



**CITY OF FAIRHOPE
CITY COUNCIL WORK
SESSION AGENDA**

**Monday, October 9, 2023 - 4:30 PM
City Council Chamber**

Council Members

Kevin G. Boone
Jack Burrell
Jimmy Conyers
Corey Martin
Jay Robinson

1. Presentation on the Litter Getter Project and Osprey Initiative - Kim Burmeister
2. Presentation on the Demo of Heil RevAMP Electric Side Loader (Hybrid EV Garbage Truck) Sanitation Department
3. Presentation on Water Well Expansion - Krebs Engineering
4. Committee Updates
5. Department Head Updates

City Council Agenda Meeting - 5:30 p.m. on Monday, October 9, 2023 - City Council Chamber



RevAMP™

The future of refuse collection is now



RevAMP™



POWERED BY ELECTRICITY!

The first all-electric on-route refuse collection body



City of Fairhope, AL June 19, 2023



Route – June 19th

- Demo Driver:
- Site: Fairhope, AL
- Starting Mileage: 8369
- Ending Mileage: 8387
- Total Mileage: 18
- Battery state of charge (Start): 96%
- Containers Serviced: 120
- Battery State of charge (EOD): 86%
- Avg. # cans in single charge-1200
- Type of Service: Trash/Waste
- Daily Payload Tonnage:

RevAMP Electric Body on Route



**Environmental
Solutions Group**

A **WILLIS TOWERS WATKINS** COMPANY

Collaborative Entrepreneurial Spirit Winning Through Customers High Ethical Standards, Openness, and Trust Expectations for Results Respects and Values People



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RevAMP Electric Body on Route



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RevAMP Route June 19, 2023

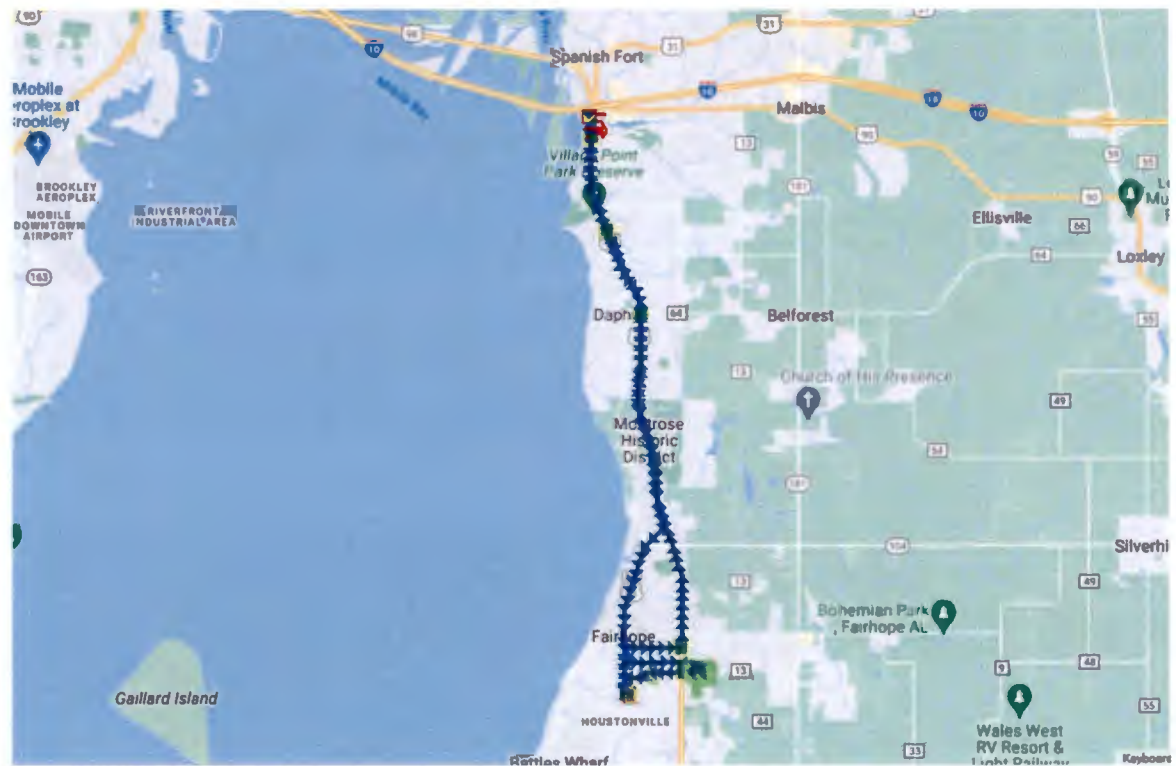


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- Total Number of Containers Serviced: **120**
- Times on route: **8:30 AM to 9:36 AM**
- Total Hours: **1.1 Hours**
- Container Serviced per Hour: **109**



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Positive Service Verification- (Green Cans)- Birmingham Route June 6th 2023



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Positive Service Verification- 212 Southchase CT, Fairhope, AL



Collaborative Entrepreneurial Spirit Winning Through Customers High Ethical Standards, Openness, and Trust Expectations for Results Respects and Values People

06/19/2023 06:25:31 AM Event: 3315691106 Vehicle: 3rd Eye ESG Demo / RevAMP / ASL-PD1868RH-RV0001

Stop ID#: 0 Name: Type: Status: Unknown Stop

Route: Stop Address: 212 Southchase Ct, Fairhope, AL 36532 Contract: Customer Number: Confidence Level: ●



Speed (left), Accel (right)

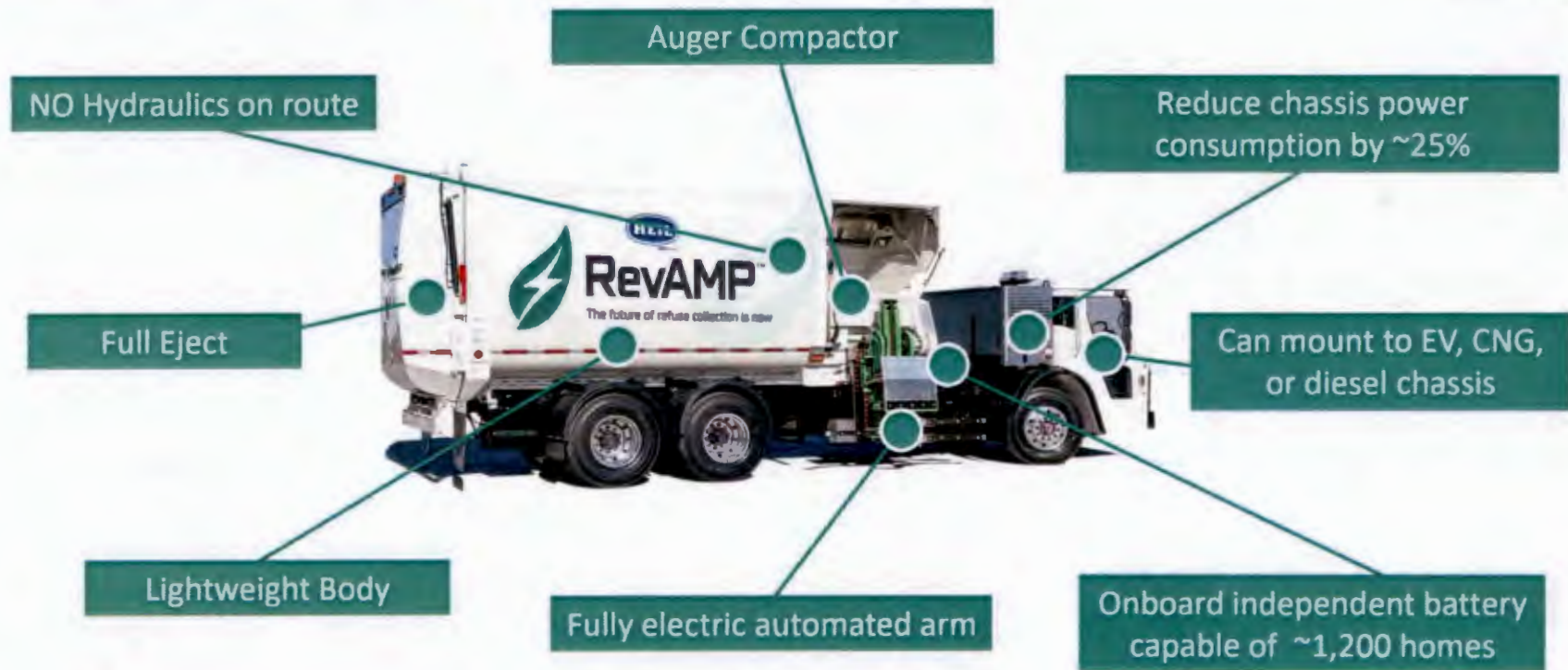
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Heil RevAMP eASL



**Connected
Collections™**



Heil® RevAMP™ Electric Automated Side Loader

The Future of Refuse Collection is Now.

Discover What Sets The Heil® RevAMP™ Apart



EJECTION PANEL

- ✓ An electric motor is used to drive the ejection panel
- ✓ Pack-through innovation (patent pending) provides full-eject capability (no tilt-to-dump)
- ✓ Full-eject design improves stability at the landfill
- ✓ Body fixed to frame allows for shortening wiring, simplified body installation
- ✓ Large entrance points for easy access behind the ejector



LIFT ARM

- ✓ Fast, precise arm motion enables highly productive refuse collection while on route
- ✓ Shake-free, smooth operation reduces driver fatigue
- ✓ No arm kick-out allows for the collection of refuse in alleyways and other tight areas
- ✓ Fully electric arm is remarkably quiet and has no hydraulic hoses or tubes that can leak or break



ENERGY

- ✓ 47 kWh Battery. Up to 400A available at 100V
- ✓ More than 1,200 containers on an overnight battery charge (6-8 hours)
- ✓ No power required from a chassis diesel engine
- ✓ Type 2 AC charging with 208/240 VAC shop power



AUGER

- ✓ The auger, tapered from 30 inches to 24 inches, requires less energy than a typical compactor ram
- ✓ Self-cleaning hopper to avoid material bridging
- ✓ Sturdy endless auger design allows the refuse material to dump over it while in operation, so that the hopper clears quickly
- ✓ Surface treatment on the hopper and auger is designed specifically for harsh material

Key Benefits of an Electric Body



Efficiency

Electric arm and auger reduces the energy required. This means you use less fuel and increase your chassis range.



Flexibility

Onboard battery option can be paired with any chassis fuel type. Or choose the integrated power configuration with your preferred EV chassis.



Eliminate Hydraulics

Eliminate leaks on route that generate expensive clean-ups and angry customers.



Quiet Operation

Homeowners and drivers both agree that a quieter garbage truck is a better garbage truck.

RevAMP Electric ASL delivers benefits that a hydraulic body cannot

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IMPROVE YOUR SUSTAINABILITY. IMPROVE YOUR BOTTOM LINE.

The Heil RevAMP electric side loader is more environmentally friendly than any other standard automated truck on the market.

- ✔ 100% electric on-route – NO hydraulics – NO hydraulic leaks
- ✔ Fuel savings of up to 35% on diesel chassis; 100% fuel savings on electric chassis
- ✔ Easily charge overnight with plenty of energy for a day's work
- ✔ GHG reduction of 41 tons/year/truck on diesel chassis
- ✔ Lighter body (less than 16,400 lbs.) – less fuel consumed – better payload

GET AMPED ABOUT FUEL SAVINGS



When the RevAMP body is configured with a diesel-fuel chassis, fuel consumption is reduced by up to **35%** when compared to an hydraulic body. This pairing can result in dramatic fuel savings per year.



When the RevAMP body is configured with an electric-powered chassis, range is extended due to elimination of the power take off from the EV chassis.



INFINITELY CUSTOMIZABLE CONFIGURATIONS TO MAXIMIZE YOUR ROUTE PRODUCTIVITY



Available with electric powered chassis, with the option to integrate into the chassis to use a common battery pack



Available with conventional diesel chassis



Available with CNG chassis

DISCOVER WHAT SETS THE HEIL REVAMP APART



EJECTION PANEL

- An electric motor is used to drive the ejection panel
- Pack-through innovation (patent pending) provides full-eject capability (no tilt-to-dump)
- Full-eject design improves stability at the landfill
- Body fixed to frame allows for shortening wiring, simplified body installation
- Large entrance points for easy access behind the ejector



LIFT ARM

- Fast 8-second cycle time and precise arm motion enables highly productive refuse collection while on route
- Shake-free, smooth operation reduces driver fatigue
- No arm kick-out allows for the collection of refuse in alleyways and other tight areas
- Fully electric arm is remarkably quiet and has no hydraulic hoses or tubes that can leak or break



ENERGY

- ✔ 46 kWh Battery, Up to 400A available at 100V
- ✔ More than 1,200 containers on an overnight battery charge (approx. 6-8 hours to charge)
- ✔ No power required from a chassis diesel engine
- ✔ Type 2 AC charging with 208/240 VAC shop power



AUGER

- ✔ The auger, tapered from 30 inches to 24 inches, requires less energy than a typical compactor ram
- ✔ Self-cleaning hopper to avoid material bridging
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The Cost Of Hydraulic Leaks



One Drop Every 10 Seconds



Gallons Per Day: **0.11**



Gallons Per Year: **27.5**



Cost Per Gallon: **\$8.50**

\$ Cost Per Year: \$234



One Drop Every Second



Gallons Per Day: **1.1**



Gallons Per Year: **275**



Cost Per Gallon: **\$8.50**

\$ Cost Per Year: \$2,338



Stream



Gallons Per Day: **24**



Gallons Per Year: **6,000**



Cost Per Gallon: **\$8.50**

\$ Cost Per Year: \$51,000

Charging Considerations



Heil RevAMP uses level 2

	120V AC	220/240 AC	480V DC
Charging Time	Slow	6-8 hours	Fastest
Cost	\$	\$	\$\$\$
Infrastructure	n/a	Available	Consult your power company

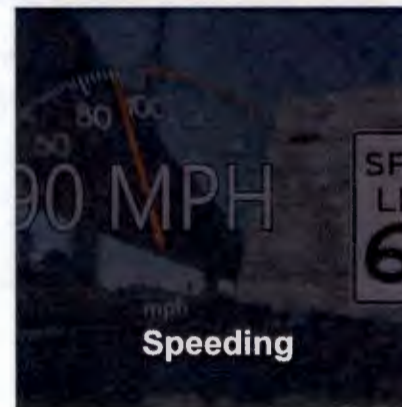
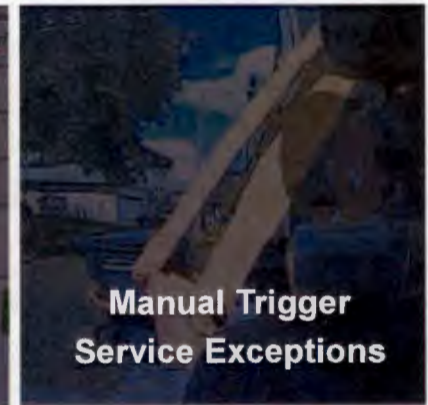


Hardware Features & Design

- Up to 256GB MicroSD card (Approximately 300 hours)
- Up to 8 cameras recording
- Real time video analytics and driver event processing
- Linux Operating System
- Open architect for future expansion

Safety- How it Works: Triggered Events

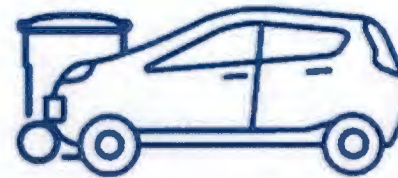
- Event Recording Device
 - Records all installed cameras
 - Audio is recorded as desired
- Gathers Information From:
 - Outside the vehicle
 - Live tracking of truck (GPS)
 - J1939 Information – Speed, Telemetry



Public Safety- Exoneration



Verif-Eye- Positive Service Verification



Blocked Containers



**Identifying Container
Location**



Failed Set-Outs



**Property Damage
Claims**



Overloaded Containers



**Recycling
Contamination**

POWER



Tracking & Quantifying a Fleet in Transit

Certif-Eye – What does it do?

- Tracks key data points about the vehicle's activity and travels



- **Engine Hours** — Total time the engine was running "Ignition On"



- **Odometer Value** — Current Odometer reading



- **Distance Traveled** — Total miles driven



- **Fuel Consumed** — Total gallons burned

- All values are summarized by:

- Hourly
- Daily
- State/Province
- On/Off Road

- Data can be consumed via:

- Reports
- Delimited data file (csv)
- API Feed



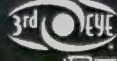
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The **Curotto-Can**

SOFT-PAK
SOFTWARE SOLUTIONS



PARTS CENTRAL

BAYNE
Pneumatics



Any Questions?



ESG Pursuing Patent Protection for Ideas & Concepts Depicted Here

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