



# City Council

## Agenda Item

**Subject:** Approval of a Bid Award for a 2024 Backus A-50 Windrow Compost Turner via Sourcewell contract, to Ecoverse, in the Amount of \$462,805.00.

**Meeting:** City Council - Feb 05 2024

**From:** Amanda Mack, City Manager

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### **BACKGROUND INFORMATION:**

Ecoverse is a vendor located in Avon, OH that is approved to sell equipment off of Sourcewell bids. Staff is requesting that the council approve the bid award for one new Backus A-50 Windrow Compost Turner to Ecoverse, Proposal #SW-BK-23125B, via Sourcewell bid, Contract #030923-ECV.

Unit is a replacement for the 2008 Turnner Wildcat TS-616, pull-behind compost turner which will be declared surplus and auctioned or sold upon Council approval.

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### **FINANCIAL IMPACT:**

The funding for this purchase has been budgeted as a 2024 Solid Waste Capital Plan Project, account 605.432.45.43600 in the amount of \$738,408.00. The bid award is for \$462,805. The bid amount for this compost turner is currently under-budget by \$283,603.00.

Purchase includes an Ecoverse comprehensive 24-month, 2,000-hour warranty. Unit will not be purchased with the additional elevated cab or wheeled-drive options.

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### **SUGGESTED MOTION:**

Staff recommends approval of this item through the following motion:

I Move to approve a Bid Award for a 2024 Backus A-50 Windrow Compost Turner via Sourcewell contract, to Ecoverse, in the Amount of \$462,805.00.

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### **STAFF REFERENCE(S):**

Heath VonEye, Scott Davis

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### **ATTACHMENT(S):**

[Vendor Brochure](#)

[Bid Summary](#)

## BACKHUS A50 WINDROW TURNER



PROPOSAL No: SW-BK-23125C

PREPARED FOR: City of Watertown



## EQUIPMENT SOLUTIONS PROPOSAL

Proposal No. SW-BK-23125C

Date January 26, 2024

To City of Watertown  
PO Box 910  
Watertown, SD 57201  
Landfill

Reference Sourcewell - 030923-ECV

### Backhus A50 Windrow Turner

#### Windrow

- ✦ Windrow Width up to: 16'-5"
- ✦ Windrow Height up to: 7'-10"
- ✦ Grain Size up to: 12"
- ✦ Turning Capacity: up to 4,700 yd<sup>3</sup>/h

#### Engine

- ✦ Engine: Cummins
- ✦ Model: B6
- ✦ Certified EPA Tier IV
- ✦ Maximum Capacity: 280 hp
- ✦ Engine Intake Filtration: Full Filtration System
- ✦ Cooling system: Hydraulic Reversing Fan
- ✦ Engine Consumption: 12 Gallons per hour

#### Electrical System

- ✦ Batteries: (2) 12 Volt batteries each 180 Ah
- ✦ Generator: (3) Phase, 24 Volt, 110 Amp

#### Hydraulic Systems

- ✦ Filtration Type: Reflux Suction Filtration, High Pressure Filtration
- ✦ Filtration Monitoring: Electronic Level and Filter Status
- ✦ Filter Locations: Together for ease of replacement
- ✦ Device Monitoring: All hydraulic devices have LED position indicators in cabin
- ✦ Security: Locking hydraulic filler cap
- ✦ Safety: Low Fluid Shutdown
- ✦ Hydraulic Cooling: Hydraulic Reversing Fan

#### Fuel Capacity

- ✦ Fuel Tank: 132 Gallon
- ✦ Security: Locking Fuel Cap

#### Rotor

- ✦ Rotor Power: Fully Hydraulic
- ✦ Rotor Diameter: 47"
- ✦ Rotor Speed: 0-230 RPM
- ✦ Rotor Speed Adjustment: Infinitely Adjustable
- ✦ Rotor Direction: Fully reversible, under load
- ✦ Rotor Tools: 72
- ✦ Height Adjustment: 0 - 14"

#### Undercarriage

- ✦ Type: Track drive
- ✦ Drive Power: Independent Hydraulic Drives in closed circuit, Infinitely
- ✦ Adjustable speed control



- ✦ Fully interchangeable with Backhus wheeled undercarriage
- ✦ Frame Connection: Direct Bolt, no Moving Parts
- ✦ Track Type: Grouser Track Pads
- ✦ Track Clearer Width: 12"
- ✦ Track Tensioning: Standard Grease Tensioner
- ✦ Track Clearer Operation: Fully independent of turner frame
- ✦ Track Clearer Controls: Independently, hydraulically controlled to Raise and Lower, Swing inside and outside as required by the operator



### Tailgate

- ✦ Type: Steel Construction
- ✦ Control: Hydraulic, raised and lowered by operator

### Frame

- ✦ Type: Box Construction Type, Portal Frame
- ✦ Surface Preparation: Steel Surfaces Blasted to Sa 2 1/2, Coated in accordance to
- ✦ DIN 12944-5 Category 2.
- ✦ Lacquer Coating: Base coat to be a two-component Epoxidharz-zinc-
- ✦ Phosphate primer, the intermediate coat to be a two-component acrylic Polyurethane protective coat, and the finishing lacquer to be a two-component acrylic Polyurethane protective coat.
- ✦ Coating Thickness: Extra Thick 240 Microns to prevent damage due to corrosive environment.



### Cabin

- ✦ Cabin Type: Panoramic, Mounted on Centerline of machine
- ✦ Cabin Filtration: Two pocket-type filters (525 x 280 x 100) guarantee a separation efficiency of 96 %.
- ✦ Acoustics: According to DIN ISO 6393 and 6394
- ✦ Air ride seat for operator comfort
- ✦ Air Conditioning: Automatic / Electronic Temperature Control, Separate fan controls. A/C unit specially designed for use in a pressurized environment.
- ✦ Heat: Warm Air Heating with multi level fan
- ✦ Radio: AM/FM Stereo with (2) Speakers and CD player and Bluetooth phone connection
- ✦ Machine Controls: Ergonomically Designed, Smooth, one lever joystick steering
- ✦ 12" Touchscreen Operators Panel
- ✦ Lighting: (4) LED Headlamps on cab roof, (2) LED Lamps on front of turner, (2) LED Lamps on back of turner
- ✦ Acoustic Warnings: Machine "Start Up", warning, "Back Up" warning
- ✦ First Aid Kit: According to DIM 131 57 C
- ✦ Tool Box: Containing basic tools required for maintenance of turner
- ✦ Jump Seat: To facilitate safe training

### General Dimensions

- ✦ Dimensions in Working Position:
  - Depth: 16'
  - Width: 18' -8"
  - Height: 15'-3"
- ✦ Dimensions in Transporting Position:
  - Depth: 8'-5"
  - Width: 26'-3"
  - Height: 10'
- ✦ Weight Approx.: 36, 000 Lbs. (approx.)

## Power Transmission

The hydraulic system is constructed in a series of separate circuits which are constructed from high-grade (machinery quality) components. Hydraulic cylinder functions are electrically triggered and the switched condition of each magnetic valve is displayed in the cab by LEDs. The hydraulic system features reflux suction filtration with electronic level and filtration status monitoring. The fully hydraulic rotor-drive system in a fully closed system and provides power transmission with a high efficiency of approx. 85%. Through high-pressure axial-piston variable displacement pumps and high-pressure radial piston engines a full load torque is generated.

## Rotor

The rotor can be hydraulically lifted at infinitely variable increments up to 14". This allows driving out of the windrow easily. This also makes it possible to turn material on uneven surfaces, and to transport the machine on a center-axle trailer. Since only the rotor is lifted no material gets into the tracks. A rotor height level indicator indicates the rotor position to the driver. The large 47" rotor diameter offers a high degree of protection from entanglement. If desired the rotation direction of the rotor can be reversed. Even at full load torque the number of rotor revolutions can be easily adjusted from 0 – 230 RPM to match changes in material density by simply turning the control switch. Thus, wear is remarkably reduced. The rotor is positioned near the rear of the machine which allows the composting material to be freely thrown out of the machine and forms new fluffy, oxygen-enriched windrows.

## Cooling System - Engine

The cooling system for the engine and hydraulics is designed for operation in extreme conditions (tropic-proof radiator). The cooling-air induction takes in very little dirt and dust. The radiator is simply cleaned by means of an automatic reversing fan.

## Hydraulics

The hydraulic system is equipped with a totally separate cooler, which is located outside the engine compartment on the left side of the turner. The hydraulic cooler is simply cleaned by means of an automatic Clean Fix reversing fan.

## Tools (Type and Kind)

The bolted tools are constructed from wear resistant, high-alloy, heat-treated boron steel. Installed around the rotor are the throwing tools and in the middle of the drum are located the throwing rakes. Due to their arrangement material contact with the drum is minimized. As a result, wear and energy consumption are greatly reduced. At the same time the best possible material mixture and optimum displacement of the windrows is attained. For turning soils and other abrasive materials the tools are available with wearing protection. The bolted tools can be exchanged quickly and easily with only an impact wrench, and their patented fixture assures no "throwing" as is commonly experienced in flail type turners.

## Frame & Lacquer Coating

The turner consists of a portal frame in box design. The construction is based on a frame calculation according to the finite element method (FEM) with which the stress limit is simulated. In conjunction with high-grade blister steel a long operating life is guaranteed.

All frame and bonnet parts are sandblasted according to SA 2.5. Thus, they are perfectly pre-treated for lacquering. The base coat is a two-component Epoxidharz-zinc-phosphate primer, the intermediate coat is a two-component acrylic Polyurethane protective coat, and the finishing lacquer is a two-component acrylic Polyurethane protective coat. The thickness of the different coats is controlled through state-of-the-art technology. The area of the undercarriage and various mounting parts are lacquered in silver (RAL 9006), the frame and the bonnets are lacquered in blue (RAL 5010). This color coating guarantees reliable corrosion protection even in ammonia-rich environments.

## Crawler Drive and Track Clearers

Because of the small area taken up by the tracks the windrow is picked up the complete width of the rotor. Thus, the forces applied to the turner while feeding through the material is reduced to a minimum. Specially constructed track

clearers pick up the material in front of the crawler tracks and drop it onto the windrow in the tunnel. This allows the windrows to be set up “toe-to toe” without the need for space between the windrows. The track clearers adjust hydraulically for pad unevenness and thus create a clear base which allows for optimum traction. For transportation, the plow shifters swing inside the tunnel hydraulically.

### Systems Operational Monitoring Unit

A Systems Operational Monitoring Unit alarms the driver both visually and acoustically when a problem occurs which could influence production or cause damage to the machine.

### Panorama Cabin

The centric positioned cab provides a perfect panoramic 360° view which assures the operator is always able to see the material, and be aware of outside influences. The conveniently located cabin door, offers comfort of entry, locking security, and is easily reached by wide slip resistant steps. All controls inside the cabin are ergonomically arranged and clearly labeled. The large Air Ride operator's seat adjusts to provide operator comfort.

For transport the cab is easily removed, lowered and rotated 90° where it locks into transport position without the need for any special tools.

### Stereo Radio

The cab is equipped with an AM/FM stereo radio –w- CD player and two stereo loudspeakers and Blue Tooth Phone Connectivity.

### Cabin Ventilation / Filtration

The standard machine is equipped with a cabin ventilation system (G4 [EU 4] according to EN 779 standard [DIN 24185]). Two pocket-type filters (525 x 280 x 100) guarantee a separation efficiency of 96 %.

### Operator Display

12” Touch Screen Display provides real time monitoring of all equipment functions, Interactive Troubleshooting, and all turner Manuals and Drawings are preloaded onto the display.

### Climate Control

The cab comes equipped with an air conditioner which allows the temperature to be preset. This A/C is especially designed for high pressure cabins to condition the circulating air. The cab is also equipped with an electrical heater which provides a quick warm-up of the cabin air.

### Cabin Equipment

When the key is turned on an acoustical signal is emitted to warn people standing outside that the machine will be starting. Besides this operation warning system the machine is equipped with an acoustic warning system for reverse drive.

### Rotating Safety Beacon

A rotating amber beacon is located on top of the cabin to alert persons standing nearby.

### Flood Lamps

LED lamps installed in front and at the rear of the machine ensure good working conditions even in case of poor visibility. The flood lamps are mounted in shock proof mountings. There are (4) LED headlights mounted in the cabin roof, (2) LED headlights in front, (2) LED headlights in back.

### Jump Set

This cabin is equipped with a jump seat which provides extra comfort when training, or if additional persons are needed in the cabin.

### First Aid Kit

There is a first-aid kit according to DIN 131 57 C located under the jump seat.

### BTC (Backhus Track Control)

This turner is equipped with an electronic drive control. In combination with an electric joystick it controls the rate of feed, depending on the load of rotor and engine. During the working process the joystick is used for steering correction only. The automatic drive control ensures good controllability and maximum working capacity.

### Included Options

- ✦ **Hydraulic and Engine Block heater**
- ✦ **Mirrors** - Heated mirrors with remote control
- ✦ **Armored drum tools** - These tools are coated with an abrasion resistant material that will greatly improve the tool wear life.

List Price for BACKHUS A50 Windrow Turner	\$596,641.07
Sourcewell Discount	(\$59,664.11)
Sourcewell Price for BACKHUS A50 Windrow Turner	\$536,976.96
Additional Discount	(\$82,171.96)
Final Price	\$454,805.00

**Available Options**

- Hydraulically elevating Cabin: \$20,000.00
- Wheel drive undercarriage: \$14,000.00
  - Independent four-wheel drive
  - Puncture proof tires

**Payment Terms:** Net 30 days from receipt of invoice.

**Delivery Terms:** F.O.B. Watertown, SD

**Terms / Warranty:** 2 year or 2,000 hour machine warranty.

**Taxes:** The prices quoted do not include any duties or sales, use, excise, value-added or other taxes or charges, unless specifically noted on the proposal form. Such taxes and charges, if applicable, will be added to the prices quoted if required to be paid or collected by Ecoverse.

*See included Ecoverse General Terms & Conditions of Sale.*

I, the undersigned, being authorized to sign on behalf of my company, agree to and authorize the purchase of the above detailed equipment under the noted and included terms & conditions.

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On behalf of City of Watertown

Presented and accepted by:

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Date

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On behalf of Ecoverse

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Date

Notes:

# Compost Turner Quotes

## Komptech-Topturn X 500

CAT engine-tier 4  
16 ft.-5 in. X 7 ft.-3 in. Row  
2yr/ 2000 hr Warranty  
track or wheel model the same price  
front entry ground level cab

Sourcwell Contract #050119-KMP

Purchase price -----\$547,675.00

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## Backhus -A 50 Windrow Turner

Cummins B6 engine- tier 4  
16 ft.-5 in. X 7 ft.-10 in. Row  
2yr/ 2000 hr warranty  
track model drive

Sourcwell Contract # 43097

Purcuse Price-----\$454,805.00

option: Hyd elevating cab (ground entry) \$ 20,000.00 \*\*

total cost \$464,805.00

\*\* additional charge shown for elevating cab option to compare equally with other quotes.

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## Vermeer High Plains CXT 718

CAT C15 tier 4 engine  
18 ft. x 7 ft. Row  
2 yr Confidence Plus Basic Warranty \$53,782.48

Sourcwell Contract #43097

Purchase Price (Sourcwell) \$750,246.34

Estimated Price increaase 4% \$30,000.00

total cost \$780,246.34

freight/prep to be determned. Total without freight.

Delivery in 4th quarter 2024