

City of Seattle

Fleets and Facilities

Dept of Executive Administration
700 5th Ave
Seattle WA 98104
United States

Vendor: 000038970
TEREX UTILITIES INC
TEREX UTILITIES WEST
9426 8TH AVE S
SEATTLE WA 98108

Purchase Order

Purchase Order	Date	Change Order#
FFD-0000000563- P	08/06/2010	Page 1 of 1
Payment Terms	Freight Terms	
DUE 30 DAY	Destination Prepaid & Allowed	
Buyer: Justiniano, Ginny	Phone: 206/233-7158	
Requester: Baker, Ernest D	Phone: 206/684-0141	

Ship To: Fleets & Facilities Department
Fleet Services
805 S. Charles Street
Seattle WA 98134
United States

Bill To: Fleets and Facilities Department
700 - 5th Avenue, Ste 5200
P.O. Box 94689
Seattle WA 98124-4689
United States

Tax Exempt? N	Tax Exempt ID:	Sourced From REQ#: 0000000860	Last Item Due Date: 03/31/2011				
Line-Schd	Item	Description	Due Date	Quantity	UOM	PO Price	Extended Amt

1- 1	One (1) Unit of Challenger Model 3430 Service Body with aerial platform lift per base specification and option listed on Attachment#1.	03/31/2011	1.00	LT	159,985.00	159,985.00
Sales Tax: SEA-WMV 9.8%						15,678.53

- FFD - 760581 - 50320 - A2212 - 54878 - - -
- - - - -

Schedule Total 175,663.53

Item Total One (1) Unit of Challenger 175,663.53

Deliver MSO, Title Application, and Invoice along with the equipment.

Prior to delivery, please contact Jason Spickelmier at 206-386-1153.

Vendor Contact: Pat Weiler at 206-384-4131.

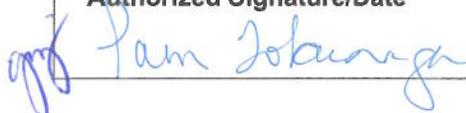
This order is an acceptance of your offer dated 7/16/10 and is subject to the Terms and Conditions of the City of Seattle Invitation to Bid FFD-860 issued on 6/10/10.

This contract is your NOTICE TO PROCEED.

Sales Tax Total for SEA-WMV (9.8%) 15,678.53

Total PO Amount 175,663.53

All shipments, shipping papers, invoices, and correspondence must be identified with our Purchase Order Number. No changes may be made to this Purchase Order except as authorized by the Buyer.

Authorized Signature/Date
 **Pam Johnson** 8/6/10

Attachment#2
SPECIFICATION for:
ONE or MORE
SERVICE BODY WITH AERIAL PLATFORM LIFT

Projects: 0983
 Replacing: Vehicle 965695, SDOT
 Specification prepared by: Ernie Baker, P.E. Senior Mechanical Engineer
 City of Seattle – Fleets and Facilities Department
 Fleet Services Division
 700 Fifth Avenue, Suite 5200
 PO Box 94689
 Seattle, Washington 98124-4689
 Phone: (206) 684-0141
 Fax: (206) 684-0656
 E-mail: Ernie.Baker@seattle.gov

● **IMPORTANT** ●

Complete response to each item is required, responses must be written on this form. Attach any information necessary to explain or clarify your bid. Bids failing to include specific responses may be rejected. Evaluation will be based on compliance with specifications. Non-compliant items must be clearly indicated. Any mandatory items (marked "shall", "minimum" or "maximum") must be in compliance or the bid will be rejected. The vendor may request a deviation from the specification on any non-compliant items prior to the vendor question deadline. Acceptable abbreviations for use on this form: Standard = (STD), Not Available = (N/A), No Charge = (NC), Comply = (CPL). All items described by attachments or addendum should be referenced on the submitted bid in proper numerical sequence. You are encouraged to list and price any options that you feel would enhance the use of this item and/or would be desirable. Option prices will not be considered as part of the pricing evaluation.

ITEMS REQUIRED

RESPONSE

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SCOPE:

It is the intent of these specifications to establish the minimum requirements for a line body with aerial platform lift to be installed on a City of Seattle supplied cab chassis with hybrid drive and e/PTO. This lift will be used by the Seattle Department of Transportation maintenance crew to repair and maintain signal lighting equipment throughout the Seattle area. This vehicle will be certified as an emergency vehicle prior to being placed into service.

CITY SUPPLIED CAB CHASSIS:

2010 International 4300H conventional cab chassis with a 26" cab extension
 Front gross axle weight rating - 12,000 lb GAWR
 Rear gross axle weight rating - 23,000 lb GAWR
 Gross vehicle weight rating - 35,000 lb GVWR
 Frame section Modulus – 14.18

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Yield strength of vehicle frame – 120,000 PSI
Frame resistance to bending – 1,701,600 RBM
Wheelbase - 205" WB
Rear of cab to rear axle centerline - 112" CA
Chassis curb weight – 7100 lbs front, 3600 lbs rear
Eaton hybrid drive with electric PTO option
Truck Equipment Manufacturers (TEM's) who install their body equipment on an e/PTO equipped chassis must be Diamond Logic® Builder Level 2 certified prior to receiving the HEV unit. If you want to integrate your own controls into the hybrid system you must be Diamond Logic® Builder Level 3 certified prior to receiving the HEV unit.

1.0 GENERAL REQUIREMENTS:

1.1	Bidders are encouraged to offer options in their bid. Cost differences and alternatives should be detailed and completely defined on the bid.	CPL
1.2	A performance demonstration may be required prior to bid award.	CPL
1.3	The apparent silence of this specification and supplemental specifications as to any detail, or the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only materials and workmanship of first quality are to be used.	CPL
1.4	All units shall be new, unused, up-to-date models and shall be delivered ready for service. Each unit shall include all inspection coupons and warranty identification cards furnished to general trade. All extended warranty months, miles or hours shall be clearly noted on a placard installed in the vehicle.	CPL
1.5	In the event of a conflict between the specifications requirements and federal or state laws, the federal or state laws shall prevail.	CPL
1.6	All controls and instrumentation shall be clearly identified and/or permanently labeled.	CPL
1.7	If special tools, gauges, adapters, etc., are required for normal maintenance, adjustment and/or inspection of the unit, they shall be identified and provided with the unit.	CPL
1.8	Filters shall be easily accessible and replaceable without removing or disconnecting other components. If necessary filters may be remotely mounted to meet this requirement. Spin-on filters are required for fluid service unless specified otherwise or approved by the Senior Engineer. All filters shall be heavy-duty and sized for severe service.	CPL
1.9	Hose, wire and tube routing shall not impede normal maintenance and adjustment of the unit. Hoses, wires and tubes shall be securely and neatly positioned and secured with	CPL

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non-corrosive clamps.	
1.10 On all items that the bidder is requesting Senior Engineer equivalent approval, the part number, model, description and performance data (if applicable) of the alternative must be provided. The term "Senior Engineer" means the Fleets and Facilities Department, Fleet Services Division, Senior Mechanical Engineer whose name appears on the first page of this specification, or alternately, the Fleet Services Fleet Administration Manager. All such approvals shall be in writing.	CPL
1.11 Deviations from any of the requirements in specifications or drawings MAY RESULT IN BID REJECTION . The City of Seattle will hold the bidder to all specification requirements. There is no time limit on this requirement; deviations discovered after the unit(s) is accepted shall be corrected at no cost to the City	CPL
1.12 All equipment and components necessary for operation and normally supplied shall be furnished, even if not called out in the specifications.	CPL
1.13 Vendor is required to have been in the business of selling and repairing platform lifts for a minimum of 5 years.	CPL
1.14 Vendor logos if applied shall be no larger than 4" x 6" in size and there shall be no more than 4.	CPL
1.15 Inspection of bidder's parts and service facility may be required before award of bid is made.	CPL
1.16 The complete aerial unit is to be stability tested as per the aerial's rated capacity in all working positions in conjunction with all current ANSI A92.2 standards.	CPL

2.0 SERVICE BODY:

2.1 Body Dimensions:	132 Long x 96" Wide x 40" High w/ 20" Deep compartments
2.1.1 Nominal body length eleven feet (11')	CPL
2.1.2 Overall width of the body shall not exceed 96".	CPL
2.1.3 Compartments are to be 18" to 20" deep in the lower compartments and 12" to 18" deep in the upper compartments. They shall be designed to maximize storage space.	CPL
2.2 The service body shall be heavy duty design built to withstand severe use. The body is to be constructed of 14 gauge minimum galvanized steel. Doors are to be constructed of 20 gauge double sided steel or 16 gauge single sided steel minimum.	CPL
2.3 All exterior facing compartments are to have lockable doors with stainless steel paddle latches and stainless hinges. All	CPL

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	doors shall be keyed alike.	
2.4	All compartment doors shall be weather tight by means of an automotive style bulb seal. All doors shall be held open by means of a gas strut door holder, spring loaded over center door holder or Sr. Engineer approved equivalent. State your offering.	CPL
2.5	An extension with tapered sides is to be added over the standard body sides with added storage on the inside. These upper compartments are to be open on the inside to allow access to workers standing in the floor plate area. They are to be approximately 30" high and run the length of the body on both the curb side and the street side.	CPL
2.5.1	The curb side top area is to have two shelves built in. The shelves are to be positioned to allow three equal height storage areas. The bottom two areas are to be open (no dividers) to allow for storage of 10 foot long pipes.	CPL
2.5.2	Curb side uppermost area is to have lockable doors that open to the inside of the body.	CPL
2.5.3	Street side all compartments are to be open and capable of storing 10 foot long pipes.	CPL
2.6	The front interior of the body shall have shelves for additional storage.	CPL
2.7	Floor plates shall have a traction surface, diamond plate or Sr. Engineer approved equivalent.	CPL
2.8	Install five (5) "J" hooks on each side in the interior of the service body to hang wire, ropes and tools. The hooks are to be semicircular of approximately 6" diameter with the option of folding flat against the inner wall or protruding at 90 degrees from it. The hooks are to be made from ½" round bar or Sr. Engineer approved equivalent.	CPL
2.9	Compartment configurations – Street side	
2.9.1	The front compartment is to be a vertical compartment approximately 24" wide by 40" high. This bin will have no shelves. It will have hooks for hanging rain gear, ropes etc. to dry out.	CPL Sized to fit chassis CA, with platform in front of body.
2.9.2	Install one (1) "Heater Craft" 300HSD stainless steel triple outlet heater or Sr. Engineer approved equivalent, in the bottom of the street side first vertical compartment. Install silicone heater hoses, proper silicone hose clamps and shut off valves in engine compartment. The heater shall be activated by a control switch in the cab "Wired Rite" switch panel. Debris protection will be installed to protect the heater assembly from damage. The heated compartment shall be properly vented to atmosphere allowing the correct air movement.	CPL

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2.9.3	Compartments 2 and 3 are to be equal sized, horizontal compartments one directly above the other. The compartments are to measure approximately 20" high by 32" wide. Each compartment is to have a single adjustable shelf.	CPL Sized to fit chassis CA, with platform in front of body.
2.9.4	The 4 th compartment is to be a horizontal compartment above the wheel well. This compartment is to measure approximately 20" high by 48" long. It is to have a single adjustable shelf.	CPL Sized to fit chassis CA, with platform in front of body.
2.9.5	The last compartment is to be a vertical compartment, approximately 24" wide and 40"high, with two adjustable shelves.	CPL Sized to fit chassis CA, with platform in front of body.
2.9.6	Below the body in front of the rear wheel, a storage shelf is to be installed. The shelf is to have an open front with a one inch lip at the bottom. It is to be enclosed on all other sides. Drain holes are to be drilled at each corner. The shelf is to be 6" to 8" high, run the distance from the front of the box to the wheel well and be as deep as possible.	CPL Sized to fit chassis CA, with platform in front of body.
2.9.7	Below the body behind the rear wheel, a storage cabinet is to be installed. The cabinet is to be approximately 8" high by 24" wide. It is to have a locking door that is hinged at the top.	CPL Sized to fit chassis CA, with platform in front of body.
2.10	Compartment configurations – Curb side	
2.10.1	The front compartment is to be a vertical compartment approximately 24" wide by 40" high. This bin will have three adjustable shelves.	CPL Sized to fit chassis CA, with platform in front of body.
2.10.2	Compartments 2 and 3 are to be equal sized, horizontal compartments one directly above the other. The compartments are to measure approximately 20" high by 32" wide. Each compartment is to have a single adjustable shelf.	CPL Sized to fit chassis CA, with platform in front of body.
2.10.3	The 4 th compartment is to be a horizontal compartment above the wheel well. This compartment is to measure approximately 20" high by 48" long. It is to have a single adjustable shelf.	CPL Sized to fit chassis CA, with platform in front of body.
2.10.4	The last compartment is to be a vertical compartment, approximately 24" wide and 40"high, with two adjustable shelves.	CPL Sized to fit chassis CA, with platform in front of body.
2.10.5	Two storage cabinets are to be installed below the body. One cabinet will be behind the rear wheels and the other at the front of the body. Each cabinet is to be approximately 8" high by 24" wide by as deep as possible. Each cabinet is to have a locking door that is hinged at the top.	CPL Sized to fit chassis CA, with platform in front of body.
2.11	A sliding or folding cover shall be provided. The cover will fit between the platform and the extended portion of the body.	CPL
2.12	A walkway is to be installed directly above the body top	CPL

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	extensions and run along both sides to the platform.	
2.12.1	The walkway is to be made from Grip Strut or Sr. Engineer approved equivalent. It shall be 12" wide minimum and not exceed the width of the body compartments.	CPL
2.12.2	A ladder is to be installed on the curb side rear of the body to provide walkway access. Rungs of the ladder are to be equidistant and no more than 14" apart. Two hand grab handles are required.	CPL
2.12.3	Provide steps and grab handles as required to aid in climbing onto the platform. Maximum vertical step height is 18". Steps going to the platform are to be equidistant to each other.	CPL
2.13	Spray white or light gray Line-X or equivalent bed lining material in the interior of all tool boxes and cabinets. Do not spray the movable or latching components.	CPL, final paint and Scorpion™ or Superliner™ applied in Watertown, SD.
2.14	Spray black Line-X or equivalent bed lining material on all walking surfaces of the service body except on the grip strut walking areas. The bed liner material used on walking surfaces shall have sand or some other type of anti-slip additive added to it. State your offering.	CPL, final paint and Scorpion or Superliner applied in Watertown, SD.

3.0 PLATFORM:

3.1	The platform shall be a vertical tower design, Delphi Challenger 3430 or Sr. Engineer approved equivalent aerial lift platform.	CPL
3.2	The platform and all related components shall meet or exceed the requirements of ANSI A92.2 latest edition.	CPL
3.3	The lift shall be mounted on a vertical tower mast mounted between the cab and the service body	CPL
3.4	The work platform is to measure 4 feet wide by 12 feet long nominal.	CPL
3.5	The platform is to have a stowed height as low as possible, just above the service body, a reach height of 30 feet and a working height of 35 feet. State the dimensions of lift offered.	Stowed height = 11'-8" Reach height = 30' Working height = 35'
3.6	The platform is to have the capability to allow workers to extend beyond the side of the vehicle. This can be accomplished through either rotation around a point off set to the platform center of area or through a side shift mechanism.	CPL
3.7	The aerial shall have a minimum rated capacity of 750 lbs.	CPL
3.8	The all weather platform controls are to include the following: a. A control to operate the boom up/down. b. Platform rotation / side shift. c. Stop/start, emergency operation and manual throttle	CPL to station at platform controls Controls may change from standard, due to ePTO. c. No stop start per addendum

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	advance control.	
3.9	A lower control station is to be provided. It is to include controls to override the platform controls including all aerial functions. This includes stop/start, throttle advance, emergency power, lowering and platform rotate / side shift.	CPL to lower control station Controls may change from standard due to ePTO. No stop start per addendum
3.10	42" guard rails are required around the platform perimeter. The guard rails are required fold down toward the rear for transportation and lock in the upright position while the platform is in use.	CPL
3.11	The platform and / or mast shall be made of nonconductive material to provide electrical insulation.	CPL

4.0 STABILIZATION:

4.1	Heavy duty front rubber coil torsion bushings and under frame are to be provided.	CPL
4.2	Rear hydraulic spring lock out system shall be provided.	CPL
4.3	The vendor shall guarantee stability compliance with the latest edition of ANSI A92.2 standard. The successful vendor will be required to provide a stability study and demonstrate the stability of the finished unit.	CPL
4.4	The vendor shall guarantee the equipment meets all applicable ANSI and OSHA standards.	CPL
4.5	The vehicle is to be capable of slow speed movement with an operator on the platform and the platform out of rest. This is to be done only if authorized by the manufacturer of the aerial. State the limiting conditions of speed, height and related requirements.	CPL See Attached Memorandum #1 from Delphi/ Challenger, Dated August 10, 2007
4.6	Install a platform out of rest switch. The vehicle speed shall be limited to the maximum speed stated in section 4.5 above, when the platform is out of the rest.	CPL- Platform out of rest Vehicle Speed Limit- Unavailable Due to the ePTO™ hybrid system according to Eaton™.
4.7	Outriggers:	
4.7.1	The unit shall be equipped with outriggers but not be required to use them to maintain stability. Outriggers will be used primarily for leveling or stability in soft surfaces.	CPL
4.7.2	A separate outrigger control panel shall be provided for each outrigger at the rear of the body. The panel is to be positioned so that the operator can stay out of the traffic lanes on each side of the truck and still view the outriggers in motion.	CPL

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<p>4.7.3 Auxiliary outrigger pads shall be provided for additional load distribution on soft surfaces. Each pad should be fabricated of 24" x 24" x 3" to 4" hardwood and be equipped with a handle. Storage brackets should be under body, adjacent to outrigger area.</p>	<p>CPL</p>
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5.0 WELDING PROCESS AND CONTROL:

<p>5.1 All welds shall meet AWS standards for structural steel joints.</p>	<p>CPL</p>
<p>5.2 Porosity, penetration leg and throat sizes, heat affected zone, and splatter clean up will meet or exceed AWS requirements.</p>	<p>CPL</p>
<p>5.3 All rough edges are to be ground smooth before painting.</p>	<p>CPL</p>
<p>5.4 Welding inspection may be required by Senior Engineer or a designated representative prior to delivery of the vehicle.</p>	<p>CPL</p>

6.0 HYDRAULICS:

<p>6.1 The City supplied chassis will be equipped with an e/PTO to drive the hydraulic pump.</p>	<p>Customer ePTO™ supplied Delphi to integrate.</p>
<p>6.2 An appropriately sized hydraulic pump shall supply hydraulic fluid at the proper pressure and volume to the entire system. The system shall be designed with a flooded pump suction.</p>	<p>CPL</p>
<p>6.3 As part of the City of Seattle's green fleet policy the Hydraulic fluid will be Chevron "Clarity" AW ISO 46 biodegradable oil, Chevron P/N 230341. The system must be tested at full system pressure. No leakage is allowed. A reflective decal stating "Use Chevron Clarity Hydraulic Oil Only" will be installed on hydraulic tank viewable by anyone adding fluid to the reservoir.</p>	<p>CPL</p>
<p>6.4 An emergency hydraulic system is to be installed with the controls at the upper or lower control stations so that the aerial device can be operator in the event of an e/PTO failure. The system shall be 12 volt and have a separate, isolated AGM battery to be used for emergency power.</p>	<p>CPL</p>
<p>6.5 The emergency system shall operate the platform rotate / side shift and raise and lower functions.</p>	<p>CPL</p>
<p>6.6 All hydraulic hoses shall be rated for suction or pressure according to the particular application. "Parker Super Tough Cover" or Senior Engineer approved equivalent shall be used in all abrasive applications. All lines shall be sized for full flow resulting in a maximum suction line velocity of 4 feet per second, a maximum pressure and return line velocity of 20 feet per second.</p>	<p>CPL</p>
<p>6.7 Hydraulic hose fittings shall be the crimp fittings recommended by the manufacturer of the hose used.</p>	<p>CPL</p>

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6.8	Adapters for the high pressure lines shall be SAE 37 degree flare, SAE o-ring or split flange. Pipe thread is to be avoided on the pressure side of the system. Teflon tape is not allowed in the hydraulic system.	CPL
6.9	The entire hydraulic system is to be tested at full system pressure with no leaks allowed.	CPL
6.10	The hydraulic reservoir is to be sized to handle the capacity of the hydraulic pump used, prevent aeration and cavitation with all cylinders fully extended, and dissipate heat buildup in the system. The reservoir is to be fabricated using a minimum ¼ inch overlapping seam construction. The reservoir should be mounted between the cab and the body above the chassis frame. The following items are to be incorporated in the design. State your offering.	CPL Reservoir size is nominally 10" x 22" x 50" which is equal to approximately 48 Gallons, which is roughly 43 gallons capacity.
6.10.1	A 24 square inch or larger tank top clean-out cover.	CPL
6.10.2	A filler breather having a filtered air vent and a basket screen. The filler shall be located as close to the center of the reservoir as possible and still be easily accessible.	CPL
6.10.3	Removable 100 mesh suction strainer.	CPL
6.10.4	Sight gauge with built in temperature indicator, clearly visible from the ground.	CPL
6.10.5	A nonrestrictive ball valve on the suction line between the suction strainer and the suction hose.	CPL
6.10.6	A magnetic drain plug at the bottom of the reservoir. A magnetic removable rod may be used in conjunction with a standard drain plug in the bottom of the tank.	CPL
6.10.7	The tank shall be equipped with a minimum of one center baffle. The baffle will allow oil to flow around the bottom corners and top. The suction and return ports will be on opposite sides of the baffle. Baffle welds are not to be ground.	CPL
6.10.8	The return line filter is to be rated at 10 micron nominal with a minimum flow rating of twice the pump flow. The filter discharge returning to the reservoir shall be below the oil level when all the cylinders are in the extended position. A filter restriction indication, located in an easily readable position, shall be provided. If a spin on style filter is used, the filter head shall be mounted on a dedicated mounting bracket and positioned in such a way that it is protected from damage but accessible for maintenance. Filters hanging off the tank via a pipe nipple are not acceptable.	CPL
6.10.9	The reservoir shall be thoroughly cleaned to remove any weld slag or manufacturing debris. If a piston pump is specified the reservoir is to be sloshed with Randolph 912 Sloshing Compound or Senior Engineer approved	CPL

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	equivalent.	
6.10.10	The reservoir shall be hydrostatically pressure tested at 3 to 5 PSI with no leaks to be allowed.	CPL
6.11	A hydraulic tool circuit shall be provided to power a 60 lb hydraulic hammer. The system shall be capable of providing 8 GPM at 2000 PSI. The system shall include a Hanney spring rewind hose reel with 75 feet of dual hose (pressure and return) or Sr. Engineer approved equivalent. The hose reel mounting location will be in the rear. Exact position will be determined at the preconstruction meeting.	CPL

7.0 ELECTRICAL REQUIREMENTS:

7.1	General:	
7.1.1	Minimum, one (1) auxiliary 750 CCA, 12 Volt, AGM Drycell battery required. (Optima, Odyssey, Concord) or Sr. Engineer approved equivalent.	CPL
7.1.2	A "Cole Hersee" #75908 master battery disconnect switch, or Senior Engineer approved equivalent, shall be installed at the battery box.	CPL
7.1.3	Install a Preco self adjusting model 1040 backup alarm or Sr. Engineer approved equivalent.	CPL
7.1.4	Install one (1) Cole Hersee #24143 continuous duty battery isolator relay for the platform emergency system per the attached drawing . The relay will be wired to the auxiliary battery with proper load rated Potter & Brumsfield or Bussman auto-reset circuit breakers. 	CPL
7.1.5	All wiring connections will be made at a junction box, lamp housing, appliance or through a weather proof connector such as Deutsch or Weather Pack connectors only. No in-line splices are acceptable.	CPL
7.1.6	All wiring shall be color coded and/or numerically etched a minimum of every twelve (12) inches.	CPL
7.1.7	SAE standards for wire size and run length vs. load are to be followed.	CPL
7.1.8	All exposed wiring harnesses shall be in non-metallic liquid tight conduit, Hubbell / Kellems PVC jacketed loom, or Sr. Engineer approved equivalent. The Truck-Lite series 50 harness is exempt from this requirement.	CPL

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7.1.9	Wire or wire bundles shall be routed free of chafing and abrasions and shall be supported using industrial grade, non-corrosive, insulated clamps. Clamp spacing should be 12-inches.	CPL
7.1.10	Wires penetrating through bulkheads that are not in conduit must be protected by Truck-Lite nylon compression fittings and bushing or equivalent.	CPL
7.1.11	3000 watt Honda generator, model EU3000iSA, is to be mounted on upper street side rear of body. The exact position of the generator will be determined during the preconstruction meeting. The generator is to be secured with a pad lock hasp, but easily removable to be taken to a remote location.	CPL
7.1.12	Provide a Kussmaul 20 ampere Super Auto Eject shore power receiver, on the street side, behind the cab.	CPL
7.1.13	Provide a 10 ampere charger wired to shore power. The charger is to be wired to charge the 12 volt batteries. It is to be installed in a protected location inside the service body. The charger is to be shielded from weather and damage while providing adequate ventilation.	CPL
7.1.14	All 120 VAC appliances and outlet are to receive power from both the generator and the shore power. The circuits are to be isolated so the shore power and generator cannot be connected electrically at the same time.	CPL
7.1.15	Provide a 120 VAC, GFCI, duplex outlet with a weatherproof cover at the back of the body on the curb side.	CPL
7.1.16	Provide a 120 volt, spring retract power cord reel designed for outdoor use. The reel is to be mounted inside the rear curb side compartment. The cord is to exit from the compartment toward the rear of the truck through a 4 way roller assembly. The reel is to be wired to the 120 VAC system through a GFCI connection. The reel shall contain 50 feet of 12/3 cable. The cable shall have a ball stop or Sr. Engineer approved equivalent to prevent the end of the cable from retracting beyond the rollers.	CPL
7.1.17	Provide a 120 VAC, GFCI, duplex outlet inside the rear cabinet on the curb side. The outlet will be used to charge portable tool batteries.	CPL
7.1.18	One (1) Whelen SA12FMA flush mount siren speaker shall be mounted below the front bumper.	CPL
7.2	Vendor added Wiring:	
7.2.1	Any dealer/vendor added electrical runs shall use the following mil-spec wire: "Alpha" part number 7046, MIL-W-16878D Type D or Sr. Engineer approved equivalent. MIL-	CPL

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	W-16878D Type D is a multi-strand, tinned copper wire with a Polyolefin insulation rated at 125 degrees Celsius and 600 volts.	
7.2.2	All wiring circuits using the MIL-W-16878D Type D wire shall utilize terminals conforming to MIL-T-7928, MS25036, Type II, Class 2 (insulated with an insulation grip).	CPL
7.2.2.1	Added runs shall use dual crimped (insulator crimp and conductor crimp), using the crimping tool designed for the specific wire.	CPL
7.2.2.2	Ring terminals with proper diameter mounting screws shall be used on all MIL-Spec wires. Spade or hook terminals are unacceptable.	CPL
7.2.2.3	Inexpensive, plastic type splices known as "Scotch Locks" or equal will be aggressively rejected and wires using them will be rejected and replaced at Vendor's expense. <u>DO NOT USE THESE DEVICES.</u>	CPL
7.3	Lighting:	
7.3.1	All lights and reflectors required by DOT, ICC, FMVSS 108 standards and Chapter 46.37 of the Revised Code of Washington shall be furnished. Truck-Lite or Sr. Engineer approved equivalent, sealed lighting system installation is required.	CPL
7.3.2	Installation shall include Truck-Lite series 50 wiring harness with Truck-Lite 50400 junction box or boxes.	CPL
7.3.3	Rear Stop/Tail lights, quantity two (2), shall be red LED Truck-Lite, Diamond Shell, 4" Super 44 series.	CPL
7.3.4	The rear turn lights, quantity two (2), shall be amber LED Truck-Lite, Diamond Shell, 4" Super 44 series.	CPL
7.3.5	All rear STT lights shall be flange mounted with tamper proof hardware and protected against damage.	CPL
7.3.6	The backup lights, quantity two (2), shall be clear LED Truck-Lite, Diamond Shell, 4" Super 44 series.	CPL
7.3.7	Rear identification lights Truck-Lite model 35 identification lightbar.	CPL
7.3.8	One (1) LED license plate light Truck-Lite LED model 15.	CPL
7.3.9	All clearance lights are to be Truck-Lite LED Model 21 or Sr. Engineer approved equivalent.	CPL
7.3.10	Front, rear, and side reflective striping required. Striping shall be "3M" reflective truck marking conforming to DOT requirements.	CPL
7.3.11	Mount a Superior Signal, 800 series, LED Traffic Manager or Sr. Engineer approved equivalent, both front and rear.	CPL

ITEMS REQUIRED

RESPONSE

Standard = STD
 Not Available = N/A
 No Charge = NC
 Comply = CPL

	The front arrow is to be mounted over the chassis cab. The rear arrow is to be mounted high on the body. Model 855 split arrow is acceptable if there are space limitations.	
7.3.12	Mount two Betts work flood lights (P/N 325010) at the upper rear of the body. Exact location will be determined during construction.	CPL
7.3.13	Install eight (8) red Federal Signal Impaxx lights. Two in the front grill, two on each side - one set of lights are to be mounted on the outrigger to mark the outermost edge when the outriggers are deployed and one at the rear, and two mounted above the STT lights in the rear. Exact position will be determined at the preconstruction meeting.	CPL
7.3.14	Mount two Federal Signal red LED Highlighters. One will be mounted in the upper rear of the service body, as high as practical. The second is to be mounted on the front of the cab roof.	CPL
7.4	Switches:	
7.4.1	The chassis is supplied with two banks of six up-fitter switches, for a total of 12 switches. Each bank is rated at 80 amp max load. The switches are rated at 20 amps each maximum. The manufacturer is to use these switches for the various functions.	CPL
7.4.2	If additional switches are required, they are to be Wired Rite System heavy duty rocker switch assemblies mounted on a Wired Rite panel with LED indicator lights and engraved illuminating legends denoting switch functions. Engraving height will be as large as possible given the space limitation of the switch panel.	CPL
7.4.3	Added switches shall be internally protected from overload and shall self reset.	CPL
7.4.4	Switch amperage rating shall be determined by the load device being switched. SAE standards shall be followed.	CPL
7.4.5	Continuous duty relay, Cole Hersee model 24143 (12 VDC) 200 amp, connected to ignition accessory is required to power the Wired-Rite panel if used.	CPL
7.4.6	All circuits shall be protected by auto reset circuit breakers, Bussmann 181 series or Senior Engineer approved equivalent, appropriately rated for each circuit electrical amperage load.	CPL

8.0 ADDITIONAL EQUIPMENT:

8.1	Install an air outlet quick disconnect, located in the curbside rear of the service body for small jobs like filling tires. Air would have to be from a tank, isolated from the brake system. Fit with a Schrader Bellows female air chuck, model	CPL
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ITEMS REQUIRED

RESPONSE

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Comply = CPL

	08052-0319 twist lock quick connect coupling.	
8.2	Install two ring type cone holders in the front of the bumper. Rings are to be mounted to minimize the air flow restriction to the radiator.	CPL
8.3	Install one pole type cone holder on the street side rear of the service body.	CPL
8.4	Provide ladder holder(s) on the upper body. Must be able to hold one 20' extension, one 8' orchard and one 3' step ladder.	CPL
8.5	Provide a sign holder inside the service body for six 30" x 30" aluminum signs.	CPL
8.6	Provide tool storage for up to six shovels and rakes on street side front on the body.	CPL
8.7	Provide storage outside the service body compartments for the 60 lb hydraulic hammer. Provide an oil catch for oil that may leak from the hammer.	CPL
8.8	Provide rubber dock bumpers on the rear bumper.	CPL
8.9	Provide two chock blocks and holders on each side. Recycled rubber blocks are preferred. The holders are to be close to the rear axle. Cutouts in the wheel well area are preferred.	CPL
8.10	Provide a Wilton 5" vise with pipe jaw or Sr. Engineer approved equivalent. The vise is to be stored in one of the curbside compartments. It is to have a quick removal mounting on the curb side of the body. Supply a pipe support on the same level as the vise jaws to support pipes up to 10 feet in length. The vice and mount must be at a good working height. Exact position and finalized design will be determined at the preconstruction meeting.	CPL

9.0 PAINT:

9.1	Paint shall be Dupont Imron 5000 Polyurethane color white number N0010 or Senior Engineer approved equivalent.	CPL
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10.0 SCHEMATICS:

10.1	An engineering schematic drawing of the electrical and hydraulic systems is required. The schematics shall be a minimum of 11 x 17 in size, easily readable and Mylar coated.	CPL
10.2	The electric schematic shall include:	CPL
10.2.1	SAE electric symbols shall be used to identify all components.	CPL
10.2.2	All interfaces between OEM wiring and added equipment shall be shown to include electrical pin positions as	CPL

ITEMS REQUIRED

RESPONSE

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 Comply = CPL

	arranged in the interface connections.	
10.2.3	All wire color coding and/or wire numbers shall be displayed to indicate different circuits.	CPL
10.2.4	Electrical circuits may be shown individually as long as all circuits are included.	CPL
10.3	The hydraulic schematic shall include:	CPL
10.3.1	ANSI or JIC fluid power graphical symbols for all components.	CPL
10.3.2	All major components, such as pumps, cylinders and motors, shall be identified with their function, size and pressure setting if applicable.	CPL

11.0 MANUALS:

11.1	One (1) copy of the operator, maintenance and parts manuals are required at time of delivery.	CPL
11.2	A copy of any and all parts books and the above manuals available in CD-ROM format are to be provided.	CPL

12.0 PRECONSTRUCTION MEETING:

12.1	After bid award and prior to beginning construction, vendor shall meet with the City of Seattle representatives for the purpose of reviewing construction techniques, clarifying any specification related questions, agreeing on general layout of components and review scope of work, options chosen and the manufacturing schedule.	CPL
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13.0 WARRANTY:

13.1	The vendor must have a full time, complete local (within 50 mile radius of FFD shops located at 805 South Charles Street, Seattle, Washington 98134) parts and service facility offering factory authorized service and a parts supply adequate to perform complete warranty repairs.	CPL
13.2	Manufacturer's warranty shall be a minimum of one year. The warranty must commence the date the equipment/vehicle is placed in service, not delivery date, as documented by the City of Seattle.	CPL
13.3	State or attach the vehicle and accessories warranty offered.	Customer supplied chassis, Delphi Challenger warranty is one year parts and labor
13.4	Warranty service, extended warranty and recall work must be performed by seller or seller's service facility, who must accept responsibility for all transportation. Seller must respond to a call for warranty service within 24 hours. All costs of warranty repair and service shall be borne by the	Terex Utilities, Inc. Seattle Service Center to perform warranty work.

ITEMS REQUIRED

RESPONSE

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Vendor.	
<p>13.5 Minor warranty repairs than can be done in one (1) hour or less shall be performed by the City of Seattle FFD repair shop. In the event a covered repair will take more than one (1) hour, the City of Seattle FFD shop will call vendors assigned contact person for repair authorization or have the vendor pick up the truck for repairs. All warranty repairs completed by The City of Seattle FFD shop will be reimbursed by the vendor at the current shop rate of \$102.00 per hour for 2010. The City of Seattle FFD shop will only bill for actual time spent. There will be no minimum time charge on any repair. All warranty transportation will be provided by the winning vendor.</p>	CPL
<p>13.6 Successful bidder is to fill out attached EQUIPMENT DATA</p> <div style="text-align: center;">  Equipment Data Entry Form.DOC </div> <p>ENTRY FORM.</p>	CPL

14.0 FACTORY VISITS AND PROJECT MANAGEMENT:

<p>14.1 The bid price submitted shall include the cost of having three (3) City of Seattle employees travel to the factory and remain overnight.</p>	CPL
<p>14.2 The inspection will take place after the body and mounted equipment are on the chassis when the vehicle reaches approximately 80% complete. At that time there will be a mutual agreement on locations for controls, switches, lighting, additional equipment and inspection of manufacturing quality control.</p>	CPL
<p>14.3 All costs for travel meals and lodging associated with the above mentioned two person construction progress inspection trip shall be borne by City of Seattle if within the greater Seattle area. The Seattle area is defined as a radius of 150 miles from the FFD shop located at 805 Charles St. Beyond the Seattle area all such costs shall be paid by the vendor.</p>	CPL- Please note: Three Person "above" and included in Terex Utilities, Inc. quotation No. 75000475. Addendum states for three Seattle employees.

15.0 TRAINING:

<p>15.1 Unit price shall include a minimum of 8 hours of mechanic training and 8 hours total of operator training to be conducted in as many as 2 separate sessions for each. Training will be conducted at a City of Seattle location at a time and date mutually agreed upon between the vendor and the City of Seattle.</p>	CPL
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16.0 DELIVERY REQUIREMENTS:

<p>16.1 All equipment shall have full dealer preparation and be ready for service when delivered.</p>	CPL
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ITEMS REQUIRED

RESPONSE

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16.2	Four (4) complete sets of keys for all locks shall be provided with the unit.	CPL
16.3	A spare filter set shall be supplied with the completed unit. The set shall consist of all filter elements required for all filters installed. Each filter is to be labeled with type and part number for traceability.	CPL
16.4	The vehicle(s) shall be delivered with title application, MSO made out per current State of Washington code and invoice. Enter legal and registered owner as: City of Seattle – FFD Fleet Services Division 700 Fifth Ave, Suite 5200 Seattle, WA 98124-4689	CPL
16.5	Equipment shall be delivered to: FFD Shops 805 South Charles Street Seattle, WA 98134 Attn: Truck Shop SOS Phone: 206-386-1153	CPL
16.6	Upon arrival the equipment will be inspected for compliance with these specifications. All non compliant items will be repaired at the vendor's expense, prior to vehicle acceptance.	CPL
16.7	Indicate the estimated number of calendar days to deliver vehicles after receiving notice to proceed and the chassis:	150-180 Days ARO, dependent on customer chassis delivery
16.8	City Prompt Payment Discount: State Prompt Discount (Discount terms of 10 or more days will be considered in bid evaluation)	N/a
16.9	The City of Seattle has entered into Inter-local Agreements with other governmental agencies pursuant to RCW 39.34, in lieu of those agencies conducting a separate competitive bid. Does Vendor agree to provide this product or service to such agencies?	Yes: <input checked="" type="checkbox"/>
16.10	Businesses located and licensed within the Seattle City limits are eligible for Seattle tax consideration for purposes of calculation of low bid. This shall be equivalent to a reduction of the cost for purposes of bid evaluation only, of 0.030.	No: <input checked="" type="checkbox"/>

17.0 OPTIONS (Option prices are not included in price evaluation):

17.1	Quote any options that would be a benefit to the City of Seattle which have been omitted from this specification.	See 17.8 Below
17.2	Quote the deduct for deleting an adjustable shelf	\$(65.00) or +\$65.00

ITEMS REQUIRED**RESPONSE**

Standard = STD
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17.3	Quote the price to add a fixed shelf.	\$53.00
17.4	Quote all safety harness options.	N/a
17.5	Quote all platform tool holder options.	N/a
17.6	Quote a deduction for omitting the factory inspection trip.	\$(4,500.00)
17.7	Quote the price of adding one person trip to the factory inspection.	\$1,500.00
17.8	Heavy Duty Rail System	\$1,089.00

DELPHI BODY WORKS INC.
P.O. Box 30
313 South Washington Street
Delphi, Indiana 46923
Ph: 765-564-2212 / Fax: 765-564-4255



DATE: August 10, 2007
MEMORANDUM #1

MEMORANDUM

SUBJECT: Outrigger / Stabilizer Use
UNITS AFFECTED: 3400 Challenger Towers.
ACTION REQUIRED: As Requested

This memo is in regards to the question of mandatory use of outriggers / stabilizers on Challenger 3400 Series Aerial Platforms.

All chassis equipped with the 3435 Series - 35' Aerial Platform will have outriggers / stabilizers and are to be used when in a zoned stationary working position. This 3435 Series Aerial Platform is not designed for mobile operation and shall not be used in such manner.

All chassis' equipped with the 3425 Series - 25' Aerial Platform or 3430 Series - 30' Aerial Platform have the options of outriggers / stabilizers or torsion bars.

These units must pass a stability test on level ground as well as a 5 deg. slope test as per ANSI/SIA A92.2-1990.

The outriggers / stabilizers can be used to level the unit to determine its stability. See ANSI/SIA A92.2-1990 : Section 4.5.3 " Effects of Stability" and OSHA Standard 1910.67 (c)(2)(vii).

If the unit has been modified or altered, it shall comply with ANSI/SIA A92.2-1990 Section 8 "Responsibilities of the Owners and Users": Paragraph 8.5 "Modifications".

It is suggested that if the stability of a unit is in question regardless of the use with or without the outriggers / stabilizers then a stability test be performed that complies with the standards set forth in ANSI/SIA A92.2-1990 ; Section 4.5 "Stability".

The 25' and the 30' towers can also be used for a mobile operation that complies with the standards as set forth in the ANSI/SIA A92.2-1990 Section 8.13.3 "Mobile Operation" .

As a manufacture of the Challenger 3400 Series Aerial Platform we require the following:

- A. The platform rail system is to be in the upright raised and locked position.
NOTE: The vehicle speed is not to exceed 3 mph or 270 fpm when personnel are in the platform.
- B. The operator and driver are to be in total communication with one another during mobile use.



DATE: August 10, 2007
MEMORANDUM #1 PG. 2

MEMORANDUM

- C. The platform is to remain in the centered (above rest-non rotated) position and is not to exceed 3 feet of elevation of platform floor or 15 feet from the ground, which ever is lesser.
- D. A safety procedure or program for mobile operation by the end user should be implemented by safety personnel and responsibilities directed to the drivers and operators trained to the limitations, restrictions and awareness of mobile use. A copy of this procedure should be sent to the manufacture of the aerial platform for review and retained in the end users file.

If question arise please feel free to contact us at 765-564-2212 or E-mail dbw1@carinet.org

Sincerely,

Richard C. Bradshaw
President / CEO
Delphi Body Works Inc.

Jimmy D. Johnston
Production Coordinator
Delphi Body Works Inc.

Challenger

3400

Standard Features

Five Section Tower Mast.
 Double Acting Hydraulic Cylinder.
 4' x 12' Fiberglass Work Platform.
 5000 Volt Rating. (5 KV)
 1000 lb. Platform Capacity.
 42" Folding Hand Rails.
 360 Degree Full Rotation.
 Electric/Hydraulic Open Center Full Hydraulic System.
 5-Air Operated Platform Controls.
 Deadman Safety Lockout Feature.
 Emergency Override Feature.
 Painted Steel- Gloss Black
 Fiberglass Platform-Natural Green.
 Meets or exceeds ANSI A92.2 (1990) and OSHA Standards.

Minimum Chassis GWWR

84" Cab to Axle.
 Front Axle - 8000 lb.
 Rear Axle - 15,000 lb.

Optional Equipment

Outriggers (required on 3435 model)
 Oversized & Offset Platforms.
 Remote Controls (Start-Stop, Emergency Power, etc.)
 Hydraulic or Air Tool Outlets @ Platform.
 Reinforced Rails & Rail Cutouts.
 Ladders for access: Fixed or Telescoping.
 Special Paint.

Note: For detailed specifications or additional information, contact your local **Challenger** Dealer or contact factory sales @ 765-564-2212.

Challenger Aerial Towers are a product of:

DELPHI BODY WORKS INC.

313 South Washington St.
 P.O.Box 30
 Delphi, Indiana 46923
 Phone: 765-564-2212
 Fax: 765-564-4255
 E-mail: dbw1@carlnet.org

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