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To: Mick Michel, City Administrator
From: John F. Wandsnider, PE – Public Works Director/City Engineer
Date: August 30, 2024
Subject: Street Sweeping/Cleaning Options for FY25

The purpose of this report is to present options for FY-25 for keeping the City of Dyersville streets clean on into the near future (street sweeping):

The Need

The streets in Dyersville have routinely been kept clean – sand-, dirt-, and debris-free - for as long as I can remember. This is seen as a very important expectation of the citizens of Dyersville, and one that must be upheld into the future. In order to ensure that this service is not neglected, Public Works needs to consider options for moving forward.

Our current street sweeper, identified as Unit 12, is a Schwarze, A7000 Regenerative-Air sweeper/vac unit that has been in operation since 2013 – about 11 years. It has nearly 19,000 miles and 2,120 hours on the chassis, and approximately 1,633 hours on the street sweeper engine/mechanism. Street sweeping is a very demanding and taxing duty and takes its toll on a piece of equipment.

According to industry standard, “the current average lifespan of a street sweeper is five to eight years (depending on use)”. The average street sweeper is used from 850 to 1,000 hours per year.

Option 1 – Do Nothing – React as Needed

Since January 1, 2017 we have kept records on Unit 12 in our asset management system. The sweeper has been used on-average approximately 150 hours per year, but as much as 225 hours in a given year. This equates to less than ¼ of the average use given above. The total cost for operation over this time, including fuel, labor, repair, and usage at FEMA rates, is \$54,251.

With 11 years on Unit 12, and knowing about some of the current problems with the unit, including rust-holes in the hopper, we are operating on borrowed time. If we continue with our current unit, we can expect continued reduced effectiveness, increased unreliability with breakdowns, and reduced resale value as time passes. We may be able to do some rehab ourselves – patching holes in the hopper. And we would likely have to send the unit to Davenport often for repairs of the sweeper unit. I do not believe this would be a sustainable option.

Option 2 – Replace Unit 12 with Brand New, Like Unit

According to the City of Dyersville, “Vehicles and Equipment Replacement Plan” instituted by a past City Council, Unit 12 was due to be replacement at 10 years – in 2023. Due to unforeseen conditions and changes in available capital, replacement of Unit 12 was delayed. At the direction of the City Administrator, we received quotes from three vendors for replacement units comparable to Unit 12.

The quotes took into consideration trade value on Unit 12 and one vendor provided a discount for a demo unit. If replacement is chosen, it would be the preference of the Public Works Department to stay with the Schwarze unit.

The final quotes, which are in the file, are approximately summarized as follows:

Elliott Equipment	2024 Schwarze, A7000 (demo)	\$299k
Mid-Iowa SW Equip.	2025 TYMCO 600	\$310k
McQueen Equipment	Elgin, RegenX	\$335k

Option 3 - Replace Unit 12 with a Used Unit

Due to the high expense for a new unit, we decided to approach the vendors for quotes for comparable used units, preferable approximately 5 years old or less. I reached out to the three vendors to see what might be available, with the following results (I have not pursued this option in detail, but can further investigate if interested):

Elliott Equipment	None available	
Mid-Iowa SW Equip.	2014 TYMCO 560X	\$130k
	2017 TYMCO 460X	\$225k
McQueen Equipment	2019 Elgin, Crosswind (13,560 mi / 2148 hrs)	\$195k

Option 4 – Rehabilitate Unit 12

As mentioned above, the average street sweeper is operated from 850 to 1,000 hours per year. Under normal use and conditions, a street sweeper could be expected to last from 5 to 8 years. Doing the math, a street sweeper should be expected to provide from 4,250 to 8,000 hours of operation.

Because Unit 12 is used much less frequently than the average unit – up to only 225 hours/year compared to 850 – 1,000 hours/year – and Unit 12 only has 1,633 hours on the cleaning system, even at 11 years old, it is expected to have quite a bit of life left in it.

We sent Unit 12 down the Elliott Equipment’s service center in Davenport to have its condition evaluated and find out what it might cost to have it rehabilitated. The primary issue discovered is the condition of the original steel hopper. It has signification rusting and holes in it. The rest of the unit is showing wear, but is in fairly good condition. And the engines seem to be in very good working condition.

Elliott Equipment provided a service quote of \$62,625 to replace the hopper. They said they may encounter other parts that may need replacing during the hopper swap, but these would be minimal. We may have minor repairs along the way, but with the low hours on the unit and with proper care and maintenance, we believe we can expect to get another 4 to 6 years out of the unit.

Option 5 – Contracted Service for Street Sweeping

I approached a local vendor of parking-lot / municipal street maintenance services to get a quote for 225 hours of street sweeping services per year for Dyersville. Kluesner Construction, Inc. quoted \$195/hour for sweeping Dyersville’s streets with an Elgin, Pelican sweeper (non vacuum) unit. At 225 hours, the annual cost would be \$43,875.

Option 6 – Rent a Street Sweeper During Months Needed

Renting a street sweeper is another option. Units are available to rent for a minimum of 1 month at a time from two of the three vendors. This, of course, would still require that Public Works staff operate the equipment, adding to the comparable cost. But we could possibly optimize our sweeping operation for only necessary times – perhaps in early Spring in time for St Patrick’s Day and then again in the fall when the leaves are falling. If we need the downtown area swept in the middle of the summer, we could possibly contract for a day or two of this (see Option 5).

Rental Units and costs are as follows:

Elliott Equipment	None available
Mid-Iowa SW Equip.	\$8,000 to \$10,000 / Month
McQueen Equipment	\$13,500 / Month

Recommendation

It is recommended that we choose **Option 4 – Rehabilitate Unit 12**. With all things considered, this would be the most economical choice. Spending \$62,625 now, spread over 4 to 6 years would equate to an annual cost of from approximately \$10,500 to \$15,700 (using simple math). The current trade-in value is \$50,000 according to Elliott Equipment. This would be reduced, but it would not be a significant factor compared to the overall cost for replacement in the future. The value received from continuing with our existing unit will far outweigh the loss in trade-in value.

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