

## WATER AND WASTEWATER PROJECT ENGINEERING APPROACH

N3D Group is experienced in the special requirements water and wastewater treatment plants present. With Engineers that have designed well over 75 type projects throughout their careers, N3D has developed an approach that takes into account the harsh environments and unique process control systems that these projects have. N3D Group closely adheres to latest editions of Ten State Standards, OSHA, and NFPA 820 – “Standard for Fire Protection in Wastewater Treatment and Collection Facilities”.

N3D’s electrical and SCADA (Supervised Control and Data Acquisition) engineering approach includes working direct with process system suppliers and manufacturer’s engineers to customize the process’s control circuits to each project’s specific needs. Such processes include:

- Reverse Osmosis Membrane Plants
- Extended Aeration Oxidation Ditches
- Ultraviolet Disinfection Systems
- Polymer Injection and Mixing Systems
- Membrane Bioreactor Systems
- Sequence Batch Reactor Systems
- Chlorine and De-Chlorine Feed Systems
- Hypochlorite, Coagulant, Soda Ash, Sodium Permanganate, and Fluoride Feed Systems
- Sludge Digester Systems
- High Service and Raw Water Pumping Systems
- Telemetry Systems
- Up-flow Adsorption Clarifier with Pre-Treatment Oxidation Vessels
- Headworks and Screening Facilities



Many of the above processes include corrosive or classified hazardous atmospheres in which electrical materials and equipment must be designed to not degrade early in the project’s life.

N3D’s HVAC approach includes control of hazardous atmospheres by ventilation and humidly control of indoor open water processes using custom designed specialized industrial equipment that can control these environments. Fans, louvers, and equipment are routinely specified with special coatings and materials so equipment can survive for years after installation.

N3D’s Plumbing systems include tempered water emergency shower and eyewash systems designed in accordance with OSHA and ANSI standards for Laboratories and chemical feed system areas.