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**TOWN OF NEWBURGH
FLEET MAINTENANCE
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NEWBURGH, NY 12550
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TO: Wayne Booth, Supervisor, and Town Board Members

FROM: James LaColla, Head Mechanic-Fleet Maintenance



DATE: May 21, 2012

RE: Bid Opening Date for Road Sweeper

**CC: Darrell Benedict, Highway Superintendent
Jacqueline Calarco, Accountant
Andrew Zarutskie, Town Clerk
Mark Taylor, Town Attorney**

I am requesting that the Town Board at this time set a bid opening date for a new Road Sweeper.

This bid will be to remove the old unit from our existing chassis, giving the Town of Newburgh trade-in credit not to be less than \$10,000.00 toward the purchase price of a new Vacuum Sweeper.

Bidder will furnish and install on our existing 1999 Sterling Chassis a new sweeper according to the specifications attached.

I would suggest June 12, 2012 as a bid opening date.

SPECIFICATIONS:

8.5 Cubic yard, single gutter broom, vacuum street sweeper, truck mounted on a Sterling Cargo chassis. This specification describes an environmentally controlled and silenced street sweeper.

INSTRUCTIONS FOR COMPLETING BID.

The sweeper to be furnished under this proposal shall be a truck chassis mounted type, 8.5 cubic yard capacity vacuum street sweeper, with single gutter broom. It shall be the manufacturer's latest model and design. These specifications shall be regarded as **minimum**. Bidders must furnish all descriptive literature, manufacturer's compliance certificates and all other data on the equipment proposed as required in this specification. Bidder must answer **YES** or **NO** to each specification line item except where asked to state specific data. Failure to answer correctly, or failure to respond, will deem your bid as non-responsive.

All line items with a "NO" response, shall be explained in detail on the "Exceptions to Bid Specifications" pages provided at the end of this document. (This spec consists of twenty-three pages and thirty-two clauses)

BIDDER PROPOSED

YES / NO

1. Sound Control (Bidders **MUST furnish compliance certificate)**

1.1 The external sound pressure level shall be 79 dB(A) average at 16 meters per noise test code ISO 3746:1996, while the impeller fan is rotating at 3,400 RPM. _____

1.2 The In-Cab sound level shall not exceed 68 dB(A) max per noise test code ISO 3746:1996 while the impeller fan is rotating at 3,400 RPM in sweeping mode _____

SWEEPER

17. Power Pack

YES NO

17.1 Power shall be supplied by a heavy-duty turbo charged industrial diesel engine and fuel supplied from a minimum 50 gallon stainless steel tank. _____

- 17.2 Engine shall be four cylinder, four cycle, water cooled and antifreeze protected to -40 degrees Fahrenheit. _____
- 17.3 Engine shall be 4.5 liter (275 Cu. in.) displ. minimum. John Deere 4045H or equal. _____
- 17.4 The engine must conform to EPA Tier 3 regulations. No exception to this environmental legislation will be permitted. _____
- 17.5 The unit shall be capable of operating within a temperature range of -40 degrees Fahrenheit to +126 degrees Fahrenheit with the manufacturer's full warranty approval. _____
- 17.6 Heavy duty, dry dual element air filtration with restriction indicator and Turbo III precleaner to be provided. _____
- 17.7 Fuel system will have a primary filter & sediment bowl as first stage filtration from the fuel tank. _____
- 17.8 A 50 gallon (190 liter) stainless steel fuel tank with locking cap and a fuel gauge shall be furnished. _____
- 17.9 Engine water pump shall be gear driven to eliminate possibility of engine damage due to drive belt breakage. _____
- 17.10 A 12 volt 55 amp alternator shall be furnished. _____
- 17.11 High coolant temperature and low oil pressure shutdown system shall be supplied as standard equipment. _____
- 17.12 The engine shall be sound suppressed and pod mounted in a low profile tub. _____
- 17.13 Engine tub shall be separately mounted from the body and shall be capable of being removed from the entire sweeper framework by four (4) bolts. _____
- 17.14 To reduce vibration & sound, ONLY the engine, transmission and turbine shall be "live" mounted and free floating. _____
- 17.15 The engine compartment shall be completely sealed to _____

- protect against sound and dust contaminants. _____
- 17.16 Engine access shall be provided by means of a permanently attached, rust free alloy ladder with sure-grip treads. _____
- 17.17 For greater corrosion protection the engine muffler and exhaust pipe must be stainless steel. _____
- 17.18 Auxiliary engine fuel consumption shall not exceed 5.4 G.P.H (gallons per hour) while producing a continuous impeller fan speed of 3,400 RPM. _____
- 17.19 Bidder shall state engine RPM required to generate an impeller fan speed of 3,400 RPM and related fuel consumption (gph) _____
- 17.20 Engine power output shall be adjusted by means of an electronic, infinitely variable actuator. _____
- 17.21 A tachometer and hour meter shall be supplied. _____
- 17.22 Radiator shall have a sealed & dedicated air intake duct. To ensure the air is the cleanest possible the air intake duct shall be located in the roof of the sweeper engine. _____
- 17.23 Keyless start with integral cold weather start aid feature shall be furnished. _____
- 17.24 All sweeping controls shall be easily accessible to the operator from either side driving position. _____
- 17.25 'Three position' switches shall be supplied for gutter broom, nozzles and main broom. Positions one and two shall be for raising and lowering, while position three shall activate water system for sweep gear. _____
- 17.26 Warning lights shall be furnished for low oil pressure, high water temperature, low voltage, body weight limit, low hydraulic oil level and low sweeper water tank level. _____
- 17.27 All of the above controls in addition to the chassis engine ignition, parking brake control, and gutter broom speed control shall be centrally mounted in cab. _____

17.28 An anti-crank device shall be provided to prevent re-engagement of starter while engine is running. _____

18 Sweeper Hopper Body

18.1 Hopper body shall be fabricated from high chromium content stainless steel. All seams shall be continuously welded. To permit longer life and lower the cost of operation, the entire debris hopper, excluding inlet wear plate and exhaust screens, shall carry a lifetime warranty as long as the customer owns the sweeper. The warranty shall include, but not be limited to, the floor, sides, roof and rear door. The warranty shall cover rust, corrosion and abrasion perforation, including normal wear and tear. Vendors will be financially responsible for all repairs, parts and labor, including protective coatings for the life of the sweeper. 100% parts and labor with no pro-rating or hour limitations. **Vendors shall supply with their bids, warranty statements from the manufacturer in complete compliance with the published warranty specifications.** Failure to do so, will deem your bid as non responsive. _____

18.2 Body vol. capacity shall be not less than 8.5 cu. yards. with payload capacity of not less than 7.4 cu. yards. _____

18.3 A hydraulically operated, fully sealed, full width, top hinged rear door. _____

18.4 The door shall be opened, closed and latched hydraulically. _____

18.5 To prevent damage to the door and door seal, when dumping, the door must open a minimum of 125 degrees. _____

18.6 The door cylinder shall incorporate a counterbalance valve to prevent accidental closing in the event of a hydraulic hose or cylinder failure. _____

18.7 To prevent physical injury, the sweeper hopper body prop shall automatically engage when the hopper is raised. _____

18.8 To prevent physical injury, the sweeper shall incorporate a warning beeper anytime the debris hopper or rear door is being raised or lowered. _____

18.9 To prevent physical injury due to unintentional operation, _____

a master safety switch must be depressed and simultaneously held while the operator activates the controls to raise/lower the debris hopper or rear door. _____

18.10 For maximum abrasion resistance the body intake tube shall be constructed of steel. _____

18.11 To prevent the body from being stuck in the raised position, the raise/lower cylinder shall be power up and power down. _____

18.12 To ensure complete emptying of the debris hopper, the hopper discharge angle must be 54 degrees minimum. _____

18.13 The hopper body shall incorporate a inter-connecting transfer port to the water tank that will enable the machine to additionally function as a either a water tanker or flusher with a total water capacity of 1,650 gallons _____

18.14 Body intake tubes shall have equidistant mounting holes to permit quarter, half or three quarter turn rotation for even wear compensation. _____

18.15 To permit cleaning of the rear screens, and placement of large objects in the hopper, inspection doors shall be provided on each side of the hopper. _____

18.16 Body shall have full width filter screens. _____

18.17 The screens shall be removable from ground level without entering the hopper and without the use of tools. _____

18.18 Body roof shall incorporate an externally mounted, removable plate to permit inspection and cleaning of upper air chamber. _____

18.19 The rear door shall have two drain hoses to enable water to be drained off. The hoses will be stowed on its own stowage bracket when not in use. _____

19. Vacuum Impeller Fan

19.1 Shall be single stage centrifugal type, direct driven, factory balanced, and capable of producing 59" of negative water column in the hopper. _____

19.2 Impeller shall be 31.5" diameter, 3" wide and of

stainless steel construction. _____

19.3 Impeller shall incorporate 8 hardened steel vanes with built-in "wear safe" characteristics to prevent separation should it be subjected to excessive abrasion. _____

19.4 Impeller housing shall have ports for inspection and shall be constructed of anti-abrasion steel. _____

19.5 The impeller housing exhaust port MUST have an automatic safety blanking plate which activates each time the hopper is raised. _____

19.6 The connection of impeller to drive system and engine shall permit the impeller to freely spin within its housing. _____

19.7 The impeller shall be driven via an adjustment free 'step-up' gear-box. (BELTS ARE NOT ACCEPTABLE.) Step-up gear-box ratio shall be a minimum of 1: 1.79 permitting high impeller speeds at low engine RPM. _____

19.8 The purchaser has demonstrated various types of vacuum sweepers and has determined that a minimum impeller fan speed of 3,400 RPM is required to effectively convey the vast majority of sweepings into the debris hopper.

State engine RPM required to generate an impeller fan speed of 3,400 RPM

Engine speed (RPM) _____

Impeller speed (RPM) _____

Step up ratio. _____

19.9 **Blower drive system:** To permit longer life and lower cost of operation, the entire blower drive system, excluding the auxiliary engine and blower wheel, shall be guaranteed for 5 years. Warranty shall include all components between the engine flywheel and the blower. Warranty shall cover all components, including normal wear items, such as, but not limited to, belts, pulleys, bearings, shafts, fluid couplings, clutches, seals, etc. Warranty shall include all parts and labor for a period of 5 years. 100% parts and labor. No pro-rating or hour limitations acceptable. **Vendors shall submit warranty statements from the manufacturer with their bids, in strict compliance with the published warranty specifications.** Failure to do so will deem your

bid as non-responsive.

19.10 Impeller exhaust port is to be sealed and air is to be exhausted horizontally through a sound suppressed roof tunnel vent.

20. Intake System

20.1 The intake system shall be a minimum of 10" in diameter.

20.2 To permit cleaning and removal of blockages the intake system shall separate when the debris hopper is raised.

21. Gutter broom- Right Side

21.1 Gutter broom shall be two piece, of steel tine construction, and 28" in diameter.

21.2 Gutter broom shall be direct hydraulic drive type and relief valve protected.

21.3 Gutter broom shall have variable speed from within the cab. Rotational speed from 0 -130 RPM.

21.4 Gutter broom shall pneumatically raise/lower.

21.5 Gutter broom shall incorporate a lock for transport activated automatically from within the cab.

21.6 Gutter broom and components shall be free floating, of trailing arm configuration with adjustable "kick back" feature to avoid damage if contact is made with street furniture, high curbs or other immovable objects.

21.7 Two water spray jets shall be provided at gutter broom.

21.8 Two additional water spray jets shall be mounted on the corner of the front bumper. These jets shall be separately wired and activated from within the cab when additional water is required.

21.9 Gutter brooms shall be capable of being operated Independently of all other sweep gear.

21.10 Gutter broom shall be capable of sweeping on top of sidewalk edge for the purpose of cleaning weeds, etc. This feature shall also be used to trim grass edges on curbs, edged parkways, etc.

22. Wide Sweep broom

22.1. Polypropylene under-body broom shall be supplied.

22.2. Broom shall be 16" diameter minimum.

22.3. Broom length shall be 50" minimum.

22.4. To reduce the potential for damage, the wide sweep broom shall be towed and not pushed when operating.

22.5. Wide sweep broom shall be enclosed within its own hood to prevent debris from being ejected.

22.6. Broom shall be hydraulically driven at a constant speed with adjustable pressure and flotation system.

22.7. Wide sweep broom shall have a minimum of four water sprays for dust control.

22.8. Wide sweep broom shall be capable of being changed without removing any parts other than the broom side cover plate.

22.9. Wide sweep broom shall be capable of being operated independently of all other sweep gear.

22.10 The wide sweep brush position shall swivel from side to side automatically from within the cab based on right or left gutter broom selection.

22.11 Wide sweep broom shall have a road crown compensation pivot with remote greasing provision to provide simple, easy lubrication.

23 Suction Nozzle- Right Side

23.1 Shall be metal alloy construction with replaceable rubber lining, rubber skirts, and curb guards

- 23.2 Nozzle shall raise/lower pneumatically. _____
- 23.3 Nozzle shall have water jets to provide dust suppression and lubrication for debris conveying tubes and sweeper internal components. _____
- 23.4 Nozzle carriages shall each be provided with two adjustable rubber tired, 10" diameter wheels. _____
- 23.5 Nozzle wheels shall be capable of being independently adjusted. _____
- 23.6 An in-cab control, shall permit the operator to remotely tilt the nozzle backwards to their maximum aperture openings to accommodate the ingestion of large items. _____
- 23.7 The nozzle shall be capable of tracking independently from the chassis. _____
- 23.8 Nozzle assemblies are to be attached to the sweep gear framework via tool free, detachable, self-aligning draw bar. _____
- 23.9 Nozzle shall be capable of being operated independently of other sweeping gear. _____

24 Hydraulic System

- 24.1 The hydraulic system shall operate the following: wide sweep broom rotation, gutter broom rotation, widesweep broom swiveling and lateral positioning _____
- 24.2 To ensure adequate cooling, reservoir capacity to pump output shall be minimum of 2:1 ratio. State pump output at recommended auxiliary engine operating speed. _____
- 24.3 Hydraulic oil reservoir capacity shall be 20 gallons minimum and capable of maintaining continuous operation without overheating. _____
- 24.4 All hydraulic circuits shall be protected by relief valves. _____
- 24.5 Hydraulic reservoir shall have a fluid level sight glass. _____

- 24.6 A spin-on sump filter with pressure bypass shall be provided on the return circuit. _____
- 24.7 The body raise/lower shall be powered off the auxiliary engine. An electric over hydraulic back up system shall be furnished in the event the auxiliary engine does not start. _____
- 24.8 The body dump controls shall be controlled via a handheld pendant to permit operation from within the cab or outside the cab. The pendant shall have a 15' reach from the cab. _____
- 24.9 All sweeping gear functions shall be powered by a gear driven hydraulic pump off the auxiliary engine timing gears. _____
- 24.10 All hydraulic valves for sweep gear shall be equipped with light emitting diodes to assist in troubleshooting. _____
- 24.11 The hydraulic system shall have a quick disconnect test port. _____

25. Water System

- 25.1 Water tank shall be integral with the hopper body and shall be fabricated of stainless steel. To permit longer life and a lower cost of operation, the sweeper's water tank shall carry a lifetime warranty as long as the customer owns the sweeper. Warranty shall include and not be limited to rust, corrosion and abrasion perforation, cracking, warping, melting, UV damage etc. Vendor will be financially responsible for all repairs, parts and labor. 100% parts and labor with no pro-rating or hour limitations acceptable. **Vendors shall supply warranty statements from the manufacturer with their bids in complete compliance with the published warranty specification.** Failure to do so will deem your bid non-responsive _____
- 25.2 Water tank capacity shall be 343 gallons minimum and tank must be baffled to minimize stress related movement. _____
- 25.3 Water pump drive and related systems shall have an air purge protection system against freeze-up _____

- 25.4 Water pump shall be self priming and not subject to damage when operated dry. _____
- 25.5 A 25' hydrant hose with quick connect coupling shall be furnished. Storage compartment shall be provided for the hose when not in use. _____
- 25.6 Machine shall be equipped with a 25' washdown hose. _____
- 25.7 All water valves shall have manual drain provisions. _____
- 25.8 The water tank shall have drain and flush out ports. _____
- 25.9 Provision shall be made to enable water tank filling to be accomplished by either hydrant or garden type hose. _____
- 25.10 All water system rigid lines shall be constructed of non ferrous materials. _____
- 25.11 An external water filter shall be provided. The filter must be accessible with body lowered. A shut off (isolation) valve must be provided to facilitate servicing. _____
- 25.12 Water manifold shall be constructed of stainless steel. _____
- 25.13 The water system shall have a quick connect test port. _____
- 25.14 The water system shall have an adjustable relief valve. _____

26. Air System

- 26.1 The sweeper air system shall incorporate a safety device which will ensure that in the event of a pneumatic failure, the chassis braking system will be automatically protected and air brake pressure will be maintained. _____
- 26.2 A self purging air dryer shall be provided with a built in timer to expel condensation once every five minutes. _____
- 26.3 The air system shall have a water trap to eliminate moisture. _____
- 26.4 The regulator shall have a shut off valve to purge only the sweeper system while maintaining chassis air pressure. _____

- 26.5 All sweep system pneumatic valves shall be housed in a weather proof systems locker and activated by cab mounted rocker switches. _____
- 26.6 The pneumatic system shall have a quick connect test port. _____
- 26.7 All pneumatic hose connectors shall be "tool free" push-in type to facilitate easy servicing, removal or replacement. _____
- 26.8 Nozzle, and WSB pneumatic cylinders shall have a common seal repair kit to defray parts stocking cost. _____
- 26.9 Pneumatic system air lines shall be color coded for easy recognition of "live supply," "switched supply" and "exhaust" _____
- 26.10 The pneumatic system shall operate the following functions:
 - (1) Wide sweep raise/lower/road pressure. _____
 - (2) Nozzle raise/lower/tilt for large debris. _____
 - (3) Gutter broom raise, lower and latch _____

27. Component Locker

- 27.1 All controlling elements for the sweeper's pneumatics', water and hydraulics shall be housed in a single easily accessible, sealed, and weatherproof locker. _____
- 27.2 To prevent tampering, access to locker shall be keyed. _____
- 27.3 Each system shall be equipped with L.E.D. status indicators. _____
- 27.4 Each system wafer shall be removable. _____
- 27.5 Test ports shall be provided for each system. _____
- 27.6 All electrical wiring shall be contained within flame retardant conduit. _____
- 27.7 All wires shall be color coded & numbered for ease of troubleshooting. _____
- 27.8 All internal wiring shall conform to a IP65 standard _____

27.9 All external wiring shall conform to a IP67 standard _____

28. Safety

28.1 Two rear amber beacons with limb guards shall be supplied. _____

28.2 A back up alarm of not less than 107 dB(A) shall be installed and shall sound when reverse gear is selected. _____

28.3 An access ladder with sure grip treads shall be installed for the purpose of gaining safe access to engine compartment. _____

28.4 Automatic pickup in reverse gear of all sweeping equipment shall be supplied. _____

28.5 A pre-programmed single master override sweep switch shall control all sweep gear. The sweeping gear shall raise and the water shall shut off when switch is moved out of "work" position. All functions shall resume their previously programmed settings when the switch is returned to "work" position. _____

29. Paint

29.1 Cab & sweeper shall be furnished with two coats of standard white. _____

29.2 All sweep gear and bracketry shall be powder coated for maximum protection in a sweeping environment. _____

30. Warranty

30.1 The sweeper auxiliary engine shall carry a two-year warranty, 100% parts and labor minimum. Include warranty statement with your bids. _____

30.2 Warranty repairs to be made at customer's premises including all parts and labor, 100% coverage, no pro-rating. _____

30.3 Sweeper components other than wearing items shall carry a standard one-year warranty. _____

30.4 Hopper warranty shall be for life as per section 18.1 of bid specifications. _____

30.5 Blower drive warranty shall be five years as per section 19.9 of bid specifications.

30.6 Water tank warranty shall be for life as per Section 25.1 of bid specifications.

31. Manuals

The following documentation shall be supplied upon delivery of unit:

31.1 Sweeper:
1-Driver/ Operator Guide, 1 parts list, 1 service/
maintenance manual and 1 troubleshooting manual

31.2 Sweeper Engine:
1-User's Handbook.

32. Training

32.1 Operator/mechanic training will be conducted at the customer's premises at no charge to the customer
