



Application Brief: Plummers Environmental Services

Opto 22's groov View helps liquid waste collection and disposal company avoid messy spills

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43044 Business Park Drive • Temecula • CA 92590-3614

Phone: 800-321-6786 or 951-695-3000

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APPLICATION BRIEF: PLUMMERS ENVIRONMENTAL SERVICES

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THE CHALLENGE

Liquid waste is big business, at least for longtime industrial services company Plummer's Environmental Services in Byron Center, Michigan. And like any region with manufacturing and industry, this area has a lot of it.

Sources of liquid waste include common manufacturing and industrial processes where equipment is cleaned and degreased with solvents and detergents.

Although liquid waste like this isn't considered hazardous, local, regional, and federal governments do regulate how this waste is handled, and companies must collect and dispose of it carefully.

This is where Plummer's Environmental Services gets involved. The company collects and disposes of liquid waste generated by factories and other industrial customers.

Clients temporarily store the waste on site until Plummer's transfers it into a tanker truck and takes it to its own treatment facility. There, the liquid waste is pumped from the truck into a 65,000-gallon holding tank until the company can treat and dispose of it.

This last step was causing big, messy problems.

Before pumping the liquid waste from the tanker truck into the holding tank, an operator first had to confirm there was enough space to hold the liquid waste from the truck.

The only way to do this was to physically look into the top of the holding tank, check the current level, and then estimate if there was enough space for the contents of the tanker truck.

Sometimes the estimate was wrong and the holding tank would overfill into the containment area, leading to a mess and expensive cleanup.



THE SOLUTION

Opto 22 integrator Perceptive Controls soon had an answer to the problem.

The integrator installed an ultrasound tank level sensor at the top of the tank and connected it to a SNAP PAC R-series programmable automation controller. When the tank level reaches a predefined high point, alert lights, alarm horns, and even email messages are triggered to alert personnel that the tank has reached capacity.

Finally, an IP camera mounted at the top of the tank provides a realtime view of the tank level. Using Opto 22's *groov View* mobile operator interface system, live video from the camera plus tank level data are available on operators' smartphones and tablets.

A phased solution

The holding tank application will have three phases.

- Phase 1, now complete, is monitoring and alerting only.
- Phase 2 is underway and will control the pumps that move the liquid waste from the tanker truck to the



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- holding tank and automatically shut off pumps before the tank can be overfilled.
- In phase 3, Plummer's will install this tank monitoring system at their customers' holding tanks.

Phase 3 provides real value to Plummer's customers. With realtime information from a customer's site, Plummer's can dispatch a tanker truck to unload the customer's tank before it fills up and disrupts production lines.

Messes are avoided and business is improved.

ABOUT PLUMMER'S ENVIRONMENTAL SERVICES

Plummer's Environmental Services serves customers in the greater Midwest region. Their full-service fleet of bulk tankers and vacuum trucks remove, transport, and dispose of liquid and solid waste at their EPA licensed and permitted wastewater facility.

The family-owned company helps customers succeed in the face of environmental challenges while preparing for the future. For more information, visit plummervenv.com.

ABOUT PERCEPTIVE CONTROLS

Perceptive Controls, an OptoPartner for over 25 years, specializes in industrial and process control applications. The company prides themselves in their ability to listen to customers and deliver what they expect.

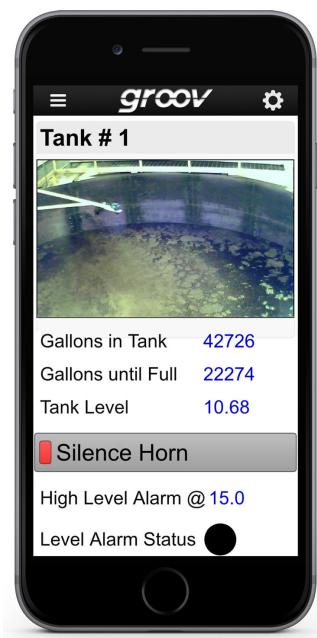
Perceptive Controls has found the Opto 22 product line to be an integral part of their success for applications where typical PLC, DCS, or PCS products are not well suited.

For more information, visit perceptivecontrols.com.

ABOUT OPTO 22

Opto 22 was started in 1974 by a co-inventor of the solid-state relay (SSR), who discovered a way to make SSRs more reliable.

Opto 22 has consistently built products on open standards rather than on proprietary technologies. The company developed the red-white-yellow-black color-coding system for input/output (I/O) modules and the open Optomux® protocol, and pioneered Ethernet-based I/O.



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In early 2013 Opto 22 introduced *groov View*, an easy-to-use IoT tool for developing and viewing mobile operator interfaces—mobile apps to securely monitor and control virtually any automation system or equipment.

Famous worldwide for its reliable industrial I/O, the company in 2018 introduced *groov EPIC*® (edge programmable industrial controller). EPIC has an open-source Linux® OS and provides connectivity to PLCs, software, and online services, plus data handling and visualization, in addition to real-time control.

All Opto 22 products are manufactured and supported in the U.S.A. Most solid-state SSRs and I/O modules are guaranteed for life.



The company is especially trusted for its continuing policy of providing free product support, free online training, and free pre-sales engineering assistance.

For more information, visit opto22.com or contact
Opto 22 Pre-Sales Engineering:

Phone: **800-321-6786** (toll-free in the U.S. and Canada)
or **951-695-3000**
Email: systemseng@opto22.com

