Construction Monitoring & Observations

Construction Materials Testing

Tunnels and Underground Openings

Geotechnical Engineering & Evaluation

Subsurface Explorations

Foundation Analysis & Design

Structural Rehabilitation Condition Surveys

Dams and Drainage Studies

SEECO Consultants Inc.

CONSULTING ENGINEERS

56 YEARS OF SERVICE

FOUNDED IN 1970

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TABLE OF CONTENTS

PAGE

INTRODUCTION

SEECO Consultants, Inc. (SEECO) is a full service consulting engineering firm specializing in civil, geotechnical and structural engineering and construction materials engineering, inspection and quality control. We have a full complement of drilling rigs and a complete geotechnical testing laboratory that is approved by the U.S. Army Corps of Engineers (Ohio River Division), the Illinois Capital Development Board, Illinois Department of Transportation and AASHTO and CCRL.

The company is located in the southwest suburbs of Chicago and has been providing engineering consulting services throughout the Midwest since 1970. The staff includes professional engineers, civil engineers, structural engineers, geotechnical engineers, hydrogeologists and geologists and an experienced team of field engineers and technicians. SEECO's Field Construction Service's Engineers and Technicians and Drillers are represented by Local 150 of the International Union of Operating Engineers.

SEECO has a strong project management system - project managers are involved at the inception of a project and generally have responsibility of a project from proposal to completion. Weekly and monthly project meetings are conducted to monitor project progress. In some cases projects are tracked on a daily basis. A "single source" point of contact for a project provides a single person who interfaces with the client, as well as the project administrator, and provides a very efficient communication system.

From its inception, SEECO has provided a comprehensive in-house training program for construction material monitoring and testing. All staff are provided with annual training including in-house seminars and refresher training, as applicable. All of the engineers and technicians at SEECO are familiar with the American Society of Testing and Materials (ASTM), U.S. Army Corps of Engineers and American Association of State Highway and Transportation Officials (AASHTO) and Cement and Concrete Research Laboratory (CCRL) testing procedures. In addition, a number of the staff and technicians are Illinois Department of Transportation (IDOT) Portland Cement Concrete and Bituminous Proportioning Certified. The senior drillers and select personnel have completed OSHA Hazardous Site Worker Training per 29 CFR 1910.120.

SEECO owns and operates eight (8) truck-mounted drill rigs, two (2) all terrain vehicle (ATV) mounted drill rigs, one (1) skid-mounted drill rig, two (2) floating plants and a motor boat for off-shore drilling work.

SEECO carries comprehensive insurance coverage that includes the following: General Liability, Automobile Liability, Excess Liability, Workers Compensation and Employers Liability and Professional and Pollution Liability. The General and Professional/Pollution Liability Coverage have an aggregate limit of $2,000,000 and a per occurrence limit of $2,000,000 (please refer to the attached copy of our current Certificate of Insurance).

Environmental investigations and consulting services are conducted in conjunction with or by our affiliate, SEECO Environmental Services, Inc. (SES). Environmental services include, but are not limited to: Phase I environmental site assessments, Phase II site characterization and delineation studies, Phase III site groundwater and soil remediation clean-up plans and Phase IV site remediation construction and oversight of correction action plans, underground storage tank management and closures, facility permits and compliance commitment agreements, air

quality modeling and air quality permitting, NPDES permits, SPCC plans, RCRA compliance, RCRA corrective action plans, SARA Title III community right-to-know reporting, risk assessment and compliance audits.

SEECO Consultants, Inc. is licensed as a Professional Engineering Service Corporation and is a Small Business Enterprise (SBE).

GEOTECHNICAL AND CONSTRUCTION FIELD SERVICES

Geotechnical Engineering Services

SEECO provides subsurface exploration services to a depth of 300 feet with conventional and hollow stem augers and up to 1,000 feet with NW drill rods. Drilling can be accomplished in virtually any environment from inside buildings and rooms with the skid rig to swamps with the all terrain vehicle-mounted drill rig in all types of soil, rock and fill materials. SEECO has extensive experience drilling in peat and soils with unsuitable bearing capacities in the glacial deposits in and around the Chicago region and the upper Midwest. We have state-of-the-art pressuremeter testing equipment and has used this equipment in the analysis and design of deep foundations in downtown Chicago. We have a full geotechnical testing laboratory with the capacity to test soil and rock, Triaxial shear tests - Q, R and S and permeability Triaxial constant and falling head testing, Atterberg limits, hydrometer and sieve analysis, unconfined compression tests, dry and wet unit density, complete concrete and asphalt testing, unconfined compression tests, Triaxial shear tests and compaction testing. A complete list of tests is included in Service Capabilities portion of this booklet.

We have performed large hydrogeological investigations and provided design recommendations and specifications. The Cup-O'Hare Reservoir Project (near O'Hare International Airport) is an excellent example of SEECO's service capabilities. Hydrogeological investigation and design considerations are a key component of any large construction project. SEECO can install piezometers and monitoring wells, and provide the data and report that defines the groundwater control system required. Our drilling and inspection services support foundation investigations and foundation design, retaining structure design, MSE (mechanically stabilized earth) walls, settlement analysis and slope stability analysis both cut slopes (excavations) and embankment (dams, dikes and levees). In addition, we provide design and analysis of deep foundations (piles and caissons), tunnels, underground openings and underground spaces (gas storage caverns). SEECO Consultants Inc. has performed pile load tests and analysis for various projects. SEECO performs Ground Penetration Radar surveys to investigate the presence of underground structures, tanks or subsurface anomalies. SEECO also performs Seismic Site Classifications and Subsurface Mapping utilizing our SeisDaq Refraction and ReMi Y30+ Recording System. This includes measuring insitu shear wave (S wave) velocity, profiles and P wave velocities or rippability and fault studys.

SEECO has performed combination Environmental Phase II/Geotechnical subsurface investigations. This service can be performed as a planned project or incorporated with an existing geotechnical study immediately upon the detection of suspected contamination. This capability reduces overall investigation and report costs when unexpected contamination is identified at a site.

Construction Field Services

We provide construction monitoring and observation and testing for the placement of concrete and asphalt, the placement and compaction of crushed stone and soil, and road base stabilization. SEECO inspectors posses IDOT Level I and II PCC and IDOT Level I, II and III bituminous concrete certification. SEECO also performs Superpave asphalt mix design per

IDOT and INDOT specifications using state of the art binder ignition oven, gyratory asphalt compactor and computer/printer for data collection and recording. Samples and concrete cylinders are transported to our concrete laboratory for testing. We provide steel inspection services (bolts and welds), roof inspections, fire proofing and insulation testing and inspections. SEECO conducts trench backfill, structural earth fills, excavation, caisson, pile and footing inspections. Field reports and final reports are prepared for each project. Identification of any non-specification items or testing and inspection results are reported immediately to the client.

Special Engineering Services

SEECO provides expertise in forensic geotechnical and foundation engineering; marine investigations, jetties, breakwaters; levees, dam design and construction management; lysimeter and inclinometer installations for horizontal deformation monitoring; seismic engineering design for dams, navigation structures and buildings; and structural condition surveys for existing buildings.

SEECO also provides marketability studies and property condition assessments.

SERVICE CAPABILITIES

Construction Services

Field and Laboratory Quality Control Services

Construction Materials Testing
Caisson and Pile Installation Inspection
Engineered Fill and Backfill Testing
Plastic Concrete Testing
Reinforcing Steel Inspection
Structural Steel
Aggregates
Masonry
Pavement Inspection and Testing (Nuclear Density Gauge)
Roofing Inspection
Precast Concrete
Posttensioned Concrete
Fireproofing Inspections
Insulation Inspection

Engineering Analysis, Reports and Design

Caisson and Pile Foundation Design
Foundation Investigations
Design of Laterally Loaded Piles and Caissons
Transmission Tower Foundation Design
Earth Retention Bracing System Design
Sheeting and Bulkhead Design
Construction Groundwater Control for Shallow and Deep Excavation
Soil Stabilization
Slurry Walls
Offshore Studies
Water Retention Systems
Hydrogeological Investigation and Groundwater Control Design
MSE Wall and Cantilever and Counterfort Walls Design
Cone Penetrometer Soil Stratigraphy Delineation

Foundations and Embankments

Foundation Observation
Shallow Foundations
Caissons and Piles
Plate Bearing Tests and Analyses
Pile Load Tests and Analyses
Caisson Load Tests (O-Cell) and Analyses
Piezometer Installations and Summary Study
Slope Stability Studies
Settlement Monitoring and Interpretation
Pressuremeter Testing (Soil and Bedrock)
Inclinometer Installation and Monitoring and Interpretation of Data

Structure Evaluation Services

Material Evaluation (Concrete, Steel, Wood, Fireproofing and Insulation)
Technical Specifications
Engineering Design
Preventive Maintenance
Condition Evaluation Surveys
Maintenance and Repair Strategies
Built-up Roofing Test Cuts

Special Engineering Services

Forensic Engineering Services
Expert Testimony
Design of Breakwaters
Design of Levee and Earth and Rock Filled Dams and Excavated Reservoir Cut Slopes
Remedial Foundation Design, Plans and Specifications and Construction Monitoring
Property Condition Assessments
Seismic Analysis and Design for Dams, Navigation Structures and Buildings
Construction Management
Structural Rehabilitation Addition Surveys and Retrofit Design
Marketability Studies
Underseepage Studies of Retention Pond, Excavated Reservoirs (Soil and Bedrock) and Embankment Dams
Seismic Site Classifications

Geotechnical and Materials Laboratory Testing Services

Soil and Rock Testing, Including Q, R and S Triaxial Compression Testing and Permeability Testing
Complete Concrete and Asphalt Testing
Engineering Classification of Soils
Particle Size Analysis
Liquid Limit
Atterberg Limit
Shrinkage Factor
Moisture Content
Density - Wet and Dry
Specific Gravity
Unconfined Compression Test with Stress Strain Curves
Hydrometer Analysis
Combined Analysis (Hydrometer and Sieve) Soil pH
Hand Penetrometer Unconfined Strength
Lightweight Pieces in Aggregates
Abrasion and Impact
Illinois and California Bearing Ratio Tests
Direct Shear Test
Consolidation Test
Swell Test
Time Rate of Settlement Curves
Compaction Tests
Laboratory CBR or IBR Determinations
Harvard Miniature Compaction Test
Organic Content of Soils
Sodium Sulfate Soundness Test - Aggregates
Wet Combustion of Soils
Point Load Strength of Rock Cores
Rock Quality Designation
Rimac (Unconfined Compression Test)
Clay Lumps Friable Particle

DRILL, RIGS AND EQUIPMENT

SEECO owns and operates eight (8) modern truck-mounted drill rigs, one (1) skid rig, and two (2) all terrain vehicle mounted drill rigs and our field exploration programs are conducted by experienced and reliable drillers who possess many years of drilling experience throughout the continental United States and Canada. Two (2) floating plants and a motorboat are owned by SEECO and, when needed, are operated to perform offshore soil borings.

Our drillers are experienced in hollow stem auger drilling, rotary wash boring, split spoon, Shelby tube and piston sampling, auger profile sampling, large diameter soil sampling, wireline rock coring of bedrock and overburden and bedrock packer permeability (hydraulic conductivity) testing, large diameter core sampling (HQ) and installation of piezometer, monitoring wells, and slope indicator instrumentation installation. Drillers have OSHA 40-hour Hazardous Waste Site Worker training certification and may operate our rigs at hazardous waste sites.

Our drilling equipment consists of eight (8) truck-mounted drill rigs, two (2) all terrain vehicle (ATV) mounted drill rigs, and one (1) skid rig and a motorized cathead with an A-Frame tripod. These rigs are as follows: Sprague & Henwood C-142 Rotary Type Drilling Rig; a four-wheel drive Mobile B-30; a four-wheel drive Brainard Kilman BK-51; an all terrain vehicle mounted CME 750 Model Rotary Rigs; an all terrain vehicle mounted CME-45B Model Rotary Rig; two (2) truck-mounted Central Mine Equipment 55 Model Rotary Rigs; one (1) truck-mounted CME-75 Drill Rig; two (2) truck-mounted Diedrich D-50s; and a skid mounted Diedrich D-25. These rigs advance the soil borehole by conventional continuous flight auger, continuous hollow stem augers, and mud rotary wash methods. The CME-75 and CME-55 rigs are also fully equipped with NX wireline core drilling equipment. All rigs have direct push soil sampling capability, water pumps, grout pumps and carry tremie pipes for well installations.

Our Mobile B-30 Rig has the following capabilities: Auger drilling with continuous augers to 100 feet, angle drilling capability, four-wheel drive F-350 truck-mounted rig, which is ideal for small clearance areas and soft ground field conditions.

The Sprague & Henwood rig has the following capabilities: Auger drilling - conventional and hollow stem augers 700 feet up to 6 inch hole size; 150 feet of angle drilling; core and rotary drilling - NWX drill rods, 3-inch hole to depths of 2,400 feet.

Our CME-45B is equipped with the following capabilities: Auger drilling - conventional and hollow augers to a depth of 150 feet and boreholes up to 12-inch diameter. Core and rotary drilling - 500 feet with N rods. This rig is mounted on all terrain “Highmount” four-wheel drive Gemco 300 Buggy with front winch capabilities. The Highmount capabilities allows the rig to maneuver in up to 2.5 feet of water with a solid stream bed.

The CME-55 Rigs possess the following capabilities: Auger drilling - conventional and hollow augers from depths of 125 feet to 250 feet up to 14-inch hole size; core and rotary drilling – 1,000 feet with NW drill rods. These rigs possess automatic standard penetration hammers.

Our CME-75 Rig has the following capabilities: Auger drilling - conventional and hollow augers from depths of 150 feet to 300 feet up to 16-inch hole size; core and rotary drilling – 1,000 feet with NW rods and NW and HX wireline coring.

Our CME 750 Rig has the same capabilities as the CME 75, with all terrain accessibility.

The BK-51 Drill Rig has the following capabilities: Auger drilling - to depths of 175 feet; core and rotary drilling - to 500 feet with NW rods.

Our D-50 Drill Rigs are equipped with the following capabilities: Auger drilling - conventional and hollow augers from depths of 125 feet to 250 feet up to 14-inch hole size. Core and rotary

drilling – 1,000 feet with NW drill rods. These rigs possess automatic standard penetration hammers.

Our D-25 Skid Rig has the following capabilities: Conventional and hollow stem auger capabilities to 75 feet, core and rotary drilling to over 100 feet. This rig is trailer-mounted with easy on/off accessibly.

The Acker Motorized Cathead with A-Frame tripod has drilling capabilities using rotary wash techniques and split spoon sampling to 100 feet.

We also have available three (3) portable Truco core drills for drilling concrete and asphalt pavement and bridge deck cores.

SEECO Consultants owns and operates a Menard Pressure meter Roctest Model G-AM which is used to perform in situ load tests on the subsoil to determine maximum design soil bearing capacity and settlement for shallow foundations, mat, pile and caisson foundations. SEECO Consultants has extensively used this pressuremeter in the past.

The G-Am employs a tri-cellular probe that is inflated with both water and gas. Three probe sizes are available for testing inside A, B or N size boreholes. Regulated pressure from a gas cylinder is used to load the G-Am probe. It is designed to conduct stress controlled tests.

SEECO utilizes scanning equipment consisting of a Geophysical Survey Systems Inc. (GSSI) SIR-3000 Radar unit. This GPR uses a 400 MHz antenna which permits scanning to a maximum optimal depth of 8 feet below the existing ground level for scanning USTs. This unit stores scan data for later downloading and data processing on the GSSI created software Radan 7.3. Since the GPR displays the subsurface image in real time and space as the scanning occurs, it allows for any significant anomalies such as USTs, utility lines and old buried foundations to be marked out directly on the surface by the field representatives at the time of the scan.

Site soil conditions are important in determining Seismic Design Category per IBC. The Seismic Site Classification is determined based on the average properties of the soil within 100 feet of the ground surface. The ReMi is a seismic surface wave testing method that is used to aid in seismic site classifications. ReMi method uses ambient noise and surface waves to generate a detailed vertical shear wave velocity (V_S) profile of soil stratums up to 300 feet in depth.

The ReMi test setup includes a linear array of multiple equally-spaced geophones established inserted into the soil and connected at one end to a seismograph. The length of the array depends on the depth of investigation. Once the array geophones are established, the seismograph records both ambient and active noise within the area. Once the information is collected and interpreted the end product is a one-dimensional column of shear wave velocity variation for each seismic line established at a site.

The ReMi method is capable of detecting thin layers and velocity inversions, and is highly reliable and commonly used method for earthquake design and seismic site classification determinations. The ReMi method is particularly effective in noisy environments, which are ideal for shear wave profiling in urban environments where other seismic testing methods are not applicable due to large amounts of ambient noise.

SEECO utilizes a Vertek HT Series Cone Penetrometer to delineate subsurface soil stratigraphy and verify soil characteristics utilizing a 10 cm cone. The cone penetrometer has a 20 ton capacity for pushing into soils. The electronic data acquisition system is integral to the apparatus. The system provides constant transmission of tip, sleeve and pore pressure readings 3 to 4 times a second. It also allows for geotechnical measurements for insitu dissipation tests.

SEECO has a complete shop and service facility for the drilling equipment. Our equipment is well maintained. A summary of the drilling equipment is listed below:

Type	Make	Auger Capabilities
Drill Rig - Truck Mounted	CME-75	300 feet in depth
Drill Rig - Truck Mounted	CME-55	250 feet in depth
Drill Rig - Truck Mounted	CME-55	250 feet in depth
Drill Rig - Truck Mounted	BK-51	125 feet in depth
Drill Rig - Truck Mounted	Diedrich D-50	250 feet in depth
Drill Rig - Truck Mounted	Diedrich D-50	250 feet in depth
All-Terrain Vehicle Mounted	CME 750	300 feet in depth
All Terrain Vehicle Mounted	CME-45B	150 feet in depth
Drill Rig - Truck Mounted	Mobile B-30	100 feet in depth
Drill Rig - Truck Mounted	Sprague C-142	700 feet in depth 150 feet of angle drilling
Drill Rig - Skid Mounted	Diedrich D-25	75 feet in depth
Truck Mounted Water Tank		1700 gallons
Segmented Barge Floating Plant		
Foam Filled Floating Plant		
Motor Boat (14 feet long)		
Tripod Cathead Assembly	Acker 40032-1	
Hydro-Punch Ground Water Sampler		Samples groundwater without monitoring wells
Geo Probe Direct Push Sampling Tools for Soil and Groundwater Samples	Diedrich Drilling	
Ground Penetrating Radar	GSSI	
G-Am Pressuremeter	Roctest	
Seis DAQ Refraction and ReMi Y30+ Recording System for Seismic Surface Wave Testing	RT Clark Geophysical Equip.	
Vertek HT Series Cone Penetrometer		

LABORATORY CAPABILITIES

SEECO has been providing reliable geotechnical testing services for over 55 years. The laboratory is run by one of SEECO's senior engineers with over 35 years of geotechnical testing experience. Testing services have supported expert testimony and forensic engineering services for a lawsuit totaling over $50 million and numerous multi-million dollar construction projects. Many of the laboratory tests can be completed and reported within 24-48 hours of sample collection when results are required immediately.

Our laboratory is approved by the U.S. Army Corps of Engineers (Ohio River Division), the Illinois Capital Development Board and the Illinois Department of Transportation (IDOT) and the Indiana Department of Transportation (INDOT) and the American Association of State Highway and Transportation Officials (AASHTO) and Cement and Concrete Research Laboratory (CCRL). It is fully equipped with modern equipment for soil and rock testing and materials testing. The following tests/procedures are conducted in the SEECO Geotechnical Laboratory: Conventional visual soil and rock classification of samples, unconfined compressive strength, unit weight determination, natural moisture content, Atterberg limits, shrinkage limit determination, sieve analysis, hydrometer, specific gravity, soil pH, Rimac, hand penetrometer, direct shear, Triaxial shear tests, consolidation test, permeability tests, swell tests, wet combustion tests, Standard and Modified Proctor tests, clay lumps and friable particles and many other tests.

Triaxial shear tests with or without pore pressure measurements and consolidation testing equipment are available in our laboratory for more elaborate testing programs as required in the project analysis and design. In addition, SEECO performs sodium sulfate soundness, organic impurities testing, lightweight pieces in aggregates, abrasion and impact in the Los Angeles Abrasion test, and the combined sieve and hydrometer, and California and Illinois Bearing Ratio tests.

SEECO has a concrete cylinder curing room (per IDOT Specifications) with the capacity to store over 1,000 cylinders. In addition to our concrete compression tester, we have a portable concrete beam tester.

All laboratory testing will be done in accordance with the latest American Society for Testing and Materials, AASHTO, CCRL and IDOT procedures and/or according to project specifications under the direction of SEECO's Geotechnical Laboratory Manager/Senior Project Engineer.

Geotechnical samples are archived for 90-120 days. SEECO has the capacity to store samples up to one year upon request.

SEECO possesses an Hnu Model 311 Portable Gas Chromatograph (GC) which is used to perform environmental testing for Volatile Organic Compounds (VOCs). The GC is located in a dedicated room within the lab and it is a portable unit which can be set up as a mobile lab in our self contained mobile laboratory vehicle. This equipment provides SEECO with the capability of testing potentially contaminated media on-site or in our laboratory for indication of contaminants associated with solvents and gasoline. The GC is operated by an environmental chemist with SEECO's affiliate company SEECO Environmental Services, Inc.

CORPORATE EXPERIENCE

The following projects represent SEECO's ability to perform geotechnical services, construction field services, and special engineering services for private, commercial, heavy industry and public agencies.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Northside Sludge Line Replacement Contract No. 07-027-35**

SEECO performed soil borings at locations from the existing WRP south along McCormick Blvd. to Devon Ave., then West, for the proposed 20" sludge line. The sludge line is proposed to be horizontally directionally drilled due to the highly urbanized alignment and existing underground utilities.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Biofilter Building – Stickney WRP - Contract No. 14-134-3M**

SEECO performed a Ground Penetrating Radar scan for the proposed location to determine the most viable boring locations due to the high quantity of underground utilities. Three (3) soil borings performed encountered mixed fill below the project. The foundation recommendations addressed a concrete mat slab supported on crushed stone backfill after undercutting 3.5' below bottom of proposed foundations.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Primary Settling Tanks and Screen House Micropile Installation – Stickney WRP – Contract 04-128-3P**

SEECO provided field geotechnical engineering oversight of the micropile installations. Services included quantity verification, grouting monitoring and load test data reduction verification.

CLIENT: **AECOM**
PROJECT: **DuPage Water Commission, Bartlett Transmission Line**

SEECO performed soil borings, geotech laboratory testing and geotechnical engineering and analysis for the design of the expansion of the 36" Lake Michigan Water transmission line.

CLIENT: **Village of Sycamore**
PROJECT: **Wastewater Treatment Plant Expansion**

SEECO performed soil borings, laboratory testing and geotechnical engineering and analysis for the design of the expansion of the treatment plant that would triple the capacity. Extensive laboratory testing was performed on the native soils to determine the foundation types and the net allowable bearing capacities to minimize foundation costs.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Mt. Greenwood Park- Contract No. 16-IGA-19**

Through an Intergovernmental agreement with the Chicago Park District, the MWRDGC was proposing to install a drainage facilitation scheme in the park. As part of the classification and evaluation of the existing soil to aid in design and to determine the viability, soil borings were

performed and a piezometer installed at the park. Special care was taken to minimize damage to the active ball fields to prevent injury.

CLIENT: **Village of Bensenville**
PROJECT: **Jefferson St. Study**

SEECO performed soil borings, laboratory testing and geotechnical engineering and analysis for the design of the watermain replacement. The site was underlain with highly corrosive native soils that required DIP polyethylene wrapping.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Organic Waste Receiving Station, Stickney WRP - Contract No. 14-117-3P**

Geotechnical study proposed new structure. Final design schemes for the building proposed were not provided, but it was anticipated to include one to two stories above grade and a 10 to 20 foot deep lower level along with roadway realignment. Along with the geotechnical study, ground penetrating radar was performed to determine underground tunnels locations and hydro excavating was performed to verify dimensions and locations prior to SEECO performing the drilling and sampling.

CLIENT: **City of Joliet**
PROJECT: **Expansion and Improvements at East Side, West Side and Aux Sable Treatment Plants**

SEECO performed soil borings, geotech laboratory testing and geotechnical engineering and analysis for the design of the expansion/improvements of the treatment plants. Shallow bedrock elevations required extensive reengineering to minimize excavation costs.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Bulk Materials Storage Building – Calumet WRP – Contract 15-267-2P**

SEECO performed soil borings as part of the design of a new facility. The purpose of this exploration was to determine the bearing capacity of the soils for the support of the proposed facility as well as backfill recommendations and dewatering issues. Infiltrometer tests were performed to aid in design of onsite detention and piezometers were installed to monitor the water table.

CLIENT: **Village of New Lenox**
PROJECT: **Wastewater Treatment Plant No. 2 Expansion**

SEECO performed soil borings, laboratory testing and geotechnical engineering and analysis for the design of the expansion of the treatment plant that would double the capacity. Extensive laboratory testing was performed on the native soft, organic soils to determine the net allowable bearing capacity to minimize foundation costs with some geopier foundations supporting reinforced concrete mat slabs.

CLIENT: **City of Batavia**
PROJECT: **Wastewater Treatment Plant Improvements**

SEECO performed soil borings, laboratory testing and geotechnical engineering and analysis for the design of the expansion of the treatment plant that would add a new Main building, new

Digester Operations building and chemical containment tanks. The site was previously filled with miscellaneous, non-homogenous, predominantly unsuitable materials which presented a challenge to determine the net allowable bearing capacity and an economical foundation system utilizing geopier supported reinforced concrete mat slabs.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Drop Shaft No. D-34C-1, 14th and Roosevelt, Broadview, IL Contract No. 75-132-12H**

Roadway area adjacent to drop shaft D-34C-1 had experienced settling and had been surface repaired several times. Soil borings performed indicated soft/loose backfill material. Final report referenced recommendations for compaction grouting.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Electrical Storage Building, Stickney WRP, Stickney, IL Contract No. 10-185-3E**

Geotechnical study for a new Electrical Storage building at the Stickney WRP. The building was anticipated to include masonry one story with basement construction. Due to soft soils and fill material encountered it was recommended to utilize either an excavate/refill or deep foundation scheme.

CLIENT: **City of Lockport**
PROJECT: **Wastewater Treatment Plant Expansion, Lockport, IL**

SEECO performed soil borings, geotech laboratory testing and geotechnical engineering and analysis for the design of the expansion of the treatment plant. Shallow bedrock elevations required extensive reengineering to minimize excavation costs.

CLIENT: **Village of Frankfort**
PROJECT: **Hickory Creek Interceptor Sewer, Frankfort, IL**

SEECO performed the geotechnical exploration, laboratory testing and engineering and analysis for the design of the 36" sanitary sewer line. The sewer line crossed over several areas of peat and creek tributaries and these areas were addressed with regard to pipe line support, as well as trenching and/or microtunnel installation techniques. Extensive analysis was performed regarding dewatering and trench excavation safety.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Worth Woods 66” Storm Sewer Flood Control – Contract No. 14-256-5C**

Soil borings utilizing a truck mounted drill rig and hand auger were performed in ROW adjacent to Worth Woods Subdivision. The geotechnical engineering addressed the open cut installation of the 66” RCP Storm Sewer through soft surficial soils and lateral support of adjacent buildings.

CLIENT: **Village of Thornton**
PROJECT: **Reroute of Sanitary Sewer, Williams Street, Thornton, IL**

Geotechnical services were provided for the reroute of over 1/2 mile of existing sanitary sewer due to the planned quarry expansion. Areas addressed in the study included support of existing structures and adjacent roadways as well as shallow bedrock.

CLIENT: **City of Chicago Heights**

PROJECT: State Street Sanitary Sewer Extension, Chicago Heights, IL

Geotechnical exploration, soils testing and engineering and analysis was performed for the extension of the sanitary sewer service along State Street. Shallow bedrock was encountered at several proposed tunnel locations.

CLIENT: Village of Lemont
PROJECT: Country Lane Improvements, Lemont, IL

SEECO provided the Geotechnical exploration, laboratory testing and engineering and analysis for the installation of sanitary sewer and water main to a recently annexed subdivision.

CLIENT: Mannheim Auto Sales
PROJECT: Auto Auction Facility, Matteson, IL

SEECO performed soil borings as part of the design phase for the 900 acre development. A lift station, 20,000 lineal feet of storm sewer and stormwater retention structures as well as 40 acres of parking were part of the project.

CLIENT: Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
PROJECT: CTA Yellow Line Collapse – Northside WRP

SEECO provided Geotechnical expertise and soils analysis for the elevated train track collapse when the braced excavation failed during construction of the Disinfection Facility at said WRP. Triaxial compression tests as well as vane shear tests were performed on the soft to medium clay soils to determine the insitu shear strength to aid in designing the remedial measures to put the CTA line back in service safely.

CLIENT: DuPage Water Commission
PROJECT: 72" Transmission Main, Elmhurst, IL

SEECO performed soil borings to determine the suitable elevation to install the 96" carrier tunnel proposed to carry a 72" potable water transmission line under Salt Creek. Special attention was paid to unstable granular deposits and potential dewatering issues.

CLIENT: MWRDGC (MSD)
PROJECT: Geotechnical Investigation for the Berkeley-Hillside-Bellwood TARP Sewer Tunnel, Contract No. 82-167-2S

SEECO performed soil borings and deep rock coring as part of the design phase for this section of the TARP. Twenty four (24) shallow soil borings were performed to determine depth to bedrock and 9 borings were extended over 300 feet into the Silurian Dolomite bedrock utilizing NX size wireline coring techniques. The geotechnical report encompassed quality of bedrock, physical properties of the bedrock and tunnel design for the TARP System. Packer testing was performed on all bedrock borings in order to determine the coefficient of permeability to aid in preparing engineering recommendations regarding whether or not to line the new tunnel. The geotechnical study was completed in 1991.

CLIENT: U.S. Army Corps of Engineers, Chicago District
PROJECT: CUP O'Hare Reservoir Site, Contract No. DACW23-87-D-0014

SEECO performed soil borings, bedrock corings and geotechnical laboratory testing, and engineering analysis during the design phase of this stormwater reservoir near O'Hare Airport. The reservoir provides relief from stormwater flooding along the upper Des Plaines River. The side slopes of this 90 foot deep reservoir are in soil whereas the bottom of the reservoir is founded in the bedrock, with an overlying underdrain system and RCC liner. The soil borings performed included both overburden sampling and rock coring. The laboratory testing program encompassed the analysis of the overburden for suitability as fill material for a proposed ski hill onsite, determined the coefficient of permeability to prevent leaching of the stormwater into the bedrock and shear strength and slope design for the said reservoir sides. The rock specimens obtained were tested for in situ permeability for outflow seepage, as well as RQD and strength for the support of the water head.

CLIENT: **MWRDGC (MSD)/Harza Engineering**
PROJECT: **Subsurface Exploration and Geotechnical Engineering and Analysis for the Main Stream TARP System, North Branch Chicago River, Linne Woods Construction Shaft and Rock Placement Site, Morton Grove, IL. Contract No. 73-060-2H**

SEECO performed twenty-nine (29) soil borings for the proposed construction shaft and mine spoil pile for this project. The borings extended to depths of 175 feet CCD and included NX wireline coring of the bedrock. The purpose of this project was to prepare design recommendations for the construction shaft for the TARP Tunnel and to prepare design recommendations for the stockpiling of the mined rock spoil prior to its disposition to heights of approximately 100 feet. Special areas of concern addressed included the permeability and quality of the bedrock in the shaft area and the physical soil properties of the area of the potential rock spoil stockpile. the report addressed design parameters for the rock placement embankment stability and settlement analysis for both the elastic and long term consolidation potential of the foundation soils in this Linne Woods Rock Placement site.

CLIENT: **South Palos Township Sanitary District**
PROJECT: **131st St. Sanitary Sewer, Palos Park, IL**

SEECO PERFORMED the geotechnical exploration, laboratory testing and engineering and analysis for the design of the 16" sanitary sewer line. The sewer line crossed over several areas of peat and these areas were addressed with regards to pipe line support, as well as trenching and/or microtunnel installation techniques. Extensive analysis was performed regarding dewatering and trench excavation safety.

CLIENT: **Downers Grove Sanitary District**
PROJECT: **Reroute of Sanitary Sewer, Downers Grove, IL**

Geotechnical services were provided for the reroute of over 1 mile of existing sanitary sewer due to the planned High School expansion. Areas addressed in the study included support of existing structures and adjacent roadways as well as pipe support thorough a deep organic clay deposit.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Jackson St. Sewer at IHB RR, Salt Creek 3, LaGrange Park IL Contract No. 12-900-01**

Failure analysis for arched sanitary interceptor sewer tunnel below Jackson Street and 3 track freight lines of IHB Railroad. 80 year old concrete lined tunnel partially collapsed and undermined railroad track lines and roadway above.

Geotechnical investigation performed determined that saturated fine granular soils had been subjected to railroad increased traffic induced vibrations and settlement had occurred. This caused the partial failure of sections of the tunnel and surface subsidence. As this was an active rail line connecting two main hubs, rapid response to determine the failures causes and developing repair solutions was critical.

Soil borings performed in and near the zones of failure indicated predominantly saturated granular soils overlying the clayey soils in which the tunnel had been constructed. Based upon the data gleaned from the subsurface exploration and review of the original construction plans, it was determined that the most effective remedial measure was to implement would include compaction grouting of the loose sandy soils. It was determined that the tunnel failure should be repaired first so as to prohibit the grouting procedures from filling the tunnel, The tunnel was repaired by slip lining prior to injection of the grout material to stabilize the backfill above and on its sides. The grouting was performed utilizing angle hole drill rigs and portable drilling equipment due to the limited accessibility around the existing railroad tracks.

CLIENT: **Village of Carpentersville**
PROJECT: **Expansion of WWTP, Carpentersville, IL**

SEECO PERFORMED soil borings, laboratory testing and geotechnical engineering and analysis for the design of the expansion of the treatment plant. Extensive laboratory testing was performed on the native granular soils towards specifying reuse as backfill material. This proved to save a significant amount of construction contract dollars.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **135th Street Flood Control Project – Crestwood – Contract 14-258-5C**

SEECO performed soil borings and installed piezometers in the ROW of 135th Street for the proposed 60” RCP Storm Sewer. The soft organic saturated soils present were addressed in the geotechnical engineering recommendations. Long term piezometer water level readings were performed by District personnel.

CLIENT: **City of Melrose Park**
PROJECT: **5th Ave. Pumping Station Improvements, Melrose Park, IL**

Geotechnical services were provided to assist the design of the replacement of and improvements to the pumping station. Old buried structures were encountered, and due to their proximity to existing buildings, evaluation regarding support and potential undermining were addressed.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Lagoon 8 Lining – Calumet WRP – Chicago, IL Contract No. 11-243-3P**

25 soil borings were performed and 2 piezometers installed as part of the geotechnical investigation for the proposed lining of Lagoon 8 at Calumet WRP. Borings were performed in the bottom of the Lagoon and on the top of the existing dikes. The purpose of this project was to determine the stability of the existing dikes, ascertain the base materials and provide recommendations for the construction of the concrete side slope lined structure.

CLIENT: **McDonalds Corp.**
PROJECT: **Gateway McDonalds - Clark & Ohio, Chicago, IL**

Geotechnical services and construction inspection for mat foundation and underground detention for new signature McDonald's Restaurant.

CLIENT: **MWRDGC (MSD)**
PROJECT: **Subsurface Exploration and Geotechnical Study for the Sludge Solids Drying - LASMA-WSW-STW, Contract No. 80-159-2P**

SEECO performed the subsurface exploration and geotechnical engineering and analysis for the design of the first phase of the LASMA site. Soil borings and geotechnical laboratory testing was performed in order to determine the physical properties of the existing soil. Recommendations were prepared for the design of the drying beds bottom liner and slope stability analysis were performed for the surrounding proposed dikes.

CLIENT: **Village of Tinley Park**
PROJECT: **Tinley Park Convention Center**

Geotechnical study and construction inspection services for construction of the premier meeting and convention center in the southwest suburbs. Extensive analysis of unsuitable soils.

CLIENT: **Lake County, IL**
TYPE OF PROJECT: **Geotechnical and Construction Materials Testing**
LOCATION: **River and Roberts Roundabout Lake County, IL**

New alignment of Roberts Road with a roundabout intersection with River Road. Geotechnical Phase 1 and 2 studies included borings through wetland areas and existing pavement. SGR includes addressing potential of land bridge or sheet pile supported excavate-refill scheme for embankment support over 30 feet of organic soils. Retaining wall structures are addressed as well for the proposed roundabout location. Construction inspection included observation and documentation of almost 4000 controlled modulus columns and the load transfer platform during construction.

CLIENT: **Harley Ellis Devereaux**
TYPE OF PROJECT: **Geotechnical Study and Foundation Design**
LOCATION: **Lake Street Studio Chicago, IL**

10 story residential development adjacent to CTA Elevated Tracks and Kennedy Expressway. Caisson foundation system bearing on hardpan at 90 foot depth and 35 ksf in end bearing net allowable bearing capacity was recommended due to soft Chicago Clay. Pressuremeter testing and vane shear were utilized to determine bearing capacity in order to provide most economical foundation system. SEECO's role included Geotechnical Study and Foundation Design and Installation Consultation.

CLIENT: **Public Building Commission of Chicago**
TYPE OF PROJECT: **Construction Materials Testing**
LOCATION: **Nathan Hale ES Linked Annex Chicago, IL**

SEECO provided Construction Materials Testing Services for the two story linked annex tower constructed adjacent to the existing Elementary School. Foundation soils required undercuts down to acceptable soils. Reinforcing steel and structural steel fabrication shop and site inspections were performed. Concrete inspection and testing, as well as fireproofing installation was performed also. Site improvements, including sidewalks and pavement were inspected and tested.

CLIENT: **Village of Plainfield**
TYPE OF PROJECT: **Geotechnical Study**
LOCATION: **143rd Street Bridge over DuPage River – Plainfield**

New roadway alignment, retaining walls and new 7 span 840 foot bridge over the DuPage River. Geotechnical Exploration, Laboratory Testing and Engineering and Analysis for new roadway alignment. Included new roadway profile with embankment and existing intersection improvements, analysis and design data for MSE retaining walls for embankment, and global slope stability and foundation recommendations for a new 7 span, 855 foot long bridge over the DuPage River. Structure geotech report (SGR) criteria was implemented in the prepared report. An SGR was prepared for both the bridge and the retaining walls. An RGR report was prepared for the new pavement alignment.

CLIENT: **LHB**
TYPE OF PROJECT: **Geotechnical**
LOCATION: **Offner Road Bridge-Will County**

As part of the Joliet Army Ammunition Plant redevelopment, the Department of Agriculture/Forest Service proposed to improve the Offner Road access road, which included new roadway and railroad crossing, a replacement single span bridge and a relocation of a part of a meandering creek.

Geotechnical Exploration and Engineering for the proposed replacement of a rural roadway bridge and the relocation of a creek within the Midewin National Tall Grass Prairie. Services included analysis of the insitu soils properties relative to erosion control and recommendations the structural design of the single span bridge foundation.

CLIENT: **H.W. Lochner**
TYPE OF PROJECT: **Geotechnical**
LOCATION: **Ridge Road Extension at Rte. 126 - Kendall County**

Realignment and intersection improvements of 1 mile of rural roadway through farm fields with two box culverts over East Aux Sable Creek.

Geotechnical Exploration, laboratory testing and engineering analysis for approximately 1 mile of new roadway alignment from Ridge Road and Wheeler Road, North to Route 126 and Plainfield-Naperville Road. Embankment Slope Stability Evaluations and foundation design alternatives for two box culverts over a creek were addressed in the report. Report was prepared as an SGR.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **ALTA Survey – 3100 S. Sacramento, Chicago**

SEECO utilized a Surveying Subconsultant to perform the ALTA Survey for this property transfer.

CLIENT: **TECH 3 Consulting/Farnsworth Group**
TYPE OF PROJECT: **Environmental and Geotechnical**
LOCATION: **North Egyptian Trail – Monee, IL**

A Preliminary Environmental Site Assessment (PESA) of the Right of Way (ROW) was performed according to ASTM and IDOT Standards. A cursory visual assessment was made of adjoining properties at the time of reconnaissance of the ROW in question. Two areas of Potentially Impacted Properties were identified and subsequently a PSI (Preliminary Site Investigation) was performed. Analytical chemical test results indicated no contaminants and the ROW was considered "clean".

CLIENT: **Public Building Commission of Chicago**
TYPE OF PROJECT: **Construction Materials Testing**
LOCATION: **Chinatown Branch Library, Chicago, IL**

New branch library in Chinatown consisting of a geopier foundation supported steel frame structure. Inspection services included geopier foundation installation observation, floating slab unsuitable soils undercutting and backfill monitoring, reinforcing steel and concrete testing, structural steel fabrication shop stamped manifest procedures and site installation inspections and fireproofing inspection.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Egan WRP Pervious Parking Lot**

Soil borings and infiltrometer tests were performed to determine the best design alternatives for the pervious parking lot at the plant.

CLIENT: **Joliet School District 86**
TYPE OF PROJECT: **Geotechnical, Design and Construction Materials Testing**
LOCATION: **Farragut School, Joliet, IL**

SEECO's role included the Geotechnical Forensic Investigation, Remedial Design and Construction Material Testing and Inspection for remediation of settlement issues of the building. Jack piles were installed to support the north side and northwest corner of the 100+ year old Elementary School building. Floor slab and foundation wall repairs were performed as well as reconstruction of the asphalt parking lot.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)**
PROJECT: **Koppers Force Main – Contract 14-107-2J**

SEECO performed the geotechnical exploration, laboratory testing and engineering and analysis for the design of the effluent force main. Installation alternatives addressed included horizontal directional drilling and open cut.

CLIENT: **Harley Ellis Devereaux/Capital Development Board**
TYPE OF PROJECT: **Geotechnical and Construction Materials Testing**
LOCATION: **Illinois Veterans Home, Chicago, IL**

SEECO's role included the Geotechnical Study and Construction Materials Testing and Inspection for the twin 5 story residential midrise towers connected by an at grade link. Supported by foundation system of Geopier supported footings. Over 780 Geopiers installed to support the building. Services included Geopier Construction Installation observation, soil compaction and suitability determinations, concrete testing and inspection, reinforcing steel inspection and precast panel erection observation and welded connections inspection.

CLIENT: **Hunter Corporation/CNA Insurance Company**
TYPE OF PROJECT: **Expert Witness/Forensic Engineering Study**
LOCATION: **Bailly Town Generating Station, Porter County, Indiana**

Mr. Collin W. Gray, S.E., P.E., a registered Professional/Structural Geotechnical Engineer licensed in Indiana with over 48 years of experience and Principal of SEECO performed a Liquefaction Failure Analysis Study at the Bailly Town Generating Station, Porter County, Indiana after two 14-foot circulating water pipes, intake and outfall structures, collapsed during construction and steel sheet pile driving at the plant. He was an expert witness in this case and also gave his deposition.

The site is on the Lake Michigan shoreline near the Indiana Dunes National Lakeshore Park. Liquefaction of the saturated loose sand fill overlying the circulating water pipes occurred during a sheet pile driving operation by Thatcher Engineering Company, a subcontractor to Hunter Corporation. SEECO Consultants, Inc. and Mr. Gray were retained to perform a Forensic Engineering Study and act as the expert witness for CNA Insurance Company who insured Hunter Corporation on this project. The Northern Indiana Public Service Company had a $100 million property damage and loss of income policy with Hartford Insurance Company. Hartford Insurance Company paid NIPSCO $56 million in damages since the power plant was out of operation for approximately six months. This included new construction of the circulating water pipes as well as loss of revenue. The Hartford Insurance Company sued all of the contractors and engineers working on the site at the time of the failure. The site investigation identified soils to consist of loose saturated dune sand fill material. Based on the Forensic Engineering Study and the testimony and opinion of Mr. Gray and others and the facts related to the geotechnical specifications on historical documents, the courts found in favor of Hunter Corporation and its subcontractors.

CLIENT: **Metropolitan Water Reclamation District of Greater Chicago**
TYPE OF PROJECT: **Sewer Tunnel in Bedrock and Soils - Deep Tunnel Project**
LOCATION: **Berkeley, Bellwood and Hillside, Illinois**

SEECO conducted the subsurface investigation to obtain soil samples and bedrock cores and all geotechnical laboratory testing to prepare recommendations regarding the design and construction of the proposed tunnel. The bedrock cores were obtained to an approximate depth of 290 feet. This four mile long mixed face sewer tunnel from 24 feet to 30 feet in diameter varied from 150 to 250 feet below the existing ground surface. This is a subtributary tunnel of the Des Plaines Branch of the TARP Project.

CLIENT: **U.S. Army Corps of Engineers, Chicago District**
TYPE OF PROJECT: **Geotechnical Investigation and Analysis for Breakwater Rehabilitation**

LOCATION: **Calumet Harbor and River, Illinois**

SEECO drilled the soil borings through the Calumet Harbor breakwater, performed the laboratory testing, geotechnical engineering analysis and report preparation. The geotechnical analysis was to determine the stability of the existing structure, settlement analysis and bearing capacity analysis.

CLIENT: **Indiana Department of Transportation**
TYPE OF PROJECT: **Geotechnical Investigations for Various Road and Bridges**
LOCATION: **Lake County and Porter County, Indiana**

SEECO performed these projects for Indiana Department of Transportation which included the subsurface investigation for various roads and bridges, soil sampling, laboratory testing, analysis and preparation of geotechnical reports. The geotechnical reports includes the recommendations regarding the design and construction of foundations for various bridges and culvert structures and highways.

CLIENT: **Cook County Juvenile Center - West Addition**
TYPE OF PROJECT: **10 Story Addition to Existing Building, Geotechnical, Environmental and Construction Materials Testing and Inspection**
LOCATION: **Chicago, Illinois**

SEECO performed the geotechnical, environmental and construction materials testing and inspection for this $82,000,000 project. At this site along Ogden Avenue a gasoline station previously demolished to grade was encountered as well as two 1,000 gallon waste oil tanks with TCE (trichloroethylene) had to be removed and the TCE liquid and TCE contaminated backfill soils removed and legally disposed offsite. SEECO handled all engineering oversight, permitting, environmental disposal contractors, landfill acceptance parameter and the closure report to the IEPA Site Remediation Program for Cook County. Typical construction quality control functions included:

Soils: Drilled caisson inspection, slope inclinometer installation and monitoring, foundation subgrade suitability, fill and backfill compaction testing, monitoring of unsuitable soil removal.

Concrete: Mix design review, steel reinforcement inspection, placement inspection and testing, compressive strength testing.

Steel: Welders qualifications review, fabrication shop procedures review, shop and field inspection of welds using visual and NDE methods (ultrasonic and magnetic particle), inspection of bolt pre-tensioning methods and installation.

Project: **McEvilly/Channahon -Minooka Road at DuPage River- Will County**

Description: Retaining wall at tributary of DuPage River

Scope: SEECO performed Geotechnical Exploration, Laboratory Testing and Engineering and Analysis for the proposed cantilevered sheet pile retaining wall adjacent to the roadway.

Project: County Line Road – South Dixie Highway to State Line- Will County

Description: Pavement Rehabilitation

Scope: SEECO performed Pavement Coring, Laboratory Testing & Engineering & Analysis for the proposed improvements of County Line Road.

Project: River Road – I-55 to Rt 53 and Hoff Rd – Rt 53 to Wauponsee Trail- Will County

Description: Pavement Rehabilitation

Scope: SEECO performed Pavement Cores with soil borings& Engineering and Analysis for the proposed improvements of sections for both roadways.

Project: Will County Courthouse Parking Lots- Joliet, IL

Description: Pavement Reconstruction

Scope: SEECO performed Geotechnical Exploration and Engineering and Analysis for the proposed parking lot reconstruction as part of the new Court House.

Project: Will County Morgue- Joliet, IL

Description: Construction of new Morgue/Coroner Facility

Scope: SEECO provided soils, concrete, masonry, steel and asphalt testing and inspection services during construction

Project: Will County Animal Protection Services Facility - Joliet, IL

Description: Construction of new Animal Control Facility

Scope: SEECO provided soils, concrete, masonry, steel and asphalt testing and inspection services during construction

Project: Will County Health Department Facility -Joliet, IL

Description: Construction of new Health Department Building

Scope: SEECO provided soils, concrete, masonry, steel and asphalt testing and inspection services during construction

Representative Recent Governmental Project Listing

Geotechnical Engineering

Watermain/Sewer Projects –

Drendel Drainage Project	Downers Grove
Lake Marian	Carpentersville
Various Locations	Lockport
Durham Road	St. Charles
Various Locations	Bensenville
Various Locations	Hinsdale
Various Locations	Fox Lake
Various Locations	Joliet
Various Locations	North Chicago
Various Locations	Lombard
Various Locations	Crestwood
Various Locations	Glen Ellyn

WWTP Improvements/Lift Stations/Water Storage –

Batavia	Rolling Meadows
Roselle	St. Charles
Channahon	Crest Hill
West Chicago	Joliet
Roselle	Lombard
Glenbard	Glen Ellyn
North Chicago	DuPage County

Pavement Improvements –

Lockport	Channahon	Downers Grove	Burbank
North Chicago	Orland Park	Westmont	Berwyn
Palatine	Lake County	Shorewood	Lemont
Bensenville	Lombard	Crest Hill	North Riverside
Joliet	Glen Ellyn	Cicero	Countryside
Warrenville	Milton Township		

Buildings –

New City Hall/Police Station	Countryside
New Fire Stations	Rolling Meadows
Various Fire Stations, Schools, Libraries	City of Chicago
Limestone School	Herscher
Public Works Facility	Westmont
Public Works Facility	Crest Hill

Materials Testing –

Various Municipal Infrastructure Projects

Downers Grove	Elmhurst
Lombard	Palatine
Countryside	Bensenville
Joliet	Burbank
Lockport	Hodgkins
Lyons	Summit
Lemont	Oak Forest
Bedford Park	Palos Heights
Cicero	Berwyn
North Chicago	Stickney
Orland Park	North Riverside
Homewood	Park Forest
River Forest	Warrenville

Various Township Projects

Downers Grove	Palos
Milton	Wayne
Lemont	Naperville

Various Structures –

Schools, Libraries and Park Facilities	Public Building Commission of Chicago
New VA Facility	Chicago
New City Hall	Countryside
WWTP	Batavia
Courthouse	Joliet
Schools	Plainfield
Fire Station	Rolling Meadows

Environmental Engineering Projects

PESAs

Read St.	Lockport
Egyptian Trail	Monee
Custer Ave.	Lyons
Springfield Dr.	Bloomingdale
East Branch Trail	Bloomingdale
Great Western Trail	Lombard
Indian Boundary Road	Channahon
West Bridge St. Multi-Use Path	Channahon
Dove/Sioux Roadway	Channahon
Ridgeland Ave.	Palos Heights
Crete Road	Crete
East Ave.	Hodgkins
147th & Ravinia	Orland Park
183rd & Oak Park	Tinley Park
Illinois Street	Lemont
Midlothian Turnpike	Crestwood
Wolf Road Bike Path	Western Springs
Joliet Ave.	Lyons
Acacia Drive	Indianhead Park

PSIs

North & MacGregor	Lockport
Winchester Ave.	Lisle
Egyptian Trail	Monee
Brainard Ave.	Countryside
Cermak Road	North Riverside
Joliet Road	Countryside

CCDD Disposal Certifications

CCDD Certifications (LPC 662 and LPC 663) for numerous municipal projects throughout the six (6) county Chicago area, including the following municipalities:

Westmont	Glen Ellyn
Lombard	Palatine
Countryside	Bensenville
Joliet	Burbank
Lockport	Hodgkins
Lyons	Summit
Lemont	Oak Forest
Bedford Park	Palos Heights
Cicero	Berwyn
North Chicago	Stickney
Orland Park	North Riverside
Homewood	Park Forest
River Forest	Warrenville
Lombard	Countryside
Fox Lake	Mount Prospect

Representative Bike/Pedestrian Path Projects

Wolf Road Pedestrian Path-Ogden to 31st Street – Western Springs, IL

East Branch Bike Path- Bloomingdale, IL

Springfield Drive Bike Path- Bloomingdale, IL

Irving Park Road at Meacham- Bike Path- Schaumburg, IL

119th and Drauden Pedestrian Path – Plainfield, IL

First Avenue Pedestrian Path – North Riverside, IL

Ridgeland Avenue Pedestrian Path – Palos Heights, IL

Services included:

PESAs

Phase 1 Assessments

Geotechnical Studies

CCDD Disposal Certifications

Construction QA Services

CORPORATE REFERENCES

A/E Firms

Bollinger Lach & Associates
Mr. Dan Bruckelmeyer, PE (630) 438-6400

Tria Architecture
Mr. Jim Petrakos, AIA (630) 455-4500

Trotter and Associates
Mr. Steve Cieslica, PE (630) 587-0470

Morris Engineering
Mr. Al Rugienius, P.E. (630) 271-0770

HR Green
Mr. Scott Creech (815) 462-9324

Municipalities/Governmental

City of Joliet
Ms. Alison Swisher (630) 724-4220

Village of Tinley Park
Ms. Darlene Milanowicz (708) 444-5548

Village of Plainfield
Mr. Arlan Schattke (815) 230-2036

Village of Homewood
Mr. Max Massi. (708) 206-2909

IDOT

IDOT Materials
Mr. George Houston, PE (847) 705-4337

IDOT Geotechnical
Mr. Giancarlo Gierbolini, P.E. (847) 705-4003

MWRDGC

Mr. Dennis Bilik, P.E. (708) 588-4211

RESUMES

SEECO Consultants, Inc.

NAME: Collin W. Gray, S.E., P.E.

TITLE: Project Manager/Principal Engineer

YEARS EXPERIENCE WITH THIS FIRM: 56
YEARS EXPERIENCE WITH OTHER FIRMS: 3

EDUCATION: B.S.C.E. 1965 University of Notre Dame, Civil Engineering
M.S.C.E. 1967 University of Notre Dame, Geotechnical Engineering

ACTIVE REGISTRATION: P.E. 1970 Civil Engineering, Illinois, Indiana
S.E. 1971 Structural Engineering, Illinois
P.E. 2010 Civil Engineering - Wisconsin

RELEVANT TRAINING: Groundwater Contamination Management for Industry, National Water Well Association, 1990
Aeration Technologies, Environmental Education Enterprises, 1994
Bioremediation of Organic Constituents in Soil & Groundwater, National Groundwater Association, 1993

EXPERIENCE:

Mr. Gray has over 59 years of experience in engineering including 56 years' experience as a Principal of SEECO Consultants. His extensive experience includes building foundation engineering, marine site development involving reinforced earth design, dam and foundation design, landfill closure, construction management, pavement design; environmental investigations (Phase I, Phase II and Risk Assessment, Remedial Investigation/Feasibility Studies), Remedial Design and closure of sites regulated by various state and federal agencies, construction material testing and inspection projects; investigation, analysis and design of deep foundations, tunnels and underground openings. Mr. Gray is an expert Foundation Geotech/Structural Engineer and a Forensic Engineering Specialist.

As the President of the company, Mr. Gray is responsible for management and the performance of the company, market trends, regulations and new technologies and is actively involved in all phases of SEECO's consulting services. He is well known in the Engineering Industry for the quality work provided by the company and his attention to detail. Mr. Gray directs Property Condition Assessments and reviews and signs each report prepared by SEECO Consultants.

-Village of Downers Grove-Various Projects 2009, 2011-Present

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Mattoon Elevated 1MG Water Tank – Mattoon, IL

-CTA Track Failure Forensic Investigation-Skokie, IL

-Illinois Veterans Home – Chicago, IL

-City of Lockport – Various Geotechnical, Construction Materials & Environmental Projects

-Village of Plainfield – Various Geotechnical, Construction Materials & Environmental Projects

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-Forest Avenue Bridge – Highland Park, I

-PESA-Egyptian Trail – Crete, IL

-IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract

-MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2023

-IDOT PTB 155-51 District 6 Geotechnical Contract

-Goodenow Grove Bridges, Will County, IL – Geotechnical Investigation

-Rt. 53 and Madison Avenue, Lombard, IL – Geotechnical Investigation

-PSB 131/5 – Various Geotechnical Projects, District 1 – Geotechnical Investigation

-183rd Street Extension – Tinley Park, IL – Geotechnical Investigation

-Jackson Bridge and Creek Realignment – Frankfort, IL – Geotechnical Investigation and Construction

-LaPorte Road – Mokena, IL – Geotechnical Investigation and Construction

-Dralle Road – University Park, IL – Geotechnical Investigation

-Milne Creek Retaining Wall – Lockport, IL – Geotechnical Investigation

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-Fullerton Bridge Replacement – Addison, IL – QA

-127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Nathan Hale School – Chicago, IL

-Higgins Elementary School – Chicago, IL

-St. Charles WTP Improvements – St. Charles, IL

-Lockport WWTP Expansion – Lockport, IL

-Lake Street Studios – Chicago, IL

-Lagoon 8 – Calumet WRP – MWRDGC

-Disinfection Facility – Calumet and Northside WRP – MWRDGC

-Electrical Storage Building – Stickney WRP – MWRDGC

-Data Storage Buildings – Egan and Stickney WRP- MWRDGC

-VA Home – Chicago, IL

-Village of Lombard-Various Projects 2007-present

-Village of Plainfield –Various Projects

-Westmont Annual MFT Program

-Lisle Township Street Program

-Downers Grove Township Roadways Projects

-Downers Grove Park District Improvements - Various Projects

-School District 99 - Downers Grove North and South High School – Geotechnical

-Downers Grove Sanitary District Improvements

-Plainfield School District 202, two (2) elementary school sites and a high school site, Plainfield and Bolingbrook, Illinois. Phase I environmental site assessment and nearby quarry blasting noise study

-Capital Development Board, State of Illinois, underground storage tank management, ten sites throughout the State

- U.S. Army Corps of Engineers, Calumet Harbor Breakwater Major Rehabilitation, Subsurface Investigation (Marine Borings) and Engineering Analysis, Contract No. DACW23-87-D-0014

SEECO CONSULTANTS INC.

NAME: Donald C. Cassier

TITLE: Project Coordinator

YEARS EXPERIENCE WITH THIS FIRM: 36
YEARS EXPERIENCE WITH OTHER FIRMS: 9

EDUCATION: Illinois Institute of Technology, Civil Engineering
Environmental Drilling Technology, University of Wisconsin, 1991

ACTIVE REGISTRATION: American Concrete Institute
American Public Works Association

EXPERIENCE:

Mr. Cassier is responsible for coordinating SEECO's field services including soil and rock drilling, construction observation and testing of commercial, residential, industrial and transportation projects and environmental testing, drilling and monitoring well installation.

Mr. Cassier's expertise in construction inspection is relied upon during all construction projects. His knowledge of construction techniques allows him to discern areas of potential environmental concern and he is able to provide practical solutions to the potential problems from a constructability standpoint. His field expertise includes performing soil, rock drilling and well installations, soils, concrete, asphalt, structural steel and fireproofing testing, and construction staking, layout and verified as built quantities.

His expertise in field explorations and sampling techniques allows SEECO to develop workable solutions to even the most novel sampling situation. Familiar with numerous drilling and sampling procedures, he is able to develop work plans that address each project's specific needs. He also has spearheaded the fore front of SEECO's work on numerous CCDD LPC 663 site certification projects.

His general project experience includes:

-Village of Downers Grove-Various Projects 2009, 2011-Present

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Mattoon Elevated 1MG Water Tank – Mattoon, IL

-PESA – 183rd and Oak Park – Tinley Park, IL

-PESA – East Avenue – Hodgkins, IL

-CTA Track Failure Forensic Investigation-Skokie, IL

-Illinois Veterans Home – Chicago, IL

-City of Lockport – Various Geotechnical, Construction Materials & Environmental Projects

-Village of Plainfield – Various Geotechnical, Construction Materials & Environmental Projects

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-Forest Avenue Bridge – Highland Park, IL

-PESA-Egyptian Trail – Crete, IL

-IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract

-MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2023

-IDOT PTB 155-51 District 6 Geotechnical Contract

-Goodenow Grove Bridges, Will County, IL – Geotechnical Investigation

-Rt. 53 and Madison Avenue, Lombard, IL – Geotechnical Investigation

-PSB 131/5 – Various Geotechnical Projects, District 1 – Geotechnical Investigation

-183rd Street Extension – Tinley Park, IL – Geotechnical Investigation

-Jackson Bridge and Creek Realignment – Frankfort, IL – Geotechnical Investigation and Construction

-LaPorte Road – Mokena, IL – Geotechnical Investigation and Construction

-Dralle Road – University Park, IL – Geotechnical Investigation

-Milne Creek Retaining Wall – Lockport, IL – Geotechnical Investigation

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-Fullerton Bridge Replacement – Addison, IL – QA

127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Nathan Hale School – Chicago, IL

-Higgins Elementary School – Chicago, IL

-St. Charles WTP Improvements – St. Charles, IL

-Lockport WWTP Expansion – Lockport, IL

-Lake Street Studios – Chicago, IL

-Lyons MFT Program

-Hodgkins MFT Program

-Countryside MFT Program

-Bedford Park MFT Program

-Cicero MFT Program

-Burbank MFT Program

-PESA – 183rd and Oak Park – Tinley Park, IL

-PESA – East Avenue – Hodgkins, IL

-Southwest Area High School – Chicago, IL

-Green Valley WWTP Improvements – DuPage County, IL

-75th Street Improvements – Woodridge – Darien – Downers Grove

-Joliet Park District Soccer Facility – Joliet, IL

-VA Home – Chicago, IL

-Village of Lombard-Various Projects 2007-present

-Village of Plainfield –Various Projects

--CCDD Source Site Certification for LPC 663 Forms—Downers Grove Sanitary District, Elmhurst Hospital, Commercial Developments and various municipalities including Westmont, Lombard, Countryside, Cicero, Algonquin, Glenview, Hodgkins, Bedford Park, Lemont, Burbank, Summit, Lyons, McCook and Union.

SEECO Consultants, Inc.

NAME: Tony Chen, PhD, P.E.

TITLE: Field Engineer

YEARS EXPERIENCE WITH THIS FIRM: 22
YEARS EXPERIENCE WITH OTHER FIRMS: 20

EDUCATION: Bachelors of Civil Engineering - Tamkang University, Taiwan, 1973
M.S. Civil, University of Idaho, 1991
PhD -Civil Engineering, Michigan Tech, Michigan, 1991

REGISTRATION: P.E. – Michigan
IDOT Documentation 2/12/15
IDOT Level III Bituminous and Aggregate Inspector 1/03

EXPERIENCE:

Dr. Chen is an experienced materials engineer. He is responsible for conducting SEECO's materials laboratory testing and field inspections.

His responsibilities include bituminous and concrete plant, field and laboratory testing, field and laboratory testing of soils and aggregates. He provides expertise on all of SEECO's construction materials testing projects.

Dr. Chen is an experienced geotechnical engineer whose broad level of expertise transcends two continents. His expertise includes slope stability analysis for embankments and structures, dam and retaining wall design, foundation design parameters for shallow and deep foundations supporting single story to multi story high rise buildings, as well as geotechnical engineering application of physical laboratory data. His work duties include analysis and design parameters for roadway embankment investigations.

Dr. Chen is proficient in geotechnical site investigations and in-situ testing methods, procedures and data collection. His exhaustive background in computer applications is utilized for data reduction and analysis, including modeling efforts. His field experience includes drilling, logging and rig supervision, pressuremeter testing, vane shear testing and various soil sampling techniques.

A partial listing of his work experience includes:

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-City of Lockport – Various Geotechnical, Construction Materials & Environmental Projects

-Village of Westmont – Various Geotechnical, Construction Materials & Environmental Projects

-Fullerton Bridge Replacement – Addison, IL – QA

127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Village of Downers Grove-Various Projects 2009, 2011-Present

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Mattoon Elevated 1MG Water Tank – Mattoon, IL

-Illinois Veterans Home – Chicago, IL

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract

-MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2023

-PSB 131/5 – Various Geotechnical Projects, District 1 – Geotechnical Investigation

-183rd Street Extension – Tinley Park, IL – Geotechnical Investigation

-Jackson Bridge and Creek Realignment – Frankfort, IL – Geotechnical Investigation and Construction

-LaPorte Road – Mokena, IL – Geotechnical Investigation and Construction

-Dralle Road – University Park, IL – Geotechnical Investigation

-Milne Creek Retaining Wall – Lockport, IL – Geotechnical Investigation

-Lake Street Studios – Chicago, IL

-Lyons MFT Program

-Hodgkins MFT Program

-Countryside MFT Program

-Bedford Park MFT Program

-Cicero MFT Program

-Burbank MFT Program

-Fullerton Avenue Bridge over Salt Creek – Addison, IL

-Southwest Area High School – Chicago, IL

-75th Street Improvements – Woodridge – Darien – Downers Grove

-Joliet Park District Soccer Facility – Joliet, IL

-Village of Lombard-Various Projects 2007-present

-Village of Plainfield –Various Projects

-Westmont MFT Project -

-Oak Park Avenue Reconstruction, Tinley Park, IL -

-Downers Grove Township Street Program - HMA Plant and Laboratory Testing

-2002 MFT Street Program, Tinley Park, IL - HMA Plant and Laboratory Testing

-Lemont Township Street Program - HMA Plant and Laboratory Testing

-Route 14 Reconstruction, Palatine, IL - Laboratory Sieve Analysis.

-Woodridge Community Center - Geotechnical

-2002 MFT Street Resurfacing, Olympia Fields, IL - HMA Nuclear Field Density Testing

-2002 MFT Street Resurfacing, Beecher, IL - HMA Plant Proportioning

-Lockport Master Sewer, Lockport, IL - Geotechnical Investigation

-Edgewater Condominiums, Tinley Park, IL - Geotechnical Investigation

-Uncle Julio□s Restaurant, Lombard, IL - Geotechnical Investigation

-St. Peter Claver, Robbins, IL - Geotechnical Investigation

-Dralle Road, University Park, IL - Geotechnical Investigation

SEECO Consultants, Inc.

NAME: Patrick Gray

TITLE: Senior Field Technician

YEARS EXPERIENCE WITH THIS FIRM: 30

EDUCATION: Bachelors of Science Degree, Accounting, Lewis University, 1996

ACTIVE REGISTRATION:
IDOT Bituminous Proportioning
IDOT Aggregate
IDOT PCC Level 1, 2 & 3
IDOT Bituminous Level 1, 2 & 3
ACI Concrete Field Testing Technician - Grade 1

EXPERIENCE:

Mr. Gray is an experienced engineering technician proficient in roadway, bridge and building construction material testing and Quality Control in soils, fireproofing, asphalt and masonry construction. In addition, Mr. Gray's duties also include borehole logging.

His general project experience includes:

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-Fullerton Bridge Replacement – Addison, IL – QA

127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Village of Downers Grove-Various Projects 2009, 2011-Present

-City of Lockport – Various Geotechnical, Construction Materials & Environmental Projects

-Village of Westmont Various Geotechnical, Construction Materials & Environmental Projects

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Illinois Veterans Home – Chicago, IL

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-Forest Avenue Bridge – Highland Park, I

-IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract

-MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2023

-IDOT PTB 155-51 District 6 Geotechnical Contract

-Goodenow Grove Bridges, Will County, IL – Geotechnical Investigation

-Rt. 53 and Madison Avenue, Lombard, IL – Geotechnical Investigation

-Nathan Hale School – Chicago, IL

-Higgins Elementary School – Chicago, IL

-St. Charles WTP Improvements – St. Charles, IL

-Lockport WWTP Expansion – Lockport, IL

-Lake Street Studios – Chicago, IL

-Lyons MFT Program

-Hodgkins MFT Program

-Countryside MFT Program

-Bedford Park MFT Program

-Cicero MFT Program

-Burbank MFT Program

-Fullerton Avenue Bridge over Salt Creek – Addison, IL

-Palos Township Annual Street Program

-Naperville Township Annual Street Program

SEECO Consultants, Inc.

NAME: Garrett W. Gray, P.E.

TITLE: Project Geotechnical/Environmental/Construction Engineer

YEARS EXPERIENCE WITH THIS FIRM: 30

EDUCATION: B.S.E.E. 1996 University of Notre Dame, Environmental Engineering
M.S.C.E. 1998 Iowa State University, Geotechnical/Environmental Engineering
M.B.A. 2018 St. Xavier University

ACTIVE REGISTRATION: P.E., State of Illinois, 2008
P.E. State of Indiana 2022
IDOT Documentation 2/12/15
IDOT PCC – 1, 2, 3
IDOT BIT – 1, 2, 3
IDOT Soils – S33

EXPERIENCE:

Mr. Garrett Gray is a Project Engineer for SEECO Consultants. He has also worked as a field engineer logging boreholes and logging monitoring well installations. He has extensive experience in field and laboratory testing of soils, concrete and asphalt. Mr. Gray's experience with environmental services includes sampling and assessment design, remedial design, cost analysis and oversight for both special and hazardous waste projects. His experience includes the following:

-Village of Downers Grove-Various Projects 2009, 2011-Present

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Mattoon Elevated 1MG Water Tank – Mattoon, IL

-CTA Track Failure Forensic Investigation-Skokie, IL

-Illinois Veterans Home – Chicago, IL

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-Forest Avenue Bridge – Highland Park, I

-IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract

-MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2023

-IDOT PTB 155-51 District 6 Geotechnical Contract

-Goodenow Grove Bridges, Will County, IL – Geotechnical Investigation

-Rt. 53 and Madison Avenue, Lombard, IL – Geotechnical Investigation

-City of Lockport – Various Geotechnical, Construction Materials & Environmental Projects

-Village of Plainfield – Various Geotechnical, Construction Materials & Environmental Projects

-PSB 131/5 – Various Geotechnical Projects, District 1 – Geotechnical Investigation

-183rd Street Extension – Tinley Park, IL – Geotechnical Investigation

-Jackson Bridge and Creek Realignment – Frankfort, IL – Geotechnical Investigation and Construction

-LaPorte Road – Mokena, IL – Geotechnical Investigation and Construction

-Dralle Road – University Park, IL – Geotechnical Investigation

-Milne Creek Retaining Wall – Lockport, IL – Geotechnical Investigation

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-Fullerton Bridge Replacement – Addison, IL – QA

127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Nathan Hale School – Chicago, IL

-Higgins Elementary School – Chicago, IL

-St. Charles WTP Improvements – St. Charles, IL

-Lockport WWTP Expansion – Lockport, IL

-Lake Street Studios – Chicago, IL

-Lyons MFT Program

-Hodgkins MFT Program

-Countryside MFT Program

-Marketability Study - LASMA McCook Reservoir Project

-Downers Grove Sanitary District Improvements

-School District 99 - Downers Grove North and South High Schools - Geotechnical

-Concrete Testing and Inspection, 1998 and 1999, 2005-2007, 2008-2017 - MWRDGC

-Lagoon 29 - LASMA

-Tony Bettenhausen Park and Recreation Center, Tinley Park, IL - Geotech & Construction

-3631 N. Halsted, Chicago, IL - Geotech & Construction

-Our Lady of Victory Convent, Lemont, IL - Geotech & Construction Inspection

-St. Ailbe II, Chicago, IL - Construction

-135th Street Bridge, Romeoville, IL – Geotechnical

SEECO CONSULTANTS INC.

NAME: Michael M. Cassidy

TITLE: Supervising Technician

YEARS EXPERIENCE WITH THIS FIRM: 21
YEARS EXPERIENCE WITH OTHER FIRMS: 16

EDUCATION: B.S. 1989, Slippery Rock University, Pennsylvania, Physics

ACTIVE REGISTRATION: Colorado Laboratory for Certification of Asphalt Technician (LabCAT) Levels: A-Laydown, B-Plant Materials Control, C-Volumetrics and Stability, D-Smoothness, E-Aggregates; Wyoming DOT: Asphalt Concrete, Aggregates, Soils
American Concrete Institute: Concrete Strength Testing

RELEVANT TRAINING:
Superpave Mixture Design, Asphalt Institute
Troxler Radiological Safety
Troxler Radiation Safety Officer
HAZMAT Certification
IDOT Soil Subgrade Stability
IDOT Geotechnical Field Testing and Inspection

PUBLICATIONS: *ASTM STP 1378 Hot Mix Asphalt Construction: Certification and Accreditation Programs:* Michael M. Cassidy, Scott A. Conner "Asphalt Technician Certification: The Rocky Mountain Way", *pp. 11-22, December 1998*

AFFILIATIONS: American Society for Testing and Materials, Member

EXPERIENCE:

Mr. Cassidy supervises and schedules field engineers and technicians in the field and laboratory. Mr. Cassidy has over 25 years of experience in Construction Materials Testing and Inspection Services. For the past five years, Mr. Cassidy has been involved in the oversight of field and laboratory construction materials testing and QC/QA construction inspections. Mr. Cassidy's responsibilities include maintenance of SEECO's Quality System, staff training and evaluation, determining testing frequencies and procedures, report review, data reduction and initial technical review. A partial listing of his work experience includes:
His background includes extensive training in Soil Mechanics, Construction and Material Testing.

His project experience includes:

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-City of Lockport – Various Geotechnical and Construction Materials Projects

-Village of Westmont – Various Geotechnical and Construction Materials Projects

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-Fullerton Bridge Replacement – Addison, IL – QA

127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Village of Downers Grove-Various Projects 2009, 2011-Present

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Mattoon Elevated 1MG Water Tank – Mattoon, IL

-Illinois Veterans Home – Chicago, IL

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2023

-IDOT PTB 155-51 District 6 Geotechnical Contract

-Goodenow Grove Bridges, Will County, IL – Geotechnical Investigation

-Rt. 53 and Madison Avenue, Lombard, IL – Geotechnical Investigation

-PSB 131/5 – Various Geotechnical Projects, District 1 – Geotechnical Investigation

-183rd Street Extension – Tinley Park, IL – Geotechnical Investigation

-Jackson Bridge and Creek Realignment – Frankfort, IL – Geotechnical Investigation and Construction

-LaPorte Road – Mokena, IL – Geotechnical Investigation and Construction

-Dralle Road – University Park, IL – Geotechnical Investigation

-Milne Creek Retaining Wall – Lockport, IL – Geotechnical Investigation

-Nathan Hale School – Chicago, IL

-Higgins Elementary School – Chicago, IL

-St. Charles WTP Improvements – St. Charles, IL

-Lyons MFT Program

-Hodgkins MFT Program

-Countryside MFT Program

-Bedford Park MFT Program

-Cicero MFT Program

-Burbank MFT Program

-Fullerton Avenue Bridge over Salt Creek – Addison, IL

-Palos Township Annual Street Program

-Naperville Township Annual Street Program

-Lemont Township Annual Street Program

-Milton Township Annual Street Program

-Village of Lombard-Various Projects 2007-present

-Village of Plainfield –Various Projects

-Westmont MFT Project -

-Oak Park Avenue Reconstruction, Tinley Park, IL -

-Downers Grove Township Street Program - HMA Plant and Laboratory Testing

-2008-2011 MWRDGC Concrete Inspection and Testing Contract

-2005-2007 MWRDGC Concrete Inspection and Testing Contract

-Frankfort WWTP Expansion, Frankfort, Illinois

-Lockport WWTP Expansion, Lockport, Illinois

-DuPage Water Commission – Metering Stations and Transmission Lines, Various Locations – Construction Observation Inspection, Field and Laboratory Testing

SEECO Consultants, Inc.

NAME: Jeronimo S. Cabal

YEARS EXPERIENCE WITH THIS FIRM: 23
YEARS EXPERIENCE WITH OTHER FIRMS: 11

EDUCATION: B.S.C.E. 1990, St. Louis University, Baguio City, Philippines

ACTIVE REGISTRATION: IDOT Soil Subgrade Stability Course
IDOT Aggregate Course
IDOT Bituminous Proportioning
IDOT PCC Levels I, II and III
IDOT Bituminous Level I, II and III
ACI Concrete Field Testing Technician - Grade I
ACI Concrete Mix Design, Grade II

EXPERIENCE:

Mr. Cabal's background includes construction inspection, laboratory testing, and surveying. His experience includes soil, concrete, steel and asphalt testing and analysis of the data relative to Construction Material and Inspection Services. His expertise includes construction observation and field testing and analysis, caisson and pile inspections as well as routine soil, concrete and asphalt laboratory data.

His background includes extensive training in Soil Mechanics, Construction and Material Testing. His project experience includes:

-Schaumburg Road & Barrington Road – Schaumburg, IL – QA

-Claire Blvd. – Robbins, IL – QA

-96th Ave. Reconstruction – Palos Heights, IL – QA

-IL Rte. 53 & University Rd. – Romeoville, IL – QA

-Short Street Bridge – Lisle, IL – QA

-Green St. – Bensenville, IL – QA

-Garfield St. Reconstruction – Lockport, IL – QA

-Fullerton Bridge Replacement – Addison, IL – QA

127th & Sacramento – Blue Island, IL – QA

-143rd St. – Homer Glen, IL - QA

-Village of Downers Grove-Various Projects 2009, 2011-Present

-City of Lockport – Various Geotechnical, Construction Materials & Environmental Projects

-Village of Westmont – Various Geotechnical, Construction Materials & Environmental Projects

-Jefferson Street Corridor Watermain Corrosion Study – Bensenville

-Mattoon Elevated 1MG Water Tank – Mattoon, IL

-PESA – 183rd and Oak Park – Tinley Park, IL

-PESA – East Avenue – Hodgkins, IL

-CTA Track Failure Forensic Investigation-Skokie, IL

-Illinois Veterans Home – Chicago, IL

-River and Roberts Roundabout – Lake County, IL Geotechnical Investigation & Construction

-Williams and Harrison Elementary School, 1101 Harrison Avenue, Joliet, IL – Rock Excavation inspection, earthwork, field density testing and proofrolling

-Riverside Medical Center, 350 North Wall Street, Kankakee, Illinois – Rock excavation inspection, concrete inspection and testing and fireproofing inspection and testing

-Extra Space Storage Building, Blue Island, Illinois – Soil, Concrete and Asphalt
-Fisher House VA, Hines, Illinois – Soil, Concrete and Steel

-LaGrange Library – Soil, Foundations Concrete, Asphalt and Steel

-Plainfield School District 202 – Various Projects for different Schools– Foundations, Concrete, Asphalt, Structural Steel.

-Anton Dvorak Elementary Specialty Academy, Chicago, Illinois for Chicago Public Schools- Foundations, Concrete, Asphalt

-MWRDGC - Concrete Testing and Inspection – 2006- 2009-2012

-New Lenox Village Hall – Soil, Foundations Concrete, Asphalt and Steel

-St. Brendan Assisted Living – Soil, Foundations Concrete, Asphalt and Steel

-St. Casmir Cemetery Mausoleum – Soil, Foundations Concrete, Asphalt and Steel

-Salvation Army Building, Chicago, Illinois – Soil, Concrete, Asphalt, High Strength Bolt

-Delnor Hospital, Geneva, Illinois – Soil, Concrete, Asphalt and Fireproofing

SEECO CONSULTANTS INC.

NAME: Cocou Davis Ruben Aza-Gnandji

TITLE: Staff Geotechnical Engineer

YEARS EXPERIENCE WITH THIS FIRM: **1**
YEARS EXPERIENCE WITH OTHER FIRMS: 19

EDUCATION: B.S.C.E. 2005 University of Abomey-Calavi (UAC)- Benin
M.S.C.E. 2014 University of Capetown (UCT) – South Arica
M.S.C.E. 2020 Purdue University- West Lafayette, IN
PhD. 2025 Geotechnical Engineering University of Illinois, Urbana, IL

EXPERIENCE:

Mr. Aza-Gnandji has worked field and research engineer and currently is a staff geotechnical engineer writing reports for retaining walls, buildings and roadways. He has experience logging boreholes. He also is familiar with the preparation of LPC Forms for disposal. He has extensive experience performing geotechnical laboratory tests.

A partial listing of his projects:

Theodore Street Retaining Wall – Crest Hill, IL

Joliet Alternative Water Source-
- Romeoville Transmission Line
- Crest Hill Transmission Line
- Storage Tanks – Joliet
- Transmission Line – Shorewood, IL
- Pumping Stations – Joliet

51st Street Reconstruction – Western Springs, IL

Maintenance Building Addition– St. Joseph Cemetery – River Grove, IL

Numerous Fast Service Restaurants

Industrial Drive- Bensenville, IL

Commonweath Drive – Western Springs, IL

Camelot WWTP Excess Flow Pond – Shorewood, IL

Crystal Lake WWTP Upgrades

AFFILIATE COMPANY

SEECO Environmental Services, Inc. (SES)

SEECO Environmental Services, Inc. (SES) is a full service environmental consulting firm that was established in 1991. The company was created to provide environmental investigations, environmental engineering remediation design and cleanups and consulting services for our clients in the Midwest.

In the 1980's, environmental services were provided by SEECO Consultants and centered around Phase I environmental site assessments, Phase II subsurface investigations and underground storage tank management and closures and RCRA closures, some of which were associated with civil engineering projects. SEECO Consultants also provided investigations and monitoring for industrial clients, landfill facilities and municipalities.

Environmental services and capabilities were expanded to accommodate the increasing needs of industrial clients (air quality modeling and permitting, asbestos abatement and removal, NPDES permits, SPCC plans, site remediation, RCRA compliance, SARA Title III), lenders (Phase I and Phase II assessments), developers (Phase I and Phase II assessments and site remediation), various commercial businesses (Phase I ESAs, combination geotechnical/Phase II subsurface investigations) and federal, state and local government agencies. SES was established with this expansion in mind.

Hydropunch groundwater sampling equipment and direct push technology were added to the drilling equipment and capabilities in 1991 and 1995, respectively. Operating our own drill rigs presents a two-fold advantage over many of our competitors: We can schedule a drill rig for on-site work immediately, and we are able to closely monitor and control our drilling teams and the quality of the samples and data collected. This flexibility is not possible with many other environmental firms which subcontract their required drilling services.

SES has a mobile laboratory with a portable gas chromatograph for analyzing benzene, toluene, ethylbenzene, and xylenes (BTEX) and volatile organic compounds (VOCs) to expedite investigation, reporting and closure of leaking underground storage tanks (LUST) sites and remediation at industrial sites for our clients. On-site analyses can significantly reduce the amount of time and analytical costs for large remediation projects or projects where time is a critical factor and accelerated site characterization has been chosen to expedite corrective action at a contaminated site.

SEECO Consultants, Inc. and SES have the capacity to provide our clients with combination geotechnical/environmental investigations and services. This capacity allows SEECO to supply the client with a coordinated multi-disciplinary investigation team that results in reduced investigation and engineering report costs for any particular project.