



## ABOUT WILCOX

### *A Commitment to Quality*

*We are committed to a quality management system that has been certified to the ISO 9001:2000 standard, and includes quality assurance and quality control measures. Our exemplary client satisfaction surveys and repeat clients are a true measure that we are meeting and exceeding our clients' expectations.*

### **Our Team is Your Team**

Over 400 Wilcox team members blend seamlessly to serve you. We have a long history of working with industrial clients, and understand the importance of responsiveness and integrity. Our resident project engineers are available for sites requiring special attention to detail.

The Wilcox team is located where you need us, when you need us. Our offices located across the midwest and southwest, combined with an extensive multi-disciplined network of professionals (with specialists in virtually every discipline) makes us an indispensable partner for mining services.



Wilcox Professional Services, LLC, is a national multi-disciplined professional engineering firm which has provided a wide range of consulting services to the oil, gas and mining industry since 1968. As Wilcox has grown, strong relationships have been built with clients requiring high-quality technical services in the petroleum, manufacturing and mining industries.

Our ability to be flexible, efficient and innovative has allowed us to grow and maintain these relationships, while our practical approach to mining infrastructure, development and technical innovation has helped us to build a reputation for creating industry leading results. Our ability to provide mining clients with quality solutions for a wide variety of engineering disciplines, environmental sciences, construction management and design-build services is what sets Wilcox apart. We continually strive to strengthen our reputation by providing solutions to problems in an efficient and timely manner.

### **Mine Infrastructure/Development**

- Geotechnical Services
- Structural Services
- Survey Services
- Design-Build Services
- Civil Engineering Services
- Geo/Environmental Drilling
- Exploration Drilling Services
- Construction Management



### **Industrial Engineering Services**

- System & Equipment Layout & Detail Design Packages/Bid Packs
- Total Interior Environmental Systems
- Precision Engineered Systems
- Energy Conservation Systems

### **Site Reclamation Services**

- Reclamation Services
- Post Reclamation Services

### **Environmental Sciences & Engineering Services**

- Environmental Investigation Services
- Compliance Services
- Site Remediation Services
- Property Assessment & Development Services
- National Resource Evaluation Services

### **Water/Mine Waste Management**

- Municipal Services
- Water Resources

### **Transportation Engineering Services**

- Traffic Engineering
- Road Design
- Bridge Design
- Airport Facilities Services

## MINE INFRASTRUCTURE/ DEVELOPMENT

*Our team includes engineers, geologists and specialists that provide comprehensive subsurface investigation, design and construction services. Our services range from extensive drilling programs to detailed analysis and monitoring programs.*

*Our designs include underground and multi-story buildings, parking decks, bridges and other structures. We have experience with timber, pre-cast and pre-stressed concrete, masonry, and steel, and we have the capability to create 3-D finite element computer models of structures, and subject them to temperature change effects, earth pressures, along with dead, live, snow, wind and seismic forces to develop safe, efficient and cost effective designs.*



### GEOTECHNICAL ENGINEERING SERVICES

- Foundation Systems (Shallow and Deep)
- Slope Stability
- Earth Retention Structure Design
- Drainage Solutions
- Construction Solutions
- Underground Instrumentation
- Drilling, Sampling and Testing
- Dam Safety Inspections
- Laboratory Testing
- Ground Improvement
- Foundation Stabilization/Retrofitting
- Geologic Modeling

### STRUCTURAL ENGINEERING SERVICES

- Seamless Innovative Designs
- Complete Construction Documents
- Quality Control During Construction
- Foundation Design and Evaluation (Shallow or Deep/Specialty)
- Evaluation of Existing Structures
- Equipment Foundations and Pits
- Truss & Member Analysis
- Load Ratings
- Design Strengthening Retrofits for Existing Mezzanines, Cranes and Other Structures
- Pre-engineered Building Inspections and Foundation Designs
- Industrial Structures
- Bridge Design
- Secondary Containment Structure Design

## MINE INFRASTRUCTURE/ DEVELOPMENT

*Wilcox began as a surveying company in 1968. Our survey crews utilize the latest in survey and data collection equipment, including robotic total stations, digital levels and GPS receivers, to accomplish a multitude of survey tasks. These systems enable our crews to be quick, efficient and accurate in the collection of field data.*



### SURVEY SERVICES

#### BOUNDARY SURVEYS

- Property Surveys
- Subdivisions
- Land Divisions
- ALTA Surveys
- Condominiums
- Litigation Surveys

#### TOPOGRAPHIC SURVEYS

- Site Architectural
- Mapping
- Bridge Design Surveys
- Road Design Surveys
- Hydraulic/Hydrographic Surveys

#### GEODETIC SURVEYS

- GPS Methods (Static & RTK)
- Photogrammetric Control
- Least Squares Adjustments
- Vertical Control
- Horizontal Control
- Geographic Information System (GIS):
  - Digital Mapping
  - Data Attribution
  - Spatial Analysis
  - Entity/Feature Development and Management
  - Non-graphic Database Development and Management

#### INDUSTRIAL SURVEYS

- Harbor Surveys
- Quarry Surveys
- Oil & Gas Wells
- Pipeline Surveys
- Building Construction Staking

#### CONSTRUCTION/FIELD SURVEYS

- Alignment & Route Surveys
- Structural/Bridge Layout
- Utility Surveys
- Pipes & Sewers
- Slope Staking
- GPS Real-Time Stakeout & Data Collection
- Construction Staking
- Contractor Staking



## MINE INFRASTRUCTURE/ DEVELOPMENT

We have earned our clients' trust in the Automotive, Development, Municipal, Transportation and Industrial sectors through our responsiveness and approach to the business.

We are a full service, single-point of responsibility consulting firm that can assist your business with studies, evaluations, feasibility reports, presentations, surveys, financial assistance, design and specifications, bidding and contract documents, permitting, construction inspection/observation and construction related services.



## DESIGN-BUILD SERVICES

For over two decades the Wilcox team of professionals has provided technical support and innovative services for successful turn-key, fast-track and design-build projects. At Wilcox, we utilize a true team approach to the design-build process. Expectations are defined up front and decisions are made in the best interest of the overall project. This delivery model allows the Wilcox team to focus on your needs and to bring your vision seamlessly from concept to completion while delivering safety, schedule and budget objectives.

- Turn-Key Services
- Consulting
- Program Management
- Construction Management

## CIVIL ENGINEERING SERVICES

### CIVIL ENGINEERING

- Site Planning and Design
- Feasibility Studies/Evaluations
- Grading Plans
- Water Supply, Storage and Distribution
- Wastewater Collection and Pumping
- Wastewater and Water Treatment Plant Design
- Dam and Bridge Design/Inspection
- Road & Parking Lot Design
- Pavement Design and Testing
- Traffic Engineering
- Permitting Assistance

### WATER RESOURCE MANAGEMENT

- Storm Water Planning and Ordinances
- Erosion Control Plans
- Storm Water Phase II Study/Analysis
- Storm Water Retention Detention Design
- Stream Restoration Plans/Specs
- Hydraulic Studies and Hydrologic Modeling
- Floodplain Analysis
- Dredging Plans and Specifications
- Waterfront Development
- Water System Modeling
- Park and Restoration Plans
- Water Quality Studies
- Wetland Delineation and Impact Mitigation

- Community Drinking Water Supply Systems
- Wellhead Protection Programs
- Lake Eutrophication Studies
- Nuisance Weed Control Programs

### CONSTRUCTION ENGINEERING

- Constructability Review
- Daily Inspection/Observation
- Resident Engineering
- Mix Designs for Concrete & Bituminous
- Quality Assurance Testing of Materials
- Design Modifications
- Progress Payments
- Construction Records
- Record Drawings
- Contract Management

## MINE INFRASTRUCTURE/ DEVELOPMENT

Wilcox has been drilling since our inception, and now operates 8 drill rigs nationwide. Our drill fleet consists of soil probe units, an ATV drill rig and conventional truck mounted rigs. Several of our team members have received recognition for being experts in multiple drilling methodologies. Our dedicated drill teams are cognizant of, and comply with health, safety, training, and monitoring requirements.



## GEO/ENVIRONMENTAL DRILLING SERVICES

Drilling is typically performed with hollow stem augers. Wilcox is also able to offer a variety of drilling techniques, extensive drilling depths, and various auger sizes such as:

- hollow stem auger (3" up to 12" I.D.)
- mud rotary
- air rotary
- rock coring
- solid stem auger
- driven casing, angle drilling, & direct push
- low overhead clearance drilling
- drilling inside structures
- all terrain/4 wheel drive

Our drilling services may be applied to a variety of projects for local and state agencies, residential, commercial and industrial clients. These services include, but are not limited to:

- geotechnical soil borings
- low flow sampling
- groundwater monitoring programs
- well rehabilitation
- well/pump installation
- downhole camera monitoring/recovery well installation
- soil and groundwater sampling
- well development, including:
  - air-lift
  - acid treatment
  - surge block
  - bailer
  - fresh water flush
  - diaphragm
  - electric pump evacuation

## EXPLORATION DRILLING SERVICES

The Exploration Division of Wilcox provides a complete range of drilling for the mineral exploration industry. Our above ground drilling activities include core drilling, diamond, reverse circulation, dual tube, hammer and rotary air blast methods. Mining and Minerals Drilling Services Include:

- Surface diamond coring
- Rotary, dual rotary and reverse circulation
- Dewatering, vertical and horizontal
- Hard rock quarry drilling
- Mineralized sands exploration
- Mining dump and tailings characterization
- Heap leach sampling
- Sand and gravel aggregate exploration
- Soft mineral exploration

## INDUSTRIAL ENGINEERING SERVICES

### SYSTEM & EQUIPMENT LAYOUT & DETAIL DESIGN PACKAGES/BID PACKS

Wilcox offers a wide range of services to Plant and Facility Engineering and Maintenance departments. Our team has over 75 years of combined experience in the automotive, agricultural, aerospace and general industrial industry. Our experienced team handles systems from concept layouts to detailed shop fabrication drawings, with specific attention to detail. Our commitment to excellence ensures complete and thorough project coordination including conception, design, and system commissioning.

- Industrial Ventilation Systems
- Pollution Control Systems
- Regenerative Thermal
- Oxidizer (RTO) Systems
- Industrial Process Piping Systems, including:
  - Natural Gas
  - Compressed Air
  - Chilled Water
  - Hot Water
  - Steam
- Air House & Ventilation Design
- Oven Designs
- Stack Designs/Details (Free Standing Guyed)
- Conveyor Systems

Wilcox offers a broad range of Mechanical, Electrical and Plumbing engineering. From start to finish, we work hand-in-hand with industrial clients, architectural firms, contractors, and owners to provide a well thought-out and fully coordinated design team approach. Our attention to detail and commitment to excellence ensures complete and thorough project coordination including conception, design, bidding, construction, system commissioning, and maintenance.

#### TOTAL INTERIOR ENVIRONMENTAL SYSTEMS

- Cost Effective Individual Comfort Control
- Surge and Harmonics Suppression Systems
- Adaptability for Changing Interior Layouts
- Low Noise Systems
- Easy to Operate and Maintain
- System Capability Studies
- Indoor Air Quality Analysis

#### PRECISION ENGINEERED SYSTEMS

- Laboratories and Clean Rooms
- Operating and Isolation Rooms
- Archival Environmental Systems
- Overcurrent Coordination Studies
- Retrofit Feasibility Studies
- Emergency Generator Systems
- Stringent Temperature and Humidity Control

#### ENERGY CONSERVATION SYSTEMS

- Laboratory Fume Hood Automatic Sash Closure
- Thermal Storage Systems
- Variable Air Volume Systems
- Energy Recovery
- Lighting and Power Upgrade
- Energy Payback Studies

## ENVIRONMENTAL SCIENCES & ENGINEERING SERVICES

*The Wilcox Environmental Team has completed a wide range of challenging and innovative projects, while balancing the needs of clients with regulatory requirements, and the welfare of our natural resources. Our Environmental Team includes professionals from various environmental related disciplines. The projects that they have completed required, but were not limited to environmental investigation, compliance, property assessment and development, site remediation, and natural resource evaluation services.*

*Our team is extremely diversified in the types of construction projects and services we perform. We have completed projects nationwide using General Construction, Construction Management, Design-Build, Design-Build-Finance and Turn-key methods of project delivery.*

#### ENVIRONMENTAL INVESTIGATION SERVICES

- Environmental Drilling (Auger, Rotary, Rock Coring and Direct Push)
- Mold/Fungus/Asbestos Lead Evaluations
- Leaking UST Investigations
- Hydrogeological/Landfill Design/Siting Studies
- Downhole Camera Investigations
- Expert Witness

#### COMPLIANCE SERVICES

- Stormwater/Wastewater/NPDES Compliance
- SPCC/PIP/Emergency Response Planning & Consulting
- Wellhead Protection Plans

- Environmental Audits
- Hazardous Materials Management
- Groundwater Monitoring Programs
- Oil Field Services
- HAZWOPER Training

#### PROPERTY ASSESSMENT & DEVELOPMENT SERVICES

- Brownfield Redevelopment
- Phase I/II ESAs (ASTM 1527/ASTM 1903)
- Baseline Environmental Assessments (BEAs)
- Environmental Transaction Screens (ASTM 1528)
- NEPA Assessments
- Due Care Planning
- Health Risk Assessments

#### SITE REMEDIATION SERVICES

- Risk Based Corrective Action (RBCA)
- Remedial/Corrective Action Plans (RAPs/CAPs)
- Remediation System Design, Installation, Operation and Maintenance

#### NATURAL RESOURCE EVALUATION SERVICES

- Environmental Impact Studies
- Wetland Assessment, Mitigation, Banking and Permitting
- Threatened/Endangered Species Evaluations
- Lake/Stream/Erosion Control Studies

## CONSTRUCTION MANAGEMENT

From conception to completion – Construction Management Services include:

#### CONCEPTION

- Design
- Site Acquisition
- Financial Planning

#### PRE-CONSTRUCTION

- Acquisition of Architectural/Engineering Services
- Design Analysis
- Project Budgeting
- Value Engineering

#### CONSTRUCTION

- Plan & Specification Review
- Contractor Bidding
- Scheduling
- Construction Supervision
- Budget Monitoring/Control
- Quality Control

#### SAFETY MONITORING

#### CLAIMS CONTROL

#### POST CONSTRUCTION

#### PROJECT CLOSEOUT

#### OCCUPANCY

#### COORDINATION

#### WARRANTY MANAGEMENT



## SITE RECLAMATION SERVICES

*Our team offers innovative site services, including reclamation services, and operation and maintenance of a site after mining operations have been concluded. We are available to work with you throughout the life of a site to develop a phased plan to manage the many facets of reclamation.*

## WATER/MINE WASTE MANAGEMENT

*Wilcox's seasoned staff is thoroughly familiar with applicable federal and state laws and regulations, as well as public policies, procedures and standards. The experience of our staff at city, county and state levels provide a broad framework to bring innovative and cost-effective solutions to resolve issues and address safety and capacity concerns.*

## OTHER SERVICES

### RECLAMATION SERVICES

- Operational Close-Out Activities
- Grading
- Slope Stability
- Soil Erosion Control
- Surface Water Controls
- Groundwater Controls
- Seeding & Vegetation

- Fishery & Wildlife Considerations
- Reclamation Activity
- Environmental Controls
- Reclamation Schedule

### POST RECLAMATION SERVICES

- Operation and Maintenance
- Site Security

### WATER RESOURCE SERVICES

- Water Resource Management
- Water Resource Studies
- Evaluations
- Feasibility Reports
- Presentations
- Design & Specifications
- Preparation of Bidding & Contract Documents

- Inspection/Observation
- Construction Management

### MUNICIPAL SERVICES

- Drainage, Water & Wastewater Issues
- Safety & Capacity
- Assistance with Grants & Funding

### Transportation Engineering Services

Traffic Engineering  
Road Design  
Bridge Design  
Airport Facilities Services





[www.wilcox.us](http://www.wilcox.us)