

**ATTACHMENT J.1
VEHICLE SPECIFICATIONS**

**6 Wheel Dump Truck with 10ft. Body
Conventional Cab Dump Severe Service Truck Chassis Snow Package**

Specification	Comply	
	Yes	No
1. CONVENTIONAL CAB DUMP TRUCK CHASSIS, SNOW READY		
1.1 Safety equipment		
1.2 First Aide Only first aid kit, model#223-G “or equal”		
1.3 Fire extinguisher: 5-pound dry chemical type mounted in the cab		
1.4 Triangle Kit		
1.5 Back-up Alarm: Horn or Buzzer type		
1.6 Seat belts		
2. VEHICLE		
2.1 Conventional cab with two-person seating		
2.2 Wheelbase: Compatible with body State Wheelbase Offered: _____		
2.3 Cab color: Tangier Orange, DuPont #L2601EB		
2.4 Sets of vehicle keys (All trucks keyed alike ignition and door)		
2.5 Driver’s seat, air cushion and air suspension passenger		
2.6 Electric LH and EH door locks and power windows		
2.7 Single air horn and city horn under cab		
2.8 Convex mirrors on mirror brackets both sides 8 ½ inch		
2.9 Heated and remote controlled mirrors (7x16) both sides		
2.10 Adjustable Telescoping column		
3. VEHICLE DATA		
3.1 Operator’s electronic CD Only		
3.2 Service electronic CD Only		
3.3 Parts electronic CD Only		
3.4 Vehicle wiring and pneumatic system drawings and diagrams		
3.5 Certificate of origin		
3.6 Diagnostic Software		
4. GROSS VEHICLE WEIGHT RATING (GVWR)		
4.1 Minimum 37,000 lbs. (State GVWR Offered: _____)		
4.2 Minimum front axle rating: 14,700 lbs.		
4.3 Minimum rear axle rating: 23,000 lbs.		
5. VEHICLE CHASSIS		
5.1 Color: Manufacture’s Standard		
5.2 Front tapered painted steel bumper		
5.3 Right hand vertical exhaust with single curved tailpipe (Not to exceed Dump Body Height)		
5.4 Heavy Duty Frame: RBM is 1,808,000 minimum single frame no inner frame (No Exception)		
5.5 Two front tow hooks		
5.6 Extended front frame rail for snow frame		

Specification	Comply	
	Yes	No
6. SUSPENSION/AXLES		
6.1 Front springs 16,000 lbs. flat leaf with shocks: Manufacturer's Heavy Duty		
6.2 Rear Shock Absorbers: heavy duty with rear stabilizer		
6.3 Rear spring multi-leaf type 23,000 rated with helper		
6.4 Differential Axle ratio minimum: 5.88		
6.5 Front axle w/synthetic lube hubs		
6.6 Rear differential lock controlled in cab driver		
6.7 Brake dust shields on all axles		
7. WHEEL & TIRES		
7.1 Front: 22.5 x 8.25, ten (10) Bolt Pattern		
7.2 Rear: 22.5x 8.25 or ten (10) Bolt Lug Pattern		
7.3 Two spares:22.5 x 8.25, ten (10) Bolt Lug Pattern		
7.4 Mud flaps front and rear		
7.5 Front tires: 12R/22.5 Highway Tread 16ply		
7.6 Rear tires: 11R/22.5 Deep Heavy lug M & S 14ply		
7.7 Two spare mounted: 11R/22.5 Deep Heavy lug M&S 14 ply		
8. STEERING		
8.1 Power assist steering State turning radius curb to curb offered: _____		
9. BRAKES		
9.1 Channel, 4 modulator, ABC Air brakes		
9.2 Heated brake Air Dryer AD-IS Bendix		
9.3 Front Brake Drums		
9.4 Rear Brake Drums: minimum 16 1/2 x 5 in. S CAM State Offering: _____		
9.5 All rear brake chambers must be mounted as high as possible		
10. ENGINE		
10.1. Type: Diesel water cooled, turbo charged and after cooled Cummins ISL 8.9 liter or equal. (State engine offered: _____)		
10.2 Net S.A.E. horsepower: minimum 260 at 2200 RPM (State Offering: _____)		
10.3 Torque: minimum 720ft lbs at 1300 RPM (State Offering: _____) The engine shall conform to and meet 2010 EPA Emissions Standards. An official certificate of conformity issued by the EPA shall accompany the bid documentation. All FEL's associated with engine emissions that are not part if the Green House Gas sections must have “)” or “N/A” for limit. A.C.A.R.B analysis of the engine family emission limits must accompany the Certificate of Conformity. The engine family must have a certificate level at or below the emission cap (STD) for the following emissions: PM 0.01g/bhp-hr NOx 0.20g/bhp-hr NMHC 0.14g/bhp-hr The certification level (CERT) must demonstrate that the engine family is at or below the emissions cap (STD). There is no exception to this		

Specification	Comply	
	Yes	No
requirement. The District of Columbia will not accept any engine that fails to meet emissions limits as stated above. Any bid submission that does not include the required stated emissions documentation will be considered non-responsive and out of specification.		
10.4 Block heater		
10.5 Water cooler air compressor with filtered air intake 18.7 CFM		
10.6 Protective automatic engine shutdown		
10.7 Filter/water separator heated with sensor		
10.8 Heavy duty radiator: minimum 1100 square inches		
10.9 Radiator mounted air to oil power steering cooler		
10.10 Vehicle must be bio-diesel compatible: B-20 or less		
11. TRANSMISSION		
11.1. Automatic 6 speed close rotation Allison 3000 RDS “or equal”		
11.2 Transmission cooler		
11.3 Synthetic fluid		
11.4 Severe rear transmission cooler		
12. POWER TAKE OFF (PTO)		
12.1 Direct mounted to transmission (Hot Shift)		
12.2 Speed up and cut-out control to be programmed by chassis director		
13. ELECTRICAL		
13.1 12 volt negative ground		
13.2 160 amp alternator: minimum		
13.3 Heavy duty starter		
13.4 Two batteries, Treaded post 1850 CCA dual purpose		
13.5 Trailer harness with 7 pole female receptacle with rubber boot		
13.6 Battery disconnect switch mounted next to driver’s seat in the cab LH side		
13.7 Jump start terminals frame mounted back of cab		
13.8 Battery box cantilever aluminum BOC with fiberglass cover located not interfere with body builder needs		
13.9 All lights will be: (Stop, Tail, Turn and (2) back up light) L.E.D.		
13.10 Five marker lights will be LED.		
13.11 Circuit breakers replacing fuses. (Does not apply to any 5-amp fuse box position). Breakers include stop, brake, turn, tail, lamp, high & low beams marker, clearance lamps, horn, fuel heat, gauges, wipes, air dryer, HVAC controls and panel lamps.		
14. FUEL SYSTEM		
14.1 Fuel tank: minimum 60 gallons, mounted LH, with 6-gallon D.E.P. tank mounted LH to not interfere with body builder (Tank must be full on delivery)		
14.2 E.J. Ward Canceiver programmed to 9999 to verify it is in working order before delivery.		
15. CAB INTERIOR		
15.1 Heat/Defroster/Air Conditioner a. Multi Speed b. Manual CFC Free		

Specification	Comply	
	Yes	No
15.2 Instrumentation		
a. Speedometer		
b. Odometer		
c. Tachometer		
d. Fuel Gauge		
e. Water Temperature Gauge		
f. AM/FM Radio		
g. Oil Pressure		
h. Volt meter		
i. Air inlet restriction gauge		
j. Transmission temperature gauge		
16. DUMP BODY: Henderson muni-body with 22 Degree Sides Trough		
16.1 10-foot model, 6.8 to 9.7 cubic yard capacity		
a. Speedometer		
b. Sides shall be 36"		
c. Tailgate shall be 48"		
d. Front shall be 60"		
e. Capacity to be 6.8 cubic yards struck without sideboards/9.7 cubic yards with sideboards		
f. All 201 stainless steel		
g. Intentionally left open		
h. Body will be provided with the stainless steel exterior, understructure primed at the factory.		
i. All hardware above the floor shall be 201 stainless steel.		
j. Manually operated tarp system with lynch pin release system		
16.2 Sides and Front		
a. Shall be fabricated from 7 gal. 201 stainless steel		
b. Shall have 4" wide board pockets		
c. One (1) piece sides and floor which incorporates a 6" floor to side radius		
d. Front to be vertical and not sloped		
e. 10 ga 201 SS boxed top rail, seamless and sloped inward to shed debris		
f. 12"x 4-3/4" 7 ga. Stainless steel rear corner posts are to be tied into a 12" rear apron formed from 7 ga. 201 stainless steel. Additional reinforcement of a 1/4 " 201 stainless plate is to be provided that helps prevent flexing in this critical area and strengthens the tailgate latch assembly.		
g. All welds shall be continuous.		
h. Roadside front grip strut ladder with inside step		
i. Removable stainless steel ladder with grip strut steps mounted on driver side toward front.		
j. Tread-grip walkway full length both sides		
k. 201 stainless integral fenders to be continuously welded and positioned over rear wheels of the truck chassis.		
l. Interior body sides to trough in floor must be sloped at 22 degrees to the		

Specification	Comply	
	Yes	No
conveyor to facilitate self-cleaning of the body without raising. A body with any portion the floor that is flat is not acceptable due to poor cleanout.		
16.3 TAILGATE		
a. 3-Panel (two intermediate horizontal supports) design		
b. To be 7 gal. 201 stainless steel		
c. Full perimeter 201 stainless steel boxing with all horizontal edges		
d. Tailgate to be double-acting		
e. Two (2) 10 ga. 201 stainless steel sloped horizontal braces that are to be flush with perimeter boxing		
f. Flush mount 201 SS, ½” flame cut tailgate pivots		
g. Heavy duty offset 201 SS hinge plates, 1” flame cut		
h. ¾ “ 303 stainless steel latch hooks with 3/8” latch plates		
i. 1-1/4” 303 stainless steel upper and lower pins		
j. 7ga. 201 stainless steel 12”x26” rear feedgate operates perpendicular to floor – no sloped-in feed gates		
k. The lever operated feedgate shall be adjustable in 1” increments. Two (2) ¼” diameter 201 stainless steel sliding guides are required for easy feedgate movement. The feedgate is positively locked into position with a stainless steel locator pin. No screwjack type feedgates.		
l. Dual brake chamber air tailgate latches (one on each side) with over-linkage. Pivot shafts include stainless steel bushings to eliminate seizing.		
m. <u>ALL</u> tailgates must be interchangeable		
16. 4 FLOOR AND UNDERSTRUCTURE		
a. Floor shall be fabricated from ¼” AR400.		
b. 8” radius floor wings at sides are to be ¼” 201 stainless steel.		
c. Western style understructure, no cross members, 7-gauge tubular “V” longills		
d. Underside of body to be completely undercoated.		
16. 5 TAILGATE LATCH		
a. Shall be retractable type with minimum 1” 201 stainless steel flame cut latch finger		
b. Air release with cab control		
16.6 LIGHTS AND REFLECTORS		
a. LED lights shall meet federal MMVSS No. 108.		
b. LED combination stop/turn tailgate shall be recessed and mounted low in rear corner pillars. Three cut-outs in each rear pillar. LED back up lights mounted above STT. LED Amber strobes mounted above taillights. There shall be a 1” deep stainless steel protective rim around all 3 recessed lights.		
c. LED clearance lights shall be recessed for protection and mounted in rubber sockets.		
d. Wiring shall be one-piece and in plastic convoluted loom.		
16.7 FRONT-MOUNTED TELESCOPE HOIST		
a. NTEA Performance Class 40		
b. Standard single acting cylinder		

Specification	Comply	
	Yes	No
c. Three (3) stage chrome cylinder, trunnion mount- no inverted cylinder		
d. First stage 4" diameter		
e. Small internal doghouse (maximum 12" deep)		
f. Wear and corrosion resistant nitrated cylinder tubes		
g. Minimum load capacity 17.2 tons for 10" body length		
h. 50 degree oscillating cylinder collar		
i. Connecting pivots to have replaceable greaseless composite bearings		
j. 5 degree oscillating cylinder collar		
k. Hinge pins with grease zerks		
l. Body prop to support empty body weight		
Capacities based on water-level load, 12" overhang, 50 degrees dump angle and inches body weight		
16.8 CENTRAL HYDRAULIC SYSTEM		
a. Central Hydraulic System: Mount, install, and test to manufacture's specifications. a Muncie MP2@ Advantage Central Hydraulic System (no exceptions). The central hydraulic system must include the ff:		
b. Power-Take-Off. Muncie CS Series 10-bolt mount power take-off. Must be designed with an integral drag brake to positively stop the output shaft in the "off" position. Engagement of the power take-off shall be by means of a dash mounted rocker switch to activate a built-in solenoid control. The power take off shall be equipped with a 7/8" I.D. 13-spline shaft and SAE "B" flange for direct mounting of the hydraulic pump. The power take-off must be of the compact, wire, solid state spreader controlled type.		
c. Pump. The hydraulic pump shall be a Muncie model PK1-15-02BSBB, with a flow rating of 15 GPM @ 1,000 RPM. The hydraulic pump shall have a maximum rating of 2500 RPM and 2500 PSI. The pump shall be a gear type and of cast iron, roller bearing construction with side and rear ports. The pump shall have an SAE "B" mounting and a 7/8" I.D. 13-Spline shaft.		
d. Installer of the central hydraulic system must be certified as an installer and distributor of the Muncie MP2 Advantage System and be within fifty (50) mile radius of Government of the District of Columbia, Department of Public Works, 1725 15 th St. NE, Washington, DC 20002. Supply supporting documentation on this distance.		
e. Circuit design to include load-sense communication from all work valves.		
f. HD hoses, quick disconnects and dust covers to front and rear of truck.		
g. The construction style of the valve design shall be solenoid operated cartridge style with a common manifold. The cartridge solenoids shall be rate IP69.		
h. Flow priority to insure operation of the cylinder functions whenever the spreader is operating and pump flow is critically low.		
i. All cylinders to have proportional flow control on the power sequence to afford cylinder speed control.		
j. Pressure relief valves: Independent and stem adjustable protection to be included for the manifold inlet, the spreader, the down-side of all double acting cylinders and, plow angle cylinders.		

Specification	Comply	
	Yes	No
k. Plow lift valves: Valves capable of four-way control and have a flow capacity of 15 gpm. The raise side of the circuit rated for zero leakage. Plow float to be standard.		
l. Plow angle valves: Valves capable of four-way control and have a flow capacity of 15 gpm. Load-locking check valves or “motor-spool” design shall be included as required to support the angling mechanism.		
m. The dump hoist valves to be capable of four-way control and have a flow capacity of 25 gpm.		
n. Spreader valves: The proportional flow control valves for the Auger/ Conveyor and Spinner motors shall have capacities pf 15/7 gpm respectively. These valves to be pressure compensated and parallel in their circuit architecture. Controller must have pre-wet functionality.		
o. Touchpad control mounted to the driver seat bracket with proportional joystick.		
p. Cab-to-valve connection: Commands from the system controls to the system valves to be digitally encoded and sent over the vehicle electrical system using only a 12 VDC and Ground connection at each end of the system. Data transfer shall employ PLC.		
q. The valve driver modules are to be housed in Deutsch boxes and employ Deutsch connectors at the solenoids giving IP69 environmental rating. The driver modules shall be equipped with current sensing control to offset thermal changes in solenoid performance, to detect open or short circuit conditions and to protect against the latter by automatic interruption of current to the shorted output.		
r. Momentary pushbutton switches to provide on-off style control of the plow and dump body operations.		
s. Program settings to provide effective and independent flow trims for plow up-down, plow angle and dump up. Plow down to have “Float” mode.		
t. Modes of operation: Automatic and manual control shall be selectable.		
u. Pause & blast: There shall be a blast operation with programmable selection of level and time. A pause operation shall be available to momentarily disable the spreader operation.		
v. Accurate and consistent operation of the spreader functions via an open-loop servo. A feedback sensor is not acceptable.		
w. High brightness LED numerical displays to be used to indicate one of 11 reference control positions for the spinner and auger (manual mode). In Auto operation, the auger display will indicate “pounds per mile” which is to be calibrated by the Muncie factory authorized representative to City of the District of Columbia.		
x. The system shall display fault occurrences of shorted or open outputs at the valves with indication of which circuit is responsible.		
y. The Valve/Manifold System to be mounted in a Valve/Tank Enclosure and is to be mounted as high as possible. The Manifold is to mount to the back wall to the enclosure o provide for hose connectivity directly into the manifold assembly. The Valve/Enclosure to include an in-tank filter, Fill		

Specification	Comply	
	Yes	No
cap-breather assembly with a “stand tube”. The Enclosure is to be made of 10-gauge, stainless steel with a lid assembly that has a perimeter sealing method. Two over-center chrome latches to allow for easy access to the manifold, Filter, and Breather/Fill Cap. The Enclosure to encompass the hydraulic oil reservoir and hold approximately 35 gallons of oil. A Sight/ Temperature Gauge mounted to the front face bulkhead wall of the reservoir portion of the assembly. The entire modular unit to mount to the vehicles street side frame rail with reinforced support for severe duty. The Communication Electronic Control Modules to be mounted within the Valve/Tank Enclosure with Plug and Play solenoid connections to the modules. Power, Ground, and Groundspeed Control Conductors (30 to exit the back wall of the enclosure for their respective connections to the Transmission TCM (for groundspeed interface), and connection to the same power and ground source for the in-cab control panel assembly.		
z. The system shall provide a menu of user configurations and adjustability that can be displayed and adjusted without need of a computer or other tools.		
aa. The menu of adjustments shall include as a minimum: trims for the spreader functions and pre-wet function, trims for cylinder speeds, blast level and duration timer, calibration for granular product spreader rates, truck speedometer synch, speedometer input-type selection and joystick.		
bb. All control and data messaging are to be conveyed upon the shared 12V connections of the controls and valve enclosure. No wire connections between the cab controls and valve enclosure are acceptable.		
cc. Valve outputs to be pulse-width-modulated (PWM) and current controlled.		
dd. Valve outputs to be protected with fold-back current lining with auto reset.		
ee. Operator controls to indicate proper/open/short circuit conditions for each valve output.		
ff. Plow left & right power angling, completely compatible to allow for disconnection under pressure.		
gg. All other valves & connections must be Aeroquip 5600 series or completely compatible.		
hh. All hydraulic lines shall be firmly tied, maximum 18” between clips ties.		
ii. All hydraulic lines shall be outside the frame & protected with covering.		
jj. Spinner pressure and return lines to be run down driver side.		
kk. Auger pressure and return lines to be run down passenger side.		
ll. Low hydraulic fluid indicator light		
16.9 ½ CABSHIELD LOAD-BEARING		
a. Shall be 7-gauge 201 stainless steel, 35,000 PSI yield strength		
b. Shall be full width, 88-1/2” wide with 8” front		
c. Shall attach by welding 100% with stainless steel welding wire		
d. Shall project over cab (24”)		

Specification	Comply	
	Yes	No
e. Two oval cut-outs in front face of cab shield for L.E. D. AMBER strobe lights.		
f. One cut-out on each side wing for L.E.D. AMBER strobe light		
16.10 Steel Splash Shields in front of rear axle		
16.11 ¾" Pull plate recessed between frame rails. 20 ton spring loaded Pintle Hook mounted 24' from ground to center of hook. HD "D" rings. 7 pin round receptacle. No chassis tailgates mounted inside C-channel of frame or recessed into pull plate.		
16.12 Pioneer 600 series spring loaded trap system with powder coated steel housing recessed into rear of cab shield. Stainless steel rope tie off hook (2) mounted on roadside front rub rail and (2) mounted on lower rail of tailgate in center. Trap hooks mounted on top of tailgate.		
16.13 4" round LED work light mounted roadside rear under body. Wired to factory switch on dash.		
16.14 CONVEYOR		
a. 10" truck frame to body floor height for lower center of gravity and lower mounting height		
b. 7 ga. 201 SS formed inner/ 10 ga.201 SS formed outer longsills		
c. ¼" AR400, (190,000 PSI yield, 200, 000 PSI tensile strength, Brinnell Hardness of 400), conveyor floor		
d. 2" diameter drive and idler shafts with 8 tooth cast iron sprockets. Drive sprockets are double keyed to shaft.		
e. Conveyor driven by a 25:1 planetary gearcase and position motor driving rear shaft		
f. 28" wide conveyor		
g. Body interfated 201 stainless steel 15" spreader apron		
h. Conveyor extends 12" beyond tailgate to prevent free of granular material.		
i. D667K pintle chain (29,700 ib. tensile strength)		
j. ½" x 1-1/12" conveyor crossbars spaced on every link		
k. Steel conveyor belt cover that completely covers the conveyor belt		
l. Spill shield under conveyor belt must be wide enough to prevent material from landing on chassis components.		
16.15 SPINNER CHUTE ASSEMBLY		
a. Spinner assembly must be adjusted 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.		
b. Front of spinner baffle to be adjustable for protection of chassis undercarriage		
c. 20" diameter poly spinner disc to have six (6) formed vanes (Hardness of 100), conveyor floor		
d. Spinner hydraulic motor shall mount directly on top of spinner dis. Motor shall be enclosed in a removable material shedding protective cover. Bottom mount motor or drive shaft with bearing not acceptable.		

Specification	Comply	
	Yes	No
16.16 Meyer halogen snow plow lights mounted on aluminum brackets and bolted to sides on hood. Lights to be mounted high enough to shine over snow plow when in the raised position. Wired to factory switch on dash.		
16.17 Federal LED oval amber strobe lights. (2) mounted in the rear corner posts and (4) mounted in cab shield. All wide enough where dispensed product is evenly distributed.		
16.18 Chute assembly must be wide enough where dispensed product is evenly delivered.		
17. VALK PLOW		
17.1 RV 801-60 PR or equal, 8ft. (Ceramic Blade Only)		
17.2 BH-700 snow plow hitch		
17.3 10" rubber cutting edge installed		
17.4 Power angling/reversing cylinders installed		
17.5 Steel wheels		
17.6 Rubber snow shield on top		
17.7 Wraparound curb ends on blades		
17.8 Cable-type mold board end markers – minimum 41" high over top of blade		
17.9 1 each carbon steel cutting edge installed		
17.10 2 each extra ceramic blades per pillow delivered, uninstalled		
17.11 Each single stage heavy duty hydraulic cylinder installed		
17.12 Quick disconnect for all plow hoses		
17.13 Kueper ceramic plow blade "or equal"		
18. MOUNTING		
18.1 Light Bar Assembly: light bar assembly with plastic/poly enclosure. 69 in. wide bolt on (4) L.E.D. stop/turn/taillights and ICC ID marker lights, wire harness with pigtail and 7-prong trailer plug.		
18.2 Grease Extensions: Front bearing grease extensions to the rear of unit with of unit with manifold		
18.3 Dump Body Mounting: A carbon steel tailgate latch kit shall be included.		
18.4 Dump Body Mounting Kit: 4 nylon straps and stainless steel hardware		
18.5 Chain Oiler: 1-gallon capacity, gravity type		
19. INTERCON SIDE GUARD PROTECTION SYSTEM		
19.1 Vehicle to have installed side guard skirting that offers maximum protection and safety for motorcyclists, bicyclists, and pedestrians from becoming entrapped or entangled within the open space along the sides of the truck. Skirting should also offer protection from rear tire contact to pedestrian or bicyclist and must be detachable.		
19.2 All parts to be individually removable and individually replaceable. The design is to allow the pieces to be bolted or hinge-pin connected.		
19.3 No 90 degree corners or sharp edges are to pointed outward.		
19.4 Facing plates are to be fabricated from 12 gauge carbon steel and double bent on tops and bottoms to eliminate sharp edges.		
19.5 All bolts at facing plates to have bolt heads pointing outward to eliminate spearing.		
19.6 Side vertical brackets fabricated from 1/8" carbon steel and double bent on		

Specification	Comply	
	Yes	No
tops and bottoms to eliminate sharp edges protruding outwards		
19.7 Multi-hole mounting plate attached to side vertical brackets		
19.8 Minimum two (2) 2" x 1/8" square tubing supports in double-bend design		
19.9 Multi-hole mounting plate attached to each 2" 1/8" square tubing support		
19.10 1/2" hinge pins with safety snap pins at each eyelet connection.		
19.11 Minimum two (2) 2-1/2" x 3/8" pockets per side welded to body sub-frame (if hoist installed) or body long-sills with two (2) 3/8" eyelets per pocket. Should a sub-frame or long-sills not be present, the pockets are to have a 3/8" mounting plate welded to each side of the pocket and bolted to the side of the chassis frame with grade 8 bolts, lock washers and nuts.		
19.12 1/2" "hinge pins with safety snap pins at each eyelet connection		
19.13 Side guard protective system parts to be individually cleaned, primed, primer sealed and painted.		
20. WEBTECH WIRELESS LOCATOR MODEL WT10X "OR EQUAL"		
The contractor shall equip the vehicles provided with the WebTech Locator System that at minimum meets the requirements listed below. State Make and Model Offered: _____		
21. HARDWARE REQUIREMENTS		
The Webtech System should include at a minimum the following: a. Networks supported: GMS/GPRS/HSPA 3G b. GPS Engine: GNSS(GLONASS) c. Serial Ports Available: 2xRS232(1x4w),(1x2w),1USB Type A d. 1-Wire: Integrated 1-wire support for up to 3 temperature probes and 1 Driver ID Reader e. Accelerometer: Internal (2-Axis) f. Telemetry inputs/outputs: 5 inputs/2outputs for door locks/unlock, bin lift, vehicle enable/disable, panic button activation, etc. g. Diagnostics (heavy duty vehicles): CAN/J1939 and J1708/J1587 h. Hands-Free Audio Solutions i. Input Voltage: 12/24 Volts j. Accessory output power: 50ma 5 Volt DC k. Over-the-air-upgrade compatibility l. Chassis material: Polycarbonate/ABS m. Dimensions: 4.72x3.46x1.38"/120x88x35mm n. Weight: 7.4oz./209gs o. Antenna: External GPS/GPRS p. GPS antenna disconnection notification: Must be included q. Accessories: MDT, Driver ID r. Certifications: FCC,PTCRB,AT&T, ROGERS,BELL,TELUS s. IMEI Number t. Component's Serial Number u. The Component Serial Number must be connected to the VIN. v. The last three (3) items must be clearly identified and documented for use by the purchaser.		
22. WARRANTY		

Specification	Comply	
	Yes	No
22.1 Basic truck and chassis warranty: 5 years or 100,000 miles/5 yrs. 150,000 miles		
22.2 3yr. Body & hoist against defect		
22.3 The plow shall have a two (2) year warranty on all parts and labor.		
22.4 Spreader shall have two (2) year warranty on all parts and labor.		
22.5 Body and chassis should be warranted for corrosion for five (5) years or State Offering:		
23. LIQUID PRE-WET SYSTEM HENDERSON MINI BODY MODEL PWS-II "OR EQUAL"		
23.1 System must maintain the proportion of liquid to granular material throughout the normal spreader application rates.		
23.2 Drive system rate minimum: 4.1 GPM @ 1725 RPM (gear pump drive system)		
23.3 Hydraulic Drive motor Type: 1.21 CIR geroler type		
23.4 Drive system must be completely enclosed by a melded fiberglass housing with a sealed hinged lid.		
23.5 An in-lines adjustable flow divider valve which allows for changes in the ratio of the pre-wet solution to granular material must be installed.		
23.6 Cab mounted console includes on/off switch with power "on" indicator and tank empty indicator light with audible alarm.		
23.7 Replaceable inline screen strainer must be installed.		
23.8 Hardware, hoses, fittings, sealed wiring harness, brass shut-off valves and mounting bracket must be included.		
23.9 Variable displacement orifice must be installed to provide extended range of output and eliminates clogging associated with conventional nozzles.		
23.10 One hundred gallons polyurethane on each side of the dump body with in the confined of the 22 degree slope steel straps must be installed to hold the tank in place		
23.11 Two (2) 120 gallons upright polyurethane tanks mounted behind the cab 1. Tank should be mounted in a steel frame. 2. Strap dimensions 3" x 43.5" 3. Horizontal float switch, polyurethane 4. All tanks must be abled to be filled from a standing position.		
23.12 Pre-wet Controller, Henderson model PWS H-11 or equal 1. Hydraulically controlled 2. System should be driven by the exhaust oil from the conveyor.		
23.13 Nozzle Assemblies and Performance 1. Anti-icing variable displacement orifice nozzle assemblies must provide direct application of liquid to the pavement and provide a much wide range of application rates and truck speeds compared to fixed nozzles. 2. The orifices must be positioned in the spinner chute assembly for direct application. 3. Nozzles assemblies must be adjustable in height and angle for optimum placement of liquid and provide left, center and right lane		

Specification	Comply	
	Yes	No
<p>coverage.</p> <p>4. Two in-line flow meters which provide information to the hydraulic control system for precise control and monitoring both pre-wetting and anti-icing applications must be installed components must be enclosed in a mounted steel cabinet.</p>		