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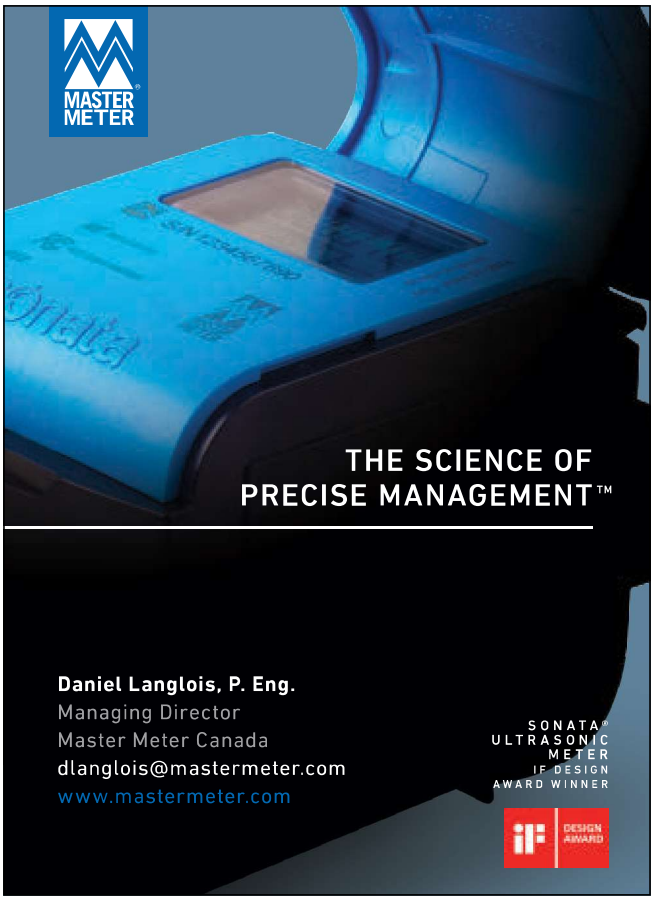

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CLIMATE CHANGE RESILIENCY & ADAPTATION Award

The Climate Change Resiliency & Adaptation Award is an annual award that recognizes innovations in water infrastructure design and planning that adapt to climate change (resilience) and/or reduce greenhouse gas emissions (mitigation).

The award is administered by the OWWA/WEAO Climate Change Committee, led this year by Paul Marsh and judged by David Lapp, Maika Pellegrino and Carolyn Lee. We are delighted to announce this year's winner of the WEAO/OWWA Climate Change Resiliency & Adaptation Award: **The City of Toronto's Wastewater Energy Transfer Project**.

David Lapp, Practice Lead, Globalization and Sustainable Development

Carolyn Lee, Special Project Officer at Ontario MECP

2021 Climate Change Resiliency & Adaptation Award Judges

Maika (Botteon) Pellegrino, Senior Project Manager, Water & Wastewater at Jacobs

In partnership with Noventa Energy and the University Health Network, Toronto is delivering the world's largest raw wastewater energy transfer system. The project will provide Toronto Western Hospital with 90 per cent of its heating and cooling needs and offset 8,300 tonnes/year of CO_2e. Wastewater is a massively under-utilized renewable energy source in North America with the potential to create significant GHG emissions reductions by replacing natural gas for space heating. We are pleased to recognize this innovative project and hope it will pave the way for others to follow. Congratulations City of Toronto and partners.

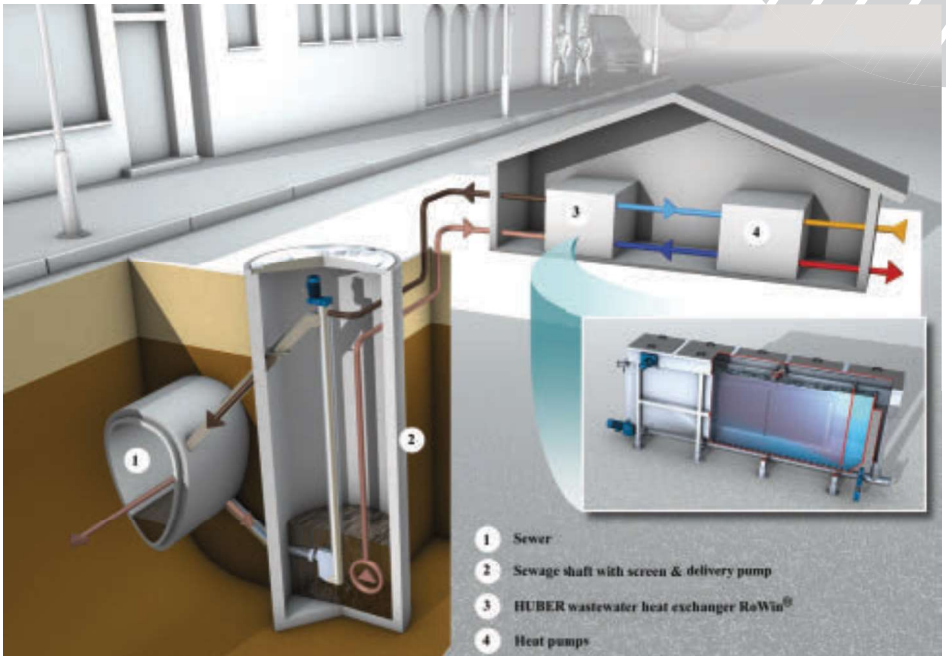

IMAGE COURTESY OF NOVENTA ENERGY

Honourable Mentions

Due to the high calibre of applications received this year, we wanted to recognize all applicants and not just the winners.

Halton Region is recognized for its Biosolids Master Plan, the first project to survey Ontario's existing composting facilities to determine their ability to include biosolids for the production of a Category A or B compost. The project will result in an annual GHG reduction of approximately 4,000 to 4,500 tonnes of CO_2e/year, diversify end uses for biosolids, improve soil health, and divert biosolids from landfill.

York Region is recognized for its Inflow & Infiltration (I&I) Machine Learning project. York's machine learning model predicts sanitary sewer response based on actual and user-inputted rainfall storm events. The I&I program identified the potential for a reduction of 178,000 kg CO_2e/year from reduced wastewater treatment emissions and will optimize existing sanitary sewer capacity.

Congratulations Halton and York Regions!

WSP is recognized for its Climate Change Impact Study, the first project to integrate engineering, climate science and economic knowledge to quantify the cost of climate change to public infrastructure in Ontario. The study identified indirect socio-economic benefits through understanding the potential for future economic impacts and budgeting for more resilient infrastructure.

Finally, Matrix Solutions is recognized for the Greenway and Adelaide WWTP Class EA's, two projects which helped the City of London to build resilience and prepare for future impacts of climate change. The projects featured watershed scale hydraulic modelling of the Thames River and its flood plain. This informed design criteria which will ensure continued functioning of wastewater facilities during flood events.

Congratulations WSP and Matrix Solutions!

AUTOMATION IN THE MUNICIPAL WATER/WASTEWATER SECTOR:

NAVIGATING SCADA DURING A TYPICAL MUNICIPAL CAPITAL PROJECT

PART 2: FROM TENDERING TO COMPLETION

BY GRAHAM NASBY, P.ENG, FS ENG, PMP, CAP, CISSP, CISM

This is part 2 of the article "Automation in the Municipal Water/Wastewater Sector" that appeared in the Fall 2022 issue of Ontario Pipeline.

Construction Pricing and Tendering

Once the design phase of a project is completed, the next step is to construct the facility. The main deliverable from the design phase is the construction-ready (or tender-ready) set of drawings and specifications, which will then be used to price and construct the facility.

If the construction is being tendered, the final design package will also form the basis for the tender along with tendering instructions and other contract documents. Tendering will then proceed per the utility's tendering process, often with the design team providing technical assistance for evaluating bids.

Construction Phase & Shop Drawings

Once the construction project has been awarded, a construction kick-off meeting will be held, followed by regular construction meetings between the utility, the design team, and the construction team. At the construction meetings, the construction

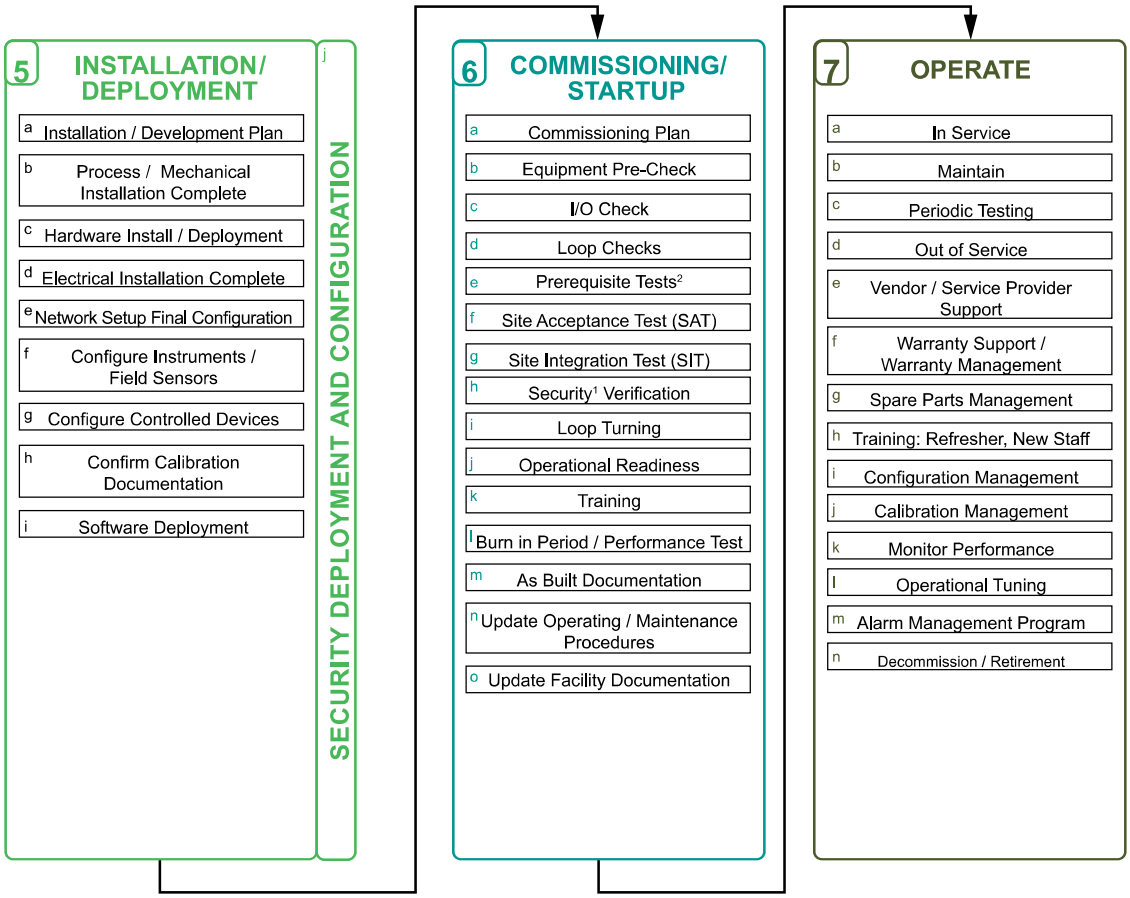

Figure 1. Typical SCADA Installation and Commissioning Steps (source: ISA112 SCADA Systems Management standards committee).