

In processing raw sewage to high quality potable water, wastewater treatment plants are exposed to erosion-corrosion, chemical attack and abrasion problems that result in increased operational costs.

In order to ensure that the wastewater treatment plants continuously meet their production goals with the highest performance possible, whilst remaining in compliance with the environmental regulation, Belzona has designed a wide range of solutions that not only combat the challenges presented, but also provide protection from potential damage in the future.

Belzona's cold-applied systems have proven to help wastewater treatment plants improve their operation by reducing downtime, eliminating replacements costs, and decreasing the risk of unscheduled shutdowns and startups. Belzona solutions for wastewater treatment plants have shown reliability and success in the repair and protection of the machinery, equipment, and structures including but not limited to:

- ✓ WASTEWATER COLLECTION & PUMP SYSTEMS

Pumps, pipework, manholes, drains
- ✓ PRIMARY TREATMENT

Augers, troughs, chutes, hoppers
- ✓ SEDIMENTATION UNITS

Sludge pumps, expansion joints, concrete structures
- ✓ AERATION UNITS

Pipes, nozzles, tanks, fans and blowers
- ✓ CHEMICAL TREATMENT

Tanks, pumps
- ✓ SLUDGE TREATMENT

Sludge pumps, dewatering units, sewage pipes
- ✓ METHANE SYSTEM

Scrubber vessels, gas and water pipes, gas compressors
- ✓ FLUID HANDLING EQUIPMENT

Pumps, impellers, casings, pipework, flanges, valves
- ✓ WATER TREATMENT

Filters, strainers, chemical containment areas



Belzona Is a Global Manufacturer of Repair Composite Materials & Industrial Coatings.



View the Wastewater Solution Map



For more information, please contact your local Belzona® representative:

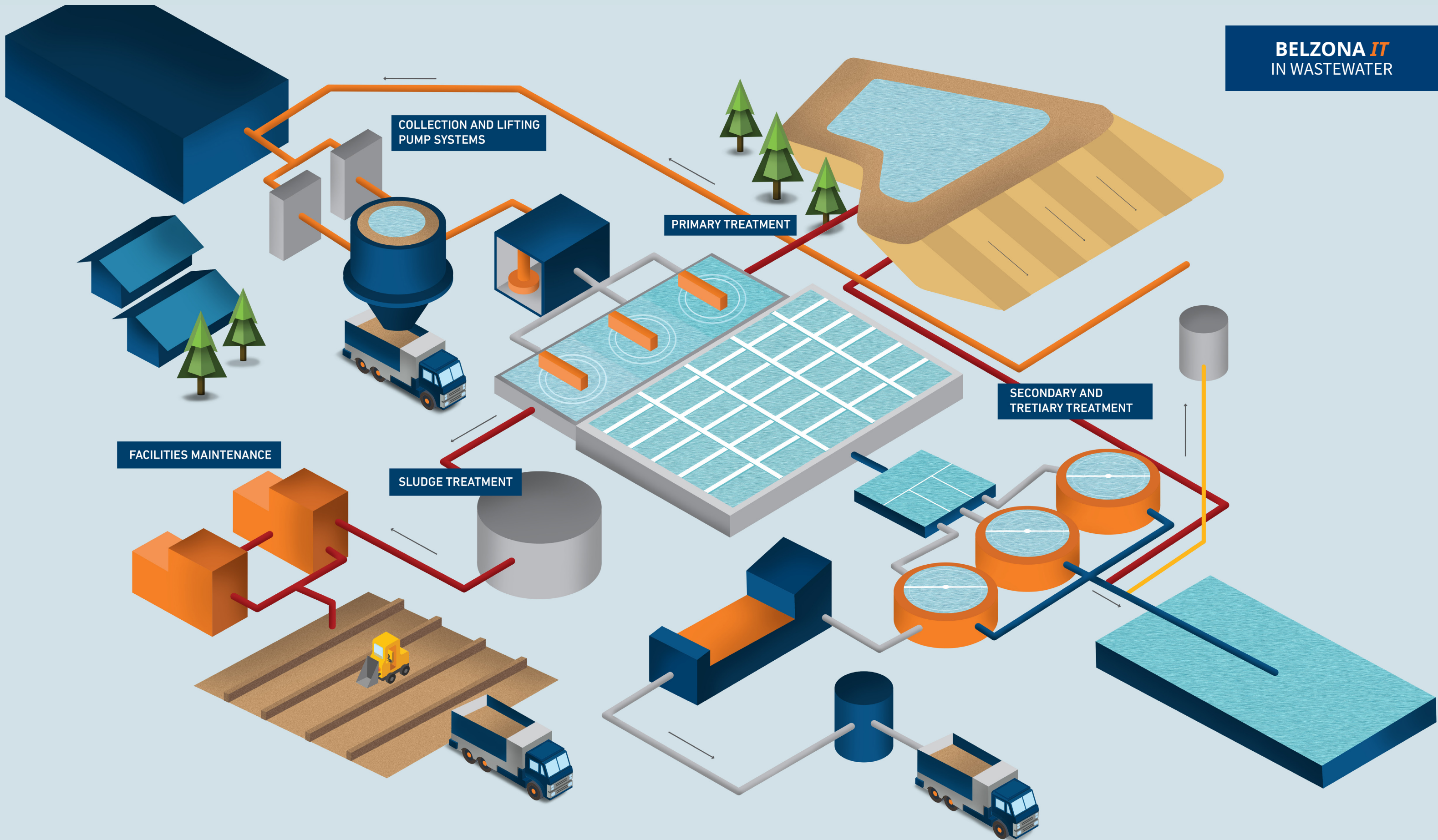


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#### COLLECTION & LIFTING PUMP SYSTEMS

**TYPICAL PROBLEMS:** Corrosion and minor erosion on sewer pipelines, manholes, and pumps

**POTENTIAL SOLUTIONS:** Belzona 1000 series 100% solids paste and fluid-grade materials for metal rebuilding and erosion-corrosion protection, and pump efficiency enhancement, Belzona 4000 series for concrete repair and protection, Belzona 5000 series for internal and external protection of metallic substrates

#### PRIMARY TREATMENT

**TYPICAL PROBLEMS:** Corrosion and erosion on troughs, bar screen, chutes, hoppers, augers, grit pumps, chambers, and piping

**POTENTIAL SOLUTIONS:** Belzona 1000 series 100% solids paste and fluid grade materials for erosion corrosion protection, Belzona 2000 elastomeric solutions for joint repairs, Belzona 4000 and 5000 series for rebuilding and protecting concrete and steel structures

#### SECONDARY & TERTIARY TREATMENT

**TYPICAL PROBLEMS:** Corrosion and/or chemical attack on tanks, sedimentation clarifiers, settling basins, sludge and chemical injection pumps, piping, troughs, weirs and rotating equipment

**POTENTIAL SOLUTIONS:** Belzona 1000 series 100% solids paste and fluid grade materials for erosion corrosion protection, Belzona 2000 elastomeric solutions for joint repairs, Belzona 4000 and 5000 series for rebuilding and protecting secondary containment areas, concrete and steel structures

#### SLUDGE TREATMENT

**TYPICAL PROBLEMS:** Corrosion and erosion on digesters, thickeners, centrifuges, belt press, vacuum pumps, conveyor systems, and piping

**POTENTIAL SOLUTIONS:** Belzona 1000, 2000, 4000, and 5000 series paste and fluid grade materials for erosion and corrosion protection

#### METHANE TREATMENT

**TYPICAL PROBLEMS:** Corrosion on scrubbers, tanks and piping.

**POTENTIAL SOLUTIONS:** Belzona 1000, and 5000 paste and fluid grade materials for corrosion protection

#### POTABLE WATER STORAGE

**TYPICAL PROBLEMS:** Corrosion on tanks, pumps, and piping

**POTENTIAL SOLUTIONS:** Belzona 1000, 4000, and 5000 paste and fluid grade materials for corrosion protection

#### FACILITIES MAINTENANCE

**TYPICAL PROBLEMS:** Weathering damage of concrete structures, slippery transit areas, roof damage, expansion joint failures

**POTENTIAL SOLUTIONS:** Belzona 2000, 3000, 4000, and 5000 series paste and fluid grade materials for waterproofing, concrete rebuilding, expansion joint repairs, and floor slip resistance

This process flow chart of a typical wastewater treatment facility is designed based upon data retrieved from various sources. It is to be used as general guidance only. It describes the most common repair and maintenance problems found in wastewater treatment processing together with Belzona solutions which could potentially help mitigate such problems. It does not aim to supersede any drafted process flow charts in use at these plants. It is strongly recommended that each user of this guide contact the local Belzona representative to discuss the specific needs and operation conditions of their wastewater treatment facility.