

# Michael J. Sheleheda, P.E.

## Vice President and Corporate Civil/Site Practice Lead



### 21 YEARS EXPERIENCE

#### EDUCATION

B.S., Civil Engineering, The Pennsylvania State University, 1998

M.S., Civil Engineering, University of Michigan, 1999

Mr. Sheleheda specializes in geotechnical and civil engineering. His experience includes serving as the lead engineer for various projects, including commercial, residential, retail, and industrial developments in both the private and public sectors. He has provided knowledge in various aspects of engineering, including foundation design and construction, earthwork, retaining walls, landslides, erosion and sedimentation control, stormwater management, land development planning, permitting, concrete construction, and quality control/assurance.

He provides expertise in geotechnical engineering design for all aspects of land development and construction. Projects have included establishing procedures for subsurface explorations, boring layout, soil sampling, and laboratory testing programs. Mr. Sheleheda has authored geotechnical reports regarding deep, shallow, and specialty foundation construction for projects in the real estate, natural gas, manufacturing, mining and public client sectors. Also, he has investigated and provided remedial recommendations for landslides, carbonaceous (expansive) shale, retaining walls, and mine grouting/subsidence. His responsibilities have included preparing bid packages, authoring specifications, and construction level drawings, as well as preparing expert reports for the legal and insurance industries.

In addition, Mr. Sheleheda has submitted erosion and sediment control plans, stormwater management plans, National Pollution Discharge Elimination System (NPDES) permitting for construction activities, land development plans, highway occupancy plans and existing permit modifications to regulatory and government agencies for various landfills, industrial and commercial developments, and other projects. These plans consist of the layout, design and analysis of culvert systems, detention ponds, and other best management practices, as well as incorporating local zoning and land development ordinances. Further, Mr. Sheleheda has authored surface mining and dam permit applications. Through his knowledge of local and state regulations, he has assured timely approvals through the regulatory process.

Mr. Sheleheda is a Pennsylvania Department of Environmental Protection approved preparer of Erosion and Sedimentation Control General Permits (ESCGP-1/2/3) documents for use in pipeline and other oil and gas related developments. In addition,

#### EXPERTISE

ADA Accessibility  
Due Diligence/Project Feasibility  
Erosion & Sedimentation Control/NPDES Permitting  
Site Layout/Grading and Earthwork Analyses  
Site Infrastructure Maintenance/Rehabilitation  
Stormwater Management/BMP Design  
Bearing Capacity and Settlement Analyses  
Construction Materials Engineering and Testing/Special Inspections  
Geohazard and Mine Subsidence Assessments  
Ground Improvements/Site Remediation  
Landslide Assessment, Mitigation and Remediation  
Pavement Evaluation and Rehabilitation  
Slope Stability Analyses and Slope Design  
Subsurface Explorations and In-Situ Testing  
Expert Witness Testimony  
Forensic Engineering

#### REGISTRATIONS

Professional Engineer

- PA PE062784
- OH 69399
- WY 11406
- FL 66966
- MO 2007034903
- IL 062.060281
- WV 17659
- NC 035386
- NH 12833
- MS 20665
- ND PE-8883
- TN 116946
- MA 51380
- OR 92001PE
- SC 36486



Civil & Environmental Consultants, Inc.

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Mr. Sheleheda has experience in the permitting and design of centralized impoundments for storage of water and wastewater to support gas drilling operations.

Mr. Sheleheda has authored and overseen various quality control and assurance programs. His experience in this area includes specialty foundations, retaining walls, landslide remediation, soil compaction, and concrete and pavement construction. Mr. Sheleheda has also served as the lead investigator and written investigative reports as to the causes and culpability for hydrologic and geotechnical related claims.

#### **PROJECT EXPERIENCE**

##### **Landslide Remediation and Retaining Wall Design/Remediation**

###### **Design-Build Deep Dynamic Compaction (DDC), No Specific Location**

**Role:** Project Manager

Project Manager for the design-build DDC ground improvements performed at numerous sites throughout West Virginia and Pennsylvania. Projects included preparation of the ground improvement plans and specifications, bid document preparation and solicitation of bids, and CQA oversight.

###### **Design-Build Remediation of a Landslide, Meritage Group, Murrysville, PA**

**Role:** Project Manager

Project Manager for the design-build remediation of a landslide which distressed the rear yards of five (5) residences and impacted the flood plain of a stream. Services included a full-scale geotechnical investigation, slope stability analyses, design of the remediation program, bid package preparation and bid solicitation, permitting services, and the project management of the remediation construction.

###### **Retaining Wall Remediation, Gateway School District, Monroeville, PA**

**Role:** Principal

Principal for the remediation of an approximate 15-foot high retaining wall for the high school stadium. The project included a geotechnical investigation to assess the causes of the existing distress and determine subsurface conditions, the design of the new wall, preparation of documents and specifications for bid solicitation, permitting through the municipality, and CQA oversight during demolition of the existing wall and construction of the new wall.

###### **High School Baseball Field Landslide Remediation, Silko & Associates/South Fayette School District, South Fayette Township, PA**

**Role:** Project Manager

Project Manager for the remediation of a high school baseball field landslide. The remediation included the overexcavation and replacement of approximately 20,000 cubic yards of earthwork, drainage installation, and toe-keys/benching. CEC also provided CQA services, including subgrade/material approvals, compaction testing, etc. throughout the remediation process.

###### **Distressed Industrial Oven Stabilization, Mountain State Carbon, Follansbee, WV**

**Role:** Project Manager

Project Manager for compaction grouting stabilization of a distressed industrial oven at an industrial facility. Project services included a geotechnical investigation, preparation of stabilization drawings and specifications, and CQA oversight.

##### **Geotechnical Investigations**

###### **Construction of Anchor Stores, Mills Corporation, Frazer Township, PA**

**Role:** Project Manager

Project Manager for the construction of six anchor stores, varying in size from 80,000 to 180,000 square feet, at a mall/retail development. The project included deep and shallow foundation recommendations and analyses, pavement, and construction recommendations, and detailed reviews of earthwork construction effort required to construct the various building pads.

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#### **Wastewater Treatment Facility Development, Wade Trim, No Specific Location**

**Role:** Principal

Principal for geotechnical services associated with multiple wastewater treatment facility upgrades/developments across western Pennsylvania. Services typically include reviews of existing site documentation and published mapping, subsurface explorations to assess existing site conditions, preparation of recommendations for foundation and earthwork construction, and construction administration support. The services typically included recommendations for above and below ground tanks up to 200 feet in diameter, access roads, treatment/pumping buildings, temporary and permanent shoring, groundwater control, and pavement construction.

#### **Big Box Chain Building Developments**

Project Manager for multiple 100,000+ square foot building developments throughout Pennsylvania for a big box retail chain. The projects included boring layouts, laboratory testing programs, shallow and deep foundation analyses, retaining wall design, ground improvement recommendations and construction plans.

#### **Elementary School Development, Eckles Architecture, South Fayette Township, PA**

**Role:** Principal

Principal for the development of three-story elementary school. The project included boring layout, pavement design, retaining wall recommendations, ground improvement recommendations, and construction detail preparation. Construction related services included specification preparation, submittal reviews and engineering support during construction.

#### **Retail Development Foundation Remediation, Uniontown, PA**

**Role:** Project Manager

Project Manager for carbonaceous shale investigation and expert report preparation for a 225,000 square foot strip mall. The development was subject to excessive vertical heave and swell pressures requiring extensive laboratory and field testing and the preparation of remedial recommendations and plans.

#### **Geotechnical Investigation of a Sheet Pile Sea Wall, NRG Energy, Cheswick, PA**

**Role:** Project Manager

Performed a geotechnical investigation for the remediation of an existing sheet pile sea wall at an energy plant. Services for the project included preparation of a geotechnical report, including recommendations for the design/construction of the new wall, PADEP general permit submittals, USCOE nationwide permit submittals, and bid document preparation.

#### **New Regional Mall and Retail Development, Harrison County, MS**

Principal for the construction of a new regional mall and retail development. Project included preliminary and final geotechnical explorations to assess the impacts of the tidal clay deposits on the proposed development, and detailed recommendations for deep foundations, slab-on-grade construction, earthwork, dewatering and pavement construction. Engineering services included detailed analyses associated with the consolidation of the tidal clays, wick drain installation and ground improvement construction.

#### **Pavement Remediation at Various Regional Malls, CBL & Associates Properties, Inc., Various Locations**

Mr. Sheleheda led a team to evaluate existing pavement conditions, perform a limited geotechnical exploration and provide recommendations for pavement rehabilitation throughout the parking fields at various malls throughout the country. Services also included an assessment of the existing parking lot and recommendations relative to ADA compliance.

#### **Landfill Pavement Evaluation and Remediation, RIRRC, Johnston, RI**

Principal for the evaluation and remediation of various public and private roadways for a regional landfill facility. Project included coordination of field activities, a pavement condition (PASER) assessment, subsurface exploration including pavement cores, and pavement design analyses. Following the pavement evaluation, CEC prepared bid/construction documents for use in solicitation of public bids, submitted the documents for local review and approval, and provided construction quality assurance (CQA) services.

#### **The Gardens at Market Square, Millcraft Investments, Inc., Pittsburgh Allegheny County, PA**

Principal for the 18-story, LEED Silver multi-use building located in the business district of the City of Pittsburgh. CEC's services included geotechnical engineering services and the preparation of the site grading plan, erosion and sedimentation control/stormwater management plan and utility plan, including a sanitary sewage module. Following the permit approval process,

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CEC developed construction level documents, as well as specifications relative to concrete, pavement, earthwork, stormwater and utility construction, including provisions specific to the proposed LEED requirements, as well as Phase I and Phase II Environmental Site Assessments for the property.

#### **Butler County Airport Pavement Remediation, Butler County Airport Authority, Butler, PA**

**Role:** Principal

Principal for the remediation of the existing pavement at the ramp area of the airport. Services included performance of a surficial Pavement Surface and Evaluation Rating (PASER) review, a subsurface exploration to assess pavement subgrade conditions, preparation of a geotechnical report, and preparation of remediation drawings. As part of remediation design, pavement design services using the FAA FAARFIELD software and ground improvement design using soil-cement stabilization were performed. Following preparation of design and construction documents, CEC assisted BCAA with submittals to the FAA and PennDOT. Finally, CEC prepared the construction bid documents, assisted BCAA with bid reviews, and provided construction quality assurance services during the remediation.

#### **Forensic Investigations**

##### **Accident Litigation, Deer & Associates, Beaver County, PA**

**Role:** Principal

Principal Investigator for litigation related to a fatal accident. A detailed investigation, including dye testing and video-camera inspections, were performed to assess the hydrologic impacts of a driveway and residences relative to potential ponding/icing on the incident roadway. Services included a review of the approximate 100 year history of the roadway/driveway, construction document reviews and preparation of an expert report.

##### **Residential Landslide Investigation, Silko & Associates/Liberty Mutual, Canonsburg, PA**

Principal Investigator for a residential landslide, including site observations, reviews of recent earthwork construction, retaining wall construction. In addition, a subsurface exploration was performed to assess the impacts of previous earthwork operations and remediation attempts, and stability analyses were performed to assess potential remediation alternatives. Following the completion of field work, an expert report was prepared.

##### **Residential Water Damage Investigation, No Specific Location**

**Role:** Principal

Principal Investigator for multiple residential water damage claims across western Pennsylvania. Services typically include site observations, reviews of recent site activities, hydrologic assessments, utility record research, reviews of existing drainage controls and local ordinances, and preparation of an expert report.

##### **Retaining Wall Investigation, Gateway School District, Monroeville, PA**

**Role:** Project Manager

Project Manager and Principal Investigator for a failed retaining wall adjacent to a high school football stadium. Services included detailed geotechnical explorations, forensic demolition of the wall to assess the methods used during construction, expert report preparation, and testimony at depositions and settlement/arbitration hearings. In addition, provided services associated with remediation of the failed wall, including stability analyses, construction document preparation, bid document preparation, and construction quality assurance services.

##### **Unpermitted Retaining Wall Investigation, West Mifflin, PA**

**Role:** Principal

Principal Investigator for the construction of an unpermitted 27-foot high retaining wall. Services included reviews of township documents, construction timeline information, and design documents. Following preparation of various expert documents/reports, testified at multiple depositions and court hearings.

##### **Investigation of Stormwater Runoff and Erosion Related Distress, Burns White, Martinsville, WV**

**Role:** Principal

Principal Investigator for stormwater runoff and erosion related distress to a residential property in Martinsburg, West Virginia. Services included review of the design documents associated with an adjacent 285-acre residential development, preparation of an expert report detailing the design and permitting history, and testimony at depositions.

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### **Construction Quality Assurance**

#### **Industrial Development, Curtiss Wright EMD, Cheswick, PA**

**Role:** Principal

Project Manager/Principal for multiple deep foundation, shallow foundation, retaining wall, shoring system, earthwork, and concrete construction quality assurance for industrial developments and machine foundation installations. Deep foundations extended over 50 feet in depth, and shoring/retaining wall systems provided temporary or permanent support for excavations up to 18 feet deep. Multiple projects were also performed within the interior of the existing facilities.

#### **Construction of a Mall/Retail Development, Mills Corporation, Frazer Township, PA**

**Role:** Project Manager

Project Manager for the construction quality assurance testing associated with earthwork construction for a regional mall/retail development. The project included geotechnical oversight and testing of 8 million cubic yards of earthwork construction, concrete testing for stormwater and utility structures, ground improvements (including deep dynamic compaction), asphalt testing, and pavement design.

#### **New Theater, CBL & Associates Properties, Inc. , Monroeville, PA**

**Role:** Principal

Principal for concrete, earthwork and pavement construction for the development of a new theater in Monroeville, Pennsylvania. The project included geotechnical oversight and testing of approximately 15,000 cubic yards of earthwork, geogrid-reinforced foundations, asphalt/concrete pavement, erosion prevention reviews, and structural steel inspections in accordance with IBC criteria. In addition, project included the engineering design and construction oversight for the development of a stormwater management facility.

### **Civil Engineering/Site Development**

#### **Clothing Distribution Warehouse Expansion, Triangle Development Corporation, Weirton, WV**

**Role:** Principal

Principal for the development of a 200,000 square foot expansion to a clothing distribution warehouse, as well as an adjacent 5-acre parking lot for 18-wheel trucks. The project included the preparation of land development, erosion and sedimentation (NPDES), stormwater, and highway occupancy plans for local and state approval. Also, a geotechnical investigation was performed, which included detailed reviews of strip mining and landslide related issues.

#### **Light Manufacturing Building Expansion, E.A Fischione, Penn Township, PA**

**Role:** Principal

Project Manager for a 15,000 square foot building expansion. Services included the preparation of land development, erosion and sedimentation (NPDES), and stormwater plans for approval by the local government. Also, a geotechnical investigation was performed.

#### **Reclamation Site Permit Renewal, Champion Processing, Inc., Washington County, PA**

**Role:** Principal

Project Manager for the permit renewal of a 500+ acre mine reclamation site. The permit renewal included the preparation of various staging plans over the proposed 30-year life of the facility, including grading, stormwater and erosion control design for each stage. The permit modules also required slope stability analyses, impoundment breaching plans, geotechnical reports, and deep mine considerations. The project also required surface mining and dam permit applications to the PADEP. These applications required detailed analyses and geotechnical investigations relative to the existing site conditions, hydraulic dam breach analyses, an Emergency Action Plan update, and environmental/historical reviews.

#### **Remediation of Existing Pavements at Various Regional Malls and Distribution Facilities, CBL & Associates Properties, Inc.**

**Role:** Principal

Principal for the remediation of the existing asphalt and concrete pavements throughout the United States, including PA, OH, LA, KY, KS, FL, GA, WY, IL, ND and MO. The projects included reviewing existing site conditions, preparing bid documents and specifications for contractor solicitation, pavement restriping plans for parking lots up to 6,000 spaces, ADA upgrades for curbing and parking lots, etc.

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### **Wendell August Forge New Manufacturing and Retail Facility, Wesex Corporation, Mercer County, PA**

#### **Role:** Principal

Principal for the development of a new manufacturing and retail center. The project included preparation of civil/site development plans, including erosion and sedimentation control, stormwater management, and highway occupancy permitting, as well as grading plan preparation, utility coordination and subdivision of the 50+ acre property. In addition, geotechnical engineering services were performed to provide foundation, earthwork and pavement construction.

### **Gardens at Market Square, Millcraft Investments, Inc., Pittsburgh Allegheny, PA**

CEC developed construction level documents, as well as specifications relative to concrete, pavement, earthwork, stormwater and utility construction, including provisions specific to the projects proposed LEED requirements. CEC also performed both Phase I and Phase II Environmental Site Assessments for the property, as well as geotechnical engineering.

### **Well Pad Permitting and Construction, Chevron AMBU**

#### **Role:** Principal

Principal for the development of various natural gas well pads throughout Ohio, West Virginia and Pennsylvania. Projects included oversight and coordination of the design, permitting, and construction scope of services, including survey, ecological, geotechnical engineering, civil engineering, and construction quality assurance services. Projects also included various permit submittals and approvals (e.g., erosion and sedimentation control, stormwater management, general permits, etc.) through the state DEPs and governing agencies.

### **Pipeline Replacement Permitting, No Specific Location WV and PA**

#### **Role:** Principal

Principal for the replacement and reconstruction of various natural gas pipelines throughout West Virginia and Pennsylvania. Projects included oversight and coordination of the civil and ecological services associated with the FERC governed transmission lines. Various projects also included the performance of Environmental Inspection (EI) services, including quantity tracking, erosion and sedimentation control inspections, and similar construction services.

## **TRAINING**

ASFE Project Management Training

PADEP Erosion and Sedimentation Control General Permit (ESCGP-3) Plan Preparer Training, 2018.

## **AWARDS**

2014 National Award of Excellence (Design Team) for Wendell August Forge Project - Design Build Institute of America

## **PROFESSIONAL AFFILIATIONS**

Geoprofessional Business Association

American Society of Civil Engineers

International Council of Shopping Centers

## **PUBLICATIONS**

Ruffing, D., Sheleheda, M. and Schindler, R., "A Case Study: Unreinforced Soil Mixing for Excavation Support and Bearing Capacity Improvement," 2012.

## **PRESENTATIONS**

Sheleheda, M.J. "ADA Standards for Accessible Design - Parking Lots and Pedestrian Access", Various Dates.