City of Portsmouth Portsmouth, New Hampshire Public Works Department

INVITATION TO BID

<u>Sealed</u> bid proposals, <u>plainly marked</u> "Public Works – Sewer Division Truck #65 Combination Sewer Cleaner Bid #53-08" <u>on the outside of the envelope</u>, addressed to the Finance/Purchasing Department, City Hall, 1 Junkins Avenue, Portsmouth, New Hampshire, 03801, will be accepted until <u>2:00 p.m., April 28, 2008</u> at which time all bids will be publicly opened and read aloud.

Scope: The Portsmouth Public Works Department – Sewer Division is seeking to purchase a 2007 Demonstrator Model combination type Sewer cleaner mounted on 2007 66,000 GVW cab and Chassis or equivalent.

Bid Specifications may be obtained from the Finance/Purchasing Department on the third floor at the above address, on-line at <u>www.cityofportsmouth.com</u>, or by calling the Purchasing Coordinator at 603-610-7227. <u>Continue below for the complete bid</u> <u>document.</u>

The City of Portsmouth reserves the right to reject any or all bids, to waive technical or legal deficiencies, and to accept any bid that it may deem to be in the best interest of the City.

Questions may be directed to the Purchasing Coordinator at 603-610-7227.

INSTRUCTION TO BIDDERS

I. <u>Preparation of Bid Proposal</u>

- A. The Bidder shall submit its proposal upon the form furnished by the City (attached). Prices shall be given in both in words and figures.
- B. Corrections made to amounts or information requested on the bid form should be made by crossing out the error and entering the new price or information above or below it. The correction must be initialed. In case of discrepancy between the prices written in words and those written in figures, the prices written in words shall govern.
- C. The bidder's proposal must be signed by the individual, by one or more members of the partnership, by one or more members or officers of each firm representing a joint venture; by one or more officers of a corporation, or by an agent of the contractor legally qualified and acceptable to the owner, If the proposal is made by an individual, his name and post office address must be shown, by a partnership the name and post office address if each partnership member must be shown; as a joint venture, the name and post office address of each must be shown; by a corporation, the name of the corporation and its business address must be shown, together with the name of the state in which it is incorporated, and the names, titles, and business addresses of the President, Secretary, and Treasurer.
- D. All words, figures, corrections shall be in ink or typed. All signatures shall be in ink.

II. Delivery of Bid Proposals

When sent by mail, the sealed proposal shall be addressed to the owner at the address and in the care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the invitation for bids. Proposals received after the time for opening of the bids will be returned to the bidder, unopened. Faxed bid proposals are <u>not</u> acceptable.

III. Withdrawal of Bid Proposals

A bidder will be permitted to withdraw his proposal unopened after it has been deposited if such request is received in writing prior to the time specified for opening the proposals.

IV. Public Opening of Bid Proposals

Proposals will be opened and read publicly at the time and place indicated in the invitation for bids. Bidders, their authorized agents, and other interested parties are invited to be present.

V. Irregular Proposals and Disqualification of Bidders

Bid proposals that are irregular may be rejected. Irregular bid proposals include the following:

- A. Failure to use the bid form provided or alteration of the form.
- B. Unauthorized additions, conditional or alternated bids, incomplete bids, or irregularities of any kind which may tend to make the proposal incomplete, indefinite or ambiguous as to its meaning.
- C. The addition of any provision reserving the right to accept or reject an award, or to enter into a contract pursuant to an award.

Bidders may be disqualified and the bid proposal rejected for the following reasons:

- A. More than one proposal for the same work from an individual, firm, or corporation under the same or different name;
- B. Evidence of collusion among bidders;
- C. Failure to submit all required information requested in bid specifications;
- D. Bidder is not qualified or able to provide the provide the services or product(s) described in the bid specifications; or
- E. Disqualification is in the best interest of the City of Portsmouth.

AWARD

I. Consideration or Proposals and Award

After the proposals are opened and read, bid results will be available to the public. In case of discrepancy between the prices written in words and those written figures, the prices written in words shall govern.

Within 30 calendar days after the opening of proposals, if an award is made, it will be made to the lowest, responsible, qualified bidder whose proposal complies with all the requirements prescribed. The successful bidder will be notified by mail at the address indicated on the proposal.

II. <u>Reservation of Rights</u>

The City reserves the right to cancel the award at any time before final notification of the successful bidder without any liability against the City. The City of Portsmouth reserves the right to reject any or all bids, to waive technical or legal deficiencies, and to accept any bid that it may deem to be in the best interest of the City.

The City reserves the right to test proposed vehicles, and to make such inquiries as to the firm's qualifications and reputation as the City may deem necessary.

City of Portsmouth, New Hampshire Public Works Division Sewer Division

Minimum Specifications 2007 Demonstrator Model combination type Sewer cleaner mounted on 2007 66,000 GVW cab and Chassis or Equivalent

Bidders are required to complete the following and submit their responses with their bid proposal failure to do so may subject a bidder to disqualification.

General

The combination sewer cleaner is to perform cleaning and removal of sand, stone, bottles, cans, grease, sludge and other materials from basins, pits, pump stations, tanks and sanitary or storm water drain lines. The machine is to be a dual engine design. It is to provide a high-pressure jet rodding system and a vacuum system for the removal of debris. It is to be truck mounted on a chassis described in this specification.

EQUIVALENT PRODUCT: Bids will be accepted for consideration on any make and model that is equal to or superior to the specified 2007 Demonstrator Model combination type Sewer cleaner mounted on 2007 66,000 GVW cab and Chassis, as interpreted by the City of Portsmouth.

All bidders supply a complete body & chassis specifications with bid proposal. Please note: Any exceptions, variations and or deletions must be detailed in writing or bid may be rejected as NON RESPONSIVE.

Delivery:

Must be within 90 days of receipt of firm order.

DEBRIS BODY

The debris body is to be made of abrasion and corrosion resistant steel with 3/16" thickness, a minimum yield point of 50,000 PSI, and minimum tensile strength of 70,000 PSI, Mild steel of any thickness is deemed unacceptable.

State the type of steel, yield point, and minimum tensile strength that is to be provided:

The debris body is to be round for maximum strength and ease of dumping and is to have a minimum useable capacity of 12 cubic yards or 2440 gallons. It is to be equipped with

a body flush-out system. The body flush control is to be mid-mounted near wash down reel assembly.

COMPLY IN ALL RESPECTS: YES ____NO ____

The body is to have a full-sized rear door that is hinged at the top and that is equipped with a replaceable neoprene type seal to prevent leakage. A fully hydraulic door lock system is to be mounted on a full diameter, domed rear door of the debris body. The system is to be activated at the same curbside location as the debris body dump control to protect the operator from discharged materials. It will be driven by two hydraulic cylinders. The first cylinder will drive four dead bolt locking pins, no greater than 2" in diameter, into adjustable lock receivers welded to the debris body.

Two pins are to be driven vertically and two pins are to be driven horizontally into the receivers, two of which are to be located at the bottom radius of the door and two of which are to be located below the center line of the door. The second hydraulic cylinder will drive a steel rear door grabber to close and hold the door in place during the locking cycle. The system must be fail safe in a closed or open position to avoid a potential accidental discharge of materials, that is, the locking pins will remain dead bolted in a close position in spite of any system failure or will remain in the open position, presumably after the dumping cycle at a dump site in spite of any system failure. Grabber systems that hook over pins mounted to the debris body and driven in any way by rods requiring adjustments are deemed not to meet these fail safe standards. Any system that requires manual T-clamps will be deemed to require those clamps to prevent accidental spillage and do not meet the fail-safe standard set forth here.

COMPLY IN ALL RESPECTS: YES ____NO____

Provide a detailed description of the locking system bid with special emphasis on the failsafe features of the system:

State diameter of dead bolt locking pins_____

The body is to be equipped with a load level indicator to show when the body is loaded to capacity. The rear door is to be equipped with a 6" butterfly valve and cam-lock fitting that will allow the operator to drain off excess liquids while retaining solids for greater on-site productivity.

COMPLY IN ALL RESPECTS: YES ____NO ____

The debris body is to be dumped by raising to a minimum 50 degrees angle for ease of dumping, and it is to be equipped with a forward mounted, power up and down hydraulic

dump cylinder to assure stability during the dumping cycle and to prevent the rear door from hitting the ground during dumping; preference will be given to this configuration over a single action cylinders or scissor style lifts. Because all manufacturers provide raised dumping, no other dumping, configuration will be deemed acceptable. Include splashguard assembly mounted below rear door of debris body.

The debris body is to be fixtured on an independent sub-frame, separate from the chassis frame, that includes as part of its componentry a boom pedestal and welded J-straps for water tank supports. It is to provide for a 3 point mounting system of the debris body.

Describe dumping angle, state whether power up/down feature is provided, describe subframe construction, water tank mounting, and whether the water supply tank (s) raise with the debris body:

To achieve material separation and to reduce the possibility of discharging material into the atmosphere, it is deemed that the vacuum system requires essential dual porting in the debris body. Outlets must be a minimum 10" in diameter.

Describe the debris body porting system provided:

Because of safety considerations, it is deemed that all dump controls, and accessory controls, should be accessible close to the cab on the curbside of the vehicle.

COMPLY IN ALL RESPECTS: YES ____NO ____

For greater pipe storage capacity and for operator safety to avoid potential injury while removing or replacing pipe, two spring-loaded fold down storage racks must be provided. One rack is to be mounted on curb side of debris body, and one on body door.

COMPLY IN ALL RESPECTS: YES ____NO ____

WATER TANKS

Water tanks must have a minimum certified capacity of 1300 gallons of useable water. Failure to provide either, certification and or capacity will result in the bid being rejected. The water supply is to be contained in no more than 4 aluminum, cylindrical, baffled tanks. The tanks must carry a ten-year warranty against defects in workmanship and potential corrosion caused by water, sunlight, and variable weather conditions. Further, the water supply is to be located at or below the frame rail of the truck chassis and located from behind the cab to the end of the frame rail in such fashion to assure optimum center of gravity and weight distribution from front to rear of the truck. Under no circumstances is the height of the water tank to extend above the midline height of the debris body. The tanks are to be mounted on the welded J-straps of the sub-frame assembly. The tanks are to be interconnected with minimum 4" lines for ease of rapid filling and are to be filled from a single curb-side point equipped with an anti-siphoned device, Y-pattern stainless steel strainer, and 25' of hydrant hose and fittings. The water system is to include a winter re-circulation system to prevent stored water from freezing.

COMPLY IN ALL RESPECTS: YES NO

State certified capacity: gallons

State certified useable amount of water: _____ gallons

State estimated amount of water supply below pump inlet: ______ gallons

Describe the material used for the water tank(s):_____

If the material is non-metallic, provide a manufacturer's statement of content as to repair ability and composition with special attention to stabilizing agents to withstand the effects of sunlight and varying weather conditions:

COMPLY IN ALL RESPECTS: YES NO

Describe the repair ability of the material used and give the location and phone number of the repair facility nearest the city center where the machine will be housed and maintained:

Can the machine operate while a tank is being repaired?

COMPLY IN ALL RESPECTS YES NO

Has a copy of the water tank warranty been provided?

COMPLY IN ALL RESPECTS YES NO

Do the water tanks rise with the debris body during dumping?

COMPLY IN ALL RESPECTS YES NO

Does the height of the water tanks extend above the midline height of the debris body?

COMPLY IN ALL RESPECTS YES NO

Describe the water tank interconnects, components, materials, and the way in which the water tanks are drained:

VACUUM SYSTEM

The centrifugal compressor shall be a dual stage, driven by auxiliary diesel engine, and shall have two (2) thirty eighth (38") diameter tapered aluminum wheels. The fan blades shall be anodized cast aluminum and outer housing shall be spun from one piece of quarter inch (1/4) steel. Fan blades shall be riveted t tapered wheels. The compressor shall be capable of operating airflow's from zero (0) to eight thousand (8,000) cubic feet per minute and from zero (0) to two hundred twenty seven (227) negative water pressure. The compressor shall be run independently from the jet-rodder and have the ability to vary vacuum pressure without changing the volume or pressure of the water pump at full capacity while the vehicle is moving. The unit shall also be capable of vacuuming or jet-rodding to depths exceeding one hundred (100') without the use of any special attachments and shall be capable of vacuuming wet or dry materials without damaging the vacuuming system.

The compressor shall have a minimum of five (5) year unconditional warranty.

COMPLY IN ALL RESPECTS YES NO

The centrifugal compressor shall be driven through a heavy duty fluid coupler. Controls to engage and disengage the fluid coupler shall be mounted on the front hose reel assembly at the operator control station.

COMPLY IN ALL RESPECTS YES NO

The auxiliary engine shall be 6 cylinders Turbo diesel type 414 cu. inch displacement 185 horsepower.

COMPLY IN ALL RESPECTS YES NO

The auxiliary engine shall be an insulated noise deadening shroud, which will be on tracks or rollers readily moveable for engine maintenance on sides and top of engine. The operating noise level shall not exceed eighty-five (85) DBA at fifty (50) feet.

COMPLY IN ALL RESPECTS YES NO

An auxiliary engine control panel shall be furnished and installed at operator's station of the unit within eye level of the operator. The control panel shall include but not be limited to the following: tachometer, oil pressure gauge, voltmeter, coolant temperature gauge and hour meter.

COMPLY IN ALL RESPECTS YES NO

Include a vacuum relief system with the control mounted on front reel assembly and also on remote pendant control

COMPLY IN ALL RESPECTS YES NO

BOOM AND VACUUM HOSE

The City has determined that front mounted boom and front mounted hose reel are preferred because of safety and operation considerations and because all manufacturers are know to provide such configuration. Because of these same considerations the boom MUST NOT raise with the debris body during dumping.

It must be constructed using an anchored steel tube for the outer sleeve and an inner 8" inner diameter suction tube be constructed of the same material. It must have a smooth steel elbow; welded, segmental elbows are unacceptable because of wear factors and disruption of the air-stream. The boom is to provide a minimum of 180 degrees of rotation with 275" of reach off the center-line of the unit. It must telescope a minimum of 8' feet. All actions are to be hydraulically controlled; this system will be given preference over chain and sprocket systems because of maintenance considerations.

The boom is to have an electric over hydraulic solenoid system with a means of adjusting speeds of the boom actions. There must be an override on the hydraulic circuit to relieve the boom should it fail at any telescoped or rotated positions; mere manual relief by loosening a hydraulic coupling is unacceptable. It is to be hydraulically drive up, down, left, right, extend, and retract and controlled with a remote push button control station with a cable connected to the lower frame of the hose reel. A boom transport cradle is to be provided. Additionally, all inlet hose and tubing must have a minimum 8" inner diameter. Sufficient pipe to vacuum to depths or lengths of 20 feet is to be supplied to accommodate a minimum of 10 feet of extra pipe. Joystick boom control will also be provided, and mounted on front hose reel assembly. All connections between the debris body and vacuum system must be self-adjusting, pressure fitting couplings.

COMPLY IN ALL RESPECTS YES NO

FRONT MOUNTED HOSE REEL

The front mounted hose reel is to be fixtured to the truck frame on permanently mounted brackets. It is to be equipped with a dual roller wind guide hose footage counter, and hand held light. The reel will not require any other form of support than the frames mounting. Further, it will be mounted at a height that will assure the operator of good visibility while driving the unit. A $\frac{1}{4}$ " spun steel design is required and it should have a minimum capacity of 600 feet of 1" inner diameter jet rodder hose. It is to be hydraulically driven. It must have a one-inch rotating swivel joint that is adjustable and that has replaceable seals on the inlet line to provide tree rotation of the joint that is adjustable and that has replaceable seals on the inlet line to provide the rotation of the hose reel. It must have a full complement of controls for operation of both the reel and the jet rodder. The reel is to telescope and retract 15" on a straight line along the centerline axis of the truck with the reel in its fixed position parallel to the truck grill. Arced lines of travel do not meet this requirement. The reel is to rotate about the centerline of a large diameter ball bearing through 270 degrees to afford obstructed line along which the boom's 180 degrees of rotation. The extension will allow the operator to check fluids on tilt type cabs without tilting the reel.

Power for this extension will come from a hydraulic pump and require no manual jack. Include hand held spot light with plug receptacle on reel assembly.

For operator safety and productivity, the hose reel must be equipped with control on each side. Under no circumstances, may the reel extend beyond the safe width of the truck in any of its working positions. The reel assembly will also include a pneumatic locking system to lock reel every 2 degrees through its 270 degree rotation.

COMPLY IN ALL RESPECTS: YES ____NO ____

Describe in detail the way in which the reel supplied for this bid is mounted, its construction, its telescoping and rotating functions, its controls, and provide a work area diagram showing it units standard and extended and rotated positions in conjunction with the boom supplied.

Will dual controls be supplied as specified? YES	NO	
State The degree of reel rotation		
State length that reel will telescope from chassis		
Has reel work area diagram been provided?YES	NO	
Will reel pneumatic locking system be provided?YES	NO	

HIGH PRESSURE WATER PUMP

The water pump supplied is to be a dual-acting, single piston pump. A hydraulic drive, powered by the chassis engine, is preferred to belt drives and will be given preference in the final purchase decision. The pump is to be rated at a minimum of 100 gallons per minute at 2500 PSI, and it is to deliver a maximum 80 GPM at 2500 PSI. It is to have the ability to run dry for an extended period of time in excess of 30 minutes should it be accidentally left unattended or should it be used to purge excess water from the water lines and jet rodder hose. The jet rodder hose will be manufactured of rubber, 500 feet will be supplied on the reel. It will be 1" inner diameter with an operating pressure of 3000 PSI and a burst pressure of 7500 PSI. The pump is to be engaged or disengaged from the control panel without damage to the pump itself or the drive system; mere bypass systems, depending on the ball valves alone or a valved pump bypass of any description, will not meet this requirement.

The high-pressure pump will be utilized to supply a minimum of 10 GPM at 600 PSI for a handgun wash down and manhole cleaning system. Include handgun and 25' of $\frac{1}{2}$ "wash down hose".

COMPLY IN ALL RESPECTS: YES ____NO ____

Describe the pump provided, the drive system, and provide certified ratings and delivery of both flow and pressures at operating levels:

Who is the manufacturer of the pump?				
Is the pump a single piston dual acting type? YESNO				
What is the RPM or strokes per minute required to provide peak flow and pressure?				
What is the standard operating procedure for draining the pump, water tanks, lines, and hose provided on the unit?				
Is location of water pump above water tanks or below? Above Below				

Because there are a variety of applications for jet rodding in the city systems, a feature that provides jackhammer action through severe obstructions is to be provided. Any system that merely depends on the use of a manual ball valve or merely manually manipulating the hose are unacceptable.

Describe the features and means by which the jackhammer action to clear obstacles is achieved.

Can the water pump be used for extended periods of time to purge water from the entire system of water lines, including the hose?

YES___NO____

MAXIMUM TIME PUMP CAN BE RUN DRY TO PURGE SYSTEM:

All bidders should be prepared to provide an onsite dry pump test prior to bid award. Will dry pump testing be supplied? YES____NO____

The test will require all bidders to run water pump dry at maximum operating RPM for time period stated in bid. All drain plugs removed.

ELECTRICAL & HYDRAULIC SYSTEMS

Maintenance is a critical concern, therefore hydraulic and electrical systems are critical. The electrical systems provided are to meet NEMA 4 standards throughout the complete wiring arrangement. Partial systems are unacceptable. A complete wiring diagram is to be provided with the unit. All body lights are to be shock mounted and vapor sealed. Each wiring circuit is to be grounded.

Adequate hydraulic reserves are to be provided to operate an hydraulic function at operating pressures and temperatures. There must be a provision failure via a relief mechanism. All hydraulic hoses and coupling are to be industrial grade and meet all pressure and temperature requirements to provide complete safety to operating and maintenance personnel.

COMPLY IN ALL RESPECTS: YES	NO	
FRONT OPERATING STATION AND CONTROLS		

Include the following:	YES	NO
Truck engine throttle		
High pressure pump on/off		
Oil dampened water pressure gauges on each side of reel		
Hose footage counter on each side of reel		
Auxiliary engine controls		
Auxiliary engine gauges		
Boom controls remote and joystick		
Dual pneumatic lock control		
Dual reel controls		
Reel telescope control		
Vacuum relief control		

Accessories to be included:

- A. Tool Boxes
 - 16" x 16" x 40" Aluminum under Aux.eng.45" x 16" x 16" Aluminum side mounted16" x 42" x 96" Aluminum behind cab

B. Automatic hand free jetting hose winder and hose tensioned assembly. Include pictures of same with proposal.

C. A body decant, drain which includes a stainless steel cage inside body with 6 inch port and 6 inch pneumatically operated knife valve with hose located front curbside of body. Control lever mounted curbside behind cab.

- D. Air purge system
 - •Lube manifold system for loading boom, body functions and jetting reel.
 - •Fan flush out system
 - •Deflector in debris body assembly

•Hand gun hose reel mounted behind cab complete with 50 feet hose and hand gun

•Curbside and street side air gap assemblies for water, loading on either side of chasses

- E. Safety Lights
 - 1. Arrow board mounted on body door
 - 2. LED strobe on cab guard
 - 3. LED strobe on body door
- F. Work Lights
 - 1. Dual work lights on boom assembly
 - 2. Work lights on hose reel controls
 - 3. Work lights on body door
 - 4. Plug in spot light on hose reel
- G. Pipe sections 8' diameter aluminum
 - (1) catch basin nozzle
 - (2) 5' pipe sections
 - (2) 3' pipe sections
 - (1) 3' clear lexan demo tube 8"
 - (6) 8" pipe clamps
 - (1) Fluidizer basin nozzle
- H. Two way radio

A two way radio, antenna, wiring, and noise filter shall be installed. The bidder shall obtain frequency and rapid call programming information from the City of Portsmouth, Public Works Department once the bid has been awarded. The radio shall be with no exceptions, a Motorola CDM1250 Mobile, Catalog# AAM25KKD9AA2-N, ASP 7450 antenna.

Jetting Nozzles
degree penetrator.
degree sand nozzle.
¼" general purpose nozzle.
degree penetrator probe nozzle.
degree penetrator probe nozzle.
Storm nozzle aluminum.
High performance rotating nozzle.
Tiger tail hose protector.

J. Manuals 2 Complete sets of sewer manuals.

K. Training

A minimum of 1 day operation and maintenance training shall be provided at time of delivery.

- L. Warranty
- •All warranties shall be same as new body and Chassis
- •1 Year entire unit cleaner and Chassis
- •5 Years on debris body
- •5 Years on centrifugal compressor
- •10 years on water tanks

PROVIDE ALL COPIES OF WARRANTIES WITH BID PROPOSAL.

Cab and Chassis

CLEANER BODY TO BE COMPLETE AND MOUNTED ON 2007 INTERNATIONAL 7400 CHASSIS WITH THE FOLLOWING MINIMUM SPECIFICATIONS:

- •66,000 GVW
- •310 Horsepower diesel engine model HT570
- •Allison 3000 RDS 6 speed automatic
- •Air Conditioning
- •AM/FM Radio
- Air suspension driver's seat
- •100 gallon fuel tank
- •46,000 LB rear axles
- •20,000 LB front axles
- •Color White

All bidders supply complete Body & Chassis specifications with bid proposal.

Please note: Any exceptions, variations and or deletions must be detailed in writing or bid may be rejected as NON RESPONSIVE.

Delivery:

Must be within 90 days of receipt of firm order.

BID PROPOSAL FORM

<u>Sewer Truck #65</u> Combination Sewer Cleaner:

\$

Price in Figures

\$_

Price in Words

Include any extended warranty fees in the total bid price

WARRANTY:

Warranty

- •All warranties shall be same as new body and Chassis.
- •1 Year entire unit cleaner and Chassis
- •5 Years on debris body
- •5 Years on centrifugal compressor
- •10 years on water tanks

DELIVERY:

Bidder must state approximate date from receipt of order delivery will be made:______. Delivery must be no later than 90 days from the date of order.

The undersigned agrees that he/she on behalf of Bidder has read the bid proposal documents, the instruction to bidder's specifications and agrees to the terms and conditions set forth herein. Bidder understands that bid price shall include delivery FOB to the Public Works Department, 680 Peverly Hill Road, Portsmouth, NH.

Bidder further agrees that this bid is not made jointly or in conjunction, cooperation or collusion with any person, firm, corporation or other legal entity. Bidder agrees no officer, agent or employee of the Owner is directly or indirectly interested in this Bid.

Submitted by Authorized Agent:

	(Print Name & Title)	
Signature:		
Date:		
Company:		
Address:		
City/State/Zip:		
Telephone:		
Fax:		