

TIPPECANOE COUNTY HIGHWAY DEPARTMENT

REQUEST FOR PROPOSAL FOR THE PURCHASE OF 4 (Four)

2020 or 2021 Tandem Axle Dump Trucks

Complete with

14 ft Multi-Purpose Dump Body,

Central Hydraulic System,

Front Snowplow and Hitch,

Liquid pre-wetting System

Compliant with 2020 or 2021 EPA Emissions System

NOTICE

The Tippecanoe County Highway Department will receive sealed quotations for:

THE PURCHASE OF 4 (Three) New 2020 or 2021 Tandem Axle Dump Trucks Complete with 14 ft Multi-Purpose Dump Body, Central Hydraulic System, Front Snowplow and Hitch, and Liquid pre-wetting System. Compliant with 2020 or 2021 EPA Emissions System

until the hour of 3:00 P.M. on the 10th day of March 2021 at the Highway Department, in the Tippecanoe County Office Building, Lafayette, Indiana.

Quotes received after such time will be returned unopened.

Quotes may be withdrawn prior to such time, but no bids shall be withdrawn for a period of forty-five (45) days thereafter.

All documents with each proposal shall be properly executed and addressed to the Highway Department of Tippecanoe County, State of Indiana.

Quotation Documents may be examined at the following locations:

The office of the Tippecanoe County Highway Department, Tippecanoe County Office Building, 20 North Third Street, Lafayette, Indiana;

and online at "www.tippecanoe.in.gov/Bids.aspx".

Documents will be available on or about the 22n day of February 2021.

SPECIFICATIONS

for

4 (Four)

2020 or 2021 Tandem Axle Dump Truck Complete with
14 ft Multi-Purpose Dump Body, Central Hydraulic System,
Front Snowplow and Hitch, Liquid pre-wetting System
Compliant with 2021 EPA Emissions System

GENERAL

It is the intent of these specifications to describe a new Tandem Axle Dump Truck with Central Hydraulic System, 14 ft. Dump Body, and Snow Plow and Hitch in sufficient detail to secure proposals for comparable, functionally equivalent equipment. All parts not specifically mentioned, which are necessary to provide a complete unit and safe unit, shall be included in the proposal and shall conform in strength and quality of material and workmanship to what is usually provided to the trade in general. The unit proposed shall be a current model, new equipment, under standard production by the manufacturer.

Each unit shall be manufactured and assembled with conformance to the best known Engineering Standards of the trade, relative to design, strength, quality, durability and workmanship. Every item assembled upon this unit must meet the latest State and Federal Safety Standards.

Any units not in substantial compliance with these specifications will be rejected. It will be the responsibility of the Proposer to conform with the requirements unless deviations have been specifically cited by the Proposer and acceptance made on the basis of the exception.

Special attention is particularly called to the requirements of the Indiana State Board of Accounts and the local agency in regard to submitting proposals.

All proposals shall include a fully completed State Form No 95, with Non-Collusion Affidavit and Bid Bond equal to 5 % of the bid price. Proposer shall complete blanks in the right-hand column of the specifications under the heading "Provided by Unit Proposed" and include this with the other items mentioned above. The Proposer shall also specifically mention those items where the unit being proposed does not meet the Owners minimum requirements at the bottom of the page where that item is mentioned. It is brought to the attention of the Proposer that not meeting the Owner's minimum requirements does not necessarily mean that the proposal will be rejected. The degree to which the unit conforms to the specifications will be considered in the Owner's evaluation of the bids.

Proposers shall also attach literature or brochure of the model being offered with his proposal. The proposal shall include the cost for and delivery of **computer software** to look up **parts, diagnostic, and troubleshoot systems** of the model being proposed.

The successful Proposer shall deliver the completed unit with all tools and functions operational and present a safety and operations class, taught by an instructor qualified for such a class.

The successful Proposer shall indemnify and save harmless the local agency from any and all suits, costs and penalties or claims for infringements by reason of use of any patented designs, devices, or materials or any trademark or copyright in connection with the specific unit furnished under this proposal at any time during manufacture and after purchase of the specified unit(s).

Term "or Equal" Where the term "or equal" is used in these specifications the Proposer may propose to substitute an item which is the functional equivalent of the specified item, in which case the Proposer shall file (with his proposal) a letter fully explaining and justifying his proposed substitute item or equal.

Demonstration of Unit. Proposer shall be prepared to give a complete demonstration of unit(s) as (specified in this proposal) being purchased prior to acceptance.

Award will be made based on the proposal which best meets the objectives for this project, including technical merits, life cycle and total costs. Clauses requiring specific guarantees to cover parts delivery, total repairs, and resale value may be included. The quality of the articles to be supplied, their conformity to with the specifications, their suitability to requirements, delivery terms and guarantee clauses shall be taken into consideration.

Acceptance of Unit Payment for the above unit(s) shall be made in accordance with the terms of the final purchase agreement negotiated with the successful proposer.

2020 or 2021 TANDEM AXLE DUMP TRUCK

<p><u>TRUCK</u></p> <p style="text-align: center;"><u>Minimum Requirements of Local Agency</u></p> <p>Chassis supplier to provide all adequate clearances and placement of components necessary to allow proper installation of body equipment</p> <p>Chassis shall comply with current 2021 EPA emissions regulations</p> <p>Truck shall be 60,000 lbs. G.V.W.R. tandem-axle, diesel-powered dump truck with tilt hood.</p>	<p style="text-align: center;"><u>Provided by Unit Proposed by Bidder</u></p> <p style="text-align: center;">Yes [] No []</p> <p style="text-align: center;">Yes [] No []</p> <p style="text-align: center;">Yes [] No []</p>
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<p><u>AUTOMATIC TRANSMISSION</u></p> <p style="text-align: center;"><u>Minimum Requirements of Local Agency</u></p> <p>Automatic transmission to be matched to engine torque and horsepower output</p> <p>Preferred transmission is Allison 4000RDS/4500</p> <p>Must also have PTO provision for hydraulic pump</p>	<p style="text-align: center;"><u>Provided by Unit Proposed</u></p> <p style="text-align: center;">Yes [] No []</p> <p style="text-align: center;">Yes [] No []</p> <p style="text-align: center;">Yes [] No []</p>
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<u>ENGINE AND ENGINE EQUIPMENT</u>	
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Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed by Bidder</u>
Engine shall be electronic, turbocharged, This engine is to be manufacturer's high-torque, vocational version	
Horsepower: <u>410 hp</u>	Horsepower: _____ hp @ _____ rpm
'Actual' horsepower at peak torque rpm to be a minimum of 450 hp	
Engine Torque: <u>1,550 ft-lbs</u> minimum	Torque: _____ ft-lbs @ _____ rpm
Engine displacement: <u>750 cubic inches</u>	Displacement: _____ CID _____ liter
Engine shall be protected by an emergency warning and derate system, that will detect low oil pressure or high coolant temperature.	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>]
Engine compression brake to assist in stopping truck and saving brakes.	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>]
Engine to have electronic speed control with switches on steering wheel	Yes [<input type="checkbox"/>] No [<input type="checkbox"/>]

<u>POWER STEERING / COOLING SYSTEM</u>	
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Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
Dual power steering gears, TRW –THP 60 or equivalent, with an RCH45 auxiliary gear. Power steering pump as well as power steering cooler. Power steering fluid reservoir, with filter and should hold a minimum of 4 quarts.	Yes [] No []
Radiator to be metal alloy, and be a minimum of 1,500 square inches, with overflow recovery system.	Yes [] No []
Antifreeze shall be heavy duty, ethylene glycol rated at minus -40 degrees F.	Yes [] No []
All radiator hoses to be heavy duty, with constant tension hose clamps.	Yes [] No []
Engine Block Heater(s), 1500 watt min.	Watts: _____
Weather head connector for Block heater (with receptacle under driver’s door)	Yes [] No []

<u>CHASSIS / FRAME</u>	
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Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
Frame shall be rated at a minimum of 120,000 P.S.I with a ¼” full “C” channel reinforcement frame rail.	Yes [] No []
Frame shall be a single piece, full frame	Yes [] No []
Frame rails shall have an RBM (resist bending moment) rating of at least 3,200,000 in-lbs. per rail.	Yes [] No []
Frame shall have a minimum 26.0 SM (Section Modulus) rating.	Yes [] No []
Front frame extension shall be of integral construction, also reinforced, and extend a minimum of 18 inches in front of hood to allow for mounting of plow hitch.	Yes [] No []
Cab-to-Axle dimension shall be approx. 130 inches, to allow for proper installation of 14 ft. dump body.	Yes [] No []
Wheelbase shall be set by manufacturer to suit the proper C/A of 130”	Yes [] No []
Front axle shall be set back at least 49” and be rated for a minimum of 20,000 lbs. Axle to be lubricated with oil I/L/O grease bearings.	Yes [] No []
Front suspension shall be rated for a minimum of 23,000 lbs., and be equipped with heavy-duty shock absorbers.	Yes [] No []
<u>CHASSIS / FRAME (con't)</u>	

Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
<p>Rear axle shall be single-reduction, oil-lubricated with a lube pump system, rated at a minimum of 46,000 lbs., and have a gear ratio to allow for a maximum 70 m.p.h. highway speed.</p>	<p>Yes [] No []</p>
<p>Rear axle carrier shall be iron, and be equipped with a driver-controlled locking differential and axle lock. When fully engaged, all wheels must be locked. Must have an “engaged” light activated when locked, and must automatically disengage when ignition is turned off.</p>	<p>Yes [] No []</p>
<p>Rear suspension shall be a high articulation type, severe-service inverted leaf spring, rated for a minimum of 46,000 lbs. Maintenance-free non-bushing design. Heavy duty shock absorbers on both rear axles.</p>	<p>Yes [] No []</p>
<p>Driveline to have boots around yoke assemblies. Preferred driveline is the Dana Spicer SPL250HD main driveline with SPL170XL interaxle driveline</p>	<p>Yes [] No []</p>

<u>FILTERS</u>	
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Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
Air Filter shall be heavy duty, with air restriction warning light or gauge on dash.	Yes [] No []
Air intake to have provision for driver to pull intake air from under hood in the event exterior intake plugs with snow.	Yes [] No []
Oil filters shall be full flow, spin on type.	Yes [] No []
Engine shall be equipped with primary and secondary fuel filters.	Yes [] No []
Engine shall be equipped with water filter.	Yes [] No []

<u>ELECTRICAL SYSTEM</u>	
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Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
Starter shall be heavy duty, with thermal overcrank protection.	Yes [] No []
Alternator shall be on a quadramount pad, and rated at a minimum of 160 amps.	Yes [] No []
Battery system to consist of three (3) 925 CCA batteries.	Yes [] No []
Batteries to be mounted on the left side, outboard on the frame rail, and shall have an emergency jumpstart post mounted outside the battery box.	Yes [] No []
Master disconnect switch mounted in cab, on floor next to driver seat.(Ground)	Yes [] No []
System to have body builder interface connectors for quick connect of all body company equipment. Should also have six additional wired, illuminated switches.	Yes [] No []
Automatic self-reset circuit breaker protection I/L/O fuses.	Yes [] No []
All ECM, TCM and BCM needs to be mounted in cab.	Yes [] No []

Describe exceptions to the Specifications:

TIRES / WHEELS

Minimum Requirements of Local Agency

Front tires to be 315/80R22.5, 20 ply rating, Hankook or equivalent.

Front wheels to be 9.00" x 22.5" 10 hub-piloted steel disc with two hand hole only.

Rear tires shall be tubeless, radial type, 11R22.5, load range 16 ply rating, Firestone T831 or equivalent drive tread.

Rear wheels to be 8.25" x 22.5" 10 hub-piloted steel disc with two hand hole only.

Provided by Unit Proposed

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

AIR / BRAKE EQUIPMENT

Minimum Requirements of Local Agency

Dual air brake system with four sensor/four modulator ABS (anti-lock brake system) to meet FMVSS regulation.

Air compressor to have a minimum output of 15 cfm (cubic feet/minute)

Front brakes to be 16.5" x 6" double anchor cam-type with fabricated shoes and premium extended service brake lining.

Rear brakes to be 16.5" x 7" double anchor cam-type with fabricated shoes and premium extended service brake lining.

Parking brake shall be spring actuated, with parking brake chambers located in front of the rear axles for clearance and protection from damage.

All brake assemblies to have automatic slack adjusters and dust shields.

Brake air dryer to be Wabco System Saver 1200, heated, inline type, and mounted outboard on frame rail for access and for equipment clearance.

Provided by Unit Proposed

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

AIR / BRAKE EQUIPMENT (con't)

Minimum Requirements of Local Agency

Provided by Unit Proposed

Describe exceptions to the Specifications:

<p>External charging gladhand to be mounted on primary wet tank for emergency tire inflation, with quick coupler, 25 feet of air hose and blow nozzle.</p>	<p>Yes [] No []</p>
<p>Auxiliary fitting on air tank to allow for emergency air supply to brake system in the event of air compressor or engine failure.</p>	<p>Yes [] No []</p>

<p><u>FUEL TANKS</u></p> <p><u>Minimum Requirements of Local Agency</u></p> <p>A single fuel tank shall be mounted on drivers side, and to be marked “Ultra Low Sulfur Diesel Fuel Only”</p> <p>Fuel tank shall be aluminum, and have a minimum of 120 gallon capacity</p> <p>Davco 382F fuel/water separator with return fuel heat and thermatic control, mounted outboard on frame rail behind fuel tank.</p> <p>Fuel system must have an emergency fuel line primer pump</p>	<p><u>Provided by Unit Proposed</u></p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p>
<p><u>CAB- EXTERIOR</u></p> <p><u>Minimum Requirements of Local Agency</u></p>	<p><u>Provided by Unit Proposed</u></p>

Describe exceptions to the Specifications:

<p>Cab to be minimum 113” BBC, severe service model with forward tilting hood. Cab to be painted red with the top of the hood painted flat black to eliminate glare.</p> <p>Hood to have stationary front grille, to allow hood to be opened over hitch.</p> <p>All window glass to be tinted. Passenger door to have window in lower forward corner outfitted with Fresnel lens.</p> <p>Windows to be electric, with driver-controlled switches in cab.</p> <p>Full length, towel bar-type grab handles on each side of cab door. Also to have towel bar type grab on inside of driver’s door for safe entry/egress.</p> <p>Windshield wipers shall be heavy-duty electric, with intermittent feature. Minimum 8 liter washer fluid reservoir.</p> <p>Dual, roof-mounted trumpet style air horns with snow shields.</p> <p>Dual, stainless steel, 16.5” x 7” heated mirrors with right hand remote</p> <p>Convex mirrors to be 8” wide, heated, and located under primary mirrors</p> <p><u>CAB – EXTERIOR</u> (con’t)</p> <p><u>Minimum Requirements of Local Agency</u></p>	<p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p><u>Provided by Unit Proposed</u></p>
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Describe exceptions to the Specifications:

<p>Cab to be mounted on air suspension system for driver support and protection. System should have two air bags and two shock absorbers.</p>	<p>Yes [] No []</p>
<p>Cab fenders to have minimum 2” wide rubber extensions.</p>	<p>Yes [] No []</p>
<p>Bug screen mounted behind grille.</p>	<p>Yes [] No []</p>
<p>Mud flaps are to be mounted behind steer wheels, in front and behind of rear wheels.</p>	<p>Yes [] No []</p>
<p>Rear mud flaps shall be removable and stored in front of rear tandems</p>	<p>Yes [] No []</p>

<p><u>CAB – INTERIOR</u></p>	
<p><u>Minimum Requirements of Local Agency</u></p>	<p><u>Provided by Unit Proposed</u></p>

Describe exceptions to the Specifications:

<p>Manufacturer's upgraded trim, with wing dash for better switch access</p> <p>High back driver's seat, severe-duty cloth, air-suspended, with air lumbar, and with dual arm rests.</p> <p>High back passenger's seat severe-duty cloth, non-suspended, with arm rests.</p> <p>Both seats shall be equipped with 3-point lap belt/shoulder harness restraints.</p> <p>Steering wheel shall be minimum 18 inches, with tilt and telescopic column.</p> <p>Heavy duty heater, defroster, and air conditioning system with side window demisters. Also to be equipped with dash mounted defroster fan.</p> <p>Cab and firewall to be insulated with extreme climate thermal insulation.</p> <p>Cab shall have overhead console for mounting of equipment and storage.</p> <p>Cab shall have door-operated center dome light as well as reading lights located over both driver and passenger seats.</p> <p>AM/FM/Weather band stereo radio with at least two speakers.</p> <p><u>CAB – INTERIOR (con't)</u></p> <p><u>Minimum Requirements of Local Agency</u></p>	<p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p><u>Provided by Unit Proposed</u></p>
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Describe exceptions to the Specifications:

<p>Cab shall be equipped with at least two cup holders</p> <p>Brake and accelerator pedals must be suspended to eliminate collection of debris, and to keep the pedal assemblies out of mud and water.</p> <p>Cab to have minimum of 105 cu. Ft. interior with at least 57" floor-to-ceiling height, 70" door-to-door width, and 40" dash-to-back window in order to allow sufficient space for driver comfort and performance in all conditions.</p>	<p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p>
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<p><u>EXHAUST SYSTEM</u></p> <p><u>Minimum Requirements of Local Agency</u></p> <p>Exhaust aftertreatment device to be mounted under cab on passenger side, with vertical exhaust stack with wrap-around heat shield. The exhaust emission system should utilize clean gas induction.</p> <p>Exhaust regeneration should be automatic and self-activating but should also include manual regeneration switches mounted on dash.</p> <p>End of exhaust stack shall have a turnout to direct exhaust away from truck.</p>	<p><u>Provided by Unit Proposed</u></p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p>
<p><u>CONTROLS AND INSTRUMENTATION</u></p> <p><u>Minimum Requirements of Local Agency</u></p>	<p><u>Provided by Unit Proposed</u></p>

Describe exceptions to the Specifications:

<p>Instrument package shall include gauges for fuel, oil pressure, tachometer, voltmeter, transmission oil temperature, coolant temperature, speedometer, tripmeter, and hour meter. Radio and snowplow light provision package.</p>	<p>Yes [] No []</p>
<p>System shall also include primary and secondary air pressure gauges.</p>	<p>Yes [] No []</p>
<p>Electronic, self-canceling turn signal switch with heavy-duty flasher.</p>	<p>Yes [] No []</p>
<p>Electronic backup alarm shall be rated at a minimum 112 decibels.</p>	<p>Yes [] No []</p>
<p>Radio accommodation package to allow for installation of highway department radios without damaging the electrical system.</p>	<p>Yes [] No []</p>
<p>Six additional pre-wired switches, each with their own 20 amp circuit, to allow for body company auxiliary equipment or light hookups.</p>	<p>Yes [] No []</p>
<p>Additional wiring harness at end of frame for body light hookups.</p>	<p>Yes [] No []</p>

<p><u>WARRANTY / REPAIR PARTS</u></p>	
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Describe exceptions to the Specifications:

<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
Proposer to provide description of all warranties and component warranties available.	Yes [] No []
Proposer shall provide warranty from date of delivery of completed unit(s).	Yes [] No []
Engine and exhaust system to have minimum of 5 year/250,000 mile warranty coverage	Yes [] No []
Proposer to include a complete chassis linesheet at time of delivery.	Yes [] No []
Computer software (Parts , Diagnose and Trouble shooting)	Yes [] No []

<u>DATE OF DELIVERY</u>	
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed</u>
Unit must be delivered to the Owner with all attachments and components substantially completed, by the date _____ The Proposer, and his Surety, shall be liable for and pay the Owner at the rate of \$100.00/day for each calendar day of delay after the Owner's specified date of delivery.	Estimated Delivery Time: _____ days

Describe exceptions to the Specifications:

Proposal

TOTAL FOR ONE (1) COMPLETE TRUCK \$ _____
14 ft Multi-Purpose Dump Body, Central Hydraulic System,
Front Snowplow and Hitch, Liquid pre-wetting System

TOTAL FOR Four (4) COMPLETE TRUCKS \$ _____

ATTACH INFORMATION FOR ALL FUNDING OPTIONS

POSSIBLE OPTIONS:

PURCHASE, LEASE, LEASE-PURCHASE, LEASE-PURCHASE-BUYBACK, ETC.

Proposer Name _____

Address _____

Phone _____

14' MULTI-PURPOSE DUMP BODY

<u>BODY</u>	<u>Provided by Unit Proposed by Bidder</u>	
<u>Minimum Requirements of Local Agency</u>	Yes []	No []
Henderson Flat floor MUNIBODY with rear discharge only combination dump/spreader body or equivalent.	Yes []	No []
Body shall have a flat floor for the ability to be used as a dump body or as a spreader	Yes []	No []
Body shall be rear discharge with integral center conveyor to discharge material through the tailgate onto a spinner assembly	Yes []	No []
Entire body shall be manufactured from no less than 7ga 201 grade stainless steel	Yes []	No []
The dimensions shall be:		
Length 14'	Yes []	No []
Width 96" OD	Yes []	No []
Side height 36"	Yes []	No []
Tailgate height 48"	Yes []	No []
Capacity 11-14 yards	Yes []	No []
Unit shall be continuously welded 100 % throughout	Yes []	No []
Side sheets and front head sheet shall be constructed from not less than 7ga 201 grade stainless steel	Yes []	No []
Sides, front and tailgate shall be manufactured of 3/16" steel	Yes []	No []

Describe exceptions to the Specifications:

<u>BODY con't</u>		
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit</u>	<u>Proposed by Bidder</u>
Sides shall be horizontally supported by a dirt shedding boxed top rail and boxed lower rub rail	Yes []	No []
Top rail and lower rub rail shall extend from the front headsheet to the rear bolsters.	Yes []	No []
Side top rail shall be approximately 8" high	Yes []	No []
Vertical face of lower rub rail shall be approximately 3" wide with the top side of the rail sloped 55°.	Yes []	No []
Lower side of the rub rail shall extend and fully weld to the dump body floor.	Yes []	No []
Headsheet shall be supported at the top with an inverted J channel approximately 2.75" in depth with an 1-5/8" return flange.	Yes []	No []
Headsheet panel and side sheet panels shall be fully welded to one another.	Yes []	No []
Half cab shield with 70,000# yield	Yes []	No []
Cab shield shall accommodate exhaust type specified in truck chassis specifications without modifications.	Yes []	No []
Longsills shall be 14" tall and fabricated from 1/4" steel	Yes []	No []
Body sides shall be horizontally braced by a single weld on side brace.	Yes []	No []

Describe exceptions to the Specifications:

<u>BODY con't</u>		
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed by Bidder</u>	
Body shall have a shovel holder next to a ladder on front driver's side to allow easy access to the dump body	Yes []	No []
Grab handle to be installed at top of bed near ladder.	Yes []	No []
There shall be a step mounted on the inside of the dump body to allow for ease in and out of the dump body.	Yes []	No []
Body shall be equipped with a bed vibrator mounted in a convenient location.	Yes []	No []
Side brace shall be double tapered dirt shedding design with a height of approx. 8" at the side sheet and approx. 3.5" in depth.	Yes []	No []
Vertical face of the side brace shall be approx. 4"	Yes []	No []
Upper and lower side of the rail shall be sloped 60°	Yes []	No []
Side brace shall be fully welded to the side sheet and extend from the front headsheet to the rear bolsters.	Yes []	No []
The weld on side bracing shall be fabricated from no less than 10ga 201 stainless steel	Yes []	No []
ALL side bracing welds shall be continuous.	Yes []	No []
Body shall include a 2" wide board pockets at both the front headsheet and rear bolsters.	Yes []	No []

Describe exceptions to the Specifications:

<u>BODY con't</u>		
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit</u>	<u>Proposed by Bidder</u>
Dump body hoist system shall utilize a trunnion mount type hoist cylinder.	Yes []	No []
Hoist cylinder shall extend no further than 12" into the front of the dump body. Bodies with a sloped type doghouse will NOT be accepted.	Yes []	No []
Bolsters shall be full depth construction design with top edge fabricated to provide the mounting surface for the flush upper tailgate hardware.	Yes []	No []
Bolster/rear apron joint shall be further reinforced with a 1/4" tie plate to provide structural rigidity at the tailgate latch joints, preventing flexing.	Yes []	No []
Rear body corner posts shall measure 16.63" deep x 4.82" wide.	Yes []	No []
Safety strut shall comply with OSHA and FMVSS requirements and include a body up light.	Yes []	No []
Reflective sheeting shall be 2" reflective tape installed on both bottom and top sides.	Yes []	No []
There shall be a warning decal placed at top center of tailgate to read: STAY BACK 100 FEET with a minimum of 4" letters	Yes []	No []

Describe exceptions to the Specifications:

TAILGATE

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Rear corner posts shall tie to the formed 7 ga 201 grade stainless steel rear apron

Yes [] No []

Tailgate sheet shall be fabricated from no less than 7ga 201 grade stainless steel

Yes [] No []

Tailgate shall be braced by 10ga 201 grade fully boxed perimeter bracing and 2 (two) flush intermediate horizontal braces between the outside of the gate and the center discharge feed gate.

Yes [] No []

There shall be 1 (one) intermediate horizontal brace located above the rear discharge feedgate.

Yes [] No []

All horizontal tailgate bracing shall be dirt shedding design.

Yes [] No []

Tailgate top rail shall be approx.. 6.19" x 3" deep, and top edge shall be sloped 55°.

Yes [] No []

Intermediate horizontal tailgate braces shall measure approx. 6" tall x 3" deep with the top edge sloped 60°

Yes [] No []

2 (two) outer vertical tailgate braces shall be formed channel design measuring approx. 4.5" wide x 3" deep

Yes [] No []

Upper tailgate pivots shall be flushed design on the rear bolster and fabricated with no less than 1/2" 201 grade stainless steel.

Yes [] No []

Describe exceptions to the Specifications:

<u>TAILGATE con't</u>		
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit</u>	<u>Proposed by Bidder</u>
Upper tailgate chops shall be 1" thick and fabricated from no less than 201 grade stainless steel	Yes []	No []
Lower tailgate latch jaws shall be ¾" thick and fabricated from no less than 201 grade stainless steel	Yes []	No []
Latch jaw area shall be further supported by a dual 3/8" pin cradles fabricated from no less than 201 grade stainless steel	Yes []	No []
Upper and lower tailgate pins shall be heavy duty 1-1/4" diameter fabricated from no less than 201 grade stainless steel	Yes []	No []
Tailgate release shall be a brake chamber design, with an over center design with all pivot shafts including stainless steel bushings to eliminate seizing.	Yes []	No []

Describe exceptions to the Specifications:

LONGSILLS

Minimum Requirements of Local Agency

Body longsills shall be box formed trapezoidal design, providing a 12.5” chassis frame to body floor height for a low center of gravity.

Sills shall be fabricated with a 7ga 201 grade stainless steel outer panel and ¼” 201 grade stainless steel inner panel

Inner longsills panel shall extend above the conveyor floor and be formed to provide an integral chain shield.

No channel style or open box longsills will be accepted.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

CONVEYOR

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Conveyor floor shall be fabricated from no less than 1/4" abrasion resistant AR400 Steel

Yes [] No []

Conveyor shall feature a 28" pintle chain conveyor with 1-1/2" x 1/2" bar flights on every other link

Yes [] No []

Pintle chain shall be D667K rated

Yes [] No []

Driver and idler shafts shall be 2" diameter with 8 tooth sprockets.

Yes [] No []

Drive sprockets shall be double keyed to the shaft.

Yes [] No []

Conveyor shall be driven by a single 25:1 planetary gearcase with a 4.9 CIR hydraulic motor

Yes [] No []

Conveyor gearcase and motor shall be driven at the rear of the body.

Yes [] No []

Rear of the body shall include a 15" integral spreader apron fabricated from no less than 201 grade stainless steel

Yes [] No []

Body shall be supplied with a removable conveyor cover plate for use during non-conveying body use. Cover plate shall be constructed from no less than 3/16" abrasion resistant AR400 steel

Yes [] No []

Floor outside of the conveyor shall be fabricated from no less than 3/16" abrasion resistant AR400 Steel

Yes [] No []

Describe exceptions to the Specifications:

<p><u>CONVEYOR con't</u></p> <p><u>Minimum Requirements of Local Agency</u></p> <p>Floor panels shall have a integrally formed 5" floor to side radius. Weld in raduis' will NOT be accepted.</p>	<p><u>Provided by Unit Proposed by Bidder</u></p> <p>Yes [] No []</p>
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<p><u>FRONT SPINNER CHUTE</u></p> <p><u>Minimum Requirements of Local Agency</u></p> <p>Spinner assembly must be adjustable left to right, front to back, and up and down to assure accurate placement of material on spinner disc to facilitate control of spread pattern.</p> <p>Spinner hydraulic motor shall mount directly on top of spinner disc. Motor shall be enclosed in a removable material shedding protective cover. Bottom mount motor or drive shaft with bearings will NOT be accepted.</p> <p>20" diameter steep spinner disc with 409ss vanes</p>	<p><u>Provided by Unit Proposed by Bidder</u></p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p>
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Describe exceptions to the Specifications:

HOIST

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Hoist cylinder shall be a Mailhot CS-Series single acting cylinder or equivalent.

Yes [] No []

Cylinder shall be a trunnion mounted telescopic.

Yes [] No []

It shall be installed with the largest stage at the bottom for stability.

Yes [] No []

Inverted telescopic hoist will NOT be accepted.

Yes [] No []

All components of this cylinder with the exception of the seal kit shall be processed through a liquid salt bath nitriding treatment to enhance the surface hardness and corrosion resistance. Hardness achieved shall be Rockwell C scale 55-60, with corrosion resistance approx. 5 (five) times that of hard chrome plating.

Yes [] No []

Cylinder shall be a rod seal design, with seals and wipers installed in the gland nuts at the top of each section. NO chrome plated cylinders.

Yes [] No []

Tubes will be surrounded by oil when retracted, adding to the longevity in a salt environment such as winter highway maintenance.

Yes [] No []

There will be an oscillating collar on the outer cover of the cylinder to allow the body to be offset 5° to 7° without transferring that side load to either the truck frame or the cylinder tubes, and therefore enhancing stability, and longevity.

Yes [] No []

Cylinder shall have a two-year warranty

Yes [] No []

Describe exceptions to the Specifications:

REAR HINGE

Minimum Requirements of Local Agency

Chipper Bar to match 2018 truck

Rear hinge angle shall be fabricated from no less than 6"x 8"x1/2" angle

Rear hinge angle shall have a pass through located just under the hinge blocks to allow the escape of material that may fall under the hinge block, preventing buildup binding of the hinge block.

Hinge blocks shall be flame cut 2 1/2" wide.
NO cast blocks

Hinge blocks shall pin to 2 (two) 3/4" thick hinge plates which are welded to the rear hinge angle.

Hinge pins shall be 2" diameter and fabricated from no less than 303 grade stainless steel

Hinge blocks shall utilize a replaceable greaseless composite bushing.

Pins shall be not rotate design with a double bolt retainer feature to prevent unintentional pin back-out.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

LIGHTING

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Body shall be equipped with sufficient number of armored lights and reflectors so placed as to meet Indian State and FMVSS specifications

Yes [] No []

Body shall include a rubber mounted, shock resistant LED stop/turn/tail light in each rear corner post.
Mounted as high as possible in posts.

Yes [] No []

Spreader spot light shall be mounted on lower drivers and passenger side rear, underneath the bed, with quick disconnect for removal during non-use periods.

Yes [] No []

Amber LED self-contained strobe shall be installed on cab roof with nut inserts and weather resistant caulking

Yes [] No []

Heated LED Plow lights shall be mounted on the front frame extension, being adjustable up and down, and removable for summer use.

Yes [] No []

Weather resistant junction box shall be mounted in the center rear of body for all rear light wiring connections.

Yes [] No []

There shall be a total of 3 (three) oblong light holes in the rear bolster face.

Yes [] No []

There shall be a 2.5" side clearance LED light in the rear bolster side face.

Yes [] No []

3 (three) LED ICC rubber mounted, shock resistant

Yes [] No []

Describe exceptions to the Specifications:

<p>cluster lights, mounted in a fabricated light bar. <u>LIGHTING con't</u></p> <p><u>Minimum Requirements of Local Agency</u></p> <p>Body stop/tail/turn harness shall be a heavy duty sealed style hiring harness.</p> <p>All internal wiring splices shall be sonically welded and run through a star insert to prevent splices from touching one another.</p> <p>Star insert shall be over molded to prevent splices from pulling apart and/or to include corrosion.</p> <p>Harness shall feature a dielectric greaseable locking collar to prevent accidental disconnects.</p> <p>Harness light head termination points shall feature a center grease reservoir and locking tabs to prevent the harness from unintended release from the light head.</p> <p>All female plugs shall be molded in a softer durometer PVC than their male counterparts to ensure better sealing properties.</p> <p>Female plugs shall include an internal circular sealing ring that compresses within the male sealing rings for a secure and sealed connection.</p> <p>Main lighting sealed electrical junction box shall include a beacon strobe output lead.</p>	<p><u>Provided by Unit Proposed by Bidder</u></p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p> <p>Yes [] No []</p>
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Describe exceptions to the Specifications:

PAINT/FINISH

Minimum Requirements of Local Agency

All surfaces shall be high pressure SS etched to remove slag, splatter, oxide, and oil residue.

All stainless surfaces shall remain in natural stainless finish

All carbon steel components shall be painted black.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

HEAVY DUTY BUMPER CHAIN STORAGE

Minimum Requirements of Local Agency

There shall be a heavy duty full 3/8" channel steel box tapered and covered with thread plate. Tread plate overlay between front bumper and the front chassis on both sides of plow hitch. The driver's and passenger sides shall be hinged with an expanded steel chain holder to allow chain storage. There shall be a step mounted on both sides of front pumper to allow personnel easy access to the front of the chassis

Provided by Unit Proposed by Bidder

Yes [] No []

Describe exceptions to the Specifications:

<u>HYDRAULIC SYSTEM</u>	
<u>HYDRAULIC PUMP AND PTO</u>	
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed by Bidder</u>
Pump shall be FORCE America TXV92 or equivalent	Yes [] No []
The pump shall be a axial piston pressure and flow compensated load - sensing type	Yes [] No []
Pump shall have a displacement of 5.61 cubic inches per revolution at maximum stroke which will deliver 23.7 GPM @ 1000 engine RPM.	Yes [] No []
Pump shall have a minimum 2” suction line and ½” control drain line plumbed directly back to the reservoir.	Yes [] No []
Pumps compensator shall have rear facing adjustments.	Yes [] No []
The pump shall be rated for 5800 PSI maximum and 4800 PSI continuous.	Yes [] No []
Pump shall have a Din type-mounting flange and a Din 5462 8-tooth shaft.	Yes [] No []
OMFB series hot shift PTO that is mounted to the transmission shall drive the pump.	Yes [] No []
Truck shall have a heavy duty bumper extended forward of the radiator and grill to allow placement of plow hitch.	Yes [] No []

Describe exceptions to the Specifications:

SHUTDOWN SYSTEM

Minimum Requirements of Local Agency

System shall be designed so that when the float contacts close, the PTO will disengage and stop pump flow.

An enunciator in the cab that is on a control panel will alert the driver that the PTO has been disengaged.

The control panel will also incorporate an override switch on the circuit board that will allow shutdown on high temperature condition as well as low oil.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

RESERVOIR/VALVE

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Valve/tank assembly shall be a FORCE America model VT35G2-B-SS valve/tank assembly or equivalent

Yes [] No []

The hydraulic reservoir shall have minimum capacity of 35 gallons.

Yes [] No []

Reservoir will be constructed of 10 ga 201 stainless steel with a 2B finish and be internally baffled.

Yes [] No []

Valve enclosure lid will protect from both road and pressure washer spray.

Yes [] No []

Valve enclosure lid shall be made of 201 stainless steel with a 2B finish.

Yes [] No []

Valve enclosure lid shall have welded handles for ease of removal

Yes [] No []

Valve enclosure lid shall be attached to the reservoir via 4 (four) rubber straps that can be removed without the use of any tools.

Yes [] No []

Mounting bracket is to designed and supplied by the reservoir supplier.

Yes [] No []

Mounting system should allow for a 1” frame clearance for frame obstructions.

Yes [] No []

Reservoir shall be mounted in a manner as to not transmit any truck torsional loads thru the tank.

Yes [] No []

Describe exceptions to the Specifications:

RESERVOIR/VALVE con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

The enclosure will use a gasket-less passive technology. No rubber seals, gaskets, or weather stripping.

Yes [] No []

Enclosure lid will be removable within seconds by one person without the use of tools.

Yes [] No []

All valve fittings, hose ends, filter, filler breather, sending units, and any electrical connections are to be protected by enclose cover.

Yes [] No []

The reservoir supplier will provide all valve fittings (JIC connections) and plumb the return line from the valve to the filter

Yes [] No []

Cover will protect from both road and pressure washer spray.

Yes [] No []

The use of bulkhead fittings is NOT permitted

Yes [] No []

Directional control valve must be easily accessible from all 6 (six) sides without the use of tools.

Yes [] No []

Hose exit and entrance must allow for components to be mounted adjacent to the enclosure.

Yes [] No []

2" full brass ball valve shall be plumbed at the suction port of the tank.

Yes [] No []

A low oil/high temp sending unit shall be mounted in the reservoir.

Yes [] No []

Describe exceptions to the Specifications:

FILTERS

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Hydraulic oil filter shall be mounted in the reservoir. Hydraulic filter shall be a 16-micron absolute and rated for no less than 70 GPM

Yes [] No []

Filter shall be a model TS1600251S0/ZSRE40910 or equal and include visual and electrical bypass indicators.

Yes [] No []

Filter cartridge shall be constructed of a synthetic media.

Yes [] No []

Return port in the filter shall be SAE#20 or larger.

Yes [] No []

A warning light shall be mounted in the cab and wired to the electrical filter bypass indicator.

Yes [] No []

The system shall be delivered with 1 (one) spare filter element.

Yes [] No []

There shall be a high-pressure filter plumbed between the hydraulic pump and the control valve assembly.

Yes [] No []

High pressure hydraulic filter shall be a 25-micron absolute and rated for 6000 psi.

Yes [] No []

High pressure filter shall be model HP17125VG30EPUG5S2AE7050P or equal and include visual and electrical bypass indicators.

Yes [] No []

Warning light and buzzer shall be mounted in the cab and wired to the electrical indicator.

Yes [] No []

Describe exceptions to the Specifications:

SUCTION BALL VALVE

Minimum Requirements of Local Agency

A ¼ turn brass ball valve shall be plumbed into the pump suction line at the reservoir to allow for pump removal without draining the hydraulic fluid.

The ball valve shall be rated for 500 PSI and have a 2” female NPT ports.

Ball valve shall be a FORCE America model S95I41 or equivalent

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

ELECTRONIC SPREADER CONTROL

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Electronic spreader control shall be a FORCE America 5100 EX or equivalent

Yes [] No []

Spreader controls shall include proportional controls for Auger, Spinner, Prewet, and Multilane Anti-ice spreader functions.

Yes [] No []

Spreader control shall be integrated into a small, rugged, plastic injection molded, control box.

Yes [] No []

Controller shall also be capable of reversing auger and cross conveyor.

Yes [] No []

The auger, prewet and anti-ice functions shall be operable in manual mode, open loop mode, and closed loop mode.

Yes [] No []

Spread rates, for granular, spinner, prewet and anti-ice shall have the ability to be adjustable inside of calibration.

Yes [] No []

Materials shall be capable of being named.

Yes [] No []

A security code shall be selectable in calibration to lock out undesired changes to the calibration settings.

Yes [] No []

Optional supervisor USB key shall be available for quick access to the calibration menu.

Yes [] No []

Describe exceptions to the Specifications:

ELECTRONIC SPREADER CONTROL con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

While in multi-lane mode the left, center and right lane ball valve outputs shall be controlled by comfortable, backlit rocker switches molded into the controller above the display

Yes [] No []

When all of the lane valves are deactivated, the anti-ice shall enter standby mode automatically.

Yes [] No []

Controller shall be modular in design for ease of installation and service.

Yes [] No []

Controller shall be mounted to the right of the driver's seat.

Yes [] No []

A RAM mount shall be used to allow for easy installation and swivel capabilities.

Yes [] No []

Wiring connectors shall be keyed with wiring labeled throughout.

Yes [] No []

Spreader harness shall include DIN connectors that illuminate when the output is active.

Yes [] No []

All components must be durable for long life and trouble free operation.

Yes [] No []

Spinner and spreader control dials shall be on the right side of the controller to allow for a clear view of the display while being adjusted.

Yes [] No []

Spinner and spreader control knobs shall be color coded and correlated with the granular and spinner settings on the screen.

Yes [] No []

Describe exceptions to the Specifications:

ELECTRONIC SPREADER CONTROL con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

The enclosure shall provide a built in, protective surrounding around the spinner and spreader control knobs to prevent unintentional use and damage to the knobs.

Yes [] No []

The controller shall offer the ability to operate a straight blade plow and dump body in lieu of the anti-ice feature.

Yes [] No []

The outputs shall be controlled by comfortable, backlit rocker switches molded into the controller above the display.

Yes [] No []

An inter lock switch integrated into the back of the controller shall be required to operate the hoist function to comply with all OSHA related regulation.

Yes [] No []

Controller shall be capable of moving the plow up, down, left, and right.

Yes [] No []

Controller shall include off the shelf integration with PreCise brand PS/AVL systems for advanced material logging and maintenance reporting.

Yes [] No []

Controller shall also provide onboard current event and season totals for granular and prewet materials.

Yes [] No []

An integrated USB port shall be used for data retrieval, firmware upgrades and for loading and saving of calibration settings.

Yes [] No []

Describe exceptions to the Specifications:

ELECTRONIC SPREADER CONTROL con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Controller shall include a 3.5” high brightness, color, touch screen LCD with adjustable backlighting.

Yes [] No []

Touch screen shall be used for calibration only and shall not be needed during normal spreading operation.

Yes [] No []

Touch screen shall allow for easy navigation of calibration menus and data viewing menus.

Yes [] No []

The screen shall display warnings for oil level, oil temp, filter bypass, low granular material, low liquid material, granular and prewet feedback errors, and granular and feedback range errors.

Yes [] No []

Optional audible warnings shall coincide with each visual warning and shall be individually adjustable.

Yes [] No []

There shall also be a dedicated red LED on the face of the controller for an additional body up indicator. This LED shall not rely on software of the controller to operate.

Yes [] No []

Electrical, Environmental and RF testing

Spreader control shall be tested by SAE certified testing laboratory.

Yes [] No []

Describe exceptions to the Specifications:

AUGER FEEDBACK SENSOR KIT

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Auger feedback sensor shall be a FORCE American FB-128 or equivalent

Closed loop operation will require a feedback sensor coupled to the auger/conveyor motor via a mechanical coupler.

Mechanical coupler shall adapt to either a 1” or 1.25” round shaft.

Coupler shall be constructed of stainless steel and house a sealed bearing.

Feedback sensor shall give 128 pulses per revolution without the use of a multiplier and be equipped with an IP-68 rated M12 connection.

Sensor housing shall be a corrosion-proof delron material and the entire sensor assembly shall be potted encapsulated.

Sensor shall be successfully tested for shock and vibration to MIL-STD-202

It shall be of hall-effect, bearing-less design, with a shaft-mounted magnet on the mechanical coupler and auger shaft.

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

AUGER FEEDBACK SENSOR KIT con't

Minimum Requirements of Local Agency

There shall be a M12 feed through bulkhead fitting to provide an easy disconnect point at the back of the truck chassis, and included in the kit shall be M12 cordsets and dust plugs for removal of the spreader from the chassis.

Feedback sensor and coupler shall be covered by a 3-year warranty.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

HYDRAULIC CONTROL VALVE

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Valve shall be FORCE America Add-A-Stack 4020 or equivalent

Yes [] No []

Control valve shall be U.S. manufactured.

Yes [] No []

Valve shall be a load sensing type with o-ring ports.

Yes [] No []

Mid-inlet section porting will be:

#16 inlet

Yes [] No []

#20 outlet

Yes [] No []

#16 hoist section

Yes [] No []

#4 load sense port

Yes [] No []

#10 or #12 for all other sections.

Yes [] No []

Hoist sections shall be stacked to one side of the mid-inlet and be rated for 40gpm.

Yes [] No []

All other section will be stacked on the other side and be rated to 20gpm.

Yes [] No []

All ports shall be level with each other so as to lay flat on its base.

Yes [] No []

There will be a main relief in the mid-inlet section that will be set at 2500 psi to protect the system from being over pressurized.

Yes [] No []

Describe exceptions to the Specifications:

HYDRAULIC CONTROL VALVE con't

Minimum Requirements of Local Agency

Valve section to be arranged as follows:

1. Hoist, 3-way for a single acting cylinder with a cable pull-off valve model 121.935.00227 plumbed into the hoist line.
2. Mid-inlet transition section
3. Plow lift, 4-way for a double acting cylinder with flow control.
4. Plow angle, 4-way for a double acting cylinder with flow control.
5. Spin-A-Veyer section, or equivalent, consisting of one pressure compensated cartridge that is a single piece design with hardened cartridge bores and spools. This shall be operated independently via a 12 VDC pulse width modulated signal. The valve shall have a heavy duty 7/16-20 UNF screw style manual override that is adjustable from no flow to full flow. The valve shall be mounted in a housing that is made of aluminum with gray anodizing for corrosion resistance and durability. The prewet valve shall be a 7 gpm spool. The electrical connections shall be DIN type.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

HYDRAULIC CONTROL VALVE con't

Minimum Requirements of Local Agency

6. Spin-A-Veyer section, or equivalent, consisting of two pressure compensated cartridges that is a single piece design with hardened cartridge bores and spools. This shall be operated independently via a 12 VDC pulse width modulated signal. Each valve shall have a heavy duty 7/16-20 UNF screw style manual override that is adjustable from no flow to full flow. These valves shall be mounted in a housing that is made of aluminum with gray anodizing for corrosion resistance and durability. The auger/conveyor shall be a 21 gpm spool and spinner shall be a 7gpm. The electrical connections shall be DIN type.

Valve controls shall be FORCE America RVC remote control system with dynamic rod seal cables, or equivalent.

Cables must be bulkhead type connections at the hydraulic valve section.

Valve controls shall be mounted at the right of the driver.

The hoist section shall have a center lock to prevent accidental actuation.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

HYDRAULIC CONTROL VALVE con't

Minimum Requirements of Local Agency

A combination of single or dual axis levers stacked together for operation of the remaining sections in hydraulic valve bank.

Controllers shall be mounted in a totally enclosed tower.

Cable core shall be plastic coated steel capable of 100 pounds of push and pull.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

RETURN LINE COLLECTOR MANIFOLD

Minimum Requirements of Local Agency

All lines returning to the hydraulic reservoir shall run into an aluminum collector manifold.

There shall be one line running direct to the intank filter.

Any unused ports on the manifold shall be plugged for future use.

Manifold shall be rated for 60gpm and 1000 psi and contain multiple ports of various sizes.

Black pipe or cast iron fittings are NOT acceptable.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

LOW OIL/ HIGH TEMP SENDING UNIT

Minimum Requirements of Local Agency

Sending unit shall be a Durable controls S2 series or equivalent.

Sending unit shall be mounted into the top of the reservoir.

Low oil sensor shall be a normally open float type.

Float shall close when the oil level drops below 25-30% of reservoir capacity.

High temperature sender shall be normally open and close at 158° F.

Sending unit shall mount into a 1-1/4” NPTF port on the tank.

Sending unit shall use a 4-pin DIN type connection.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

PLOW PRESSURE RELEASE VALVE

Minimum Requirements of Local Agency

Valve shall be a FORCE American C10190 , or equivalent

Pressure release valve shall be mounted on the plow frame.

Valve shall release the pressure in the plow lift circuit to allow connection & disconnection of the quick couplers.

Valve shall be and aluminum manifold with a pull type knob release valve.

Valve shall have SAE # 8 o-rings ports.

Exhaust line shall be plumbed directly back to the reservoir.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

HOIST CABLE PULL-OFF VALVE

Minimum Requirements of Local Agency

Cable pull-off valve shall be an OMFb model 121.935.00227 or equivalent

Cable pull-off valve shall be plumbed into the hoist line to prevent the hoist from over extending.

Valve shall be cast iron.

Valve shall be rated to 3000psi and have SAE #16 operating ports and flow up to 52 gpm.

Valve shall be supplied with a spring to prevent damage to the valve spool.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

<u>PRE WET SYSTEM</u>	
<u>GENERAL</u>	
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed by Bidder</u>
Closed loop hydraulic liquid dispensing system.	Yes [] No []
System calibration and programmable application rates are accomplished by the use of a micro-processor based controller	Yes [] No []
System comes complete with a liquid spray pump, sprayer tank, tank mounting straps, discharge nozzles, closed loop flow meter that is accurate + or – 1% on flows from .5 to 10 gpm, plumbing and hardware.	Yes [] No []
Hydraulic pump and motor are to be mounted in a stainless steel enclosure that is 17”W x 13” H x 6” D	Yes [] No []
Enclosure must have a removable lid for easy access for maintenance and calibration.	Yes [] No []
Latching mechanism that allows for a lock.	Yes [] No []
Pocket handle for easy lid removal.	Yes [] No []

Describe exceptions to the Specifications:

Liquid Pump

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Pump shall be constructed of a bronze carriage resistant casting with special cast bronze gears.

Yes [] No []

Pump shall have 1/2" NPT ports and include self-lubricating bearings.

Yes [] No []

Pump shall be coupled to a 5gpm hydraulic motor via a tooth and jaw style coupler and shall incorporate a stainless steel coupler guard that will also serve as a flowmeter mount.

Yes [] No []

Pump and motor combination shall be capable of producing 10gpm at 1800 rpm.

Yes [] No []

Entire assembly shall be mounted on a stainless steel plate in or to be mounted in stainless steel enclosure.

Yes [] No []

Describe exceptions to the Specifications:

<u>Liquid Tank CS120</u>	
<u>Minimum Requirements of Local Agency</u>	<u>Provided by Unit Proposed by Bidder</u>
System shall include 1 (one) 120 gallon cab shield style tank constructed of UV stabilized polyethylene plastic.	Yes [] No []
Tank shall have specific gravity rating of no less than 1.9 and weigh approx. 97 pounds.	Yes [] No []
Dimensions should be 45" H x 12" W x 69" L.	Yes [] No []
Tank shall include 2 (two) 5" vented lids with a neoprene gasket and a positive ventilation device, which is splash proof.	Yes [] No []
All tank fittings must be replaceable polypropylene bulkhead adapters, spin weld fittings are NOT acceptable.	Yes [] No []
Tank shall be mounted on the vehicle frame between the cab and dump box, held in place with a power coated, 12ga steel frame.	Yes [] No []
Frame must be a minimum of 43" H x 14" W x 70"L and needs to incorporate 4 (four) lifting points and a cutout the full length of the side of the frame, for liquid level verification	Yes [] No []

Describe exceptions to the Specifications:

TECHNICAL SUPPORT

Minimum Requirements of Local Agency

Manufacturer of the hydraulic valve and electronic control system shall provide a free technical support hotline for trouble shooting purposes, available during normal business hours.

Hotline must provide a live technical support specialist to aid in the troubleshooting of hydraulics, electronic controls, liquid dispensing and GPS/AVL.

Hotline shall be toll free.

Dedicated, industry trained field service specialist to provide phone support, onsite support and training of supplied products.

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

SNOW PLOW and HITCH

SNOW PLOW

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Moldboard shall be constructed of 10 gauge, grade 50 steel with a tensile strength of 55,000# - 70,000#

Yes [] No []

Moldboard is to be rolled formed and 100 % continuously welded

Yes [] No []

Overall length of plow moldboard shall be 11 feet (without mouse ears)

Yes [] No []

Height of moldboard, with an 8" cutting edge, is to be 42" in the center and have 49" high tapered flare on each end.

Yes [] No []

Each flare will start at 52" from the center and extend 17-1/2" beyond the cutting edge.

Yes [] No []

The flare will be reinforced with a 10 gauge tapered box that is 45" long x 25" wide bent at a 95° angle, a 1/4" x 1/2" bar at the seam, a 1/2" x 3" s 14-1/2" bar at the top and a 5/8" rod on the outer perimeter

Yes [] No []

Moldboard shall have 8 vertical support ribs which are to be flame cut, 1/2" A36 steel, with a tensile strength of 58,000# - 80,000#, equally spaced across the width of the mold board

Yes [] No []

A 1/2" x 4" x 6" plate is to be welded to the four ribs where the push frame attaches to the mold board to provide a 1" bearing surface for pins

Yes [] No []

Describe exceptions to the Specifications:

SNOW PLOW con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

The horizontal support angles are to be 3" x 3" x 1/4" A36 steel angles

Yes [] No []

The two spring support angles are to be 3" x 3" x 1/4" A36 steel angles

Yes [] No []

Top moldboard angle is to be 2" x 3" x 3/8" A36 steel and bottom moldboard angle is to be 4" x 4" x 3/4" A36 steel

Yes [] No []

Bottom moldboard angle is to have 11/16" holes punched to match AASHO hole pattern of cutting edge.

Yes [] No []

There shall be 1/2" thick gussets welded on each end of the inside of the angle and midway between all punched holes.

Yes [] No []

Spring support/attachment plates are 3/4" A36 steel with 3 holes for attaching compression spring arms at mold board pitch settings of 20, 10, or 5 degrees

Yes [] No []

Cutting edge shall be 5/8" x 8" blade made from 1080 steel with a Rockwell "B" hardness of 93-100. The blade shall have standard AASHO hole spacing and is to be top punched 1-1/2" from the top edge to the center of the bolt.

Yes [] No []

Cutting edge is to be attached with 5/8" x 2-1/2" grade 9 plow bolts.

Yes [] No []

Plow semi-circle is to be fabricated from 3-1/2" x 3-1/2" x 1/2" A36 hot rolled angle

Yes [] No []

Describe exceptions to the Specifications:

SNOW PLOW con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

2 (two) 1" x 3" x 5-1/2" positive stops are to be welded to semi-circle and set to allow moldboard to swing 35° in either direction.

Yes [] No []

Push frame is to be 4" x 4" x 3/8" A36 wall square tubing 96" in length.

Yes [] No []

Tubing is to have 10 (ten) 4" x 4-1/2" x 1/2" A36 attaching ears, which are to form a four point pivot to affix the moldboard onto the push frame attached with 4 (four) 1-1/4" stress proof plated pins.

Yes [] No []

There are to be two jack support channels 8" x 18" A36 steel which have six 3/4" holes for mounting skid shoe assemblies

Yes [] No []

There shall be two compression trip assemblies consisting of three pieces: 1/2" x 3-1/2" A36 steel mechanical slide, with a 5-5/16" OD x 23-1/4" free height x 21/32" bar diameter spring.

Yes [] No []

The spring is to bade from AISI 5160H steel with a tensile strength of 112,00 – 140,000 PSI rated at 195#/inch of compression

Yes [] No []

Two reversing cylinders shall be located on the topside of the semi-circle

Yes [] No []

The angle of the cylinders in relation to the mold board shall be designed to almost eliminate side stresses to the cylinder rod.

Yes [] No []

Describe exceptions to the Specifications:

SNOW PLOW con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Reversing cylinders shall have a 3" bore x 10" stroke, 2" diameter nitride rod.

Yes [] No []

The hydraulic hoses are to be abrasion resistant, extremely flexible and work in a temperature range of -50 to 250 ° F. The ½" ID hose is rated at 3,000 PSI working pressure and 12,000 PSI burst pressure

Yes [] No []

A DXV double relief cushion valve shall be installed in the hydraulic system.

Yes [] No []

The A-frame is to be constructed of 2-1/2" x 4" x 13.8# ship and car channel with a 1"x 5" oscillating plate.

Yes [] No []

A heavy duty four attach point level lift system shall be mounted to the semi-circle of the plow.

Yes [] No []

Level lift shall be fabricated from 3" x 2" x 3/8" vertical angle uprights, 3" x 3" x 1/2" angle sloped side members, and a 4" x 4" x 3/4" cross angle

Yes [] No []

The upper bracing of the plow hitch shall attach to the level lift cross angle.

Yes [] No []

The plow portion hitch shall be Husting 34" quick attach hitch

Yes [] No []

Hitch side rails shall be manufactured from 4" x 8" x 1/2" angle that is flared to allow for misalignment, and slotted on the sides to accept the latch pins of the plow portion hitch

Yes [] No []

Describe exceptions to the Specifications:

SNOW PLOW con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

A 1" x 1" wear bar shall be welded behind the slots to help support the latch pins.

Yes [] No []

Bottom front of hitch shall have a 2.5" wide x 1/2" thick cross brace plate.

Yes [] No []

Bottom of hitch shall be welded to the 1" x 5" oscillating plate of the a-frame.

Yes [] No []

Bottom of hitch to push frame shall have a 20" x 3/8" triangular gussets, one each side

Yes [] No []

There shall be two upper support tubes of 4" x 2" x 1/4" wall tube steel

Yes [] No []

Upper support tubes shall have upper and lower triangular gussets between tubes and hitch rails

Yes [] No []

Support tubes shall be joined together with a 1/2" x 4" bar at the tube ends, and a 1/2" lift plate on top

Yes [] No []

There shall be a 4" x 13 lbs/ft. channel that is welded to the support tubes and bolted to the level lift

Yes [] No []

The channel shall be braced to the hitch side rails with 2" x 2" x 1/4" angle iron

Yes [] No []

All hardware and fasteners shall be electronically plated and corrosion resistant

Yes [] No []

All fasteners shall be grade 8, both cap-screw and nut

Yes [] No []

Describe exceptions to the Specifications:

SNOW PLOW con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

A roller kit shall be installed on plow half hitch to help raise/lower

Yes [] No []

Cable style corner markers to be on each end of moldboard

Yes [] No []

There will be a 12" rubber deflector with a steel retainer strap bolted to the full length of the moldboard top angle including the mouse ears.

Yes [] No []

Manufacturer shall provide caution labels, decals, and any warnings deemed necessary.

Yes [] No []

Manufacturer shall attach their standard warranty statement. All components described herein shall carry minimum one-year warranty.

Yes [] No []

The powder coat paint to be orange moldboard with the push frame and hitch being coated black in color

Yes [] No []

Describe exceptions to the Specifications:

TRUCK HITCH

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Truck portion hitch shall be automatic snap coupling type.

Yes [] No []

Hitch assembly shall be 34" wide and 42" high

Yes [] No []

Top of side rails shall be tapered to provide maximum hood clearance.

Yes [] No []

Side rails of the hitch shall be manufactured from .75 inch thick plate

Yes [] No []

Side rail front shall be 2.5" wide and sides shall be 9.8" deep

Yes [] No []

Top and bottom 1" of the rails will be tapered inward to prevent restrictions with mating plow portion

Yes [] No []

The back inside of the side rails shall be reinforced with 2.5" x 2.5" x 3/8" angle iron.

Yes [] No []

Top and bottom crossmember angles shall be 3.5" x 3.5" x 3/8" angle iron

Yes [] No []

Bottom angle shall be supported with and additional angle inner brace of 2.5" x 2.5" x 3/8" angle iron

Yes [] No []

Lift arm assembly shall be manufactured from 3/4" steel plate, 2.5" diameter x 3.25" long lift shaft, and shall have 1/2" plate cylinder attaching ears

Yes [] No []

Bracing for the lift arm shall consist of two 3/8" triangular plates and 3/8" angle iron and 1" pivot pin

Yes [] No []

Describe exceptions to the Specifications:

TRUCK HITCH con't

Minimum Requirements of Local Agency

Provided by Unit Proposed by Bidder

Enclosed spring loaded latch canisters shall have a tapered 1.875 inch machined pin

Yes [] No []

Canisters will be welded to the side plates and reinforced with 1/2" triangular gussets

Yes [] No []

Unlocking lever shall be of 3/8" x 1-1/2" bar with 3/8" round linkage rods connecting the canister pins

Yes [] No []

Hitch shall be 100% continuous welded

Yes [] No []

Hitch shall be powder coat black

Yes [] No []

Hitch lift cylinder shall be 4" x 10" double acting

Yes [] No []

The truck half shall have two Teflon glide strips installed on the front.

Yes [] No []

Describe exceptions to the Specifications:

MOUNTING OF HITCH

Minimum Requirements of Local Agency

Truck frame will be extended a minimum of 20” forward of grille by truck manufacturer

Bidder will furnish minimum of ½” x 4” x 8” x 48” long angle across front bumper with angled sections on each end

Bottom braces shall be minimum 1” x 4” flat iron installed from hitch to center of front axle mounted on frame with grade 8 bolts

Top braces shall be minimum ½” x 4” flat iron and run to center of front axle mounted to frame

Hose to hook up lift cylinder shall be 3/8”

Hood to have cable stop (provided by truck manufacturer) before resting on plow hitch. Hitch to have a heavy duty rubber pad installed on top angle bracing for additional support for hood as necessary.

All components described herein shall carry minimum one-year warranty

Provided by Unit Proposed by Bidder

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Yes [] No []

Describe exceptions to the Specifications:

Proposal

TOTAL FOR ONE (1) COMPLETE TRUCK \$ _____
14 ft Multi-Purpose Dump Body, Central Hydraulic System,
Front Snowplow and Hitch, Liquid pre-wetting System

TOTAL FOR Three (4) COMPLETE TRUCKS \$ _____

ATTACH INFORMATION FOR ALL FUNDING OPTIONS

POSSIBLE OPTIONS:

PURCHASE, LEASE, LEASE-PURCHASE, LEASE-PURCHASE-BUYBACK, ETC.

Proposer Name _____

Address _____

Phone _____