City of Mercer Island
Request for Proposal
Truck Mounted; Sewer Jet/Vac Combination truck

Vehicle & Equipment Minimum Requirements
January 2019

Intent:

The intent of the following general and detailed specifications is to describe the minimum requirements of a heavy-duty chassis mounted combination sewer and catch basin cleaning machine. Brand names, makes, and model numbers contained herein are for reference only regarding the type, level of quality, and durability that the City of Mercer Island will accept as a minimum. The City of Mercer Island, at its discretion, reserves the right to reject any and/or all request for proposals or award to the most responsive / best proposal that, in its opinion, meets the minimum specifications and requirements set herein forth. Award is expected by March 2019 pending funding approval.

General:

The machine described herein consists of one (1) new, current year manufacture sewer and catch basin cleaner to be used in the removing of sand, stones, bottles, cans, grease sludge, and other debris from sanitary sewer and/or storm drain lines by the flushing action of high-pressure water and through an air conveying vacuum system. The unit shall include a positive displacement (vacuum) blower and a high-pressure water pump. The system shall be equipped with a self-contained water supply as the water source for the high-pressure water pump. The system shall be capable of simultaneous high-pressure water pump system operation and air/vacuum conveyance. This machine will be mounted on a builder provided heavy duty truck chassis pre-approved by the City of Mercer Island.

Specification Clarification and Changes:

Clarification for any item in these specifications may be obtained from The City of Mercer Island, James Moe, Sewer Foreman at (206) 275-7608 or via email at james.moe@mercergov.org.

The equipment specification(s) for this purchase are official City of Mercer Island documents that carry far reaching ethical and legal implications. Therefore, after a purchase order is awarded to a successful request for proposal, there shall be no deviations from any requirements stated in the published equipment specification(s) during the manufacturing or assembly process of the units offered, without prior approval from the City of Mercer Island. Failure to comply with this requirement constitutes breach of contract; and may be grounds for order cancellation, without re-stocking fees or damages to the City of Mercer Island, or contract termination.

Evaluation Criteria and Selection Process:

The City plans to select a supplier of A Sewer Jet/Vac Combination Truck to procure a vehicle described in the RFP, based on the Proposal that is most advantageous to the City. An evaluation committee will consider all responsive Proposals and rank them based on each criterion stated in this section. Evaluation criteria will include, but will not be limited to:

- Proposal that best matches criteria in RFP.
- Reference calls and/or recommendations.
- Ability to meet City's time line.
- Ability to adhere to project schedule and submittal requirements.
- Additional criteria deemed appropriate by the City Committee which would lend itself to establishing the builder's ability to perform the work as outlined in this RFP.

Equipment Specification Compliance Inspections; Delivery; and Acceptance:

The City of Mercer Island will conduct no less than one (1) specification compliance inspection at the Manufacturer's location prior to equipment delivery to minimize time involvement and transportation costs to resolve equipment non-compliance issues. Supplier/Manufacturer must contact The City of Mercer Island James Moe, Sewer Foreman at (206) 275-7608 or via email at james.moe@mercergov.org to arrange for a compliance inspection at least fourteen (14) working days prior to a desired inspection date to allow for said inspection to be scheduled.

Supplier/Manufacturer is responsible for ensuring that all equipment purchased, pursuant to this contract, complies with all of the requirements and specifications listed within the contract.

Equipment shall not be delivered to The City of Mercer Island location until the Supplier/Manufacturer has successfully met the compliance inspection requirement and a signed copy of the City of Mercer Island Specification Requirements Appendix A compliance worksheet has been issued to the Supplier. After the equipment successfully passes a compliance inspection, it may be delivered to the City of Mercer Island Public Works facilities (as specified on the contract and or equipment order) between the hours of 8:00 am and 3:00 pm, Monday through Friday. Deliveries shall not be made during other hours, on weekends or on legally recognized state and federal holidays.

Supplier/Manufacturer shall provide the following documents upon delivery for each item of equipment inspected. These documents will accompany the equipment to its delivery address.

1. The manufacturer's line production sheet stating the equipment serial and model numbers and listing all of the equipment's components;
2. A completed Invoice;
3. The Manufacturer's Statement of Origin (MSO);

4. Axle weight slips (This shall include total vehicle weight and the weight distribution placed upon each individual axle)
5. A completed Washington State title application showing both the legal and registered owner as; **City of Mercer Island 9611 SE 36th Street, WA, 98040.**

Suppliers must notify the City of Mercer Island at the phone number listed on the contract or the equipment order, twenty-four (24) hours prior to equipment delivery, during standard business hours (8:00 am – 3:00 pm PST). This is to ensure that a City of Mercer Island employee is available to sign and date the bill of laden (or other type delivery document) and receive the above mention documents, to indicate The City of Mercer Island has accepted delivery of the equipment.

The City of Mercer Island will not accept any kind of responsibility for equipment that has been delivered to or left at a City of Mercer Island facility, unless a City of Mercer Island employee has signed and dated the bill of laden or other delivery document indicating the City of Mercer Island has accepted delivery of the equipment.

Supplier shall be solely liable for any equipment damages that occurred prior to the City of Mercer Island accepting delivery of the equipment

Supplier shall state the delivery date of the completed equipment after chassis arrival at supplier's location:

No later than _____ Days after chassis arrival at supplier's location.

Chassis shall be delivered to: *(Body Manufacturer's address)*

_____

_____

_____

_____

Warranty Services and Performance:

Equipment suppliers must provide technical support for necessary equipment modifications for a period of 180 calendar days after the date the equipment is reported in service per manufacturer and/or factory warranty requirements. This is to ensure that the purchased equipment can perform the specified operational functions.

All proposals/suppliers must include, as part of the proposal, a two-year factory and/or manufacturer's warranty, which shall cover 100% parts and labor for the entire unit offered. This warranty must be honored by all authorized factory and/or manufacturer's dealerships. Water tanks shall carry a lifetime warranty.

Supplier shall be liable for all costs associated with warranty repair(s), including, but not limited to, materials, parts, labor, and the transportation of equipment that is disabled due to the failure of the equipment during the warranty period.

Warranty coverage will not commence until the date the completed equipment is placed into service as reported by The City of Mercer Island pursuant to the warranty requirements, or 30 days after final payment for the equipment, whichever occurs first.

During the warranty period, supplier must begin physical repairs on equipment failures within 24 hours after the City of Mercer Island has notified the supplier of an equipment failure. Should the supplier fail to begin equipment repairs within 24 hours after notification, the City of Mercer Island may elect (based on operational requirements) to make the warranty repairs. Should the City of Mercer Island elect to make such warranty repairs, the supplier agrees to fully reimburse the City of Mercer Island for all parts, materials, labor, shipping and travel costs incurred by the City of Mercer Island for such warranty repairs. The City of Mercer Island shall provide supplier with a detailed invoice, and supplier agrees to remit payment to the City of Mercer Island within thirty days (30) after receipt of the invoice.

During warranty period the Supplier may, upon notification of a warranty failure, authorize the City of Mercer Island equipment repair technicians to make warranty repairs when it advantages to the City of Mercer Island and the Supplier. The Supplier shall reimburse the City of Mercer Island for all costs associated with the warranty repair.

Training:

Equipment supplier shall provide an on-site instructor(s) at no additional cost, to conduct sixteen (16) class hours of operator training per unit delivered. In addition, the equipment manufacturer shall also provide sixteen (16) class hours of mechanic training at the manufacturer's assembly location.

All training shall be scheduled and coordinated with the ship to addressee. Coordination will include dates, times, location, number of students per session, number of sessions required, facilities and training equipment and material.

The training location shall be mutually agreed upon by the equipment Supplier and the equipment the City of Mercer Island. This training is to be completed within 15 calendar days of delivery of each unit. During the operator's training session(s), the length and number of training session(s) required may vary based on the equipment's complexity and personnel experience levels. The operator training session(s) may be less than sixteen hours should the City of Mercer Island's on-site supervisor or manager determine that all personnel have completed training and the supplier's training obligation has been fulfilled. The training session(s) shall include, but not be limited to, the below listed items.

1. Operator training will be designed to familiarize personnel with all the controls, safety features, operating characteristics and the operator checks and services.

2. Mechanic training shall be designed to familiarize service technicians with all of the preventative maintenance checks and services, system diagnostic procedures, repairs, adjustments, component location, and any unique maintenance or repair requirements associated with the entire unit.

Manufacturer must contact the City of Mercer Island Public Works Fleet Office at (206) 275-7608 to arrange for the mechanic training at least thirty (30) working days prior to a desired training date to allow for said training and travel to be scheduled.

Qualified individuals shall conduct training sessions. "Qualified" means that the trainer must have a high level of knowledge and experience relating to the type of equipment offered or purchased:

a. Person(s) conducting the operator training session(s) must have a minimum of one (1) year of experience in operating the unit for which training is being conducted or a factory/manufacture certified trainer.

b. Person(s) conducting Mechanic training session(s) must have at least two (2) years of experience in the performance of preventive maintenance and repair on the unit for which the training is being conducted or a factory/manufacture certified trainer.

An on-site City of Mercer Island representative will evaluate training sessions and shall determine whether the training was adequate. If the training is deemed inadequate, the supplier agrees to conduct additional training sessions, at no cost to, and to the satisfaction of the City of Mercer Island.

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
A. Hydraulic System Requirements:		
1. A hot shift transmission or engine mounted hydraulic pump with suction filters. Ball valves shall be installed to isolate the filter and pump from the reservoir. **(Belt driven pumps are not acceptable)**		
2. The hydraulic system shall provide adequate oil volume and cooling capacity so that the entire unit and all functions are able to run safely and simultaneously at full capacity during ambient temperature of 95° F.		
3. The system shall include hydraulic system spin-on filters that shall be replaceable without the loss of additional hydraulic fluid.		
B. Debris Body:		
1. The debris storage body shall be mounted on an independent frame that is separate from the truck chassis frame. It shall be mounted via a mounting system to allow flexing to occur with out causing damage to either the truck chassis or the debris body.		
2. Shall be a usable minimum of 3.5 and maximum 5 cubic yards and constructed of the manufacturer's standard corrosion and abrasion resistant steel. The minimum thickness shall be ¼" and must be able to withstand a vacuum of not less than 360 column inches of water.		
3. The debris tank will be top filling via a rotating turret that shall allow the vacuum hose and boom assembly to be utilized in the front, rear, or either side of the vehicle.		
4. The debris body shall have a top hinged, hydraulically raised, full width rear door that shall open to a minimum of 90 degrees.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
5. A manual rear door safety prop shall be installed onto the body or door.		
6. The rear door shall be locked and unlocked with the manufacturer's standard hydraulic locking mechanism. **(Mechanical Locks are unacceptable)**		
7. Debris body shall be dumped by raising the body a minimum of 50 degrees by means of a forward mounted double acting hydraulic cylinder with a lifting capacity of no less than 57,000 Lbs.		
8. All pivot points on the debris body shall, be connected to an automatic lubrication system.		
9. A manual debris tank safety prop shall be installed onto the debris body.		
10. Shall have a Aluminum splash shield installed to direct collected waste away from the truck chassis located below the rear door.		
11. There shall be a 6-inch Inside Diameter (ID) decanting valve located on the debris body door at the 6 o'clock position without a stand pipe.		
12. A screen covering a minimum of ¾ of the rear door shall allow the debris tank liquids to be drained off without raising tank. The screen shall pivot during the dump cycle to allow for easy cleaning.		
13. This decanting system shall be constructed in such a manner, as to allow water drain off, without draining debris.		
14. The manufacturer shall supply one (1) 6-inch x 20 feet of lay flat decanting hose, with a 6-inch female cam lock fitting installed onto one end.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
15. A lay flat hose storage rack will be installed onto the rear door to accommodate 20 feet of lay flay and female cam lock.		
16. Shall be equipped with a replaceable heavy-duty neoprene rear debris door seal.		
17. A stainless steel ball float, cage, and screen shall be located within the debris tank to prevent the overfilling of the debris tank and, automatically stop the airflow from the debris tank to prevent water from being introduced into the vacuum system.		
18. A pneumatically controlled electronically operated shut off valve shall be used as a vacuum breaker valve. This valve shall be located within the debris tank inlet turret from the 8" debris hose. This valve shall not obstruct the airflow when fully opened. The control for this valve shall be located within the radio operated pendant controller with a pilot light to indicate closed. This valve shall be used to safely and quickly remove the vacuum from the 8" debris hose.		
C. Fresh Water Tanks):		
1. The fresh water tanks shall have a combined capacity of at least 1,000 gallons fresh water.		
2. Fresh water tanks shall not be an integral part of the debris body.		
3. Tanks shall be manufactured from Aluminum and shall carry at least a 15-year warranty against leaking or cracking.		
4. The tanks shall not require internal coatings and shall be easily repaired or patched if required.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
5. The tanks shall have internal baffling to reduce load weight shifting while vehicle is in motion.		
6. All fresh water tanks shall be plumbed to allow a single fill point. This will include the necessary plumbing to allow all tanks to be filled simultaneously. The system shall include, a hydrant fill with proper air gap (3 x pipe Diameter), anti splash back system, (to prevent spillage while in transit) The hydrant fill port shall be located near the curbside operator's station at a height of no more than 60" from ground level. The plumbing shall consist of 3" steel pipe, include a #80 mesh stainless steel screen to prevent debris from entering the tank, a 3" ball valve inline with the fill line, and terminate at the ground end with a 2-½" FNST Swivel fitting.		
7. The fresh water tanks shall be adequately plumbed and vented to allow for equalizing of the water levels between the fresh water tanks and to allow full flow filling through the hydrant fill plumbing from standard fire hydrant.		
8. One (1) 25 ft. long 2-1/2" hydrant fill hose, with 2-½" FNST Swivel fittings and a storage rack shall be provided.		
9. The water tanks shall each have a water level sight gages/tubes. These gages or tubes shall be located as follows:		
a) One (1) on the rear of the roadside tank. b) One (1) on the forward side of the curbside tank.		
10. A low water level warning light and alarm shall be located at the front operator station.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
11. The water tanks shall have a low spot for settlement and cleanout. Vents on the fresh water tanks shall be located on the forward end of the tanks to prevent spillage during dumping of the debris body.		
12. Water tanks shall each have a drain valve located within the low point of the tank to provide complete draining of the tanks. These valves are to be a minimum of 1" ball valves.		
13. The water supply to the high-pressure pump shall allow for dumping of the debris tank and operation of the water pump while in the full dumped position. The outlet from the fresh water tanks shall be located on the bottom of the tanks towards the rear.		
D. Blower/Vacuum System:		
1. Shall be a positive displacement rotary lobe type exhauster with ductile iron rotors bolted to steel stub shafts.		
2. All vacuum ducting bends shall be long radius.		
3. The vacuum system shall provide the minimum performance criteria of 4500 Cubic Feet per Minute (CFM) at 244 inches of negative water pressure (18" of Mercury) at governed engine speed. The free air rating shall be a minimum of 5000 CFM. This rating shall be tested at the end of the debris hose with a standard 8' length x 8" pickup tube installed, continuous duty.		
4. The vacuum system shall be capable of loading 540 Gallons Per Minute (GPM) through an 8" tube with a 10 Ft. lift using vacuum conveyance only.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
5. The blower inlet shall be equipped with primary and secondary filtration that will be of adequate size to protect the entire vacuum system. This shall consist of two (2) vertical cyclonic separators to restrict particulate matter coarser than 50 microns from entering the blower. These separators shall be operator serviceable with removable stainless-steel strainers and be equipped with fluid drains and clean out doors.		
6. System shall be equipped with a hospital grade discharge silencer. State DB level at operators' station with water pump and blower engaged and engine RPM at 1800.		_____DB at operators' station.
7. Blower shall be equipped with three (3) vacuum relief valves to be set at not less than 18" of Mercury.		
8. The blower shall be self-lubricating and equipped with visual means of checking oil levels at all oil-lubricated locations. **(Sight glasses are acceptable)**		
9. The Blower system shall provide enough lubricating oil cooling capacity to be able to safely run the entire unit and all functions at full capacity during ambient temperature of 95° F.		
10. A self-aligning connection between the debris tank and the vacuum filtration system shall be installed. This connection shall completely seal the circuit between the vacuum filtration system and the debris tank.		
11. The positive displacement blower shall be driven via a chassis engine driven heavy-duty split shaft Power Take Off (PTO).		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
E. Hydraulic Boom & Vacuum Hose:		
1. Boom turret shall be capable of rotating a full 360 degrees – 180 degrees right hand side and 180 degrees left hand side. The boom shall not creep up or down and will remain stationary when the boom controls are in the resting position.		
2. Shall have an 8" Inside Diameter (ID) x 20' long debris suction hose. The hose cover shall be NR/SBR corrugated for flexibility, ozone and abrasion resistant. The hose shall be high abrasion resistant, static dissipating, multi-ply reinforced by a dual spring steel wire helix.		
3. This hose shall extend from the debris tank turret to the operators' station on the end of the boom. This hose shall be easily removed and rotated to allow for longevity and ease of replacement.		
4. A hydraulic telescopic boom section shall be operated via a radio controller and have a minimum extension travel of 48".		
5. A cleanout hatch shall be located on the boom turret at the tank entry to allow access to remove debris or service the vacuum breaker cylinder plunger area without removing the main debris hose.		
6. Multiple rollers shall be used to guide and support the 8" debris hose on the boom between the telescopic section and the operator's station on the end of the hose.		
7. The fully assembled boom shall have a lift capacity of at least 1000 lbs at the front bumper.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
8. The boom shall have a minimum reach of 20 feet from centerline of the chassis and 5 feet from the furthest point of the vehicle in the front and rear.		
9. The boom shall be hydraulically powered with up/down, in/out and left/right capabilities.		
10. The control of all boom functions shall be accomplished through a waterproof, cordless, radio controller.		
11. The boom shall have two (2) a travel rests to prevent movement during transit. One rest will allow boom to be stored facing the front of the vehicle and the other to allow the boom to be stored facing the rear of the vehicle.		
12. Boom shall have at least One (2) boom mounted 12-volt dc LED wide area flood style work light. The light shall be located towards the work end of the hose.		
F. High Pressure Water System:		
1. The heavy-duty high-pressure water pump shall be capable of providing up to 80 GPM at 2,500 pounds per square inch (psi), at governed engine speed.		
2. The high-pressure water system shall be fully adjustable to control the flow and pressure of the high-pressure water system without impacting the vacuum system or the chassis engine operation.		
3. Controls at the front operator's station shall allow for varying pump output flow and pressure.		
4. The high-pressure water pump shall be capable of either operating simultaneously with, or independently of, the positive displacement blower.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
5. The high-pressure water system pump shall be equipped with at least a 3" Y-type, removable screen stainless steel strainer prior to the pump inlet. There shall be a valve inline with the strainer to eliminate the need to drain the fresh water tanks to service the strainer.		
6. The high-pressure water system shall have adequate permanent provisions to use compressed air from the truck chassis to remove all of the trapped water within the system thus being able to "Winterize" the entire system.		
7. The pump shall have valves installed for the purging of air and draining of water from the system.		
8. The high-pressure water system shall include Anti-pulse accumulators.		
9. The high-pressure plumbing system shall be comprised of 1" ID steel with a pressure relief valve set at the maximum operating pressure of 2500psi.and sealed at the factory.		
10. There shall be provisions to drain and/or isolate the high-pressure jetting hose reel from the rest of the high-pressure system.		
11. The high-pressure water pump shall be driven by a chassis engine driven heavy-duty split shaft Power Take Off (PTO).		
11. A wash down circuit shall be a part of the high-pressure water system and shall consist of two (2) circuits with shut offs. (See hand gun system "L" below) The circuit shall have a relief valve set at 800psi.		
G. Jetting Hose Reel Assembly:		
1. Shall be capable of storing at least 600 feet of 1" sewer jetting hose.		
2. Shall be mounted on the front of truck.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
3. Shall be hydraulically powered to both feed and retract and include Anti-Creep valves and flow control valves to adjust speed of hose travel. These controls shall be located at the front operator's station.		
4. Control switches for the feed and retract circuits shall be located on a radio-controlled foot actuated control.		
5. Shall articulate at least 180 degrees horizontally from transport/storage position and be able to lock in any position.		
6. Shall have a manual winding guide to assist the operator in placing the hose evenly on the reel.		
7. Shall have a digital footage counter that compensates for the jetting hose that is being feed off, or onto the hose reel.		
8. The hydraulic hose reel motor control system shall not allow the reel to rotate or creep when the controls are in the resting position.		
H. High Pressure Jetting Hose:		
1. A one-piece 1" x 600 ft. long high-pressure jetting hose shall be provided and installed onto the hose reel with each unit delivered.		
2. The jetting hose shall be "Cobra poly Flow" series #4625-16 1 in. I.D. 2,500 psi (172BAR) maximum working pressure and a burst pressure of 6,250 psi.		
I. Front Operating Station Controls:		
1. The Front operator control panel shall be mounted onto the hose reel frame assembly and shall articulate with the hose reel.		
2. All operator controls shall be mounted at an angle to allow plain view and ease of operation.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
3. Front control station shall include all switches, controls, and gauges necessary to engage, disengage, monitor and adjust the:		
a. High pressure water pump and jetting system		
b. Debris vacuum system.		
c. All controls necessary to operate the high pressure 1" jetting hose reel.		
J. Curbside Operating Station Controls:		
1. Curbside control station shall include all switches, controls, and gauges necessary to operate and monitor the:		
a. Debris body raise and lower, door open, close, and door latching controls.		
b. The Fresh water tanks filling connection.		
K. Truck Cab Operating Station:		
1. Control station shall include all switches, controls, and gauges necessary to engage, monitor and adjust the:		
a. The high-pressure water pump system.		
b. Debris vacuum system.		
c. All switches and controls necessary to operate and monitor the debris body and door controls.		
d. All switches for all scene/work lights.		
e. All of these controls shall be located in one console/box, in one location on the engine cover and shall be labeled with phenolic labels.		
L. Hand Gun System:		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
1. Shall have a handgun system with at least 10 GPM at approximately 800psi, working pressure this system shall be able to work simultaneously with the high-pressure jetting hose reel.		
2. Two (2) medium pressure hose reels shall be mounted on the vehicle. One of the reels is to be on the front vehicle bumper, and one on the curb side of the vehicle. The mounting areas shall be within 36" of the operator's stations in front and curb side.		
3. Each hose reel shall be a ½" medium pressure (2500psi) spring rewind hose reel with roller guides and shall have a minimum of 30 feet of flexible 1/2-inch medium-pressure hydraulic hose.		
4. Both of these reels shall be guarded against impact damage.		
5. These reels shall be plumbed into the high-pressure water system and each station shall have valves capable of isolating each station from the rest of the high pressure system.		
M. Tool Box, Tube Storage:		
1. A toolbox shall be located between the debris body and the truck chassis cab.		
2. There shall be metal fenders on each side that shall cover both sets of dual drive tires on the rear of the chassis. There shall be clamping style tool holders to allow the storage of long tools such as shovels, rakes, and tongs.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
3. Completed unit shall have tube storage racks for vacuum tubes. There shall be two (2) tube storage racks. One rack shall be mounted on the rear of vehicle , and the second to be mounted on curb side debris body. The storage racks shall each have the capability to store three (3) 8" tubes each up to 8 feet long and securely hold them in place during travel. The body manufacturer shall provide both tube storage racks.		
N. Accessories:		
1. A centralized automatic lubrication system shall be included and installed. All lubrication points except drive shafts are to be connected to this system. The system shall be designed as to provide the correct amount of lubrication to the individual lubrication delivery terminals.		
2. Each unit delivered shall include the following standard accessories:		
a. Four (4) each 8" x 6' long aluminum extension tubes with gaskets and lock rings.		
b. One (1) each 8" x 3' long aluminum extension tube with gaskets and lock rings.		
c. Three (1) 8" x 6' long aluminum vacuum tubes with gaskets and lock rings with steel crown on one end.		
d. Two (2) high pressure (2000 psi) leader hoses 1" x 20 feet long with hydraulic hose fittings installed.		
e. One (1) 1" x 600' long spare high pressure jetting hose with fittings installed.		
f. One (1) spare 8" heavy duty debris hose with fittings installed.		
O. Electrical:		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
1. No electrical connections shall have exposed wires or terminals. Sealed waterproof connectors will be used on all electrical connections.		
2. All electrical circuits shall be protected by circuit breakers.		
3. Weather resistant junction boxes shall be installed at the termination points for body and chassis interface, exterior lighting, and body controls.		
4. All circuit wring shall be continuous with no splices the use of wire insulation piercing connectors or terminals is not acceptable. Manufacturer/Supplier will be required to replace affected wiring harnesses should these connectors be found on any wire harness.		
5. All lights shall be shock mounted in rubber grommets.		
6. All wiring shall be placed in wire loom, conduit, or tubing, and color-coded or number coded every 6 inches and run to sealed junction boxes.		
7. Shall have one (1) 12-volt dc 15-amp electrical accessory plugs hardwired and protected from weather. (in front, of unit) to accommodate a hand-held spotlight. These outlets shall be located within 18” of the hand gun system reels.		
8. A hand held LED work light with 25 ft. retractable cord shall be provided.		
9. Completed unit shall have all lights and reflectors required by Federal Motor Vehicle Safety Standards (FMVSS).		
11. The cab of the truck and rear of the debris body shall each have an amber rotating warning light bar, with a single cab-controlled switch.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
12. The amber warning light bars will be visible from the front, rear, and sides of the completed vehicle. They shall be a Whelen Model # R10HDPA that shall be protected from tree branch impact.		
13. An electronic backup alarm shall be installed and wired to operate when truck is placed into reverse. This alarm shall have provisions for the adjustment of the db output. With a minimum of 85db output.		
14. Work area flood lights to include: One (1) light on each forward and rear corner of the water tanks, One (1) light on each forward corner of the truck cab, One (1) on the operator's end of the boom, and one (1) to illuminate the high pressure hose reel.		
15. One (1) 200,000candle power (CP) 12volt dc hand-held flood lights with 25' spring retractable cord reel shall be included and mounted near the front operator's station.		
16. All lights except retractable lights to be switched from cab operator station.		
17. A hardwired low ambient light backup camera system shall be installed. The camera shall be mounted to face rearward from debris tank and the monitor shall be installed in the cab so it does not interfere with the operator but can be seen from the driver's seat. (Wireless camera systems are not acceptable)		
P. Exterior Finish:		
1. The City of Mercer Island expects professional workmanship on all products purchased. With this in mind, the following finishing requirements will be closely scrutinized during the specification compliance inspection.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
2. There shall be no welding scale, roughness, sharp edges or corners; or any rust stains on the unit.		
3 . All hoses and fittings, as well as electrical wires and connectors shall not be painted.		
4. The entire unit shall be coated with Ultra Violet (UV) stabilized quality automotive primer and paint with 2 mils dry of Sikkens (4039) or DuPont (7044) paint to match white on chassis or approved equal.		
5. The body Paint shall be warranted against peeling, flaking, and fading for five years.		
Q. Publications:		
1. Each unit, to include all sub assemblies shall be delivered with three (3) copies of the operator's manuals.		
2. Manufacturers shall provide the Service and Parts manuals for the body and chassis, and associated sub assemblies as annotated below:		
Two (2) each Parts Manuals		
Two (2) each Service Manuals		
3. Manufacturer shall provide one (1) complete set of wiring schematics for the catch basin cleaner assembly.		
4. Manufacturer shall provide one (1) complete set of hydraulic schematics for the catch basin cleaner assembly.		
5. Manufacturer shall provide a CAD drawing of this specified unit. This drawing shall be reviewed by purchaser and manufacturer before body build begins. The drawing will show all electrical, hydraulic, and mechanical components, as they will be installed on the chassis.		

Appendix A **Specification Requirements**	**√ If As Specified**	**Describe If Not As Specified**
6. Bidder must indicate warranty offered, which will be no less than twenty-four (24) months parts and labor. Any special extended warranty coverage on specific items must be indicated.		
R. Other information:		
1. The bidder shall include a parts list, description and price list of any special tools required to repair or maintain the unit.		
2. A cross reference list of all replaceable maintenance items (filters, belts, etc.) from original equipment manufacturer (OEM) to N.A.P.A. stores part number shall be provided.		
3. Manufactured engineered line drawings and weight distribution charts for front, rear, and combined axle scenarios must be provided with bid submittal refer to items (a, b, c, below). In addition, upon unit delivery certified weight scale slips must be included.		
a. Unit empty with full diesel fuel capacity, in addition to 200lbs of tools and two operators (combined weight of 400lbs)		
b. Above scenario with full fresh water capacity.		
c. Unit with full fresh water capacity combined with full debris tank capacity filled with fresh water)		
S. General:		
1. All debris body components including the water pump and blower shall be of U.S. manufacture, with parts readily available in the greater Seattle area.		

Appendix B **Dealer or Manufacturer suggested and/or recommended options:**	**Cost $**	**Effect on delivery time**
1.		
2.		
3.		
4.		
5.		
6.		
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8.		
9.		
10.		
11.		
12		
13.		
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17.		
18.		

Appendix C **Alternates**	**Increase or (reduction) $**	**Effect on delivery time**
1. Ultra violet stabilized Poly fresh water tanks In Lieu Of (ILO) Stainless Steel.		
2. Remote or corded pendant style boom controls ILO Radio operated. Water proof power boom controls shall be located on the operator's end of the Debris hose. The workstation shall include a weatherproof, multi-function remote control pendent with at least 40 feet of cord. This will be mounted to the side of the boom through rollers with a quick change connection on the side of the boom to facilitate rapid pendant and cord changes.		
3. A 4500CFM at 16" of mercury positive displacement blower with similar construction ILO specified blower. 4. Remote controlled foot actuated switch for hose reel functions ILO radio controlled. 5. Standard silencer ILO hospital grade silencer. State DB at operators station with water pump and blower engaged and engine RPM at 1800.		_____DB at operators' station

Appendix D **Truck Chassis Information;**		**(For information only)**

(Truck chassis intended to be supplied by the debris body manufacturer)		
AA. General Chassis Specifications and Information:		
1. The intended chassis shall be a Freightliner 114SD 6X4 Peterbilt 348 6X4 International 750 SFA 6X4 Mack GU33 6X4 Mack GU 713 6X4 Western Star 4700SF 6X4 Other (Truck pre-approved by City)		
2. Chassis load rating shall be 52,000[BM1] lbs Gross Vehicle Weight Rating (GVWR).		
3. Wheel Base, Bumper to Back of Cab (BBC), and Cab to Axle (CA) dimension shall be determined by the debris body manufacturer in cooperation with chassis manufacturer and the City of Mercer Island. This dimension will include the specified tool box mounting area of 50".		
4. The unit shall comply with Washington State Law.		
AB. Electrical & Lighting System:		
1. All chassis lighting shall be conventional lighting.		
2. Shall be a 12-volt negative ground system.		
3. Turn signal lights shall be light emitting diode (LED) style lights.		
4. Bidder must ensure that the switches on all equipment associated with this purchase, are wired uniformly.		
5. Supplier splices into the factory wiring harness is unacceptable		

Appendix D **Truck Chassis Information;**		**(For information only)**

AC. Engine:		
1. Shall comply with current Environmental Protection Agency (EPA) compliant emission requirements.		
2. Engine shall have minimum 380-horsepower and 1300 lb-ft torque.		
3. Electronic engine governor controls shall be fully adjustable and utilized in the operation of all the Debris body functions, including the high-pressure water system and the positive displacement blower.		
AD. Transmission:		
1. Shall be a Heavy Duty Allison[BM2] Automatic 6 speed Transmission.		
AE. Axles & Suspension:		
1. **Front Axle** shall be a minimum of 12,000 lbs. Manufacturers rating.		
2. **Rear Axle** shall be a minimum 40,000 lbs. Manufacturers rating and a gear ratio to allow 60 MPH.[BM3]		
AF. Wheels & Tires:		
1. **Front wheels** shall be Hub Pilot with 425/65R 22.5 load range "J" steel belted tubeless tires, White painted steel wheels.		
2. **Rear wheels** shall be Hub Pilot White painted steel wheels with 11 R 22.5 load range "H" Steel belted traction type tires.		

Appendix D **Truck Chassis Information;**		**(For information only)**

AG. Brake System:		
1. Shall be a pneumatic (air braking) system consisting of anti-lock and traction control systems of current design.		