

ROBERT B. CURTIS, PE

Education

BS – Forest Engineering, University of Maine, 1990

Professional Licenses

Professional Engineer – Civil, Florida - FL #73758

Professional Engineer – Civil, Georgia - GA #036826

Professional Engineer – Civil, Maine - ME #7933



Specialty Certifications

40-Hour Hazardous Waste Operations (OSHA 29 CFR 1910.120)

Radiological Safety and Gauge Operation for Nuclear Testing Equipment (49 CFR 172)

OSHA 10-Hour Construction Safety and Health

Certified CQA Geosynthetic Materials and Compacted Clay Liner Inspector (GCI-ICP)

Professional Affiliations

American Society of Civil Engineers (ASCE), Associate Member

Solid Waste Association of North America (SWANA), Member

Professional Experience

Mr. Curtis has more than 30 years of experience designing, permitting, managing, and overseeing construction of civil and environmental projects for both public and private clients. He specializes in creating detailed designs for landfill development and closure, landfill gas collection and conveyance systems, stormwater management and erosion control plans, and management of remedial action projects. He is also experienced in horizontal and vertical expansions, and the closure and remediation of existing facilities. Mr. Curtis has also worked with a variety of waste streams that range from low-strength industrial waste and sludges to municipal solid waste (MSW) and construction and demolition debris (CDD).

Examples project experience includes:

Landfill Design, Permitting and Construction

Hillsborough County, FL, Southeast County Landfill (SCLF) Sinkhole Remediation Stage 5 – Isolation of Impacted Clay Liner. Sr. Project Engineer. Engineer of record and on-site CQA engineer during design and construction for the sinkhole remediation project at the SCLF. The project was the final stage in remediating a collapse in the active landfill area. The project entailed excavation and temporary stockpiling of existing waste; installation of about 700-feet of vinyl sheet piling; installation of 1-acre 40-mil LLDPE geomembrane isolation liner; placement of 1-acre sand protective layer; backfilling of waste; installation of LFG collection system with 3 vertical extraction

wells and 1200-foot LFG piping; and, installation of 2-acres final cover system with 40-mil LLDPE geomembrane, drainage geocomposite and protective soil.

Hillsborough County, FL, Southeast County Landfill (SCLF) Operation Permit Renewal. Project Manager. Provided solid waste engineering services to Hillsborough County for their active Southeast County Landfill. Using FDEP form 62-701.900(1), Mr. Curtis managed the process of preparing the permit renewal and report to continue operations of Phases I-VI and the Capacity Expansion Area (Sections 7, 8 and 9) at the Southeast County Landfill facility. The facility is a Class I Landfill receiving an average of 800 tons per day with a maximum daily load of 2000. The facility also includes a landfill gas collection system and leachate disposal system.

Sumter County, FL, Heart of Florida Landfill. Project Engineer. Quality control review of cell design, construction plans, and construction specifications for the Subcell 3 Expansion, 15-acres.

DeSoto County, FL, Section 16 Landfill, Zone 5 Expansion. Project Engineer. Assisted with permit/construction plans and technical specifications for a 7.5-acre cell.

DeKalb County, GA, Seminole Road Landfill, Phase III Unit 2 Soils CQA. Sr. Project Engineer. Base preparation for a new landfill cell. Assisted with project management of CQA services during placement and compaction of soil and rock fill for new landfill cell.

DeKalb County, GA, Seminole Road Landfill, Phase III Unit 3 Geosynthetics CQA. Project Engineer. CQA during installation of geosynthetic components of 27-acre landfill cell. The liner system included secondary containment of 60-mil HDPE, drainage geocomposite and primary containment of GCL, 60-mil HDPE geomembrane and drainage geocomposite.

City of Bath, ME, City of Bath Landfill Intermediate Cover. Project Engineer. Quality assurance monitor providing daily oversight and quality assurance during installation of intermediate cover and landfill gas collection system at municipal landfill. Cover consists of 40-mil textured HDPE primary geomembrane over 12-inch sand layer. The landfill gas collection system included connections to existing wellheads and installation of horizontal collectors for an existing flare system.

Androscoggin Valley Regional Refuse District, NH, Mt. Carberry Landfill. Project Engineer for permitting, design and construction of multiple cells and closures at a municipal landfill from 1989 to 2012. Design included: initial site investigation, stormwater design, leachate collection system design, cell development plan, slope stability analysis and permit application to the NHDES. Construction services consisted of; on-site CQA of soil and geosynthetics during new cell construction; oversight and logging during initial soil boring investigations; sampling of groundwater, surface water and leachate in compliance with NHDES permit; and, assistance during start up and operation of LFG flare system.

Canton, NC, Blue Ridge Landfill. Project Engineer. Designed and permitted two landfill cells totaling more than 25-acres (Cell 6A-West and Cell 6D). Developed construction plans and specifications as well as designing and permitting stormwater ponds and other surface water control structures for landfill cells and facility. The engineering services were during construction of an 11-acre cell expansion.

Verso Paper, ME, Bucksport Landfill Vertical Expansion Permit. Project Engineer. Preparation of permit for MEDEP for the vertical expansion of a 52-acre special waste landfill. Design includes use of compacted clay (existing), GCL, 60-mil HDPE secondary liner, drainage geocomposite, 12-inches sand, GCL, 60-mil HDPE primary liner, drainage geocomposite, 12-inches sand and associated piping. The landfill gas design included vertical wells and horizontal collectors for a passive collection system. The report contained typical stormwater calculations, HELP model analysis, contaminant transport, LFG well spacing, pipe size and strength.

NewPage Corporation, ME, Farrington Mountain Landfill – Gas Collection System Evaluation. Project Engineer. Evaluation of the design and construction of landfill gas system at a special waste landfill. System included: candlestick flare with blower, extraction wells, horizontal collectors and header.

Casella Waste, Juniper Ridge Landfill – Gas Collection and Conveyance System Expansion. Project Engineer. On-site Project Engineer for installation of six vertical landfill gas extraction wells, horizontal collectors and header pipe connecting to existing landfill gas collection system.

Sappi Fine Paper, ME, Cell 11 Construction. Project Engineer. Resident Engineer providing quality assurance monitoring and daily oversight during construction of a 6-acre special waste landfill cell. System consists of 12 inch underdrain sand layer, GCL, 60-mil HDPE secondary geomembrane, secondary drainage geocomposite, 12 inches leak detection sand, 12 inches clay, 60-mil textured HDPE primary geomembrane, drainage primary geocomposite, 12 inches leachate collection sand and HDPE piping. Construction included a pump station with leak detection and leachate collection system.

Hinckley, ME, Sappi Landfill. Project Engineer. Designed and permitted multiple landfill cell expansions totaling approximately 30 acres. Prepared construction plans and specifications and provided on-site construction quality assurance for more than 25-acres. Prepared stormwater management plan and erosion and sediment control plan for each cell and the entire facility.

Evergreen Packaging, NC, Cell 6A West Closure. Project Engineer. Project engineer for design and resident engineer during construction of 17-acre cell closure at a special waste landfill in Canton, NC. System consists of 12 inches drainage stone, 0 to 60 inches compacted orchard soil, 24 inches compacted clay, 6 inches topsoil. Design submittal approved by North Carolina Department of Environment and Natural Resources.

International Paper, ME, Leachate Forcemain Project. Project Engineer. Resident project engineer providing daily oversight and quality assurance during construction 2500-feet of dual containment HDPE pipe installation between a landfill (leachate pond) and paper mill. System consists of 10"-SDR17 inner pipe and 16"-SDR26 outer pipe with stainless steel piping in manholes and vault structure.

New Hanover County, NC, Landfill. Project Engineer. Performed quality control review of permit/construction plans and specifications for Cell 7.

Newpage Corporation, ME, Farrington Mountain Landfill - Leachate Pond Construction. Resident Engineer. Project engineer for design and on-site resident engineer providing daily oversight and quality assurance during construction, of a 1-1/2-acre leachate collection pond with: 12 inches compacted clay, GCL, 60-mil textured HDPE secondary geomembrane, drainage net and 60-mil textured HDPE primary geomembrane. Project also included 500-feet of 12", 24" and 36" HDPE leachate transport pipe.

Ashland, ME, Black Hawk Mine. Project Engineer. Permitting and design of 30-acre mining spoils landfill. Prepared stormwater and erosion control plans for site development.

Bucksport, ME, Verso Landfill. Project Engineer. Assisted with design and permitting of new landfill cell construction from 1990 to 2012. Assisted with design and permitting of lateral expansion of a special waste landfill with a 30-acre footprint. Permitted vertical expansion of 50-acre landfill complete with construction plans and specifications. Prepared stormwater management, erosion, and sediment control plans for each cell and the entire facility. Conducted annual inspections of stormwater ponds and control devices at facility.

Thomaston, ME, Dragon Products CKD and Clinker Piles. Project Engineer. Permitting and design for closure of cement kiln dust and clinker spoils landfills, totaling more than 30-acres. Prepared stormwater and erosion control plans for site development near coastal wetlands. Design incorporated public concerns for wildlife and wetland impacts.

Publications and Presentations

Curtis, R, "Remediation of a Sinkhole in a Class I Landfill", Florida ASCE Proceedings, July 2015.

Summer 1989 – Soils Laboratory Technician – Performed physical properties testing of soils such as grain size, moisture content, hydraulic conductivity, confined and unconfined consolidation, and Atterberg limits to support field Construction Quality Assurance (CQA). Set up testing apparatus and conducted triaxial hydraulic conductivity of compacted clay used for landfill liner system.

Summer 1989 – Mt. Carberry Landfill Cell 1B Construction - Junior Engineer providing CQA for special waste Landfill in Berlin, NH. Assisted with CQA testing during installation of clay, geosynthetics, drainage sand and stone for new 5-acre cell. Typical Subtitle D composite liner system consisting of: 24 inches compacted clay, GCL, 60-mil textured HDPE secondary liner, geocomposite, foot of sand, 60-mil textured HDPE primary liner and geocomposite layer.

Summer 1989 – McKin Site Trust

Spring/Summer 1990 – Soils Laboratory Technician – Performed physical properties testing of soils such as grain size, moisture content, hydraulic conductivity, confined and unconfined consolidation, and Atterberg limits to support field CQA. Conducted triaxial hydraulic conductivity of compacted clay used for landfill liner system.

Summer 1990 – McKin Site Trust

Summer 1990 - Dolby III Landfill, Cell 5 Construction - Resident engineer providing construction oversight and quality assurance monitoring for development of a 10-acre new cell at a special waste (pulp and paper mixed with MSW) landfill. Development consisted of perimeter berm, manholes, leachate collection piping and access road. Submitted construction completion report to MEDEP.

Summer 1990 – Mt. Carberry Landfill, Berlin N.H., Cell 2A Construction - Quality assurance engineer for installation of Geosynthetics at a pulp and paper landfill. Assisted with CQA testing during installation of clay, geosynthetics, drainage sand and stone in 5-acre landfill cell expansion. Typical Subtitle D composite liner system consisting of: 24 inches compacted clay, GCL, 60-mil textured HDPE secondary liner, geocomposite, foot of sand, 60-mil textured HDPE primary liner and geocomposite layer.

Summer 1991 – Great Northern Paper, Millinocket, ME, Dolby III Cell 6 Closure - Resident engineer providing construction oversight and quality assurance monitoring for closure of a 10-acre pulp & paper landfill. Closure consisted of 12" granular drainage layer, 24" compacted clay and 6" topsoil. Submitted construction completion report to MEDEP.

Fall 1991 – Sanders Corp, Nashua, NH – Costco Construction and Environmental Monitoring - Resident engineer providing construction oversight and for installation of an interceptor trench at an electronics fabricating facility. Trench designed to intercept tri-chloro-ethylene (TCE) in groundwater.

Winter 1991 thru Summer 1993 – Lockheed Electronics, Watchung, NJ, Building 7 Remediation - Phase I and Phase II site investigation and remediation at a former defense contractor facility. Phase II included more than 100 soil borings (30' to 80' depths) and more than 40 monitoring (4-inch) wells ranging in depths from 30 to 300 feet. Soil and water sampling with subsequent Gas Chromatograph (GC) analysis for a 35,000 cy soil remediation project at a former defense contractor facility.

Spring 1993 – Georgia Pacific, Millinocket, ME – Dolby III Cell 7 Design – Project engineer for design of a 12-acre cell at a pulp and paper landfill. Design consisted of perimeter berm, manholes, leachate collection piping and access road. Submitted Construction Specifications, plans, and CQA Plan to Maine DEP.

Summer 1993 – Georgia Pacific, Millinocket, ME – Dolby III Cell 7 Construction - Resident engineer providing construction oversight and quality assurance monitoring for development of a 12 acre cell

at a pulp and paper landfill. Development consisted of perimeter berm, manholes, leachate collection piping and access road. Submitted construction completion report to MEDEP.

Spring 1994 – Georgia Pacific, Millinocket, ME – Dolby III Cell 8 Design – Project engineer for design of a 12-acre cell at a pulp and paper landfill. Design include perimeter berm, manholes, leachate collection piping and access road. Submitted Construction Specifications, plans, and CQA Plan to Maine DEP.

Summer 1994 – Georgia Pacific, Millinocket, ME – Dolby III Cell 8 Construction - Resident engineer providing part time construction oversight and quality assurance monitoring for development of a 12-acre cell at a pulp and paper landfill. Development consisted of perimeter berm, manholes, leachate collection piping and access road. Submitted construction completion report to MEDEP.

Summer/Fall 1994 – Forster Manufacturing, Mattawamkeag, ME, Mattawamkeag Landfill Closure - Resident engineer providing part time construction oversight and quality assurance monitoring for closure of an 8 acre bark and production waste landfill. Closure consisted of 12” granular drainage layer, 24” compacted clay and 6” topsoil

Fall 1994 – James River, Milford, ME - Milford Landfill Closure Stage 1 - Resident engineer providing part time construction oversight and quality assurance monitoring for closure of a 15 acre cell at a pulp and paper landfill. Final closure consisted of 12” granular drainage layer, 24” compacted clay and 6” topsoil.

Winter 1994/Spring 1995 - Georgia Pacific, Millinocket, ME, Dolby III Cell 9 Construction Design - Design of new 10- acre cell for pulp and paper landfill. Design consisted of underdrain, manholes, containment dike and new access road.

Spring 1995 – Georgia Pacific, North Woods, ME, Underground Storage Tank Installation - Resident engineer providing oversight during installation of six – 30,000 gallon concrete tanks at logging contractor maintenance facilities in northern Maine. Installation included piping, vacuum testing and excavation for below grade concrete tanks.

Summer 1995 – Georgia Pacific, Millinocket, ME, Cell 9 Construction - Resident engineer providing construction oversight and quality assurance monitoring for development of a 10-acre new cell at a pulp and paper landfill. Development consisted of 1500 feet perimeter piping, 32 vertical feet of manhole, one foot of basal sand with leachate collection piping and 1600 feet of access road.

Summer 1995 – Forster Manufacturing, Wilton, ME – Wilton Landfill Closure - Resident engineer providing part time quality assurance monitoring during the construction of final cover of a 5-acre special waste landfill. Final cover consists of two feet of compacted clay over one foot of drainage sand, gas venting system and monitoring well replacement

Summer 1995 – Sawyer Landfill, Hamden, ME, Secure III, Phase 2 - Quality assurance monitor during installation of geosynthetics at a 3-acre landfill cell. System consists of 24 inches compacted clay, GCL, 60-mil textured HDPE secondary liner, geocomposite, foot of sand, 60-mil textured HDPE primary liner and geocomposite layer.

Summer/fall 1995 – Forster Manufacturing, Strong, ME, Strong Landfill Closure - Resident engineer providing quality assurance during closure of an 8-acre special waste landfill. Final cover included two feet of compacted clay over one foot of drainage sand, gas venting system and 750 foot rock lined drainage swale.

Fall 1995 – Pinkham Corporation, Portage, ME, Detention Pond Construction - Resident engineer providing oversight and quality assurance monitoring construction of rock lined drainage channel and spillway from detention pond. Project complete with control valve and piping. QA/QC of backfill material including in-place density testing.

Winter 1995/Spring 1996 – Bowater, Millinocket, ME – Dolby II North design - Design of new 15-acre cell development for pulp and paper landfill. Design consisted of stormwater analysis, underdrain, manholes, containment dike and new access road.

Spring/Summer 1996 – Lockheed Electronics, Watchung, NJ, Building 3 Soil Remediation - Sampling and analysis for a 50,000 cubic yard soil remediation project at a former defense contractor facility.

Summer 1996 – Bowater, Millinocket, ME, Dolby II North Construction - Resident engineer providing construction oversight and quality assurance for development of a new 15-acre cell at a pulp and paper landfill cell. Construction consisted of 3700 feet of underdrain, 124 vertical feet of manholes, 3325 feet of containment dike and 950 feet of new access road.

August 1996 – Georgia Pacific, Baileyville, ME, Phase 2/3 Construction - Quality assurance monitor during construction of 5-acre landfill cell. Oversight during installation of 60-mil textured HDPE.

October 1996 – Sawyer Landfill, Hampden, ME, Secure III, Phase III - Quality assurance monitor during construction of a 3-acre landfill cell. System consists of 24 inches compacted clay, GCL, 60-mil textured HDPE secondary liner, geocomposite, foot of sand, 60-mil textured HDPE primary liner and geocomposite layer.

Fall 1996 – Bowater, Millinocket, ME, Dolby III Cells 7 and 8 Closure - Resident engineer providing daily construction oversight for the closure of a 10-acre portion of a pulp and paper landfill. Cover consists of two feet of clay over one foot of drainage sand, leachate collection piping and manhole modifications.

Winter 1996/Spring 1997- Black Hawk Mining, Ashland, ME, Bald Mountain Landfill Design - Design and permitting of a 30-acre mining spoils landfill. Liner system consists of 60-mil HDPE over 2 feet of compacted glacial till and geocomposite drainage net.

Spring 1997 – Sawyer Landfill, Hampden, ME, Secure III, Phase IV - Quality assurance monitor during construction of a 4-acre landfill cell. System consists of 24 inches compacted clay, GCL, 60-mil textured HDPE secondary liner, geocomposite, foot of sand, 60-mil textured HDPE primary liner and geocomposite layer.

Summer 1997 – Champion Paper, Bucksport, ME, Intermediate cover - Resident engineer and quality assurance monitor for intermediate closure of 7-acres of a special waste landfill. Intermediate cover consists of 20-mil coextruded geomembrane over sludge, with soil berms, anchor trenches, ropes and sandbags.

Summer 1997 – James River Corp., Milford, ME, Milford Landfill Closure Stage 2 - Resident engineer providing construction oversight, quality control and quality assurance for the closure of a 8-acre pulp and paper landfill. Final cover consists of two feet of clay over one foot of drainage sand.

Fall 1997 – Bowater, Millinocket, ME, Dolby II South Development - Resident engineer providing construction oversight, quality control and quality assurance for a 15-acre cell development. Construction included installation of leachate collection piping, manholes and containment berms.

Winter 1997-1998 – Great Northern Paper, Millinocket, ME, Holbrook Side Channel - Design of modifications to a flood area on the Penobscot River to provide a fish spawning area. Design complete with piping and flow control valves.

Spring 1998 – Champion Paper, Bucksport, ME, Cell 1 Closure Design - Design of final cover system for a 2-1/2 acre landfill cell. System consists of 40-mil LLDPE with sand drainage layer, gas venting system, leachate collection sand and piping. Design included stormwater detention pond, stone gradation sizing and infiltration design for geotextiles.

Summer 1998 – Crown Vantage, Berlin, NH, Cell 3 Construction - Quality assurance monitor during construction of a 5-acre landfill cell, Base liner consists of 60-mil textured HDPE, geocomposite, 12-inches sand, 60-mil smooth HDPE geomembrane and 12-inches sand.

Summer 1998 – Champion Paper, Bucksport, ME, Cell 1 Closure - Resident engineer providing daily oversight and quality assurance monitoring for a 6-acre landfill closure. Final cover consists of 12-inch sand layer, 24-inches compacted clay, 40-mil LLDPE, 12-inches sand and 12-inches topsoil.

Winter 1998-1999 - Champion Paper, Bucksport, ME, Cell 2 West Closure Design - Design of final cover system for a pulp and paper 2-1/2 acre landfill cell. System consists of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil and 800 feet of 6-inch perimeter drain piping. Design included stormwater detention pond, stone gradation sizing and infiltration design for geotextiles.

Winter 1998-1999 – Fraser Paper, Madawaska, ME, Landfill Closure Design - Design of final cover system for a 20-acre pulp and paper landfill. System consists of 20 acres of: 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil and perimeter drain piping. Design included calculations for stormwater and infiltration of geotextiles around piping and stone bedding

*April 27, 1999 – Boston, MA - Continuing Education - “Designing with Geosynthetics” instructed by Dr. Robert Koerner.

Summer 1999 – Pulp and Paper of America, Berlin, NH, Cell 4B Construction - Quality assurance monitor during construction of a 5-acre landfill cell construction. System consists of a 60-mil textured HDPE secondary geomembrane, drainage geocomposite, 12-inches sand and a 60-mil smooth HDPE geomembrane primary and 12-inch drainage sand layer.

Winter 1999-2000 – Champion Paper, Bucksport, ME, Cell 2 Closure Design - Design of final cover system for a 2-acre pulp and paper landfill cell. Final cover system consists of 2 acres of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil and 600 feet of 6-inch perimeter drain piping. Design included stormwater detention pond, stone gradation sizing and infiltration design for geotextiles.

Winter 1999-2000 – General Alum Corp., Searsport, ME, Alum Pond Closure Design - Design of final cover system for a 1-1/2 acre alum mud pond. System consists of 12 inches compacted clay cover, 40-mil LLDPE liner, geocomposite, 12” sand layer, 18” topsoil, gas collection system and rip-rap lined ditches.

Spring 2000 – Sawyer Environmental, Hampden, ME, Phase VIIA Construction - Quality assurance monitor during construction of a 3-acre landfill cell. System consists of 24 inches compacted clay, GCL, 60-mil textured HDPE secondary liner, geocomposite, foot of sand, 60-mil textured HDPE primary liner and geocomposite layer.

Spring 2000 – Great Northern Paper, Millinocket, ME, Cell 12 Construction Design - Design of 10-acre paper mill landfill cell. Cell includes compacted till, 12” sand, 6” underdrain piping and containment berm. Design consisted of plans, sections & details, construction specifications (QA/QC) and engineer’s cost estimate. Calculations included stormwater ditches and pond sizing, geosynthetic filter design and pipe size calculations.

Summer 2000 – Blue Ridge Paper Products, Canton, NC, Cell 6A West Construction - Resident engineer providing oversight and quality assurance monitoring during construction of a 15-1/2 acre landfill cell. System consists of 24-inches compacted clay, GCL, 60-mil textured HDPE liner, 16 oz. nonwoven geotextile and 15” stone drainage layer. Construction also entailed directional boring with installation of leachate pipe.

Fall 2000 – Fort James Corp., Old Town, Maine, Cell 2 Construction - Quality assurance monitor during construction of a 5-acre landfill cell. System consists of underdrain sand, 24-inches clay, 60-mil HDPE secondary geomembrane, drainage geocomposite, 12-inches sand, 12-inches clay, 80-mil HDPE primary geomembrane, drainage geocomposite, and 12-inches sand.

Winter 2000 -2001 – Sappi Fine Paper, Hinckley, ME, Cell 6 Closure Design - Design of final cover system for an 8-acre pulp & paper landfill cell. Final cover system consists of: 12” sand, 40-mil LLDPE, geocomposite, 12” sand and 12” topsoil; 2 acres temporary soil cover of 6” sand, 18” compacted clay and 6” topsoil; and, 3 acres temporary liner cover of 12” sand, 20-mil coextruded HDPE and 12” bark.

Winter 2000-2001 – International Paper, Bucksport, ME, Cell 2 Closure Design - Design of final cover system for a 5-acre pulp and paper landfill cell. System consists of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil, 80,000 sf 40-mil textured LLDPE, 7000 sf geonet/non-woven geotextile geocomposite, 1500-feet of 6-inch perimeter drain piping, and 900 feet 12” HDPE pipe. Design included stormwater calculations, stone gradation calculations and filtration design of woven geotextiles for infiltration around piping and stone bedding.

Spring 2001 – Wyman Blueberries, Deblois, ME, Wastewater Lagoon Construction - Resident project engineer providing daily oversight and quality assurance during construction of a 1-1/2 acre wastewater lagoon for a blueberry processing plant. The lagoon consists of 24” compacted clay over regraded and compacted native sand. Construction also included installation of approximately 2000 sf woven geotextile and 1000 sf turf reinforcement mat.

Summer 2001 – International Paper, Bucksport, ME, Cell 2 Closure - Resident project engineer providing daily construction oversight and quality assurance monitoring of final closure for a 6-acre landfill cell. Final cover consists of 12 inches leachate collection sand, 24 inches compacted clay, 40-mil textured LLDPE, drainage geocomposite, 12-inches sand, 12-inches topsoil and HDPE piping.

Winter 2001-2002 – International Paper, Bucksport, ME, Cell 3 Closure Design - Project engineer for design of final cover system for a pulp and paper landfill cell. System consists of 3 acres of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil, 7,000 sf 40-mil textured LLDPE, 7000 sf drainage geocomposite and 700 feet of 6-inch perimeter drain. Design included stormwater design calculations and design of woven geotextiles for infiltration around piping and stone bedding.

Winter 2001-2002 – Blue Ridge paper Products, Canton, NC, Cell 5 Closure Design - Project engineer designing final cover system for a 3-acre pulp and paper landfill. System consists of 12 inches leachate collection stone; 22 inches compacted till, 3 inches topsoil, 700 feet of 6-inch perimeter drain. Design included stormwater calculations and design of woven geotextiles for infiltration around piping and stone bedding

*May 22-24, 2002 – Boxborough, MA - Continuing Education - “Construction Quality Assurance for Geosynthetic Materials” 3-day course presented by Geotesting Express, Inc. Dr. Wayne Youngblood – course instructor.

Summer 2002 – International Paper, Bucksport, ME, Cell 2 North Closure - Resident engineer providing daily oversight and quality assurance during the final closure of a 2-acre landfill cell. Final cover consists of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil, 40-mil textured LLDPE, GCL, and HDPE piping

Summer/Fall 2002 – Pine Tree Landfill, Hampden, ME, Phase VIII C Stage 1 - Quality assurance monitor during geosynthetic installation of a 4-acre landfill cell. System consists of an 80-mil textured HDPE secondary geomembrane, drainage geocomposite, 12-inches drainage sand and 24-

inches compacted clay, GCL, 80-mil textured HDPE primary geomembrane, drainage geocomposite and 12-inches of drainage sand. Geogrid and 12" sand layer on 3/4-acre sideslope area.

Spring 2003 – Domtar, Baileyville, ME, Surge Pond Liner - Quality assurance monitor during installation of geomembrane at a 3/4-acre spill containment pond. System consists of an 80-mil textured HDPE geomembrane over existing sand, batten strip attachments to appurtenances and extrusion welded connection to HDPE manhole.

Spring/Summer 2003 – Pine Tree Landfill, Hampden, ME, Phase VIIIIC Stage 2 Construction - Quality assurance monitor providing daily oversight during the construction of a 6-acre municipal landfill cell. System consists of an 80-mil textured HDPE secondary geomembrane, drainage geocomposite, 12-inches drainage sand and 24-inches compacted clay, GCL, 80-mil textured HDPE primary geomembrane, drainage geocomposite and 12-inches of drainage sand. Geogrid and 12" sand layer on 2-acre sideslope area.

Summer 2003 – International Paper, Bucksport, ME, Cell 3 Closure - Resident engineer and quality assurance monitor during final closure of a 3-acre landfill cell. System consists of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil, 40-mil textured LLDPE, drainage geocomposite, and HDPE piping.

Summer 2003 – General Alum Corporation, Searsport, ME, Alum Pond Closure - Resident engineer and quality assurance monitor for 1/2-acre alum mud pond closure. Closure consists of a 40-mil textured LLDPE geomembrane overlain by drainage geocomposite and cover soil

Winter 2003/2004 – International Paper, Bucksport, ME, Leachate Forcemain Project - Resident project engineer providing daily oversight and quality assurance during construction 2500-feet of dual containment HDPE pipe installation between a landfill (leachate pond) and paper mill. System consists of 10"-SDR17 inner pipe and 16"-SDR26 outer pipe with stainless steel piping in manholes and vault structure.

Spring 2004 – Katahdin Paper Co., Millinocket, ME, Cell 14 Construction/ Cell 12 Closure - Project engineer for design of 10-acre new cell and closure of 5-acre cell at paper mill landfill. New cell system consists of soil containment berm and 200 feet of 6-inch HDPE toe drain piping. Closure consists of 12-inches drainage sand, 12 or 18-inches of compacted clay and 6-inches topsoil. Design consisted of plans, sections & details, construction specifications (QA/QC) and engineer's cost estimate. Typical calculations for stormwater design, pipe sizing and pipe spacing.

Summer 2004 – Katahdin Paper Co., Millinocket, ME, Cell 14 Construction/ Cell 12 Closure - Resident engineer providing part time oversight and quality assurance during construction of a 10-acre landfill cell and closure of 5-acre landfill cell. New cell system consists of soil containment berm and 200 feet of 6-inch HDPE toe drain piping. Closure consists of 12-inches drainage sand, 12 or 18-inches of compacted clay and 6-inches topsoil.

Fall 2004 – Miller Industries, Lisbon, ME, LEDA PCB Investigation - Field engineer for PCB investigation at former industrial site. Prepared work plan, provided oversight for drilling contractor, logged samples and prepared findings report. Drilling consisted of 72 geoprobe borings ranging from 4' to 30' and 23 hand auger borings ranging from 1' to 5'.

Spring 2005 – Dragon Products, Thomaston, ME, CKD Pile Closure Design - Project engineer for the design of an 11-acre cement kiln dust (CKD) storage pile final cover system. System consists of 18 inches compacted clay, 6 inches amended topsoil, and 400 feet of 4-inch HDPE force main. Design included stormwater detention pond.

Summer 2005 – Sappi Paper, Hinckley, ME, Cell 10 Construction - Resident engineer and quality assurance monitor providing daily oversight and quality assurance during construction of a 5-acre landfill cell. System consists of 12 inches leak detection sand, GCL, 80-mil textured HDPE primary

geomembrane, drainage geocomposite, 12" leachate collection sand and HDPE piping. Construction included a pump station.

Summer 2005 – Dragon Products, Thomaston, ME, CKD Storage Pile Closure - Quality assurance monitor providing part time oversight and quality assurance during construction of a 11-acre cement kiln dust storage pile. System consists of 18 inches compacted clay, 6 inches amended topsoil, and 4-inch HDPE force main piping. Project also included installation of a clay lined stormwater detention pond.

Winter 2005-2006 – Dragon Products, Thomaston, ME, Waste Clinker Storage Pile Closure - Design of final cover system for a 12-acre waste-clinker storage pile at industrial facility. System consists of 18 inches compacted glacial-till, 6 inches topsoil, and 1000 feet of 6-inch perimeter drain. Calculations included stormwater design, leachate infiltration and cad volume calculations

Summer 2006 – Dragon Products, Thomaston, ME, Clinker Pile Closure - Geotechnical field investigation and design of clinker storage pile closure and CKD pile interceptor trench. Design of 1-acre pond. System includes: 24-inches compacted clay, 60-mil HDPE geomembrane, pump station, geomembrane lined ditches, placement of 18-inches of intermediate soil cover and 6 inches topsoil.

Summer 2006 – Katahdin Paper Company, Millinocket, ME, Cell 12 Closure - Provided part time oversight of soil closure Cell 12 at Dolby III landfill. Closure consists of 12-inches drainage sand, 12 or 18-inches of compacted clay and 6-inches topsoil. Submitted construction completion report to MEDEP.

Summer 2007 – Verso Paper, Bucksport, ME, Cell 4 Final Closure - Resident engineer and quality assurance monitor providing daily oversight and quality assurance during construction of a 4-acre landfill cell. System consists of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil, 40-mil textured LLDPE geomembrane, and 1,400 feet of 6-inch diameter HDPE toe drain piping. Installation of woven geotextile for infiltration around piping and stone bedding.

Summer 2007 – Emsource, Blue Hill, Mine Spoils Closure - Quality assurance monitor providing daily oversight and quality assurance during construction of a 11-acre mine spoils closure. System consists of 12 inches leachate collection sand, 12 inches compacted soil, 6 inches topsoil, GCL, geocomposite, and 800 feet of 6-inch HDPE toe drain piping. Project included installation of woven geotextile for infiltration around piping and stone bedding.

Fall 2007 – New Jersey American, Atlantic County, NJ, Smith Station Well - Provided oversight for pump test at water production well for Atlantic County, NJ. Observed mud rotary drilling of well to 600 feet, collecting soil samples to complete boring/well installation log for submittal to NJDEP.

*Jan. 10-11, 2008 – Orlando, FL, Continuing Education - Design of Waste Containment and Final Closure Systems. A 2-day course presented by ASCE in Orlando, FL. Richard Thiel – course instructor.

Summer 2008 – Sappi Landfill, Hinckley, ME, Cell 11 Construction - Resident Engineer providing quality assurance monitoring and daily oversight during construction of a 6-acre special waste landfill cell. System consists of 12 inch underdrain sand layer, GCL, 60-mil HDPE secondary geomembrane, secondary drainage geocomposite, 12 inches leak detection sand, 12 inches clay, 60-mil textured HDPE primary geomembrane, drainage primary geocomposite, 12" leachate collection sand and HDPE piping. Construction included a pump station with leak detection and leachate collection system.

Fall 2008 – City of Bath Landfill, Bath, ME, Intermediate Cover - Quality assurance monitor providing daily oversight and quality assurance during installation of a 2-acre intermediate cover over municipal landfill. Cover consists of 40-mil textured HDPE primary geomembrane over 12 inch sand layer.

Winter 2008 – National Semi-Conductor, Portland, ME, Soil Investigation and Remediation - On-site owner's representative during geotechnical exploration and soil remediation of TCE contaminated soil.

Summer 2009 – Farrington Mountain Landfill, Rumford, ME, Leachate Pond Construction - Resident Engineer providing quality assurance monitor and daily oversight and quality assurance during construction of a 1-1/2-acre leachate collection pond with: 12 inches compacted clay, GCL, 60-mil textured HDPE secondary geomembrane, drainage net and 60-mil textured HDPE primary geomembrane. Project also included 500-feet of 12", 24" and 36" HDPE leachate transport pipe. Provided quality assurance observation and documentation of leak location survey following construction.

Fall 2009 – City of Bath Landfill, Bath, ME, Intermediate Cover - Quality assurance monitor providing daily oversight and quality assurance during installation of a 1-acre intermediate cover at municipal landfill. Intermediate cover consists of 40-mil textured HDPE geomembrane over 12-inch sand layer.

Summer 2010 – Verso Paper, Bucksport, ME, Cell 5 Closure and Cell 6A Construction - Resident engineer and quality assurance monitor providing daily oversight and quality assurance during closure of a 4-acre landfill cell and construction of a 4-acre landfill cell. Closure system consists of 12 inches leachate collection sand, 24 inches compacted clay, 6 inches topsoil. Cell development over existing landfill included piping, clay berms and access road.

Summer 2011 – Evergreen Packaging, Canton, NC, Cell 6A West Closure - Resident engineer providing daily oversight and quality assurance during closure of a 17-acre cell for a special waste landfill. System consists of 12 inches drainage stone, 0 to 60 inches compacted orchard soil, 24 inches compacted clay, 6 inches topsoil.

Spring 2012 – Lockheed Martin Aeronautics, Marietta, GA, Stormwater Pond RB-2 Repairs - Geosynthetic quality assurance monitor providing daily oversight and quality assurance repairs and outlet structure rebuild. Installed 5,000 square feet of 60-mil textured HDPE geomembrane with battening strips attached to new concrete outlet structure. Provided certification of installation to Georgia (GA) Environmental Protection Division (EPD).

Summer 2012 – Seminole Road Landfill, Ellenwood, GA, Phase 3 Unit 3 Construction - Full time on-site geosynthetics quality assurance monitor during a 27-acre landfill construction project. Geosynthetics component consists from the bottom up of 60-mil HDPE secondary geomembrane, secondary drainage geocomposite, geosynthetic clay liner (GCL), 60-mil HDPE primary geomembrane and primary drainage geocomposite.

Winter/Spring Summer 2014 – Sinkhole Remediation Stage 5 – Isolation of Impacted Clay Liner, Southeast County Landfill (SCLF), Hillsborough County, FL - Sr. Project Engineer and Engineer of record and on-site CQA engineer during design and construction for the sinkhole remediation project at the SCLF. The project was the final stage in remediating a collapse in the active landfill area. The project entailed excavation and temporary stockpiling of existing waste; installation of about 700-lineal feet of vinyl sheet piling (25' deep); installation of 1-acre 40-mil LLDPE geomembrane isolation liner; placement of 1-acre sand protective layer; backfilling of waste; installation of LFG collection system with 3 vertical extraction wells and 1200-feet LFG piping; and, installation of 2-acres final cover system with 40-mil LLDPE geomembrane, drainage geocomposite and protective soil.

Spring 2015 – Central County Landfill, Sarasota County, FL, Phase II Leachate Pump Station - Project engineer for redesign or a leachate pump station at a Class I landfill in Nokomis, FL. **HDR**

Summer 2015 – Sinkhole Presentation, ACSE Florida Summer Conference, Orlando, FL -

Fall 2015 – Leachate Storage Tank Inspection and Repair, Southeast County Landfill, Lithia, FL. – Project manager provided out-of-service above ground storage tank inspection at leachate treatment

and reclamation facility at SCLF. Provided oversight during cleaning and maintenance of tanks. Submitted final inspection letter to FDEP. **Project: 09215600.01**

Fall 2015/Winter 2015 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.01**

Fall 2015 – Remaining Volume and Site Life Estimate, Southeast County Landfill, Lithia, FL – Project Manager for comparing existing aerial topographic survey to approved final grading plan to calculating remaining air space of landfill. Projecting current disposal rate with estimated population increase to determine remaining site life of landfill. **Project: 09215600.01**

Fall 2015 – Due Diligence Inspections, Confidential Client, Florida, Georgia, and Alabama - Project manager for inspection and reporting of multiple landfills in FL, GA, and AL. On-site inspection and reporting for three landfills. Quality control review of additional eight landfills. **Project: 27215207.00**

Fall 2015 – Building Design Environmental Components, Universal Telemundo, Miami, FL - Project Engineer for an industrial hygiene report for a confidential client located in Miami, Florida. Building and warehouse for communications/television/movie studio in Miami, FL. Environmental and civil layout for RV parking (12) with electric, water, and sewer hook-ups, RV pressure wash with recirculating water, Kitchen grease trap, garbage compactor area, studio stage construction area with welder, paint booths, carpentry equipment vents, ventilation for actor make-up areas, etc. **Project: 09215146**

Fall 2015 – Operations Permit Renewal, Hillsborough Heights Landfill, Hillsborough FL – Project Manager for operations permit renewal of closed landfill with citizen's collection center in Tampa, FL. **Project: 09215500**

Fall 2015 – Quarterly Surface Emissions Monitoring Report, Southeast County Landfill, Lithia, FL – Project Manager providing quality control review of quarterly surface emissions report for 200-acre landfill. SEM submitted as part of compliance with Title V air permit. **Project: 09215600.01**

Fall 2015 – Landfill Gas Flare Visual Emissions Test and Report, Southeast County Landfill, Lithia, FL – Project Manager for visual emissions test of candlestick flare and report submitted to FDEP. Part of compliance with Title V air permit. **Project: 09215600.01**

Fall/Winter 2015 – Intermediate Modification to Operation Permit, Southeast County Landfill, Hillsborough County, FL – Project manager for response to request for additional information from FDEP for the intermediate modification to the Landfill Operation Permit. Engineer of record for revised to include biosolids composting operations plan in Operations Plan. Revised groundwater quality monitoring plan, reducing number of wells, abandoning wells, and reducing sample frequency (quarterly to semi-annual). Restrictive covenant to use on-site soil for final closure, reducing financial assurance for closure costs. Response to RAIs from FDEP. **Project: 09215600.01**

Fall/Winter 2015 – Biosolids Composting Pad Expansion, Southeast County Landfill, Hillsborough County, FL – Project manager for expansion of biosolids composting pads at SCLF. Compost operations consisted of using shredded yard waste and biosolids to produce class A compost. Included stormwater analysis, leachate management system, grading, Operations Plan and permitting with FDEP. **Project: 09215600.01**

Winter 2015 – Quarterly Surface Emissions Monitoring Report, Southeast County Landfill, Lithia, FL – Project Manager providing quality control review of quarterly surface emissions report for 200-acre landfill. SEM submitted as part of compliance with Title V air permit. **Project: 09215600.01**

Winter 2015 – Water Use Permit Renewal, Southeast County Landfill, Hillsborough County, FL – Drafted and submitted water Use permit renewal application to Southwest Florida Water

Management District (SWFWMD). Pre-application meeting with SWFWMD, application and supporting calculations, response to RAIs. **Project: 09215600.01**

Winter 2015 - Curtis Park Corrective Actions, City of Miami, FL – Project manager assisting with design of Corrective Action Plan (CAP) in phases for Curtis Park, Miami, Florida. Athletic fields over existing ash waste on City owned property - **Project: 09213010.46**

Winter 2015 - Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual NSPS and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.01**

Spring 2016/Summer 2016 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.02**

Spring 2016 – Quarterly Surface Emissions Monitoring Report, Southeast County Landfill, Lithia, FL – Project Manager providing quality control review of quarterly surface emissions report for 200-acre landfill. SEM submitted as part of compliance with Title V air permit. **Project: 09215600.02**

Spring 2016 – Financial Assurance Cost Estimate, Southeast County Landfill, Lithia, FL – Calculate engineer's cost to close and provide 30-year monitoring for landfill using FDEP form and approved inflation factor. **Project: 09215600.02**

Spring 2016 – Solid Waste Collection Design Review, Occidental College, Los Angeles, CA – Senior Project Engineer for analysis of the existing waste and recycling areas at Occidental College, Los Angeles, California. **Project: 01215294**

Spring 2016 - C&D Facility Upgrade, New Hanover Landfill, Wilmington, NC – Project Manager providing engineering assistance for the expansion of the Construction and Demolition facility located in Wilmington, North Carolina. Design of machine dimensions and building layout/footprint. Quality control included permitting, designing, bidding assistance, Construction Quality Assurance (CQA), and certification of construction. **Project: 09208002.21**

Spring 2016 – Jetscape, Fort Lauderdale, FL, Hangar Inspection – Project Manager for building condition assessment on three jet aircraft steel hanger buildings at Ft. Lauderdale International Airport, Broward, Florida. Real estate transaction. Performed inspection and drafted report for conditions of building areas: Hangar A = 30,000 sf, Hangar B = 18,000 sf, and Hangar C = 20,000 sf. **Project: 09214017.01**

Spring 2016 – Manatee County Annual Report, Lena Road Landfill, Manatee County, FL. – Project Manager to prepare the 2015 Solid Waste Utility Annual Report for the Lena Road landfill located in Bradenton, Manatee County, Florida. **Project: 09214113.06**

Spring 2016 – Sinkhole Presentation, SWANapalooza, Charleston, SC. -

Spring/Summer 2016 – Household Hazardous Waste Expansion, Hillsborough Heights Landfill, Hillsborough County, FL – Project manager for design of expansion to household hazardous waste receiving building (concrete floor and pre-fabricated steel canopy) at Hillsborough Heights Transfer Station. Produced construction plans and specifications. Design included five geotechnical borings, stormwater analysis, coordination with structural and electrical engineers, CQA during concrete footing and floor pours (rebar). Correspondence and permitting with FDEP. **Project: 09215500.01**

Summer 2016 – Curtis Park Amenities, City of Miami, FL – Project manager for stormwater design of park amenities including ball field and dugouts. Design of public parks amenities for Curtis Park located in Miami, Florida. **Project: 09213010.63**

Summer 2016 – Wastewater Treatment, Seaboard Foods LLC, St. Joseph, MO – Project Manager for quality control review of design and permit through the City of St. Joseph to install a wastewater pre-treatment system for approximately 100,000 GPD of process wastewater. Primary concern with fats, oils and grease (FOG). - **Project: 27216208.00**

Summer 2016 – Tipping Floor Repair, South County Transfer Station, Hillsborough County, FL – Project Manager for replacement of concrete surface at transfer station tipping floor. Provided plans and specifications, correspondence with FDEP and CQA during installation of Laticrete (specialty topping) **Project: 09215500.01**

Summer 2016 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual NEW SOURCE PERFORMANCE STANDARDS and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.02**

Fall 2016/Winter 2016 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.03**

Fall 2016 – Remaining Volume and Site Life Estimate, Southeast County Landfill, Lithia, FL – Project Manager for comparing existing aerial topographic survey to approved final grading plan to calculating remaining air space of landfill. Projecting current disposal rate with estimated population increase to determine remaining site life of landfill. **Project: 09215600.03**

Fall 2016 – Transfer Station Feasibility Study, Huntsville Solid Waste Disposal Authority, Huntsville, AL – Project Manager for evaluating the condition of the Athens, Alabama transfer station. Developed a schedule of improvements needed. Conducted site inspection and drafted feasibility report - **Project: 09213166.11**

Winter 2016 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual NEW SOURCE PERFORMANCE STANDARDS and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.03**

Spring 2017/Summer 2017 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.04**

Spring 2017 – Financial Assurance Cost Estimate, Southeast County Landfill, Lithia, FL – Calculate engineer's cost to close and provide 30-year monitoring for landfill using FDEP form and approved inflation factor. **Project: 09215600.04**

Summer 2017 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual NEW SOURCE PERFORMANCE STANDARDS and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.04**

Summer 2017 - 2016 Solid Waste Annual Report, Manatee County, FL – Conduct on-site inspection and prepare the 2016 Solid Waste Utility Annual Report. **Project: 09217088.02**

Fall 2017/Winter 2017 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.05**

Fall 2017 – Remaining Volume and Site Life Estimate, Southeast County Landfill, Lithia, FL – Project Manager for comparing existing aerial topographic survey to approved final grading plan to

calculating remaining air space of landfill. Projecting current disposal rate with estimated population increase to determine remaining site life of landfill. **Project: 09215600.05**

Fall 2017 – Landfill Gas Collection and Control System Expansion, Lena Road Landfill, Manatee County, FL – Project Manager providing quality control review of design/bidding and construction engineering services for the Gas Collection and Control System design Phase II improvements for the Lena Road landfill, Bradenton, Manatee County, Florida. **Project: 09214113.05**

Fall 2017/Spring 2018 – New Hanover Landfill, North Carolina, Expansion – EXPAND

Winter 2017 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual New Source Performance Standards and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.05**

Spring 2018/Summer 2018 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.06**

Spring 2018 – Financial Assurance Cost Estimate, Southeast County Landfill, Lithia, FL – Calculate engineer's cost to close and provide 30-year monitoring for landfill using FDEP form and approved inflation factor. **Project: 09215600.06**

Spring 2018 – Section 16 Zone 5 Expansion, Desoto Landfill, Desoto County, FL – Senior Project manager for design of 8-acre landfill expansion and 5- acre cell closure. Assisted with CQA.

Spring 2018 – Subcell 3 Design and Construction Quality Assurance, Heart of Florida Landfill, Lake Panasoffkee, FL – Senior Project Manager providing quality control for design of 6-acre cell, Construction Quality Assurance, and Project Certification for a Class I Landfill located in Lake Panasoffkee, Florida. **Project: 09215074.15**

Summer 2018 - 2017 Solid Waste Annual Report, Manatee County, FL – Conduct on-site inspection and prepare the 2017 Solid Waste Utility Annual Report. **Project: 09217088.07**

Summer 2018 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual New Source Performance Standards and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.06**

Summer 2018 – NPDES Permit Application, Manatee County, FL – Prepare and submit National Pollution Discharge Elimination System (NPDES) Permit renewal application for Lena Road Landfill. **Project: 09217088.09**

Summer 2018 – Central County Landfill, Sarasota County, FL – Senior Project Manager to assess planning level options for addressing several potential leachate management issues at the Central County Solid Waste Disposal Complex located in Sarasota County, Florida. **Project: 09216113.05**

Fall 2018/Winter 2018 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.07**

Fall 2018 – Remaining Volume and Site Life Estimate, Southeast County Landfill, Lithia, FL – Project Manager for comparing existing aerial topographic survey to approved final grading plan to calculating remaining air space of landfill. Projecting current disposal rate with estimated population increase to determine remaining site life of landfill. **Project: 09215600.07**

Fall 2018 – Salinas Landfill, Republic Services, San Juan, Puerto Rico – Assist with Cell 4 expansion CQA

Fall 2018 thru Spring 2020 – Winget Mills Composting Facility Site Design and Permitting, Barry Recycling, Hendry County, FL – Prepare a Water Management District drainage permit application for a proposed 200-acre yard trash and biosolids composting facility in South Florida. The planned development of the site, including the construction of the raised composting pads, access roads, and new drainage ditches and conduits, will alter the drainage and therefore requires an Environmental Resource Permit (ERP) modification. Reviewed design options for treatment of stormwater runoff from compost pads to remove suspended material and reduce the discharge rate before being discharged off-site. **Project: 09216141.01, 09220035.00**

Fall 2018/Winter 2018 – Pond 2 Berm Replacement Orange County Landfill, Orange County, FL – Project manager for design, regulatory assistance, and construction administration services for repairs to a section of the Pond 2 berm at the Orange County Landfill in Orlando, Florida. Design included geotechnical evaluation and use of vinyl sheet piles. Quality control review of plans and specifications. Construction quality assurance occurred Summer 2019. **Project: 09216054.04**

Winter 2018 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual New Source Performance Standards and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.07**

Winter 2018 - Cell 7B/8 Pump Station Modification, Orange County Landfill, Orange County, FL – Quality control of design, procurement, and construction administration assistance for the Cell 7B/8 pump station modifications located at 5901 Young Pine Road in Orlando, Florida. **Project: 09219030.00**

Winter 2018 - Slag Storage Pond Inspection, Tampa Electric Company, Polk County, FL – Review historical liquid level data and pond design of leachate storage pond in Polk County. Inspect exposed liner and provide report of findings. **Project: 09219019.00**

Spring 2019/Summer 2019 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.08**

Spring 2019 – Financial Assurance Cost Estimate, Southeast County Landfill, Lithia, FL – Calculate engineer's cost to close and provide 30-year monitoring for landfill using FDEP form and approved inflation factor. **Project: 09215600.08**

Spring 2019 – Porter Transfer Station, Orange County, FL – Design, permitting, and construction observations services to for new scalehouse, truck scale, citizen's drop-off area and HHW building. **Project: 09216054.01**

Spring/Summer 2019 – Orange County Landfill, Orange County, FL – Design, regulatory assistance, and construction administration services for repairs to a section of the Pond 2 berm at the Orange County Landfill. **Project: 09216054.04**

Spring 2019 – Tomoka Farms Landfill, Volusia County, FL – Assist with Cell 4 construction CQA. Volusia County requires the assistance of an engineer to provide CQA services during construction for Cell 4 of the North Cell at the Tomoka Farms Road LF. **Project: 09219088.00**

Spring 2019/Summer 2019 – C&D MRF Operations Permit Renewal, Central County Solid Waste Disposal Center, Sarasota County, FL – Senior Project Manager for revisions to the C&D Material Recovery Facility's (MRF) operations plan and site plan. Submit permit renewal application to the FDEP. **Project: 09216113.07**

Summer 2019 – Cell 7B/8 Pump Station Modification, Orange County Landfill, Orange County, FL – Quality control of design, procurement, and construction administration assistance for the Cell 7B/8

pump station modifications located at 5901 Young Pine Road in Orlando, Florida. **Project: 09216054.07**

Summer 2019 - 2018 Solid Waste Annual Report, Manatee County, FL – Conducted the evaluations of the solid waste management facilities needed to provide verification of compliance with revenue bond requirements and operational requirements for infrastructure and facilities subject to review for fiscal year 2018. **Project: 09217088.13**

Summer 2019 – Medley Landfill - Waste Management - Assist with Phase 5 Closure CQA

Summer 2019 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual New Source Performance Standards and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.08**

Summer 2019 - Evaporator Upgrade Work Plan for Oak Grove Landfill, Republic Services, Winder, GA – Senior Project Manager for quality control review of leachate evaporator assessment of Work Plan to improve operations and odor control, Oak Grove Landfill, Winder, GA. - **Project: 07217042**

Summer 2019 – Leachate Management System, Roseburg Landfill, Douglas County, OR – Senior Project Manager for quality control review of leachate treatment system bid package. **Project: 04217027**

Summer 2019 – Section 16 Zone 5 Expansion, DeSoto County Landfill, DeSoto County, FL - Perform design, permitting, and construction phase services for a ____-acre landfill expansion in Desoto County, Florida **Project: 09215123.00**

Fall 2019/Winter 2019 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.09**

Fall 2019 - 2019 Financial Responsibility Cost Estimates, Orlando, Florida – Assisted with and provided Quality assurance for the Fiscal Year 2019 Financial Responsibility Cost Estimates. **Project: 09219030.04**

Fall 2019 – Remaining Volume and Site Life Estimate, Southeast County Landfill, Lithia, FL – Project Manager for comparing existing aerial topographic survey to approved final grading plan to calculating remaining air space of landfill. Projecting current disposal rate with estimated population increase to determine remaining site life of landfill. **Project: 09215600.09**

Winter 2019/Spring 2020 – 2019 Stormwater System Revisions, Lena Road Landfill, Manatee County, FL. - Develop plans, provide bidding assistance and CQA to install a sidebank filter system and underdrain system within Pond #1 to replace existing disc system. The system was designed similar to a French Drain to retain solids in the pond with perforated HDPE, bedded in coarse aggregate and wrapped with a geotextile filter fabric. A control/discharge structure designed to contain water and allow filtration to the piping system but also provide adequate discharge during heavy rainfall events. **Project: 09217088.16**

Fall 2019 thru Summer 2020 – Guantanamo Bay Landfill, US Navy, Guantanamo Naval Station, Cuba – Senior Project Manager for Design-build for Solid Waste Facility at Naval Station Guantanamo Bay (NSGB), Cuba. Includes new landfill, site utilities, and Materials Recovery Facility. Engineer of record for swf design of 11-acre solid waste landfill at naval base in Guantanamo Bay, Cuba. **Project: 02219046**

Fall 2019 – Solar Energy evaluation, Transfer Stations, Hillsborough County, FL – Project Manager for an evaluation of efficiency of adding solar panels at three transfer stations to offset electrical supply. Sites included Northwest Transfer Station, South County Transfer Station, and Hillsborough

Heights. Report consider capital cost and operational cost compared to potential savings from solar energy. **Project: 09259500.02**

Winter 2019 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual New Source Performance Standards and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.09**

Winter 2019 – New Scalehouse Design, Porter Transfer Station, Orange County Florida – Project Manager for quality control of design, permitting, and construction observations services for the new scalehouse, truck scale, citizen's drop-off area and HHW building for Orange County, Florida. **Project: 09216054.01**

Spring 2020/Summer 2020 – Monthly Survey and Volume Report, Southeast County Landfill, Lithia, FL – Monthly review of Contractor survey data, waste density calculations, and compliance with fill sequence plans. **Project: 09215600.10**

Spring 2020 – Financial Assurance Cost Estimate, Southeast County Landfill, Lithia, FL – Calculate engineer's cost to close and provide 30-year monitoring for landfill using FDEP form and approved inflation factor. **Project: 09215600.10**

Spring 2020 – Perdido Landfill Leachate Treatment Study, Escambia County, FL – Senior Project Manager for initial feasibility study of the landfill leachate management system. Leachate from landfill pumped to Emerald Coast Utility Authority wastewater treatment plant for treatment and disposal. Ammonia concentrations in leachate well above contract level causing the ECUA to restrict volume. Evaluated various treatment options for total nitrogen and provide recommendations to County. Investigation included sampling for PFAS and evaluation of options for PFAS treatment. **Project: 09219039**

Spring 2020 – RO Conditioned Leachate Injection, New Hanover Landfill, Wilmington, NC – Senior Project Manager for pilot study to evaluate the feasibility of injection reverse osmosis (RO) concentrate via vertical well in the landfill. Installed two 6-inch diameter injection wells 80 to 100 feet deep, conducted study injecting reverse osmosis concentrate into wells in closed landfill Cells 3B and 4A, New Hanover Landfill, Wilmington, NC. **Project: 07220064**

Spring 2020 – PFAS Investigation, Cross State Landfill, Solid Waste Authority, Palm Beach FL – Senior Project Manager providing oversight and quality assurance during the sampling of soil, groundwater, and surface water for analysis of Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS). Developed workplan for client approval prior to field investigation. The investigation required DPT drilling to collect soil and surficial groundwater samples. Reviewed lab analysis results and assisted with writing summary report. Investigation conducted at the Cross State Landfill in West Palm Beach, Florida owned by Solid Waste Authority. A portion of the Site leased to the Palm Beach County Fire Department. **Project: 09220095.00**

Summer 2020 – Semi-Annual NSPS and SSM Report, Southeast County Landfill, Lithia, FL – Submit semi-annual New Source Performance Standards and Start-Up, Shutdown, and Maintenance Report to FDEP as part of landfill gas compliance under Title V. Report includes ??????????????. **Project: 09215600.10**

Summer 2020 - 2020 Solid Waste Annual Report, Manatee County, FL – Project Director providing support for the evaluations of the solid waste management facilities and infrastructure for annual report to Board of County Commissioners. **Project: 09217088.19**

McKin superfund wells

Auburn Road

Calcomp

Phase II geotechnical evaluation and slope stability

Phase III-VI geotechnical evaluation and slope stability

Phase III geotechnical evaluation and slope stability

Combined Dragon - Dragon Products, Thomaston, ME – CKD and Waste Clinker Storage Pile Closures

Design, permitting and construction quality assurance for the final cover systems of an 11-acre cement kiln dust storage pile and 12-acre waste clinker storage pile at an industrial facility. The CKD closure system consists of 18 inches compacted clay, 6 inches amended topsoil, and 4-inch HDPE force main piping, as well as a clay lined stormwater detention pond. The Clinker storage pile closure system consists of 18 inches compacted till, 6 inches topsoil, and 1000 feet of 6-inch perimeter drain. Calculations included stormwater design, leachate infiltration and CAD volume calculations.