BID FORM

MAILING ADDRESS:
MISSOURI DEPARTMENT OF TRANSPORTATION
GENERAL SERVICES, P.O. BOX 270
JEFFERSON CITY, MO 65102

REQUEST NO.	3-141210TV
DATE	November 18, 2014

SEALED BIDS, SUBJECT TO THE ATTACHED CONDITIONS WILL BE RECEIVED AT THIS OFFICE UNTIL

2:00 pm., Local Time, December 10, 2014

AND THEN PUBLICLY OPENED AND READ FOR FURNISHING THE FOLLOWING EQUIPMENT.

BIDS TO BE BASED F.O.B. MISSOURI DEPARTMENT OF TRANSPORTATION
Submit net bid as cash discount stipulations will not be considered

Various End User Delivery Locations

DEFINITE DELIVERY DATE SHOULD BE SHOWN. THE BIDDER MUST SIGN AND RETURN BEFORE DATE AND TIME SET FOR OPENING.

BUYER: Tom Veasman
BUYER EMAIL:
tom.veasman@modot.mo.gov

BUYER TELEPHONE: 573-522-4404

AERIALS

This Request For Bid seeks bids from qualified organizations to provide aerials in accordance with the following pages. MoDOT will receive bids at the following mailing address: P.O. Box 270, Jefferson City, MO 65102-0270, or hand-delivered in a sealed envelope to the following **physical address: General Services Procurement at 830 MoDOT Drive, Jefferson City, MO 65109** until 2:00 p.m., December 10, 2014. Bid forms and information may be obtained by contacting Tom Veasman at 573-522-4404, tom.veasman@modot.mo.gov, or electronically download them at: http://www.modot.org/business/surplus/Fleet%20Buyers%20Web%20Page/AerialUnits.htm

Components of Agreement: The Agreement between MHTC and the successful Bidder(s) shall consist of: the RFB and any written amendments thereto, the "Standard Bid Provisions, General Terms and Conditions and Special Terms and Conditions" that are attached to this RFB and the bid submitted by the Bidder in response to the RFB. However, MHTC reserves the right to clarify any relationship in writing and such written clarification shall govern in case of conflict with the applicable requirements stated in the RFB or the Bidder's bid. The Bidder is cautioned that its bid shall be subject to acceptance by MHTC without further clarification.

Return sealed bid to the address shown at the top of this page to the attention of the buyer. Submission of bids to the above mailing address must go through MoDOT's mail room and will require additional time to arrive at 830 MoDOT Drive.

(SEE ATTACHED FOR TERMS, CONDITIONS, AND INSTRUCTIONS)

In compliance with the above Request For Bid, and subject to all conditions thereof, the undersigned bidder agrees to furnish and deliver any or all the items on which prices were bid within the timeframe specified herein, after receipt of formal purchase order.

Date: _____
Telephone No.: _____
Fax No.: _____
Federal I.D. No. _____
Email Address: _____

Firm Name: _____
Address: _____
_____
By (Signature): _____
Type/Print Name _____
Title:

Is your firm MBE certified? ☐ Yes ☐ No

Is your firm WBE certified? ☐ Yes ☐ No

1. INTRODUCTION AND GENERAL INFORMATION

1.1 Introduction:

1.1.1 This Request for Bid (RFB) seeks bids from qualified organizations to provide **aerials** to the Missouri Highways and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT). Each bid must be in a sealed envelope, be mailed or delivered by courier to the RFB Coordinator at the below listed address, on or before the date and time listed herein for receipt of bids. All questions regarding the RFB shall be submitted to the RFB Coordinator**. Bids must be returned to the office of the RFB Coordinator no later than 2:00 p.m., CDT, December 10, 2014**.

RFB COORDINATOR:
Tom Veasman, Senior General Services Specialist

MAILING ADDRESS:
Missouri Department of Transportation
P. O. Box 270
Jefferson City, MO 65102
Attn: Tom Veasman

PHYSICAL ADDRESS:
Missouri Department of Transportation
General Services Division
830 MoDOT Drive
Jefferson City, MO 65109

Note that submission of bids to the above **mailing address** must go through MoDOT's mail room and will require additional time to arrive at 830 MoDOT Drive.

PHONE: **573-522-4404**

FAX: **573-526-6948**

1.2 General Information:

1.2.1 This document constitutes an invitation for competitive, sealed bids for the procurement of aerials as set forth herein.

1.2.2 Organization: This RFB is divided into the following parts:

1) Introduction and General Information
2) Scope of Work
3) Bid Submission
4) Specifications/Pricing Pages
5) Vendor Information and Preference Certification Form
6) Cooperative Purchasing Form
7) Anti-Collusion Statement
8) MoDOT Districts by County
9) Terms and Conditions

2. SCOPE OF WORK

2.1 General Requirements:

2.1.1 The vendor shall provide aerials, to the MHTC and MoDOT, in accordance with the provisions and requirements stated herein.

2.1.2 The vendor shall provide all deliverables to the sole satisfaction of MoDOT.

2.1.3 MoDOT does not guarantee that any unit(s) will be ordered.

2.1.4 Unless otherwise specified herein, the vendor shall furnish all material, labor, facilities, equipment, and supplies necessary to provide the deliverables required herein.

2.1.5 MoDOT reserves the right to reject any or all bids, and to accept or reject any items thereon, and to waive technicalities.

2.2 Required Specifications: All equipment bids must comply with the attached MoDOT Specifications, and any other provisions outlined in the solicitation documents**.** Any deviation from these specifications must be indicated for review, or else bid may be considered non-responsive.

2.3 Delivery Requirements:

2.3.1 The following delivery requirements shall apply:

a. Unless otherwise specified on the solicitation documents or purchase order, vendors shall give at least 24 hours advance notice of each delivery. Delivery will only be received between the hours of 8:00 a.m. to 3:00 p.m., Monday through Friday. No vehicles will be received on Saturday, Sunday or state holidays.

b. If the prices bid herein include the delivery cost of the unit, the vendor agrees to pay all transportation charges on the unit as FOB - Destination. Freight costs must be included in the unit price bid and not listed as a separate line item.

c. Any demurrage is to be paid by the vendor direct to the railroad or carrier.

2.3.2 The vendor shall deliver the products specified herein to the following MoDOT locations:

a. St. Joseph, Missouri 64502
b. Macon, Missouri 63552
c. Hannibal, Missouri 63401
d. Lee's Summit, Missouri 64064-8002
e. Jefferson City, Missouri 65102
f. Chesterfield, Missouri 63017-5712
g. Joplin, Missouri 64802
h. Springfield, Missouri 65801
i. Willow Springs, Missouri 65793
j. Sikeston, Missouri 63801
k. Other locations as may be required

2.4 Invoicing and Payment Requirements:

2.4.1 The vendor shall submit an itemized invoice to the applicable requesting address for the completion of deliverables, as specified herein.

2.4.2 Each invoice should be itemized in accordance with items listed on the purchase order. The statewide financial management system has been designed to capture certain receipt and payment information. Therefore, each invoice submitted must reference the purchase order number and must be itemized in accordance with items listed on the purchase order. Failure to comply with this requirement may delay processing of invoices for payment.

2.4.3 The vendor shall be paid in accordance with the firm, fixed prices stated on the pricing pages of this document after completion of deliverables specified herein and acceptance by MoDOT.

2.4.4 Other than the payment specified above, no other payments or reimbursements shall be made to the vendor for any reason whatsoever.

2.4.5 Unless otherwise provided for in the solicitation documents, payment for all equipment, supplies, and/or services required herein shall be made in arrears. The MHTC shall not make any advance deposits.

2.4.6 The MHTC assumes no obligation for equipment, supplies, and/or services shipped or provided in excess of the quantity ordered. Any authorized quantity is subject to the MHTC's rejection and shall be returned at the vendor's expense.

2.4.7 The MHTC reserves the right to purchase goods and services using the state-purchasing card.

2.5 Other Award Requirements:

2.5.1 Award Period - The award period shall commence from the date of award until December 31, 2015, with up to three (3) one-year renewal option periods, or any portion therein.

2.5.2 Renewal Periods - If the option for renewal is exercised by MoDOT, the vendor shall agree to all terms and conditions of the RFB and all subsequent amendments. Renewal options are at the sole discretion of MoDOT.

2.5.3 Escalation Clause - In the event the vendor requests a price increase during either the original award period or any award renewal period, the vendor must provide a written request and documentation justifying the need for a price increase, and the amount of such price increase. MoDOT will review the vendor's written request and documentation, and decide if a price increase is to be granted at that particular time. The vendor shall understand and agree that MoDOT's decision shall be final and without recourse.

a. No price increase shall be granted during the first 3 months of the original award period, or if applicable, the first 3 months of an award renewal period.

b. In the event a price increase is granted due to an approved escalation, the renewal percentage shall be based upon the current award value.

2.5.4 Inspection and Acceptance: MoDOT reserves the right to inspect the equipment at the point of manufacture, intermediate storage point, or at a destination which shall be at the discretion of MoDOT.

a. No equipment, supplies, and/or services received by MoDOT pursuant to an award shall be deemed accepted until MoDOT has had reasonable opportunity to inspect said equipment, supplies, and/or services.

b. All equipment, supplies, and/or services which do not comply with the specifications and/or requirements or which are otherwise unacceptable or defective may be rejected. In addition, all equipment, supplies, and/or services which are discovered to be defective or which do not conform to any warranty of the vendor upon inspection (or at any later time if the defects contained were not reasonably ascertainable upon the initial inspection) may be rejected.

c. The MHTC reserves the right to return any such rejected shipment at the vendor's expense for full credit or replacement and to specify a reasonable date by which replacements must be received.

d. The MHTC's right to reject any unacceptable equipment, supplies, and/or services shall not exclude any other legal or equitable remedies the MHTC may have.

2.5.5 NET DELIVERED FIRM PRICE - the unit(s) shall be delivered complete and ready for use to the delivery destinations.

2.6 Equipment Trade-In Allowance:

a. If equipment trade-ins are offered as an option, the trade-in(s) must be negotiated between the District, Division and vendor.

b. The vendor must be currently under contract with MoDOT.

c. It will be the responsibility of the vendor to examine the condition of the equipment offered for trade. The vendor must not impose any mandatory requirements or restrictions on equipment disposal.

d. If the value offered is less than the Division's pre-established minimum price, the Division and District must both approve the trade in value.

e. Allowance for trade-in(s) will be deducted from the full purchase price in computing the net purchase price. Trade-in(s) will not be available until the receipt and acceptance of the new equipment unless agreed upon by the District.

Trade-In Worksheet Example:

Make/Model of New Equipment:
Full Purchase Price: $
Make/Model of Trade-In:
Less Trade-In (Deduct): $
Net Purchase Price: $

2.7 Equipment Refurbishments: If equipment refurbishments are available, the refurbishment(s) must be negotiated between the district and vendor. The vendor must be currently under contract with MoDOT. It will be the responsibility of the vendor to examine the condition of the equipment offered for refurbishment. The districts must keep accurate records verifying the process.

2.8 Diesel Fuel Requirements: In accordance with RSMo 414.365, MoDOT must use fuel with at least the biodiesel content of B-20. (http://www.moga.mo.gov/statutes/C400-499/4140000365.htm) By submitting a response to this bid, you agree to comply with all the terms of your company's standard equipment warranties, except to the extent the equipment problems are determined to be attributed to MoDOT's use of B-20 fuel.

3. BID SUBMISSION

3.1 Bid Submission Information:

3.1.1 All bids must be received in a sealed envelope/packaging clearly marked "**3-141210TV Aerials**".

3.1.2 All bids must be received at the office of the RFB Coordinator as outlined in Section 1. "INTRODUCTION AND GENERAL INFORMATION".

3.1.3 The bidder may withdraw, modify or correct his/her bid after it has been deposited with MoDOT provided such request is submitted in writing and received at the location designated for the bid opening prior to the date and time specified for opening bids. Such a request received as specified will be attached to the bid and the bid will be considered to have been modified accordingly. No bid may be modified after the date and time specified for the opening of bids.

3.1.4 Open Competition / Request For Bid Document:

a. It shall be the bidder's responsibility to ask questions, request changes or clarification, or otherwise advise MoDOT if any language, specifications or requirements of an RFB appear to be ambiguous, contradictory, and/or arbitrary, or appear to inadvertently restrict or limit the requirements stated in the RFB to a single source. Any and all communication from bidders regarding specifications, requirements, competitive bid process, etc., must be directed to the buyer from MoDOT, unless the RFB specifically refers the bidder to another contact. Such communication should be received at least three (3) working days prior to the official bid opening date.

b. Every attempt shall be made to ensure that the bidder receives an adequate and prompt response. However, in order to maintain a fair and equitable bid process, all bidders will be advised, via the issuance of an amendment to the RFB, of any relevant or pertinent information related to the procurement. Therefore, bidders are advised that unless specified elsewhere in the RFB, any questions received less than three (3) working days prior to the RFB opening date may not be answered.

c. Bidders are cautioned that the only official position of the MoDOT is that which is issued by MoDOT in the RFB or an amendment thereto. No other means of communication, whether oral or written, shall be construed as a formal or official response or statement.

d. MoDOT monitors all procurement activities to detect any possibility of deliberate restraint of competition, collusion among bidders, price-fixing by bidders, or any other anticompetitive conduct by bidders which appears to violate state and federal antitrust laws. Any suspected violation shall be referred to the Missouri Attorney General's Office for appropriate action.

3.1.5 Award:

a. This is a Multiple Award bid and there will be no 'one' bidder awarded each item within this bid. Each individual delivery destination will have sole responsibility for the discretion of all purchasing decisions. After determination of award, individual delivery destination's shall use the following criteria to determine the "lowest and best" bid based on model features, price, warranty, service, delivery timeline, location of servicing dealers, past performance of servicing dealers, and information, facts, and recommendations gained from the bidder. Selection of a vehicle will not be made solely based on low price.

b. The bidder must be in compliance with the laws regarding conducting business with MoDOT and as indicated in the Terms and Conditions.

c. Notification of award shall be at the time the tabulation is posted to the Internet. It is the sole responsibility for all bidders to check the website for bid results.

Specifications for 37', 40', 45' Light Truck Mounted,
Non-Insulated, Articulated / Telescopic Aerial Device.

Aerial has a high mounted one-man bucket with an approximate height from ground to bottom of bucket of:
1) 37ft., and working height of 42ft.
2) 40ft., and working height of 45ft.
3) 45ft., and working height of 50ft.

Bucket
Shall be fire resistant closed one-piece fiberglass type walk-in bucket with approximate measurements of 24" X 30" X 42". The bucket capacity shall be a minimum of 400lbs. Inner boom to include an anchor for attachment of the lanyard and harness. 120v receptacle located at boom tip.

Single Stick Platform Control
The singlestick control consists of a multi-jointed handle, which operates the control valve. A safety trigger located on the underside of the single stick handle will not allow boom movement until it is depressed. The control valve is full pressure and full flow. The operator can feather between the three control movements to provide multi-function boom action. An emergency stop is provided.

Hydraulic Platform Rotator
A hydraulic platform rotator, operated by a control lever, rotates the platform 180° from one side of the outer/inner boom assembly, across the end-hung position, to the other side of the outer/inner boom assembly.

Hydraulic Bucket Leveling
Platform leveling is controlled by a master and slave cylinder arrangement. The bucket leveling system can be activated from the upper and lower controls to adjust bucket-leveling, tilt of the bucket for cleaning, or to ease the removal of an injured operator.

Boom Configuration
The major components of the aerial device shall consist of a steel outer boom, a telescopic fiberglass or aluminum inner boom, and steel articulating lower boom. A boom-support cradle and a ratchet type boom tie-down strap to be included.

Rotation
Rotation of aerial device shall be continuous and unlimited. An external hex drive is to be provided for manual rotation in case of hydraulic failure.

Pedestal/ Reservoir
The hydraulic reservoir to be built integral to the pedestal, the reservoir has an anti-splash baffle and easy to read fluid level gages. The oil capacity of the reservoir shall be large enough to support full operation of aerial unit and tool circuits.

Hydraulic System
An open or closed center hydraulic system shall be acceptable. Fluid level gages are to be furnished for checking fluid level. This system can be driven by an optional engine belt drive system or by a transmission mounted power-take-off (PTO) and pump.

Paint
Aerial device shall be standard manufacturer's white.

Engine Start/Stop and Master Control
Controls for starting and stopping the truck engine shall be located at the bucket, pedestal and rear of truck. Chassis throttle control with priority flow control at turret and tail shaft.

Emergency Power
A full function, 12-volt emergency power system, controlled from the bucket, pedestal and rear of truck shall be included.

Outriggers.
Provide outriggers for vehicle stability. (Torsion bars in lieu of outriggers to be bid as optional equipment)
Mounted in front of the tool box body compartments.

Bucket Cover
Provide a vinyl cover for the bucket.

Safety
Ecco SA901 backup alarm, self-adjusting, weather tight with minimal 5yr warranty.
5 lb ABC rated fire extinguisher mounted in cab if there is no interference.
Triangle reflector kit. Shipped loose.
Buyers rubber wheel chocks with rope eyes 10" L x 6' H x 8" W located one in each holder in the wheel well panel (or equivalent).
Two (2) polyurethane 18'x18'x1' outrigger pad with rope style handle.
(Installation of MoDOT provided warning light package is included as an option)

Towing Equipment
ICC bumper with pintle plate, includes D-ring each side and 2"x2" receiver tube. Painted black.
Cable step, on passenger side of tailshaft.
Buyers BH-82000, 8 ton combination pintle hitch with 2 inch ball (or equivalent).
7-way flat RV style trailer socket meeting SAE J560 wiring requirements installed at the rear of the unit adjacent to the pintle hitch location. Wired to manufacturer/industry standards unless otherwise noted by MoDOT.

The Missouri Highways and Transportation Commission reserves the right to waive technicalities and to reject any or all bids and no bid is final until formally accepted by the Commission.

Specifications for 37' 40' & 45' Light Truck Mounted,
Insulated, Articulated / Telescopic Aerial Device.

Insulated Unit, rated for Category C 46Kv, shall include specifications for Non-Insulated, Articulated / Telescopic Aerial Device in addition to the following requirements:

Closed 24X30X42 platform with tested liner (This option will negate the 120V at platform)
Lower boom insert/chassis insulating system
Stainless grounding lug mounted at rear of chassis

Options for Insulated Units:
Dielectric isolating control system isolates platform controls per ANSI 92.2
Dielectric guard for boom provides dielectric integrity with boom retracted.

MISSOURI DEPARTMENT OF TRANSPORTATION
UTILITY TOOL BODY SPECIFICATIONS FOR MOUNTING ON TRUCK CHASSIS
WITH 84" CA MEASUREMENT, DUAL REAR WHEELS AND AERIAL DEVICE

The all steel Utility Tool Body which is to be furnished under this specification shall be a manufacturer's latest advertised production model. The truck dealer shall furnish a full warranty against defective parts, material and workmanship. All components shall be new and shall be the manufacturer's latest standard assembly. At the time the new unit is delivered it must be complete, assembled, ready for use and mounted as low as possible on new chassis and cab with dual rear wheels. **The body tool compartments are to be full size in all respects (minimum 132" in length) (no low silhouette bodies will be acceptable).**

The exterior body color is to be the same as truck chassis (when applying the overcoat - the doors must be opened so the compartment edges hidden underneath the doors will be the same color as the rest of the body). The entire body must have at least one coat of primer and be treated with a rust protection treatment. All under body surfaces must be treated with a premium quality undercoating. The inside of the tool compartments must be painted white.

All compartments shall be a separate section, divided by a partition. Street side and curb side compartment width shall be a minimum of 20 inches.

The body including doors shall be constructed of minimum 14 gauge Galvaneal or double panel 20 gauge Galvaneal with heavy H-type internal bracing or equal steel. All shelves and dividers are to be removable and adjustable in minimum 2" adjustments. All compartments are to have hinged doors. All compartment doors are to be completely weatherproofed with automotive type continuous seals, with tamper proof keyed alike door locks. A master lock system which will simultaneously lock all side compartments shall be included for each side. Horizontal doors to have hold chains and vertical doors to have chains or other type door stops.

All doors to have stainless steel 5/16" rod and post type hinges with steel inserts and stainless steel adjustable paddle type latches. Body is to have at least a twelve gauge steel safety tread plate floor with a minimum of four recessed tie down rings (two at rear and two at center of wheel well), all steel bulkhead front. Unpainted aluminum, full width and height, rock shields on front of body, full height and width brackets and 1" x 6" board @ rear of body (in lieu of tailgate), platform extension @ rear of body approximately 24" x full width with access step and grab handle @ curbside

Four, four inch (4") round, flush mounted LED stop/tail lights and four, four inch (4") round LED, backup lights are to be mounted in the rear body panels with internal protection plates. Each side shall have two LED stop/tail lights and two LED backup lights (one set mounted next to the outside upper corner of rear body panel and one set mounted next to the inside upper rear corner of the rear body panel (rear edge of tail shelf would also be acceptable)

Body shall include a self-adjusting backup alarm with minimum 5 year warranty

Descriptive literature and specifications of the new body to be furnished are to be submitted with the dealer's bid. **All shelves and dividers are to be steel, plastic is not acceptable.**

Right side of new body to have two full-height front vertical compartments. Front vertical compartment (narrower compartment close to cab) shall have three adjustable shelves and dividers. The second full height vertical compartment (wider compartment next to rear wheels) shall have two adjustable shelves and dividers. One short horizontal compartment running from vertical compartment to rear vertical compartment, with a nine drawer steel small parts cabinet with metal dividers mounted in the forward end and one 250 lbs. capacity shelf (with slots on 4" centers with metal dividers) running from parts cabinet to rear vertical compartment. One full height vertical compartment rear with three shelves and dividers.

Left side of new body to have two full height front vertical compartments. Front vertical compartment (narrower compartment close to cab) shall have with three adjustable shelves and dividers. The second

full height vertical compartment (wider compartment next to rear wheels) shall have two adjustable shelves and dividers. One long horizontal compartment running from vertical compartment to rear of body, with two side by side 250 lbs. Capacity sliding shelves with dividers running to rear of body. One small compartment lower rear.

All rollout drawers and trays should be bolted and not welded to body.

The following utility body options are also available:

Option- walk up access in C/S # 2 vernicle in lieu of standard compartment. Grab handles and steps to provide 3 point contact shall be included.

Option- Dimensions/Sensata SSI-12-15HF7N 2000 Pure Sine wave inverter or equivalent.

Option- 110V hydraulic oil heater with plug-in located at pre-paint inspection

Option- 1000# lifting eye on upper boom.

The Missouri Highways and Transportation Commission reserves the right to waive technicalities and to reject any or all bids and no bid is final until formally accepted by the Commission.

Item #1 Pricing Pages

37', 40' and 45' TRUCK MOUNTED AERIAL PLATFORM with UTILITY BODY

Item # 1 Aerial equipment, meeting the attached MoDOT specifications, **NET DELIVERED PRICE**

CAB/CHASSIS:

TRUCK MAKE/MODEL: _____ EACH $_____

84" CA Cab and chassis with diesel engine with the following features:

19,500 lbs GVWR
2 wheel drive standard
5 or 6 speed automatic transmission
4.10 gear ratio
200 amp extra heavy duty alternator
AM/FM stereo
Transmission Cooling Package
Air Conditioning
Headlamps on when the truck is running
Spare tire and wheel
Engine block heater
40 gallon fuel tank
Trailer brake controller
HD vinyl 40/20/40 split bench seat
Cruise control
Intermittent Wipers
Rubber Floor Covering

MoDOT reserves the right to drop ship their cab/chassis at the vendor's location for installation of the aerial unit.

CAB/CHASSIS OPTIONS:

OPTION	DESCRIPTION	PRICE
	Please list any vendor-recommended options relevant to this operation. Use additional sheets if necessary.	
Option 1	GASOLINE ENGINE – (DEDUCT)	
Option 2	EXTENDED CAB	
Option 3	BLUETOOTH CAPABILITY	
Option 4	4X4 DRIVE	
Option 5	TIRE MONITORING SYSTEM	
Option 6	RUNNING BOARDS	
Option 7		
Option 8		
Option 9		
Option 10		
Option 11		
Option 12		

NON-INSULATED AERIAL PLATFORM with UTILITY TOOL BODY:

37' AERIAL MAKE/MODEL: _____ EACH $_____

40' AERIAL MAKE/MODEL: _____ EACH $_____

45' AERIAL MAKE/MODEL: _____ EACH $_____

INSULATED AERIAL PLATFORM with UTILITY TOOL BODY:

37' AERIAL MAKE/MODEL: _____ EACH $_____

40' AERIAL MAKE/MODEL: _____ EACH $_____

45' AERIAL MAKE/MODEL: _____ EACH $_____

AERIAL PLATFORM OPTIONS:

OPTION	DESCRIPTION	PRICE
	Please list any vendor-recommended options relevant to this operation. Use additional sheets if necessary.	
Option 1	**Additional training modules may be purchased by MoDOT after initial training at a cost of _____ per student with a _____student minimum class size.**	
Option 2	**Material handling jib and winch consisting of Material Handling Plumbing Package, Winch and a jib pole that are automatically leveled with the platform. 1000 lb material handling capacity required.**	
Option 3	**Material handling plumbing package only**	
Option 4	**Two-speed manual throttle control at bucket, pedestal, and rear tail shelf of body.**	
Option 5	**4-Way Platform Controller**	
Option 6	**1000 lb Lifting eye on upper boom**	
Option 7	**24" x 30" x 42" Fiberglass walk-in bucket in lieu of the closed one-piece bucket.**	
Option 8	**24" x 30" x 42" Steel bucket**	
Option 9	**110V hydraulic oil heater with plug-in located at pre-paint inspection**	
Option 10	**Dimensions/Sensata SSI-12-15HF7N 2000 Pure Sine wave inverter or equivalent.**	
Option 11	**Utility body walk up access in C/S # 2 vernicle in lieu of standard compartment. Grab handles and steps to provide 3 point contact shall be included.**	
Option 12	**Vise mounting plate on curbside rear of tailshelf**	
Option 13	**Torsion bar stability in lieu of provided outriggers.**	

Option 14	**36V DC Drive system to include chassis recharging and ac charging provisions along with chassis autostart capabilities.**	
Option 15	**Installation of MODOT Furnished Lighting Package.** **1)Install customer furnished strobe light on elevated stand above streetside front vertical compartment** **2) Install customer furnished beacon on bracket attached to elevated stand above curbside front vertical compartment.** **3) Install customer furnished strobe lights. One (1) strobe light installed on each side of front grille, one (1) strobe light installed above front wheel on each side, one (1) strobe light installed at rear of compartment tops on each side facing side of unit, and one (1) strobe light installed on each side of tailshelf. Strobe lights wired to customer furnished upfitter switch box in cab.** **4) Install customer furnished strobe light on elevated stand above curbside front vertical compartment.** **5) Install customer supplied directional strobe lights with control box in cab. Strobe lights to be installed per customer specifications.**	
Option 16	**Hydraulic tool outlets to be located at the bucket and at the rear of the service body, curbside below tail shelf.**	
Option 17	**Insulated Aerial - Dielectric isolating control system isolates platform controls per ANSI 92.2**	
Option 18	**Insulated Aerial - Dielectric guard for boom provides dielectric integrity with boom retracted.**	
Option 19		
Option 20		
Option 21		
Option 22		
Option 23		
Option 24		
Option 25		
Option 26		
Option 27		
Option 28		
Option 29		

Please submit a complete parts and options list with detailed pricing information for each MAKE/MODEL your company would be willing to provide. Please indicate below the percent (%) discount off Manufacturers' Suggested Retail Prices (MSRP) for all aerial equipment options available in your data book or pricing guides.

% discount off MSRP for all Data Book or Pricing Guide Options: - % Discount _____

Delivery will be made _____ days after receipt of order.

Please indicate with an 'X' the MoDOT Districts for which you are bidding Item #1.
(*Bidders are responsible for servicing all counties within the district(s) selected.)*

Northwest District (St. Joseph)	**_____**	**Northeast District (Hannibal)**	**_____**
Kansas City District	**_____**	**Central District (Jefferson City)**	**_____**
St. Louis District	**_____**	**Southwest District (Springfield)**	**_____**
Southeast District (Sikeston)	**_____**	**All Districts**	**_____**

<u>Warranty Information for Item #1</u>:

Standard Warranty (Minimum 1-year): What does it cover? For how long? _____

_____

_____

_____

_____

Extended Warranties Available: What does it cover? For how long? Cost? _____

_____

_____

_____

_____

MISSOURI DEPARTMENT OF TRANSPORTATION
45 FT. HYDRAULIC DERRICK-DIGGER UNIT WITH PERSONNEL
AERIAL BUCKET SPECIFICATIONS

GENERAL

The intent of this specification is to describe a truck mounted 45' sheave height digger-derrick, hydraulic operated unit that will dig various size holes to various depths, provide positive pole control placement, pull existing poles, and elevate personnel to upper work areas quickly and safely.

UNIT

The unit shall include the following features: The maximum sheave height shall be 45.2 feet with a maximum horizontal reach of 35.2 feet. The maximum digging radius shall be 24.5 feet. The boom shall operate from approximately 75 degrees above horizontal to approximately 20 degrees below horizontal.

MOUNTING

The digger-derrick and bucket unit is to be center mounted on truck chassis directly behind the truck cab with a turntable winch. The mounting shall be done in accordance with the latest recommended manufacturing and business practice. It shall have all necessary supports to prevent overloading of chassis wheels and bearings when the boom is extended and working in extreme positions. Sub base assembly for mounting of derrick pedestal and outriggers, to consist of 6-inch x 4-inch tubing (3/8 inch wall) each side of chassis frame with top and bottom plate.

OPERATION AND CONTROLS

Controls for all functions shall be located at each of these stations. Upper controls shall be included for operator in bucket. Upper controls, transferable from Intermediate to Upper Boom, include four individual levers for: Lift, Rotation, Intermediate and Upper boom Extension/Retraction with Sequential Operation, and Winch Control. One knob for on/off (dump valve) including automatic two-speed throttle shall be installed. There shall be a power package to boom tip that provides hydraulic hoses, etc. for pole guide, upper control, or tool circuit at boom tip. Manual override of hydraulic functions shall be provided. Hydraulic pressure gauge is to be provided at the main control location. Warning light at control panel that indicates when oil filter needs changing shall be included. Control Panel to be lighted.

HYDRAULICS

The hydraulic system shall be complete for all functions with quality components to assure system integrity. Complete Hydraulic system to include an open center hydraulic system, tandem vane pump, two inch shut-off valve between pump and reservoir, magnetic separator filter, return line filter with warning light, two hydraulic pressure gauges, one for each pressure circuit. There shall also be a hydraulic dump valve for diverting hydraulic flow to the reservoir when no functions are being operated. Cab control, heavy duty SAE PTO to be air shifted on chassis with air brakes. The hydraulic reservoir shall be mounted at front of cargo area. Hydraulic Tool Circuit at boom tip to provide adjustable flow of 5.0 to 8.0 gpm and adjustable pressure from 1,500 to 2,000 psi. (Set) of two 50-foot hydraulic hoses with two quick disconnect couplings, dust caps, and fittings for hydraulic tool use installed on manual reel.

UNIT AND HYDRAULIC ACCESSORIES

Crosby Laughlin 8.5-S-1 swivel block (33 pound downhaul weight)
4 foot x 2 inch Endless nylon type sling and 4 foot x ½ inch wire rope sling.
18 inch diameter auger, full flight with Pengo boring head and 2 ½ inch hex.
9 inch diameter auger, full flight with Pengo boring head and 2 ½ inch hex.
Stanley or equivalent hydraulic tamp complete with three feet of hose and quick disconnect couplings with three foot handle.

DERRICK, BOOMS AND TURRET

The derrick shall be hydraulically powered and controlled. The boom shall be three section, hydraulically telescopic with rotating turret on a truck mounted fixed steel base. Rotation shall be continuous and provided by high efficiency worm gear drive, driving a shear ball bearing rotation gear. 115 feet length of ½ inch wire rope with eye in each end to be included. The booms shall have a rated capacity of approximately 15,000 lbs. The boom shall operate from approximately 84 degrees above horizontal to approximately 17 degrees below horizontal.

DERRICK AND AUGER PROTECTION

Overload and stowage protection must be provided to the complete unit. The overload protection system must allow all functions to automatically become operational when the overload problem has been eliminated and the boom and auger protection systems must protect against damage from excessive pressure when the stow function is complete. The unit structure must be protected from excessive side loading and the auger, digger and bucket mechanism must be protected when unstowing.

DIGGER AND AUGERS The digger shall be two-speed hydraulically shifted, planetary gear drive producing up to 12,000 ft/lb. torque. To include rapid auger shake control, 2-½ inch hex output shaft, and high speed dirt spin-off control. Complete auger storage shall be provided including self-latching storage bracket, hydraulic auger release, and digger transfer mechanism that includes automatic auger pick-up device and auger stow protection.

POLE GUIDE

The pole guide is to be mounted on the boom flares, and shall be rack-and-pinion type for open and closing action. The opening, closing, and tilting are to be accomplished by hydraulic cylinders. A bolt-on type extension that allows for larger diameter poles to be enclosed shall be included.

WINCH

The winch shall be a 15,000 pound bare drum capacity boom tip winch, self-locking, high torque, worm gear winch, equipped with oil cooled brake with special provisions on drum for attaching wire rope or polypropylene rope. Boom tip winch to be standard.

PIVOT POINT PINS

All major load bearing pins shall be plated. All pivot points are line bored or reamed and pins have keepers.

OUTRIGGERS

Auxiliary flat shoe A-frame outriggers, installed at rear, with 149-inch maximum spread at ground level. A-frame outriggers, installed at the pedestal. A system that prevents the operation of the booms until outriggers are lowered shall be installed. A system that provides an audible signal when the outriggers are in motion shall be installed. Telescopic type outriggers are to be provided. Each is to be individually controlled, and have lock checks for both raised and lowered positions assuring positive holding under all conditions. Valves for outriggers installed at tail shelf.

ELECTRIC ACCESSORIES

Lights and reflectors in accordance with FMVSS #108 lighting package, to be installed.
Berg or equivalent seven (7) pole electrical trailer connection installed.
2000 watt inverter (Dimension brand-pure sine) to be installed. One electrical outlet at the rear of the body.
Backup alarm to be installed at rear.
Lights package to be provided by MoDOT. Installation of package shall be bid as an option.

BODY

Steel flatbed body, suitable for installing on any single rear axle chassis with 120 inch CA dimension. Body to be built in accordance with standard specifications, including:

126 inch overall body length
93 inch outside width
stake pockets mounted in the flatbed on 18" centers

Grab handles need to be installed, one each side at rear. Cable suspended stirrup steps installed, one each side at rear. Storage bracket for anchor 9" auger. Manually operated reel for storage of two 25 feet lengths of hose (18 inches high x 15 inches long x 14 inches wide).

BODY ACCESSORIES

Pintle hook with frame reinforcement and two safety chain rings installed at 28 inches (+/- 1 inch) from ground to center of eye.
(Set) splash aprons, installed behind rear wheels.
Triangular reflector kit installed in cab behind seat on passenger's side.
Two 10-pound fire extinguishers with mounting bracket, shipped loose.
Rubber dock bumpers installed on right and left side of frame at rear.
(Set) tow hooks installed at front of chassis.

COLOR

Color to be standard manufacturer's white.

MISCELLANEOUS

Wheel chocks, (rubber) 10 inches long x 8 inches wide x 50 1/2 inches high to be included. Wheel chock containment installed in body. Travel height placard, mounted in the cab in a location visible to the driver. Completed vehicle needs DOT Certification.

OPTIONAL ITEM - PERSONNEL BUCKET

A non-flammable fiberglass self-stowing pin-on type, one-man bucket shall be provided for mounting on the booms third stage. The bucket shall be approximately 24" x 24" x 44" self-leveling, have exit or entry step and have positive hold in any position. A bucket safety belt, lanyard, and cover shall be provided. Polyethylene liner fastened with nylon bolts shall also be installed.

CHASSIS

MoDOT reserves the right to drop ship a MoDOT cab/chassis at vendor's location.

Manufacturer's Current Model Cab and Chassis.
4 x 2 configuration with straight frame.
Cab-to-axle to be 120 inches.
GVWR: 33,000 pounds
Front axle weight rating: 13,000 pounds.
Rear axle weight rating: 20,000 pounds.
Engine: Minimum 275 horsepower diesel engine, exhaust to be single horizontal on left side to allow clear access to
power take off.
50 gallon capacity tank.
Heavy-duty cooling system.
Automatic transmission

Driver controlled differential lock.
Electrical components:
- Batteries: 1550 CCA
- Alternator: 110 amp
- Engine Block Heater 1,000 watt
- Air horns
- Air conditioning
- Cigarette lighter
- AM/FM radio

Level Ride Suspension
Cab:
- Tilting hood and fenders
- Dual heated west coast mirrors
- Tinted windshield and glass
- Winter cover for radiator

Interior:
- Full width bench seat
- Trim
- Tachometer
- Hourmeter

The Missouri Highways and Transportation Commission reserves the right to waive technicalities and to reject any or all bids and no bid is final until formally accepted by the Commission.

Item # 2 New Digger Derrick equipment, meeting the attached MoDOT specification**,**
NET DELIVERED PRICE to any District in the State of Missouri, in care of the District General Services Manager .

TRUCK MAKE/MODEL: _____ PRICE $_____

DIGGER DERRICK MODEL:_____PRICE $_____

OPTIONS

OPTION	DESCRIPTION	Price
	Please list any vendor-recommended options relevant to this operation. Use additional sheets if necessary.	
Option 1	**Additional training modules may be purchased by MoDOT after initial training at a cost of _____ per student with a _____ student minimum class size.**	
Option 2	**Radio remote control package**	
Option 3	**Dual control station and operators platform on each side**	
Option 4	**Saddle pack storage compartment (provide description in bid)**	
Option 5	**PERSONNEL BUCKET (as described in specs)**	
Option 6	**Hydraulic pole puller with the lifting capacity to pull the toughest poles. The pole puller shall be complete with base plate, chain, tubing, fittings, storage facility and etc. Chain to be 5/8 inch x 7 feet of high tensile material. Storage bracket shall be installed in cargo area at right rear.**	
Option 7	**Back-up camera. MAKE_____ MODEL_____**	
Option 8	**Turret mount winch in lieu of boom tip winch**	
Option 9		
Option 10		
Option 11		
Option 12		
Option 13		
Option 14		

Please submit a complete parts and options list with detailed pricing information for each MAKE/MODEL your company would be willing to provide. Please indicate below the percent (%) discount off Manufacturers' Suggested Retail Prices (MSRP) for all aerial equipment options available in your data book or pricing guides.

% discount off MSRP for all Data Book or Pricing Guide Options: - % Discount _____

Delivery will be made _____ days after receipt of order.

Please indicate with an 'X' the MoDOT Districts for which you are bidding Item #2.

(*Bidders are responsible for servicing all counties within the district(s) selected.)*

Northwest District (St. Joseph) _____
Kansas City District _____
St. Louis District _____
Southeast District (Sikeston) _____

Northeast District (Hannibal) _____
Central District (Jefferson City) _____
Southwest District (Springfield) _____

All Districts _____

<u>Item #2 Warranty Information</u> :

Standard Warranty (Minimum 1-year): What does it cover? For how long? _____

_____

_____

_____

_____

Extended Warranties Available: What does it cover? For how long? Cost? _____

_____

_____

_____

_____

50' TRUCK MOUNTED AERIAL PLATFORM DEVICE, FRONT MOUNTED TURRET (with MoDOT Provided Cab/Chassis)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting front mounted rotating turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of three sections with two sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 75 degrees above horizontal to 20 degrees below horizontal, 95 degrees total.
4. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one rotating platform manufactured of steel.
2. Platform shall include a hydraulic rotator capable of allowing the operator to rotate the platform up to +-90 degrees.
3. Platform shall be of supported by an inverted "A" sub-frame.
4. Platform shall be rectangular in shape.
5. Platform dimensions shall be 40 inches x 60 inches.
6. Platform rails shall be 40 inches in height.
7. Platform shall be built per ANSI A92.2.
8. Platform shall be equipped with safety chain on opening.
9. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of steel rectangular tube sections with 46,000-PSI min. yield strength.
2. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates.
3. The boom shall be equipped with a steel cable carrier mounted external to the boom.
4. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 600 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 6" bore double-acting, 58" stroke cylinder with 3" pins.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension shall be accomplished using two opposing "piggyback" double acting 2-1/2" I.D. cylinders, 1-1/2" diameter rod, and interconnecting the three boom sections (no cables).
2. The cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 50 feet.

B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 37 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.

B. Aerial unit turret shall be located behind the cab of the carrying vehicle so that the platform will stow at the rear of the vehicle.
C. The rear overhang of the stowed aerial device in relationship with rear bumper of the vehicle shall not exceed 24".
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 12 feet-9 inch travel height (as measured from the highest point of the unit to ground level).
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest at the rear of the bed.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled with an electrical switch in the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.
C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.

K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Four hydraulically operated outrigger assemblies shall stabilize unit.
B. The main front outriggers shall be "A" type design with a 12-1/2' spread.
C. Movement of the main outriggers shall be individually controlled.
D. The secondary rear outriggers shall be "A" type underslung with an 8' spread.
E. Vertical movement or the rear outriggers shall be individually controlled with two valves.
F. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
G. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
H. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of electric cable.
B. The aerial device controls located at the platform shall consist of three control handles for operating boom extension, lift and rotation. Actuation of these three functions shall be accomplished by means of proportional electric controls.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. Control handles shall incorporate safety collars for unlocking handles prior to movement.
E. The aerial device controls located at the platform shall include a remote chassis engine, start-stop system.
F. The lower boom controls shall have individual control valve handles to override each boom function.
G. The lower boom controls shall be mounted on the curbside of the turret above rotation.
H. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
I. The outrigger-boom selector shall be mounted at the rear, under the bed.
J. The main outrigger controls and the rear vertical outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
K. The outrigger controls shall include a truck level bull's eye.

XIII. BED AND BOXES

A. The bed shall be 18 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the front of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be a high-efficiency planetary type with integral load-holding brake.
B. The winch shall be rated for 5,000 lbs. bare drum.
C. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
D. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
E. The winch shall be supplied with 150 feet of 3/8" diameter 6x37 Improved Plow Steel Iron Wire Rope Core wire rope and a weighted swivel hook.
F. Unit shall be equipped with anti-2-block switch, weight and hydraulic valve to protect the unit from damage due to lifting the hook into the boom.
G. Three-ton top dead end snatch block shall be provided to operate with 2-part line.
H. One 50 lb. down haul ball required.
I. Required lifting rating 1,100 lbs. at 37-ft. radius, 5,900 lbs. at 3-ft. radius with platform removed.
J. Main boom section shall be equipped with a retainer at platform end to stow cable when not in use.

XV. MISCELLANEOUS

A. A 110-volt duplex receptacle shall be accessible to the operator in the platform for using electric tools.

XVI. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVII. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVIII. RECOMMENDED MINIMUM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 156" CA, 110" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

60’ TRUCK MOUNTED AERIAL PLATFORM DEVICE, FRONT MOUNTED TURRET (with MoDOT Provided Cab/Chassis)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting front mounted turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of three sections with two sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one rotating platform manufactured of steel.
2. Platform shall include a hydraulic rotator capable of allowing the operator to rotate the platform up to +-90 degrees.
3. Platform shall be of supported by an inverted “A” sub-frame.
4. Platform shall be rectangular in shape.
5. Platform dimensions shall be 40 inches x 60 inches.
6. Platform rails shall be 40 inches in height.
7. Platform shall be built per ANSI A92.2.
8. Platform shall be equipped with safety chain on opening.
9. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of high-strength steel rectangular tube sections with 70,000-PSI min.
2. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates.
3. The boom shall be equipped with a steel cable carrier mounted external to the boom.
4. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 600 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7” I.D. double-acting, 62” stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension shall be accomplished using two opposing “piggyback” double acting 3” I.D. cylinders, 2” diameter rod, and interconnecting the three boom sections (no cables).
2. The cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 60 feet.

B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 46 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.

B. Aerial unit turret shall be located behind the cab of the carrying vehicle so that the platform will stow at the rear of the vehicle.
C. Overhang of the stowed aerial device in relationship with rear bumper of the vehicle will not exceed 18".
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest at the rear of the bed.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled with an electrical switch in the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.
C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.

K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by five, hydraulically operated outrigger assemblies.
B. The main front outriggers shall be out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary rear outriggers shall be "A" type underslung with an 8' spread.
E. Front shall be stabilized with an outrigger on front bumper with mounting brackets to truck frame. Minimum 20" front frame extensions and stationary front grill must be provided to adequately mount front stabilizer.
F. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
G. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
H. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of electric cable.
B. The aerial device controls located at the platform shall consist of three control handles for operating boom extension, lift and rotation. Actuation of these three functions shall be accomplished by means of proportional electric controls.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. Control handles shall incorporate safety collars for unlocking handles prior to movement.
E. The aerial device controls located at the platform shall include a remote chassis engine, start-stop system.
F. The lower boom controls shall have individual control valve handles to override each boom function.
G. The lower boom controls shall be mounted on the curbside of the turret above rotation.
H. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
I. The outrigger-boom selector shall be mounted at the rear, under the bed.
J. The main outrigger controls and the rear vertical outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
K. A separate valve shall be located at the front bumper stabilizer.
L. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 22 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the front of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be a high-efficiency planetary type with integral load-holding brake.
B. The winch shall be rated for 5,000 lbs. bare drum.
C. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
D. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
E. The winch shall be supplied with 180 feet of 3/8" diameter 6x37 Improved Plow Steel Iron Wire Rope Core wire rope and a weighted swivel hook.
F. Unit shall be equipped with anti-2-block switch, weight and hydraulic valve to protect the unit from damage due to lifting the hook into the boom.
G. Three-ton top dead end snatch block shall be provided to operate with 2-part line.
H. One 50 lb. down haul ball required.
I. Required lifting rating 1,100 lbs. at 46-ft. radius, 5,900 lbs. at 2-ft. radius with platform removed.
J. Main boom section shall be equipped with a retainer at platform end to stow cable when not in use.

XV. MISCELLANEOUS

A. A 110-volt duplex receptacle shall be accessible to the operator in the platform for using electric tools.

XVI. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVII. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVIII. RECOMMENDED MINIMUM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 156" CA, 110" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

70’ TRUCK MOUNTED “INSULATED” AERIAL PLATFORM DEVICE, FRONT MOUNTED TURRET (with MoDOT Provided Cab/Chassis)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting front mounted rotating turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of three sections with two sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. The unit shall be certified to ANSI A92.2 for Vehicle Mounted Elevated and Rotating Aerial Devices, Category C Insulating, 46kV rated.
5. The completed unit shall be tested at 100kV-AC, 60 HZ.
6. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one platform manufactured with fiberglass grating floor and side rails.
2. Platform shall include a hydraulic rotator capable of allowing the operator to rotate the platform up to +-90 degrees.
3. Platform shall be of supported by an inverted “A” sub-frame.
4. Platform shall be attached to the sub-frame with a bearing.
5. Platform shall be rectangular in shape.
6. Platform dimensions shall be 40 inches x 60 inches.
7. Platform rails shall be 40 inches in height.
8. Platform shall be built per ANSI A92.2.
9. Platform shall be equipped with safety rope on opening.
10. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of two high-strength steel rectangular tube sections with 70,000-PSI min. and one fiberglass section.
2. The inner (smallest) boom section shall be mandrel-wound fiberglass 9” high x 7” wide with ¾” wall section.
3. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates and polyurethane rollers.
4. The boom shall be equipped with a steel cable carrier mounted external to the boom with fiberglass tube supporting non-conductive hoses to platform.
5. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 600 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7” I.D. double-acting, 62” stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension of the fiberglass section shall be accomplished using one “double-case” double-acting 2-1/2” bore cylinder with 1-1/2” diameter rod
2. The fiberglass section first shall extend first and retract last (no cables).
3. Extension of the middle section shall be accomplished with one external 3” bore cylinder with 2” rod (no cables).
4. The external cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 70 feet.
B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 56 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.
B. Aerial unit turret shall be located behind the cab of the carrying vehicle so that the platform will stow at the rear of the vehicle.
C. Overhang of the stowed aerial device in relationship with rear bumper of the vehicle will not exceed 60".
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest at the rear of the bed.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled from the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.
C. The pump shall be of domestic manufacture.

D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.
K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. Hydraulic system shall be maintained under pressure even with pump turned off to prevent vacuum flashover.
O. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by five, hydraulically operated outrigger assemblies.
B. The main front outriggers shall be out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary rear outriggers shall be "A" type underslung with an 8' spread.
E. Front shall be stabilized with an outrigger on front bumper with mounting brackets to truck frame. Minimum 20" front frame extensions and stationary front grill must be provided to adequately mount front stabilizer.
F. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
G. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
H. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of a plastic fiber optic "light conductor".
B. The aerial device controls located the platform shall consist of a "joystick" controller for operating boom extension, elevation and rotation. Actuation of these three functions shall be accomplished by means of proportional fiber optic controls using the "Pulsar" technology.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. The plastic fiber optic control "light conductor" shall extend through the column to the cable carrier and through a fiberglass tube to the extending boom sections.
E. Fiber optic system shall be battery operated with a second battery provided with 12-volt charger installed in cab.
F. The aerial device controls located at the platform shall also include a remote chassis engine start-stop and engine speed system.
G. An enable finger switch on the "joystick" shall be required to activate boom functions.
H. The lower boom controls shall have individual control valve handles to override each boom function.

I. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
J. The outrigger-boom hydraulic selector shall be mounted at the rear, under the roadside corner of the bed.
K. The main outrigger controls and the rear outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
L. A separate valve shall be located at the front bumper stabilizer.
M. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 24 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the front of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be rated for 9,000 lbs. bare drum.
B. The winch shall be equipped with a 2-speed motor.
C. A hydraulic selector valve shall be included at the lower controls for high/low speed.
D. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
E. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
F. The winch shall be supplied with 150 feet of 3/4" polyester double-braid rope and a weighted swivel hook.
G. One 50 lb. down haul ball required.
H. Required lifting rating with platform attached 1,000 lbs. at 56-ft. radius, 3,650 lbs. at 3 ft. radius with platform removed.
I. Main boom section shall be equipped with a retainer at platform end to stow rope when not in use.

XV. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVI. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVII. RECOMMENDED MINIMUM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 156" CA, 110" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

85’ TRUCK MOUNTED AERIAL PLATFORM DEVICE, FRONT MOUNTED TURRET (with MoDOT Provided Cab/Chassis)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting front mounted rotating turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of four sections with three sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one rotating platform manufactured of steel.
2. Platform shall include a hydraulic rotator capable of allowing the operator to rotate the platform up to +-90 degrees.
3. Platform shall be of supported by an inverted “A” sub-frame.
4. Platform shall be rectangular in shape.
5. Platform dimensions shall be 40 inches x 60 inches.
6. Platform rails shall be 40 inches in height.
7. Platform shall be built per ANSI A92.2.
8. Platform shall be equipped with safety chain on opening.
9. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of high-strength steel rectangular tube sections with 70,000-PSI min.
2. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates.
3. The boom shall be equipped with a steel cable carrier mounted external to the boom.
4. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 600 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7” I.D. double-acting, 62” stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension of the smaller two section booms shall be accomplished using two opposing “piggyback” double acting 2-1/2” I.D. cylinders, 1-1/2” diameter (no cables).
2. Trunnion mounted cylinder, outside the main boom section, will extend the next-to-largest boom section.
3. The cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 85 feet.

B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 55 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.
B. Aerial unit turret shall be located behind the cab of the carrying vehicle so that the platform will stow at the rear of the vehicle.
C. Overhang of the stowed aerial device in relationship with rear bumper of the vehicle will not exceed 46".
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest at the rear.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled with an electrical switch in the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.
C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.

H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.
K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by five, hydraulically operated outrigger assemblies.
B. The main front outriggers shall be Elliott "MH" type out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary rear outriggers shall be "A" type underslung with an 8' spread.
E. Front shall be stabilized with an outrigger on front bumper with mounting brackets to truck frame. Minimum 20" front frame extensions and stationary front grill must be provided to adequately mount front stabilizer.
F. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
G. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
H. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of electric cable.
B. The aerial device controls located at the platform shall consist of three control handles for operating boom extension, lift and rotation. Actuation of these three functions shall be accomplished by means of proportional electric controls.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. Control handles shall incorporate safety collars for unlocking handles prior to movement.
E. The aerial device controls located at the platform shall include a remote chassis engine, start-stop system.
F. The lower boom controls shall have individual control valve handles to override each boom function.
G. The lower boom controls shall be mounted on the curbside of the turret above rotation.
H. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
I. The outrigger-boom selector shall be mounted at the rear, under the bed.
J. The main outrigger controls and the rear vertical outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
K. A separate valve shall be located at the front bumper stabilizer.
L. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 24 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the front of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be a high-efficiency planetary type with integral load-holding brake.
B. The winch shall be rated for 5,000 lbs. bare drum.
C. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
D. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
E. The winch shall be supplied with 210 feet of 3/8" diameter 6x37 Improved Plow Steel Iron Wire Rope Core wire rope and a weighted swivel hook.
F. Unit shall be equipped with anti-2-block switch, weight and hydraulic valve to protect the unit from damage due to lifting the hook into the boom.
G. Three-ton top dead end snatch block shall be provided to operate with 2-part line.
H. One 50 lb. down haul ball required.
I. Required lifting rating 1,000 lbs. at 55-ft. radius, 5,900 lbs. at 2-ft. radius with platform removed.
J. Main boom section shall be equipped with a retainer at platform end to stow cable when not in use.

XV. MISCELLANEOUS

A. A 110-volt duplex receptacle shall be accessible to the operator in the platform for using electric tools.

XVI. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVII. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVIII. RECOMMENDED MINUMIM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 168" CA, 125" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

Item #3 Pricing Page

50', 60', 70' & 85' TRUCK MOUNTED AERIAL PLATFORM
FRONT MOUNTED TURRET

Item # 3 Aerial equipment, meeting the preceding MoDOT specifications,
NET DELIVERED PRICE

50' AERIAL MAKE/MODEL: _____ EACH $_____

60' AERIAL MAKE/MODEL: _____ EACH $_____

70' AERIAL MAKE/MODEL: _____ EACH $_____

85' AERIAL MAKE/MODEL: _____ EACH $_____

OPTIONS:

OPTION	DESCRIPTION	PRICE
	Please list any vendor-recommended options relevant to the unit(s). Use additional sheets if necessary.	
Option 1	**MH (out and down) secondary outriggers in lieu of standard underslung "A" outriggers**	
Option 2	**Automatic safety rotation lockout prevents boom from rotating to the side where outriggers are not fully extended horizontally (for MH only)**	
Option 3	**Boom tie down provision at boom stand with ratchet strap.**	
Option 4	**Steel cable carrier cover for cat track**	
Option 5	**Radio remotes with hard wire to platform**	
Option 6	**Indicator light on dash of chassis to signify boom is out of stow**	
Option 7	**3/8" airline to platform**	
Option 8	**110 volt line to platform. (Non-insulated booms only)**	
Option 9	**Cab guard from back of cab to front bumper**	
Option 10	**Additional training modules may be purchased by MoDOT after initial training at a cost of _____ per student with a _____ student minimum class size.**	
Option 11		
Option 12		
Option 13		
Option 14		
Option 15		

Please submit a complete parts and options list with detailed pricing information for each MAKE/MODEL your company would be willing to provide. Please indicate below the percent (%) discount off Manufacturers' Suggested Retail Prices (MSRP) for all aerial equipment options available in your data book or pricing guides.

% discount off MSRP for all Data Book or Pricing Guide Options: - % Discount _____

Delivery will be made _____ days after receipt of order.

Please indicate with an 'X' the MoDOT Districts for which you are bidding Item #3.
(*Bidders are responsible for servicing all counties within the district(s) selected.)*

Northwest District (St. Joseph)	**_____**	**Northeast District (Hannibal)**	**_____**
Kansas City District	**_____**	**Central District (Jefferson City)**	**_____**
St. Louis District	**_____**	**Southwest District (Springfield)**	**_____**
Southeast District (Sikeston)	**_____**		

All Districts _____

<u>Item #3 Warranty Information</u> :

Standard Warranty (Minimum 1-year): What does it cover? For how long? _____

_____

_____

_____

_____

Extended Warranties Available: What does it cover? For how long? Cost? _____

_____

_____

_____

_____

70’ TRUCK MOUNTED AERIAL PLATFORM DEVICE, “REAR” MOUNTED TURRET (WITH MODOT PROVIDED CAB/CHASSIS)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting rear mounted rotating turret, hydraulically powered rotation mechanism.
2. Boom shall consist of three sections with two sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one removable rotating platform manufactured of steel.
2. Platform shall be attached to the leveling frame with a self-guided self-latching detachable mount. Attachment and removal must be accomplished utilizing the boom hydraulics. No manual lifting permitted.
3. In addition to a self-latching pin mechanism, the detachable mount shall have a safety lock pin.
4. The platform detachable mount shall be hinged to the leveling frame utilizing flanged bearings.
5. Platform shall include a hydraulic cylinder rotator capable of allowing the operator to move the platform horizontally through an arc of no less than 45 degrees right and 45 degrees left of normal position.
6. Platform shall be rectangular in shape.
7. Platform dimensions shall be 30 inches x 54 inches.
8. Platform rails shall be 40 inches in height.
9. Platform shall be built per ANSI A92.2.
10. Platform shall be equipped with safety chain on opening.
11. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of high-strength steel rectangular tube sections with 70,000-PSI min.
2. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates.
3. The boom shall be equipped with a steel cable carrier mounted external to the boom.
4. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 500 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7” I.D. double-acting, 62” stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension shall be accomplished using two opposing “piggyback” double acting 3” I.D. cylinders, 2” diameter rod, and interconnecting the three boom sections (no cables).
2. The cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 65 feet.
B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 58 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.
B. Aerial unit turret shall be located at the rear of the carrying vehicle so that the platform will stow at the front of the vehicle.
C. Any overhang of the stowed aerial device in relationship with front of the vehicle shall not exceed three feet.
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet 6 inch travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest behind the truck cab that is structurally mounted to the forward outriggers or truck frame.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled with an electrical switch in the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.
C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.
K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer mounted.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by four, hydraulically operated outrigger assemblies.
B. The main outriggers shall be Elliott "MH" type out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary outriggers shall be "A" type underslung with a 12 feet 6 inch spread.
E. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
F. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
G. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of electric cable.
B. The aerial device controls located at the platform shall consist of three control handles for operating boom extension, lift and rotation. Actuation of these three functions shall be accomplished by means of proportional electric controls.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. Control handles shall incorporate safety collars for unlocking handles prior to movement.
E. The aerial device controls located at the platform shall include a remote chassis engine, start-stop system.
F. The lower boom controls shall have individual control valve handles to override each boom function.
G. The lower boom controls shall be mounted on the roadside of the turret above rotation.

H. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
I. The outrigger-boom selector shall be mounted at the rear, under the bed.
J. The outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
K. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 18 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the rear of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be a high-efficiency planetary type with integral load-holding brake.
B. The winch shall be rated for 5,000 lbs. bare drum.
C. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
D. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
E. The winch shall be supplied with 210 feet of 3/8" diameter 6x37 Improved Plow Steel Iron Wire Rope Core wire rope and a weighted swivel hook.
F. Unit shall be equipped with anti-2-block switch, weight and hydraulic valve to protect the unit from damage due to lifting the hook into the boom.
G. Three-ton top dead end snatch block shall be provided to operate with 2-part line.
H. One 50 lb. down haul ball required.
I. Required lifting rating 1,000 lbs. at 56-ft. radius, 5,900 lbs. at 2-ft. radius with platform removed.
J. Main boom section shall be equipped with a retainer at platform end to stow cable when not in use.

XV. MISCELLANEOUS

A. A 110-volt duplex receptacle shall be accessible to the operator in the platform for using electric tools.

XVI. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVII. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVIII. RECOMMENDED MINUMIM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 156" CA, 84" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

85’ TRUCK MOUNTED AERIAL PLATFORM DEVICE, “REAR” MOUNTED TURRET (WITH MODOT PROVIDED CAB/CHASSIS)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting rear mounted turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of four sections with three sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one removable rotating platform manufactured of steel.
2. Platform shall be attached to the leveling frame with a self-guided self-latching detachable mount. Attachment and removal must be accomplished utilizing the boom hydraulics. No manual lifting permitted.
3. In addition to a self-latching pin mechanism, the detachable mount shall have a safety lock pin.
4. The platform detachable mount shall be hinged to the leveling frame utilizing flanged bearings.
5. Platform shall include a hydraulic cylinder rotator capable of allowing the operator to move the platform horizontally through an arc of no less than 45 degrees right and 45 degrees left of normal position.
6. Platform shall be rectangular in shape.
7. Platform dimensions shall be 30 inches x 54 inches.
8. Platform rails shall be 40 inches in height.
9. Platform shall be built per ANSI A92.2.
10. Platform shall be equipped with safety chain on opening.
11. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of high-strength steel rectangular tube sections with 70,000-PSI min.
2. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates.
3. The boom shall be equipped with a steel cable carrier mounted external to the boom.
4. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 500 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7” I.D. double-acting, 62” stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension of the smaller two section booms shall be accomplished using two opposing “piggyback” double acting 2-1/2” I.D. cylinders, 1-1/2” diameter (no cables).
2. Trunnion mounted cylinder, outside the main boom section, will extend the next-to-largest boom section.
3. The cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 80 feet.
B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 57 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.
B. Aerial unit turret shall be located at the rear of the carrying vehicle so that the platform will stow at the front of the vehicle.
C. Any overhang of the stowed aerial device in relationship with front of the vehicle shall not exceed three feet.
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet 6 inch travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest behind the truck cab that is structurally mounted to the forward outriggers or truck frame.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled with an electrical switch in the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.

C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.
K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by four, hydraulically operated outrigger assemblies.
B. The main outriggers shall be Elliott "MH" type out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary outriggers shall be "A" type underslung with a 12 feet 6 inch spread.
E. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
F. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
G. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of electric cable.
B. The aerial device controls located at the platform shall consist of three control handles for operating boom extension, lift and rotation. Actuation of these three functions shall be accomplished by means of proportional electric controls.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. Control handles shall incorporate safety collars for unlocking handles prior to movement.
E. The aerial device controls located at the platform shall include a remote chassis engine, start-stop system.
F. The lower boom controls shall have individual control valve handles to override each boom function.
G. The lower boom controls shall be mounted on the roadside of the turret above rotation.
H. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
I. The outrigger-boom selector shall be mounted at the rear, under the bed.

J. The outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
K. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 18 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the rear of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be a high-efficiency planetary type with integral load-holding brake.
B. The winch shall be rated for 5,000 lbs. bare drum.
C. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
D. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
E. The winch shall be supplied with 210 feet of 3/8" diameter 6x37 Improved Plow Steel Iron Wire Rope Core wire rope and a weighted swivel hook.
F. Unit shall be equipped with anti-2-block switch, weight and hydraulic valve to protect the unit from damage due to lifting the hook into the boom.
G. Three-ton top dead end snatch block shall be provided to operate with 2-part line.
H. One 50 lb. down haul ball required.
I. Required lifting rating 1,000 lbs. at 55-ft. radius, 5,900 lbs. at 2-ft. radius with platform removed.
J. Main boom section shall be equipped with a retainer at platform end to stow cable when not in use.

XV. MISCELLANEOUS

A. A 110-volt duplex receptacle shall be accessible to the operator in the platform for using electric tools.

XVI. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVII. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVIII. RECOMMENDED MINIMUM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 156" CA, 84" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

Item #4 Pricing Page
70' & 85' TRUCK MOUNTED AERIAL PLATFORM
REAR MOUNTED TURRET

Item # 4 Aerial equipment, meeting the attached MoDOT specifications,
NET DELIVERED PRICE:

70' AERIAL MAKE/MODEL: _____ EACH $_____

85' AERIAL MAKE/MODEL: _____ EACH $_____

OPTIONS:

OPTION	DESCRIPTION	PRICE
	Please list any vendor-recommended options relevant to this operation. Use additional sheets if necessary.	
Option 1	**MH (out and down) secondary outriggers in lieu of standard underslung "A" outriggers**	
Option 2	**Automatic safety rotation lockout prevents boom from rotating to the side where outriggers are not fully extended horizontally (for MH only)**	
Option 3	**Boom tie down provision at boom stand with ratchet strap.**	
Option 4	**Steel cable carrier cover for cat track**	
Option 5	**Radio remotes with hard wire to platform**	
Option 6	**Indicator light on dash of chassis to signify boom is out of stow**	
Option 7	**3/8" airline to platform**	
Option 8	**110 volt line to platform. (Non-insulated booms only)**	
Option 9	**Cab guard from back of cab to front bumper**	
Option 10	**Additional training modules may be purchased by MoDOT after initial training at a cost of _____ per student with a _____ student minimum class size.**	
Option 11		
Option 12		
Option 13		
Option 14		
Option 15		
Option 16		
Option 17		

Please submit a complete parts and options list with detailed pricing information for each MAKE/MODEL your company would be willing to provide. Please indicate below the percent (%) discount off Manufacturers' Suggested Retail Prices (MSRP) for all aerial equipment options available in your data book or pricing guides.

% discount off MSRP for all Data Book or Pricing Guide Options: - % Discount _____

Delivery will be made _____ days after receipt of order.

Please indicate with an 'X' the MoDOT Districts for which you are bidding Item #4.
(*Bidders are responsible for servicing all counties within the district(s) selected.)*

Northwest District (St. Joseph) _____
Kansas City District _____
St. Louis District _____
Southeast District (Sikeston) _____

Northeast District (Hannibal) _____
Central District (Jefferson City) _____
Southwest District (Springfield) _____

All Districts _____

<u>Warranty Information for Item #4</u>:

Standard Warranty (Minimum 1-year): What does it cover? For how long? _____

_____

_____

_____

_____

Extended Warranties Available: What does it cover? For how long? Cost? _____

_____

_____

_____

_____

70’ TRUCK MOUNTED “INSULATED” AERIAL PLATFORM DEVICE, FRONT MOUNTED TURRET (WITH MODOT PROVIDED CAB/CHASSIS)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting front mounted rotating turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of three sections with two sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. The unit shall be certified to ANSI A92.2 for Vehicle Mounted Elevated and Rotating Aerial Devices, Category C Insulating, 46kV rated.
5. The completed unit shall be tested at 100kV-AC, 60 HZ.
6. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one platform manufactured with fiberglass grating floor and side rails.
2. Platform shall include a hydraulic rotator capable of allowing the operator to rotate the platform up to +-90 degrees.
3. Platform shall be of supported by an inverted “A” sub-frame.
4. Platform shall be attached to the sub-frame with a bearing.
5. Platform shall be rectangular in shape.
6. Platform dimensions shall be 40 inches x 60 inches.
7. Platform rails shall be 40 inches in height.
8. Platform shall be built per ANSI A92.2.
9. Platform shall be equipped with safety rope on opening.
10. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of two high-strength steel rectangular tube sections with 70,000-PSI min. and one fiberglass section.
2. The inner (smallest) boom section shall be mandrel-wound fiberglass 9” high x 7” wide with ¾” wall section.
3. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates and polyurethane rollers.
4. The boom shall be equipped with a steel cable carrier mounted external to the boom with fiberglass tube supporting non-conductive hoses to platform.
5. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 600 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7” I.D. double-acting, 62” stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension of the fiberglass section shall be accomplished using one “double-case” double-acting 2-1/2” bore cylinder with 1-1/2” diameter rod
2. The fiberglass section first shall extend first and retract last (no cables).
3. Extension of the middle section shall be accomplished with one external 3” bore cylinder with 2” rod (no cables).

4. The external cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 70 feet.
B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 56 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.
B. Aerial unit turret shall be located behind the cab of the carrying vehicle so that the platform will stow at the rear of the vehicle.
C. Overhang of the stowed aerial device in relationship with rear bumper of the vehicle will not exceed 60".
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest at the rear of the bed.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled from the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 14 GPM at 1,200 engine RPM.

C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.
E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.
K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. Hydraulic system shall be maintained under pressure even with pump turned off to prevent vacuum flashover.
O. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by five, hydraulically operated outrigger assemblies.
B. The main front outriggers shall be out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary rear outriggers shall be "A" type underslung with an 8' spread.
E. Front shall be stabilized with an outrigger on front bumper with mounting brackets to truck frame. Minimum 20" front frame extensions and stationary front grill must be provided to adequately mount front stabilizer.
F. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
G. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
H. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of a plastic fiber optic "light conductor".
B. The aerial device controls located the platform shall consist of a "joystick" controller for operating boom extension, elevation and rotation. Actuation of these three functions shall be accomplished by means of proportional fiber optic controls using the "Pulsar" technology.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. The plastic fiber optic control "light conductor" shall extend through the column to the cable carrier and through a fiberglass tube to the extending boom sections.
E. Fiber optic system shall be battery operated with a second battery provided with 12-volt charger installed in cab.
F. The aerial device controls located at the platform shall also include a remote chassis engine start-stop and engine speed system.
G. An enable finger switch on the "joystick" shall be required to activate boom functions.

H. The lower boom controls shall have individual control valve handles to override each boom function.
I. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
J. The outrigger-boom hydraulic selector shall be mounted at the rear, under the roadside corner of the bed.
K. The main outrigger controls and the rear outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
L. A separate valve shall be located at the front bumper stabilizer.
M. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 24 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the front of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be rated for 9,000 lbs. bare drum.
B. The winch shall be equipped with a 2-speed motor.
C. A hydraulic selector valve shall be included at the lower controls for high/low speed.
D. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
E. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
F. The winch shall be supplied with 150 feet of 3/4" polyester double-braid rope and a weighted swivel hook.
G. One 50 lb. down haul ball required.
H. Required lifting rating with platform attached 1,000 lbs. at 56-ft. radius, 3,650 lbs. at 3 ft. radius with platform removed.
I. Main boom section shall be equipped with a retainer at platform end to stow rope when not in use.

XV. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVI. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVII. RECOMMENDED MINUMIM CHASSIS REQUIREMENTS

A. 33,000 lb. GVWR; 156" CA, 110" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

85' TRUCK MOUNTED "INSULATED" AERIAL PLATFORM DEVICE,
FRONT MOUNTED TURRET (WITH MODOT PROVIDED CAB/CHASSIS)

I. CONFIGURATION

A. UNIT

1. Aerial device shall include base assembly supporting front mounted rotating turret, hydraulically powered continuous rotation mechanism.
2. Boom shall consist of four sections with three sections telescoped hydraulically.
3. The boom shall attain an arc of travel no less than 80 degrees above horizontal to 18 degrees below horizontal, 98 degrees total.
4. The unit shall be certified to ANSI A92.2 for Vehicle Mounted Elevated and Rotating Aerial Devices, Category C Insulating, 46kV rated.
5. The completed unit shall be tested at 100kV-AC, 60 HZ.
6. All sharp edges on the unit and the boom(s) shall be rounded off for safety.

B. PLATFORM

1. Aerial device shall be provided with one platform manufactured with fiberglass grating floor and side rails.
2. Platform shall include a hydraulic rotator capable of allowing the operator to rotate the platform up to +-90 degrees.
3. Platform shall be of supported by an inverted "A" sub-frame.
4. Platform shall be attached to the sub-frame with a bearing.
5. Platform shall be rectangular in shape.
6. Platform dimensions shall be 40 inches x 60 inches.
7. Platform rails shall be 40 inches in height.
8. Platform shall be built per ANSI A92.2.
9. Platform shall be equipped with safety rope on opening.
10. The platform shall be equipped with two safety lanyard attachments.

C. BOOM CONSTRUCTION

1. The boom shall be constructed of three high-strength steel rectangular tube sections with 70,000-PSI min. and one fiberglass section.
2. The inner (smallest) boom section shall be mandrel-wound fiberglass 9" high x 7" wide with ¾" wall section.
3. The boom assembly shall include heavy-duty cylinder fittings, heavy pivot pins and replaceable, ultra-high molecular weight polyethylene wear plates and polyurethane rollers.
4. The boom shall be equipped with a steel cable carrier mounted external to the boom with fiberglass tube supporting non-conductive hoses to platform.
5. The cable carrier shall be stowed in the open without cover.

D. CAPACITY

1. The rated capacity of the platform shall not be less than 600 pounds in any boom position.

E. LIFT

1. Lift shall be accomplished with one 7" I.D. double-acting, 62" stroke cylinder.
2. Lift cylinder shall come equipped with a holding valve to prevent boom from falling in event of hose failure.

F. EXTENSION

1. Extension of the fiberglass section shall be accomplished using one "double-case" double-acting 2-1/2" bore cylinder with 1-1/2" diameter rod
2. The fiberglass section first shall extend first and retract last (no cables).
3. Extension of the two middle sections shall be accomplished with two external 3" bore cylinders with 2" rods: one above boom and one below boom (no cables).
4. The external cylinder shall be pinned in place and equipped with holding valves for both in and out.

II. PERFORMANCE

A. Attainable height of the unit as measured from ground level to the bottom of the platform shall not be less than 85 feet.
B. The maximum attainable horizontal reach of the unit as measured from the centerline of rotation to the centerline of the platform shall not be less than 57 feet.

III. MOUNTING

A. Aerial turret box shall be sub-frame mounted to the chassis of the carrying vehicle by bolting. If sill strips are used, they must be made of steel. Wood or other organic materials are not acceptable.
B. Aerial unit turret shall be located behind the cab of the carrying vehicle so that the platform will stow at the rear of the vehicle.
C. Overhang of the stowed aerial device in relationship with rear bumper of the vehicle will not exceed 30".
D. The unit, when mounted on the carrying vehicle and in the stowed position, shall not exceed a 13 feet-6 inch travel height (as measured from the highest point of the unit to ground level). This is attainable assuming truck frame is 42".
E. Torque frame from main to rear outriggers shall be a box structure 11" H x 34-1/2" W.

IV. BOOM STORAGE

A. The vehicle shall be provided with a permanently installed boom rest at the rear of the bed.
B. The boom rest shall be of adequate design as to withstand stow loads from the unit and withstand 500 pounds applied in any direction without deformation.

V. TURRET & TURRET BEARING

A. The turret shall be a one-piece weldment with reverse offset design.
B. The turret shall rotate on a ball bearing.

VI. ROTATION

A. Unit shall provide continuous turret rotation with no stops.
B. A hydraulic motor, driving the turret through a self-locking worm gearbox (no brake) shall accomplish rotation. The gearbox is mounted on turret above rotation.
C. The rotation system shall be capable of rotating the maximum rated load capacity of the unit at the maximum attainable horizontal distance away from the pedestal upwards on a five degree incline.

VII. LEVELING

A. The platform shall be maintained in a level position relative to the chassis frame in all operating positions of the unit by a "closed" hydraulic system comprised of twin 2 1/2" platform cylinders interacting with a boom-actuated 4" master cylinder mounted in the boom support turret.
B. The leveling system shall be provided with factory-set relief valves to compensate for oil expansion or overload during platform leveling operation.
C. A leveling valve shall be provided in the boom control bank.
D. The leveling system shall be permanently connected to the boom valve bank and be capable of being remotely re-leveled from the platform.

VIII. STABILITY

A. Completed unit shall be stability tested prior to delivery and shall be in conformance with ANSI A92.2.

IX. EMERGENCY LOWERING

A. Unit shall be provided with a twelve-volt emergency lowering system.
B. Switches shall be located at both the lower controls and upper controls.

X. HYDRAULIC SYSTEM

A. The hydraulic system shall be of open center design with 2,500-psi minimum design pressure.
B. The hydraulic pump shall be a gear type 18 GPM at 1,200 engine RPM.
C. The pump shall be of domestic manufacture.
D. The hydraulic pump shall be driven by a cable-shift PTO mounted to the transmission.

E. The PTO shall include an indicator/warning light.
F. The hydraulic pump shall be flange mounted to the PTO by means of an S.A.E. type flange mount.
G. The load bearing ends of all hydraulic cylinders shall be equipped with check or counter balance valves capable of hydraulically locking the cylinder and preventing movement of the cylinder in the event of loss of hydraulic power or line failure.
H. Hydraulic oil reservoir shall be properly labeled near the filler opening.
I. Hydraulic oil reservoir shall be mounted to the side of the sub frame below the bed with a capacity of 35 gallons.
J. Hydraulic oil reservoir filler opening shall be of such design as to prevent oil from splashing out of the reservoir.
K. Hydraulic oil reservoir filler shall be easily accessible and have a removable strainer.
L. Hydraulic oil reservoir shall have sight level gauge and thermometer.
M. Hydraulic oil shall be supplied to the turret-mounted control valve through a rotary manifold.
N. Hydraulic system shall be maintained under pressure even with pump turned off to prevent vacuum flashover.
O. All cylinders, control valves, hoses and hydraulic fittings shall be of domestic convention (no metric adapters permitted).
    1. HOSES
        a) All high-pressure hose to be wire braid reinforced with a minimum safety factor of 4:1.
    2. CYLINDERS
        a) All cylinders must have micro-honed I.D. cylinder tubing, chrome shafts, top grade packing and protective rod wipers.
    3. FILTRATION
        a) The hydraulic filtration system shall consist of the following:
            (1) Suction strainer
            (2) Return line filter, capable of providing 10 micron nominal filtration
            (3) Pressure filter capable of providing 5 micron nominal filtration

XI. OUTRIGGERS

A. Unit shall be stabilized by five, hydraulically operated outrigger assemblies.
B. The main front outriggers shall be Elliott "MH" type out-and-down design with an 18 foot spread. The vertical legs shall telescope under the bed floor.
C. Horizontal and vertical movement of the main outriggers shall be individually controlled.
D. The secondary rear outriggers shall be "A" type underslung with an 8' spread.
E. Front shall be stabilized with an outrigger on front bumper with mounting brackets to truck frame. Minimum 20" front frame extensions and stationary front grill must be provided to adequately mount front stabilizer.
F. Vertical outrigger cylinders shall be of the double acting type equipped with integral pilot operated check valves capable of preventing drift from both the retracted and the extended positions even in the event of loss of hydraulic power or line failure.
G. Main and secondary outrigger assemblies shall be solidly mounted to the sub-frame assembly.
H. Penetration of outrigger shoes shall not be less than six inches below normal ground level.

XII. OPERATOR CONTROL SYSTEM

A. The medium for transmitting control signals from the platform to the lower control station shall be by means of a plastic fiber optic "light conductor".
B. The aerial device controls located the platform shall consist of a "joystick" controller for operating boom extension, elevation and rotation. Actuation of these three functions shall be accomplished by means of proportional fiber optic controls using the "Pulsar" technology.
C. Controls shall meter pilot operated pressure compensated modulating valves.
D. The plastic fiber optic control "light conductor" shall extend through the column to the cable carrier and through a fiberglass tube to the extending boom sections.
E. Fiber optic system shall be battery operated with a second battery provided with 12-volt charger installed in cab.
F. The aerial device controls located at the platform shall also include a remote chassis engine start-stop and engine speed system.
G. An enable finger switch on the "joystick" shall be required to activate boom functions.
H. The lower boom controls shall have individual control valve handles to override each boom function.

I. The lower controls shall include engine speed and start/stop switches, along with upper/lower controls switch to override upper controls.
J. The outrigger-boom hydraulic selector shall be mounted at the rear, under the roadside corner of the bed.
K. The main outrigger controls and the rear outrigger controls shall be mounted at the rear, under each corner of the bed with roadside valve controlling roadside outriggers and curbside valve controlling curbside outriggers.
L. A separate valve shall be located at the front bumper stabilizer.
M. The outrigger controls shall include a truck level bull's eye.

XIII. BODY

A. The bed shall be 26 feet long with 3/16" steel tread plate floor w/ grip deck coating.
B. A standard DOT type bumper shall be installed at the rear of bed with taillights.
C. White anti-sail spray suppressant, splashguards shall be provided.
D. Step shall be provided on each side at the front of the body to provide access to the walk-around control platform with non-slip steps and grab handles.

XIV. HEAVY-DUTY HYDRAULIC BOOM WINCH

A. Winch shall be rated for 9,000 lbs. bare drum.
B. The winch shall be equipped with a 2-speed motor.
C. A hydraulic selector valve shall be included at the lower controls for high/low speed.
D. The winch shall be controlled from an additional valve section on the lower control valve. It shall be pressure compensated to allow feathering the winch and one boom section simultaneously.
E. Winch shall be mounted at the base of the boom for a long fleet angle and flat, level spooling of cable.
F. The winch shall be supplied with 180 feet of 3/4" polyester double-braid rope and a weighted swivel hook.
G. One 50 lb. down haul ball required.
H. Required lifting rating with platform attached 1,000 lbs. at 57-ft. radius, 3,650 lbs. at 3-ft. radius with platform removed.
I. Main boom section shall be equipped with a retainer at platform end to stow rope when not in use.

XV. CAB EQUIPMENT

A. The master control switch with indicator lights shall be installed in truck cab.
B. U/L approved 2-1/2 lbs., 5:BC dry chemical fire extinguisher shall be installed in the truck cab.
C. A holder for operator's manuals shall be provided.

XVI. PLACARD/DECAL LABELS, MANUALS, VIDEO, ETC.

A. Each control and switch shall be clearly labeled to define function and direction of operation.
B. Two safety harnesses and 72" lanyards shall be delivered with the unit.
C. Two complete sets of operating, service, maintenance and parts manuals applicable to the aerial unit, as delivered, containing detailed parts and maintenance information inclusive of all optional equipment installed shall accompany the vehicle at the time of delivery.
D. One safety and operating video, covering safe use of the manufacturer's products shall accompany the vehicle at the time of delivery.

XVIII. RECOMMENDED MINUMIM CHASSIS REQUIREMENTS

A. 48,000 lb. GVWR; 168" CA, 147" AF
B. Include hot shift PTO for automatic transmission and air shift PTO for manual transmission.
C. MoDOT chassis to be drop shipped to vendor. By request the vendor can provide chassis pricing.

Item #5 Pricing Page

70' & 85' TRUCK MOUNTED "INSULATED" AERIAL PLATFORM
FRONT MOUNTED TURRET

Item # 5 Aerial equipment, meeting the attached MoDOT specification, **NET DELIVERED PRICE**

70' AERIAL MAKE/MODEL: _____ EACH $_____

85' AERIAL MAKE/MODEL: _____ EACH $_____

OPTIONS:

OPTION	DESCRIPTION	PRICE
	Please list any vendor-recommended options relevant to this operation. Use additional sheets if necessary**.**	
Option 1	**MH (out and down) secondary outriggers in lieu of standard underslung "A" outriggers**	
Option 2	**Automatic safety rotation lockout prevents boom from rotating to the side where outriggers are not fully extended horizontally (for MH only)**	
Option 3	**Boom tie down provision at boom stand with ratchet strap.**	
Option 4	**Steel cable carrier cover for cat track**	
Option 5	**Radio remotes with hard wire to platform**	
Option 6	**Indicator light on dash of chassis to signify boom is out of stow**	
Option 7	**3/8" airline to platform**	
Option 8	**Cab guard from back of cab to front bumper**	
Option 9	**Additional training modules may be purchased by MoDOT after initial training at a cost of _____ per student with a _____ student minimum class size.**	
Option 10		
Option 11		
Option 12		
Option 13		
Option 14		
Option 15		
Option 16		
Option 17		
Option 18		

Please submit a complete parts and options list with detailed pricing information for each MAKE/MODEL your company would be willing to provide. Please indicate below the percent (%) discount off Manufacturers' Suggested Retail Prices (MSRP) for all aerial equipment options available in your data book or pricing guides.

% discount off MSRP for all Data Book or Pricing Guide Options: - % Discount _____

Delivery will be made _____ days after receipt of order.

Please indicate with an 'X' the MoDOT Districts for which you are bidding Item #5.
(*Bidders are responsible for servicing all counties within the district(s) selected.)*

Northwest District (St. Joseph) _____
Kansas City District _____
St. Louis District _____
Southeast District (Sikeston) _____

Northeast District (Hannibal) _____
Central District (Jefferson City) _____
Southwest District (Springfield) _____

All Districts _____

<u>Item #5 Warranty Information</u> :

Standard Warranty (Minimum 1-year): What does it cover? For how long? _____

_____

_____

_____

_____

Extended Warranties Available: What does it cover? For how long? Cost? _____

_____

_____

_____

_____

MANUALS, TECHNICAL SERVICE AND TRAINING REQUIREMENTS

APPLICABLE TO ALL AERIALS/DIGGER DERRICKS

Service & Operator Manuals

a. A hard copy operator manual must be provided with each individual unit.
b. One set of service and parts manuals (CD or hard copy) shall be supplied with each individual unit.

Technical Service

All vendors shall provide a number for technical assistance on all components of the items bid. Number shall be manned during normal working hours (8 AM to 4 PM).

Mandatory Training

For each unit sold, the vendor shall supply MoDOT with the following minimum mandatory training to include trainers time/travel expenses:

a. Training shall take place at each district where equipment is delivered or at an off site location at the vendor's expense. A qualified service technician or mechanic shall conduct the training. Training will be supplied to operators and mechanics of equipment and will cover safe operation and routine/preventative maintenance. The vendor shall supply training within one month of delivery and acceptance. The vendor shall supply all training materials.

b. Training shall be supplied to MoDOT mechanics by the vendor and will be a minimum 4 hours contact time per module. If more than 4 hours of training is necessary, the districts shall notify the vendor in advance of the scheduled training to setup the additional hours needed. Modules to be covered are electrical, chassis and power train. (also hydraulics if applicable) Warranty coverage(s) will be explained during each of these modules. Training time and location shall be coordinated with district personnel.

Should the training not meet the requirements (needs of the employees being trained) indicated above, the vendor shall come back to the location the training first took place and hold the training again.

5. VENDOR INFORMATION & PREFERENCE CERTIFICATION FORM

All bidders must furnish ALL applicable information requested below

Vendor Name/Mailing Address:	**Vendor Contact Information (including area codes):**
Email Address:	Phone #: Cellular #: Fax #:
Printed Name of Responsible Officer or Employee:	**Signature:**
For Corporations - State in which incorporated:	**For Others -** State of domicile:

If the address listed in the Vendor Name/Mailing Address block above is not located in the State of Missouri, list the address of Missouri offices or places of business:

If additional space is required, please attach an additional sheet and identify it as ***Addresses of Missouri Offices or Places of Business.***

M/WBE INFORMATION: List all certified Minority or Women Business Enterprises (**M/WBE**) utilized in the fulfillment of this bid. Include percentages for subcontractors and identify the M/WBE certifying agency:

M/WBE Name	Percentage of Contract	M/WBE Certifying Agency

If additional space is required, please attach an additional sheet and identify it as ***M/WBE Information***

Preference Certification

All bidders must furnish ALL applicable information requested below

GOODS/PRODUCTS MANUFACTURED OR PRODUCED IN USA: If any or all of the goods or products offered in the attached bid which the bidder proposes to supply to the MHTC are **not** manufactured or produced in the "United States", or imported in accordance with a qualifying treaty, law, agreement, or regulation, list below, by item or item number, the country other than the United States where each good or product is manufactured or produced.

Item (or item number)	Location Where Item is Manufactured or Produced

If additional space is required, please attach an additional sheet and identify it as ***Location Products are Manufactured or Produced****.*

MISSOURI SERVICE-DISABLED VETERAN BUSINESS: Please complete the following if applicable. Additional information may be requested if preference is applicable. See below definitions for qualification criteria:

Service-Disabled Veteran is defined as any individual who is disabled as certified by the appropriate federal agency responsible for the administration of veterans' affairs.

Service-Disabled Veteran Business is defined as a business concern:

a. Not less than fifty-one (51) percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than fifty-one (51) percent of the stock of which is owned by one or more service-disabled veterans; and

b. The management and daily business operations of which are controlled by one or more service-disabled veterans.

Veteran Information	Business Information
Service-Disabled Veteran's Name (Please Print)	Service-Disabled Veteran Business Name
Service-Disabled Veteran's Signature	Missouri Address of Service Disabled Veteran Business

6. NOTICE OF COOPERATIVE PURCHASING

MODOT IS INTERESTED IN ASSISTING MISSOURI GOVERNMENTAL ENTITIES, ETC. IN PURCHASING EQUIPMENT, VARIOUS MATERIALS, AND SUPPLIES THAT MEET THE MISSOURI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

Each bidder is asked to indicate below whether they would be willing to offer **aerials** listed in the attached "Request for Bid" for sale to these local political entities at the same bid price offered to MoDOT.

It is understood MoDOT will not issue purchase orders, accept delivery nor make payment for these items ordered by any of these agencies. It is further understood the price is based on the **aerials** meeting MoDOT specifications. Any added options, deletions, or extra freight costs would be negotiated between the local agency and the successful vendor.

Indicate below whether your company is willing to offer such cooperative purchasing for Missouri counties, cities or other political entities.

YES _____ NO _____

If the price varies throughout the state on MoDOT bids because of different delivery destinations, please indicate the price F.O.B. your location that would be offered as described.

F.O.B. Location _____

Indicate the deadline date that orders will be accepted. _____

COMPANY NAME _____

ADDRESS _____

E-MAIL _____

PHONE NUMBER _____

SIGNATURE _____

TITLE _____

DATE _____

7. ANTI-COLLUSION STATEMENT

STATE OF _____)
) SS.
COUNTY OF _____)

_____

_____being first

duly sworn, deposes and says that he is _____
Title of Person Signing

of _____

_____
Name of Bidder

that all statements made and facts set out in the bid for the above project are true and correct; and that the bidder (The person, firm, association, or corporation making said bid) has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such bid or any contract which may result from its acceptance.

Affiant further certifies that bidder is not financially interested in, or financially affiliated with, any other bidder for the above project.

By _____

By _____

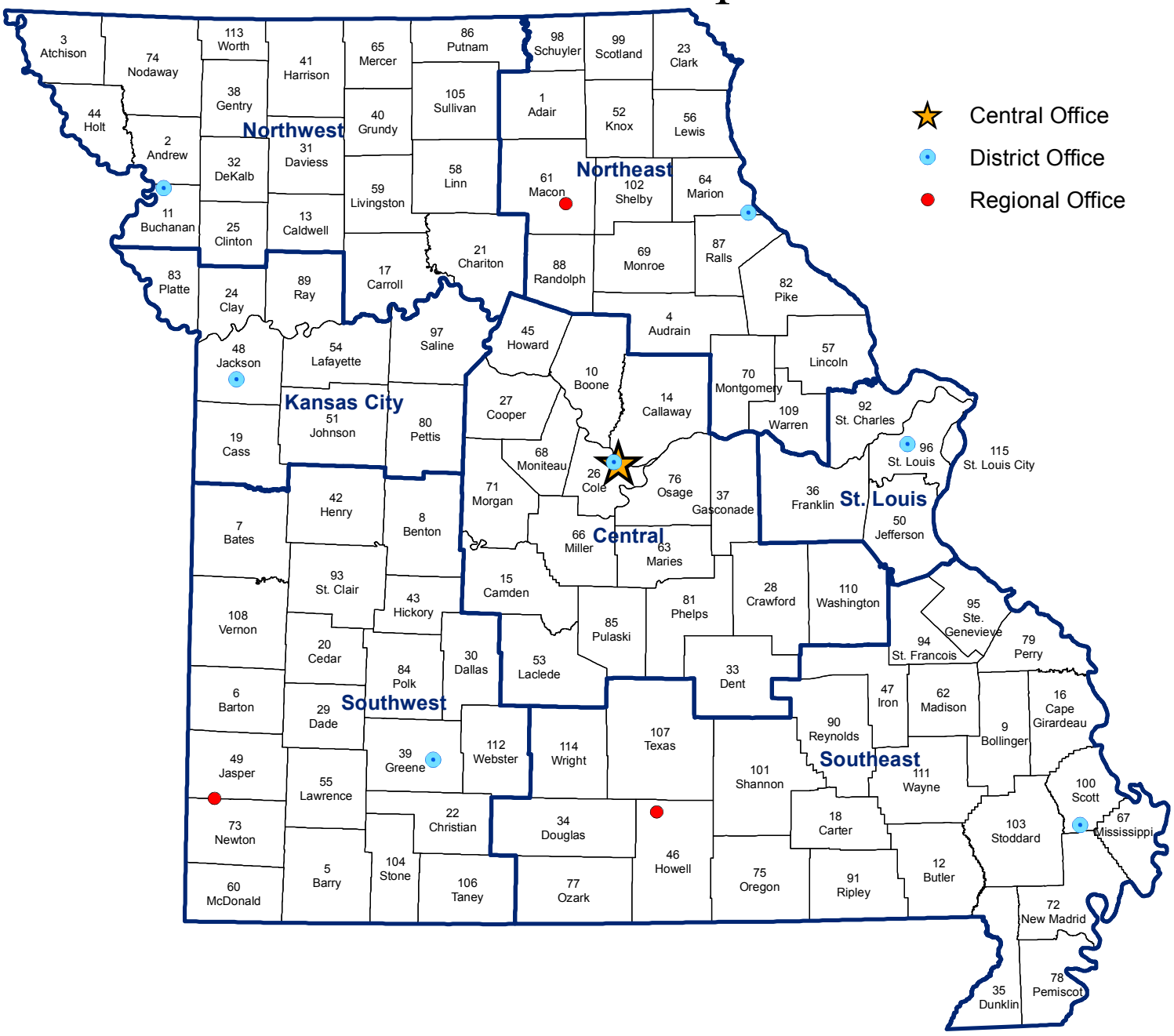
By _____

Sworn to before me this _____ day of _____, 20_____.

_____
Notary Public

My Commission Expires _____

Missouri Department of Transportation
District Map



County	No.	Dist.	County	No.	Dist.	County	No.	Dist.	County	No.	Dist.	County	No.	Dist.	County	No.	Dist.
Adair	1	NE	Chariton	21	NW	Harrison	41	NW	Macon	61	NE	Phelps	81	C	Shannon	101	SE
Andrew	2	NW	Christian	22	SW	Henry	42	SW	Madison	62	SE	Pike	82	NE	Shelby	102	NE
Atchison	3	NW	Clark	23	NE	Hickory	43	SW	Maries	63	C	Platte	83	KC	Stoddard	103	SE
Audrian	4	NE	Clay	24	KC	Holt	44	NW	Marion	64	NE	Polk	84	SW	Stone	104	SW
Barry	5	SW	Clinton	25	NW	Howard	45	C	Mercer	65	NW	Pulaski	85	C	Sullivan	105	NW
Barton	6	SW	Cole	26	C	Howell	46	SE	Miller	66	C	Putnam	86	NW	Taney	106	SW
Bates	7	SW	Cooper	27	C	Iron	47	SE	Mississippi	67	SE	Ralls	87	NE	Texas	107	SE
Benton	8	SW	Crawford	28	C	Jackson	48	KC	Moniteau	68	C	Randolph	88	NE	Vernon	108	SW
Bollinger	9	SE	Dade	29	SW	Jasper	49	SW	Monroe	69	NE	Ray	89	KC	Warren	109	NE
Boone	10	C	Dallas	30	SW	Jefferson	50	SL	Montgomery	70	NE	Reynolds	90	SE	Washington	110	C
Buchanan	11	NW	Daviess	31	NW	Johnson	51	KC	Morgan	71	C	Ripley	91	SE	Wayne	111	SE
Butler	12	SE	Dekalb	32	NW	Knox	52	NE	New Madrid	72	SE	St. Charles	92	SL	Webster	112	SW
Caldwell	13	NW	Dent	33	C	Laclede	53	C	Newton	73	SW	St. Clair	93	SW	Worth	113	NW
Callaway	14	C	Douglas	34	SE	Lafayette	54	KC	Nodaway	74	NW	St. Francois	94	SE	Wright	114	SE
Camden	15	C	Dunklin	35	SE	Lawrence	55	SW	Oregon	75	SE	Ste. Genevieve	95	SE	St. Louis City	115	SL
Cape Girardeau	16	SE	Franklin	36	SL	Lewis	56	NE	Osage	76	C	St. Louis	96	SL			
Carroll	17	NW	Gasconade	37	C	Lincoln	57	NE	Ozark	77	SE	Saline	97	KC			
Carter	18	SE	Gentry	38	NW	Linn	58	NW	Pemiscot	78	SE	Schuyler	98	NE			
Cass	19	KC	Greene	39	SW	Livingston	59	NW	Perry	79	SE	Scotland	99	NE			
Cedar	20	SW	Grundy	40	NW	McDonald	60	SW	Pettis	80	KC	Scott	100	SE			

6/27/2011

Missouri Highways and Transportation Commission
Standard Bid Provisions, General Terms and Conditions and Special Terms and Conditions

STANDARD SOLICITATION PROVISIONS

a. The solicitation for the procurement of the supplies referenced therein, to which these "Standard Bid Provisions, General Terms and Conditions and Special Terms and Conditions" are attached, is being issued under, and governed by, the provisions of Title 7 – Missouri Department of Transportation, Division 10 – Missouri Highways and Transportation Commission, Chapter 11 – Procurement of Supplies, of the Code of State Regulations. The Missouri Highways and Transportation Commission (**MHTC**), acting by and through its operating arm, the Missouri Department of Transportation (**MoDOT**), draws the Bidder's attention to said 7 CSR 10-11 for all the provisions governing solicitation and receipt of bids/quotes and the award of the contract pursuant to this solicitation.

b. All bids/quotes must be signed with the firm name and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.

GENERAL TERMS AND CONDITIONS

Definitions

Capitalized terms as well as other terms used but not defined herein shall have the meaning assigned to them in section 7 CSR 10-11.010 Definition of Terms.

Nondiscrimination

a. The Contractor shall comply with all state and federal statutes applicable to the Contractor relating to nondiscrimination, including, but not limited to, Chapter 213, RSMo; Title VI and Title VII of Civil Rights Act of 1964 as amended (42 U.S.C. Sections 2000d and 2000e, *et seq.*); and with any provision of the "Americans with Disabilities Act" (42 U.S.C. Section 12101, *et seq*).
b. Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, MHTC shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
    i. withholding of payments to the Contractor under the contract until the Contractor complies, and/or,
    ii. cancellation, termination or suspension of the contract, in whole or in part.

Contract/Purchase Order

a. By submitting a bid/quote, the Bidder agrees to furnish any and all equipment, supplies and/or services specified in the solicitation documents, at the prices quoted, pursuant to all requirements and specifications contained therein.
b. A binding contract shall consist of: (1) the solicitation documents, amendments thereto, and/or Best and Final Offer (BAFO) request(s) with any changes/additions, (2) the Contractor's bid response, and (3) the MHTC's acceptance of the bid by post-award contract or purchase order.
c. A notice of award does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services. Before providing equipment, supplies and/or services, the Contractor must receive a properly authorized notice to proceed and/or purchase order.

Applicable Laws and Regulations

a. The contract shall be construed according to the laws of the State of Missouri. The Contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract. The exclusive venue for any legal proceeding relating to or arising, out of the contract shall be in the Circuit Court of Cole County, Missouri.
b. The Contractor must be registered and maintain good standing with the Secretary of State of the State of Missouri, Missouri Department of Revenue, and other regulatory agencies, as may be required by law or regulations. Prior to the issuance of a purchase order and/or notice to proceed, the Contractor may be required to submit to MHTC a copy of their current Authority Certificate from the Secretary of State of the State of Missouri and/or a copy of their Certificate of No Tax Due from the Missouri Department of Revenue.
c. Prior to the issuance of a purchase order and/or notice to proceed, all **out-of-state** Contractors **providing services** within the state of Missouri must submit to MHTC a copy of their current Transient Employer Certificate from the Missouri Department of Revenue, in addition to a copy of their current Authority Certificate from the Secretary of State of the State of Missouri.

Executive Order:

The Contractor shall comply with all the provisions of Executive Order 07-13, issued by the Honorable Matt Blunt, Governor of Missouri, on the sixth (6^{th}) day of March, 2007. This Executive Order, which promulgates the State of Missouri's position to not tolerate persons who contract with the state engaging in or supporting illegal activities of employing individuals who are not eligible to work in the United States, is incorporated herein by reference and made a part of this Agreement.

1) "By signing this Agreement, the Contractor hereby certifies that any employee of the Contractor assigned to perform services under the contract is eligible and authorized to work in the United States in compliance with federal law."
2) In the event the Contractor fails to comply with the provisions of the Executive Order 07-13, or in the event the Commission has reasonable cause to believe that the contractor has knowingly employed individuals who are not eligible to work in the United States in violation of federal law, the Commission reserves the right to impose such contract sanctions as it may determine to be appropriate, including but not limited to contract cancellation, termination or suspension in whole or in part or both.
3) The Contractor shall include the provisions of this paragraph in every subcontract. The Contractor shall take such action with respect to any subcontract as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Preferences

a. In the evaluation of bids/quotes, preferences shall be applied in accordance with 7 CSR 10-11.020(7). Contractors should apply the same preferences in selecting subcontractors. The attached document entitled **"VENDOR INFORMATION AND PREFERENCE CERTIFICATION FORM"** must be completed and returned with the solicitation documents.

b. Bidders are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBEs. Bidders are encouraged to obtain 10% MBE and 5% WBE participation.

Cancellation of Contract

The MHTC may cancel the Contract at any time for a material breach of contractual obligations or for convenience by providing Contractor with written notice of cancellation. Should the MHTC exercise its right to cancel the contract for such reasons, cancellation will become effective upon the date specified in the notice of cancellation sent to the Contractor.

Bankruptcy or Insolvency

Upon filing for any bankruptcy or insolvency proceeding by or against the Contractor, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, the Commission reserves the right and sole discretion to either cancel the Agreement or affirm the Agreement and hold the Contractor responsible for damages.

Warranty

The Contractor expressly warrants that all equipment, supplies, and/or services provided shall: (1) conform to each and every specification, drawing, sample or other description which was furnished to or adopted by the MHTC, (2) be fit and sufficient for the purpose expressed in the solicitation documents, (3) be merchantable, (4) be of good materials and workmanship, and (5) be free from defect.

Status of Independent Contractor

The Contractor represents itself to be an independent Contractor offering such services to the general public and shall not represent itself or its employees to be an employee of the MHTC. Therefore, the Contractor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save and hold the MHTC, its officers, agents and employees harmless from and against any and all losses (including attorney fees) and damage of any kind related to such matters.

Non-Waiver

If one of the parties agrees to waive its right to enforce any term of this Contract, that party does not waive its right to enforce such term at any other time or to enforce any or all other terms of this Contract.

Indemnification

The Contractor shall defend, indemnify and hold harmless MHTC, including its members and department employees, from any claim or liability whether based on a claim for damages to real or personal property or to a person for any matter relating to or arising out of the Contractor's performance of its obligations under the contract awarded pursuant to this solicitation.

SPECIAL TERMS AND CONDITIONS

Tax Exempt Status:

MHTC is exempt from paying Missouri Sales Tax, Missouri Use Tax and Federal Excise Tax. However, the Contractor may themselves be responsible for the payment of taxes on materials they purchase to fulfill the contract. A Project Tax Exemption Certificate will be furnished to the successful Bidder upon request if applicable.

Liquidated Damages

a. In the event the successful Contractor fails to deliver the material within the time specified, the Department and the public will sustain damages because of such delay in delivery, the exact extent of which would be difficult to ascertain, and in order to liquidate such damage in advance it is agreed that the **sum of $100 per day, per item,** for each assessable calendar day on which the delivery has not been completed, is reasonable and the best estimate which the parties can arrive at as liquidated damages, and it is therefore agreed that said amount will be withheld from payments due the Contractor or otherwise collected from the Contractor as liquidated damages.

b. **Saturdays, Sundays, holidays and days whereas the Department has suspended work** shall not be assessable days.