State of Illinois

Department of Transportation

Bureau of Business Services

**Specifications and Questionnaire for Crawler Tractor Angle Dozer W/Cab**

September 2018

This specification and questionnaire covers a track type dozer with angle blade of Low Ground Pressure (LGP) design for use by the Department of Transportation for ditch work and slope maintenance. To improve parts and service availability and increase tool life, the Department of Transportation is specifying units and accessories as outlined below.

Each bidder shall submit with their bid ***two sets*** of descriptive literature and specifications describing ***all*** the equipment proposed. This information shall be clearly marked to indicate the make, model, and accessories proposed to be furnished.

* The manufacturer of the equipment proposed has been actively involved in the manufacture of the equipment called for in the questionnaire for a period of not less than 5 years.
* Parts and service for the equipment proposed are readily available within the State of Illinois.

It is the responsibility of each bidder to complete and return this questionnaire with the bid.

**Unless otherwise specified, the proposed equipment shall be complete in all parts and ready for immediate use upon delivery.**

**Bidders are advised to carefully read these specifications as changes have been made since the last solicitation issue.**

|  |
| --- |
| **Proposed with this bid:** |
| Make: |       |
| Model: |       |
| Manufactured By: |       |
| Vendor: |       |
|  |       |
|  |       |
| Telephone: |       |
| Contact Name: |       |
| Email: |       |

The makes and models of the machines listed below are solely for the purpose of providing bidders a minimum level of quality and size of machine requested. These makes and models have provided an acceptable level of service and performance to the State of Illinois Department of Transportation. All Machines quoted will be evaluated by compliance with the following specifications. Since the work performed and expected of these machines can be of an extreme emergency nature, the potential availability of parts and service will be equally important and considered in determining equality.

The makes and models are as follows:

Case 1650M

Cat D6N

John Deere 750K

Komatsu D61PX-24

**Dozer:**

The power angle dozer shall be furnished as a heavy-duty, low ground pressure machine with all attachments called for to be controlled by the operator from the cab. The attachments shall be “Industry standard” capable of functioning with tractor specified.

Complies: [ ]  Yes [ ]  No

The dozer blade furnished must be heavy duty, smooth edged, minimum 145” wide with moldboard height of approximately 40” including a replaceable cutting edge. The moldboard shall be a 6-way function with variable pitch, all functions hydraulically powered and controlled by the operator. The blade shall also be equipped with a “shaker” to dislodge sticky material accumulating on the moldboard. The machine shall also include a “stable blade” feature.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Moldboard height: |       | Inches |
| Moldboard width: |       | Inches |

|  |  |
| --- | --- |
| Describe: |       |

|  |
| --- |
|       |

The moldboard shall have an SAE rated capacity of approximately 5.1-cu.yd.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Rated capacity: |       | Cu. Yd. |

Track on ground shall be 122" minimum.

|  |  |  |
| --- | --- | --- |
| Track on ground: |       | Inches |

Complies: [ ]  Yes [ ]  No

The dozer shall have a published rated ground pressure no greater than 5.3 lb./sq. in.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Published ground pressure: |       | Lb./Sq. In. |

The dozer shall have industry standard LGP track width of 33” Minimum.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Track shoe width: |       | Inches |

The dozer shall have a solid mounted carriage and a minimum of 8 lower support rollers.

|  |  |
| --- | --- |
| Number of rollers: |       |

Complies: [ ]  Yes [ ]  No

The machine shall include sealed lubricated track rollers and the track shall include a hydraulic adjustment feature

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| Describe: |       |

|  |
| --- |
|       |

The tracks shall include open, single steel bar type grousers with approximately 45 shoes per side.

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| Number of shoes per side: |       |

Ground clearance shall be approximately 14”.

|  |  |  |
| --- | --- | --- |
| Ground clearance: |       | Inches |

Complies: [ ]  Yes [ ]  No

The blade shall provide a 25° angle to the left and to the right.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Degrees left and right: |       | Degrees |

The blade shall also provide approximately 40” of lift height blade tilt of maximum of 20”. The blade shall also include a “blade shaker” to allow the operator to shake off material stuck to the moldboard.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Lift height: |       | Inches |
| Blade tilt: |       | Inches |

**Engine:**

The unit shall be provided with a current production, liquid cooled, turbo-charged, air-to-air after-cooled diesel engine with 6-cylinders, and a net horsepower measured by SAE 1349 standards at a minimum of 164-h.p. The engine shall include emission controls equal to the standards for diesel engines in this application at the time of manufacture.

Complies: [ ]  Yes [ ]  No

Component provided:

|  |  |
| --- | --- |
| Make: |       |
| Model: |       |
| Number of cylinders: |       |
| Horsepower Gross: |       | H.P. |
| Rated Net H.P. (SAE J1349 Standards): |       | H.P. |
| Emission control level: |       |  |

Diesel engine controls, features, instruments or LCD screen monitors for the following:

* Tachometer
* Fuel gauge.
* DEF gauge (if equipped).
* Engine-coolant temperature gauge or warning light.
* Engine oil pressure gauge or warning light.
* Hand or foot-controlled throttle
* Air filter restriction gauge or warning light.
* Back-up alarm
* Hydraulic oil temperature
* Hour meter
* Engine/hydraulic system shutdown
* Cold weather starting aid
* Coolant heater

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| If no, describe: |       |
|       |

Audible alarms or warning lights shall be included for the following:

* Engine coolant temperature
* Transmission charge temperature
* Engine oil pressure
* Hydraulic oil temperature
* Seat belt reminder
* Engine air filter restriction

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| If no, describe: |       |
|       |

**Operator’s Cab:**

The cab shall be manufacturer’s deluxe fully enclosed cab with sound suppression and lockable door(s). The cab shall be constructed to incorporate an OSHA approved and SAE rated ROPS/FOPS protection structure.

Complies: Yes [ ]  No [ ]

The cab shall be fully enclosed with lockable doors and removable front window.

Complies: Yes [ ]  No [ ]

Operator controlled wiper/washer system shall be provided for the front window.

Complies: Yes [ ]  No [ ]

The side windows shall open and include wipers and washers.

Complies: Yes [ ]  No [ ]

The operator’s seat shall be fully adjustable suspension type either air or mechanical, and provide adjustment for leg room, height, reach, weight and lumbar support. Seatbelt with warning indicator shall be included.

Complies: Yes [ ]  No [ ]

|  |  |  |
| --- | --- | --- |
| Suspension type: |       |  |

The cab shall include manufacturer’s standard circulated Air conditioning/heater/defroster and controls.

Complies: Yes [ ]  No [ ]

The operator’s cab shall include vibration dampeners and Manufacturer’s standard sound suppression treatment.

Complies: Yes [ ]  No [ ]

The dozer shall be provided with a rear-view camera and display for the operator to see what is to the rear of the machine.

Complies: [ ]  Yes [ ]  No

The cab shall include a full protection package including:

* Front sweeps
* Rear A/C guard
* Rear cab window screen protector

Complies: [ ]  Yes [ ]  No

The operator’s station shall feature the following:

1. Locking security covers for the gauges and dash features
2. Horn
3. Radio AM/FM/AUX/USB/Bluetooth
4. Power point
5. Slope indicator
6. Seat belt
7. Operator controls adjustable front to rear
8. Parking brake control
9. Gauges or LCD display for engine data
10. Slow moving vehicle emblem
11. Backup alarm
12. Storage compartment
13. Cup holder

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| Describe: |       |
|       |
|       |

The machine shall be furnished with a grade control slope assist feature, when engaged shall provide the operator the ability of maintaining pre-established blade angles for the grade. The system shall store the input and return to the settings at the operator’s command.

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| Describe: |       |
|       |

***Note:*** This is not GPS or 2D or 3D controls.

The operator controls shall be in the form of joy-sticks for direction, steering, gear selection, and blade control. The control functions for travel and braking shall be controlled by pedals on the floor.

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| Describe: |       |
|       |

A variable throttle control shall allow the operator to utilize pre-set engine speeds or select auto-shift modes.

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| Describe: |       |
|       |

**Fuel:**

Minimum fuel capacity 73 gallons.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Fuel capacity: |       | Gallons |

Fuel tank or cap clearly labeled "Diesel Fuel Only" and be locking or securable.

Complies: [ ]  Yes [ ]  No

**Electrical System:**

The loader shall be equipped with a 12 or 24-volt electrical system. The battery, starter, and alternator shall be rated for the engine supplied and able to handle any additional electrical accessories. If a 24-volt system is used, it must include two (2) 20 amp, 12-volt circuit taps to accommodate IDOT communications and electronics.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Battery CCA: |       | CCW |
| Alternator amperage: |       | Amps. |

|  |  |
| --- | --- |
| If No, describe: |       |
|       |

**Drive System:**

The transmission shall be variable tandem hydrostatic piston pumps with two (2) fully reversing hydrostatic motors. Travel speeds shall be controlled by an auto-shift feature for high/low utilizing an auto or power shift feature. These functions shall include both forward and reverse directions.

Complies: [ ]  Yes [ ]  No

|  |  |
| --- | --- |
| If no, describe: |       |
|       |
|       |

Variable speed hydrostatic forward or reverse. Steering, braking, forward and reverse movement controlled by the operation of two joy stick type controls.

Complies: [ ]  Yes [ ]  No

Top ground speed shall be a minimum of 5.8 mph per hour.

|  |  |  |
| --- | --- | --- |
| Top ground speed: |       | MPH |

Complies: [ ]  Yes [ ]  No

**Hydraulics:**

Dozer hydraulics shall include pump, hydraulic cooler, filtration, variable flow and maximum flow auxiliary hydraulics, with necessary valves and controls to run accessory attachments. The dozer hydraulics shall be rated to operate the optional accessories purchased with the unit.

Complies: [ ]  Yes [ ]  No

**Lighting:**

The unit shall be equipped with front and rear high intensity lighting for night time operations.

Complies: [ ]  Yes [ ]  No

The unit shall be equipped with an Amber LED warning strobe system.

Complies: [ ]  Yes [ ]  No

**Required Attachments:**

**Winch:**

A hydraulic powered winch shall be mounted on the rear of the machine and controlled by the operator from the cab.

Complies: [ ]  Yes [ ]  No

The winch shall have a fairlead and four (4) rollers, and a bare drum line pull rating of 69,000 pounds.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Bare drum rating: |       | Pounds |

The winch shall be rated for .875-inch diameter wire rope and the winch shall include 250 feet of wire rope with slip hook at the end of the cable rated to the capacity of the winch.

Complies: [ ]  Yes [ ]  No

|  |  |  |
| --- | --- | --- |
| Wire rope diameter: |       | Inch |
| Wire rope length: |       | Feet |

**Finish**:

All exterior surfaces normally powder coated or painted shall be manufacturer's standard color.

Complies: [ ]  Yes [ ]  No

**Warranty:**

Manufacturers’ standard warranty shall be provided. **Bidder shall attach copy of warranty with bid.** All warranty service will be performed at the manufacturer’s dealer representative location. If the nearest dealer is beyond a 50-mile radius of the delivery location, transportation for warranty service will be the responsibility of the seller for travel in both directions.

|  |  |
| --- | --- |
| Describe warranty: |       |
|       |

**Delivery:**

This machine is to be delivered in first-class operating condition with acceptance subject to Department of Transportation approval.

Complies: Yes [ ]  No [ ]

The unit shall be delivered oiled, greased, serviced and ready for operation.

Complies: Yes [ ]  No [ ]

**Manuals and Books:**

Three (3) copies of all operators’ manuals, parts lists, and warranty information shall be provided at time of delivery to each district receiving one or more units.

Complies: Yes [ ]  No [ ]

One (1) set of “Service or Shop” Manuals shall be provided to each delivery location.

Complies: Yes [ ]  No [ ]

***Note:*** The manuals, parts lists, and service or shop manuals listed above may be furnished on DVD in lieu of paper.

Instruction must be performed by **qualified** factory or dealer personnel covering the operation, routine service, and maintenance of the machine upon delivery. The training shall be for all personnel in the assigned headquarters location of the machine. More than a single day may be required to satisfy this requirement.

Complies: Yes [ ]  No [ ]

|  |  |
| --- | --- |
| Describe Training:  |       |
|       |
|       |

***Note:*** *This is not a sales call*. Training not meeting IDOT expectations will be cause to generate a “Complaint-to-Vendor” that would affect award recommendations for future quotations.

**Repair Parts and Service:**

Since continuous operation of this loader is of the utmost importance and many times of an emergency nature, it is necessary that the successful bidder be in a position to render prompt parts and service. Review of the bidder’s ability to provide prompt parts and service within the State of Illinois or a particular delivery location will be considered in determining award.

|  |  |
| --- | --- |
| List locations where parts and service is readily available:  |       |
|       |
|       |
|       |
|       |
|       |

**Requirements Covering Items Detailed Above:**

All equipment cataloged as standard shall be furnished and in place and shall be included in the purchase price of the unit. Any parts, tools, and/or accessories not specifically called for but required for proper operation shall be provided.

Complies: Yes [ ]  No [ ]

The component parts of the unit shall be of proper size and design to safely withstand maximum stresses imposed by a capacity load, and the manufacturer's rated loads for all component parts shall **not** be exceeded when the unit is so loaded.

Complies: Yes [ ]  No [ ]

|  |  |
| --- | --- |
| If No to any portion, please explain:  |       |
|       |
|       |
|       |
|       |
|       |
|       |

**Bid Package:**

Bidders will need to send two copies of each of the following with their bid response.

1. Bid Document
2. Specification Questionnaire
3. Descriptive Literature

Complies: [ ]  Yes [ ]  No