

Construction Monitoring &
Observations

Construction Materials Testing

Tunnels and Underground Openings

Geotechnical Engineering &
Evaluation

SEECO Consultants Inc.
CONSULTING ENGINEERS

Subsurface Explorations

Foundation Analysis & Design

Structural Rehabilitation
Condition Surveys

Dams and Drainage Studies

OVER 45 YEARS OF SERVICE

FOUNDED IN 1970

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION.....	1
GEOTECHNICAL AND CONSTRUCTION FIELD SERVICES	3
Geotechnical Engineering Services.....	3
Construction Field Services.....	3
Special Engineering Services.....	5
SERVICE CAPABILITIES	5
Construction Services.....	5
Field and Laboratory Quality Control Services.....	5
Engineering Analysis, Reports and Design.....	5
Foundations and Embankments	5
Structure Evaluation Services.....	6
Special Engineering Services	6
DRILL, RIGS AND EQUIPMENT	6
LABORATORY CAPABILITIES.....	10
PROJECT EXPERIENCE	11
REFERENCES.....	20
RESUMES	21
AFFILIATE COMPANY	47

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 seven (7) 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

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 accessibility.

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 strata 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 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:

<u>Type</u>	<u>Make</u>	<u>Auger Capabilities</u>
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 Cathed 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.	

LABORATORY CAPABILITIES

SEECO has been providing reliable geotechnical testing services for over 45 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.

PROJECT 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: 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: 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.

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.

CLIENT: Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
PROJECT: North and South Area Data Centers – Egan WRP – Schaumburg, IL and Stickney Contract No. 10-887-3V

Geotechnical studies for 2 new Data Center buildings, one each at the Egan and Stickney WRPs. Each building proposed consisted of masonry one story slab on grade construction. Due to soft soils encountered to depths of 16 feet below existing grade, the Stickney location was recommended to utilize either an excavate/refill, rammed aggregate piers or caisson foundations. Spread footings were recommended for the Egan location. The Egan location is currently part of a protected prairie grass restoration area.

CLIENT: Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
PROJECT: Disinfection Facility – Calumet WRP, Chicago, IL Contract No. 11-241-3P

Geotechnical study proposed new Disinfection Center. 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. Conventional spread footings were recommended as the

foundation alternative. Factors addressed included the existing drainage ditch that bisected the proposed building footprint.

CLIENT: Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
PROJECT: Disinfection Facility – Northside WRP, Skokie, IL Contract No. 11-054-3P

Geotechnical study for new Disinfection Facility in an undeveloped part of the Northside WRP. 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. Due to fill material and soft soils encountered, a deep foundation scheme was recommended to bear on either the hardpan or bedrock.

CLIENT: Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
PROJECT: Deepening and Lining of Lagoon 29 LASMA, Contract 96-129-2P

SEECO performed soil borings as part of the design phase for the proposed deepening and lining of Lagoon 29. 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 lined structure.

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: MWRDGC
PROJECT: Hanover Park Treatment Plant New Digester - Contract #91-503-2P

SEECO performed soil borings as part of the design of a new digester at the Hanover Park WWTP. The purpose of this exploration was to determine the bearing capacity of the soils for the support of the proposed new digester, as well as lateral earth pressure design parameters, backfill recommendations and dewatering issues.

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: 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: 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: 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: Metropolitan Water Reclamation District of Greater Chicago
TYPE OF PROJECT:
LOCATION: Grit Chamber/Screen House, Stickney, IL

As part of improvements to the Stickney Wastewater Treatment Plant, a new Grit Chamber/Screen House is being constructed adjacent to an existing 75 year old structure. SEECO’s involvement included monitoring the installation of the micropile supported underpinning of the 3 story masonry structure. SEECO determined the installation cutoff depths, documented all installation activities and monitored the pressure injection grouting of the micropiles. Additionally, the mixed onsite grout was tested for flowability and compressive strength.

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: 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: 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: Evergreen Realty Services
TYPE OF PROJECT: Geotechnical, Consultation
LOCATION: Sangamon Terrace, Chicago, IL

SEECO provided the Geotechnical Study, Foundation Design Consultation and Construction Materials Testing Services for a 4 story assisted living facility. Impact displacement aggregate piers were installed as a deep foundation alternative that minimized disposal of contaminated soils. The steel frame precast concrete building is in a contaminated soil area and SEECO recommended design alternatives to address minimizing costs, saving \$250,000 in disposal costs.

CLIENT: Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
TYPE OF PROJECT: Marketability Study
LOCATION: Lawndale Avenue Solids Management Area (LASMA), Lyons Township, Cook County, Illinois

SEECO completed the McCook Reservoir Overburden Marketability Study for the LASMA Property - Stage I, Stage II and Stage III for the MWRDGC. The project included 72 soil borings at the LASMA Site and 6 borings and 17 soil probes at a nearby potential storage area. The drilling program was designed to provide stratigraphic profiles of the soils and in-place volumes and tonnages of materials identified and quality (RQD) of the bedrock below the overburden. All

soils were tested and classified. Slope stability analyses were completed with a computer program to determine where the material could be stockpiled with the stockpile dimensions. Calculations included elastic or intermediate ground settlements. Cost estimates were included for seven (7) disposal schemes for the 8 million cubic yards of material at the site. The results of this study will be used for the overburden removal contract for the proposed McCook Reservoir of the TARP project.

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 tributary 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.

Approximately ten (10) sites were investigated during the two (2) year contract in 1991 and 1992. Our contract was then extended for another four (4) years (1993 to 1996).

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 pretensioning methods and installation.

Various other inspections included fireproofing, insulation, masonry and roofing.

CLIENT: Illinois State Toll Highway Authority (ISTHA)
TYPE OF PROJECT: Plaza 39 Expansion and Roadway Widening of I-294 Construction Quality Control Testing and Inspection
LOCATION: Cook County, Illinois

SEECO performed the construction quality control testing and inspection services for this project. Typical functions included plant inspection for precast concrete structures, bridge bearing production testing, shop inspection of fabricated steel structures, calibration of ready mix concrete and central batch plants, review of bituminous and PCC mix designs, bituminous and PCC plant inspection and testing, field compaction testing of subgrade, embankments, granular base and bituminous pavement courses.

CLIENT: Yoshino America Corporation
TYPE OF PROJECT: Manufacturing Plant Addition, Chicago Plant Expansion
Construction Quality Control Testing and Inspection
LOCATION: University Park, Illinois

SEECO performed the geotechnical engineering evaluation and construction quality control testing and inspection services for this project. Typical functions included mass earthwork monitoring and fill placement inspection and compaction testing, foundation excavation inspection and subgrade approval, monitoring of unsuitable soil removal, bituminous and PCC mix design review, concrete batch plant inspection, concrete reinforcement inspection, concrete placement inspection and testing, concrete floor slab flatness testing, structural steel inspection of welded and bolted connections, compaction testing of structural pad fill and pavement subgrade, granular base and bituminous concrete courses.

CLIENT: Folgers Architects and Facility Design
TYPE OF PROJECT: AON Corporation Parking Facility Expansion
Construction Quality Control Testing and Inspection
LOCATION: Chicago, Illinois

SEECO performed the typical functions including concrete mix design approval, prestress and post-tensioning concrete tendon profile inspection prior to concrete placement, inspection and testing of concrete during all concrete placement, review of prestress jack pressure gauge calibration, monitoring of post-tensioning procedures.

CLIENT: Foster Wheeler Constructors
TYPE OF PROJECT: New Resource Recovery Facility
Construction Quality Control Testing and Inspection
LOCATION: Robbins, Illinois

SEECO conducted the construction quality control testing and inspection services for this \$400,000,000 project. Foundation engineering inspection also by SEECO Consultants. Typical functions included backfill placement inspection and compaction testing, cast-in-place concrete inspection and testing, compressive strength testing of concrete cylinders and mortar inspection and testing.

CLIENT: U.S. Army Corps of Engineers
TYPE OF PROJECT: CUP-O'Hare Reservoir Project
Geotechnical/Hydrogeological Investigation and Design
LOCATION: Elk Grove Township, Cook County, Illinois

SEECO completed the geotechnical investigation and engineering analysis for the flood control retention reservoir at the terminal end of the O'Hare Tunnel System of TARP (Tunnel and Reservoir Plan) under Contract No. DACW-23-87-D-0014. At the time of this investigation, the vacant 94.6 acre site, owned by the MWRDGC and located on the north side of Higgins Road (Illinois Route 72) and west of Elmhurst Road and south of the Northwest Tollway (I-90), had illegal dumping of earth fill material, construction debris, assorted abandoned cars and miscellaneous junk. The site included two tributaries of Higgins Creek and approximately 23 acres of wetlands.

The scope of work included evaluation of subsurface aquifers, slope stability analysis for the proposed reservoir cut slopes, seepage analysis, under seepage control measures, dewatering considerations and anticipated construction problems. The cut slope stability analysis included end of construction, long term stability and sudden draw down conditions. The construction procedures included construction of a slurry trench cutoff wall, excavation methods, dewatering procedures underdrain system design and construction of the bottom and side slope liner. The seepage analysis included flow net construction and estimation of infiltration of groundwater into the reservoir and design of seepage control measures. The design considered that the reservoir will store a mixture of sanitary wastes diluted with storm water runoff.

CLIENT: ISTHA
TYPE OF PROJECT: Reconstruction and Widening of I-294
LOCATION: Hickory Hills, Palos Hills and Justice, Illinois

SEECO's geotechnical expertise was utilized extensively during the earthwork phases of ISTHA Project MIP87-406, the reconstruction and widening of I-294 from 95th Street through the 83rd Street Toll Plaza and the inspection of over five miles of retaining walls and embankments. In addition to compaction control and subgrade inspection, SEECO also performed the inspection for the installation of over 2,000 piles for the retaining wall and bridge foundation systems.

CLIENT: RMT, Inc.
TYPE OF PROJECT: Univar Corporation New 200,000 Square Foot Warehouse Hub Facility
LOCATION: Bedford Park, IL

SEECO conducted the geotechnical engineering evaluation and construction quality control testing and inspection services for this \$40,000,000 project. Typical inspection services performed included subgrade undercut and proofrolling inspection, structural earth fill compaction testing, field density testing during asphalt laydown, cast-in-place concrete inspection and testing and laboratory concrete compressive strength and proctor testing.

REFERENCES

A/E Firms:

Healy Bender & Associates
Mr. Dave Patton.....(630) 904-4300

Bollinger, Lach & Associates
Mr. Craig Lukowicz..... (630) 438-6400

Harley Ellis Devereaux
Mr. Mark Jones..... (312) 324-7432

Baxter & Woodman
Mr. Ray Koenig..... (708) 478-2090

Municipalities:

City of Joliet
Mr. Mike Eulitz..... (815) 724-3650

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

Village of Lombard
Mr. Ray Schwab... .. (630) 620-5740

IDOT:

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

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

Businesses:

McDonald's Chicago Region
Mr. Al Daniels.....(630) 836-9090

Catholic Cemeteries
Mr. Steve Jankowski (708) 449-6100

RESUMES SEECO Consultants, Inc.

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

TITLE: Principal Engineer

YEARS EXPERIENCE WITH THIS FIRM: 48

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 51 years of experience in engineering including 48 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 reviews and signs each report prepared by SEECO Consultants.

-Village of Lombard 2007 – current

- Great Western Trail – Construction
- Great Western Trail – PESA
- Great Western Trail – Borrow Source Geotech
- Various CCDD Certifications
- Garfield Street Public Works Facility – Construction
- North Industrial Park Pavement – Geotech & Construction
- Olde Towne East Phase V – Construction
- Terrace View Pond – Geotechnical & Construction
- Lombard Meadows Utility Improvements – Geotechnical

Madison & Rte. 53 – Geotechnical
Westin Hotel Deck Repairs – Construction
Various Other Projects – Geotechnical & Construction

- Village of Lyons – Geotechnical, Construction & CCDD
- Village of North Riverside– Geotechnical, Construction & CCDD
- Village of Hodgkins– Geotechnical, Construction & CCDD
- City of Bedford Park– Geotechnical, Construction & CCDD
- City of Cicero– Geotechnical, Construction & CCDD
- Village of Countryside– Geotechnical, Construction & CCDD
- City of Berwyn– Geotechnical, Construction & CCDD
- Village of Burbank– Geotechnical, Construction & CCDD
- Illinois American Water – CCDD Services
- Greene Street Reconstruction – Bensenville
- River and Roberts Roundabout – Lake County, IL
- Barrington Rd. & Schaumburg Rd. Improvements – Schaumburg, IL
- South Beloit Watermain Extension – South Beloit, IL
- Valley View Pump Station – Glen Ellyn, IL
- Village of Downers Grove-Variou Projects 2009, 2011-current
- 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
- PESA-Egyptian Trail – Crete, IL
- IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract
- MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2017
- 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
- 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
- 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
- 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 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 2002, 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

-U.S. Army Corps of Engineers, Chicago District Design, Plans & Specifications, CUP O=Hare Reservoir, Elk Grove Township, Cook County, IL

Expert witness for Hunter Corporation/CNA Insurance and provided a Forensic Engineering Study (Liquefaction Failure Analysis) for the NIPSCO Bailly Town Generating Station. Porter County, Indiana. Mr. Gray's testimony and the study completed by SEECO protected Hunter/CNA from \$56 million in damages.

- Metropolitan Water Reclamation District of Greater Chicago, McCook Reservoir/LASMA Marketability Study with Slope Stability Analyses and Ground Settlements for stockpiled materials, Lyons Township, Cook County, Illinois.

- Subsurface Investigation for Calumet River, Flood Control Project for U.S. Army Corps of Engineers, Chicago District.

- Subsurface Investigation for Railroad Yard Facilities, Michigan City, IN.

- Project Manager - Domtar Industries, Salt Storage Buildings, Chicago, Illinois (Construction Cost \$7,000,000).

- Project Manager - Geotechnical Engineering Evaluation Subsurface Exploration and Quality Control - Several U.S. Post Office Facilities, including Orland Park, Hinsdale, Bolingbrook, West Dundee, Northbrook, New Lenox, Worth, IL; and Hammond, Valparaiso, and Wausau, IN.

- 205th Street and Bridge over I-57 - Construction Quality Control

- I-355 Widening - Butterfield Road to Army Trail Road - Construction Quality Control

- Route 83 - I-55 to 63rd St. IDOT QC/QA Du Page County, IL - Construction Quality Control

- I-80 and Houbolt Road, IDOT Improvements, Joliet, IL - Construction Quality Control

- Village of Morton Grove 1993 - 2001 Street Improvements Construction Quality Control

- Combined Sewer Relief System Improvements, Franklin Park, IL - Construction Quality Control

- Route 113 and Route 47 Repaving Project, IDOT QC/QA, Grundy County, IL

- Carpentersville WWTP Expansion, Carpentersville, IL - Geotech Investigation & Earthwork Quality Control

SEECO CONSULTANTS INC.

NAME: Donald C. Cassier

TITLE: Project Manager

YEARS EXPERIENCE WITH THIS FIRM: 28

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 - Chicago Chapter Executive Committee

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 Lombard 2007 – current

- Great Western Trail – Construction
- Great Western Trail – PESA
- Great Western Trail – Borrow Source Geotech
- Various CCDD Certifications
- Garfield Street Public Works Facility – Construction
- North Industrial Park Pavement – Geotech & Construction
- Olde Towne East Phase V – Construction
- Terrace View Pond – Geotechnical & Construction
- Lombard Meadows Utility Improvements – Geotechnical
- Madison & Rte. 53 – Geotechnical
- Westin Hotel Deck Repairs – Construction
- Various Other Projects – Geotechnical & Construction

- Village of Lyons – Geotechnical, Construction & CCDD
- Village of North Riverside– Geotechnical, Construction & CCDD
- Village of Hodgkins– Geotechnical, Construction & CCDD
- City of Bedford Park– Geotechnical, Construction & CCDD
- City of Cicero– Geotechnical, Construction & CCDD
- Village of Countryside– Geotechnical, Construction & CCDD
- City of Berwyn– Geotechnical, Construction & CCDD
- Village of Burbank– Geotechnical, Construction & CCDD
- Illinois American Water – CCDD Services
- Greene Street Reconstruction – Bensenville
- River and Roberts Roundabout – Lake County, IL
- Barrington Rd. & Schaumburg Rd. Improvements – Schaumburg, IL
- South Beloit Watermain Extension – South Beloit, IL
- Valley View Pump Station – Glen Ellyn, IL
- Village of Downers Grove-Variou Projects 2009, 2011 - current
- Jefferson Street Corridor Watermain Corrosion Study – Bensenville
- 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
- PESA-Egyptian Trail – Crete, IL
- IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract
- MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2017
- 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
- 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
- Mattoon Elevated 1MG Water Tank – Mattoon, IL
- 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 Plainfield –Various Projects
- Downers Grove Park District Improvements - Various Projects
- Downers Grove Sanitary District Improvements
- 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.
- Village of Tinley Park Convention Center Addition-Tinley Park, IL
- Tinley Park 80th Avenue METRA Station-Tinley Park, IL
- Woodridge Community Center
- District 99 School Expansions

- Westmont MFT Project
- Lisle Township Street Program
- Downers Grove Township Street Program
- Bolingbrook Street Program
- MWRDGC Concrete Testing and Inspection - 1998 & 1999, 2005-2007, 2008-2011
- Marketability Study - LASMA McCook Reservoir Project
- Deepening of Lagoon 17, Calumet Treatment Plant
- Berkeley-Bellwood-Hillside TARP Sewer Tunnel
- Lagoon 29 - LASMA
- 3631 N. Halsted, Chicago, IL - Construction
- U-Haul Facilities, Aurora & Bolingbrook, IL - Construction
- Tony Bettenhausen Park and Recreation Center, Tinley Park, IL - Construction
- Our Lady of Victory Convent, Lemont, IL - Construction
- Ozanam Village, Chicago, IL - Construction
- Fountain Square Condominiums, Lombard, IL - Construction
- St., Ailbe II, Chicago, IL - Construction
- US Army COE - Structure 29A, Trail Creek and Kennedy Avenue Borrow Sites
- US Army COE - Cady Marsh Ditch Project
- Illinois Route 83 - Chicago Avenue to 55th Street, Clarendon Hills, IL
- Illinois Route 83 and Ogden Avenue, Westmont, IL
- IDOT - District One Geotechnical D-91-132-95
- Illinois Route 45, Orland Park, IL
- Illinois Route 47 - Huntley to Hebron
- Illinois Route 83 and 22nd Street
- Illinois Route 83 and North Avenue
- I-290 Widening - Elmhurst, IL

SEECO Consultants, Inc.

NAME: Tony Chen, PhD, P.E.

TITLE: Field Engineer

YEARS EXPERIENCE WITH THIS FIRM: 16

YEARS EXPERIENCE WITH OTHER FIRMS: 22

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 2/14/15
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:

-Village of Lombard 2007 – current

- Great Western Trail – Construction
- Great Western Trail – Borrow Source Geotech
- Garfield Street Public Works Facility – Construction
- North Industrial Park Pavement – Geotech & Construction
- Olde Towne East Phase V – Construction
- Terrace View Pond – Geotechnical & Construction

Madison & Rte. 53 – Geotechnical
Westin Hotel Deck Repairs – Construction
Various Other Projects – Geotechnical & Construction

- Village of Lyons – Geotechnical, Construction & CCDD
- Village of North Riverside– Geotechnical, Construction & CCDD
- Village of Hodgkins– Geotechnical, Construction & CCDD
- City of Bedford Park– Geotechnical, Construction & CCDD
- City of Cicero– Geotechnical, Construction & CCDD
- Village of Countryside– Geotechnical, Construction & CCDD
- City of Berwyn– Geotechnical, Construction & CCDD
- Village of Burbank– Geotechnical, Construction & CCDD
- Illinois American Water – CCDD Services
- Greene Street Reconstruction – Bensenville
- River and Roberts Roundabout – Lake County, IL
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- Disinfection Facility – Calumet and Northside WRP – MWRDGC
- PESA-Egyptian Trail – Crete, IL
- IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract
- MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2017
- 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
- 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
- Mattoon Elevated 1MG Water Tank – Mattoon, IL
- Southwest Area High School – Chicago, IL
- 75th Street Improvements – Woodridge – Darien – Downers Grove
- Joliet Park District Soccer Facility – Joliet, IL
- 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

SEECO Consultants, Inc.

NAME: Patrick Gray

TITLE: Senior Field Technician

YEARS EXPERIENCE WITH THIS FIRM: 22

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:

-Village of Lombard 2007 – current

- Great Western Trail – Construction
- Various CCDD Certifications
- Garfield Street Public Works Facility – Construction
- North Industrial Park Pavement – Geotech & Construction
- Olde Towne East Phase V – Construction
- Terrace View Pond – Geotechnical & Construction
- Various Pavement Projects – Geotechnical & Construction

-Village of Lyons – Geotechnical, Construction & CCDD

-Village of North Riverside– Geotechnical, Construction & CCDD

-Village of Hodgkins– Geotechnical, Construction & CCDD

-City of Bedford Park– Geotechnical, Construction & CCDD

-City of Cicero– Geotechnical, Construction & CCDD

-Village of Countryside– Geotechnical, Construction & CCDD

-City of Berwyn– Geotechnical, Construction & CCDD

-Village of Burbank– Geotechnical, Construction & CCDD

- Illinois American Water – CCDD Services
- Greene Street Reconstruction – Bensenville
- River and Roberts Roundabout – Lake County, IL
- Barrington Rd. & Schaumburg Rd. Improvements – Schaumburg, IL
- South Beloit Watermain Extension – South Beloit, IL
- Valley View Pump Station – Glen Ellyn, IL
- Village of Downers Grove-Variou Projects 2009, 2011 - current
- Southwest Area High School – Chicago, IL
- Green Valley WWTP Improvements – DuPage County, IL
- 75th Street Improvements – Woodridge – Darien – Downers Grove
- Village of Plainfield –Variou Projects
- Bolingbrook Street Program
- Westmont MFT Project
- Woodridge Community Center
- Downers Grove Township Program
- Lisle Township Street Program
- Midway Airport Runway 13L - 31R, Bituminous Testing, Chicago, IL
- PESA-Egyptian Trail – Crete, IL
- IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract
- MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2017
- 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
- 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
- O'Hare Airport Runway 14L - 32R, Bituminous Testing, Chicago, IL
- Morton Grove Street Program, Bituminous Testing, Morton Grove, IL
- Greater Chicago Area Auto Auction, Matteson, IL
- Anderson Court, Bituminous Testing, Franklin Park, IL
- ISTHA Projects - I-294, MIP 93-580, 581 & 583, Bituminous Testing, Cook County, IL
- I-88 DeKalb to Sugar Grove - Construction Inspection
- MFT Projects in Tinley Park, Homewood, Lemont, Romeoville, Morton Grove - Bituminous Inspection
- Naperville Municipal Parking Garage Rehabilitation, Naperville, IL - Concrete Inspection
- Old Navy Store, Chicago, IL - Concrete Inspection
- Messenger Glen Retirement Village, Homer Township, IL - Earthwork Inspection
- 5 Million Gallon Ground Storage Reservoir, Tinley Park, IL - Concrete Inspection
- Office, Shop and Storage Facilities, Stickney Water Reclamation Plant, Stickney, IL - Earthwork and Asphalt Inspection
- New Intermediate School, Orland Park, IL - Earthwork and Concrete Inspection
- Du Page Water Commission, 60" & 72" Transmission Lines, Du Page County, IL - Earthwork and Asphalt Inspection
- Others too numerous to mention

SEECO Consultants, Inc.

NAME: Garrett W. Gray, P.E.

TITLE: Project Geotechnical/Environmental/Construction Engineer

YEARS EXPERIENCE WITH THIS FIRM: 22

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

ACTIVE REGISTRATION: P.E., State of Illinois, 2008
IDOT Documentation 2/14/15
IDOT PCC – 1, 2, 3
IDOT BIT – 1, 2, 3
IDOT Soils – S33

EXPERIENCE:

Prior to becoming a Project Engineer, Mr. Garrett Gray has worked as a field and staff 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 Lombard 2007 – current

- Great Western Trail – Construction
- Great Western Trail – PESA
- Great Western Trail – Borrow Source Geotech
- Various CCDD Certifications
- Garfield Street Public Works Facility – Construction
- North Industrial Park Pavement – Geotech & Construction
- Olde Towne East Phase V – Construction
- Terrace View Pond – Geotechnical & Construction
- Lombard Meadows Utility Improvements – Geotechnical
- Madison & Rte. 53 – Geotechnical
- Westin Hotel Deck Repairs – Construction
- Various Other Projects – Geotechnical & Construction

-Village of Lyons – Geotechnical, Construction & CCDD

-Village of North Riverside– Geotechnical, Construction & CCDD

-Village of Hodgkins– Geotechnical, Construction & CCDD

-City of Bedford Park– Geotechnical, Construction & CCDD

-City of Cicero– Geotechnical, Construction & CCDD

- Village of Countryside– Geotechnical, Construction & CCDD
- City of Berwyn– Geotechnical, Construction & CCDD
- Village of Burbank– Geotechnical, Construction & CCDD
- Illinois American Water – CCDD Services
- Greene Street Reconstruction – Bensenville
- River and Roberts Roundabout – Lake County, IL
- Barrington Rd. & Schaumburg Rd. Improvements – Schaumburg, IL
- South Beloit Watermain Extension – South Beloit, IL
- Valley View Pump Station – Glen Ellyn, IL
- Village of Downers Grove-Variou Projects 2009, 2011 - current
- Jefferson Street Corridor Watermain Corrosion Study – Bensenville
- 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
- Mattoon Elevated 1MG Water Tank – Mattoon, 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
- PESA-Egyptian Trail – Crete, IL
- IDOT – D-91-295-12, PTB 163-019 – District One Geotechnical Contract
- MWRDGC – Geotechnical Contracts – 2010-2012 & 2013-2017
- 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
- 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
- Downers Grove Park District Improvements - Various Geotechnical Projects
- 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, 2008-2011 - 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
- Plainfield School District 2002, two (2) elementary school sites and a high school site, Plainfield and Brookfield, Illinois. Phase I environmental site assessment and nearby quarry blasting noise study
- Village of Frankfort, 432 West Nebraska Street (Village Hall), Frankfort, Illinois, various and multiple projects throughout Frankfort
- Village of Tinley Park, 16250 Oak Park Avenue (Village Hall), Tinley Park, Illinois, various and multiple projects throughout Tinley Park
- Capital Development Board, State of Illinois, underground storage tank management, ten sites throughout the State

SEECO CONSULTANTS INC.

NAME: Michael M. Cassidy

TITLE: Supervising Technician

YEARS EXPERIENCE WITH THIS FIRM: 13

YEARS EXPERIENCE WITH OTHER FIRMS: 15

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
Troloxer Radiological Safety
Troloxer 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 28 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. His background includes extensive training in Soil Mechanics, Construction and Material Testing.

His project experience includes:

-Village of Lombard 2007 – current

- Great Western Trail – Construction
- Great Western Trail – Borrow Source Geotech
- Garfield Street Public Works Facility – Construction
- North Industrial Park Pavement –Construction
- Olde Towne East Phase V – Construction
- Terrace View Pond –Construction
- Various Other Projects –Construction

-Village of Lyons –Construction

- Village of North Riverside–Construction
- Village of Hodgkins– Construction
- City of Bedford Park–Construction
- City of Cicero–Construction
- Village of Countryside–Construction
- City of Berwyn–Construction
- Village of Burbank–Construction
- Greene Street Reconstruction – Bensenville
- River and Roberts Roundabout – Lake County, IL
- Barrington Rd. & Schaumburg Rd. Improvements – Schaumburg, IL
- South Beloit Watermain Extension – South Beloit, IL
- Valley View Pump Station – Glen Ellyn, IL
- Village of Downers Grove-Variou Projects 2009, 2011 - current
- Southwest Area High School – Chicago, IL
- PESA-Egyptian Trail – Crete, IL
- Nathan Hale School – Chicago, IL
- Higgins Elementary School – Chicago, IL
- St. Charles WTP Improvements – St. Charles, IL
- 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 Plainfield –Various Projects
- Westmont MFT Project -
- Oak Park Avenue Reconstruction, Tinley Park, IL -
- Downers Grove Township Street Program - HMA Plant and Laboratory Testing

SEECO CONSULTANTS INC.

NAME: Sandip Dahal, EI

TITLE: Staff Geotechnical Engineer

YEARS EXPERIENCE WITH THIS FIRM: 2

YEARS EXPERIENCE WITH OTHER FIRMS: 3

EDUCATION: B.S.C.E. 2010 Tribhuvan University, Kathmandu, Nepal
M.S.C.E. 2016 Southern Illinois University – Geotechnical Engineering

ACTIVE REGISTRATION: EI 2014 Civil Engineer, Illinois

EXPERIENCE:

Mr. Dahal has worked as a field and staff engineer and as a project geotechnical engineer writing reports for retaining walls, buildings and roadways. He has experience logging boreholes. He also has experience in infiltrometer testing and ground penetrating radar surveys and in preparation of roadway geotech and structure geotech reports on IDOT and municipal projects. He also is familiar with the preparation of LPC Forms for disposal.

A partial listing of his projects:

MWRDGC Projects:

- Crestwood 135th Street Flood Control Project
- Heavy Equipment Storage Bldg. – Calumet WRP
- Worth Detention Pond
- Mt. Greenwood Park Monitoring Wells
- Biofilter Building – Stickney WTP
- North Side Sludge Line

- DuPage Water Commission Transmission Line – Bartlett, IL

- Sycamore Wastewater Treatment Plant Expansion

IDOT Geotechnical Projects

- Rte. 67 Realignment – Beardstown, IL
- Seismic Refraction Study, US Rte. 67 Pavement Failure, Rushville, IL
- Route 30 and Treasure Realignment – Aurora, IL
- Green Bay Road and Kenosha Road Realignment – Beach Park, IL
- Route 22 Box Culverts – Richmond, IL
- NE Frontage Road Retaining Wall – Joliet, IL
- Various Culverts and Retaining Walls – Chicago, Wilmington and Lake Barrington, IL
- 95th and Archer Realignment – Palos Hills, IL
- Route 6 at Kedzie and Pulaski Intersections – Markham, IL
- Route 53 and Old Hicks Road – Long Grove, IL

- City of Cicero – Geotechnical & CCDD

-City of Countryside – Geotechnical & CCDD

-City of Berwyn – Geotechnical & CCDD

-Village of Burbank – Geotechnical & CCDD

SEECO Consultants, Inc.

NAME: Jeronimo S. Cabal

YEARS EXPERIENCE WITH THIS FIRM: 15
YEARS EXPERIENCE WITH OTHER FIRMS: 8

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:

- Dominguez Athletic Field – Chicago, IL - PBC
- Humboldt Park Library Site Preparation – Chicago, IL – PBC
- DuPage Water Commission Metering Stations and Transmission Lines, Various Locations – Construction Observation Inspection, Field and Laboratory Testing – Soil, Concrete and Asphalt
- 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-ongoing
- 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: Matthew Boladz, EI

TITLE: Staff Engineer/ACAD Draftsperson

YEARS EXPERIENCE WITH THIS FIRM: 3

YEARS EXPERIENCE WITH OTHER FIRMS: 0

EDUCATION: BSCE 2014 University of Illinois at Chicago

ACTIVE REGISTRATION: EIT 2014 Civil Engineer, Illinois

EXPERIENCE:

As a Staff Engineer, Mr. Boladz is responsible for ACAD design for SEECO's geotechnical, structural and civil engineering projects. His expertise includes geotechnical laboratory analysis and data reduction for field applications. He routinely performs field sampling, laboratory analysis and documentation for CCDD projects.

A partial listing of applicable projects include the following:

Stickney Effluent – Koppers Force Main
CTA Yellow Line Track Failure Northside WRP
Waste Receiving Building – Calumet WTP
Alta Survey, 3100 S. Sacramento
Crestwood 135th Street Flood Control Project
Heavy Equipment Storage Bldg. – Calumet WRP
Worth Detention Pond
Mt. Greenwood Park Monitoring Wells
Biofilter Building – Stickney WRP
North Side Sludge Line

-Illinois Veterans Home – Chicago, IL

-River and Roberts Roundabout – Lake County, IL

IDOT Geotechnical Projects

-Rte. 67 Realignment – Beardstown, IL

-Seismic Refraction Study, US Rte. 67 Pavement Failure, Rushville, IL

-Expressway High Mast Signs – Various Counties

-Route 30 and Treasure Realignment – Aurora, IL

-Green Bay Road and Kenosha Road Realignment – Beach Park, IL

-Route 22 Box Culverts – Richmond, IL

-NE Frontage Road Retaining Wall – Joliet, IL

-Various Culverts and Retaining Walls – Chicago, Wilmington and Lake Barrington, IL

-95th and Archer Realignment – Palos Hills, IL

-Route 6 at Kedzie and Pulaski Intersections – Markham, IL

-Route 53 and Old Hicks Road – Long Grove, IL

-Public Building Commission of Chicago – Edwards School Addition

- Frankfort Village Hall Addition
- Village of Park Forest Sidewalk Program
- Various CCDD Projects

SEECO CONSULTANTS INC.

NAME: Ajith Hanagoodu

TITLE: Staff Engineer

YEARS EXPERIENCE WITH THIS FIRM: 1

YEARS EXPERIENCE WITH OTHER FIRMS: 0

EDUCATION: B.S.C.E. 2015 Visvesvaraya Technological University, KA, India
Geotechnical Engineering
M.S.C.E. 2016 University of Illinois Chicago, Civil and
Materials Engineering Geotechnical Engineering

EXPERIENCE:

Mr. Hanagoodu utilizes his materials engineering expertise in SEECO's materials testing laboratory. He is proficient in soils, aggregate, concrete and HMA testing and analysis. His ability to select representative samples, determine the correct ASTM or AASHTO procedures and implement the same, as well as reduction of the data is invaluable. He also provides field inspection services for concrete, soils and HMA placements.

Mr. Hanagoodu is also proficient at AutoCAD drafting. He provides assistance in SEECO's design projects and in preparation of technical reports.

A partial listing of his projects includes:

-MWRDGC Projects

-Mt. Greenwood Park Monitoring Wells

-Biofilter Building – Stickney WTP

-North Side Sludge Line

-DuPage Water Commission Transmission Line – Bartlett, IL

-IDOT Geotechnical Projects

-95th and Archer Realignment – Palos Hill, IL

-Route 6 at Kedzie and Pulaski Intersections –

-Route 53 and Old Hicks Road – Long Grove, IL

SEECO CONSULTANTS INC.

NAME: Mengxing Li, PhD.

TITLE: Staff Geotechnical Engineer

YEARS EXPERIENCE WITH THIS FIRM: 1

YEARS EXPERIENCE WITH OTHER FIRMS: 4

EDUCATION: B.S. 2010 China University of Geoscience – Geology, Beijing
M.S.G.E. 2012 Missouri University of Science and Technology –
Geological Engineering
PhD. 2017 Missouri University of Science and Technology –
Geological Engineering

EXPERIENCE:

Dr. Li utilizes his expertise during laboratory analysis for consolidation tests, permeability testing, hydrometer conductivity and triaxial shear testing. He performs foundation design analysis for deep and shallow foundations, as well determining bearing capacities and settlement parameters. He performs slope stability analysis and addresses seismic design criteria also. He is proficient in seismic refraction studies as well.

A partial listing of his projects:

A partial listing of his projects includes:

-MWRDGC Projects

-Worth Woods Detention Pond

-Mt. Greenwood Park Monitoring Wells

-Biofilter Building – Stickney WTP

-North Side Sludge Line

-DuPage Water Commission Transmission Line – Bartlett, IL

-IDOT Geotechnical Projects

-Various Culverts and Retaining Walls – Chicago, Wilmington and Lake Barrington, IL

-95th and Archer Realignment – Palos Hill, IL

-Route 6 at Kedzie and Pulaski Intersections –

-Route 53 and Old Hicks Road – Long Grove, IL

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.