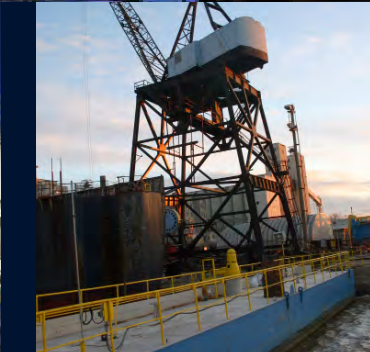


POGGEMEYER
DESIGN GROUP

INDUSTRIAL SOLUTIONS



CIVIL

ARCHITECTURAL

STRUCTURAL

MECHANICAL

ELECTRICAL



- Founded in 1968
- Employee-Owned
- Staff of Over 110 with Full Range of Design Services Nationally
- Over 35 Registered Professionals, Average of 25+ Years Experience
- Sales Over \$22 Million and Over \$200 in Construction
- Completed Projects in More than 30 States & Canada

INDUSTRIAL SOLUTIONS



As a leading national A/E firm engaged in design/build engineering, our industrial division has the resources of our in-house team of architects, civil/site development engineers, transportation engineers and economic development professionals. Fast track projects with unique process constraints are typical design challenges for our teams. From a fully engineered 69/12.47KV, 10MVA substation energized in less than seven months, to cooling system designs with extremely high tolerances and buildings large enough to construct Great Lakes cargo ships, our industrial group has a proven track record in developing successful, cost-competitive projects tailored to our clients' needs.

OUR APPROACH

Integrated design & project delivery—All services required to complete the project are done under one roof from start to finish which improves coordination of disciplines.

Experienced staff—Current registered professional's average experience level in Industrial facility design and construction is 29 years.

Hands on project team—Staff have extensive field experience in industrial project management as well as specialized experience in steel fabrication, concrete construction and forensic engineering.

Construction methods—Experienced in all types of construction methods and with a wide array of industrial material processing, manufacturing, assembly, material handling, agribusiness, food processing and logistics industries.

Governmental permitting—Experienced in all required governmental permitting approval processes.

Project delivery methods—All methods being utilized today including traditional plan and spec bidding, design-build, engineer-procure-construct and construction management.

MARKETS SERVED

- Plastic Extrusion and Molding
- Steel Treating, Stamping and Fabrication
- Food and Beverage Processing
- Automotive Manufacturing and Assembly
- Chemical Manufacturing
- **Petroleum Refineries**
- Waste and Recycle Facilities
- Bulk Material Handling and Storage
- Power Utilities
- Agribusiness
- Logistics

UNIQUE SERVICES

- Forensic Engineering
- Emergency Response
- Crane Structures and Foundations
- Rigging Design and Lift Plans
- Marine Facilities
- Bulk Material Handling
- Bulk Storage Structures
- Transloading Facilities
- High Quality Process Water
- Waste Pretreatment
- **Energy Efficiency Audits**
- Project Funding

INDUSTRIAL SERVICES

Forensic/Investigative Engineering

- Structural Inspections
- Structural Investigations
- Seismic Evaluations
- On-Site Documentation
- Sample Retrieval and Analysis
- Demolition and Temporary Enclosure
- Emergency Shoring and Bracing Design
- Building Design Analysis and Recommendations
- Non-Destructive Forensic Engineering Testing
- Recommendations and Design of Corrective Measures
- Immediate Emergency Location Response
- Expert Witness Testimony

Site/Civil

- Site Selection/Conceptual Layouts
- Topographic/Boundary Surveying
- Preliminary & Detailed Site Engineering
- Geotechnical & Wetlands Delineation Environmental Reviews Coordination
- Local Approval Coordination
- Representatives at Planning Commission & Board of Zoning Appeals
- OEPA & ODOT Coordination
- Signalization Design
- Aerial Mapping Coordination
- Traffic Studies
- Construction Staking
- Rezoning Coordination
- ED Financing
- Rail Design

Architectural

- Space Utilization Studies
- Rehabilitation and Renovation
- Computer Rendering/Modeling
- Regulatory Agency Approval
- Construction Administration
- Sustainable Design
- Design/Build Projects

Structural

- Foundation Design
- Value Engineering
- Bridges & Grade Separation Structures
- Investigative Engineering
- Retaining Walls & Dams
- Building Structures
- Structural Inspections
- Storage Tanks
- Swimming Pool Design & Renovation

Mechanical

- Total Facility and Process Energy Usage Evaluations
- High Pressure Compressed Air Systems
- High Capacity Chilled Water Systems
- Plant Cooling & Ventilation Systems
- Steam Lines
- Steam and Condensate Systems
- Tunnels

- Natural Gas
- Plant Energy Efficiency Upgrades
- Heat Recovery
- Tower Free Cooling
- Pump Efficiency Improvements
- Facility Automation Systems
- Prescriptive Ventilation Systems
- HVAC Design
- Industrial Processes and Controls
- Plumbing Design
- Fire Protection
- Indoor Air Quality
- Process Utilities
- Utility Usage Studies

Electrical

- Alternative Energy
- High Voltage Plant Energy Control & Distribution
- Backup Power Systems
- High Efficiency Pump & VFD Retrofit
- High Voltage Plant Substation Design
- Load Analysis
- Transformers
- Motor Control Centers
- Electrical Systems Analysis Studies
- Transmission and Distribution
- Metering Systems
- Instrumentation and Controls
- ARC Flash Studies
- Energy Audits
- Energy Efficiency Equipment Implementation
- Power Factor Correction

Environmental Water/Wastewater

- Water Treatment Design
- Innovative Water Treatment Design (membrane, multitech, ultra pure)
- Wastewater Treatment Design
- Innovative Wastewater Treatment Design (pure H₂O, industrial pretreatment)
- Industrial Treatment
- Tanks
- Sludge Treatment
- Pumping Stations
- Optimization Studies



PDG PROJECT TEAM



Site Engineering

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Industrial Fluid Management Solutions
Industrial Fluid Management, Inc. (IFM) a
Subsidiary of PDG, Specializes as a Full Service
Water Cycle Services Company

Process Water Solutions

- Water Softeners and Filters
- Complete Portable Deionizer Regeneration for Labs/Process
- Reverse Osmosis Systems
- Deionizer and Dealkalizers
- Emergency and Preventive Maintenance Services
- Design-Build-Operate-Consultation Capabilities

Wastewater Solutions

- 24 Hour Emergency Services
- Process Control/Plant Optimization
- Daily/Monthly/Long-Term Contract Operations of Water and Wastewater Plants
- Technical Service of Water
- Permit Compliance
- Preventive Maintenance Services
- Industrial Surcharge Reduction
- Lift Station Grease Reduction
- Phenol Removal
- Plant Start-ups
- Physical, Chemical, Biological Membrane Technologies
- Ultrafiltration
- MBR
- Microfiltration
- Chelating Ion Exchange Resins
- Design-Build-Operate-Consultation Capabilities

Laboratory/Technical Services

- OEPA, IDEM, MDEQ, NE, IA, TN, MN and ND Licensed Operators
- Bioaugmentation for Biological Systems
- Scaled Process Studies and Bench Studies
- Microscopic Evaluations
- Flow Monitoring
- NPDES Reporting
- Process Control Design and Monitoring
- Ohio Certified Laboratory for TC/EC Drinking Water



PROJECT EXECUTIVES

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Multi-Disciplined Staff

- Architects
- Structural Engineers
- Mechanical Engineers
- Electrical Engineers
- Environmental Engineers
- Civil/Site Engineers
- Chemical Engineers
- Transportation Engineers
- Forensic Engineers
- Schedulers/Estimators
- Project Management Teams

