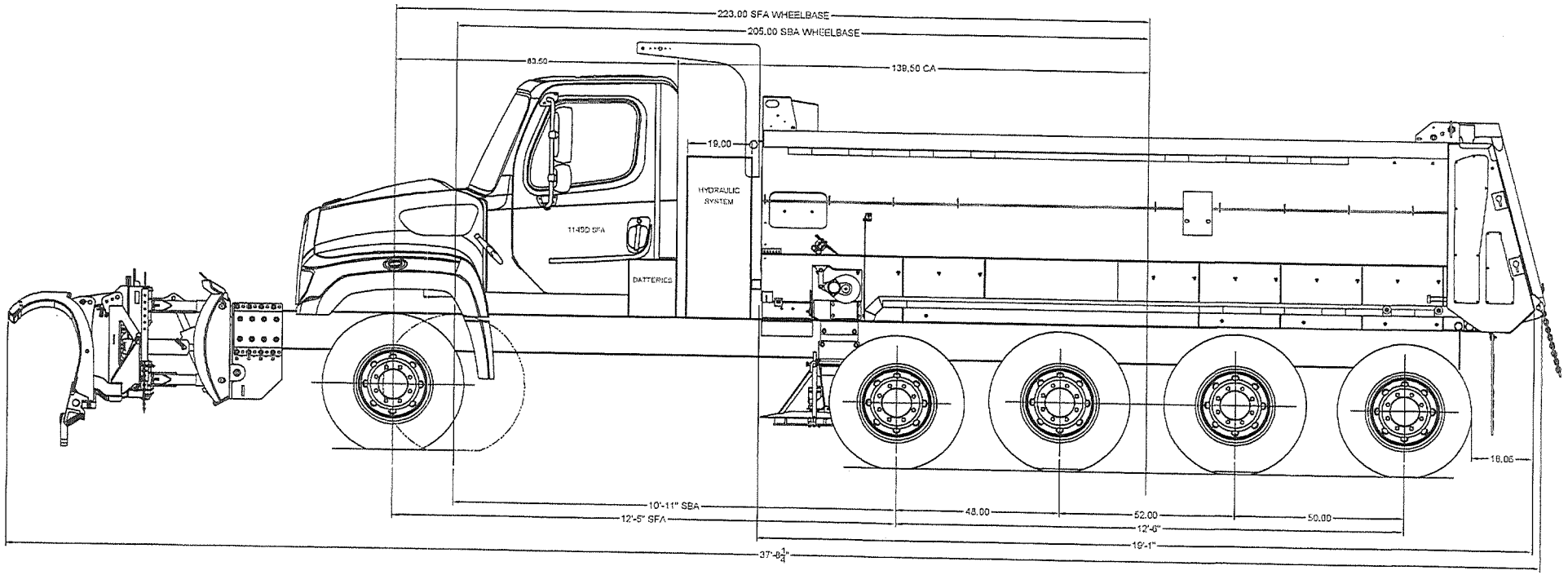
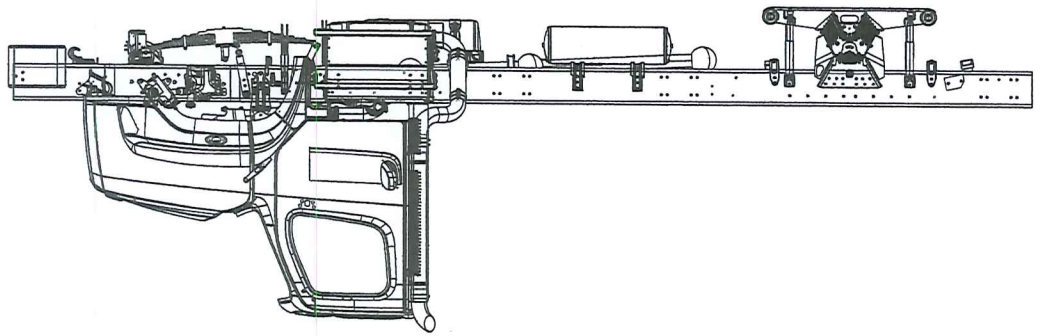
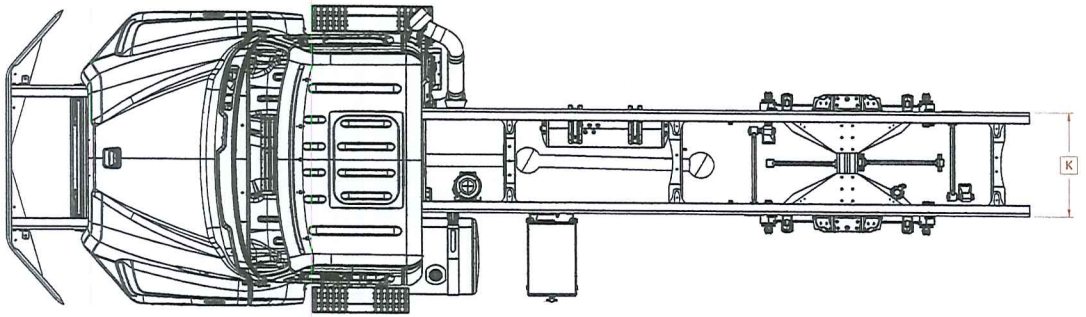
2017_CCD_PO_PWOPS_12882
EXHIBIT A

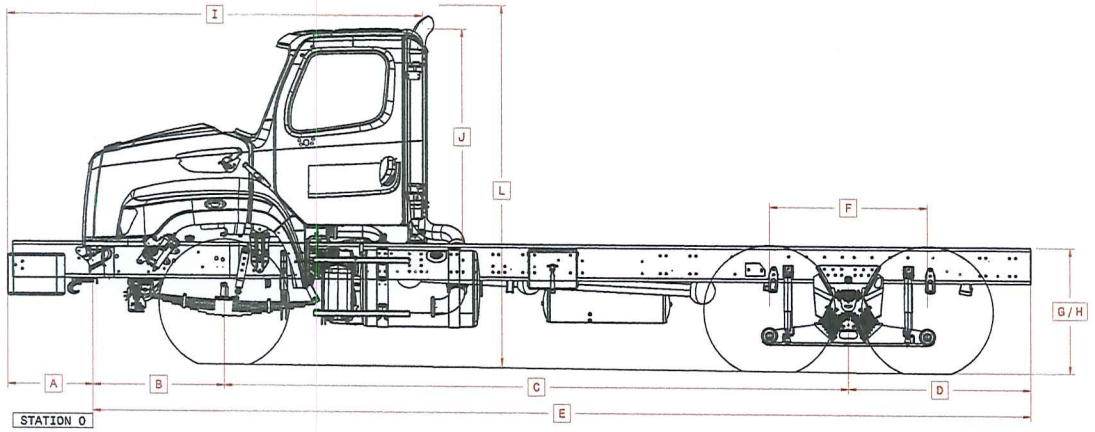
O.J. WATSON COMPANY INC.



RELEASE NUMBER	REV LTR	ZONE	REVISION DESCRIPTION	BY	DATE	APPD







O.J. WATSON COMPANY INC.

DO NOT SCALE

ALL FRAME LOCATIONS ARE REFERENCED FROM FRAME STATION 0.00 UNLESS OTHERWISE NOTED

ALL DIMENSIONS IN MM UNLESS OTHERWISE NOTED

REFERENCES AS SHOWN ON FREIGHTLINER GRID PATTERN DIAGRAM

PLEASE NOTE AFFECTS OF WHEELBASE AND OTHER CHANGES ON DRILLING LOCATIONS

	SERIAL NUMBER:	JC0686
	SALES COORDINATOR:	G.GATTO
	DEALER:	PSFD
		DIM (mm)
A	Bumper to Station 0	711
B	Front Axle from Station 0	1100
C	Wheelbase	5225
D	Rear Frame Overhang	1525
E	Station 0 to End of Frame	7850
F	Rear Axle Spacing	1321
G	Unladen Frame Height - Front	1082
	- Rear	1119
H	Laden Frame Height - Front	1014
	- Rear	1050
I	Bumper to Back of Cab	3476
J	Cab/Slpr HT Above Rail	1813
K	Outside Rail Frame Width	879
L	Unladen Exhaust Stack Height	3114
M	Tag Axle Spacing	-
N	Pusher Axle Spacing - 1st	-
	- 2nd	-
	- 3rd	-
	- 4th	-

DAIMLER | Daimler Trucks North America

MATERIAL APPROVAL - DATE -	UNLESS OTHERWISE NOTED, DIMENSIONS AND TOLERANCES ARE DEFINED ACCORDING TO ASME STANDARD Y14.5M-1994, WITH EXCEPTIONS PER DTNA 03ENG-V1037.
DRAWN BY R.RAJENDRAN DATE 05/09/16	
CHECKED BY S.SURENDRAN DATE 05/09/16	
RESPONSIBLE ENGINEER - DATE -	THIRD ANGLE PROJECTION
APPROVED BY J.NEGADI DATE 05/09/16	UNITS OF MEASURE MM

DESCRIPTION: BB DWG : COLORADO STA

SUPPLEMENTARY DESCRIPTION: CT114064SD

ITEM/DRAWING NUMBER: JC0686 - JC0692 | REV LETTER: - | SHEET NUMBER: 1 OF 2

CATIA V5 1 D-SIZE

O.J. WATSON COMPANY INC.

Reference Nos.: (2016: 16-062, 16-063, 16-064, 16-065)

CITY AND COUNTY OF DENVER
Technical Specifications and Request for Proposal Items
For a
Multi-Purpose Live Floor Dump Body with Options
ADDENDA 1 REVISION 1 {Cancels and supersedes original)

1.0 General Description

A new current model year with 16.6 cubic-yard (with 6" sideboards) multi-purpose front center discharging live bottom dump body to be installed on a City provided Class 8, 66,000 GVWR (plate certified) business class tandem axle truck.
The 16.6 cubic-yard multi-purpose front center discharging live bottom dump body is intended to be installed on City provided cab and chassis The 16.6 cubic-yard multi-purpose front center discharging live bottom dump body shall be compatible and suitable for installation on the Class 8, 66,000 GVWR (plate certified) business class tandem axle truck listed in the attached documents without modifications to the provided cab and chassis.
The Class 8, 66,000 GVWR business class tandem axle truck with the 16.6-yard multi-purpose front discharging live bottom dump body shall be fully suitable for 1) snow plowing and salt/sand spreading, 2) hauling materials from dirt and debris to asphalt for paving operations.
Front mounted plow, plow hitch, dump body is to be manufactured and installed by the same company.
The installation of the one pusher axle and one tag axle to be installed by the same company that manufactures and installs the front plow, plow hitch, and dump body.
Equipment installer must work with the chassis manufacturer/dealer to ensure that all chassis measurements will accommodate the equipment, to include chassis loading requirements.
Vendor is to provide (with their bid) drawings for the dump body, plow, and a layout drawing showing how all equipment would be installed on the chassis.

a. Furnish & install -1- Hendrickson Composilite SCT13 13,500# rated steerable air lift pusher suspension, with lock-straight feature on both axles (or approved equal). Lock-straight option is required for when axles are in down position and reverse. Axles must be hub piloted, include disc brakes, and a 31 degree wheel cut. Must have 10'1" inside bridge. Tires: 295/60 R22.5 Michelin on pusher axle with steel white wheels. Compliant tie-rods with greaseless connection points.
b. Furnish & install -1- Hendrickson ToughLift FMT20 rated axle, air lift tag suspension, non-steerable. Axle must be hub piloted, disc brakes. Tires: 425/65 R22.5 Michelin with steel white wheels.

1.1 Standard Factory Equipment

All standard factory equipment shall be included with the vehicle/equipment; no deletions of standard factory equipment will be permitted unless specifically superseded in these specifications. Accessories not specifically mentioned herein but necessary to furnish a complete unit ready for use shall also be included.

1.2 Government Requirements (where applicable)

The vehicle/equipment shall be built to, and perform in accordance with, all the requirements of the latest edition of the following standards and specifications:

- FHWA, Federal Highway Administration
- SAE, Society of Automotive Engineers Specifications

- FMVSS, Federal Motor Vehicle Safety Standards
- DOT, Department of Transportation Regulations
- AWS, American Welding Society Standards
- PUC, Public Utilities Commission (Colorado)

1.3 Workmanship and Durability

Workmanship throughout the vehicle/equipment shall conform to the highest standards. Durability shall be sufficient to allow safe and efficient operation of the equipment/vehicle.

1.4 Completion of Bid Items and Alternates

Vendor shall complete each line item in "Offered Equipment" and "Cost" columns in the following manner:

A. Provide vehicle/equipment technical information: in "Offered Equipment" provide technical information as requested and provide cost of item in "Cost" column.

B. Included Standard Equipment: in "Offered Equipment" column provide technical information as requested for standard equipment in, "Cost" column write NC for "No Charge".

C. Differences: in "RED" ink in "Offered Equipment" column adjacent to Description of Equipment provide information on the item being offered, in "Cost" column provide cost if there is a bid item cost.

D. Vendors shall break out and list costs for each specification section. Failure to break out proposed costs may cause proposal to be non-responsive. Breakout costs will be used for comparisons clarifying cost issues and if deletions to the specifications need to be made.

E. Vendor is to provide (with their bid) drawings for the dump body, plow, and a layout drawing showing how all equipment would be installed on the chassis.

1.5 Major Areas of Concern

	Description of Concern
A.	Operator Cab Area to include: 1. Ergonomic layout of vehicle and all body controls. 2. Ease and speed of operation of all functions.
B.	Dual Function Ability: 1. Primary functions are to efficiently and safely: a Plow City streets of snow and ice during and after snow storms. b Distribute granular de-icing agents onto the City streets in prescribed tons/mile and record dispensed amounts. 2. Secondary function is to efficiently and safely transport hot asphalt to City paving projects and discharge the asphalt into the City paving machines efficiently and at proper temperature for efficient mat lay down of the asphalt. 3. Ability to easily and quickly switch between primary and secondary functions.
C.	Warranty: 1. Ability and cost to obtain an extended warranty on the 16.6-yard multi-purpose front discharging live bottom dump body, hoist, snowplow/spreader controls and hydraulic system. 2. Location of warranty providers.
D.	Service Ability:

	Description of Concern
	1. Ability to easily service the 16.6-yard multi-purpose front discharging live bottom dump body, snowplow, hydraulic system and spreader body components/items that require regular (yearly or less) servicing and maintenance.

2.0 Build Status of Vehicles:

2.1 Contractor and all sub vendors after receipt of the City's purchase order shall:

The primary Contractor (prime vendor) shall be responsible for providing within 15 business days to the City a "Preliminary Build Status Plan" to include but not limited to:

1. The "Build Status Plan" shall include sufficient detail to assure that the ordered units will meet specifications and be built to the highest quality standards and be delivered on time.
2. Placement date of initial order for the live bottom dump body, hoist, snowplow and snowplow control system manufactures.
3. Live bottom dump body, hoist, snowplow and snowplow control system manufacturer's date of order acceptance. Written order confirmation is required.

2.2 The Contractor shall contact all sub vendors:

The cab and chassis and body component contractors shall contact all sub-contractors providing accessories and equipment for the vehicle (s) and provide all the contractors with the list of all accessories and equipment, manufacturer's order confirmation, order number, vehicle specifications, build date and delivery date to local dealer from the vehicle manufacturer on the ordered vehicle. It is the cab and chassis selling dealer's responsibility to notify Fleet Management, Purchasing and the body contractor so the body contractor can timely order required components, the accessories, and equipment and has the items in stock and is prepared to install the body, accessories and equipment items when the vehicle arrives at their facility.

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3.0 Basic Requirements or Approved Equal.

When a brand/model is referenced in the specifications unless it is stated as "No Approved Equal" it is only a statement of expected quality, information on alternative products shall be provided with the bid so a full technical comparison can be made of the product submitted as an "approved equal".

3.1 16.6-Yard Stainless Steel Multi-Purpose Dump Body or approved equal

	Description of Equipment	Offered Equipment	Cost
A.	General Description: The multi-purpose front discharging live-bottom body shall perform multiple purposes efficiently. They are: 1. In the paving season the body shall transport and off load hot asphalt into the City's paving machines. 2. During snow occurrences the body shall efficiently dispense either salt or sand materials onto City streets with spreading rates as low as 10-lbs per lane mile to a maximum of 150-lbs per lane mile with 1 inch gate opening. 3. The body shall also transport sweeper tailings to dump sites. 4. The body shall also be capable of transporting and efficiently off-loading dirt, gravel, cobble and other general construction materials.	Make: MONROE Model: RDS 19 (Yes) No Low Spread Rate: 10 lbs/lane mile High Spread Rate: 150 lbs/lane mile (Yes) No (Yes) No (Yes) No	$58,200 00

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B.	Stainless Steel Multi-Purpose Live-Bottom Body Construction 1. Length: 19-feet. 2. Interior Width: 88-inches. 3. Interior wall height: 44-inch. 4. Volume without sideboards: 14.1-cu. yds. 5. Volume with 6 inch sideboards: 16.6-cu yds. 6. Volume with 12 inch sideboards: 19 cubic yards 7. The side walls shall radius slope from the vertical sidewall to the flat floor at the conveyor. The radius/slope shall provide for self cleaning and feeding of materials on to the conveyor. No large "flat" floor/side sections due to poor cleanout of materials 8. The dump body shall have a flat front head sheet or a small/partial dog house to allow for hoist clearance. 9. Tailgate: a. Height 50" or 6" higher than sidewalls b. Tailgate shall be "asphalt type" sloped rearward for efficient dump/discharging asphalt into the City's asphalt pavers. 10. Side walls, head sheet, longsills, top rail and tailgate shall be constructed of 1-piece no splicing of material and be fully welded. 11. Discharge, front of body. 12. Spinner to be installed forward of front pusher axle, between pusher axle and truck cab. To accommodate a 9' material spread.	Body Length: 19' Body Width: 88" Wall Height: 44" Volume without side boards: 14.1 yds³ (Yes) No Width of Flat section: 24 in Body is self cleaning/clearing with intended materials to be hauled in the body: (Yes) No Dog House (Yes) No Dog House Size: 15" W x 32" T x 16 D Height: 60 in Tailgate Type: Asphalt Type (Yes) No Discharge Location: FRONT CENTER YES "SEE PRINT"	$ $ $ $ $ $ $ $
C.	Material: 1. Sides, 1-piece, 7-gauge/ 3/16" minimum, 304 stainless steel. 2. Head sheet 1-piece, 7-gauge/ 3/16" 304 stainless steel and conform to the body contour. Fully welded inside and outside. 3. Top rail shall be a box formed 7-gauge/ 3/16" 304 stainless steel self-cleaning design (sloped to inside the body) with the top rail over lapping the side wall for additional stiffness. 4. Rear corner posts shall be full depth from top of the tailgate to the bottom of the longsills, 7-gauge/ 3/16", 304 stainless steel. 5. Side supports mid body extending from the top rail to the lower cross tube. Material 7-gauge/ 3/16" x 4" x 4' formed 304 stainless steel. 6. Longsills shall be fully boxed 1/4", 304 stainless steel, 14" deep. 7. Lower cross members shall be 7-gauge/ 3/16" x 3" x 2" channel welded to the base of the longsills on 2' centers 8. Top cross members shall be 7-gauge/ 3/16" x 3' x 3" structural angle welded to the top of the longsills on 12" centers.	Material Size & Type: 7-GA. 304 Material Size & Type: 7-GA. 304 Material Size & Type: 7-GA. 304 Quantity: 2 - ONE PER SIDE Material Size & Type: 7-GA 304 Material Size & Type: NOT NEEDED Material Size & Type: 1/4" 304 Material Size & Type: 7-GA 304 Material Size & Type: 7-GA 304	$

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D.	Under Structure: 1. Cross members 4" boxed beam ¼' 304 stainless steel on 12" centers gusseted to longitudinal beams at each beam. 2. Longitudinal beams maximum height 14" boxed-beam ¼" 304 stainless steel.	Material Size & Type: _____ Material Size & Type: _____ Height: 14.5 in (Yes) No (Yes) No	$_____
E.	Conveyor Floor: 1. The floor shall be minimum ¼" AR 400 steel 2. The floor shall be easily replaceable (bolt-in). 3. The floor shall have 7-gauge/ 3/16" 304 stainless steel conveyor chain guards. 4. The chain guards shall be easily replaceable (bolt-in).	Material Size & Type: 1/4" AR400 (Yes) No (Yes) No (Yes) No	$_____ $_____ $_____
F.	Conveyor Floor Cover: 1. The conveyor shall have a ¼" steel slide-in conveyor cover for use when not using the conveyor for dispensing salt/sand. 2. The covers shall have 2 D-hooks for lifting 3. The conveyor cover shall be secured to the body so that it cannot come loose or come out during dumping of loads 4. How is the floor cover installed and removed (explain)	Material Size & Type: 1/4" STEEL (Yes) No How Secured to Body: Two bolts at REAR.	$_____ $_____ $_____
G.	Conveyor: 1. Conveyor shall be forward discharging 2. Conveyor chain width: 23" measured outside edge of chain to outside edge. 3. Conveyor chain: pintle D667X type with 21,700-lb tensile strength per stand carbon steel with stainless steel pins and cotter pins. 4. Cross bars: 1-1/2" x 3/8" spaced on every chain link approximately 2-1/4" spacing (tight spacing). 5. Drive sprockets: 8 tooth, carbon steel keyed to 2" dia. Shaft minimum. 6. Conveyor motor: 9-hp @ 1,500 psi/15 gpm high-torque, low speed hydraulic motor direct drive to a reduction gearbox. Motor shall have built-in speed sensor with "Brad Harrison" connector. 7. Conveyor bearings: self-aligning, shielded ball flange bearings easily lubricated from central location at rear of unit. 8. Chain wiper: provided at front of conveyor unit. 9. Chain adjustment: spring loaded idler shaft with 3" minimum adjustment. Chain shall be easy to adjust from rear of spreader.	Discharge Direction: FORWARD Chain Width: 24" Pin Material: STAINLESS 21,700 TS Cross Bar Spacing: 2 1/4" Shaft Size: 2 in Motor Specs: 9 H.P. 1500 psi Connector Type: BRAD HARRISON Bearing Type: SELF ALIGNING (Yes) No (Yes) No Yes No NO SPRING FRONT ADJUST	$_____ $_____ $_____ $_____ $_____ $_____ $_____ $_____ $_____

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H.	Material Feed Gate: 1. Material feed gate shall be set for 3 openings: a. A non-adjustable 1" open position measured from top of the conveyor cross bar. b. Full closed which prevents salt/sand from dribbling out onto the conveyor. c. Full. Open position for maintenance purposes. 2. Feed gate opening 10" high x 19" wide, material stainless steel. 3. The material feed gate shall manually open/adjust and pin in position with a stainless steel spring loaded pin caged to the handle.	(Yes) No (Yes) No (Yes) No Opening Size: 13"H. x 17.25" W (Yes) No	$_____ $_____ $_____
I.	Spinner Deflector Shields: 1. Spinner Shields: a. Sides, 2 shields, pin adjusted. Constructed of stainless steel. b. Rear, 1 shield, pin adjusted. Constructed of stainless steel c. Front, 1 shield, forward deflector. Constructed of 10 ga. X 8" x 16" stainless steel channel and welded to spinner pedestal. d. One (1) easily removable covering of 2-ply reinforced rubber ¼" x 16" x 12" to be attached to forward deflector to prevent salt/sand materials from being thrown forward into the transmission/driveline area of the truck 2. One (1) rear easily removable for driveline maintenance and repair covering of ¼", 2-ply reinforced rubber shall be installed between the conveyor and around the driveline to prevent salt/sand materials from contacting any parts of the driveline." 3. Driveline protection, easily removable for maintenance and repair. a. Protective covering shall be ¼" thick, 2-ply, reinforced rubber b. Installed in and below the truck frame in front of the front drive axle to prevent salt/sand materials from contacting the vehicle axles, suspension, brakes and other components located in the axle area of the truck. c. The rubber skirting shall extend down to within 6" of the pavement d. The rubber skirting shall be easily removable for maintenance and repair, 15 minutes maximum.	(Yes) No (Yes) No (Yes) No (Yes) No (Yes) No Location: FRONT OF DRIVE AXLE Height Above Pavement: 6 in Removal/Reinstall Time: 15 minutes	$_____ $_____ $_____ $_____ $_____ $_____ $_____

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J.	Heavy-Duty Tailgate: 1. Rear tailgate shall be "high lift" forward hinged 12" on top with dump-thru capabilities. The "high lift" is desired for easier dumping of snow and leafs. 2. Tailgate construction: a. 50" high x 88" wide, 6-panel, 7-gauge/ 3/16" 304 stainless steel with a 10-gauge perimeter boxed reinforcement. b. Offset top hardware. c. Fully welded construction with reinforced hinge and latch points. d. Tailgate chains shall be covered to prevent body damage. 3. Hinge pins shall nitrate steel. The pins shall also be drilled for a safety hairpin cotter pin. 4. Safety hairpin cotter pins shall be 302 stainless steel and attached to the body with attachment chain to prevent loss. A safety pin storage hole shall be provided at each location.	"YES" Panels: 6 Material Size & Type: 7 GA 304 (Yes) No (Yes) No Pin Type: 304 SS (Yes) No	$____ $____ $____ $____
K.	Banjo Plates: 1. Banjo plates, 304 stainless steel, added for support/safety chains at rear corner posts and tail gate as required. 2. Tailgate shall be able to operate in partial to full open position.	(Yes) No (Yes) No	$____
L.	Cab Protector: 1. Center section of cab protector shall be constructed of 10 gauge material and end plates of cab protector shall be constructed of 7 gauge 304 stainless steel to cover hydraulic system, load bearing type 36" in length. 2. Cab protector shall be inset 10" per side to provide 6" minimum clearance to the exhaust pipe and be symmetrical. 3. Cab protector shall have provisions for safety strobe lights, Whelen Model 500 series surface mount with branch protection.	Size: 10 GA 304 36" Inset Amount: 10 in (Yes) No	$____
M.	Horizontal and Vertical Members: 1. All horizontal and vertical members shall be self-cleaning to prevent material build up.	(Yes) No	$____

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N.	Side Board Holders: 1. Height at top of the side boards shall not exceed 9' load height. 2. Side board holders shall be bolt thru design for with a 4" width. 3. Sideboards 3" x 6" stainless steel C-Channel with a 3" wide x 3" high, P/N CACD830 Acme Rubber Company (1.800.222.2263). 4. The dock bumper shall be bolt attached thru a continuous strip of 3/16" stainless steel, bolted on 8" centers, to the top of the stainless steel C-channel. 5. Bidder is to offer 12" X 19' sideboards with rubber top as an option.	Height @ Top of Side Boards: 6" (Yes) No Make: ACME Model: CACD830 (Yes) No (See Options)	$_____
O.	Tie Down Rail: 1. Tarp tie-down rail or 5 evenly spaced hooks on side of body and on tailgate. 2. Tie-down rail and hooks shall be 3/8" dia. 304 stainless steel minimum.	Tie Down Rail Yes (No) Hooks Quantity: 5 (Yes) No (Yes) No	$_____
P.	Rear Fenders: 1. Fenders shall be full body length with 3" formed outer lips. 2. Fenders shall be constructed from 7-gauge/ 3/16", 304 stainless steel 3. Fenders shall be reinforced to the body at the front and rear of the body minimum	(Yes) No (Yes) No (Yes) No	$_____
Q.	Suspension Protection: 1. Rear rubber skirting to 10" above the pavement shall extend across the rear to prevent asphalt from getting onto the rear suspension and causing damage. 2. Front rubber skirting to 10" above the pavement shall extend across the front of the suspension to prevent salt/sand from getting onto the rear suspension and causing damage. 3. The rubber skirting shall be easily removable for maintenance and repair, 15 minutes maximum.	(Yes) No Height Above Pavement: 10 inch (Yes) No Height Above Pavement: 10 inch Removal Time: 15 minutes	$_____ $_____ $_____
R.	Shovel Bracket: 1. Shovel hook bracket (2 required): one located on the street side wheel cover of the dump body and one located on the curbside wheel cover of the dump body. 2. The bracket shall be 304 Stainless Steel with a spring-loaded snap-close clamp to secure the shovel handle to the body with a retention bracket for the top end of the shovel to slide into. The shove blade shall face forward.	(Yes) No (Yes) No	$_____

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S.	Toolbox: 1. A toolbox shall be installed on the top of the street side fender, mounted forward. 2. The toolbox shall fit the body contour on the back side. 3. The toolbox shall be 66" L x Fender Width x 16" T. 4. The toolbox door shall be top hinged with gas props. 5. The toolbox shall be constructed of 304 Stainless Steel with steel key lockable.	Location: LEFT REAL FENDER (Yes) No Toolbox Size: 66 x 16 x 24 (Yes) No (Yes) No	$_____
T.	Mudguards: 1. Mudguards to be constructed of 304 stainless steel and installed ahead of forward pusher axle and act as an extension of the frame mounted fenders. To protect cab and body from debris. 2. Rear of tandem heavy-duty rubber anti-sail type. The mud flaps shall be easy to swing forward and hook above the rear tire. The latch system shall have a reinforced hole on the mud flap and a hook on the body to retain the mud flap. 3. The rear mud flap hinge joint shall be chain type (no axle type allowed) 4. The mud flaps shall not come unhooked when the dump body is raised for dumping into the paving machines.	(Yes) No (Yes) No Hinge Type: CHAIN (Yes) No	$_____ $_____
U.	Ladder 1. Mounted left and right rear side of body centered above the rear tire. 2. Ladder rungs shall be open grip strut non-slip type. 3. Ladder portion below the body shall be a bolt-on type. 4. Rungs shall be evenly spaced 5. Left side 1st rungs no more than 22" above the ground. 6. Right side 1st rungs no more than 22" above the ground.	Location: LH + RH ABOVE TIRES Rung Material: OPEN STAINLESS 1st Rung Height: 22 inches 1st Rung Height: 22 inches	$_____

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V.	Vibrator, 1. Vibrator, 2 required, shall be a Cougar DC-1100 12-vDC or approved equal: 2. Dump body shall have a 12-vDC electric vibrator securely attached to the each lower side of the dump body structure. 3. Each vibrator shall produce a minimum of 1,100-lbs of centrifugal force. 4. Mounting bolts shall not protrude through the floor. 5. A stainless steel safety cable shall secure the vibrator to the body with a minimum of two attachment points located on opposite sides on the vibrator to prevent the vibrator from falling off if the bolts come loose. 6. The vibrator shall be mounted using Grade 8 fasteners, washers and lock nuts. 7. The electrical system shall include a. Operator abuse automatic timer shutdown. The timer shall be mounted in a location/manner to prevent operator adjustment. b. Automatic overload protection. c. Copper #4 welding cable minimum. d. Cab mounted momentary operator button wired through a constant-duty solenoid. 8. The vibrator shall be fully sealed against high-pressure wash water, corrosion, and road dirt. 9. The vibrator shall be maintenance free not requiring lubrication or other routine maintenance functions except checking mounting bolts.	Make: Cougar Model: DC-1100 (Yes) No Force: 1100 lbs. (Yes) No (Yes) No (Yes) No (Yes) No Cable Size: #4 (Yes) No (Yes) No (Yes) No	$____ $____ $____ $____ $____

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W.	Vehicle Rear Lights: (No Approved Equals) 1. All lights shall be Truck-Lite "Lifetime Warranty" 12vDC, LED type, flush mount, sealed lexan body, grommet insulted with Fit' N Forget multi-pin plugs where possible. 2. Integral Stop/Turn/Tail/ lights mounted in the rear corner post of the dump body model Super 44 P/N 44302R or model 60 P/N 60250R. 3. Back up lights Truck-Lite LED, flush mount, sealed lexan body, grommet insulted, multi-pin units model 44 P/N 44206C. 4. Marker lights Truck-Lite LED 3 per side model 33 P/N 33050R or 33050Y. 5. Rear ID bar Truck-Lite LED model 33 P/N 33050R. 6. License plate light, Truck-Lite LED model 15 P/N 15040 7. Wiring shall be sealed and homerun. 8. Salt/sand spreader illumination light Ecco PN E92007 500 lumens. The light shall be installed to provide night vision at the spreader for the operator but shall not blind on-coming traffic. Location shall be mutually determined at installation 9. Dielectric grease shall be applied to all plug connections and terminals to prevent corrosion.	Make: Truck Lite (Yes) No (Yes) No (Yes) No (Yes) No (Yes) No (Yes) No Make: Ecco Model: E92007 (Yes) No	$____ $____ $____ $____ $____ $____ $____ $____ $____

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X.	Strobe Light System: Rear Corner Posts: 1. Whelen 500 series rubber grommet flush mount system "Ultra Bright" LED strobe/flasher. 2. Strobe lights shall be located as follows: a. Rear corner posts top, (1) required per side Whelen 500 Series 1. Installed above the integral Stop/Turn/Tail/ lights. 2. "Amber", grommet mounted top left side. 3. "Blue", grommet mounted top right side. Cab Protector: 3. Whelen Model 500 series surface mount with branch protection LED strobe, (2) required per side one front facing and one side facing on front outer corners of the cab protector. a. "Amber", mounted left side P/N 50A03ZAR. (2 required) b. "Blue", mounted right side P/N 50B03ZBR. (2 required) c. Brush Guard P/N 5-BRUSH (4 required) 4. The warning lights shall operate off of a switch package in the cab. Spec Section 3.6.E, with 1 switch for amber strobes and 1 switch for blue strobes, with light to indicate the strobe is on shall be provided. 5. Dielectric grease shall be applied to all plug connections and terminals to prevent corrosion.	Make: WHELEN Model: 500 Make: WHELEN Model: 500 (Yes) No (Yes) No	$____ $____ $____ $____ $____ $____ $____ $____ $____ $____

16.6-Yard Live Floor Dump Body Equipment SUB TOTAL COST	$58,200.00

O.J. WATSON COMPANY INC.

3.2 Body Hoist or approved equal:

	Description of Equipment	Offered Equipment	Cost
A.	Body Hoist:		
	1. Hoist, Mail Hot Double Acting 27.5-ton hoist or approved equal. This 27.5 ton hoist number comes from the NTEA web site for this model, when used on a 19' body with 12" of overhang. This number can be more or less depending on the body length and overhang. Vendor shall load test and verify that the hoist is appropriate for its intended use.	Make: MAILHOT Model: CS 170 NTEA Type: TE1 Class: 110 Ton Rating: 65.4 tons	$ 9,700.00
	2. The hoist capacity and design shall be appropriate to lift a fully heaped load of asphalt, wet sand or design water load.	Hoist Type: DIRECT LIFT	
	3. Hoist material medium-tensile steel meeting NTEA Class 110 requirements. The cylinder tubing shall be D.O.M. tubing, drawn over a mandrel and shall have tensile strength of 75,000 psi. The tube shall have a surface hardness of 80 Rockwell "B".	(Yes) No	$
	4. Hoist shall be "Direct Lift" type design with the initial cylinder force directed upward for sufficient breakaway force and cylinder force to lift the loads outlined in Sec 3.7.A.2.	Capacity: 65.4 tons at 2000 psig	
	5. Hoist pivot point bearings shall be greaseless composite bearing material "Never Require Lubrication".	Hoist Cycle Time: 30-45 seconds	
	6. Hoist capacity: 79,800 lbs on 1st stage @ 2,000 psi.	(Yes) No	
	7. Hydraulic system pressure 2,000-psig maximum with 27.5-ton capacity rated at 70% or less of system capacity.	(Yes) No	
	8. Vendor shall demonstrate with load lift test that the hoist is proper for the application and the City's intended use.	(Yes) No	
	9. Hoist cycle time: 30 to 45 seconds.	(Yes) No	$
	10. Powered up and powered down.		
	11. Rear Hinge:	Steel Type: MILD + STAINLESS Size: 1"+ Material Size & Type: 1" PINS 416 STAINLESS	
	a. Rear hinge assembly is to be fabricated in such a way as to include the rear tow plate. This assembly is to be fabricated from 1" steel plate, with a ½" x 4" full width rear brace bar.	(Yes) No	
	b. Hinge pins shall be 2-3/8" 416 stainless steel	(Yes) No	
	c. The body hinges and bearings shall be composite greaseless not requiring-lubrication.	Dump Angle: 48"	
	d. Hinge plate shall be fully welded to the dump body and to the truck frame.	(Yes) No	
	12. Dump angle 48°.	(Yes) No	
	13. Lift cylinder: Nitrated cylinder rod all stages.	(Yes) No	

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B.	Dump Body Safety Legs: 1. Dump body anti-lowering safety legs shall be provided. 2. The safety legs shall lock the dump body in the raised position preventing lowering of the dump body. 3. Pin storage (if applicable) in a sleeve, that the pin cannot fall/vibrate etc. out of shall be provided. 4. The pin shall be attached to the safety arm/dump body/chassis with chain/cable to prevent loss. 5. Safety legs shall rest in a saddle to prevent bouncing around. 6. Body/Safety Props shall be powder coated ORANGE for greater visibility	(Yes) (Yes) (Yes) (Yes) (Yes) (Yes)	No No No No No No	$_____ $_____ $_____ $_____ $_____

Body Hoist SUB TOTAL COST	$9,700.00

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3.3 Hydraulic System and Controls:

	Description of Equipment	Offered Equipment	Cost
A.	Hydraulic System Parameters and Drive Method: 1. Hydraulic system shall operate off of the truck's system at low engine idle (750 rpm) and remain functional at all engine speeds not gaining increased performance above low engine idle speed. 2. FEPTO mounted load-sensing hydraulic pump, driven off of crank shaft. Minimum 1350 drive shaft with slip yoke. Hydraulic pump is to be mounted as close as possible to the front of the chassis.	Engine Operating RPM: rpm PTO Direct Mount: Yes No Make: Spicer Model: 1350	$30,200.00 $
B.	Hydraulic System Design: 1. Hydraulic System shall be closed center, pressure compensated, load sensing type to provide hydraulic power to all accessories. All hydraulic components shall operate effectively and efficiently at 2,500 psi. 2. Pressure gauge for hydraulic circuits shall be glycerin filled. 3. Hydraulic Pump shall be cast iron variable displacement load sensing piston type, 4. Hydraulic pump size sufficient to operate the dump body snowplow and sand spreader, (approximate size 6.1 cid [cubic inch displacement] for FEPTO), pump shall not interfere with the drive shaft or other items that require periodic service or repair. 5. SAE side ports, SAE type mounting flange. Pump shall be rated for pressures up to 5,000 psi. 6. Hydraulic system shall operate at 2,000-psig maximum operational pressure and 40 gpm minimum at 1,700 rpm. 7. The hydraulic system shall be proper for intended use.	System Type: Danfoss closed center, piston pump Pressure compensated, load sensing Yes No Make: Danfoss Model: ERL100B LS Pump Size: 100cc cid 6.1 Operating Pressure: 5800 Max. psig Pump Make: Danfoss Model: ERL 100B LS Flow: 45 gpm @ 2000 psi @ 1700 rpm PTO Make: Spicer Model: 1350 Yes	$ $ $ $ $ $ $ $

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C.	Hydraulic Reservoir and Valve Enclosure System:		
	1. A frame mounted reservoir will be provided between the back of the truck cab and the front of the dump body. Construction will be of 10 gauge stainless steel. Oil reservoir shall be sized appropriately to accommodate all hydraulic functions. Reservoir shall include a tip-out shelf for the mounting of valving system.	Reservoir Volume: 40 gallons	$
	2. Hydraulic oil shall be ISO Grade 32 multi-viscosity with a -40°F pour point.	Oil Type: ISO Grade 32	$
	3. Valve assembly to be attached to the tank structure.	(Yes) No	
	4. Magnetic drain plug.	(Yes) No	$
	5. Oil level and temperature sight gauge cage protected. The oil level indicator line shall be permanent (No Decals/Stickers)	(Yes) No	$
	6. Internal baffle	(Yes) No	$
	7. Filler breather assembly w/mesh basket and chain.	(Yes) No	$
	8. Raised formed flange for breather	Size: 2"	$
	9. Suction port 2" NPT.	Size: 2" NPT Mesh Size: 100	$
	10. Suction strainer two inch NPT 100 mesh	Size: 3/4" NPT	$
	11. Drain port 3/4 inch NPT on bottom	(Yes) No	$
	12. Provisions for in-tank hydraulic oil filter.	(Yes) No	$
	13. Valve 2" full flow brass ball valve shall be plumbed at the suction port of the tank	(Yes) No	$
	14. Valve compartment shall have an easily removable, no tools required, sealed access for servicing valves.		$
	15. A hydraulic oil recirculation filter system connection system shall be provided with the following:	Tubing Size: 1" inches	
	a. The suction and return tubes shall be 1" ID and be installed on the tank top side on each tank end (cross flow) approximately 4" inside the end caps and extending to within 1/4" off the tank bottom at the lowest point.	Distance of Tank Bottom: 1/4 inches	
	b. The hydraulic connections shall be 1" Parker FF male (flat face) fittings and orientated so they face to the inside (each other).	Make: PARKER Type: FF	
	c. The suction and return lines shall be 1" ID with a 60° cut on the bottom to assure adequate hydraulic oil flow.	(Yes) No	
	d. The suction and return lines shall be interchangeable in use so it does not matter which hydraulic tank fitting the filter system suction and return lines are connected to.	(Yes) No	

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D.	Hydraulic Filtration: 1. In-tank hydraulic filter. a. Rated for no less than 80 gpm b. Filter Schroeder CPI SG03020010 with KZ 10 Synthetic 10 micro-glass element with visual condition indicator gage 2. High Pressure, Pressure line Parker model (World Pressure Filter) WPF 7,000 psig rated with 7-micron absolute tandem type (1 per pump).	Yes No Rating: 80 gpm Make: Schroeder CPI Model: SG03020010 Filter Rating: 10 microns Make: Parker Model: WFP3xxxx Filter Size: 7 microns	$ $ $
E.	Hydraulic Control Valve Section: 1. The hydraulic valve section shall be a modular manifold design that will efficiently and effectively operate either a front mount salt/sand conveyor and spinner, Slide-in salt/sand spreader with liquid (prewet, anti-ice @ 15 gal/lane mile and ice blast @ 75-gal/lane mile), dump hoist and other specified hydraulically driven components. 2. Each hydraulic function shall have its own individual manifold stacked together to form the manifold base. The manifold shall consist of: a. Inlet porting: SAE #16. b. Outlet porting: SAE #16 c. Load sense porting: SAE #4. 3. The dump body manifold shall be stacked next to the inlet port. 4. The hydraulic control valves shall be pulse-width modulated and proportionally controlled. 5. Each hydraulic valve segment shall be individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or other hydraulic valve segments. 6. Each hydraulic valve segment shall have its own individual heavy-duty, continuous-duty solenoid coil. 7. Each solenoid coil shall have an LED power indicator light for troubleshooting and have water/magnesium proof AMP Jr. Style connectors. 8. All coils shall operate on 12vDC and require a maximum of 1,400 mille-amps. 9. Each hydraulic valve shall be equipped with a cam lever style manual override except for the conveyor and spinner sections	Make: Danfoss Model: PVG32/100 Yes Yes Compliant w/ section 3.3.E 9 Size: 16 Size: 16 Size: 4 Manifold Design: Section w spreader manifold Valve Type: Electric PWM Yes serviceable w/o removing hoses or valves Yes Yes Yes	$ $ $ $ $ $ $

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	10. Valve flow ratings:		
	a. Dump body section shall be a Sauer Danfoss PVG100	Make: Model: Danfoss PVG100	
	rated at 39 gpm minimum.	Rating: 39 gpm	$
	11. All other sections shall be properly sized for actuated function.	Rating: 10-25 Sized for function required	
	The sand/salt spreader manifold shall have 4 valve cartridge ports for:		$
	a. Conveyor	Yes	
	b. Spinner	Yes	
	c. Prewet (blank/plugged for future use)	Yes	
	d. Anti-Ice (blank/plugged for future use)	Yes	
	12. Control valve specifications		
	a. Dump Body Hoist: PVG100 High Flow, 4-way double acting with 500 psi down side work port relief valve.	Yes	$
	b. Plow Lift: PVG32, 4-way double acting with adjustable LSRV set at 750 psi down side.		$
	c. Plow wing Left Angling: PVG32 4-way double acting with 2000psi forward, 1100psi reverse Port RV.	Yes GPM: 10.6	$
	d. Plow wing Right Angling: PVG32 4-way double acting with 2000psi forward, 1100psi reverse Port RV.	Yes GPM: 10.6 Yes GPM: 10.6	$
	e. Spare section TBD: PVG32 4-way double acting with 2000psi LSRVs.		$
		Yes GPM: 25	$

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F.	Plow Edge Protection System:	Make: Model:	$
	1. The snowplow edge protection system shall function to: a. Reduce plow weight on snowplow edge. b. Eliminate the requirement for castor support wheels. c. Add hydraulic up (lift) pressure to snowplow lift circuit to reduce weight of the plow on the roadway.		
	2. The cumulative weight of the plow weight and hydraulic down pressure shall be adjustable and balanced with up/lift hydraulic pressure to provide efficient snowplowing and reduce plow edge wear.	Yes	
	3. Adjustments shall be sealed/tamperproof so only authorized personnel can make adjustments to plow balance settings.	Yes How Sealed: Enclosure w locking nut	$
	4. The snowplow shall be free to follow the contour of the roadway and shall do so utilizing an active modulating hydraulic function that forces the snowplow to the road surface as well as holds (counters) the plow from full force down on the roadway. The net result shall be:	Yes	
	a. Plow lift must be immediate to avoid plow or roadway damage.	Yes	
	b. Plow return to plowing shall be fast to minimize under plowed stretches of roadway.	Yes	
	5. The amount of both the down force and countering up lift shall be adjustable to provide proper plowing operation.	Yes	
	6. The balance system shall not require being turned off to raise or lower the plow.	Yes	$
	7. When the plow balance system is turned off the full weight of the plow shall be applied to the roadway.	Yes	
	8. The plow balance system shall be controlled via CAN integrated rocker switch located on the snowplow control panel. The switch shall be easy to access and lighted when the circuit is in operation.	Yes Where located: Operator control console	$
	9. The balance valve system shall utilize manifold mounted, solenoid activated cartridge valves.	Yes	$
	10. Each solenoid coil shall have an LED power indicator light for troubleshooting and have water/magnesium chloride proof Din connectors.	Yes	$
	11. Each hydraulic valve segment shall have its own individual heavy-duty, continuous-duty solenoid coil.	Yes	$
	12. Hydraulic test ports for field observation of control pressures shall be provided in a very easy to access location.		$

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G.	Snowplow, Spreader and Hoist Control System or Approved Equal:		
	1. Certified Power "Freedom" XDS Control system with the following characteristics or Approved Equal.	Make: Certified Power Model: Freedom XDS	$
	2. A complete in-cab integral console control system shall include all hydraulic functions, spreader functions, auxiliary functions, warning indicators and diagnostic and programming functions.	Yes	
	3. The XDS system shall be ergonomically mounted on a center floor or seat mounted armrest design control console as follows::	Yes	$
	4. The winter snowplow/snow fighting and summer systems shall:	Type System: CAN Open	
	a. Communicate over a CAN Open system bus using CAN Open protocol and shall not be a proprietary communication protocol.	Number of Modules: 4	
	b. The system shall consist of four primary modules that reside on the Bus and allow flexibility in mounting configurations.	Yes	
	c. The system is completely expandable and allows for additional modules to be added to the CAN Bus.	Yes	
	d. The 3 primary components of the system are firmware upgradeable using a laptop and Certified Power, Inc. interface cable(s). Display firmware is USB upgradeable.	Yes	
	e. The configuration file and calibrated system file can be saved via USB 'Thumb' Drive for transfer to other systems or as a backup providing the ability to use specific configurations for varying vehicle use or operator skill level.	Yes	
	f. The original setup configuration shall be maintained at the factory as a secondary backup and is traceable by part number.	Yes	
	g. The system shall incorporate three levels of security and access that is password protected and defined by the user. No tools, PC or Fobs are required for System Diagnostic, Calibration or Configuration.	Yes	
	h. There shall be three levels of access called 1) "operator", 2) "technician" and 3) "administrator" shall give the user varying levels of access to the system setup, data, configuration fields and parameters based upon access given.	Yes	
	i. Operator shall only have access for on-screen data and collection of dispersion data.	Yes	

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	ii. Technician shall be capable of calibrating and diagnosis iii. Administrator shall have full access to all menus in the system and have the ability to make system configuration changes as well as system parameter changes.	Yes Yes	
	5. The in-cab control system panel shall include 6 user defined CAN based rocker switch inputs and up to 4 joystick inputs on 3 individual single acting Joysticks.	Yes	
	6. The XDS Display: a. The display screen shall include: 7 inch, 800x480 RGB WVGA 18 Bit color touchscreen enclosed within durable aluminum housing. It will utilize an ARM 9 processor and include (1) USB port and (4) Digital outputs capable to 400 mA.	Yes	
	The display will include a well-designed UI that allows the user to navigate within the system software easily. The UI will include a self-guided (F.I.R.S.T.) Freedom Interactive Rapid Start Tutorial for setup and calibration. Context appropriate help menus will also be available within individual setup screens.	Yes	
	The screen layout will be user defined to optimize functions as well as to view and interact with the system within a 4x5 grid layout. Users may combine or separate grid location boxes in order to view system information in the combination and shape of their choosing. Users will be able to easily reconfigure the system for rapid transition between winter and summer operations with unique layouts and system configurations.	Yes	
	System information on the screen may include, but is not limited to: granular rates, prewet and anti-ice rates, lane indication, road/air temperature, hydraulic pressure, system status, error messages, plow float indication, auto/manual mode indication and material currently being used. Active functions that are not in use shall show "off" and the graphic be "grayed out" for ease of operator interpretation. Tile color assignments may be customized by the user.	Yes Yes Yes	

	The display will provide a built in diagnostic feature allowing technicians to view all input signals in real time. The display will also provide error logging and system status change logging for reviewing operator inputs.	Yes	
	b. When configured the display will display:		
	i. Granular rate, in lbs./lane mile.		
	ii. Prewet rates gallons/lane mile (provided but not used this application).	Yes	
	iii. Anti-ice rates, gallons/lane mile (provided but not used this application).	Yes	
	iv. Anti-ice lane indication, (not used this application).		
	v. Road/air temperature, degrees °F or °C.		
	vi. Hydraulic pressure PSIG.		
	vii. System status, error messages.	Yes	
	viii. Plow float indication.		
	ix. Auto/manual mode indication.		
	x. Material currently being used.		
	c. The unload mode shall be available when using "Auto Only" mode to allow the spreader to be emptied while the unit is stationary.	Yes	
	d. Granular rates shall be infinitely adjustable and include up to 6 material types.		
	e. Lane spread configurable for either % of lane width or calibrated lane(s).	Yes	
	f. The system shall automatically adjust granular output to maintain constant lbs./lane mile output when using calibrated lane feature for up to 4 lanes for accurate ground speed application.		$
	g. Either or both pre-wet and anti-ice rates can run accurately independently or simultaneously (provided but not used this application).	Yes	
	h. The anti-ice lane system shall automatically adjust liquid output to maintain constant gallons/lane mile output for up to 3 lanes when using calibrated lane feature (provided but not used this application).	Yes	
	i. The system shall have "over speed" protection for the liquid functions that will alert the operator and shut down the liquid function when the driver has exceeded	Allowed Rate: User defined gal/lane mile	
		Yes	

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	a user defined speed (provided but not used this application).	Yes	
	j. The liquid functions shall automatically stop due to low level or overspeed conditions (provided but not used this application).	Yes	
	k. The system shall automatically go into "override" mode in the event of sensor failure(s). The failure(s) shall be logged in diagnostic error log.	Yes	
	l. The active functions that are not in use shall indicate "off".	Yes	
	7. The XDS Operator Control Panel:		
	a. The operator panel shall have a durable hard plastic faceplate utilizing separate high life magnetic snap action switches and 3 high life magnetic 16 position detented encoders used for:		
	i. Rate.	Yes	
	ii. Lane.		
	iii. Liquid control (provided but not used this application).		$
	b. Panel tactile controls shall be protected by side mounted 'crash' bars.		
	c. The operator shall be able to easily and quickly adjust spread rate within allowed rates:		
	i. Granular: 10 lbs/lane mile to 150 lbs/lane mile.	Yes	
	ii. Proviso: Spreading system hardware incorporates rate capability.		
	iii. Liquid: 15 gal/lane mile to 75 gal/lane mile (not active)	Yes	
	iv. Proviso: Spreading system hardware incorporates rate capability.		
	d. The detented positions will be user programmable as to the value of each increment in the setup menu.		
	e. The operator panel provides input capabilities to support RS232, RS422, truck speed input, and multiple digital I/O.	Yes	
	f. The panel shall have provisions for RoadWatch or Visalia Surface Patrol road/air temperature sending unit input for indication on Operator Display.	Yes	

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	g. The panel shall have user definable and operator initiated backlighting that dims the display for night viewing.	Yes	
	h. The panel shall incorporate Blast and Pause (Interrupt) functions.	Yes	$
	i. The panel shall incorporate mode, product and select switches integrated in the panel.	Yes	
	j. The spreader and liquid functions when enabled shall include closed loop feedback valve trim feature that will set the PWM minimums and maximums during calibration process.	Yes	
	k. The software shall incorporate a "test speed" mode for use in testing the system safely without requiring the truck to be moving or the drive axles engaged.	Yes	
	8. The XDS Joystick Valve Driver Module and Joystick Module:		
	a. Joystick Module shall Include: (14) digital Inputs and (10) Joystick Axis inputs with Float(s) provisions.	Yes	
	b. Control of snow plow and body dump hoist shall be through 3 individual electric proportional Joysticks.	Yes	
	c. The joystick functions shall have permanently and clearly labeled functions.	Yes	
	d. The snowplow functions shall be:		
	i. Left joystick Forward movement = Plow left wing forward	Yes	
	ii. Left joystick Rearward movement = Plow left wing reverse	Yes	
	1. Top push button = Blast		
	iii. Middle joystick Forward movement = Plow right wing forward	Yes	
	iv. Middle joystick Rearward movement = Plow right wing reverse	Yes	
	1. Top push button = Pause		
	v. Dump body hoist and front Plow functions as follows:		$
	1. Right Joystick w/deadman Forward movement =Hoist Lower.	Yes	
	2. Right Joystick w/deadman Rearward movement = Hoist Raise.	Yes	$
	3. Right Joystick no deadman Forward movement = Plow down	Yes	

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	4. Right Joystick no deadman Rearward movement = Plow up.	Yes	$
	9. The XDS Hydraulic and Product Valve Driver Module:		
	a. All electrical connections shall be fully sealed threaded IP68 assemblies for environmental protection and wiring retention.	Yes	
	b. All external wiring shall be TPE fully sealed and with IP68 connections between the driver module and the valves.	Yes	
	c. Output Module to include:		
	i. (14) High-side PWM capable, individually programmable Outputs:		
	ii. Analog 4-20 mA, 100 ohm Input (1)	Yes	
	iii. Configurable Switch Inputs (NPN or PNP) (8) required.		
	iv. Digital (NPN) Switch Inputs (3) required.		
	v. Feedback Sensor Inputs (4) required.		
	d. All PWM (Pulse Width Modulated) outputs are software configurable and can be controlled by closed loop operation, proportional input devices, or digital input devices.	Yes	
	e. Field Programmable Module Ports: Minimum (4) up to (14) additional ports for future system functions or circuit reassignments exclusive of basic system configuration.	Yes	
	f. The module for system safety shall have over temperature shutdown, over current shutdown, and low voltage shutdown.	Yes	
	g. The valve driver module shall reside on the BUS as the "Master" Power and activation to 'XDS' will be through a relay module (provided with the 'XDS' system).	Yes	
	h. All circuits will be ignition switch "Run" activated.		
	i. A complete wiring diagram shall be provided for the specific model provided to include:	Yes	
	i. Schematic shall be part number and location indicated.		
	ii. Wiring schematic shall be provided in PDF format.	Yes	
	iii. Installation and troubleshooting information		

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	iv. A parts breakdown for the entire 'XDS' system shall be provided. 10. 10. The final mounting position of all the operator controls shall be mutually agreed upon at installation.	Yes	

H.	Hydraulic Hoses (No Approved Equals): 1. All hoses must have JIC swivel connections at each end located in such a manner to aid in component replacement 2. High-pressure hose Parker 451ST SAE 100R17, 1" dia ID steel braided 3,000-psi working pressure. 3. Return hose Parker 451ST SAE 100R17, 1" dia ID steel braided 3,000-psi working pressure. 4. Suction hose Parker 811HT 1 1/2" dia ID steel reinforced 150-psi working pressure with crimped swivel ends. 5. All hydraulic hoses shall be shielded and secured/clamped at 18" intervals to prevent chaffing or damage under the truck.	Yes No Brand: Type: Brand: Type: Brand: Type: Yes No	$ $ $ $ $

Hydraulic System and Controls SUB TOTAL COST	$30,200.00

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3.4 Tarp System or Approved Equal:

	Description of Equipment	Offered Equipment	Cost
A.	Tarp: 1. Pull Tarp model N9.5E, 12vdc electric tarp system with pull-arms and anti-sail arms. 2. Tarp system shall be installed on cab protector with strobe light provisions. 3. Tarp must be able to extend approximately 2' past dump body. 4. -3- Strips of 2" DOT reflective tape attached to outside surface of tarp arms on each side.	Make: PULLTARP Model: N9 (Yes) No Distance: MIN 2" (Yes) No (Yes) No	$3,100.00 $ $ $
B.	Tarp Material: 1. Tarp Asphalt type A-2 14-oz nylon material, asphalt rated urethane coated both sides with "Super Slick Coating" rated at 400°F.	Tarp Material Rating: Asphalt	$
C.	Tarp Wind Deflector 1. A tarp wind deflector shall be provided at front of hopper.	(Yes) No	$
D.	Pull Arms: 1. Pull arms shall accommodate tall or irregular loads. 2. Pull arms shall be easily and quickly replaceable with standard electrical galvanized conduit. 3. Anti-sail arms shall be attached to the pull arms	(Yes) No (Yes) No (Yes) No	$
		Tarp System SUB TOTAL COST	$3,100.00

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3.5 Pintle Tow Pull Plate:

	Description of Equipment	Offered Equipment	Cost
A.	Pintle Plate: 1. Assemble the Pintle Plate in such a manner that the plate shall not contact the paver before the truck tires touch the paver hitch arms.	(Yes) No	$ 2,600.00 $
B.	Mounting 1. Steel plate 1" thick mounted and gusseted to truck frame.	Plate Thickness: 1" Height: 24"	$
C.	D-rings: 1. D-rings 1"-dia 3" x 4" ID 47,000-lbs MBS 2. Two required for safety chains mounted to steel mounting plate.	D-Ring Spec: 1" Yes (No)	$
D.	Pull plate will have no trailer towing function.	(Yes) No	$

Pintle Tow Hook SUB TOTAL COST	$ 2,600.00

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3.6 Snowplow System Monroe Snowplow, Model MPV44-52-12-TE-Power V-Plow and Equipment or Approved Equal

A.	Moldboard: 1. Specifications shall describe a two piece power folding moldboard plow with torsion spring trip cutting edge. 2. Height of the moldboard shall be 44" at center pivot point and taper to 52" at discharge on both ends with a 6" top punch cutting edge installed. 3. The moldboard sheeting shall be constructed of 10 gauge A569 steel with tensile strength of 55,000# to 70,000#. 4. Four vertical support ribs will be flame cut from 5/8" A36 steel with tensile strength of 58,000# to 80,000#. Ribs to be 4" at bottom and 3" at top. 5. Top moldboard angles shall be 3"x3"x3/8" 6. Two horizontal support bracings between ribs shall be formed from ¼" plate steel located 8" and 20" above cutting edge trip pivot. 7. Center pivot pin will be 3" diameter cold rolled round 44" in length. 8. Eight center hinge bushings shall be 4" mechanical tubing with .468 wall thickness. All bushings shall have grease zerks. 9. Hinge bushings to oscillation plate will be welded to 1" plate steel and act as parallelogram lift attachment. 10. Moldboard to include two screw adjustable mushroom jack assemblies to assist and stabilize plow when detached from truck. 11. The provide snow plow shall be interchangeable without modification to other 5 axle V plow trucks.	Make: Monroe Model: Power "V" Trip Edge Sections: two (Yes) No Interchangeable with CH109 & CH110 (Yes) No	$ 22,575.00

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B.	Cutting Edges: 1. Kuper GK-5, 2-piece blade with ceramic inserts in thick molded rubber cutting edge punched with round holes to AASHO standards on 12" centers; ends shall be punched for 3-hole curb shoe (Spec Sec. 11.7-D. The 5/8" dia. mounting holes shall be round; slotted holes are not acceptable. 2. Cutting edge kit to include wrap around nose guards at center pivot point on moldboard. 3. Cutting edge support angle shall be ¾" x 4" x 4" with ¾" flame cut hinge points. 4. The cutting edge support angle is 2 sections pivoting on one piece of 1-1/2" schedule 80 pipe with a piece of 1-1/2" 1040 cold steel with a 1" flame cut steel end welded in to retain the pipe in place. 5. There shall also be ½" thick gussets welded on each end of the inside of the cutting edge support angle and midway between all punched holes to provide extra support for the cutting edge. 6. The cutting edge shall have six torsion springs that are encased between the two bottom angles. 7. These springs shall be adjustable by means of a lock which can be loosened or tightened by a thread adjustment. 8. The spring dimensions are to be ¾" wire, 16.25" left hand turns, 5160H material, and have a 3-3/4" O.D.	(Yes) No Material: _____ (Yes) No	$_____

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C.	Plow Frame: 1. The plow shall have a parallelogram leveling push frame which keeps plow moldboard in the same plane to the ground at all points throughout lift travel sequence. 2. Lift cylinder shall be 4"x14.8" stroke, double acting with 2" nitrated rod. 3. Lift linkage will be a nested cradle to act as a float and allow the plow to follow road contour. Cradle will have a rigid pinned position to uncouple plow from truck chassis. 4. Drive frame to include mouse ear style reversing stops, for rollers to ride on when plow is reversed and raised or lowered. 5. The parallel lift frame shall have a minimum pair of reversing cylinders, 3.5" x 20" that are dual acting and have 2" nitride cylinder rods. 6. Reversing frame shall have set of upper and lower lift arms to achieve parallel lifting action. 7. Plow must have oscillation plate built in for plow to react to pavement deviations, and prevent torsion to truck frame. 8. Oscillation kit to provide springs 3.5" OD x 6.75" OAL on each side of swivel to help center and level unit. These are to be adjustable via 1.25" x 5 Acme rod. 9. Plow portion attaches to truck portion via quick latch system to accept two inch lock pins.	(Yes) No (Yes) No Yes No (Yes) No (Yes) No	$_____ $_____ $_____
D.	Deflector: 1. Plow to include .375" x 12" x 12' rubber snow deflector with backing strip for support. 2. Plow shall have a center deflector mounted above moldboard hinge point. Deflector to be made from .375 UHMWPE poly. Deflector to be half-moon shaped 31" wide. Deflector to have a steel backing plate for support.	Make: MONROE Model: N/A (Yes) No	$_____

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E.	Hydraulics: 1. All ports are to be O-ring fittings and to have a jam nut, so angled fittings can be accurately positioned without fluid leakage. 2. The hydraulic hoses are to be abrasion resistant, extremely flexible and have a rated working temperature range of -50 to 250 degree F. 3. The hoses shall be ½" I.D. and rated at 3,000 PSI working pressure and 12,000 PSI burst pressure. 4. Included with the plow are two relief cushion valves set at 1,250 PSI to protect the cylinders from damage. 5. The angle of the cylinders in relation to the moldboard have been designed to eliminate side stresses to the rod. 6. All hardware and fasteners shall be electronically plated and corrosion resistant. 7. All fasteners shall be grade 8, both cap-screw and nut. 8. All hydraulic hoses shall meet the following requirements: a. The hoses shall have a .500" I.D. x .780" O.D., shall have a maximum working pressure of 3,000 PSI, a minimum burst pressure of 12,000 PSI. b. The inner tube of the hose shall be seamless, oil resistant synthetic rubber and reinforced on the outside with one braid of high tensile steel wire. c. The cover on the outside of the hoses shall be weather/abrasion resistant black synthetic rubber.	(Yes) No Size: _____ (Yes) No	$_____

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F.	Painting process of unit: 1. In view of environmental safety, environmental sensitivity and a corrosion resistant finished product, the paint process for all steel components shall be powder coat paint, incorporating the encasement type process. 2. The material used shall be environmentally friendly and shall consist of 95% recycle residue that emits "0" VOC's into the environment. 3. Following the shot blast process, all steel components shall pass through an alkaline wash with a clear water rinse immediately following. 4. Following the alkaline wash, all steel components shall pass through a phosphate wash with a clear water rinse immediately following. 5. In further preparation of the powder coat paint process, all components shall be oven dried following the wash and sealing process. 6. Immediately prior to the powder coat paint being applied, all steel components shall be preheated to a minimum of 100-degree Fahrenheit for uniform powder paint coating. 7. Instantly following the preheat stage, the powder coat paint shall be electro-statically applied in excess of three mils thick. 8. In view of metal thickness and steel mass present and for consistent adhesion of the powder coat paint, the minimum oven curing time shall be 25 minutes at a cure temperature of no less than 400 degrees. 9. The powder paint used shall be TGIC Polyester orange moldboard with the push frame being coated black in color.	Make: MONROE Model: N/A (Yes) No (Yes) No	$_____ $_____
G.	Miscellaneous: 1. All welding performed on the plow must be in compliance with current AWS procedures and guidelines recognized within the State of manufacture. 2. Manufacturer shall provide caution labels, decals and any warnings deemed necessary.	(Yes) No	$_____
H.	Warranty: 1. Manufacturer shall attach their standard warranty statement. 2. All components described herein shall carry minimum one-year warranty.	ATTACHED AT DELIVERY	

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I.	Blade Guides: (No Substitutes) 1. Winter Equipment Company (800.294.6837) PN KT-PM36 2. Blade guides one per side, 2 required. 3. Length 36" long, color "Safety Orange" outer PVC sheeting over wire cable.	Make: Winter PN: KT PM36 (Yes) No	$_____
J.	Joystick Controls: 1. The snowplow and all functions shall be joystick controlled. 2. The joystick shall be capable of controlling the Monroe Model MPV44-52-12-TE-Power V-Plow front snowplow or approved equal. 3. The snowplow shall operate off the hydraulic system and controls contained in specification section 11.4.A thru F of this specification.	(Yes) No (Yes) No (Yes) No	$_____

MONROE Plow $ 22,575.00

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3.7 Monroe Flat Plate Hitch or Approved Equal

	Description of Equipment	Offered Equipment	Cost
	Hitch Type: 1. Flat plate quick hitch or approved equal shall interchange with existing flat plate hitches installed on City trucks CH94 through CH110 and easily mount/dismount/operate existing Monroe Model MPPJ39R10-ISTT-PLG-POLY snowplows.	(Yes) No	$ 3,120.00
	2. Truck mounted plate shall be 5/8" thick minimum with two upper steel claws mating upper portion of plow to hitch.	Plate Thickness: 5/8" Material: HRA 36	$
	3. Lower attachments shall mate lower portion of plow to hitch. The attachment shall use male spring loaded handle operated pins on flat plate hitch mating into a female holes in plow frame.	(Yes) No	$
	4. The spring loaded latching handle (painted orange) shall be top mounted on the plow hitch. The handle shall be easy to operate for various size and strength operators.	(Yes) No	$
	5. When plow is removed from truck only a flat plate hitch shall remain on the truck. Lifting cylinder and other associated items shall stay with the plow assembly.	(Yes) No	$
	6. Plow/hitch design shall not obstruct full forward tilt of the trucks hood assemble. Hose connections shall be in one (1) central easy to access location.	(Yes) No	$
	Front Snowplow Hydraulic Quick Release Coupling System: 1. The snowplow hydraulic connections shall be thru a multi-hose lever-arm connector system.	Make: FASTEN Model: N/A	$
	2. The system shall be a Faster Quick Release Coupling Multi-Faster Series. (No Approved Equals)	(Yes) No	$
	a. Female Coupler: P/N 2P608-6-12 SFC b. Male Coupler: P/N 2P608-6-12 SMC	Female P/N: 2P608-6-12 SFC Male P/N: 2P608-6-12 SMC	
	c. All male/female fittings shall have protective cover guards to prevent dirt and damage when the hoses are disconnected	(Yes) No	$

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	Paint: 1. Paint shall be "Black" polyester powder epoxy painted, applied following recommended procedures. 2. All parts painted prior to assembly. 3. Powder epoxy paint shall be a minimum of 2-mils thick. 4. Removal of all surface contaminations (grease, welding and surface slag). 5. Steel shot blasting of all parts.	Type of Paint: Powder Coat Paint Thickness: 2 m mils (Yes) No (Yes) No	$

Monroe Flat Plate Hitch UNIT SUB TOTAL COST	$3,120.00

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3.8 Monroe Snowplow Miscellaneous Items

	Description of Equipment	Offered Equipment	Cost
1.	Snowplow Lights: 1. LED 10 Diode Pattern 7" round plow light kit Truck-Lite model 80863 2. Lights shall be installed using rubber cushion pads and 3-point stainless steel brackets to prevent damage from corrosion. Lights shall be installed on truck fenders. : 3. Headlight wiring shall be sealed. 4. Wiring connectors shall be as "waterproof" as practical using shrink tube and dielectric grease. 5. All non-factory wire connections (splices, connectors, etc.) shall be soldered and shrink tube insulated with adhesive/meltable sealant, thick wall polyolefin shrink tubing (3M EPS-300 or equal). 6. Dielectric grease shall be applied to all electrical plug terminals and connections to reduce corrosion.	Make: Truck Lite Model: 80863 (Yes) No (Yes) No (Yes) No (Yes) No	$2,860.00

Monroe Snowplow Miscellaneous Items TOTAL COST	$2,860.00

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3.9 Sundries Equipment

	Description of Equipment	Offered Equipment	Cost
A.	Protective Skirting: 1. Rear rubber skirting to 10" above the pavement shall extend across the rear to prevent asphalt from getting onto the suspension and causing damage. 2. Front rubber skirting to 6" above the pavement shall extend across the front of the suspension to prevent salt/sand from getting onto the suspension/air bags and causing damage. 3. The rubber skirting shall be easily removable for maintenance and repair, 15 minutes maximum.	(Yes) No (Yes) No (Yes) No	$1250.00 $ $
B.	Driver Height Warning Sign 1. Installed on truck dash providing the travel height of the vehicle. 2. Sign shall be in 1" "white" block letters.	(Yes) No (Yes) No	$
C.	Conspicuity Tape: 1. Conspicuity tape shall be applied to both sides of the dump body, and to the tailgate; location at the lower skirt line and on the top rail 2. DOT-C2 Standard No. 108 reflective conspicuity tape 3. Tape shall be applied in symmetrical pattern from middle of panel outward.	(Yes) No Make: REFLEXITE Model: 18806 (Yes) No	$

Sundries Equipment SUB TOTAL COST	$1,250.00

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3.10 Lift Axles

	Description of Equipment	Offered Equipment	Cost
A.	Furnish & install -1- Hendrickson Composilite SCT13 13,500# rated steerable air lift pusher suspension, with lock-straight feature on axle (or approved equal). Lock-straight option is required for when axles are in down position and reverse. Axles must be hub piloted, include disc brakes, and a 31 degree wheel cut. Must have 10'1" inside bridge. Tires: 295/60 R22.5 Michelin on pusher axle with steel white wheels. Compliant tie-rods with greaseless connection points.	(Yes) No	$ 19,600.00
B.	Furnish & install -1- Hendrickson ToughLift FMT20 rated axle, air lift tag suspension, non-steerable. Axle must be hub piloted, disc brakes. Tires: 425/65 R22.5 Michelin with steel white wheels.	(Yes) No	$

Lift Axles SUB TOTAL COST	$ 19,600.00

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3.A Optional Equipment

Do not include Optional Equipment in the total price of the vehicle; however an equipment price must be provided. The City will determine if the equipment is to be purchased.

	Description of Equipment	Offered Equipment	Cost
A.	Spare Parts: 1. Joystick controller quantity (1)	Make: Certified Power Model: SG07010384	$372.00
B.	Inspection Trip: 1. The City and County of Denver reserves the right to inspect at the cab and chassis and body fabricating plant during the construction of the first (1st) article prior to paint and delivery. 2. When the fabricating plant is located further than 200 road-miles from the City and County of Denver, the bidder shall include in the bid price all travel expenses to the fabrication plant for the inspection. 3. The City may select to send 4 representatives to inspect the 1st article. The provided costs shall be based on one (1) person per day and the City will determine how many representatives the inspection will require and how many days the inspection will require. 4. Inspection Trip Costs to include: a. Air fare per person: b. Surface transportation costs: c. Lodging per person per day: d. Meals per person per day: 5. Total cost per person for 1st article inspection trip:	Provide information: Distance to fabrication plant: miles Plant Location: Air Fare: $ 565.00, Airline: FRONTIER Surface Transportation: $ -0-, Mode: CAR Lodging / day: $ 150.00, Hotel: MONROE Meals / day: $ 75.00	$565.00 $ -0- $150.00 $ 75.00 $790.00

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4.0 Dump Body and Other Dealer Provided Equipment (where applicable):

4.1 Electrical Systems:

A. All non-factory wire connections (splices, connectors, etc.) shall be soldered and shrink tube insulated with adhesive/meltable sealant, thick wall polyolefin shrink tubing (3M EPS-300 or equal). No non-factory crimp connections allowed. No cutting or splicing into the factory wiring harnesses allowed.
B. All accessories (strobe lights, operator controls, light bar, etc.) shall be wired through a 12-vDC constant-duty solenoid and controlled by bus bar mounted and permanently labeled auto-resetting circuit breakers. The solenoid shall be wired to the key switch.
C. All dealer/vendor installed items, which require connecting into the vehicle's electrical system shall be done using an OEM factory modified wiring kit whenever possible.
D. All non-factory wiring shall be encased in a totally sealed wiring harness (no plastic split loom) to prevent corrosion from magnesium chloride. The wiring harness shall be well secured to the truck with neoprene aircraft stainless steel tubing clamps. Rubber grommets shall be used at all areas where the wiring passes through areas that could damage the wiring. Unprotected wiring in any application is unacceptable.
E. Electrical cables and wiring harnesses shall be neatly run and clamped with neoprene aircraft stainless steel tubing clamps. Clamp spacing shall not exceed 18-inches.
F. Dielectric grease shall be applied to all electrical plug terminals and connections to reduce corrosion.

4.2 Fasteners:

A. Grade 5 (SAE or USS) or 8.8 (metric) minimum, bolts, nuts, washers minimum. Vendor shall use Grade 8 or 10.9 for all critical areas or where good engineering practice suggests.
B. All fasteners shall be zinc plated to prevent corrosion.
C. Anti-Seize: all fasteners shall have Fel Pro C5A Anti-Seize compound applied before assembly to prevent corrosion, rusting, galling and aid in equipment servicing and repair.
D. All fasteners shall be of appropriate length, diameter and strength (grade) for the application,
E. Bolts and screws shall extend a minimum of 1-1/2 threads beyond the nut and maximum of 6 threads past the nut.
F. Flat washers shall be used under bolt heads and nuts.
G. Lock nuts (nylon insert, metal, slotted, castle nuts) shall be used lock-washers are not acceptable.

4.3 Hydraulic Systems:

A. All hydraulic circuits shall be pressure relief protected.
B. Hydraulic hoses shall be Parker 451ST SAE 100R17 (tight bend radius) 2-wire braid hose meeting SAE-100R16 specifications where the hose meets operational criteria or approved equal.
C. Hydraulic hoses shall have swivel fittings on both ends. Hose ends shall be located to facilitate easy component replacement.
D. High-pressure hydraulic hose shall not be used for suction lines.
E. Close/tight radius 90° elbow fittings shall not be used if short, medium or long drop steel stem 90° elbow fittings can be used. Over use of 90° elbows shall not be permitted.
F. Hydraulic hoses and rigid lines shall be run parallel where possible; routing shall look neat and well planned.
G. Rubber cushioned metal hydraulic clamps shall be used on all hydraulic ridged lines and hoses at proper intervals for supporting the line/hose 36" maximum distance. Clamps shall be securely mounted to the equipment.
H. Hydraulic hoses and lines shall not be routed near exhaust, close to rotating components or over, around or through sharp edges. . Rubber grommets shall be used at all areas where the hydraulic lines through areas that could damage the lines.
I. Galvanized fittings and thread tape shall not be used.
J. Hydraulic hoses shall be covered with protective spiral nylon anti-chaffing wrap or sock type protective sleeves at all areas where chafing/rubbing could cause premature wear/failure.
K. Hydraulic oil tanks shall magnetic drain plug, oil level and temperature gauge.
L. Hydraulic hoses over 4' long shall be labeled on both ends for easy identification.
M. Shut off valves ¼-turn on each side of filter.

4.4 All fabricated parts, brackets etc. shall have all sharp corners, edges etc. radiused or rounded for safety.

4.5 Welds:

A. All welds shall meet AWS (American Welding Society) standards for the type weld, material joined and welding method.
B. Weld joints shall have proper design and fit for the application.
C. Welds joints shall have proper penetration and be smooth in appearance with no undercuts or overlaps at edge of weld.
D. Weld joints shall be properly prepared with cut ends ground to remove all slag, create a smooth surface and beveled end.
E. Welds shall be full length to prevent "rust bleed" from non-welded seams

5.0 Manuals/Equipment

Item	Description of Equipment	Offered Equipment	Cost
Training Video	One DVD or CD demonstrating and explaining the safe and proper use of the vehicle/equipment. 1. Dump Body & Equipment.	(Yes) No	$ 125.00
Operators Manual Paper	One book per vehicle/equipment with "safe equipment operation" section for each component. 1. Dump Body & Equipment.		$
Service/ Maintenance Manual Paper	Two complete sets per Contract (not per vehicle); binder required, 1. Manuals shall be provided for: A. Dump Body & Equipment. 2. Manuals shall include complete and detailed information for maintenance of the equipment, including general information, specifications, troubleshooting guide, lubrication and required adjustments. 3. The hydraulic and electrical sections of the manuals shall be provided in a separate electrical/hydraulic binder. Both the hydraulic and electrical circuits shall have separate color coded schematics for each equipment function to show the flow of both electrical current and hydraulic oil.	(Yes) No (Yes) No (Yes) No	$ 0

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Service/ Maintenance Manual on CD rom or DVD	One complete set; per Contract (not per vehicle) 1. Manuals shall be provided for: A. Dump Body & Equipment. 2. Manuals shall include complete and detailed information for maintenance of the equipment, including general information, specifications, troubleshooting guide, lubrication and required adjustments. 3. The hydraulic and electrical sections of the manuals shall be provided in a separate electrical/hydraulic binder. Both the hydraulic and electrical circuits shall have separate color coded schematics for each equipment function to show the flow of both electrical current and hydraulic oil. 4. New CD roms or DVDs shall be provided when information is updated, superseded or changed.	Yes No Yes No Yes No Yes No	$ 0 $ 0
Service/ Maintenance Manual on Internet Access, or Other Electronic Media	One complete set; per Contract (not per vehicle) 1. Vendor shall provide access to the site for the length of time that the City owns the vehicle/equipment at a one-time up front cost to the City. 2. Internet information shall include complete and detailed information for maintenance of the equipment, including general information, specifications, troubleshooting guide, lubrication and required adjustments. 3. The hydraulic and electrical sections of the manuals shall be provided in a separate electrical/hydraulic binder. Both the hydraulic and electrical circuits shall have separate color coded schematics for each equipment function to show the flow of both electrical current and hydraulic oil.	Yes No Yes No If other Specify: with VENDOR APPROVAL. Yes No	$ 0

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Parts Manual Paper	Two complete sets, per Contract (not per vehicle) binders required, 1. Manuals shall be provided for: A. Dump Body & Equipment. 2. Illustrated parts book shall be furnished containing data so that part numbers can be readily found for each system.	Yes No Yes No	$ ⊖
Parts Manual on CD rom or DVD	One complete set, per Contract (not per vehicle) illustrated parts book shall be furnished containing data so that part numbers can be readily found for each system. 1. Information shall be provided for: A. Dump Body & Equipment. 2. Parts manuals shall include complete and detailed information for replacement parts for the equipment, including general information, specifications ordering guide lines and superseded parts information. 3. New CD roms or DVDs shall be provided when information is updated, superseded or changed.	Yes No Yes No Yes No	$ ⊖

Supplier to provide copies of parts manuals in both paper and CD/ Electronic format as available.

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Parts Manual On Internet Access, or Other Electronic Media	One complete subscription; per Contract (not per vehicle) 1. Internet information shall allow the City 24 hour 7 days/week including holidays access from its main maintenance facility and all its satellite maintenance facilities. 2. Internet information shall include complete and detailed information for parts for the: A. Dump Body & Equipment. 3. Internet information shall cover vehicle/equipment, shall include general parts information, parts specifications, ordering guide lines and superseded parts information. 4. Vendor shall provide access to the site for the length of time that the City owns the vehicle/equipment at a one-time up front cost to the City. 5. Parts manuals shall include complete and detailed information for replacement parts for the equipment, including general information, specifications ordering guide lines and superseded parts information.	Access Information: 7 days/week including holidays (Yes) No (Yes) No (Yes) No Yes No If other Specify: _____ (Yes) No	$ 750.00
New Equipment Check-in Form:	The successful vendor shall complete the City's "New Equipment Check-in Form" completely and accurately with all requested information.		$ -0-

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5.1 Operator and Mechanics Training

Item	Description of Equipment	Offered Equipment	Cost
On Site Equipment Manufacturers Training	On site the vendor shall insure that the equipment manufacturers training representative, after delivery of the equipment Contacts Fleet Maintenances training manager to coordinate equipment training.	TWO TIMES AFTER DELIVERY	$ 0
Fleet Maintenance Training Manager	Mr. Charlie Pletcher Telephone: 720.865.3951 Contact time: 8:00 am to 3:00 pm M-F		
Training Requirements	Training shall consist of factory training materials, classroom and actual field training on the equipment for the equipment operators and supervisors.	TWO TIMES AFTER DELIVERY	$ 0
On Site Mechanics Training	On site mechanics training shall be 2 classes, approximately 8 hours, 2 shifts total provided at City facilities. The training shall cover maintenance and service procedures, trouble shooting and use of manuals. 6-8 City Attendees	YES	$ 375.00

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6.0 Repair Parts Delivery

	Repair Parts delivery
A.	**Prime Vendor** is to indicate current Master Purchase Order agreement(s) in place with the City. (Example 0667A0108): - MONROE / CERTIFIED POWER - # PWADM-0000000434 - - - If no agreement(s) exists, is your company willing to enter into long-term Master Purchase Order Agreement(s) in order to supply parts and components for the equipment and manufacturers proposed herein? YES OR NO If YES: Indicate Price and Discount Structures for the included Manufacturers in your proposal. - MONROE = LIST LESS 10% - CERTIFIED = COST + 10% - - - -

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7.0 Warranty

7.1 General Warranty Provisions

	WARRANTY (Table 1) Class 7 & 8 Vehicles	Complies (Y or N/A)
A.	Express warranty is to be a minimum of 12 months on the vehicle/equipment. The standard factory warranty plan shall be provided as an attachment to your bid proposal	Y
B.	The Warranty is to include at no cost to the City of Denver, all parts and labor, and no charge for work performed at the vendors facility	Y
C.	Warranty shall start when the City places the vehicle into service **NOT** on the delivery date. Taking an exception may make bid non compliant.	Y
D.	Warranty plans shall consist of the total unit and be broken out to a separate plan for each warranty item if applicable, such as engine warranty plan, transmission warranty plan, electrical, etc.	Y
E.	Options listed shall be bid and provided as factory installed under the terms of the full factory-backed warranty. This includes, but is not limited to: air conditioning, radios, cruise control, bumpers, towing packages etc. Dealer-installed options will not be permitted unless pre-approved by the City in writing and, where applicable, indicated on bid sheet as a "dealer installed" non-factory item.	Y
F.	Bidder will be responsible for warranty repair of all installed options/auxiliary equipment included in the bid that has a standard warranty that is less than the standard warranty for the base vehicle/equipment	Y
G.	Bidder shall use a single, local factory authorized dealership that will accomplish or coordinate required warranty work. The dealership must have a minimum of 1-year experience as a factory authorized vendor for like equipment being bid. Warranty parts shall be available and supplied within 24 hours	Y
H.	If applicable, bidder shall provide a plan for the City to be reimbursed if the work can be done by the City on site. The current shop rate is $71.00/hour, not to exceed $85.00/hour. (Enter a response of N/A if not available)	Y
I.	The bidder shall respond to request for warranty assistance within twenty-four (24) hours.	Y
J.	Warranty work shall be accomplished within an appropriate length of time (generally less than 3 working days for everything other than major component repair such as a transmission rebuild) and shall be coordinated with an authorized City representative	Y
K.	During the entire warranty period, if the unit requires transportation to a repair facility, the vendor/sub-vendors shall be responsible for all transportation at "NO COST" to the City and County of Denver. This includes transporting the unit back to the City's domicile location after repairs are complete. If an alternate is bid, charges to the City of Denver shall be listed (e.g. mileage, travel, labor, etc.). Even if an alternate is bid, in NO CIRCUMSTANCES will the City and County of Denver be responsible for transporting a unit greater than 25 miles from the center of Denver. For purposes of these warranty provisions, the center of Denver is defined as the City and County Building located on the corner of Colfax and Bannock Street.	Y

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L.	The item(s) procured by the City pursuant to this Bid Proposal shall, in addition to being subject to the express warranties referenced above, be subject to all implied warranties arising by operation of law under State of Colorado and Federal law, including but not limited to the implied warranty of merchantability and, to the extent applicable, the implied warranty of fitness for a particular purpose arising under the Colorado Uniform Commercial Code, Title 4, Colorado Revised Statutes. The bidder shall in no event attempt to limit or disclaim any of such implied warranties under this Bid Proposal, and any attempt to do so will render the bidder's bid non-responsive under this Bid Proposal.	Y
M.	This warranty in Table 1 and Table 2, is IN ADDITION to factory warranties on the vehicle and components	Y

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7.2 Fleet Defects and Lemon Clause

	WARRANTY - (Table 2) Fleet Defect Clause, Class 7 & 8 Vehicles
A.	Definition; If during the warranty period, a vehicle/unit(s) covered by this specification is out of service for 10% or 208 hours during the first 2,080 service hours of the 1st year warranty period caused by defects in Design, Testing, Material, and/or Workmanship, then this "Product Defect Clause" or "Lemon Clause" goes into effect. The Product Defect Clause/Lemon Clause shall be determined solely by the City. 1. The vendor shall at the City's option: a. Buy the vehicle/unit back at "Full Purchase Price" as the vehicle/unit shall be considered a "Defective Vehicle/Unit" or "Lemon". b. Provide a replacement vehicle/unit that the City considers equal to the replacement vehicle/unit. 2. Computation of Service Hours = 8 hrs/day use X 5 work days/week x 52 weeks/year = 2,080 work hours per year. 3. Computation of Percentage = 2,080 available for work hours/year X 0.10 (10%) = 208 Out of Service Hours in the 1st year warranty period. 4. A Work Day, 8 hours, shall be computed as Monday thru Friday from 7:00 am to 3:00 pm 5. This clause will not apply to delays in completion of warranty repairs due to acts of God, acts of the Public Enemy, acts of the Government (in either its sovereign or contractual capacity), fires, floods, or strikes, and unusually severe weather, PROVIDED that the Vehicle/Unit Vendor shall within three (3) calendar days of any such delay notify the City of Denver's Fleet Management in writing of the causes of delay and the facts relating to the problem 6. After 24 hours/3 days of consecutive "lost service" of the vehicle/unit due to warranty problems the warranty period shall be extended by the length of lost service time due to warranty problems. 7. The City of Denver shall consider the information submitted and may extend the time (208 hours) for completing, if in the City's, judgment, the facts justify such a warranty extension. The judgment of the City shall be final.
B.	**Definition:** If during the warranty period, thirty percent (30%) of the total number of units delivered have the same part(s) and/or components failure requiring replacement and/or modifications, caused by defects in Design, Testing, Material, and/or Workmanship, then this "Fleet Defect Clause" goes into effect.
C.	**Remedy**: Following notification of a Fleet Defect, the vendor shall develop and implement a plan that either reengineers, modifies, or replaces the defective parts/ systems, such that the identified problem is cured and the operation of the vehicle/equipment is not altered. When alterations are required to cure the defect, those alterations that change or modify the original bid specifications must be approved by the City and County of Denver prior to execution. The vendor will pay for all necessary labor and materials to repair, modify, and/or "update" all vehicles/units in this group. The vendor shall also propose a work schedule that is mutually agreed upon by the City of Denver that corrects the fleet deficiency within 30 days or a mutual agreed upon schedule.
D.	**Exceptions:** Fleet defects will not apply to minor aftermarket accessories specified by the City of Denver and installed per instructions/specifications. Examples include: toolboxes, spotlights, bed-liners, etc.
E.	**Mitigation:** Should the vendor become non responsive to the City's notification of a Fleet Defect, the City may employ several options. (1) After notifying the vendor in writing of The City's intent to mitigate its circumstances, the City may chose to perform its own warranty work and seek reimbursement for both parts and labor. (2) On major components, such as engine, transmission, air conditioning, etc., the City may chose to have the repairs performed by an authorized dealer and vendor shall reimburse the City for any parts or labor not covered by other warranty.
F.	**Outside Metro-Denver:** Vendor will pay for all transportation costs if unit(s) must be sent out of the Denver area for repairs. The City and County of Denver reserves the right to inspect unit(s) before returning back to Denver. The City and County of Denver also reserves the right to send at least one employee, without cost to the City, to inspect the repair(s) before unit is released back to the City.

G.	**Expired Warranties:** Units that have mutually agreed upon warranty defects during the warranty period will continue to be repaired until completed. If an on-going remedy continues past the warranty date the repairs will continue under warranty until completed or cease at a time agreed upon by the vendor and City and County of Denver.

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7.3 Warranty Options

WARRANTY Options (Table 3) Class 7 & 8 Vehicles				
Cost of Factory Extended Warranties		Please indicate in the columns below the additional cost of an extended warranty for all applicable components listed in the left hand column. NOTE: FOR STAGE 1 SUBMITTAL ONLY INDICATE THE WORD 'INC' or 'AVAILABLE' IN THE APPROPRIATE COLUMNS NOT A PRICE Inc = Included N/A = Not available		
		Two Years	Three Years	Five Years
A.	Dump Body			
B.	Hoist			
C.	Tarp			
D.	Snow controls System			
E.	Hydraulics			
F.	a. Pumps			
	b. Cylinders	N/A	N/A	N/A
	c. Tanks			
	d. Valves			
	e. Controls			
G.	Body Conveyor System			
H.	Joystick			
I.	Electrical Components			
J.	Other			
K.	Notes:			

O.J. WATSON COMPANY INC.

7.4 Warranty Service Locations: Warranty repair parts and service shall be available locally at an established factory authorized dealership meeting requirements of Table 1 Section 7.

A. Dump Body:
Dealership Name: O J WATSON CO
Street Address: 5335 FRANKLIN ST
Telephone #: 303-295-2885
City: DENVER, CO 80216

B. Snow Fighting System:
Dealership Name: SAME
Street Address:
Telephone #: SAME
City:

C. Sundries:
Dealership Name: SAME
Street Address:
Telephone #: SAME
City:

8.0 Delivery Considerations:

	Delivery Documentation (GVWR 26,001-Lbs and Above Heavy Duty)
A.	**Vehicles ordered under this specification** shall be complete and delivered to CITY AND COUNTY OF DENVER, Fleet Management Division. All prices quoted must be quoted at a firm price F.O.B. Denver, Colorado, 5440 Roslyn St. Building C.
B.	Delivery: Monday through Friday between 8:00am and 1:00pm. Location: CITY AND COUNTY OF DENVER Fleet Management 5440 Roslyn St. Building C Denver, CO 80216 Contact person to coordinate delivery: Dolores Gallegos at (720) 865-3900 ext. 03 or direct line (720) 865-3903.

O.J. WATSON COMPANY INC.

9.0 Body and Snow Fighting Equipment Delivery
9.1 Delivery of Completed Body

PROVIDE NUMBER OF DAYS REQUIRED FOR DELIVERY OF COMPLETED BODY AND SNOW FIGHTING SYSTEM AFTER RECEIPT OF THE CAB & CHASSIS	140 DAYS

10.0 Complete Vehicle Cost

Include:

-3.1: 16.6 Yard Live Floor Dump Body Equipment SUB-TOTAL COST
-3.2: Body Hoist SUB TOTAL Cost
-3.3: Hydraulic System and Controls SUB TOTAL Cost
-3.4 Tarp System SUB TOTAL Cost
-3.5 Pintle Tow SUB TOTAL COST
-3.6 Snow Plow System SUB TOTAL COST
-3.7 Flat Plate Hitch SUB TOTAL COST
-3.8 Snow Miscellaneous Items SUB TOTAL COST
-3.9 Sundries Equipment SUB TOTAL COST
-3.10 Lift Axles SUB TOTAL COST

Do NOT Include:
- Optional Equipment
- Warranty Cost (s)
- **Manual Cost (s)**

TOTAL COST $153,205.00

ADDED TO 2017
PER 20-64(A1)
One Spair Pair-12" Stainless Steel Bang Boards with Rubber Cushions: $1,937.50 Associated Freight: $300
Credit for NOT providing Rubber Shield for front drive axle: $<-400>
Total Adjustment: $1,837.50

Total 2017 Upfit Cost: $155,042.50

Company Name: O.J. WATSON COMPANY, INC.

Company representative: R.K. ECKRICH

Authorized Signature: RK Eckrich

O.J. WATSON COMPANY INC.