



Mobile Wastewater Treatment Plant (MWWTP)

BluMetric Environmental Inc. (BluMetric™) is a diverse organization, providing solution-oriented consultation, design, products and construction services to clients with complex environmental issues. BluMetric delivers professional services and solutions based on extensive experience in the environmental field, including the geosciences and engineering, water and wastewater treatment, industrial hygiene, occupational health and safety, geomatics and data management, environmental contracting and environmental management.

BluMetric has more than 25 years of experience in water and wastewater treatment and is focused on designing plants and equipment that are compact, energy efficient, reliable and simple to operate. BluMetric specializes in the manufacture of mobile plants and equipment, which are built to be transported and operated under extremely demanding conditions. BluMetric customers include the Canadian Land Forces, Royal Canadian Navy, Seaspan Shipyards, global mining companies and all levels of Government.

BluMetric has consistently delivered reliable water purification solutions with exceptional engineering and field support services to Canada's Department of National Defence for more than a decade. A Canadian company, BluMetric is proud to support our troops in providing 24/7 immediate response services for operational and disaster relief missions. BluMetric continues to design and support innovative and robust treatment solutions, supported by a proven technical capability and expert support team.

SYSTEM OVERVIEW

Tested and field proven, the MWWTP is a turnkey modular wastewater treatment system that can handle your toughest site conditions. Designed for remote camps and rapid deployments, this system offers nonstop performance with minimal downtime and low power consumption, reducing your environmental footprint. This multistage modular treatment system can treat 50m³/day (200 people) within two 40' modified shipping containers. If your camp waste capacity increases, Phase 2 expansion is easy with the addition of another MWWTP unit (one 40' modified shipping container) to double your treatment capacity to 400 people in less than 8 hours. The BluMetric advantage offers:

- State of the art advanced membrane-based filtration built into a containerized solution, manufactured in a quality controlled environment and factory tested
- Complete system and solution
- Designed for all climate zones and to achieve maximum efficiency
- Easy set-up and operation make this the optimal solution for remote camps and rapid deployments
- No infrastructure or buildings required
- Rapid installation, simply connect the pipes and electrical supply
- Rapid dismantling and cleaning, the best option for relocation and your next mission
- Modular design allows for quick and easy expansion to serve camps of 200 to 800 people
- Fully enclosed and contained, with integrated spill prevention and a quiet operation - crucial for operating in remote camps to urban areas
- 24/7 service and support for our systems and similar systems

DESIGN PARAMETERS

Parameter	Design Value Phase 1	Design Value Phase 2	Unit
Per capita design flow	250	250	L/p/d
Number of persons	200	400	people
Average daily flow (ADF)	50	100	m ³ /d
Peak Instantaneous Inlet Flow	8.3	16.6	m ³ /h
Site power	Three-Phase, 347/600VY, 60Hz, FLA 127A		
System area classification	According to NFPA 820, 2016 Edition		
Ambient temperatures	-40 to 35	-40 to 35	°C
Elevation	100	100	m

WASTEWATER CHARACTERISTICS

Parameter	Unit	Design Value
Biochemical Oxygen Demand (BOD ₅)	mg/L	400
Total Suspended Solids (TSS)	mg/L	250
Total Phosphorus (TP)	mg/L	10
Fat, Oil and Grease (FOG)	mg/L	< 30
Water Temperature	°C	15 to 25
Alkalinity	mg/L as CaCO ₃	-

Note: Any variance to assumed parameter values may require system modification at the sole responsibility of the purchaser.

EFFLUENT QUALITY

Parameter	Unit	Design Value
pH	-	6.5 to 8.5
Biochemical Oxygen Demand (BOD ₅)	mg/L	< 5
Carbonaceous BOD (CBOD ₅)	mg/L	< 5
Total Suspended Solids (TSS)	mg/L	< 1
Total Coliform	°CCFU/100ml	< 200

