



**CITY OF NOVI CITY COUNCIL  
JUNE 6, 2022**

**SUBJECT:** Consideration of approval to purchase a AccuBrine NXT-Gen automated brine maker, to Cargill Road Safety Inc. using the Sourcewell Cooperative Purchasing Contract, in the amount of \$122,807.43.

**SUBMITTING DEPARTMENT:** Department of Public Works, Field Operations Division

<b>EXPENDITURE REQUIRED</b>	<b>\$122,807.43</b>
<b>AMOUNT BUDGETED</b>	<b>\$125,160.00 (FY 2022-23 Budget)</b>
<b>APPROPRIATION REQUIRED</b>	<b>\$0</b>
<b>LINE ITEM NUMBER</b>	<b>101-442.20-982.064</b>

**BACKGROUND INFORMATION:**

A new brine making system is requested to further enhance winter maintenance operations city-wide. Using a brine solution (sock salt blended with a liquid material) increases the effectiveness of de-icing materials, which ultimately results in a safer driving surface.

Currently, the City applies approximately 60,000 gallons of brine per season. A new automated machine allows the snow team to produce and subsequently double that amount and remove the need for a dedicated staff member to monitor manufacturing operations. De-icing materials provide an ability to manage a storm proactively by pre-treating roadways, limit the environmental impact rock salt has on our environment, and reduce the overall use of rock salt per event. The Department's existing system makes 800 gallons per hour and requires a full-time staff member to operate. This automated system can make nearly 6,000 gallons per hour and is nearly completely automated.

Below is a breakdown of the items. The cost of installation and freight are included.

<i>Salt Tank, NXT-Gen Brine Maker, Blend V2 Truck Loading &amp; Blending System</i>	\$119,657.43
<i>Post Season Shutdown Services</i>	\$3,150.00
<b>TOTAL</b>	<b>\$122,807.43</b>

The new system is anticipated to be installed by November, and completely functional before the start of the winter season.

**RECOMMENDED ACTION:** Approval to purchase a AccuBrine NXT-Gen automated brine maker, to Cargill Road Safety Inc. using the Sourcewell Cooperative Purchasing Contract, in the amount of \$122,807.43.



April 11, 2022

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**RE: AccuBrine® NXT-Gen brine maker**

The AccuBrine® NXT-Gen automated brine maker from Cargill Salt – Road Safety is a fully automated brine production system that allows for *brine produced simply at the touch of a button.*

- **Salt Tank** – 65.5”h x 125.5”W x62.25”D Five cubic yard capacity. *Durable, marine grade fiberglass with ceramic resin coating.*
- **Up to 6,000 gallons/hour production levels** – *Produce as much or as little brine based upon your needs.*
- **Automatic Salinity control** – *System uses patent pending technology to ensure continuous, accurate concentration to +/- 0.2% or your desired salinity.*
- **Electrical Safety** – *All power enclosures and control enclosures are NEMA 4X rated.*
- **Automated Controls** – *Complete automation of brine production without the intervention of an operator after initial start. Automatically monitors and controls brine concentration during brine production.*
- **Self-Diagnostics** – *Brine maker monitors itself and ensures systems are functioning properly.*
- **LAN Access/Remote Access Capable** – *Connect machine to Local Area Network for remote access and faster service/troubleshooting.*
- **Ease of Clean Out** – *Designed to make clean out simple and safe without intensive labor or removal of any components of the system.*
- **Hose Kit** – *Roll(s) of 100’ hose and applicable fittings included for connecting to storage tank farm.*
- **Air Purge** – *Capability to purge fresh water line to salt tank after brine production to prevent freezing.*



With the AccuBrine® Blend V2, you can create custom liquid blends of your choosing at the touch of a button. This modular system enables you to produce any custom blend by mixing your brine with various other liquid additives to enhance performance and lower the effective melting temperature. This is the best way to achieve the custom blends you desire efficiently and accurately.

- **No Blended Storage required** – *this system eliminates the need to store blended product in storage tanks as a custom blend can be made in real time as it is being sent directly to a liquid application truck.*
- **Protective Shroud** – *internal components mounted to a coated aluminum frame & stainless-steel shroud with internal heater. Designed to protect components from outside elements.*
- **Stainless Steel Pump standard** – *Stainless Steel cast and wetted parts. Rated at 200 or 100 gallons per minute discharge (power dependent).*
- **Accurate volumes** – *product dispensed will be measured via a corrosion resistant, in-line Flow Meter. Product is delivered to the truck in a stacked method i.e. Product A, then Product, B, then Product C.*
- **Level Sensors** – *storage tank volume sensors provided to determine if enough volume of each product is available to produce desired blend.*
- **Product Recirculation** – *ability to schedule for automatic recirculation of tanks during off-hours to help eliminate stratifications and solids settling out of solutions. Requires storage tanks to be plumbed according to recommendation.*



Expand the level of service provided by your brine program with the add-on capabilities of the AccuBrine<sup>®</sup> blending system. This state-of-the-art truck loading and blending system is a stand-alone unit that works independent of your brine maker to help you create as many customized blends as needed to tackle any winter weather situation.

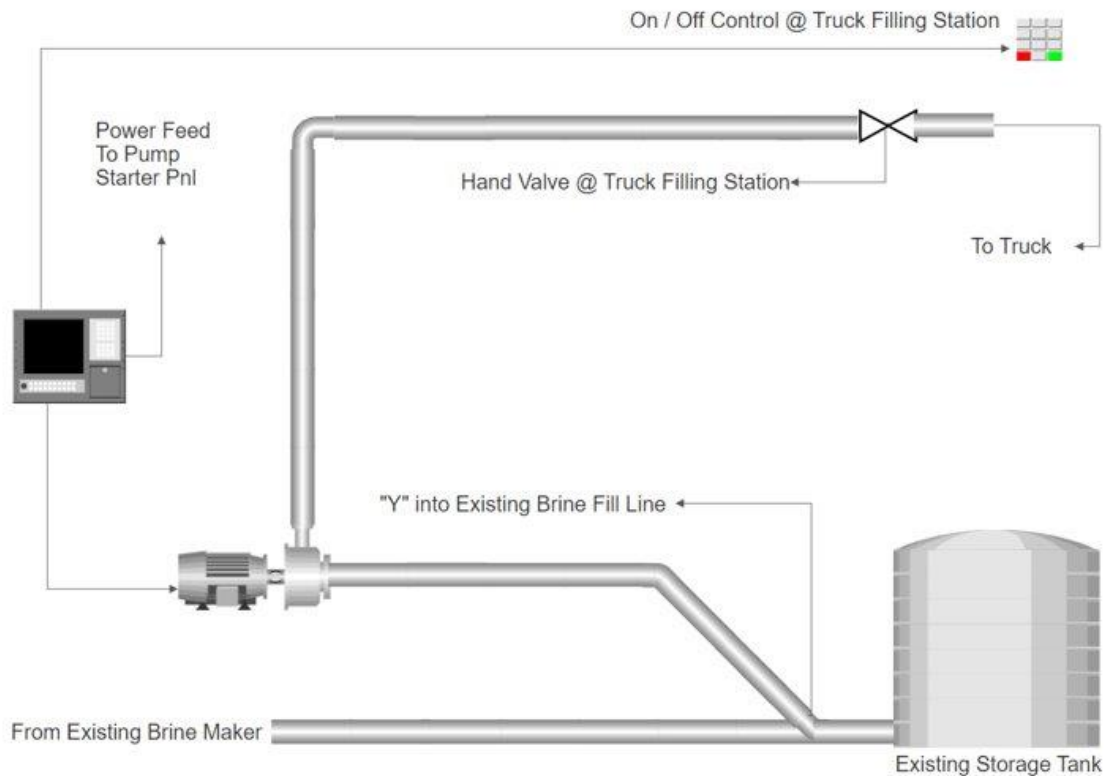
- Standalone Truck loading and blending system includes control panel with HMI PLC and pump
- Allows customer to load trucks while making brine at the same time
- Password protected accessibility
- With appropriate access customers can access remotely to monitor and operate via desktop
- Enables remote troubleshooting technical support for quicker uptime
- Available in single phase or three-phase
- Truck fill system includes powerful, high-volume centrifugal pump
  - ❖ 200 GPM with three settings to allow you to safely fill different tank capacities
  - ❖ Stainless steel cast housing with stainless impeller
- Remote operated truck fill station
- HMI read out with touchpad; no key fobs needed
- Allows for multiple users and product recipes
- System tracks usage totals that can be download to an SD card for measuring purposes
- Each additive module:
  - ❖ Can be initially purchased as part of the system or added on later
  - ❖ Unlimited concentration combinations
  - ❖ Permits customer to set tank recirculation times and frequency
- Modular tanker truck offload option
- System can be used to offload additive or liquid application tanker trucks back into storage tanks
- Improved HMI design and layout with intuitive navigation
- Storage tank high- and low-level alarms



## AccuBrine® Basic Truck Filling System

If you intend to use the brinemaker to fill a brine storage tank, the below Basic Truck Filling system is an attractive solution to pull brine from storage and fill brine application trucks

- Upgrade any brinemaker – *add to any existing brinemaker setup, as this Truck Fill operates independently of the brinemaker*
- Power Options – available as either 30A 208-240V single phase (100 gpm) 30A 208-230V 60Hz 3-phase (200 gpm)
- Stainless Steel Pump standard – *Stainless Steel cast and wetted parts. Rated either 100 or 200 gallons per minute discharge (model dependent). Manual Isolation Valve and Y-Strainer also standard.*
- Remote Fill Controls – Controls at the filling station: On/Off features and pump on indication light.





Cargill Salt – Road Safety is pleased to submit the following quote for your Brine Making Equipment needs. This quote does not constitute an order confirmation. The prices quoted in this letter are valid for a sixty (60) day timeframe.

<i>Item</i>	<i>Qty</i>	<i>Description (3-phase)</i>	<i>Each</i>	<i>Extended</i>
1	1	<b>Salt Tank</b> – 65.5”h x 125.5”W x62.25”D Five cubic yard capacity. Durable, marine grade fiberglass with ceramic resin coating.		
1	1	<b>AccuBrine NXT-Gen Brine Maker</b> – Control panel with color touch screen and 5HP 200 GPM pump. One hose kit w/ 200 ft of hose, level sensor, LAN and remote access capable and air purge. 30A 208-230VAC 60Hz 3-phase electrical service required. <i>(Sourcewell/NJPA pricing)</i>		
1	1	<b>AccuBrine Blend V2 Truck Loading and Blending System w/ 2 additive capability</b> –AccuBrine Blend V2 Truck Loading & Blending system with 5HP, 200 GPM pump. 2 additive circuits and 1 brine circuit w/ applicable fittings & level sensors. LAN and remote access capable, recirculation feature, truck filling system, and truck fill data logger. 300 ft. hose standard. 30A 208-230 VAC 60Hz 3-phase electrical service required <i>(Sourcewell/NJPA pricing)</i>		
			Price	\$108,852.43
			Labor	\$ 9607.00
			Freight	\$1198.00
			<b>Subtotal without Options:</b>	
				\$119,657.43

<i>Item</i>	<i>Qty</i>	<i>Optional Hardware Offered</i>	<i>Each</i>	<i>Extended</i>
1	1	<b>Optional Off Load Kit for V2 Truck Fill Unit</b> – allows the AccuBrine Blend V2 pump to unload brine or additive from delivery truck into storage tanks. Includes discreet ball valve and all appropriate mounting hardware & plumbing fittings. <i>Install labor included if purchased at the time of equipment sale.</i>	\$0.00	\$1,725.00
1		<b>Brinemaker Critical spare kit</b>		\$7,935.00
1		<b>V2 5 HP spare parts kit</b>		\$7,791.25
1		<b>100ft 2” suction hose</b>		\$776.25
6		<b>Y kit</b>		\$1,449.00
1		<b>10-2” Manifold,4 hosebarb,2”gasket,Tclamp,Hoseclamp,manifold bolt,tank,tbolt</b>		\$1,097.89

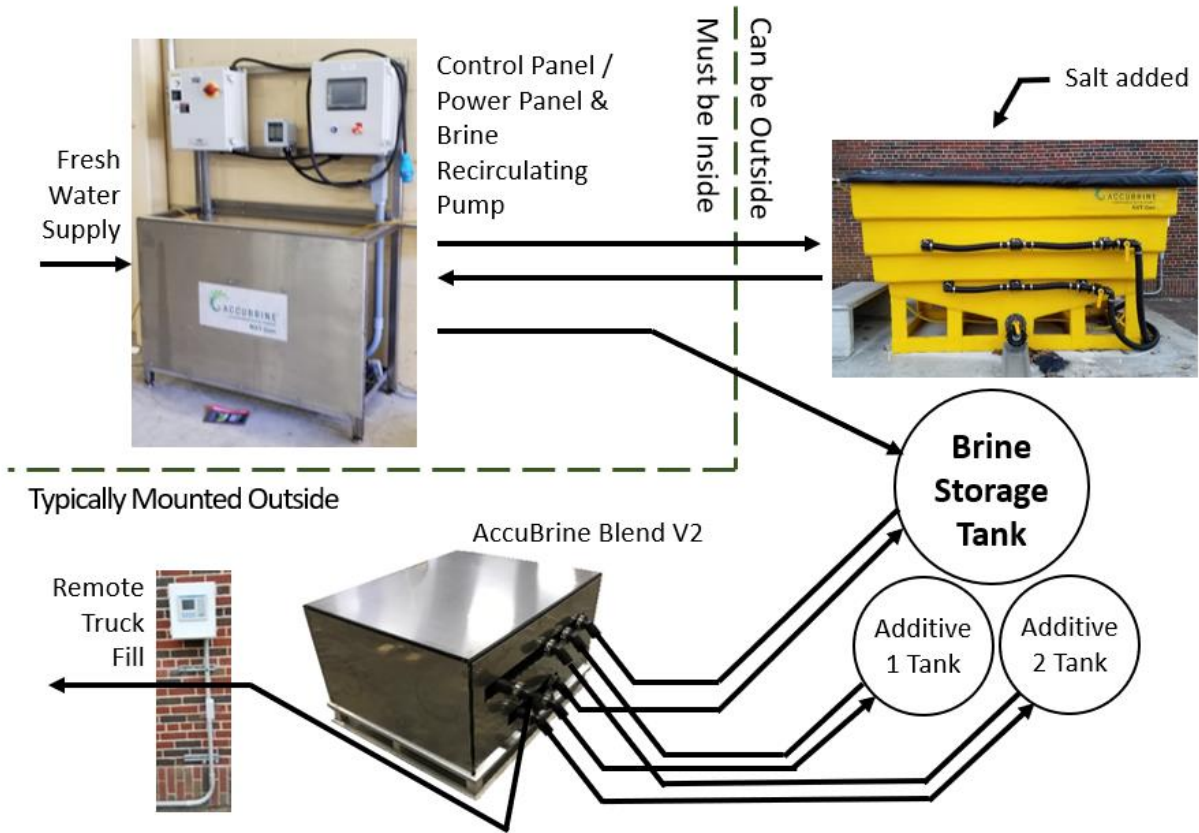
<i>Item</i>	<i>Qty</i>	<i>Optional PM Services Offered</i>	<i>Each</i>	<i>Extended</i>
D	1	<b>IP Address for Remote Communication</b> – Modification of Factory IP Addresses and consultation to establish remote communications.	\$525.00	\$525.00
E	1	<b>Pre-Season Startup Service</b> – Brinemaker & Blend V2 Startup with Training. Includes factory technician's travel and local living expenses. <i>Target dates for this work are August – October.</i>	\$3,150.00	\$3,150.00
F	1	<b>Post-Season Shutdown Service</b> – Brinemaker & Blend V2 Shutdown and cleanout. Includes factory technician's travel and local living expenses. <i>Target dates for this work are March – May.</i>	\$3,150.00	\$3,150.00
		<b>Total Price with Options included</b>		\$147,256.82

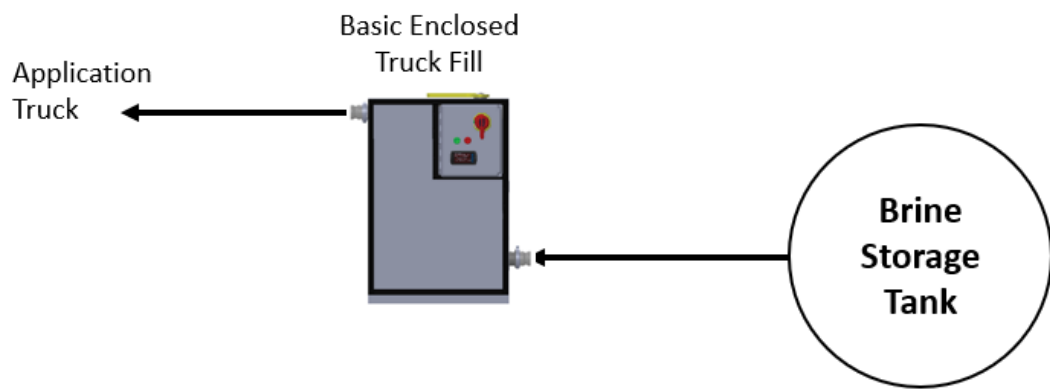
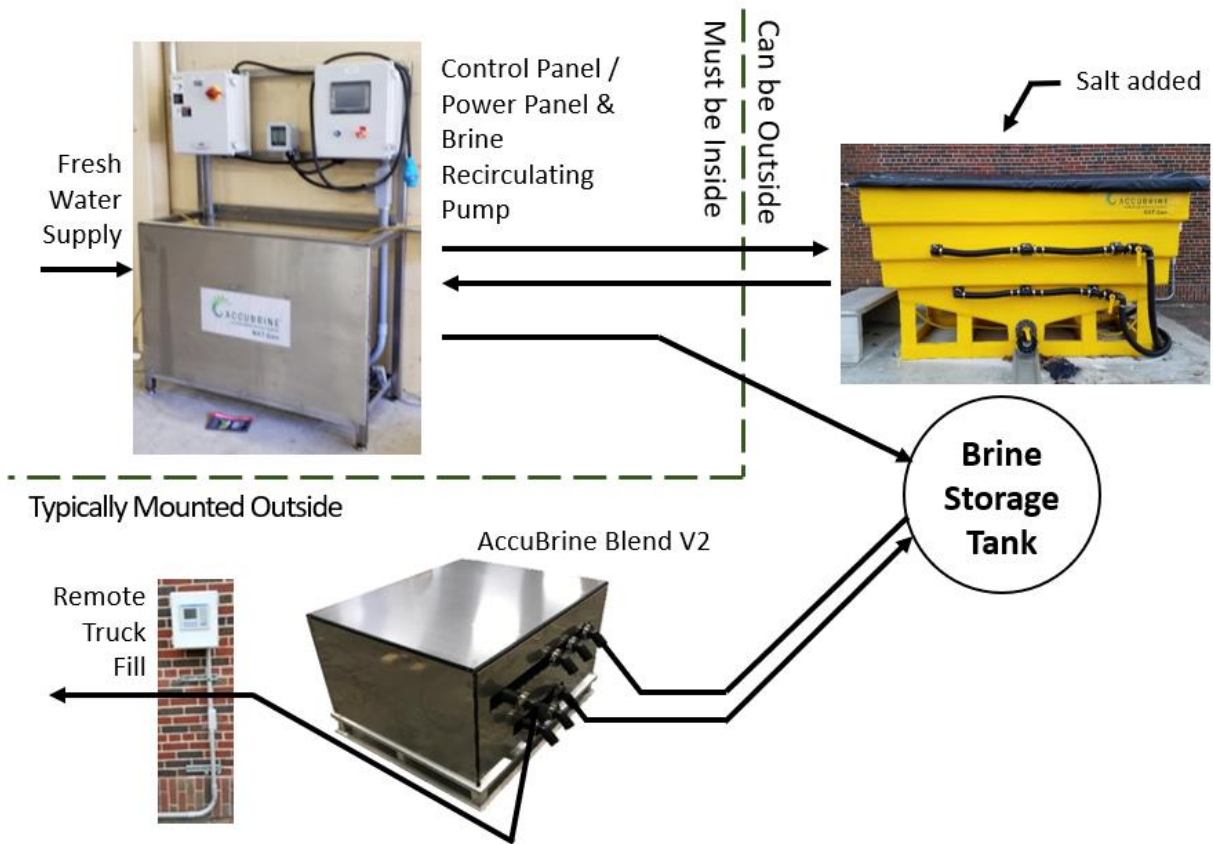
**Additional Notes, Description of Options:**

1. Quote does not include taxes, if applicable.
2. Customer is responsible for providing salt to be used for testing and training.
3. This quote is for equipment powered with **three-phase, single-phase** electrical service.
4. The quoted AccuBrine® NXT-Gen brine maker **with truck fill and one additive blend**.
5. Installation and commissioning are included in this quotation.
6. **Please note that an additional electric service will be needed for the Truck Fill and Blending unit.**
7. **Number of hose kits could change after layout of brine maker equipment and storage tanks is finalized.**
8. **Customer Sourcewell/NJPA Membership # XXXXX (verify quoted Sourcewell Pricing)**
9. **Cargill Sourcewell/NJPA Contract # 052919-CGI**

Below is a basic block diagram utilizing (1) brine storage tank and (2) additive tanks, with the ability to circulate product during off-hours. The quoted system allows you to make salt brine to send to storage AND pull brine and additive(s) from storage and send to the Truck Fill at the same time. This is possible since the AccuBrine Blend V2 (AccuBrine NXT-Gen Truck Fill and Blending System) has its own pump/motor and operates independently of the brinemaker.







Terms and Conditions



The terms and conditions and full limited warranty statement are available upon request. The terms and conditions and full limited warranty statement shall constitute the sole terms and conditions governing any sale of an AccuBrine® automated brine maker entered into by the parties. No terms or conditions, other than those located at <https://www.cargill.com/doc/1432095426022/cargill-salt-terms-and-conditions.pdf>, whether contained in Buyer's purchase order or elsewhere, shall be binding on Seller unless agreed to in writing by Seller. Seller's failure to object to such other terms and conditions shall not be deemed a waiver of those located at [www.cargill.com](https://www.cargill.com).

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Regards,

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