

Work - Any and all obligations, duties and responsibilities necessary to the successful completion of the project assigned to or undertaken by the Contractor under the Contract, including the furnishing of all labor, materials, equipment and other incidentals.

C. BIDDER QUALIFICATIONS - To be considered for an award, a Contractor must be certified as a commercial aircraft operator with at the time of bidding, an office, maintenance facilities, aircraft, employees, and qualified pilots and mechanics and have tools, equipment and spare parts for the make and type of aircraft indicated in these specifications.

1. The Contractor must own at least one of the spray aircraft used on the Contract.

2. The Contractor and any Subcontractors must be certified by the Federal Aviation Administration (FAA) and must qualify under Federal Aviation Regulations (FAR) Part 137 and currently be certified for agricultural aircraft operations.

3. The Contractor and any Subcontractors must show proof that they are a Certified Pesticide Applicator in the state of Ohio in the category of forest pest control. The Pesticide Regulation Section of the Ohio Department of Agriculture issues this certification. All pilots of spray aircraft must be registered with the Ohio Department of Agriculture as employees of the certified Contractor or Subcontractor. See Section VII, Item D.

SPECIFICATIONS AND REQUIREMENTS

4. The Contractor must provide proof of insurance as specified in Section IV. for all aircraft and other equipment owned, leased, rented, subcontracted, or otherwise utilized by the Contractor and for all personnel hired, subcontracted, or otherwise employed by the Contractor.

5. The Contractor maintains responsibility for the entire Contract, even if a Subcontractor is providing part of the equipment and personnel.

6. The Contractor and any Subcontractors must possess at least three (3) seasons of flying experience on Forestry projects.

7. The Contractor and any Subcontractors must possess at least two (2) seasons of flying experience using Global Positioning System (GPS) technology and the ability to download data files.

D. USE OF SUBCONTRACTORS - The Ohio Gypsy Moth Aerial Spraying Contract may require both fixed-wing and rotary (helicopters) spray aircraft. This requirement usually necessitates the use of Subcontractor(s) by the Contractor. All Contract specifications, regulations, laws, etc., that apply to the Contractor also apply to all Subcontractors. The Department's Project Supervisor must approve all Subcontractors.

E. SCOPE OF AGREEMENT - The intent of this proposal is for the state of Ohio to enter into a Contract with an aerial application Contractor who will furnish: properly certified and approved spray aircraft, qualified ground personnel, approved insecticides and water, dispersal systems and facilitating equipment to apply insecticide, FAA certified and qualified pilots capable of making a proper aerial application of prescribed insecticides and performing necessary related functions.

1. Treatment blocks consist of rural forest lands and wooded residential areas. The treatment block acres are located throughout Ohio. The spray blocks are to be treated with either *Bacillus thuringiensis* var. *kurstaki* (*Btk*), Dimilin 4L, or Gypchek.

2. This Contract is contingent upon approval of an environmental assessment of the project area by the US Forest Service.

F. SPECIAL PROVISIONS

1. Contract Requirements - This Contract will be issued to cover the 2008, 2009, and 2010 Ohio Gypsy Moth Aerial Suppression Spraying for the Ohio Department of Agriculture.

2. Contract Period - The Contract shall be valid from date issued through completion and acceptance of all the work. The estimated period of performance is from approximately April 15 through May 31, each year.

3. Prices - As per Contract.

4. Shipping terms - F.O.B. destination.

5. Change of Contract Price - The Contract price constitutes the total compensation payable to the Contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract price.

III. <u>AWARDING OF THE CONTRACT</u>

A. BASIS OF AWARD - The Director, Department of Administrative Services shall award this Contract to the lowest responsive and responsible Bidder meeting the terms and conditions of the Bid. The award will be made on basis of price, product evaluation, and prior history of service and capability.

The State reserves the right to reject any or all bids in whole or in part, to make partial awards or lump sum total, whichever may be most advantageous to the state of Ohio.

SPECIFICATIONS AND REQUIREMENTS

B. CONDITIONS TO BE MET - The lowest responsive and responsible Bidder to whom the Contract will be awarded must meet certain conditions in order for the Contract to be properly executed. Within ten (10) days of notification the following items and information must be completely and accurately supplied to the Office of Procurement Services. Failure to meet these requirements may result in awarding of the Contract to the next lowest responsive and responsible Bidder.

1. After final award and completion of the above/following requirements, one copy of the fully executed Contract will be mailed to the Contractor.

2. Certificates of Insurance must be submitted to the Department Of Agriculture Program Manager within twenty (20) days of notification. See Section IV, Item B for details. In addition, see Section II, Item A for insurance certificate requirement after award. The named insured parties must include the state of Ohio. Certificates of Insurance are required, also, of all Subcontractors providing aircraft, vehicles, equipment and/or personnel to the Contractor for use on this Contract.

3. Make an appointment with the Department's Project Supervisor, or with his/her representative, to have all spray aircraft, vehicles, materials and equipment inspected within twenty (20) days of notification. All aircraft, vehicle, and equipment maintenance logs will also be reviewed during this inspection. Pilot qualifications will be reviewed and references will be contacted. Qualifications of ground support personnel will be reviewed during this inspection. This inspection will include all proposed aircraft, vehicles, equipment, materials, pilots, and personnel and any backups the Contractor and/or Subcontractor(s) wish to have approved for use on this Contract. All proposed and backup aircraft and proposed and backup pilots must be listed on the Bid Quotation reply form (Attachment A). Performance tests of aircraft, pilots, ground support personnel, vehicles, and equipment may be required during this inspection. All information supplied on the Bid Quotation Form will be reviewed with the Contractor and any Subcontractor(s). The Department's Project Supervisor will approve or reject any or all aircraft, vehicles, equipment, materials, pilots, ground support personnel, and technical specifications. The Bid may be rejected based on these inspections.

4. Provide evidence within twenty (20) days of notification that the Contractor and/or Subcontractor(s) are Certified Pesticide Applicators in Ohio under the category of General Forest Pest Control (4a) and Aerial Pest Control (1). All pilots who are employees of the Contractor or Subcontractor(s), not already certified by the Department, must be registered with the Department as employees of the certified Contractor or certified Subcontractor(s). See Section II, Item C. and Section VII, Item D.

5. Provide to the Department's Project Supervisor the name of the Contractor's Project Supervisor (see Section XI, Item A.) within twenty (20) days after notification.

IV. <u>INSURANCE</u>

A. INSURANCE REQUIREMENTS - Liability Insurance and Workers' Compensation Insurance shall be provided by the Contractor. Requirements to be followed are listed after a description of liability and Workers' Compensation insurance.

Liability Insurance - The Contractor shall, at his own cost and expense, provide and keep in force for the life of the Contract, comprehensive general public liability insurance against claims for bodily injury, including personal injury, death or property damage arising out of all operations to be undertaken hereunder or respecting the use of any aircraft, vehicle or equipment used in connection with the work to be performed hereunder, including movement to and from the state of Ohio. Such insurance shall include the following coverage and minimum limits:

1. Comprehensive General Liability - $ 1,000,000 single limit for each occurrence for bodily injury and property damage combined.

2. Automotive Liability - $ 1,000,000 single limit for each occurrence for bodily injury and property damage combined.

3. Aircraft Liability - $ 1,000,000 single limit for each occurrence for bodily injury and property damage combined.

SPECIFICATIONS AND REQUIREMENTS

4. Restricted Chemical Liability - $ 100,000 per person; $ 300,000 per occurrence for bodily injury; $ 100,000 for each occurrence/aggregate for property damage. Must include coverage for treating zoned residential areas.

5. Aircraft Passenger Liability - $ 1,000,000 single limit for each occurrence for bodily injury and property damage combined. Required for Observation Aircraft only.

B. REQUIREMENTS TO BE FOLLOWED: Aircraft liability and restricted chemical liability policies must list each insured aircraft on the policy.

1. All required insurance shall be in such form, and such provisions as may be required by the Department. All such insurance provided by the Contractor shall include the state of Ohio as additional named insured.

2. Each Bidder must submit with his/her Bid a Letter of Guarantee of necessary coverage from Bidder's Insurance Company stating that proper policies will be issued to the successful Bidder. Certificates of Insurance must be submitted to the owner within twenty (20) days after Contract award notification. All such policies shall require thirty (30) days prior written notice to the Department's Project Supervisor of any cancellation, expiration, or modification thereof.

3. In case any work is sublet or otherwise performed by anyone other than the Contractor, the Contractor shall cause such Subcontractor or other person to provide such insurance policies as are required from the Contractor hereunder, evidence of which policies shall be filed in the same manner and at the same time as required of the Contractor. The Contractor shall not violate or permit to be violated any of the conditions or provisions of any insurance policy, and the Contractor shall so perform and satisfy the requirements of the company writing such policies that at all times companies of good standing, satisfactory to the Department, are willing to write and continue such insurance.

4. It is understood and agreed that in the event of a claim or suit arising out of the operation or performance of the work to be performed under the Contract, the Contractor, Subcontractor or insurers shall not deny liability because of any immunity of which the state of Ohio may be entitled by reason of being a state government.

5. The state of Ohio will not have any responsibility whatsoever for loss or damage of aircraft, equipment, or other property owned or operated by the Contractor or any Subcontractors, their agents or employees, or for personal injury or death of agents or employees of the Contractor or any Subcontractor.

6. In addition to the costs or damages otherwise due under the Contract, the Contractor will be liable for all damages to third parties arising from insecticide which is spilled or which is sprayed, discharged or otherwise released in a negligent or careless manner or in a manner not in strict conformity with the terms hereof. The Contractor will also be required to recover any downed aircraft and/or repair any site damages resulting from salvage efforts of the downed aircraft itself, if so deemed necessary in writing by the Contract administrator.

C. WORKERS' COMPENSATION INSURANCE - The Contractor shall take out and maintain, during all operations under the Contract, statutory Workers' Compensation Insurance for all of his/her employees employed in connection with the work to be performed under the Contract. Such insurance shall be in a form and substance satisfactory to the Department and cover all employees involved in performance of the Contract. Such insurance shall comply with the preceding and following requirements.

Workers' Compensation Insurance for any person employed by the Contractor or any Subcontractor, who is an Ohio resident or who was hired in Ohio, will be covered by Ohio Workers' Compensation Insurance Policies approved by the Insurance Commissioner and in conformance with the Ohio Workers' Compensation Act.

SPECIFICATIONS AND REQUIREMENTS

D. INDEMNIFICATION - The Contractor shall indemnify, defend and hold harmless any owner of any land used as a heliport or airport; the state of Ohio; their officers, agents, and employees; against any and all costs, expenses, liabilities, injuries, losses, damages, judgments, orders, decrees, injunctions, suits, actions, fines, penalties, claims, causes of action and demands of every kind and nature, including reasonable council fees, (all of the foregoing collectively, in this paragraph referred to as such liabilities) asserted by or on behalf of any person, entity or authority, (other than the Contractor, Subcontractor, or their employees or agents) arising out of:

1. any failure by the Contractor to perform any of the agreements, terms, covenants, or conditions of the Contract;

2. any accident, injury or damage that occurs in connection with the work to be performed under the Contract, caused by the malfeasance or negligence of the Contractor;

3. any matter or thing arising out of the condition, maintenance alteration, use or operation of the aircraft, facilities or equipment provided or used by the Contractor;

4. the Contractor's failure to comply with any laws, ordinances, requirements, orders, directions, rules or regulations of federal, state, county, municipal or other governmental authority or of the owner or operator of any airbase utilized;

5. or the use of any copyrighted or non-copyrighted composition, secret process, patented or non-patented invention, or any other material or appliances used in connection with the work to be performed hereunder, unless such liabilities are caused by the malfeasance or negligence of the State or the supplier of insecticide.

E. SIGNED AGREEMENT **-** The Contractor will, if required by the Contract administrator, sign a hold harmless agreement with the owner of any heliport or airport used in the performance of this Contract. Nothing in the foregoing paragraph shall be construed to limit any cause of action, which the Contractor may have against any owner of any land used as a heliport or airport.

V. CONTRACT SPECIFICATIONS SUMMARY

A. LOCATION OF SPRAY BLOCKS – Throughout the state of Ohio. Files in ESRI shapefile format with a WGS84 coordinate system will be provided for uploading treatment block coordinates in the DGPS system.

B. ESTIMATED NUMBER OF ACRES - Number of acres will vary from year to year. Historically, treatment acres have averaged approximately 16,900 acres per year over the past five years, with the low being approximately 2,100 acres and the high being approximately 39,000 acres. Double application of Btk accounted for 38%, single application of Btk accounted for 54%, single application of Dimilin accounted for 7% and double application of Gypchek accounted for 1%.

C. ESTIMATED STARTING & COMPLETION DATES - Below are listed approximate reporting, starting, and completion dates:

Reporting Date – April 28, 2:00 p.m.
Calibration, Characterization, Reconnaissance – April 28
First Day of Spraying - April 29
Completion Date – on or before May 31

D. AIRCRAFT REQUIREMENTS

1. General Requirements: The Contractor shall furnish sufficient numbers of aircraft, insecticide, spraying equipment, pilots, ground support equipment, and personnel as specified herein and other operational requirements, as necessary, to effectively, accurately, and uniformly apply insecticide to specified tree-covered areas, at a production rate of 2,000 acres treated per hour. Observation aircraft shall be required on this project. All treatment aircraft must be within visibility of an observation aircraft while applying control products. In the event aircraft are applying treatments at multiple sites simultaneously, multiple observation aircraft are required. The Contractor is responsible for furnishing all required observation aircraft.

SPECIFICATIONS AND REQUIREMENTS

2. Aircraft requirements: The Contractor shall furnish the type and quantity of aircraft in the following category(s) A, B, C & D. Aircraft have been grouped into categories with those of similar capabilities. The Bidder may add to this list in the spaces provided and in the appropriate category, any aircraft that are qualified, but not listed, and that which will be used by the Contractor. The aircraft to be used on the Contract need to provide the following on Attachment A (returned with the Bid): FAA aircraft registration number; Commercial Aircraft License number, and Certificate of aerial application total carrying capacity; boom length; type and make of spray system; working speed of each aircraft; and maximum load size that will routinely use under the condition of the Contract. Commercial Aircraft License number and Certificate of Aerial Application information must be provided within 10 days of notification of potential award of Contract.

a) Rotary Wing

Category A	Category B	Category C	Category D
Bell 204	Sikorsky S-55	Bell OH58	Bell 47G
Bell 205	Lama	Bell 206B	Hiller / Soloy 12E
Bell 212	_____	Bell / Soloy 47G-3B	Hiller 12E
Bell 214	_____	Hughes 500D	_____
_____	_____	_____	_____

b) Fixed Wing

Category A	Category B	Category C	Category D
Air Tractor 802	Air Tractor 502	Air Tractor 400	Air Tractor 301
_____	Air Tractor 602	Air Tractor 500	Air Tractor 301A
_____	Dromader M18	Ag Cat King C	Air Tractor 302
_____	Thrush T-34	Ag Cat Turbo	Air Tractor 401
_____	Thrush T-41	Thrush R1820	Ag Cat Super B
_____	Thrush T-45	Thrush T-15	Thrush 60
_____	Thrush 660	_____	Thrush T-11
_____	Thrush G-10	_____	_____

E. INSECTICIDES & RATES OF APPLICATION

1. Acceptable *Btk* formulations including, but not limited to: Foray 48B, Foray 48F, Foray 76B, Thuricide 48LV or Thurcide 76LV.

2. Btk will be applied to residential and rural wooded lots in order to prevent defoliation from exceeding 30% on 80% of the preferred host species, reduce caterpillar nuisance levels, and reduce larval populations. All Btk formulations will be applied undiluted. The during double applications, the second application will take place 5-7 days after the first application. Rotary atomizers required if the working speed is less than 140 mph. Either rotary atomizers or flat-fan nozzles are permitted if the working speed is 141 mph or greater.

   Using 48 formulations, single application rates will be at 36 BIUs per acre at a spray volume of 96 ounces (3/4 gal.) per acre. Double application rates will be at 24 BIUs per acre per application at a spray volume of 64 ounces (1/2 gal.) per acre, per application.

   Using 76 formulations, single application rates will be at 38 BIUs per acre at a spray volume of 64 ounces (1/2 gal.) per acre. Double application rates will be at 25.3 BIUs per acre per application at a spray volume of 42.6 ounces (1/3 gal.) per acre, per application.

3. Acceptable Diflubenzuron formulations: Dimilin 4L

4. Dimilin 4L will be applied to residential and rural wooded lots to prevent defoliation from exceeding 30% on 80% of the preferred host species, reduce caterpillar nuisance levels, and reduce larval populations. Dimilin 4L is to be applied at 1.00 fluid ounce (0.50 ounce active ingredient) per acre. One fluid ounce of Dimilin 4L is to be mixed with water and applied at a final mixed volume of 128 fluid ounces per acre. Flat-fan nozzles or rotary atomizers are acceptable.

SPECIFICATIONS AND REQUIREMENTS

5. When applicable, Gypchek will be applied to rural wooded lots in order to prevent defoliation from exceeding 30% on 80% of the preferred host species, reduce caterpillar nuisance levels, and reduce larval populations. A double application of Gypchek is to be applied. The second application is to be applied 3-4 days after the first application. The Gypchek is to be applied in a formulation of 128 ounces per acre per application. Flat-fan nozzles or rotary atomizers are acceptable.

6. The USDA Forest Service will be responsible for procurement and storage of the Gypchek. The Contractor is responsible to provide the carrier. The USDA Forest Service will provide a copy of the Material Safety Data Sheet for the Gypchek and carrier to the Contractor prior to the start of the project.

F. LOADING & LANDING ZONES - Obtaining airports for fixed-wing aircraft and landing zones for helicopters are the responsibility of the Contractor. These sites must be identified by April 1. All sites must be located within the state of Ohio. Typically airports are used in Ohio for fixed-wing operations and multiple landing zones are required for helicopters. Each aircraft must be supported with equipment and personnel to enable it to work independently of the other aircraft. See Section VII, Item G. for more specific information. See Section XIV, Item E. for assessed damages for failure to have adequate loading and landing zones designated by the April 1 date.

G. DEPARTMENT PROGRAM MANAGER – After award of the Contract, the Plant Pest Control Gypsy Moth Program Manager is the Department's representative to contact regarding any questions the awarded Contractor may have about the Contract specifications:

David Adkins
Ohio Department of Agriculture
Plant Pest Control Section
8995 E. Main St., Building #2
Reynoldsburg, Ohio 43068
Office: (614) 387-0907
Fax: (614) 728-6453

VI. OBLIGATIONS OF THE STATE**:** The Director, Department of Administrator Services or that person's designee is the official responsible for oversight of this Contract. The Contract Administrator must approve any assessments for damages for failure to perform.

A. DEPARTMENT PERSONNEL & RESPONSIBILITIES – Prior to the initiation of the spray operation, the Gypsy Moth Project Supervisor is responsible for assigning personnel to the following duties. These duties are to be fulfilled by personnel from the Ohio Department of Agriculture and USDA Forest Service who are responsible for conducting the Gypsy Moth Aerial Spraying Program:

1. The Chief of the Division of Plant Industry, ODA will resolve any conflicts and ambiguities in applicable laws, rules, regulations, and orders as may be specified in writing by the Contractor in the Contractor's attempt to comply with all such laws, rules, regulations, and orders.

2. Program Manager – The Gypsy Moth Program Manager within the Plant Pest Control Section of the Department of Agriculture represents the Department in determining technical Contract specifications and in settling contractual matters. The Program Manager assists the Project Supervisor in conducting the suppression program. Final authority for decisions made during the operation of the suppression program resides with the Program Manager.

3. Project Supervisor - The Supervisor of the Gypsy Moth Program within the Plant Pest Control Section of the Department of Agriculture is responsible for the overall operation of the suppression program and represents the Department in the inspection and approval of all aircraft and equipment. The Project Supervisor supervises all Department personnel working on the suppression program. The Project Supervisor also reports daily to the U.S. Forest Service on the progress of the spray program.

SPECIFICATIONS AND REQUIREMENTS

4. Airport Operations Supervisor - This person is responsible for directing the operations of the fixed-wing aircraft at the airport loading zones. He notifies all Emergency Medical Assistance (EMA) personnel and performs special notification requests. He provides maps to the pilots and briefs the pilots on the spray blocks and the order in which blocks are to be sprayed. He is responsible for storing, organizing and distributing data files and downloading flight line data. He also coordinates the field crews observing each fixed-wing aircraft and the aerial observer in the observation aircraft. He records all weather data called in from field crews, records the insecticide loaded each load and acres treated, records times of departure and arrival of aircraft, monitors radio communications of spray aircraft, and maintains communications with field crews, aerial observers, and provides emergency telephone communication capability. On a daily basis, he is responsible for updating the 1-800 number and web site.

5. Helispot Operations Supervisor - This person is responsible for directing the operations of the helicopter at the loading zones. He provides the same services as described above for the Airport Operations Supervisor.

6. Airport Operations Assistant - This person will assist the Airport Operations Supervisor in recording insecticide load information, monitoring pilot radio communications, and maintaining radio communications with field crews and the aerial observer.

7. Safety Monitors - The Safety Monitors will observe airport and helispot operations for the safe conduct of spray operations, including informing all Department and Contract personnel on safety measures to be taken, when working at the loading and landing zones.

8. Aerial Observers – The Aerial Observer will ride in an observation aircraft to monitor the spray aircraft during spray operations. The aerial observer will inform pilots, field crews, and airport and helispot supervisors of any school buses in the area. If a spray aircraft makes an emergency landing, crashes, or dumps a load of insecticide, the aerial observation aircraft will circle the area in order to direct emergency response teams to the site.

9. Ground/Field Crews for Spray Aircraft - These personnel are responsible for monitoring larval and foliage development, collecting weather data at each spray block, observing the spray aircraft during operations, determining spray deposit, and watching for school children waiting for buses or arriving home from school by bus.

10. Pesticide Compliance Supervisor – This person is the Supervisor in the Pesticide Regulation Section of the Department of Agriculture. He determines if the Contractor and any Subcontractors are certified as aerial pesticide applicators in Ohio.

11. Public Information Officer – This person is responsible for dealing with contacts from the media regarding the suppression program. This person works closely with the Project Supervisor in supplying the media with updates about the spray program.

12. Plant Pest Control Secretaries -The secretaries of the Plant Pest Control Section are responsible taking telephone calls from the public during spray operations when all Plant Pest Control Section personnel are out-of-the-office working on the spray program.

B. SUPPLIES, MATERIALS & EQUIPMENT - The Department is responsible for providing the following supplies, materials, and equipment:

- 7.5 minute topographic maps with spray blocks, fire towers, power lines, logged areas, environmentally sensitive
- areas, objectors, and new growth areas clearly marked; a state-wide map of spray block locations;
- vehicles and radios for ground crews and landing zone supervisors; portable radios for aerial observers; cellular phones to facilitate ground communication;
- weather recording instruments;
- load sheets;
- protective ear wear for Department personnel working at the loading zones;
- other equipment/supplies deemed necessary for this operation.

SPECIFICATIONS AND REQUIREMENTS

C. SERVICES - The Department will provide the following services for the aerial suppression program:

- inspection of equipment, aircraft, pilot credentials,
- maintenance records;
- maintaining loads records;
- ground crews to monitor blocks;
- weather monitoring;
- pre-work conference;
- safety and work plans;
- plan spray schedules;
- provide radio communication between landing zones, block observers, and aerial observer;
- provide armed security if desired by the State for aircraft, equipment and/or materials;
- telephone service from landing zones for emergency purposes;
- inform public regarding spraying schedules;
- inform 911 operators and EMA personnel

VII. CONTRACTOR OBLIGATIONS: The Contractor is obligated to furnish spray aircraft, observation aircraft, support equipment, insecticide, water, and personnel necessary to produce an aerial application in accordance with the Bid and the Contract. The following sections give more specific information on personnel, supplies, materials, equipment, and services required.

A. CONTRACTOR PERSONNEL - See Section XI. for a full description of the personnel required and their responsibilities. A brief summary of the required personnel is listed below.

1. Contractor Project Supervisor - The Contractor must designate one of its personnel to serve as the on site Project Supervisor and to represent the company in all contractual matters that require prompt attention. See Section XI, Item A.

2. Ground Support Personnel - The Contractor must supply adequately trained and qualified personnel in sufficient quantity to drive all necessary support vehicles, transfer and mix insecticides, and properly service each aircraft. See Section XI, Item B.

3. Pilots for Spray Aircraft - The Contractor shall provide commercial pilots that are FAA qualified to operate the aircraft specified in the Bid. The Contractor must provide pilots, one (1) each for spray aircraft specified, and at least one backup pilot for the operation. More backup pilots can be submitted for approval if the Contractor wishes to do so. See Section XI, Item C.

B. SUPPLIES, MATERIALS, & EQUIPMENT - The Contractor is responsible for providing all the necessary supplies, materials and equipment in order to meet the requirements and obligations contained in these Contract specifications and to ensure a timely and safe application of insecticides.

1. The Contractor must supply the following supplies, materials, and equipment (this list is not exhaustive):

a. Aircraft as specified in Section V, Item E.

b. Support equipment, vehicles, storage tank(s), mixing tank(s) and equipment, and fuel tank(s) which are mobile and self contained, so that the helicopter can work independently from remote landing zones around the project area.

c. Support equipment, vehicles, storage tank(s), mixing tank(s) and equipment, and fuel tank(s) for the aircraft at the airport work site. Enough mixing, storage, and support equipment must be available to allow each aircraft to work independently of the other aircraft.

d. Insecticides: *Btk* formulations, Dimilin 4L, Gypchek carrier, and necessary water for mixing and for flushing.

e. Pumps, pump seals, strainers, screens, hoses, metering devices, fire extinguishers, placards for trucks, copies of Material Safety Data Sheets for each insecticide, spare parts, equipment to contain and clean up spills, and tools for mechanical repairs of aircraft, vehicles, and equipment.

SPECIFICATIONS AND REQUIREMENTS

f. Electronic Radio and Guidance equipment which includes: VHF communications system in the aircraft and mobile or portable VHF transceiver at the landing zones and airport, FM radios in aircraft and on the ground may be used to supplement the VHF system, and Loran-C guidance systems in each aircraft with digital readout.

g. Aircraft equipped with “Real Time Tracking” GPS system.

h. Aircraft equipped with Selectable Automatic On/Off Spray Control.

i. Aircraft equipped with Flow Monitoring or Flow Control System.

j. Micronair or Beecomist rotary atomizers along with spare atomizers for the helicopter and/or fixed-wing aircraft. If flat-fan nozzles are used on the fixed-wing aircraft to spray BTK, then slotted strainers should be used in the nozzles instead of screens.

k. Provide necessary personal protective equipment to Contractor personnel.

l. Provide GPS equipment as specified in Section IX, Item E.

C. SERVICES - The Contractor is required to supply all the necessary items listed in these bid specifications in order to conduct an aerial spray program in Ohio.

The Contractor is to provide the following services:

- aerial spraying of insecticides;
- provide the location of landing zones and airports;
- obtain any necessary FAA operations plans for congested areas;
- provide a safety and spill plan and train all on-site personnel of the Department and Contractor regarding the procedures of the plans;
- cooperate with the Department with the inspection, calibration and characterization of aircraft, vehicles and equipment;
- cooperate at the loading zones with Department personnel to ensure accurate recording of aircraft loads and batches of insecticide mixed;
- cooperate with Department personnel on a daily basis to determine the schedule of the spray blocks to be sprayed the following day, including the location of any marking balloons the pilot would like to have placed;
- inform Department personnel of any logged areas inside spray blocks not marked on the topographic maps;
- provide radio communication and guidance equipment for aircraft and Contractor's ground crew;
- provide and be able to operate GPS equipment for plane guidance as specified in Section IX, Item E.

D. PESTICIDE APPLICATOR LICENSES **-** Commercial Pesticide Applicator Licenses - The Contractor shall be certified as a commercial aircraft operator and supply pilots that are certified and qualified to operate the aircraft specified in Section IX.

1. The Contractor and any Subcontractor must be certified by the FAA and must qualify under FAR Part 137 and currently be certified for agricultural aircraft operations.

2 The Contractor and any Subcontractor must be a Certified Pesticide Applicator in the state of Ohio in the categories of forest pest control. The Pesticide Regulation Section of the Ohio Department of Agriculture issues this certification. All pilots, not already Ohio Certified Pesticide Applicators, must be registered with the Department of Agriculture as employees of the Contractor or Subcontractor. Contact Pesticide Regulation Section, at (614) 728-6987 for information.

E. SPRAY MATERIALS - The Contractor is responsible for supplying all insecticides, adjuvant, and water necessary to treat the acreage specified in this Contract. Furthermore, the Contractor is responsible for insuring that all pesticides and the specific formulations intended for use on the spray project are registered with the Department. Reference Section V, Item E.

SPECIFICATIONS AND REQUIREMENTS

F. CHAIN OF CUSTODY – Contractor will be required to keep chain of custody documentation beginning with the point of the manufacture of the pesticides to the point where the pesticide is delivered to the Contractor. The Contractor will also be required to keep chain of custody documentation from receipt of the pesticide to the point of application. All chain of custody documentation will be in a form approved by the Ohio Dept of Agriculture. The Contractor will be held liable for any loss of the material until its aerial application. See Section VIII for further details.

G. FAA CONGESTED AREA PLANS - The Contractor is responsible for reviewing all spray block maps and identifying any congested areas that would require an FAA wavier. The Contractor is responsible for filing the required plan and documentation with the appropriate FAA Flight Safety District Office for any congested areas identified and obtaining the necessary waiver(s) prior to the start of spraying operations. If the FAA denies aerial access to one or more of the proposed spray blocks, the Contractor is not required to treat the affected blocks.

H. LANDING & LOADING ZONES - The selection of suitable helicopter landing zones and airfields for fixed-wing aircraft is the responsibility of the Contractor. Use of the airfields and landing zones must not present problems from a legal aspect and permission to use the site must be obtained by the Contractor.

1. The Contractor must locate and secure permission for all helicopter landing zones and airfields prior to the start of the project. All helicopter landing zones and airfield locations must be identified to the Department within ten (10) days of receipt of maps showing the location of spray blocks. The Contractor will provide these locations and mark them on 7.5 minute topographic maps. The Contractor should be prepared to provide evidence of permission to use the sites to the Department prior to the start of operations. This may include written permission from the landowner.

2. Department personnel will assist the Contractor in locating usable loading and landing zones during a visit to the project area prior to the April 1, 2008 deadline. All sites must be located within the state of Ohio. The Contractor will be responsible for any damage done to the work area. The Contractor should follow up its contact with the landowners and airfield operator(s) one week prior to the anticipated start of operations to assure that the property is still available for use.

I. PROJECT MEETING - The Contractor is required to travel to the Department for a project meeting. This meeting will be held at Department headquarters on or about April 15th. The Contractor is responsible for his expenses incurred in attending this meeting.

J. EQUIPMENT MAINTENANCE - The Contractor must maintain a readily-available on-site inventory of commonly needed spare parts and equipment, including, but not limited to, pumps, pump seals, rotary atomizers, and flat-fan nozzles; to provide current maintenance on the spray system, the aircraft, the mixing and pumping system, the support vehicles, and the storage tanks and to provide for immediate replacement of critically needed equipment. Routine maintenance must be conducted only at times that will not interfere with the spray operation. Only emergency repairs are permitted during scheduled spray hours. Care must be taken to prevent leakage of spray material at all times.

K. EQUIPMENT RELOCATION - If it becomes necessary to move the aircraft from the operational work site to another overnight location for security or other reasons, care must be exercised to avoid selecting a location that could postpone takeoff and thereby delay or cancel the operation for the following day. Damages will be assessed as described in Section XIV, Items C and D.

L. SECURITY OF EQUIPMENT - The Contractor must secure through the use of seals, locks, etc. all hoppers, tanks, pumps, hoses and mixing equipment at the end of each workday. The Contractor, or his representative, is required to participate in a visual inspection of these security measures with the Project Supervisor at the beginning and conclusion of each workday.

M. SECURITY OF PESTICIDES – The Contractor must secure through the use of seals, locks, etc. all containers, tankers, drums, jugs, etc. containing pesticides at the end of each workday. The Contractor, or his representative, is required to participate in a visual inspection of these security measures with the Project Supervisor at the beginning and conclusion of each workday.

N. SECURITY OF AIRCRAFT – The Contractor must disable all spray aircraft when not in use so that they cannot be entered, started or operated by anyone other than authorized personnel. A dual locking system is required.

SPECIFICATIONS AND REQUIREMENTS

O. FIELD EXPENSES & TRANSPORTATION - Costs incurred in the operation and maintenance of all Contractor equipment is the responsibility of the Contractor. Expenses incurred by all Contractor personnel including arrangements for food, lodging, and transportation are the responsibility of the Contractor. The Contractor is responsible for providing a means of ground transportation for Contractor personnel.

P. SPILL CLEANUP EXPENSES - The Contractor is responsible for all cleanup activity and costs resulting from the contamination of any property caused by the accidental or intentional spilling, leakage, or dumping of insecticide, fuel, oil, or any other contaminant from Contractor supplied equipment.

Q. SAFETY & SPILL PLAN - The Contractor is required to conduct all operations in a safe manner and to have a well defined, written safety and spill plan developed. The Contractor must supply the Department's Project Supervisor with a copy of the Contractor's safety and spill plan by the March 1, 2008. This information will then be included in the Department's Work & Safety Plan. The Contractor must also provide essential safety equipment. See Section XIII, Item B for more details about the safety and spill plan and the rest of Section XIII for other safety requirements and procedures.

VIII. INSECTICIDES AND ADJUVANTS

A. PURCHASING, STORAGE, & TRANSPORTATION - The Contractor must provide the insecticide and Gypchek carrier used on this project, and arrange for delivery of the product to a suitable site where it will be secure and protected from damage.

1. The Contractor must assure that adequate supplies of insecticide are located in the project area to assure an efficient operation. The Contractor must also assure that its personnel and Department personnel are aware of the locations of these supplies. Generally, insecticides are stored at the airport operations site. The Contractor is also responsible for handling and transporting the insecticide from any storage site to the aircraft loading zones.

2. The Contractor must supply and transport the water used for mixing. Only water sources approved by the Department may be used. Water sources must be located by the Contractor prior to the April 15th meeting and the Department must be apprised of their location by that date.

3. ACCEPTABLE *Btk* FORMULATIONS - These formulations include, but are not limited to Foray 48B, Foray 48F, Foray 76B, Thuricide 48LV or Thuricide 76LV. The Contractor must indicate at the time of bidding the proposed *Btk* formulation(s) they will use on the Contract. The Contractor must notify the Department's Project Supervisor within twenty (20) days after the Contract Award Notification of the exact *Btk* formulation(s) to be used on the Contract. All *Btk* products purchased for use in the Department's program must be new material manufactured within six (6) months of the date of application and delivered in 55 gallon drums, mini-bulk, and/or bulk tanker.

4. ACCEPTABLE DIFLUBENZURON FORMULATIONS - Dimilin 4L.
All Dimilin 4L will be applied at 0.50-ounce active ingredient per acre with a final spray volume of 128 fluid ounces per acre. The Contractor must supply and transport the water used for mixing. Only water sources approved by the Department may be used. Prior to the April 15th meeting, the Contractor must locate water sources and the Department must be apprised of their location by that date.

5. INDUSTRY CONTACTS

For information on purchasing *Btk*, Dimilin 4L, and the Gypchek carrier, contact the following:

Foray & Thuricide Products -
Stephen Nicholson
Valent BioSciences
870 Technology Way
Libertyville, IL 60048
(613) 376-1070
Fax: (613) 376-1069
<Stephen.Nicholson@valent.com>

Dimilin Products -
Jim Bryan
Chemtura Corp.
1715 Cedar Lake Circle
Hernado, MS 38632
(662)429-8455
Fax: (662) 429-8495
<Jim.Bryan@chemtura.com>

Gypchek & Gypchek Carrier -
Richard Reardon
USDA Forest Service
180 Canfield St.
Morgantown, WV 26505
(304) 285-1566
Fax: (304) 285-1505
<rreardon@fs.fed.us>

SPECIFICATIONS AND REQUIREMENTS

B. STICKERS - Stickers will not be added to *Btk* formulations.

C. OPERATIONAL PROBLEMS - The Contractor must determine what, if any, operational problems exist with any product. These problems may include handling, mixing, storage, transportation, and spraying difficulties. To the best of the Department's knowledge, no adverse characteristics exist with any of the listed products. It is the Contractor's responsibility to insure a trouble-free operation with the material purchased. If a delivered product presents operational problems, it must be replaced within twenty-four (24) hours.

D. CONTAINER DISPOSAL - The Contractor is responsible for the proper disposal of all insecticide and adjuvant containers as specified on the product label.

E. INSECTICIDE MIXING, HANDLING & HOLDING - All insecticides must be mixed at the work site as needed and only in quantities sufficient to keep the spray aircraft in operation. Mixing is done during the pre-flight check in the morning and while the aircraft is out spraying. At no time is the quantity of mixed material at the work site permitted to exceed the capacity of the mix tank. The decision to mix insecticide as well as the quantity to mix is the responsibility of the Contractor.

1. The aircraft spray equipment shall be cleaned and flushed from prior usage before commencing the spray project. Exclusions from this requirement may be granted at the discretion of the Project Supervisor.

2. All insecticides must be mixed in strict accordance with the insecticide manufacturer’s recommendations. Mixing procedures along with allowable storage periods for the mixed insecticides are prepared by the Department for the formulations used based upon the manufacturer’s recommendations and are given to all personnel involved in insecticide mixing.

3. Mixed material must be sprayed within the time limits established by the Department. Mixed batches of Dimilin 4L may be sprayed within 48 hours of mixing as long as the batch is properly reagitated. Dimilin 4L is mixed by first putting 3/4 the desired quantity of water into the mixing tank and then adding the desired amount of Dimilin 4L and then agitate. The remainder of the water is then added.

4. All *Btk* will be applied undiluted so no mixing is required. During *Btk* operations all application equipment will need to be rinsed and flushed before the beginning of the spray program, and after spraying each day. The advent of improved formulation technology no longer requires this practice with some of the improved formulations. Exclusion from this requirement may be granted at the discretion of the Project Supervisor.

5. The Gypchek powder will be added to the carrier in a 5-gallon bucket to produce a slurry. The slurry can then be added to the hopper of the mixing tank. During Gypchek operations all application equipment will need to be rinsed and flushed after spraying each day. This procedure is necessary to prevent particle matter from settling and damaging the seals.

IX. <u>AIRCRAFT</u>

A. GENERAL SPECIFICATIONS & OPERATIONAL LIMITATIONS: Helicopter(s) must be provided with separate ground support equipment, personnel, mixing tanks, fuel, support trucks, etc., so that the helicopter(s) can work from remote helispots in the field. The ability to ferry only short distances has proven to be the most effective way for helicopters to operate in the Ohio spray program.

1. Aircraft Description - The Contractor must complete and submit with the Bid Response a list of all spray aircraft and backup spray aircraft as specified on attachment A.

2. Licenses - Every aircraft furnished for this Contract must be properly licensed under regulations of the Federal Aviation Administration.

3. Condition - Each aircraft must be clean inside and outside and must fully comply with FAA directives and specifications and to any pertinent laws and regulations of the state of Ohio.

SPECIFICATIONS AND REQUIREMENTS

4. Equipment - All equipment specified in these Contract Specifications for use in or upon any aircraft must be FAA approved or the Contractor must have an FAA field approval (FAA Form 337) from the FAA Flight Safety District Office serving the Contractor's home base of operations.

5. Engines - Each aircraft engine must meet FAA specifications and must be in first class operating condition. Engine and airframe logs must be present at time of inspection.

6. Inspection - Department personnel will inspect the Contractor's aircraft to determine if they meet the Contract specifications. Performance tests, as necessary, will be conducted at a location mutually agreed upon by Department personnel and the Contractor. The Contractor assumes all expenses related to operation of the aircraft and the pilot's time during these tests. The Department may request this inspection be held within twenty (20) days after the Bid opening, or anytime after the awarding of the Contract if approved by the Department's Project Supervisor.

7. Exclusive Assignment to the Department - Once an aircraft and its assigned pilot, ground support equipment, and support crew report on-site and are under contract to the Department, no substitutions may be made unless the aircraft, equipment, or person becomes incapacitated. While an aircraft is under contract to the Department, the aircraft and its assigned pilot, ground support equipment, and crews are not permitted to do any other spraying for any other agency or individual. Upon completion of their work on this Contract, aircraft will be released by written consent of the Department's Project Supervisor.

8. Incapacitation - In the event that any aircraft under contract becomes incapacitated it must be repaired within 24 hours of the original breakdown. If the aircraft can not be repaired and returned safely to full operation, it must be replaced with an aircraft of similar capabilities subject to all of the provisions of these Contract specifications. The Contractor must provide one (1) fixed-wing or one (1) helicopter spray aircraft in reserve, that must be at the job site and fully operational under the terms of this Contract within twenty-four (24) hours of being so requested by the Project Supervisor. The replacement aircraft must be insured for aerial application of insecticide in Ohio and must be approved for use by the Department's Project Supervisor. These aircraft must be listed on the Bid Quotation Reply form (Bid Price Page Attachment A).

9. Aircraft Refueling - Any refueling of the aircraft done while the engine is running and/or the rotor spinning must be done by hose line and nozzle only. Fueling from containers will be permitted only during complete engine shut down. Proper aircraft/fuel truck grounding procedures with a FAA approved grounding kit must be followed while refueling.

10. Reserve Fuel - A minimum twenty (20) minute reserve fuel supply over the amount needed for the planned round trip is required for each flight.

11. Loading - The pilot is responsible for the proper loading of the aircraft. Loading is under the pilot's direction and must be inspected by the pilot before takeoff. The weight must not exceed the maximum gross weight specified by the aircraft manufacturer. The pilot must compensate for altitude, temperature, landing zone conditions, and any adverse flying conditions.

B. AIRCRAFT SPRAY SYSTEMS GENERAL SPECIFICATIONS

1. Tanks - Leak proof corrosion-resistant tanks with exterior filler openings must be used. The location and size of tanks must be so as to not impair air-worthiness by overloading or displacing the center of gravity beyond acceptable limits. Filler openings or necks must be large enough to prevent surging during filling. Tanks must be vented to the outside of the fuselage.

2. Emergency Dump System - Each aircraft must be equipped with an emergency jettisonable load dumping system or emergency non leaking dump valves of adequate capacity and adequately vented to dump the load and installed so as to prevent blow back into the fuselage. In no case must the ratio between gallons carried and the surface area of the dump valve opening as measured in square inches be greater than 7.65 to l. Exposed valve control linkage must be protected to prevent unintentional opening of the valve in any manner. The control lever must be substantially mounted in the cockpit within easy reach of the pilot when properly wearing the shoulder harness.

SPECIFICATIONS AND REQUIREMENTS

3. Pumping System - The pumping system must be securely attached and capable of maintaining the pressure required insuring the even distribution of the insecticide. All plumbing and pumps must be large enough to handle the required flow. All parts including pump seals must be chemically and abrasively resistant to the spray material being used.

4. Pressure Gauge - An accurate liquid-filled spray pressure gauge must be located so that it can be easily read by the pilot.

5. Shut Off - To avoid contamination of areas not scheduled for treatment, the entire spray system must be leak proof and have a positive shut off mechanism capable of eliminating dripping from the nozzles.

6. System Cleaning - The aircraft spray system including tanks must be cleaned of all foreign material and flushed with water prior to the start of the spray operation. The Contractor must provide daily maintenance of the aircraft. On a daily basis Contractor is to clean all screens, check for leaks and clogs, verify pump pressure, and monitor flow rate.

7. Strainer - Each aircraft must be equipped with an in-line strainer (no finer than 30 mesh) to filter all material before it enters the spray boom.

8. Spray Timer - Each aircraft must be equipped with an electronic flow metering system such as a Crophawk that is activated automatically when the spray switch is operated. The system must be capable of providing an accurate measurement of the cumulative spray time in minutes and tenths or minutes and seconds.

9. Boom System - Each aircraft must be equipped with an approved boom system of the type most commonly employed for the delivery system being used. This system must have: (a) nozzles located so that material is not sprayed onto any part of the ship's structure; (b) all nozzles rigidly attached to the boom without flexible dropper hoses; (c) bleeder lines installed at the ends of the boom feeding back to the outboard nozzle, if that nozzle is installed more than five (5) inches from the boom end; (d) the total boom length as measured from outboard nozzle to outboard nozzle must not exceed 75% of the aircraft's wing span for fixed-wing aircraft or 75% of the rotor diameter for rotary-wing aircraft.

10. Pump Pressure - The pump must have an effective operating pressure range of 20-50 psi.

11. Nozzles - Rotary atomizers are required for spray aircraft flying at an application airspeed of less than 140 mph. Either rotary atomizers or hydraulic nozzles are permitted on spray aircraft flying at an application airspeed of 141 mph or more. The nozzle systems must meet the following specifications.

    a. Hydraulic - Nozzles must be of either the flat fan or hollow cone type. All nozzles on any aircraft must be of the same type.

    b. Tips of the proper sizes to produce an acceptable flow rate and a droplet volume median diameter (VMD) of 150 microns for *Btk* applications and a droplet VMD of 250 microns for diflubenzuron applications must be provided. All nozzle tips being utilized on an aircraft at any given time must be of the same size.

    c. Only stainless steel nozzle tips are permitted. Excessively worn (>10% of the original orifice) tips are not permitted.

    d. Nozzles must be properly positioned relative to the line of flight in order to take advantage of wind speed to assist in breakup and dispersion of droplets.

    e. Each nozzle must be equipped with a 30 mesh wire screen or slotted strainer. It is possible that the screen or strainer will be removed during the spray operation, but it must be available if needed.

    f. Rotary Atomizers - Micronair, Beecomist, or similar Department approved rotary atomizers are acceptable provided that the units have the capability of adjusting the screen rotation speed in order to change the droplet size. All rotary atomizers on an aircraft must be of the same type and model.

SPECIFICATIONS AND REQUIREMENTS

g. Sufficient numbers of the proper size and type rotary atomizer must be provided for the particular aircraft being utilized in order to produce a uniformly dispersed spray cloud with a droplet volume median diameter (VMD) of 100 microns for Btk application and a droplet (VMD) of 200 microns for duflubenzuron and Gypchek applications.

h. The installation, adjustment and calibration of the rotary atomizers, including the number installed per aircraft, must be made in strict accordance with the manufacturer's recommendations to permit the application of the specified spray volume per acre. The flow rate for each individual rotary atomizer installed on a boom must not deviate ± 10 percent from the average flow rate for all rotary atomizers installed on the boom. Any rotary atomizer that deviates by more than ± 10 percent must be replaced. All used units must be properly cleaned and serviced and be in good working condition. All new rotary or rebuilt atomizers must be used for at least two (2) hours before use on this Contract.

C. CALIBRATION / CHARACTERIZATION

1. The Contractor's spray aircraft must arrive on site properly calibrated for the insecticide and rate of application specified. The Department may verify the calibration by checking the flow rate of each aircraft prior to the start of the operation. If the calibration is incorrect, the Contractor must correct it immediately without causing any delay in the start of operations.

2. Dependent upon the delivery system and the dilution rate of the insecticide being used, calibration verification will be made using either water or the insecticide slated for application. The flow rate from the spray system will be monitored periodically during the spray operation and must be maintained within five (5) percent of the desired flow rate.

3. Flights over card lines to characterize spray swath and droplet size may be required prior to the start of spray operations. Standardized characterization techniques will be utilized. There will be no separate additional charge to the Department for flights or for the insecticide used in making calibration or characterization checks.

D. RADIO COMMUNICATION EQUIPMENT

1. Aircraft Band Radio - Prior to being approved by the Department, all spray planes, observation aircraft and contactor ground crew must be equipped with programmable aircraft (FAA frequencies) VHF transceivers approved by the FAA and FCC. The Contractor's ground support personnel must be supplied by the Contractor with a portable VHF transceiver which will permit communication and monitoring of the spray aircraft and observation aircraft. The Contractor's ground crew must also be equipped by the Contractor with a portable programmable FM radio meeting the same specifications as described in Section IX, Item D.

2. VHF Communications - Each spray and observation aircraft must be equipped by the Contractor with an operating VHF (FAA frequencies) communications system consisting of equipment currently approved by the FCC and FAA. The channels available must include the tower and ground control frequencies used in the area of operation and the capability to monitor a second frequency. Exact frequencies to be used will be determined after the Contract is awarded. The receiver for the VHF communications system must not be part of a navigational system.

3. FM Radio (Optional) - Each spray and observation aircraft, the Department’s airfield Operations Supervisor and Department’s Ground/Field Crews will be provided with programmable VHF FM radios. The Project Supervisor requires a battery powered base station radio set with a minimum of 5 watts power out, external ground plane antenna, 16 ft. of antenna mast and guy system and 50 ft. of coaxial cable. The Ground/Field personnel each require one portable, programmable handheld radio.

4. Selector Switch (if FM Radios are used) - Each spray and observation aircraft must be equipped with a selector switch which permits the simultaneous monitoring of both VHF and FM systems while permitting transmission on either system.

SPECIFICATIONS AND REQUIREMENTS

E. AIRCRAFT GUIDANCE EQUIPMENT

1. Aircraft Guidance - The manufacture and model of Differentially Corrected Global Positioning System (DGPS) for aircraft guidance and tracking must be specified by the potential Contractor in their Bid Response.

   Certain electronic guidance systems may not meet program requirements. Guidance systems that meet the following criteria are acceptable:

   a. Differentially Corrected Global Positioning System (DGPS) with software designed for parallel offset in increments equal to the assigned swath width of the application aircraft or the formation of aircraft. A course deviation indicator (CDI) or a course deviation light bar must be installed as specified in Item C-9. Differential correction may be provided by a portable differential station, FM radio fixed towers, or satellite. Differential correction signal must cover the entire project area.

   b. Real Time GPS tracking to monitor aircraft in-flight via the World Wide Web. Vendor web site and Contractor password information will be made available to allow remote monitoring of aircraft in-flight. Contractor will provide instruction of usage of real time tracking.

   c. The guidance system being used will allow the flight log to be downloaded to an on-site (airport or helibase) computer for post-flight analysis and review. The flight log must show the entire flight of the aircraft from takeoff to landing and differentiate between spray on and spray off when viewed on the computer monitor. The software must have the capability to zoom to any portion of the flight for viewing in greater detail and a method to determine distance between each flight lane. The system must be able to calculate and show total acres treated during the flight. The software must be compatible with dot matrix printers and/or color printers and differentiate between spray on and spray off on the printed copy.

   d. The DGPS proposed must have been operated successfully in a similar type aerial application program, and demonstrated success prior to the last 3 months. Provide name and phone number of previous clients or other users of the system who can validate the DGPS capabilities.

   e. Pilot proficiency or evidence of prior experience with the proposed DGPS system must be demonstrated to the soliciting agency prior to award. Possible sources of verification may include name and phone number of previous clients, pilot's log book, or certified training. A demonstration may be requested.

2. Electronic Guidance and Support Furnished by the Contractor:

   a. All guidance equipment, materials, computers, printers, personnel, and services required for the system to be used. The guidance equipment shall be capable of accurately guiding the aircraft, while flying at application altitude, along parallel flight lines equal to the assigned swath width of the application aircraft, in blocks designated by the Ohio Department of Agriculture. The system shall be sufficiently sensitive to provide immediate deviation indications and sufficiently accurate to keep the aircraft on the desired flight path. The guidance system shall be capable of updating current position at a rate of five (5) times per second.

   b. FAA certified mechanic/inspector to install and certify equipment installation in aircraft.

   c. Differential correction coverage for the complete operation area. During operation, differentially corrected signal must be accurately recorded at least 90% of the operational time.

   d. Post-flight processing computer and software capable of displaying track, altitude and ground speed of aircraft during flight, with differentiation between standard flight and flight when the application system is on/off. Export file format must be compatible with ESRI ArcMap or GRASS GIS systems and must be on a standard High Density 1.44 MB 3.5-inch floppy disk or other mutually acceptable data storage medium.

   e. Instruction of soliciting agency personnel in the use of post processing software. Complete operation manuals.

f. Full 24-hour on-call equipment service and operator support.

g. All related equipment, shipping and Contractor personnel travel costs.

3. Salient Characteristics Required for the DGPS System - The equipment offered must possess the following features:

a. Precision DGPS guidance with pilot-selected cross-track error readout adjustable down to one (1) foot.

b. Easy to operate, user-friendly pilots control keypad, with swath advance and decrement function.

c. Visual display monitor: 1) capable of displaying swath width over flight path; 2) mounted in aircraft in a location that will allow the pilot to view the screen with direct or peripheral vision without looking down; 3) may display in real time or be available for in-flight access immediately after application has ceased.

d. Variable swath width entry.

e. Record logging at a minimum rate of one-second intervals. Full record includes position, time, altitude, speed, track, application, system on/off, aircraft number, pilot, job name or number, and differential correction status.

f. System memory capable of storing up to 8 hours of continuous flight log data.

g. Capability to accept pre-loaded reference way points (A-B Line). Must be able to store and retrieve, in-cockpit, at least 50 individual treatment blocks, each containing up to 50 points. Capability to link blocks together for combined treatment.

h. Feature which alerts pilot when he/she is about to enter or exit a specific treatment block or an exclusion area within a block. A method to display nested polygons to indicate sensitive, or exclusion areas within treatment blocks.

i. A course deviation indicator (CDI) or light bar which displays both cross-track error and intercept angle to desired heading must be installed on the aircraft in a location that will allow the pilot to view the indicator with direct or peripheral vision without looking down.

j. HOME navigational feature, which provides instant range, and bearing to home base airport or helibase.

k. MARK feature which allows return to point in any swath before or after equipment shutdown.

l. Warning method to indicate DGPS or Differential Correction failures.

m. Pilot-adjustable intensity lighting for light bar, keypad, and moving map display.

n. Capability to end log files, rename, and start new logs in flight.

4. Treatment Site Information Furnished by the Soliciting Agency - Treatment area locations will be provided to the Contractor in the following format:

a. ESRI shape file or GRASS GIS format files for uploading treatment block coordinates using a WGS84 coordinate system standard;

b. or outlined treatment blocks on 1:24,000 scale USGS Quadrangle maps. Digitizing responsibility will be by mutual agreement;

c. or Latitude and Longitude or UTM coordinates of individual spray block boundaries.

F. RADIO PROGRAMMING - The Contractor's pilots must be trained in programming the radio provided and must be capable of programming it in the field.

SPECIFICATIONS AND REQUIREMENTS

G. SERVICE AND MAINTENANCE - The Contractor must provide evidence that the communication and guidance equipment furnished has been serviced, as required, by a qualified electronics maintenance shop. It is the responsibility of the Contractor to maintain in good working order all communications and guidance equipment it is required to furnish.

H. TELEPHONE COMMUNICATIONS IN THE FIELD - The Department provides radio communications from the work site to a location where telephone service is available to facilitate the operation and for use in the event of an emergency.

X. GROUND SUPPORT EQUIPMENT

A. INSPECTION & CERTIFICATION - In order to execute the Contract, the Contractor must supply the Department with specifics on the ground support equipment the Contractor will provide within twenty (20) days after Contract award notification (see Section III, Item B). Department personnel may inspect this equipment and, at the Contractor's expense, conduct performance tests, as necessary, at a mutually agreed upon site within twenty (20) days after Contract award notification or on a date anytime prior to spray operations if deemed necessary by the Department's Project Supervisor.

B. ACCESSORY EQUIPMENT - All accessory equipment, including any vehicles necessary for transporting the insecticide from storage or from one work site to another, are the responsibility of the Contractor. Accessory equipment supplied by the Contractor includes, but is not limited to, trucks, insecticide storage and/or mixing tanks (equipped for agitation and recirculation), pumps, hoses, metering devices, and similar equipment necessary for mixing the insecticide and loading the spray aircraft. The Contractor must also supply readily accessible, properly sized and coded fire extinguishers at each loading zone. The Contractor must supply sufficient accessory equipment so that each aircraft can work independently of each other.

C. EQUIPMENT CLEANING - All equipment which comes in direct contact with the insecticide must be kept thoroughly clean and free of residues and foreign particulate matter.

D. FIELD TRUCKS - The Contractor must supply a vehicle for fixed-wing ground crews and a vehicle for helicopter ground crews to use for transporting personnel, moving insecticides, running for parts, and similar duties. Department-owned vehicles may not be used for these purposes.

1. A truck or trucks equipped for mixing and transporting insecticide is required for each independently working spray aircraft or a group of spray aircraft working from a single loading zone. These trucks are acceptable, if they meet the requirements of the Ohio Department of Transportation and do not present maneuverability problems at the field work sites. Each loading zone must have sufficient ground support equipment and personnel to adequately service the aircraft without causing any production delays.

2. The field truck(s) supplying the helicopter(s) must be designed to separately carry the insecticides, water, and fuel to the work site. The quantities transported to the work site must be sufficient to supply aircraft working from that site for five (5) hours of spraying without exceeding the truck or road legal weight limits.

3. Each mix truck must be supplied with drum wrenches, if barrels are being used.

E. TANKS

1. General - All tanks used to transport and mix insecticides must be leak proof and corrosion resistant. Filler openings and air vents must be adequate to prevent surging during filling. All tanks must be equipped with properly fitting covers or hatch plates which must be kept closed except when filling or circulating to reduce the chance of contamination with foreign materials.

SPECIFICATIONS AND REQUIREMENTS

2. Mix Tank - The mix tank is to have a capacity of at least 1.5 times the load capacity of the aircraft it supplies. However, the mix tank must not be so large that it would be impossible to use it to mix smaller quantities sufficient to supply the aircraft on a per load basis only. This minimizes the risk of mixing too much insecticide at one time and having problems with storage of mixed insecticides. The mix tank must not contain any baffles or other obstructions that restrict agitation in any portion of the tank. The system must be designed to produce a swirling action that will mix and agitate the insecticide solution throughout the tank and not allow the material to precipitate out of solution. All return lines on the recirculation system must enter below the surface of the mixture to reduce foaming problems and assure proper agitation. All tanks used to batch mix insecticide must have visual calibration markings or a dip stick, calibrated at 25 gallon or finer intervals, for use as a double check of the meters.

3. Cleaning - All tanks must be thoroughly cleaned and free of rust, residues, and particulate matter such as grit and sand. All tanks must be inspected by the Department before being permitted to be filled with insecticide or water.

F. PUMPS

1. Water Pump - Each truck used to transport water must be equipped with a pump capable of drafting water a vertical distance of at least 10 feet. The truck must be equipped with a non-collapsing suction hose, an anti-siphon device or check valve, a coarse screen, and a bucket. The configuration must be such that water being taken into the truck can be metered if needed and it must pass through a strainer no coarser than 50 mesh.

2. Circulation Pump - The pump used for circulation, mixing, and loading must produce a sufficient flow rate to fill the aircraft it supplies in a maximum of three (3) minutes without producing high pressures.

3. Insecticide Pump - The pump used for drafting undiluted *Btk* from a fifty-five (55) gallon drum must be capable of repeatedly emptying a drum in less than three (3) minutes.

4. Number of Pumps - The same pump may be used for all purposes if a single truck is used for mixing and for transporting water and insecticide, provided all requirements are met. If a separate truck is used for any of these purposes it must have its own pump. Airport operations for fixed-wing operations must have sufficient pumps to handle two aircraft using two different insecticides.

5. Pump Seals - All pump seals must be chemically and abrasively resistant to the spray material being used.

6. Prohibited Pumps - No high-pressure piston pumps or hand pumps are permitted.

G. METERS

1. General - The mixing systems must be designed to accurately meter water and undiluted *Btk*. The meter must be equipped with an air eliminator to assure accurate metering of any of these products.

   a. A strainer no finer than 30-mesh must be installed in line to screen the solution prior to entering the meter.

   b. The meter must be capable of safely handling the flow rate necessary for loading the aircraft

   c. Meters with lighted digital displays that are difficult to see in direct sunlight are not acceptable.

2. Calibration - The Contractor must provide evidence that all metering devices employed have been inspected and calibrated by a licensed inspector within two (2) months prior to the start of the spraying operation.

SPECIFICATIONS AND REQUIREMENTS

XI. CONTRACTOR PERSONNEL

A. PROJECT SUPERVISOR - The Contractor must designate one of its personnel to serve as the on-site Project Supervisor and to represent the company in all contractual matters that require prompt attention. This person must be familiar with all the equipment being used and must be certified in the forest pest category by the Ohio Department of Agriculture Pesticide Regulation Section. It is preferred that this person be a pilot on the project. The Project Supervisor can be assigned duties to perform during the spray operations (spray pilot, observation pilot, mechanic, or ground support). The Project Supervisor must understand and be fluent in English.

B. GROUND SUPPORT PERSONNEL - The Contractor must supply sufficient numbers of properly trained and qualified ground support personnel to drive all necessary support vehicles, handle and mix insecticides, operate and maintain the equipment used to transfer and mix insecticides, and properly fuel, service and maintain each aircraft. All ground support personnel must be familiar with the aircraft's spray system and be knowledgeable of calibration. All ground support personnel must understand and be fluent in English. All ground personnel who drive the necessary support vehicles must possess a valid CDL. All ground support personnel must be familiar with the Contractor's hazardous material management plan and prepared to implement the plan.

All ground support personnel must be equipped and trained to take proper action in an emergency. These people must observe all safety precautions in handling and mixing insecticides and in refueling the aircraft. The Contractor is required to replace any ground support person who, in the opinion of the Department's Project Supervisor, does not demonstrate the knowledge and capability to perform his/her duties. The Contractor must have a designated aircraft and pilot for aerial observation for the duration of the project.

C. PILOTS FOR SPRAY AIRCRAFT - The spray pilot is responsible for the accurate and proper application of the insecticide spray to the designated site using good application procedures as generally recognized as correct by professionals in the aerial application industry.

1. The pilot is responsible at all times for the safe operation of the aircraft. The Department will not require flying in fog, dense smoke, or any other adverse conditions which a prudent pilot would avoid nor is the pilot required to operate from any site which the pilot considers unsafe.

2. The pilot is responsible for the identification and avoidance of all flight hazards in the operation area. The pilot must make a reconnaissance pass over each spray block to identify and locate any such hazards or congregations of people prior to treating the block. The pilot must avoid spraying any congregation of people including children waiting for school buses.

3. The Contractor must provide pilots that are FAA qualified to operate the aircraft specified in the Bid. Each spray pilot must be qualified under FAR part 137.

4. The Contractor must provide the Department with a list of all proposed and backup pilots for use on this Contract. The pilots must be listed on the Bid Quotation Reply form in Attachment A for approval by the Department. The actual pilots to be used must be made known to the Department by April 01, 2008.

5. Each proposed and backup pilot (at least one each per spray aircraft) must supply the following information on the form in Bid Price Page Attachment A: Name, FAA license number, Ohio commercial pesticide applicator number or the name of the state where they are certified along with that state's commercial pesticide applicator number, total solo hours, number of forest pesticide application hours, number of forest insecticide application hours, number of hours in the type of aircraft to be flown on this Contract, number of seasons spraying for gypsy moth or other forest insect defoliators, and two references of previous work performed (prefer gypsy moth spray programs when possible).

6. Each pilot must demonstrate proficiency at reading and navigating from USGS 7.5-minute quadrangle topographic maps. A test, which may include an in-flight assessment, may be conducted prior to the start of spray operations.

7. Each spray pilot must be a Certified Pesticide Applicator in the forest pest control category by the Ohio Department of Agriculture Pesticide Regulation Section, or be listed as a registered employee of the Contractor or Subcontractor who must be certified by the Ohio Department of Agriculture. If the pilot is not certified in Ohio he/she must be currently certified by another state in the appropriate category covering forest pest control.

8. Each spray pilot must demonstrate proficiency in the operation of the aircraft's Loran-C and DGPS guidance systems. An in-flight test may be conducted prior to the start of spray operations.

9. Each pilot must be trained in programming the required aircraft radio and must be capable of programming it in the field.

10. Each pilot must meet or exceed the following experience minimums as "pilot in command":

    - Total solo hours in all aircraft = 1000 hours
    - Total solo hours of night flying = 10 hours
    - Total solo hours in type of aircraft (fixed / rotary) to be flown in Contract = 200 hours
    - Total solo hours in weight class (category) of aircraft to be flown in Contract = 100 hours
    - Total hours in make, model and series to be flown in Contract = 50 hours
    - Forest Pesticide Application in terrain typical of project area = 50 hours

11. The Department reserves the right to reject the Contractor's use of any pilot who, in the Department's opinion, has performed unsatisfactory in previous operations whether in Ohio or elsewhere

D. CONTRACTOR PERSONNEL BACKGROUND CHECKS – The Contractor must conduct and provide background checks on all Contractor and Subcontractor personnel. The Department reserves the right to reject any of the Contractor or Subcontractor personnel.

E. DEPARTMENT REVIEW OF CONTRACTOR PERSONNEL - The Department will review the qualifications of all Contractor personnel and the Department reserves the right to reject any of the Contractor personnel. The Department may also request personnel to be replaced, if in the opinion of the Department, the Contractor's personnel are operating in an unsafe manner. The Project Supervisor is responsible for reviewing the qualifications and specifications of personnel.

XII. APPLICATION SPECIFICATIONS, CONDITIONS & RESTRICTIONS

A. LOGISTICS - Once on-site and under Contract to the Department, each aircraft and its assigned pilot, ground support equipment, and crew is under the logistical direction of the Department's Project Supervisor and/or the Airport/Helispot Operations Supervisors. Although an effort will be made to distribute the workload equitably among the aircraft assigned, such a distribution is not guaranteed.

No spray block may be treated until the pilot receives authorization from the Project Supervisor.

B. WEATHER RESTRICTIONS - Using the following guidelines, the Department will determine when weather conditions are acceptable for spraying operations to be conducted. Information supplied by the Department's field crews and the Contractor's pilots are used in making this decision. The Airport/Helispot Operations Supervisors will make the final decision regarding when weather is acceptable for spraying.

1. Wind Velocity - Wind velocity must be 10 mph or less when measured in or near the spray block with a hand held wind gauge. If excessive drifting of the spray cloud occurs because of higher wind velocity above the forest canopy, spray operations will be suspended. Caution must also be exercised when dead calm conditions exist because of the formation of temperature-inversion layers. Spray operations will be curtailed under such conditions.

2. Probability of Precipitation - Probability of precipitation within six hours after the completion of spraying must be 50% or less. Any *Btk* block, which incurs significant precipitation (0.25 inch or more) within 4 hours of spraying, must be evaluated and, if necessary, resprayed at the Department's expense.

3. Relative Humidity (RH) - Relative humidity must be high enough to prevent evaporation of the smaller droplets in the spray cloud before they contact the foliage. Spray deposition will be monitored closely, when RH drops below 50% and air temperature is above 80°F. The combination of relative humidity and temperature will impact the deposition of the spray. The decision to suspend and/or resume spray operations will be the responsibility of the Project Supervisor.

SPECIFICATIONS AND REQUIREMENTS

4. Air Temperature - Air temperature in the shade at approximately five (5) feet above the ground must be 40°F to 80°F. Spraying will be suspended when temperatures exceed 80°F or are less than 40°F.

5. Wet Foliage - Foliage must not be dripping wet either from precipitation or overnight dew.

C. FOLIAGE & INSECT CONDITIONS - Spray operations will begin when white oak foliage is at least 20% expanded, all egg masses have hatched and larvae have dispersed to the foliage. Larvae must be in the first or second instar and have completed the dispersal stage of their behavior before spray operations begin. Spraying may occur under conditions which deviate from the above criteria at the discretion of the Project Supervisor.

D. TIME OF SPRAY RESTRICTIONS

1. Department personnel and pilots must observe each spray block before treatment for the presence of school children. The pilot will be directed to another portion of the spray block, sent to a different spray block, or told to circle until the school children and school bus are clear of the block.

2. The Department's Project Supervisor determines when spraying may take place.

3. Evening spraying is permitted in isolated, sparsely populated areas when weather is favorable. However, evening spraying is a significant factor in producing fatigue for everyone working on the program. Evening operations will be curtailed, when the Department determines that fatigue is excessive.

E. NO SPRAY ZONES & BUFFER ZONES - A two-hundred (200) foot no spray buffer may be implemented around any objector.

1. No spraying over open bodies of water is permitted. These are areas with no forest canopy over the body of water.

2. No spraying is to take place within 1,000 feet (Bald and Golden Eagle Protection Act)) of known eagle nests. These locations will be made known to the pilots, if they occur near any spray blocks.

F. SPRAY TIME POLICY - Because of the short spray window available, it is essential that advantage be taken of any acceptable spray weather within the limits imposed by insect and foliage development, pilot work hour limits, certain time of spray limitations, and safety considerations. Therefore, spraying must take place whenever weather conditions permit including evenings and weekends.

G. NAVIGATIONAL ASSISTANCE - Due to the scattered nature of many of the treatment blocks, good navigation is essential. Latitude and longitude coordinates are provided for each spray block. DGPS is required (see Section IX, Item E for specifications). Topographic maps are available to each pilot with the block boundaries clearly identified, and the observation aircraft may also assist the pilot in locating spray blocks.

H. RECONNAISSANCE - A reconnaissance flight is required of the spray pilot over each spray block prior to treatment to ascertain the block layout and to identify and avoid any flight hazards or congregations of people. The Project Supervisor may request that spray pilots preview the spray blocks prior to the start of spray operations. Spray pilots may also elect to observe spray block locations prior to the start of operations.

I. MAPS AND SPRAY BLOCK ID - The Department will supply to the Contractor GIS files of all spray blocks (as per Section IX, Item E), USGS 7.5 minute topographic maps for all spray blocks will be available; and assist the spray pilot via radio communication from an aerial observer aircraft and ground crews in the block regarding the location of spray blocks.

1. Maps - The Department has prepared for each spray pilot, ground crew block monitor, aerial observer, and air operations supervisor a detailed set of USGS 7.5 minute topographic maps containing all the spray blocks in the project area. Each block is clearly outlined, labeled with a block number. Unlighted fire towers and as many unmarked power lines as can be determined are highlighted on the maps. In addition, countywide composite maps of the spray blocks are given to each pilot and to Department personnel.

2. Objectors - Objectors to the spray program will have their properties digitized out of the treatment area GPS file. There are usually very few objectors, and we will drop from the spray schedule any block that has so many objectors that would make a spray program unfeasible.

3. Spray Block ID - During spray operations the Department has personnel located in each spray block or in an aerial observation aircraft, and at the loading zones. Radio communications with the aerial observation aircraft and spray aircraft can be used to direct the spray pilot to the correct block. In addition, each pilot is supplied with the latitude and longitude coordinates for each spray block.

J. FERRY FLIGHTS AND OVER FLIGHTS - Ferry flights to and from the job or between loading zones in the project area are provided by the Contractor and are not billed separately to the Department. This airtime must be limited to flights that are essential to job efficiency. Pilots of Contractor and applicable Subcontractors are to exercise best efforts to avoid ferry flights over sensitive areas. The Department will inform the Contractor of the location(s) of these areas.

K. AIRSPEED, APPLICATION ALTITUDE, TURNS

1. Airspeed - An exact application airspeed will be designated by the pilot at the time of calibration verification.

2. Application Altitude - Spray application lower than fifty (50) feet over buildings is not permitted. Depending on terrain, pilots must stay within fifty (50) to one hundred (100) feet above treetops during application.

2. Turns - The aircraft spray boom must be shut off at the end of spray runs and during the time when a turn is being made. Pilots of Contractor and applicable Subcontractors are to exercise best efforts to avoid turning over sensitive areas, including open bodies of water. The Department will inform the Contractor of the location(s) of these areas.

L. ACCURACY - The Contractor must guarantee a complete and accurate coverage of the designated areas within the spray block. The spray application is monitored for accuracy by Department personnel who look for uniform coverage and acceptable droplet size in the designated areas. If any designated area is missed or improperly treated, it must be resprayed at the Contractor's expense.

1. Care must be exercised in keeping all spray material within the designated block boundaries and away from areas designated as being sensitive and/or where property owners object to the spraying. Within the designated block boundaries, the spray is to be applied to forested areas only and must be shut off over open fields and all open bodies of water. Care must also be exercised by the spray pilot in keeping spray drift out of open water.

2. The majority of the treatment areas have areas that are residential. Congregations of people including children waiting for school buses must be avoided at all times.

M. PRE-SPRAY BRIEFING AT START OF PROGRAM - A Pre-Spray briefing for all Contractor and Subcontractor personnel and Department personnel working on the program will be held in the county of the first application blocks on the day prior to the anticipated start date.

Maps, logistics, updates, safety and work plans, crew assignments, calibration and characterization, etc. will be discussed and reviewed at this meeting.

XIII. <u>SAFETY REQUIREMENTS AND PROCEDURES</u>

A. GENERAL - It is the Department's intent to run a safe and efficient aerial spray program. All work on this program will be conducted according to the safety and work plans. All personnel working on this program are required to read this Contract and the safety and work plans. Anyone working in an unsafe or negligent manner will be notified by the Project Supervisor of their actions and requested to adhere to the safety procedures. The Project Supervisor reserves the right to remove and have replaced any Contractor or Department personnel that does not adhere to the safety procedures.

SPECIFICATIONS AND REQUIREMENTS

B. CONTRACTOR SAFETY & SPILL PLANS - The Contractor is required to conduct all operations in a safe manner and to have a well defined, written safety plan developed.

1. The Contractor must provide essential safety equipment including, but not limited to, spill and containment materials and supplies (shovels, absorbent material, buckets, etc.). All Contractor and Department personnel must be briefed by the Contractor in their use and procedures to be followed.

2. By the Pre-Spray Meeting, the Contractor's safety plan must be presented along with a written narrative explaining how the Contractor will deal with: (1) a major (100+ gallons) fuel or insecticide spill at the loading site, and (2) a major dump of insecticide in a residential spray block or rural setting.

3. The safety plan should list all safety equipment, materials, and supplies the Contractor will provide and have on-site; list procedures for all personnel to follow when at the loading zone (aircraft safety, fueling and insecticide loading procedures, safe distances between aircraft at the loading zone, protection for hoses and safe hose length for fuel and insecticide loading, proper grounding procedures during fueling of aircraft, cleanup procedures, storage of insecticide containers, insecticide container disposal, etc.).

C. PERSONAL PROTECTION EQUIPMENT - Ground support personnel exposed to insecticides during mixing and loading should be provided by the Contractor and must wear an approved mask or respirator sufficient to prevent inhalation of airborne particulate, wear rubber gloves, long-sleeved shirts, long legged pants, and protective eyewear.

1. All spray pilots must wear the following Contractor provided protective gear: Nomex flight suit, Nomex gloves (optional), FAA-approved helmet with headset and microphone assembly, 8" leather boots (optional) and 100% cotton undergarments and stockings.

2. All Contractor-supplied aircraft must contain FAA approved shoulder harnesses and lap belts for the pilot in spray aircraft, and shoulder harnesses and lap belts for the pilot and front passenger seats in the observation aircraft with lap belts for all rear seats. Shoulder harnesses and lap belts must be worn at all times.

3. All personnel working at the loading zones will be supplied with protective ear wear. Department personnel will be provided ear protection by the Department, and Contractor personnel will be supplied ear protection by the Contractor.

D. INSECTICIDE HANDLING & MIXING - The Contractor must follow all safety procedures that apply to general pesticide handling and to the specific material being used. All ground support personnel should be equipped and trained to take proper action in an emergency. These people must observe standard safety precautions in handling insecticides. The Contractor is required to replace any ground support person, identified by the Department's or Contractor's Project Supervisor, who does not demonstrate the knowledge and capability of performing his/her duties in a safe manner.

When transporting insecticides in drums or mini-bulk tanks, the Contractor must securely tie or chain the drums or tanks to the truck bed.

E. SAFETY ZONES - The Contractor is to inform the Department in their safety plan of the safety zones to be established around aircraft, when the aircraft are on the ground and procedures to be followed by all personnel, when working around the aircraft.

F. MSDS - The Contractor must keep a copy of the Material Safety Data Sheet for any insecticide or other chemical to be supplied by the Contractor for the project available on site throughout the course of the project.

G. PLACARDS AND HAZMAT REGULATIONS - ALL trucks transporting aircraft fuel or other hazardous materials must be placarded and supplied with shipping papers as required under the U.S. Department of Transportation's Hazardous Materials Regulations (HAZMAT).

H. FIRE EXTINGUISHERS - The Contractor must supply properly sized and coded fire extinguishers at each loading site and in each aircraft. The fire extinguishers must be of the proper type to handle any fire situation at the work site.

SPECIFICATIONS AND REQUIREMENTS

I. REFUELING REQUIREMENTS & PROCEDURES - Any refueling of the aircraft, done while the engine is running and/or the rotor spinning, must be done by hose line and nozzle only. Fueling from containers will be permitted only during complete engine shut down. Proper aircraft/fuel truck grounding procedures with an FAA-approved grounding kit must be followed while refueling.

J. ACCIDENT & INCIDENT REPORTING - In Ohio, accidents requiring the need of emergency response units are called in to the airport/helispot operations supervisors, who have access to a telephone. The Department's safety plan contains all phone numbers needed for emergency situations.

1. Any incidents involving equipment or personnel on this project must be reported to the Project Supervisor. This includes any situation in which an accident almost occurred or an incident where safety procedures where not followed.

2. All accidents and incidents will be documented in writing by all personnel observing the situation, and the Project Supervisor will report all such cases to the U.S. Forest Service.

K. HAZARDS IN & NEAR SPRAY BLOCKS - All pilots are required to circle and inspect each spray block before application in order to identify any potential hazards. The Department will assist the pilots in identify potential hazards by indicating fire towers and power lines on the topographic maps given to each pilot. However, there may be hazards that are not marked on the topographic map (including additional towers and power lines unknown to the Department). It is the pilot's responsibility to identify potential hazards in and near spray blocks. No pilot will be asked to treat a block that he/she feels is unsafe to spray.

L. RADIO COMMUNICATIONS - Radio communications must be maintained at all times between spray aircraft, observation aircraft, Contractor ground support crews, and the Department's Airport and Helispot Operations Supervisors. No spraying will be conducted if radio communications are not functioning.

The Department will maintain radio communications between loading zones, field monitors, aerial observer, and base using forestry radios.

M. PILOT FLIGHT LIMITATIONS

1. Definition of Terms - the following terms are used in describing pilot flight limitations.

a. Flight time - Flight time is the accumulated airtime beginning daily with lift-off for the first load and ending with landing from the last load.

Time involved in moving the aircraft to the work site before spraying begins or away from the site after spraying is finished is also included.

b. Duty time - Includes flight time, ground duty of any kind, and standby or alert status at any location.

c. Duty day - Any day (midnight to midnight) when more than four (4) hours of duty time (non-flight) or more than one (1) hour of flight time are accumulated.

d. Rest day - Any day with less than four (4) hours of duty time with no more than one (1) of the hours being flight time.

e. Start time - thirty (30) minutes before sunrise, provided visibility is adequate for safe flight.

f. Stop time - thirty (30) minutes after sunset, provided visibility is adequate for safe flight.

2. Daily Flight Time Limits - A maximum of eight (8) hours of flight time may be accumulated per day. The eight (8) hours of daily flight time must be split into two separate segments. A maximum of five (5) hours may be flown during each segment.

a. A mandatory break of at least thirty (30) minutes must be taken after the first five-(5) hours of flight time. This mandatory break is restricted to meals and resting. No other job connected with the spray operations may be conducted for the first four-(4) hours during this break period, if additional flight time is anticipated during the duty day.

b. A thirty (30) minute break may be taken at the pilot's discretion anytime after the first two and a-half (2.5) hours of flight time. This break does not preclude the necessity for a mandatory break after five (5) hours of flight time.

c. The pilot may take five (5) minute breaks anytime during reloading operations

3. Mandatory Rest Days - A pilot accumulating thirty six (36) or more hours of flight time in any six (6) consecutive days or less must have a rest day the following full calendar day. Cumulative flying hours or days start again at zero (0) after each rest day.

   A pilot must have two (2) rest days during any fourteen (14) consecutive days.

4. Nightly Rest - A pilot must have a minimum of six (6) consecutive hours off duty prior to the start of flight time during the next duty day.

5. Night Flying - While under contract to the Department, night flying is limited to moving the aircraft for security or emergency purposes.

XIV. DAMAGES SUBJECT TO SPECIFIED MONETARY ASSESSMENT FOR FAILURE TO PERFORM

A. INTRODUCTION - Due to the behavior and development of gypsy moth larvae, the amount of time during which successful treatment can be made is limited. For this reason, delays caused by the Contractor or Subcontractor during periods of acceptable spray conditions are potentially damaging to the outcome of the program. In addition, such delays are costly to the Department and therefore subject to the assessment of agreed damages for failure to perform. Repeated occurrences of the Contractor's failure to perform may result in the State seeking relief through the Liquidated Damages provision of the Special Contract Terms and Conditions or through the applicable provisions of the Standard Contract Terms and Conditions.

   The Contractor is not liable for agreed damages, if the failure to meet the terms of the Contract arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the State in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case, the failure to perform must be beyond the control and without the fault or negligence of the Contractor.

B. LATE ARRIVAL - Notice will be given to the Contractor at least five (5) days in advance of a time and location to have their equipment assembled for the program start. This is usually two-and-a-half (2.5) days before actual spraying, and is needed for calibration checks, characterization flights, final inspection, and pilot briefing. At that time, the aircraft, its' equipment, and ground support equipment must be ready and operating according to Contract specifications. Also, pilots and ground support personnel must be on site and ready to perform as required by the Contract specifications.

   1. Failure to arrive on the specified day and within a reasonable period of the agreed time of day, will be assessed against the amount due the Contractor at one thousand five hundred ($1,500) dollars per day or portion thereof per aircraft for the two -and-a-half (2.5) days prior to the scheduled start of spraying.

   2. Any delay due to actions by the Contractor, which makes it impossible to properly calibrate, characterize, and inspect all the aircraft and equipment in the two (2) days prior to the scheduled start of spraying will be assessed against the amount due the Contractor at one thousand five hundred ($1,500) dollars per day per aircraft. These damages apply to each aircraft not calibrated, characterized, and inspected during the two (2) days prior to spraying.

3. A delay in the start of the aerial spraying program due to actions by the Contractor, when conditions are favorable for spraying, will be assessed against the amount due the Contractor at five thousand ($5,000) dollars per day per aircraft. Both spray aircraft and observation aircraft are subject to the five thousand ($5,000) dollars per day per aircraft assessment.

C. TARDINESS - The daily morning operation is to start before dawn. Evening spraying hours are scheduled for a time mutually agreed upon by the Contractor and the Project Supervisor on a daily basis. The Contractor's personnel should be at the work site far enough in advance to have the aircraft checked, engines warmed up and insecticide properly agitated and loaded and ready for takeoff, when there is sufficient light for safe spraying.

A delay in first trip takeoff due to tardiness, when conditions are acceptable for spraying, will be assessed against the amount due the Contractor at a rate of one thousand ($1,000) dollars per hour or portion thereof per aircraft per spraying session.

D. DELAYS - The number of personnel and the quantity and quality of insecticide, water, and aircraft fuel at the loading site must be sufficient to keep each aircraft in full production for a minimum period of five (5) consecutive hours.

1. A shutdown or delay caused by a shortage of qualified personnel and/or a lack of acceptable insecticide, water, or fuel, when spraying conditions are acceptable during this five (5) hour period, will be assessed against the amount due the Contractor at the rate of one thousand ($1,000) dollars per hour or portion thereof of acceptable spray time lost per aircraft per occurrence.

2. Any other delays caused by the Contractor, including, but not limited to, equipment failures caused by improper use or negligence of the Contractor, other problems caused the Contractor, or failure to have an approved FAA waiver for the treatment of congested areas will be assessed against the amount due the Contractor at the rate of one thousand ($1,000) dollars per hour or portion thereof of acceptable spray time lost per aircraft per occurrence. See Section XIV, Item L. for Mechanical Failures not caused by the Contractor and for aircraft malfunctions.

E. WORK SITES & LANDING ZONES - All work sites, loading zones, and landing zones must be designated by the April Pre-spray Conference. This includes the location of airports for fixed-wing operations and all work sites and loading zones at the airports, and all helicopter landing and loading zones.

Work sites used during the program that were not designated by the due date will be assessed against the amount due the Contractor at the rate of five hundred ($ 500) dollars per work site.

F. IMPROPER SPRAYING - A uniform application at the proper droplet size and rate per acre within the designated area is essential for a successful program. Faulty application makes it necessary to respray areas not satisfactorily covered by the Contractor, such areas will be resprayed by the Contractor at no cost to the Department for either flight time or insecticide. Where faulty application results in significant area outside the designated boundaries being treated, the Contractor will be charged for the insecticide and application cost.

G. STORED MIXED INSECTICIDE - Only quantities of insecticide sufficient to keep the spray aircraft in operation must be mixed at any given time. If excess quantities are mixed and the mixed material must be stored for a longer period of time than that specified by the Department, the Contractor is responsible for its proper disposal. The Contractor will not be compensated for the cost of any insecticide so mixed and stored nor for any costs associated with its disposal.

H. OTHER SPRAYING - The equipment and personnel under contract to the Department are not permitted to do any other spraying or work of any kind for other individuals, companies, or agencies while the Contract is in effect without a written release from the Department's Project Supervisor.

Violation of this restriction will be assessed against the amount due the Contractor at the rate of five thousand ($5,000) dollars per incident. In addition, damages as specified in Section XIV, Item M may also be assessed.

I. IMPROPER MIXING - Mixing and/or spraying insecticide at concentrations or volumes other than those prescribed in these Contract specifications is not permitted. In addition, use of *Btk* products over six (6) months old without prior permission will result in assessed damages.

Violations of the above restrictions will be assessed against the amount due the Contractor at the rate of five thousand ($5,000) dollars per incident.

J. INSECTICIDE LOSSES. SPILLS & DUMPS - The Contractor will not be compensated for any Contractor-supplied insecticide which is lost, spilled, dumped, or otherwise made unavailable. The Contractor must provide properly labeled trucks for transporting the insecticide and will be held liable for any loss of the material between the receipt of delivery by the Contractor and its proper disbursement from the aircraft spray system.

If an insecticide loss, spill, or dump results in a loss of acceptable spray time, damages will accrue and be assessed as specified in Section XIV, Item D.

K. POOR PILOT PERFORMANCE - The Department's Project Supervisor or his/her designated representative reserves the right to permanently ground any pilot, who, in their opinion, violates these Contract specifications, is unsafe, or otherwise performs unsatisfactorily. In such an event, the Contractor must furnish a replacement pilot within twenty-four (24) hours, who is capable and qualified to safely fly and properly perform the application.

1. Failure to furnish a replacement pilot within the specified time can be assessed against the amount due the Contractor at the rate of five thousand ($5,000) dollars per day.

2. In addition, damages as specified in Section XIV, Item D. will accrue and be assessed from the time of grounding.

L. MECHANICAL FAILURES - It is understood that aircraft, vehicles, and equipment occasionally malfunction even with proper use and maintenance. No assessment will be charged to the Contractor for the first such malfunction if the aircraft, vehicle or equipment can be made operational or replaced within twenty-four (24) hours or there is no delay or loss in spraying time. This twenty-four (24) hour grace period is only granted for those malfunctions not due to improper use or negligence by the Contractor. Only one twenty-four (24) hour no assessment period will be granted for each aircraft, vehicle, or piece of equipment during the course of the spraying operation.

1. After the twenty-four (24) period, damages will be assessed against the amount owed to the Contractor at the rate of one thousand ($1,000) dollars per hour or portion thereof of acceptable spray time lost.

2. If an aircraft (spray or observation) suffers from frequent mechanical problems, the Department's Project Supervisor may notify the Contractor that the aircraft must be replaced with an aircraft of similar capability within twenty-four (24) hours. The replacement aircraft must be covered by the Contractor's insurance policies. Failure to provide an acceptable replacement within the allotted time will be assessed against the amount owed to the Contractor at the rate of five thousand ($5,000) dollars per day per aircraft. In addition, damages as specified in Section XIV, Item D, will accrue from the end of the allotted time and will be assessed as specified.

M. AIRCRAFT & PILOT SUBSTITUTIONS - The Contractor shall not withdraw or substitute any qualified aircraft, pilot, or co-pilot prior to the completion of the Contract without written approval from the Project Supervisor. In the event the Contractor or Subcontractor makes any such withdrawal or substitution without such written approval, the Contractor will be assessed against the amount due the Contractor the following amounts:

1. Five thousand ($5,000) dollars per aircraft per day, and/or;

2. Five thousand ($5,000) dollars per pilot or copilot per day.

N. DOCUMENTATION - Any incident, in which a Contractor is assessed damages, as described in this section, will be documented in writing and supplied to the Contractor by the Department's Project Supervisor and submitted to the Contract Administrator for his/her approval. All approved reports will be subject to the appropriate provisions and assessed costs will be deducted from the final payment made to the Contractor. The burden of proof to dispute these assessments is upon the Contractor.

SPECIFICATIONS AND REQUIREMENTS

XV. CONTRACT CHANGE ORDERS AND COST ADJUSTMENTS

A. CANCELLATION CLAUSE: The cancellation of this agreement is amended to provide for the situation where the Contractor is prohibited from spraying the pesticides that is required by the action of the FAA or any similar governmental entity. It is understood by the parties that the pesticides to be used for the suppression of gypsy moths has a short shelf live and has no other viable purpose and that if prohibited from spraying, Contractor would have no way of recouping certain expenses. If such a situation arises, the Ohio Department of Agriculture agrees to reimburse Contractor for 25% of the Contract price, plus reimbursement for any and all direct expenses incurred in fulfilling the terms of the Agreement. It is understood by the parties that reimbursement for direct expenses in this matter are to be shared equally by the state of Ohio, Department of Agriculture and the United States Department of Agriculture Forest Service. For the purposes of this provision, “direct expenses” will be limited to the cost of the pesticides including delivery cost. Nothing in this provision is to be construed as requiring the Ohio Department of Agriculture from reimbursing more than 50% of any and all direct expenses.

B. PASS-THROUGH-COSTS: During the term of this Contract, there may be modifications to the Scope of Work and/or performance requirements necessitated by compliance with Federal, State, or local laws pertaining to aerial spraying. The Contractor may be required to expend additional funds to maintain compliance with these new laws. If supported by proper documentation, e.g., copies of invoices, the State will reimburse the Contractor for these unforeseen expenditures in the following manner:

1. Within ninety (90) days of award notification, the Contractor shall submit to the Office of Procurement Services, a memorandum detailing the formula used to calculate the cost per acre for aerial spraying. This formula must list all of the cost elements used in the calculation. Any future documented cost increases affecting these elements will be considered when the State considers any petition for an increase in the cost per acre for aerial spraying. Such formula elements should include, but are not limited to, labor, formulation materials, fuel (air and ground units), maintenance (air and ground units), airport space, equipment leases, security, etc.

   Only those items identified by the Contractor as elements of the cost per acre calculation formula will be considered when reviewing any future petition for a price increase in the cost per acre. When petitioning for an increase, the Contractor must submit documentation, in the form of invoices, for formula cost elements used in the original cost per acre submittal plus verifiable documentation of increases to affected formula elements.

   Petition for increase to the cost per acre must be submitted by April 1 of the Contract calendar year. Appropriate documentation must accompany the petition.

2. As part of the Bid submittal, the Bidder shall declare a percentage above net cost for the introduction of any unspecified new formulations that may be required during the term of the Contract. This new cost element will be introduced into the Contractor’s cost per acre formula to calculate a cost per acre for the new formulation.

3. As part of the Bid submittal, the Bidder shall declare a percentage above net cost for the acquisition of any additional airport arrangements that may be required during the term of the Contract. This new cost element will be introduced into the Contractor’s cost per acre formula to calculate a cost per acre inclusive of the additional airport sites.

4. In the event of any additional, but hereto unforeseen, cost requirements are incurred by the Contractor, if necessitated by compliance with Federal, State, or local laws pertaining to aerial spraying, the State will reimburse the Contractor on a direct dollar for dollar basis upon the receipt of documented invoices verifying net costs.

PRICE SCHEDULE

The quoted total cost per acre includes all spraying of each product done by all designated aircraft type (Fixed / Rotary Wing), including personnel costs, insecticide costs, facilitating equipment and all associated services required to fully comply with all specifications, terms and conditions listed herein.

FIXED WING AIRCRAFT

ITEM #	INSECTICIDE AND APPLICATION RATE	TOTAL COST PER ACRE: 1 to 2,999 acres	TOTAL COST PER ACRE: 3,000 to 9,999 acres	TOTAL COST PER ACRE: 10,000+ acres
1.	BTK - 48 Formulation 36 BIU - Single Appl.	$ 37.28	$ 32.28	$ 30.28
2.	BTK - 48 Formulation 24 BIU - Double Appl.	$ 58.04	$ 53.04	$ 49.04
3.	BTK - 76 Formulation 38 BIU - Single Appl.	$ 38.24	$ 33.24	$ 31.24
4.	BTK - 76 Formulation 25 BIU - Double Appl.	$ 59.30	$ 54.30	$ 50.30
5.	Dimilin 4L Single Application	$ 26.50	$ 21.50	$ 19.50
6.	Gypchek Double Application	$ 47.50	$ 42.50	$ 38.50

ROTARY WING AIRCRAFT

ITEM #	INSECTICIDE AND APPLICATION RATE	TOTAL COST PER ACRE: 1 to 2,999 acres	TOTAL COST PER ACRE: 3,000 to 9,999 acres	TOTAL COST PER ACRE: 10,000+ acres
7.	BTK - 48 Formulation 36 BIU - Single Appl.	$ 47.28	$ 42.28	$ 40.28
8.	BTK - 48 Formulation 24 BIU - Double Appl.	$ 78.04	$ 73.04	$ 69.04
9.	BTK - 76 Formulation 38 BIU - Single Appl.	$ 48.24	$ 43.24	$ 41.24
10.	BTK - 76 Formulation 25 BIU - Double Appl.	$ 79.30	$ 74.30	$ 70.30
11.	Dimilin 4L Single Application	$ 36.50	$ 31.50	$ 29.50
12.	Gypchek Double Application	$ 68.50	$ 59.99	$ 55.99

ITEM #	COST ELEMENT	COST PLUS PERCENTAGE
*13.	UNSPECIFIED INSECTICIDE FORMULATIONS	100 %
*14.	UNSPECIFIED ADDITIONAL AIRPORT/HELISPOT SITES	100 %

*Not used as part of the bid evaluation

CONTRACTOR INDEX

CONTRACTOR AND TERMS:

BID CONTRACT NO.: OT905808-1 (01/31/11)

0000070866
Prime Air, LLC
3791 Road 12
Leipsic, OH 45856

TERMS: Net 30 Days

CONTRACTOR'S CONTACT: Kent J. Niese

Telephone No.: (419) 876-3981
FAX No.: (419) 876-3981
E-mail: kniese@watchtv.net

CONTRACTOR'S IT/MIS CONTACT: Kent J. Niese

IT/MIS Telephone No.: (419) 876-3981

PREFERRED METHOD OF RECEIVING PURCHASE ORDERS: E-mail: kniese@watchtv.net

OAKS ITEM ID FOR ALL GOODS/SERVICES ORDERED UNDER THIS CONTRACT: 12808

PRICE SCHEDULE
ATTACHMENT "A"

One form MUST be filled out for each aircraft that is anticipated to be used under the resulting Contract.

1. Contractor Name and Address PRIME AIR, LLC

3791 ROAD 12, LEIPSIC, OH 45856

2. Phone Number 419-876-3981 3. Aircraft Owner KENT NIESE

4. Location Aircraft operating out of OWX

5. Aircraft Make/Model AIR TRACTOR, AT402B

6. F.A.A. Number N402KN 7. Airworthiness Certificate YES XXX NO ____

8. Category C 9. Date of Annual Inspection 03 - 2007

10. Certificate of Aerial Application YES

11. Proof Of Insurance YES

12. Spray System Pump (type and make) 2 INCH STAINLESS STEEL WITH FLOW CONTROL

13. Spray System Rate 0 – 75 GPM 14. Carrying Capacity 400 GALLONS

15. Operational Maximum Load 400 GALLONS

16. Boom Length 38' 17. Horsepower 750 HP 18. Working Speed 140 MPH

Definitions of Certain Terms:
Boom length - distance in feet between outer most nozzles. If rotary atomizer system, state type and number of atomizers
Carrying Capacity - total tank volume of aircraft
Operational Maximum Load - maximum amount of insecticide volume to be routinely used for this Contract
Spray System - give power source (electric, wind-driven, etc.) Indicate the make & Model
Spray System Rate - maximum gallon/minute delivery used
Working speed - Aircraft air speed while spraying, in miles per hour

SECTION XI, ITEM C, PARTS 4 - 10: PILOT INFORMATION:

1. Pilot Name: KENT NIESE 2. FAA License #: 3043451

3. Commercial Pesticide Applicator #: 97578 Issuing State: OHIO

4. Total Solo Hours: 12,000+ 5. Total Forest Pesticide Application Hours: 3,000+

6. Total Forest Insecticide Application Hours: 3,000+

7. Total Number Of Hours In The Type Of Aircraft To Be Flown In This Contract: 8,000+

8. Total Number Of Seasons Spraying For Gypsy Moths Or Other Forest Insect Defoliators: 20

9. Previous Work Reference:

Name: DAVE ADKINS

Business: OHIO DEPARTMENT OF AGRICULTURE

Telephone: 614-387-0907

10. . Previous Work Reference:

Name: ROBERT TICHENOR

Business: MARYLAND DEPT. OF AGRICULTURE

Telephone: 410-841-5922

PRICE SCHEDULE
ATTACHMENT "A"

One form MUST be filled out for each aircraft that is anticipated to be used under the resulting Contract.

1. Contractor Name and Address PRIME AIR, LLC

3791 ROAD 12, LEIPSIC, OH 45856

2. Phone Number 419-876-3981 3. Aircraft Owner EARL'S SPRAY SERVICE, INC.

4. Location Aircraft operating out of OWX

5. Aircraft Make/Model AYRES TURBO THRUSH S2R -10

6. F.A.A. Number N4217X 7. Airworthiness Certificate YES XXX NO

8. Category B 9. Date of Annual Inspection 10 - 2007

10. Certificate of Aerial Application YES

11. Proof Of Insurance YES

12. Spray System Pump (type and make) 2 INCH STAINLESS STEEL WITH FLOW CONTROL

13. Spray System Rate 0 – 75 GPM 14. Carrying Capacity 500 GALLONS

15. Operational Maximum Load 500 GALLONS

16. Boom Length 35' 17. Horsepower 950 HP 18. Working Speed 140 MPH

Definitions of Certain Terms:
Boom length - distance in feet between outer most nozzles. If rotary atomizer system, state type and number of atomizers
Carrying Capacity - total tank volume of aircraft
Operational Maximum Load - maximum amount of insecticide volume to be routinely used for this Contract
Spray System - give power source (electric, wind-driven, etc.) Indicate the make & Model
Spray System Rate - maximum gallon/minute delivery used
Working speed - Aircraft air speed while spraying, in miles per hour

SECTION XI, ITEM C, PARTS 4 - 10: PILOT INFORMATION:

1. Pilot Name: JACOB BAKER 2. FAA License #: 314905510

3. Commercial Pesticide Applicator #: 80233 Issuing State: OHIO

4. Total Solo Hours: 5,000+ 5. Total Forest Pesticide Application Hours: 1,100+

6. Total Forest Insecticide Application Hours: 1,100+

7. Total Number Of Hours In The Type Of Aircraft To Be Flown In This Contract: 2,300+

8. Total Number Of Seasons Spraying For Gypsy Moths Or Other Forest Insect Defoliators: 6

9. Previous Work Reference:

Name: DAVE ADKINS

Business: OHIO DEPARTMENT OF AGRICULTURE

Telephone: 614-387-0907

10. . Previous Work Reference:

Name: AMY ONKEN

Business: USFS MORGANTOWN, WV

Telephone: 304-285-1565

PRICE SCHEDULE
ATTACHMENT "A"

One form MUST be filled out for each aircraft that is anticipated to be used under the resulting Contract.

1. Contractor Name and Address PRIME AIR, LLC

3791 ROAD 12, LEIPSIC, OH 45856

2. Phone Number 419-876-3981 3. Aircraft Owner MID-MICHIGAN HELICOPTERS

4. Location Aircraft operating out of OWX

5. Aircraft Make/Model BELL 47G3 – B1

6. F.A.A. Number N90543 7. Airworthiness Certificate YES XXX NO

8. Category D 9. Date of Annual Inspection 12 - 2007

10. Certificate of Aerial Application YES

11. Proof Of Insurance YES

12. Spray System Pump (type and make) ELECTRIC

13. Spray System Rate 0 – 50 GPM 14. Carrying Capacity 80 GALLONS

15. Operational Maximum Load 75 GALLONS

16. Boom Length 30' 17. Horsepower 260 HP 18. Working Speed 60 MPH

Definitions of Certain Terms:
Boom length - distance in feet between outer most nozzles. If rotary atomizer system, state type and number of atomizers
Carrying Capacity - total tank volume of aircraft
Operational Maximum Load - maximum amount of insecticide volume to be routinely used for this Contract
Spray System - give power source (electric, wind-driven, etc.) Indicate the make & Model
Spray System Rate - maximum gallon/minute delivery used
Working speed - Aircraft air speed while spraying, in miles per hour

SECTION XI, ITEM C, PARTS 4 - 10: PILOT INFORMATION:

1. Pilot Name: JIM BARENSE 2. FAA License #: 1991717

3. Commercial Pesticide Applicator #: 99808 Issuing State: OHIO

4. Total Solo Hours: 9,000+ 5. Total Forest Pesticide Application Hours: 2,000+

6. Total Forest Insecticide Application Hours: 2,000+

7. Total Number Of Hours In The Type Of Aircraft To Be Flown In This Contract: 7,000+

8. Total Number Of Seasons Spraying For Gypsy Moths Or Other Forest Insect Defoliators: 20

9. Previous Work Reference:

Name: DAVE ADKINS

Business: OHIO DEPARTMENT OF AGRICULTURE

Telephone: 614-387-0907

10. . Previous Work Reference:

Name: BRIAN KROLL

Business: MIDLAND COUNTY, MICHIGAN

Telephone: 989-687-5198

PRICE SCHEDULE
ATTACHMENT "A"

One form MUST be filled out for each aircraft that is anticipated to be used under the resulting Contract.

1. Contractor Name and Address PRIME AIR, LLC

3791 ROAD 12, LEIPSIC, OH 45856

2. Phone Number 419-876-3981 3. Aircraft Owner EARL'S SPRAY SERVICE, INC.

4. Location Aircraft operating out of OWX

5. Aircraft Make/Model AYRES TURBO THRUSH S2RG -1

6. F.A.A. Number N6134T 7. Airworthiness Certificate YES XXX NO ____

8. Category C 9. Date of Annual Inspection 10 - 2007

10. Certificate of Aerial Application YES

11. Proof Of Insurance YES

12. Spray System Pump (type and make) 2 INCH STAINLESS STEEL, AIR DRIVEN

13. Spray System Rate 0 – 100 GPM 14. Carrying Capacity 400 GALLONS

15. Operational Maximum Load 390 GALLONS

16. Boom Length 38' 17. Horsepower 680 HP 18. Working Speed 140 MPH

Definitions of Certain Terms:
Boom length - distance in feet between outer most nozzles. If rotary atomizer system, state type and number of atomizers
Carrying Capacity - total tank volume of aircraft
Operational Maximum Load - maximum amount of insecticide volume to be routinely used for this Contract
Spray System - give power source (electric, wind-driven, etc.) Indicate the make & Model
Spray System Rate - maximum gallon/minute delivery used
Working speed - Aircraft air speed while spraying, in miles per hour

SECTION XI, ITEM C, PARTS 4 - 10: PILOT INFORMATION:

1. Pilot Name: JIMMIE KEMP 2. FAA License #: 3736227

3. Commercial Pesticide Applicator #: C006050449 Issuing State: MI + OH PENDING

4. Total Solo Hours: 3,275+ 5. Total Forest Pesticide Application Hours: 500+

6. Total Forest Insecticide Application Hours: 250+

7. Total Number Of Hours In The Type Of Aircraft To Be Flown In This Contract: 1,000+

8. Total Number Of Seasons Spraying For Gypsy Moths Or Other Forest Insect Defoliators: 2 APP & 2 OBSERVATION

9. Previous Work Reference:

Name: BILL HATFIELD

Business: HATFIELD SPRAYING

Telephone: 616-837-6979

10. . Previous Work Reference:

Name: JACOB BAKER

Business: EARL'S SPRAYING SERVICE, INC.

Telephone: 989-842-5916

PRICE SCHEDULE
ATTACHMENT "A"

One form MUST be filled out for each aircraft that is anticipated to be used under the resulting Contract.

1. Contractor Name and Address PRIME AIR, LLC

3791 ROAD 12, LEIPSIC, OH 45856

2. Phone Number 419-876-3981 3. Aircraft Owner DECKAIR FLYING SERVICE, LLC

4. Location Aircraft operating out of OWX

5. Aircraft Make/Model CESSNA 182P

6. F.A.A. Number N228JA 7. Airworthiness Certificate YES XXX NO

8. Category N/A 9. Date of Annual Inspection 11 - 2007

10. Certificate of Aerial Application N/A

11. Proof Of Insurance YES

12. Spray System Pump (type and make) N/A

13. Spray System Rate N/A 14. Carrying Capacity N/A

15. Operational Maximum Load N/A

16. Boom Length N/A 17. Horsepower 235 HP 18. Working Speed 155 MPH

Definitions of Certain Terms:
Boom length - distance in feet between outer most nozzles. If rotary atomizer system, state type and number of atomizers
Carrying Capacity - total tank volume of aircraft
Operational Maximum Load - maximum amount of insecticide volume to be routinely used for this Contract
Spray System - give power source (electric, wind-driven, etc.) Indicate the make & Model
Spray System Rate - maximum gallon/minute delivery used
Working speed - Aircraft air speed while spraying, in miles per hour

SECTION XI, ITEM C, PARTS 4 - 10: PILOT INFORMATION:

1. Pilot Name: KEN DECKER 2. FAA License #: 2703905

3. Commercial Pesticide Applicator #: N/A Issuing State: N/A.....

4. Total Solo Hours: 1,750+ 5. Total Forest Pesticide Application Hours: N/A

6. Total Forest Insecticide Application Hours: N/A

7. Total Number Of Hours In The Type Of Aircraft To Be Flown In This Contract: 1,450+

8. Total Number Of Seasons Spraying For Gypsy Moths Or Other Forest Insect Defoliators: 6 SEASONS OBSERVATION

9. Previous Work Reference:

Name: DAVE ADKINS

Business: OHIO DEPARTMENT OF AGRICULTURE

Telephone: 614-387-0907

10. . Previous Work Reference:

Name: AMY ONKEN

Business: USFS MORGANTOWN, WV

Telephone: 304-285-1565

PRICE SCHEDULE
ATTACHMENT "A"

One form MUST be filled out for each aircraft that is anticipated to be used under the resulting Contract.

1. Contractor Name and Address PRIME AIR, LLC

3791 ROAD 12, LEIPSIC, OH 45856

2. Phone Number 419-876-3981 3. Aircraft Owner KENT NIESE

4. Location Aircraft operating out of OWX

5. Aircraft Make/Model CESSNA 172K

6. F.A.A. Number N284210 7. Airworthiness Certificate YES XXX NO ____

8. Category OBSERVATION 9. Date of Annual Inspection 09 - 2007

10. Certificate of Aerial Application N/A

11. Proof Of Insurance YES

12. Spray System Pump (type and make) N/A

13. Spray System Rate N/A 14. Carrying Capacity N/A

15. Operational Maximum Load N/A

16. Boom Length N/A 17. Horsepower 150 HP 18. Working Speed 125 MPH

Definitions of Certain Terms:
Boom length - distance in feet between outer most nozzles. If rotary atomizer system, state type and number of atomizers
Carrying Capacity - total tank volume of aircraft
Operational Maximum Load - maximum amount of insecticide volume to be routinely used for this Contract
Spray System - give power source (electric, wind-driven, etc.) Indicate the make & Model
Spray System Rate - maximum gallon/minute delivery used
Working speed - Aircraft air speed while spraying, in miles per hour

SECTION XI, ITEM C, PARTS 4 - 10: PILOT INFORMATION:

1. Pilot Name: KEN DECKER 2. FAA License #: 2703905

3. Commercial Pesticide Applicator #: N/A Issuing State: N/A.....

4. Total Solo Hours: 1,750+ 5. Total Forest Pesticide Application Hours: N/A

6. Total Forest Insecticide Application Hours: N/A

7. Total Number Of Hours In The Type Of Aircraft To Be Flown In This Contract: 1,450+

8. Total Number Of Seasons Spraying For Gypsy Moths Or Other Forest Insect Defoliators: 6 SEASONS OBSERVATION

9. Previous Work Reference:

Name: DAVE ADKINS

Business: OHIO DEPARTMENT OF AGRICULTURE

Telephone: 614-387-0907

10. . Previous Work Reference:

Name: AMY ONKEN

Business: USFS MORGANTOWN, WV

Telephone: 304-285-1565