




MEMORANDUM

TO: Town Council

FROM: David E. Cox, Town Manager 

DATE: August 7, 2023

SUBJECT: Street Sweeper Purchase – Agenda Addition

TOWN COUNCIL

Mark Philhower
Chairperson

Tim Feegel
Vice Chairperson

James Brown

Brandon Goff

Eric Peterson

Kevin Reich

Alison Walck

The consideration of a motion to purchase a street sweeper has been added to the Town Council agenda for tomorrow, Tuesday, August 8. Bids for the proposed purchase are being accepted tomorrow morning and the item is being moved ahead because the Council does not have a second meeting in August and considering an award now will ensure that the Town is able to order the vehicle to be built beginning in September.

The Council will recall that the current Capital Improvement Plan includes the purchase of a street sweeper to replace the 1999 model currently in use. The estimated cost of \$300,000 is being funded using American Rescue Plan Act (ARPA) funds. No State or other joint purchasing process is available for the proposed sweeper type, so staff is seeking competitive bids directly for the purchase.

Originally, based on estimated cost available during Capital Plan development, the anticipated sweeper was to be a three-wheeled type sweeper due to the fact that truck mounted sweepers were significantly more expensive. However, in the last several months, a few options for truck mounted sweepers have become available at prices similar to the originally intended type. A truck mounted sweeper is preferable due to its ability to travel at road speeds between sweeping locations or between a sweeping location and a dumping location thereby allowing the sweeper to operate independently and efficiently. Additionally, load capacity of truck mounted sweepers can be larger. In early summer, staff at the Department of Public Works began evaluating and test operating various sweepers to understand the newer technologies and to determine features and characteristics that would serve the Town well. This information was used to develop the specification for the bids that were advertised.

As noted above, bids for the replacement sweeper are due to the Town by 10:00am, Tuesday, August 8. Staff will ask the Council to consider a recommendation for the purchase at the Council meeting that night. If approved, the sweeper would be ordered immediately and building of the equipment would begin in September. Delivery would occur by early 2024.

DC

cc: Matt Walsh, Public Works Director

Section V: Detail Specifications

One new truck mounted mechanical street sweeper having a minimum GVW of 26,000 lbs.

Engine:

The engine shall be an inline six cylinder diesel of the heavy duty type that features a wet sleeve design. It shall be certified for operation in all 50 states. It shall provide a minimum of 300 horsepower and a minimum of 860 lbft of torque. The engine shall be equipped with a minimum 160 amp alternator of the heavy duty brushless design. It shall be cooled by a radiator of no less than 900 square inches filled with extended life coolant protecting it to -34 degrees Fahrenheit. It shall have a minimum 1000 watt /115volt block heater. It shall have an air operated clutch type cooling fan.

Transmission:

The transmission shall be an electronically controlled, automatically shifted, 6 speed design. It shall include a torque converter and be of sufficient capacity to handle the full engine output and the full expected load of the sweeper unit. It shall have sufficient cooling capacity to accommodate the low-speed high torque requirements of a street sweeper. It shall have a power take off provision that is of sufficient capacity to provide all of the power requirements of the sweeping apparatus. The gear ratios shall allow for travel at highway speeds while also working efficiently at the slow speeds required for sweeping.

Rear Axle:

The rear axle shall be of sufficient capacity to carry the full load of the sweeper. It shall have air ride suspension that works in conjunction with the sweeper apparatus to provide maximum stability while dumping. It shall have gear ratio or ratios sufficient to travel at highway speeds while still allowing it to work at the slow speed necessary for sweeping. (2 speed preferred) Larger capacity axles and brakes will be given preference.

Front Axle:

The front axle shall be of sufficient capacity to carry the full load of the sweeper. It shall have leaf spring type suspension. The wheel bearings shall be lubricated with oil which is visible through the window on the hubcaps. Larger capacity axles and brakes will be given preference

Brakes:

The brakes shall be of the air operated S cam design that includes ABS. The brake chambers shall be of the long stroke type, sealed against contaminants and protected against corrosion. The slack adjuster's shall be the automatic adjusting type. (Haldex brand preferred.) The system shall be equipped with an oil coalescing type air dryer that includes a heater for cold weather operation.

Frame:

The frame shall be of the single rail design, no double frames will be accepted. The frame shall be of sufficient strength to accommodate the full load of the sweeper and be of the shortest wheelbase possible to enhance maneuverability. The frame shall be painted and properly protected from corrosion to assure a long service life. At the front of the frame a three-piece painted bumper with collapsible ends and two tow hooks shall be included.

Wheels:

The wheels shall be of the hub piloted design utilizing 10 studs and nuts to retain them. They shall be steel and painted to prevent corrosion. 8.25x22.5 with 11/R/22.5 tires preferred.

Cab:

The cab shall be of the conventional design with a tilt forward fiberglass hood allowing full access to the engine compartment. It shall include two exterior grab handles for ingress and egress. The grille shall include a bug screen in front of the radiator. It shall have both an electric city horn as well as an air horn. The cab shall be equipped with a heating/ ventilation system that includes air conditioning sufficient to keep the interior comfortable for the operator. It shall contain two premium air suspended seats that include lumbar support. The cab shall have all necessary mirrors to see both the rear of the sweeper and the gutter brooms and hopper when dumping. At a minimum the rear-view mirrors will be heated with a preference to have all mirrors heated. A standard radio with AM/FM/WB and Bluetooth connectivity shall be supplied. Interior sun visors on both left and right side shall be supplied.

Electrical System:

The electrical system shall include two standard group 31 stud type batteries with a minimum 2000 cold cranking amperes. It shall include as many circuit breakers in place of fuses as possible. The wiring harness shall be designed and routed with abrasion resistant covering and have sealed connections at every terminal. Remote mounted jump start studs should be supplied. There shall be a master disconnect switch inside the cab to isolate the batteries from the rest of the system.

Sweeping Mechanism:

The sweeper shall be of the mechanical type. No air sweepers will be considered. The sweeping mechanisms shall be powered by the chassis engine. The design of the sweeper shall provide the full amount of hydraulic oil flow required to operate the sweeper at full capacity while the chassis engine is at its low idle speed. Preference will be given to machines that utilize standard readily available industrial components as much as possible versus captive proprietary parts in high wear areas.

The sweeper shall have two side brooms that extend out from the frame to provide a 140" sweeping path. They shall be adjustable by the operator, while working, for down pressure, width of path, and tilt of broom. Both side brooms shall be powered by motors

of sufficient capacity to prevent them from slowing down in heavy sweeping conditions.

The main broom shall be of the standard tube core type that sweeps a 60" path. It shall be powered by a motor of sufficient power to prevent it from slowing in heavy sweeping conditions. It is preferred the broom pressure to be controlled by the operator while the sweeper is working.

The elevator shall be a full width drag chain type with sufficient incline and speed to carry a full load to the hopper without the swept material falling back down in front of the broom. The elevator shall be equipped with a stall alarm and the ability to reverse from the operators control panel while in motion, to allow jammed material to be freed quickly. The elevator height shall be adjustable to allow for bulky materials to pass under it easily. The elevator shall support wear resistant drag shoes to seal the elevator sides with the broom. It shall have a flap that follows the road no matter the height of the elevator to prevent material from going under and not onto the elevator.

The hopper shall be designed to carry as much as possible. (Larger capacity preferred) The hopper lift system shall raise the hopper as high as needed to dump into trucks over the side of the truck. Preference will be given to higher lift heights. The lift mechanism shall be of a sturdy durable design of sufficient capacity to repeatedly lift a full hopper of swept material. The door mechanism shall be of sufficient length to prevent the sweeper from having to be dangerously close to the truck while dumping.

The hydraulic system shall have sufficient cooling capacity to work in heavy conditions in high heat without overheating. It shall have a filtering system capable of trapping and holding particles down to 10 microns. All hydraulic components shall be mounted so as to keep the length of hoses needed to a minimum.

There shall be a camera to see the right side gutter broom, the inside of the hopper to monitor the load and a backup camera. The display shall be mounted where the driver can easily monitor it.

The water system for dust suppression shall carry a minimum of 300 gallons of water. It shall have a sufficient number of nozzles properly sized and placed to suppress the dust created from sweeping. It shall be equipped with 2" lay flat hose equipped with cam and groove couplers. It shall be fitted with a filter system to prevent nozzle plugging.

These specifications are to highlight the main characteristics the Town seeks in a complete machine that is properly constructed to work as a mechanical street sweeper capable of serving the needs of the Town of East Hampton for many years to come. Completed proposals shall supply all of the relevant details pertinent to the whole machine. Delivery of the truck mounted sweeper to the Town shall be by March 15, 2024.