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July 21, 2022

Melanie A. Bachman, Esq.
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Docket No. 3B - The United Illuminating Company Amended Certificate of Environmental Compatibility and Public Need for Replacement of a Portion of the Existing Derby – Shelton 115-kV Electric Transmission Line Facility

Dear Ms. Bachman:

Enclosed for filing with the Connecticut Siting Council ("Council") is The United Illuminating Company's Pre-Hearing Submission.

An original and fifteen (15) copies of this filing will be hand delivered to the Council.

Should you have any questions regarding this letter, please do not hesitate to contact me.

Very truly yours,

Bruce L. McDermott

Enclosures

cc: Service List

Murtha Cullina LLP
265 Church Street
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STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

The United Illuminating Company Amended Certificate of Environmental Compatibility and Public Need for replacement of a portion of the existing Derby – Shelton 115-kV electric transmission line facility. Reopening of this Certificate based on changed conditions pursuant to Connecticut General Statutes §4-181a(b)	:	Docket No. 3B
	:	July 21, 2022

PRE-HEARING SUBMISSION OF THE UNITED ILLUMINATING COMPANY

The United Illuminating Company ("UI") hereby submits its response to the June 22, 2022 memorandum issued by the Connecticut Siting Council (the "Council") in preparation for the July 28, 2022 hearing before the Council on UI's above-captioned Application (the "Project"):

I. Witnesses

UI expects the following individuals will appear before the Council as available witnesses:

1) Todd Berman, Manager, Environmental Programs & Projects, UI, 100 Marsh Hill Road, Orange, CT 06477. Mr. Berman will provide information on the environmental review, effects, proposed mitigation measures and environmental permitting requirements.

2) Joe Dietrich, P.E., Senior Project Manager, Permitting Lead, Westwood Professional Services, 1684 S. Broad Street, Suite 120, Lansdale, PA 19446. Mr. Dietrich provide information concerning the transmission aspects of the Project as well as information on the design of the project. Mr. Dietrich's curriculum vitae is attached as Attachment A.

3) Sathish Konduru, P.E., Principal Transmission Engineer, Westwood Professional Services, 1684 S. Broad Street, Suite 120, Lansdale, PA 19446. Mr. Konduru will provide information concerning the transmission aspects of the Project as well as information on the design of the project. Mr. Konduru's curriculum vitae is attached as Attachment B.

4) Dr. Benjamin Cotts, Ph.D., P.E., Principal Engineer, Exponent, 17000 Science Drive, Suite 200, Bowie, MD 20715. Dr. Cotts will provide information concerning electric and magnetic fields associated with the Project. Dr. Cotts' curriculum vitae is attached as Attachment C.

5) Leslie Downey, Outreach Specialist, Public Outreach Projects, 100 Marsh Hill Road, Orange, CT 06477. Ms. Downey will provide information on municipal and customer outreach implemented for the Project.

6) David R. George, M.A., R.P.A., Principal Investigator, Heritage Consultants, LLC, 830 Berlin Turnpike, Berlin, CT 06037. Mr. George will provide information on the Company's consultations with the State Historic Preservation Office relating to the project. Mr. George's curriculum vitae is attached as Attachment D.

7) Mike Libertine, LEP, Vice President, All-Points Technology Corporation, P.C., 567 Vauxhall Street Extension, Suite 311, Waterford, CT 06385. Mr. Libertine will provide information related to the visibility of the proposed project. Mr. Libertine's résumé is attached as Attachment E.

8) Kevin McMahon, Senior Project Manager, UI, 100 Marsh Hill Road, Orange, CT 06477. Mr. McMahon will provide information on the Project and its design as well as technical information concerning the Project's safety and reliability, the site selection process, and the environmental effects and proposed mitigation measure, and other matters as outlined in UI's filing to the Council.

9) Annette Potasz, Real Estate Projects, UI, 100 Marsh Hill Road, Orange, CT 06477. Ms. Potasz will provide information on real estate matters concerning the project.

10) Edward Roedel, Principal Engineer, Strategic Planning, UI, 100 Marsh Hill Road, Orange, CT 06477. Mr. Roedel will provide information concerning project cost allocations.

11) MeeNa Sazanowicz, Transmission Line Standards, UI, 100 Marsh Hill Road, Orange, CT 06477. Ms. Sazanowicz will provide information concerning the transmission aspects of the project as well as information on the design of the project.

12) Jasun Van Horn, Environmental Permitting & Compliance Specialist, UI, 100 Marsh Hill Road, Orange, CT 06477. Mr. Van Horn will provide information on the environmental review, effects, proposed mitigation measures and environmental permitting requirements.

13) Josh Wilson, Senior Wetland Ecologist, Biohabitats, Inc. 122a Naubuc Avenue, Galstonbury, CT 06032. Mr. Wilson will provide information on the environmental/ecological review, effects, proposed mitigation measures and environmental permitting requirements. Mr. Wison's résumé is attached as Attachment F.

II. Pre-Filed Testimony

UI is filing direct testimony to the Council concerning the virtual tour of the Project route.

III. Documents to be Administratively Noticed

At this time, UI does not ask that the Council take administrative notice of any documents other than those contained in the Council's Administrative Notice List.

IV. Exhibits

UI is submitting an affidavit of Kevin McMahon regarding sign posting.

V. Public Comment Session

The Company has designated Kevin McMahon as the presenter during the July 28, 2022 public comment session. Mr. McMahon will provide a brief presentation describing the proposed Project using Figure 1-1 on page 1-2 of the Company's Exhibit, Overview in Support of the Petition to Reopen and Modify Docket No. 3. See Attachment G.

Respectfully submitted,

THE UNITED ILLUMINATING COMPANY

By: _____

Bruce L. McDermott, Esq.
Murtha Cullina LLP
265 Church Street
New Haven, CT 06510
Tel: 203-772-7787
bmcdermott@murthalaw.com

CERTIFICATION

This is to certify that on this 21st day of July, 2022, a copy of the foregoing has been electronically delivered to all other known parties and intervenors.

Bruce L. McDermott

Westwood

JOSEPH DIETRICH, PE
Senior Project Manager, Permitting Lead
Westwood Surveying and Engineering, P.C.
1684 S. Broad Street, Suite 120
Lansdale, PA, 19446
(215) 647-8090
Joe.dietrich@westwoodps.com

Overview
Joe is a licensed professional engineer with over 28 years of experience managing, permitting, designing, and conducting site analysis studies for a wide variety of civil, environmental, and geotechnical engineering projects. He has performed and managed numerous projects involving improvements and construction of electric transmission line and substation facilities, utility and distributed scale solar generation developments, and public and private facilities. His experience includes environmental and natural resource regulatory analyses, studies, and permitting; facility siting and routing, design of infrastructure improvements (roadway, storm, and sanitary systems); site grading design; hydrologic and hydraulic studies; stormwater management design; E&S control, NPDES, SWPPP design and permitting; geotechnical engineering investigations; construction quality control and assurance; due diligence and environmental site reviews and assessments.

Project Experience
115kV Railroad Project, Fairfield and New Haven Counties, CT, United Illuminating – Permitting lead responsible for overseeing the development of natural resource permitting plans and applications, civil access plans, MCF and Application Mapping, and D&M plans in support of two segments of a 115 kV transmission line rebuild project. Milvon to West River segment is approximately 9.5 miles long and located in New Haven County and Fairfield to Congress segment is approximately 7.5 miles long and located in Fairfield County. Project includes relocation of transmission lines off existing CT DOT/Metro North Railroad catenary bonnets to new monopoles generally located within the CT DOT ROW. Responsibilities include support of the UI project team and environmental staff for project wetlands delineations, natural resource studies, coordination with state agencies (CT DEEP, CT SHPO), MCF Filing, CSC Application and activities related to the Project's assessment, siting, design, and permitting.

Derby Junction to Ansonia 115kV Rebuild Project, Fairfield and New Haven Counties, CT, United Illuminating – Permitting lead responsible for overseeing the development of civil access plans, Motion to Reopen Mapping, and D&M plans in support of a 4-mile 115 kV transmission line rebuild project. Project includes the removal of existing lattice towers, installation of new monopole structures, and rebuild of three 115kV circuits within existing UI ROWs from UI's interconnection with Eversource (Derby Junction in Shelton) to Indian Well Substation in Derby and Ansonia Substation in Ansonia. Responsibilities included support of the UI project team and environmental staff for the development of civil access plans, MPT plans and mapping documents for the CSC filing.

Underground Transmission Line 705, Rockland County, NY, Confidential Utility Client – Civil engineering task manager for civil engineering design and permitting tasks for a 5.5-mile Article VII project. Responsibilities included overseeing route selection, environmental studies (wetland and stream delineation, Phase I ESA, cultural resources, geotechnical program, etc.), alternative route evaluations, noise studies, utility coordination, permitting, and development of public involvement plan.

Brewster TLD Line 812, Pole 10 Replacement, Croton Falls, NY, Avangrid – Project manager responsible for overseeing the completion of a geotechnical boring program and subsurface investigation report for replacement of a two-pole guyed structure supporting a double circuit 46kV transmission line with a single shaft pole structure. Project included a utility/geophysical study, soil boring, laboratory testing, engineering analyses, and report summarizing findings and presenting subsurface construction recommendations.

Kiryas Joel Gas Main Replacement Project, Town of Monroe and Village of Kiryas Joel, Orange County, NY, Confidential Power Utility Client – Program manager responsible for the execution of environmental studies and permitting for the installation of approximately 0.75 miles of 12" PLX gas main. The completed studies and permitting included wetlands and stream delineations, habitat assessment, cultural resource studies and SHPO consultation, USFWS consultation, NYSDEC Article 24 permit, and local municipal floodplain and wetland permits.

Transformer Storage Area Evaluation, Multiples Counties Southeastern PA, PECO Energy Company – Project manager responsible for the evaluation of typical PECO transformer storage areas and development of conceptual alternatives to minimize or eliminate ponding water within the curbed storage areas. Evaluation and summary report included the identification and assessment of motorized canopy systems and drainage systems, potential implementation costs, and pros/cons of each system.

Whitemarsh Substation and Transformer Resiliency Pad Permitting, Montgomery County, PA, PECO Energy Company – Engineering task leader. Project included performing site civil design and environmental permitting services to support the construction of a new rail spur, heavy haul access road, and truck turn-around area, and transformer storage pad at PECO's Whitemarsh Substation. Responsible for grading, drainage and erosion and sediment control (E&SC) design; and permanent stormwater management plan to support the application for a Minor Earth Disturbance Permit from Whitemarsh Township and E&S permit from Montgomery County Conservation District.

NEPA Support Services, Great Swamp National Wildlife Refuge, New Vernon, NJ, Confidential Power Utility Client – Project manager responsible for providing National Environmental Policy Act (NEPA) support services for a proposed transmission line crossing the Great Swamp National Wildlife Refuge and included the preparation of an Environmental Assessment (EA) document. The EA addressed natural resources, socioeconomic issues, air quality, noise, and cultural resources and the potential impacts to the site resources. In

coordination with the client and lead agency, the project team supported interagency coordination, scoping, and public outreach/engagement activities.

Lewis-Ontario No. 2 69 kV Transmission Line Rebuild, Pleasantville, Atlantic County, NJ, Atlantic City Electric – Civil engineering task manager responsible for the preparation of permits and approvals necessary for rebuilding 6.2 miles of the existing No. 2 69 kV transmission line in Atlantic County. Project included replacement of existing wooden monopoles with steel monopoles and approximately 900 feet of underground line. Responsible for the compilation of plans, calculations, narratives, and application forms for Erosion and Sedimentation Control, NPDES, FHA, and FWW permits and completion of constructability and site reviews for access roads, work pads, and structure locations.

Bear Creek Tower Rehabilitation Project, Baltimore, MD, Baltimore Gas & Electric – Permitting task manager responsible for overseeing the environmental impact review, environmental protection design, and permitting and agency coordination for the rehabilitation and reinforcement of pile foundations for three lattice transmission towers crossing Bear Creek. Project activities included a review of Federal, State, and Local environmental resource databases; quantification of the project's proposed environmental disturbances and impacts; and preparation and submission of Maryland State Programmatic General Permit-5 (MDSPGP-5) application package to MDE for review and approval.

South Reading 69kV Substation Expansion Project, Reading, Berks County, PA, FirstEnergy – Project manager overseeing environmental and civil permitting services in support of the proposed 69kV transmission line rebuild/modification project. Work responsible for included wetlands and stream delineations and reports, PNDI search and agency coordination, Phase I bog turtle habitat assessment, and development of site grading and erosion control plans and narratives to support a General NPDES Permit Application to Berks County Conservation District.

Red Bank Substation 230 kV Transmission Project, Red Bank, NJ, JCP&L – Civil engineering task manager responsible for the preparation of Erosion and Sediment Control Design and NPDES, Flood Hazard and Fresh Water Wetland permitting efforts associated with a potential new 230 kV single-circuit transmission line route to provide a third high voltage energy source to the NJ Transit Red Bank substation. Responsible for the preparation and submittal of plans, calculations, narratives, and application forms, and permit coordination for E&S control, NPDES, FHA, and FWW permits with Soil Conservation District and NJDEP.

East Towanda-South Troy 115kV Transmission Line, Bradford County, PA, Penelec – Project manager responsible for the completion of siting, PA Public Utility Commission (PUC) filing, and permitting activities for the 20 mile rebuild of the East Towanda – South Troy single-circuit 115 kV line to a double-circuit 230 kV line located between the existing substations.

Bruce Mansfield – Glenwillow 345 kV Transmission Line, Beaver County, Pennsylvania and Columbiana, Mahoning, Trumbull, Portage, Summit, and Cuyahoga Counties, OH, FirstEnergy – Civil engineering task manager responsible for the development of access road plans, erosion sediment control design, post-construction stormwater management plans and NPDES permitting for a proposed 115-mile long transmission line in Pennsylvania and Ohio. Work included coordination with regulatory agencies including County conservation districts in Pennsylvania and Ohio, PADEP Southwest Regional office, Ohio Department of Natural Resources, PENNDOT, OHDOT, and Ohio Counties and municipalities.

Education

Drexel University – Pennsylvania, MS Civil Engineering
University of Pittsburgh – Pennsylvania, BS Civil Engineering

Training and Certifications

Professional Engineer Licensed in Alabama, Colorado, Connecticut, Delaware, Georgia, Indiana, Kansas, Maryland, Mississippi, Missouri, New Jersey, New York, Ohio, Pennsylvania, South Dakota, Texas, Virginia, Washington D.C., West Virginia, Wyoming

Chronology

Westwood Professional Services, 2020 – Present
Weston Solutions, Inc., 2017 – 2020
Louis Berger, Inc., 2006 – 2017
Chester Valley Engineers, 2005 – 2006
Vollmer Associates, 2000 – 2005
NTH Consultants, Ltd., 1997 – 2000
Roy F. Weston, Inc., 1995 – 1997
Powell-Harpstead, Inc., 1993 – 1995

Westwood

SATHISH KONDURU, PE
Principal Transmission Line Engineer
Westwood Surveying and Engineering, P.C.
1684 S. Broad Street, Suite 120
Lansdale, PA, 19446
(267)-649-2603
sathish.konduru@westwoodps.com

Overview

Sathish is a Principal Engineer with up to 13 years of professional structural engineering experience in designing high voltage transmission lines and substation structures with proficient knowledge in PLS Suite and RISA 3D. He completed his Bachelor of Technology degree in Civil Engineering at Jawaharlal Nehru Technological University in India and his Master of Science degree in Structural Engineering at the West Virginia University. He has provided structural and transmission line consulting services with a practical range of experience in structural and system engineering design. He has direct experience with small- and large-scale transmission, substation, and telecommunication projects. He is very proficient in modeling lattice towers and have modeled and analyzed atleast 2500 high voltage towers (69 to 500kV) steel/aluminum lattice towers using TOWER program with lattice tower ages ranging from 30 to 110 years throughout his career.

Project Experience

HTLS Performance Specification – Responsible for developing a High-Tension Low-Sag conductor performance specification for a major client in Northeast region.

Derby Junction to Ansonia 115kV Line Rebuild – Engineering lead responsible for the design of 4.1 miles 115kV transmission line rebuilds from Derby Junction to Ansonia substation. Project includes the removal of existing lattice towers, installation of new monopole structures, and rebuild of three 115kV circuits within existing UI ROWs from UI's interconnection with Eversource (Derby Junction in Shelton) to Indian Well Substation in Derby and Ansonia Substation in Ansonia. Responsible for: spotting the structures, easement coordination, soil boring coordination, preparing plan and profiles, steel pole load trees, foundation designs, fiber designs, FAA permits, damper recommendations, crossing permits, developed construction sequencing.

Avian Mitigation Study – Responsible for performing design evaluations and reinforcemtn recommendations for installing zena avian barriers on existing 230kV transmission towers.

Line 5012 Reconductoring Feasibility Study – Responsible for performing structure analysis of 500kV lattice towers located on line 5012. Preapred summary findings report for client, which will help decide client on planning for the reconductoring the line with new ACCR conductor.

PLS TOWER training – Presented PLS TOWER training course to internal engineers and client engineers.

Owner's Engineer on Substation Civil/Structural Designs – Acting as an Owner's engineer representing Avangrid Renewables on the solar and wind EPC projects. Reviewed of the conceptual and detailed design packages for the collector substations.

Conceptual T-Line 30% Design Packages for Solar Projects – Designed conceptual line designs for routing the power from the proposed solar collection substations to the interconnection substations that are typically owned by major utilities. Responsible for: developing the design criteria document, downloaded LiDAR data from the openly available sources, designing the line using PLS CADD, developing EMF study reports, preparing 30% design drawings, communication with the client. Working on several voltages ranging from 25kV to 345kV.

Morgan Road Project Portfolio – Designed 16 miles of transmission line rebuild as a part of increasing the amperage of the line. This project included 5 segments, because of the new greenfield 230kV substation. Responsible for: spotting the structures, easement coordination, subsurface exploration coordination, soil boring coordination, preparing IFB packages, preparing plan and profiles, steel pole load trees, concrete pole orders, foundation designs, fiber designs, FAA permits, damper recommendations, crossing permits, fabrication drawing reviews, and construction IFC package. Provided field engineering support and supported with the outage sequencing questions field had due to the complex nature of this project.

BI-Crescent 138kV Line Rebuild – Designed 15 miles of transmission line rebuild as a part of removing the century old lattice towers and increasing the amperage of the line. This project included 4 phases. Responsible for: designing the line, easement coordination, preparing design drawings, preparing plan and profiles, steel pole load trees, foundation designs, fiber design, damper recommendations.

Transmission Line Engineering Standards Development – Developed excel VBA program to integrate between Excel and AutoCAD, which is used for developing standards for several clients. Responsible for creating VBA codes, user interface program, AutoCAD sheet set managers, performing fit checks, QAQC of the drafting work.

BI-Crescent 138kV Tower Maintenance Project – Modeled 10 lattice tower types to determine their adequacy for applying fall anchor loads per OSHA and Client requirements. Responsible for preparing PLS TOWER models, extracting loads from PLS CADD, applying 5kips anchor loads, performing combined axial and local bending calculations to determine the adequacy of single angle members for personnel stepping on the near horizontal members, preparing overview drawings showing the locations where the anchors can be safely applied, and report showing summary of calculations and findings. Evaluation of attaching the temporary work ladders along with the 5kip fall anchor load, combined axial and bending checks of the leg members where the ladder attaches.

500kV Substation Transformer Firewall Foundation Designs – Designed the drilled shaft foundations to support the transformer firewalls that are designed by others. Close coordination with vendor to design the anchor cage that will fit within the drilled shaft foundation.

Switch support and Bus Support Structure Designs – Modeled and Analyzed switch and bus support structures for 138kV, 230kV, and 500kV substation upgrades and provided reinforcement recommendations. Analysis calculations were performed in RISA 3D by following the ASCE 113 design standard.

Cell Site Analysis Projects – Designed lattice towers and monopoles for handling antenna equipment upgrades/new installations. Responsible for designing lattice structures and monopole structures in PLS TOWER and PLS POLE, applying antenna equipment loads, preparing structural analysis reports, and preparing fabrication drawings.

PLS TOWER Library, 80 Unique Tower Database – Modeled 80 unique tower models library using family manager as a database for all of Client's transmission facilities.

Fall Protection Analysis of 5 Lattice Tower Types Per OSHA and Duke Energy's Fall Protection Requirements – Modeled 5 lattice tower types to determine their adequacy for applying fall anchor loads per OSHA and Client requirements. Responsible for preparing PLS TOWER models, extracting loads from PLS CADD, applying 1.8kips and 5kips anchor loads, performing combined axial and local bending calculations to determine the adequacy of single angle members for personnel stepping on the near horizontal members, preparing overview drawings showing the locations where the anchors can be safely applied, and report showing summary of calculations and findings.

115kV Sutton to Castle Hayne Rebuild Project – Designed 8 miles of transmission line rebuild as a part of increasing the amperage of the line. All structures will utilize Vibratory Caisson Foundations. Used APile and LPile software to perform static axial and lateral capacity calculations and GRLWEAP to estimate the foundation capacities while driving the pile foundations. Responsible for spotting the structures, preparing plan and profiles, steel pole load trees, vibratory caisson foundation designs, fiber design, FAA permits, damper recommendations, crossing permits, fabrication drawing reviews, and construction package.

Underground Manhole Retrofits – Responsible for designing and analyzing the underground vault manhole structures to withstand the potential upward blast pressure. Performed structural calculations and determined the solution to anchor the manhole lid to the top slab to withstand blast pressures developed inside the vaults. Provided construction support and performed QA/QC for the construction drawings.

Winter Park East to West Chapman Rebuild Project – Designed 5 miles of transmission line rebuild as a part of increasing the amperage of the line. Responsible for spotting the structures, easement coordination, subsurface exploration coordination, soil boring coordination, preparing plan and profiles, steel pole load trees, concrete pole order, foundation designs, fiber design, FAA permits, damper recommendations, crossing permits, fabrication drawing reviews, and construction package. Provided field engineering support.

PennDOT Relocation Project – Designed 2 miles of transmission line reroute as a part of PennDOT S.R 15 extension. Responsible for spotting the structures, preparing plan and profiles, steel pole load trees, drilled shaft foundation designs, fiber design, damper recommendations, crossing permits, fabrication drawing reviews, and construction package.

RPMX Line Rebuild Feasibility Study – Designed and analyzed 6.5 miles of transmission line as part of a feasibility study to evaluate the upgrade of conductors to increase the amperage. Responsible for: building the line, loading the structures with new proposed conductors, structure checks, foundation study, and prepared findings report.

Jackson Bluff – Lake Talquin, 6mi 115kV Transmission Line – Responsible for QA/QC review and preparing the load tree diagrams and foundation analysis for the steel poles on the project.

Wekiva – North Longwood, 11mi 230kV Transmission Line Rebuild – Responsible for QA/QC review and preparing the load tree diagrams and foundation analysis for the double circuit steel pole line.

Inverness-Lecanto, 11mi 115kV Transmission Line – Responsible for QA/QC review and preparing the load tree diagrams and foundation analysis for the steel poles on the project.

Grillage Foundation Designs for 138kV Matt Funk Project – Designed steel pyramid grillage foundations for 138kV transmission towers for Matt Funk project. Performed detailed geotechnical and connection designs following the IEEE 691-2001, AASHTO 2004, and AISC 13th Edition standards.

Peer Review of Substation Structures – Detailed peer review of Sugarloaf and Sparkill substation structures for Orange and Rockland Utilities. Detailed peer review of substation structures that were modeled in RISA – 3D according to AISC LRFD 13th edition. Verified the models with conductor loads, short circuit loads, extreme wind loads, and ice loads with various combinations as per ASCE 113 – "Substation Structure Design, American Society of Civil Engineers, 2008".

Field Inspections of Vintage Transmission Lines – Inspected over 200 structures including poles and towers. Inspections included visual inspection for ground line corrosion at 1 to 2 feet below ground line for primarily grillage and malone type foundations. Also included visual inspection of insulators, line hardware, conductors and shield wires. For concrete foundations, corrosion conditions and soundness of the concrete was evaluated.

Grillage Foundation Designs for 500kV TRAIL Project – Designed steel pyramid grillage foundations for 500kV transmission towers for Trans-Allegheny Interstate Line (TRAIL) project. Performed detailed geotechnical and connection designs following the IEEE 691-2001, AASHTO 2004, and AISC 13th Edition standards.

Verification of Anchor Bolts Strength – Verification of anchor bolts strength for Midway – St Lucie 230kV river crossing pole structure foundations. Provided recommendations based on the findings.

Elevator Base Platform Design for 500ft Tall Hudson River Crossing Lattice Structures – Responsible for the design of elevator base platform designs for 500ft tall Hudson river crossing towers. Also, prepared the detail drawings and bill of materials for elevator base platform.

Modeling and Analysis of 345kV Lattice Towers for D and K Lines – Responsible for the evaluation of approximately 450 steel lattice towers of 345kV D and K Lines from Millwood to Pleasant Valley substations. Performed the site inspection of all the towers

to validate the tower models and prepared reports to provide recommendations for fixing the over-stressed members.

765kV Massena and Marcy MOD Switch Replacements – Responsible for designing and analyzing vertical MOD switch support structures and high bus support structures for 765kV Marcy and Massena substations.

230kV and 500kV fiber upgrade projects – Responsible for modeling method 4 structures for 230 and 500kV lattice towers for new loading from OPGW stringing. Generated around 20 lattice towers of 230kV and 200 lattice towers of 500kV.

Drilled Shaft Foundation Designs for 138kV Transmission Line – Responsible for the design of drilled shaft foundations for around 90 monopole structures using LPile software. Developed program using Excel VBA to auto generate LPile inputs.

Structural Analysis of Lattice Towers for Line Upgrade from 138kV to 230kV – Involved in modeling method 4 structures for A and B line upgrades from 138kV to 230kV conductor loadings. Also, performed site walk down to check the existing conditions of the line.

EU NET Fiber Install Projects – Responsible for the design and review of underbuilt and overhead fiber installations on transmission lines ranging from 69kV to 500kV. Tasks to include downloading PASDA data, creating alignments, modeling structures, stringing conductors, designing the new underbuilt fiber, and constructability site walk downs. Developed programs using Excel VBA tool to auto generate stringing charts, reel length charts, bill of materials, work location notes and vibration damper placements.

66kV to 115kV PLS CADD Line Reviews – Responsible for the line modeling and detailed review of several lines ranging from 66kV to 115kV PLS-CADD models and developed a checklist for review purposes.

Structural Analysis of 138kV, 230kV and 500kV Lattice Towers – Responsible for modeling method 4 structures for several 230 and 500kV lattice towers for new loading from OPGW stringing and antenna loading.

Education

West Virginia University – Mogantown, WV, MS Civil/Structural Engineering
Jawaharlal Nehru Technological University – Hyderabad, India, BTech Civil Engineering

Registrations, Training, Affiliations

Professional Engineer Licenses:
California – PE # C80206,
Connecticut – PE # 0035444
Florida – PE # 79771,
New York – PE # 105222
Pennsylvania – PE # 092450

Chronology

Westwood Professional Services: 2021 – Present
Stantec Consulting Services: 2014 – 2021
Main Line Energy Consultants: 2012 – 2014
CG Power Solutions: 2011 – 2012
Digioia Gray and Associates: 2009 – 2011

Exponent®
Engineering & Scientific Consulting

Benjamin R.T. Cotts, Ph.D., P.E.

Senior Managing Engineer | Electrical Engineering & Computer Science
17000 Science Drive, Suite 200 | Bowie, MD 20715
(301) 291-2519 tel | bcotts@exponent.com

Professional Profile

Dr. Cotts is experienced in both applied and theoretical electromagnetics and plasma physics including modeling and measurement analyses of natural and anthropogenic electromagnetic fields such as space weather, and geomagnetic storms as well as in the initiation, field effects, and characteristics of lightning discharges. Dr. Cotts performs modeling and measurement studies of power system EMF, audible noise, and radio noise including evaluations of 500-kV AC and ±560 kV DC transmission lines. Dr. Cotts has further experience in modeling magnetic fields and induced electric fields for offshore wind farms including those from wind turbines, offshore substations and subsea AC and DC transmission lines and is an officer in the IEEE working group for Corona and Field Effects overseeing IEEE standards 644, 430, 656, 1542, 1227, 2746, 1829 and 1308.

Dr. Cotts also performs various types of electromagnetic field evaluations for devices and systems including smart meter mesh networks and government/military communications facilities as well as exposure, EMI or EMC assessments. These assessments are provided for clients such as federal and state agencies, utilities, hospitals, medical-device manufacturers, construction developers, the U.S. military. In addition, Dr. Cotts regularly receives requests to perform exposure assessments for patients with pacemakers, ICDs, and other implantable medical devices and to remediate EMI issues for medical devices and in health care settings.

Dr. Cotts has been a leading figure in coordinating scientific outreach to developing countries through the United Nations International Heliophysical Year (IHY) and International Space Weather Initiative (ISWI) programs and was a founding member of a NASA/UN-sponsored conference series organized and led multiple conferences on atmospheric and space science.

Dr. Cotts's has a decade of experience with the initiation, field effects, and propagation of lightning discharges; combining remote sensing measurements of ionospheric disturbances with numerical modeling of atmospheric, ionospheric, and magnetospheric interactions to determine the role of global lightning on the removal of radiation belt electrons. These radiation belt electrons are a critical factor in space weather for determining the effective lifetime of spacecraft with electronics that can be irreversibly damaged by radiation belt electrons.

Additionally, Dr. Cotts software engineering experience includes the use of Matlab, C, C++, and a variety of other scientific packages including Mathematica and COMSOL. He has experience with auditing software processes and algorithms used during his investigations related to control systems involved in failure events.

Academic Credentials & Professional Honors

Ph.D., Electrical Engineering, Stanford University, 2011

M.S., Electrical Engineering, Stanford University, 2004

B.S., Electrical Engineering, University of Portland, summa cum laude, 2002

Outstanding Student Paper Award, AGU Fall Meeting, San Francisco, California, 2004

Tau Beta Pi Engineering Honor Society

Delta Epsilon Sigma, National Scholastic Honor Society

Awarded “2017 IEEE Standards Medallion” For contributions to standards development in power and energy distribution.

Awarded the "2014 Fire Protection Research Foundation Medal" by the NFPA's Fire Protection Research Foundation for the 2013 research project ("Best Practices for Emergency Response to Incidents Involving Electric Vehicles Battery Hazards: A Report on Full-Scale Testing Results") that best exemplified the Foundation's fire safety mission at the National Fire Protection Association's Conference & Exposition, June 2014

Licenses and Certifications

Licensed Professional Electrical Engineer, California, #21277

Prior Experience

Post Doctoral Scholar, University of Colorado, Denver, 2011

International Science Outreach Manager, Stanford University, 2007-2011

Research Assistant, Stanford University, 2002-2011

Energy Research Fellow, Stanford Linear Accelerator Center, 2001

Professional Affiliations

Institute of Electrical and Electronics Engineers — IEEE

International Committee on Electromagnetic Safety — ICES

International Council on Large Electric Systems — CIGRÉ

Publications

Peer Reviewed Publications

Gołkowski M, Gross NC, Moore RC, Cotts BRT, Mitchell M. Observation of local and conjugate ionospheric perturbations from individual oceanic lightning flashes. Geophysical Research Letters 2014; 41:273-279. doi:10.1002/2013GL058861.

NaitAmor, S, Cohen MB, T. Cotts BR, Ghalila H, AlAbdoadaim MA, Graf K. Characteristics of long

recovery early VLF events observed by the North African AWESOME Network. Journal of Geophysical Research: Space Physics 2013; 10.1002/jgra.50448

Haldoupis, C, Cohen M, Arnone E, Cotts B, Dietrich S. The VLF fingerprint of elves: Step-like and long-recovery early VLF perturbations caused by powerful ±CG lightning EM pulses. Journal of Geophysical Research: Space Physics, 2013. doi: 10.1002/jgra.50489.

Haldoupis C, Cohen M, Cotts B, Arnone E, Inan U. Long-lasting D-region ionospheric modifications, caused by intense lightning in association with elve and sprite pairs. Geophysical Research Letters 2012; 39:L16801. doi:10.1029/2012GL052765.

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Cotts BRT, Gołkowski M, Moore RC. Ionospheric effects of whistler waves from rocket-triggered lightning. Geophysical Research Letters 2011; 38:L24805. doi:10.1029/2011GL049869.

Cotts BRT, Inan US, Lehtinen NG. Longitudinal dependence of lightning-induced electron precipitation. Journal of Geophysical Research 2011; 116:A10206. doi:10.1029/2011JA016581.

Cotts BRT. Global quantification of lightning-induced electron precipitation using very low frequency remote sensing. Doctoral Dissertation, Stanford University, 2011.

Haldoupis C, Amvrosiadi N, Cotts BRT, Van der Velde O, Chanrion O, Neubert T. More evidence for a one-to-one correlation between Sprites and Early VLF perturbations. Journal of Geophysical Research 2010, 115:A07304. doi:10.1029/2009JA015165.

NaitAmor S, Al Abdoadaim MA, Cohen MB, Cotts BRT, Neubeurt T, Soula S, Chanrion O, Abdelatif T. VLF observations of ionospheric disturbances in association with TLEs from the Eurosprite-2007 Campaign, Journal of Geophysical Research 2010; 115:A00E47. doi:10.1029/2009JA015026.

Cotts BRT, Inan US. VLF observation of long ionospheric recovery events. Geophysical Research Letters 2007; 34:L14809. doi:10.1029/2007GL030094.

Reports

Snyder DB, Bailey WH, Palmquist K, Cotts BRT, Olsen KR. Evaluation of Potential EMF Effects on Fish Species of Commercial or Recreational Fishing Importance in Southern New England. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Headquarters, Sterling, VA. OCS Study BOEM 2019-049, August 2019.

Long RT, Blum AF, Bress TJ, Cotts, BRT. Best practices for emergency response to incidents involving electric vehicle battery hazards. Fire Protection Research Foundation Report, 2013.

Other Publications

Cotts, BRT, Graf KL, Bailey, WH. Electromagnetic Interference Considerations for Electrical Power Systems. Ch. 5 in: The Power Grid: Smart, Secure, Green, and Reliable. D'Andrade B (ed). Elsevier Ltd., 2017, 137-170.

Cotts, BRT, Prigmore, JR, Graf KL. HVDC Transmission for Renewable Energy Integration. Ch. 6 in: The Power Grid: Smart, Secure, Green, and Reliable. D'Andrade B (ed). Elsevier Ltd., 2017, 171-196.

Pooley M, Cotts B, Brennan, III JF. Compatibility of medical devices with electromagnetic and wireless

signals. North Carolina Associate of Defense Attorneys The Resource; 2017 Sept.

Phan SK, Stepan J, Cotts BRT. Electrical Conductor Spacing Standards for Printed Circuit Boards. Exponent Electrical Engineering and Computer Science Newsletter. Vol. 4, 2016.

Cotts BRT, Inan US, Lehtinen NG. Theoretical prediction of longitudinal dependence of electron precipitation due to lightning. AGU Fall Meeting, San Francisco, CA, December 14-18, 2009.

Inan US, Cotts BRT, Lehtinen NG. Long recovery early/fast events as possible evidence of persistent ionization by Giant Blue Jets. IUGG, Perugia, Italy, July 2-13, 2007.

Cotts BRT, Inan US, Lehtinen NG. Long recovery early/fast events as possible evidence of persistent ionization by Giant Blue Jets. URSI, Ottawa, Canada, July 22-26, 2007.

Cotts BRT, Inan US. Observation of daytime perturbations of VLF transmitter signals. ICAE, Beijing, China, August 13-17, 2007.

Cotts BRT, Inan US. Daytime early VLF perturbations exhibiting long recoveries and wide-angle scattering. AGU, San Francisco, CA, December 10-14, 2007.

Cotts BRT, Inan US. VLF observation of long ionospheric recovery events. AGU, San Francisco, CA, December 11-15, 2006.

Cotts BRT, Inan US, Pasko VP. Ray tracing techniques applied to sky wave observations of lightning-induced ionospheric effects on short range VLF paths. URSI, Boulder, CO, January 5-8, 2005.

Cotts BRT, Inan US. Ray-based modeling of lightning-induced ionospheric effects on short range VLF skywave signals. AGU, San Francisco, CA, December 5-9, 2005.

Cotts BRT, Inan US. Short range VLF sky wave observations of lightning-induced ionospheric effects. AGU, San Francisco, CA, December 13-17, 2004.

Cotts BRT, Inan US, Golkowski M. Lightning-induced electron precipitation measurements with VLF and the Arecibo Radar. PARS Summer School, Arecibo, PR, August 10-21, 2004.

Cotts BRT, Inan US, Selser E. ELF/VLF near-field imaging of modulated auroral-electrojet currents using a VLF interferometer. PARS Summer School, University of Fairbanks Alaska, August 11-21, 2003.

Cotts BRT, Inan US. Precipitation of energetic electrons by Magnetospherically Reecting (MR) Whistlers. AGU, San Francisco, CA, December 8-12, 2003.

Peer Reviewer

Referee for Journal of Geophysical Research – Space Physics

Referee for Radiation Protection Dosimetry

DAVID R. GEORGE, M.A., R.P.A.

PRESIDENT & CEO

David R. George, M.A., R.P.A., President & CEO,, received his Bachelor of Science degree in Business Management from Ithaca College in 1990, and he earned his Master of Arts degree in Anthropology at the University of Connecticut 1992. He specializes in the precontact and historic period archeology of eastern North America with an emphasis on southern New England. With over 30 years of experience, Mr. George has supervised hundreds of archaeological projects throughout the eastern United States and New England, and he has directed both small and large field crews, as well as designed and implemented all stages of fieldwork and laboratory analysis for thousands of projects. He has undertaken consultations with clients, researchers, regulatory officials, local officials, landowners, Native American tribes, and other parties interested in the cultural resources management compliance process. In addition, Mr. George also has completed the Introduction to Federal Projects and Historic Preservation Law class (Section 106) sponsored by the National Preservation Institute and the Advisory Council on Historic Preservation (1999), as well as the Environmental Report Preparation Seminar offered by the Federal Energy Regulatory Commission (2003). He understands it the intricacies of the cultural resources management process.

Professional Experience

- President & Principal Investigator, Heritage Consultants, LLC, February 2004-Present
- Vice President-Archeological Services, R. Christopher Goodwin & Associates, Inc., December 2002-March 2004
- Assistant Vice President, R. Christopher Goodwin & Associates, Inc., May 2001-December 2002
- Senior Project Manager, R. Christopher Goodwin & Associates, Inc., May 2001-November 2001
- Project Manager, R. Christopher Goodwin & Associates, Inc., September 1998-May 2001
- Laboratory Supervisor/Crew Chief, Archaeological and Historical Consultants, Inc., 1996-1998
- Instructor, Department of Anthropology, University of Connecticut, Storrs, 1995-1996
- Field Director/Project Manager, Public Archaeology Survey Team, Inc., 1990-1996

CAPABILITY HIGHLIGHTS

- 32 years of experience in Local, State, and Federal Compliance Efforts
- Exceeds Secretary of the Interior's Professional Qualifications Standards in Archaeology
- Experience coordinating large, multi-year, and/or complex projects
- Excellent project management skills and client coordination

EDUCATION

- Bachelor of Science in Business Management, Ithaca College, Ithaca, New York, 1990.
- Master of Arts in Anthropology, University of Connecticut, Storrs, Connecticut, 1992.
- Introduction to Federal Projects and Historic Preservation Law, Section 106 Compliance, 1999.
- Federal Energy Regulatory Commission, Environmental Report Preparation Seminar, 2003

Michael Libertine, LEP
Vice President
Director of Siting and Permitting

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860-552-2238
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Background

Mr. Libertine is an owner of All-Points Technology Corporation with over 30 years of professional experience in the environmental field. His consulting expertise includes regulatory siting and permitting; visibility and aesthetic evaluations; environmental due diligence and site assessments; and field investigations for property transfers; and, NEPA compliance.

Mike assists clients in the siting and permitting of utility infrastructure, including bulk power substations, transmission lines, renewable energy facilities, and telecommunication facilities. He has represented clients and provided expert testimony in front of state and local commissions, including the Connecticut Siting Council, on more than 500 projects. A Licensed Environmental Professional in Connecticut, Mike has completed/supervised over 2,200 environmental site assessments and field investigations throughout New England.

Representative Projects

Environmental Land Planning, Siting and Permitting – Electric Utilities

Since 2004, Mike has served as Program Manager for the siting and permitting of numerous electric utility projects in Connecticut and Massachusetts involving the assessment, siting and permitting of: new bulk power substations; modifications to existing substations; upgrades/relocation of transmission lines; installation of electrical system infrastructure; and, development of other support facilities. These projects require extensive coordination with numerous team members, including client's in-house discipline managers and engineers, outside consultants, legal counsel, staff, and subcontractors.

Project-related services include overseeing civil engineering feasibility studies, pre-acquisition due diligence evaluations, natural resources inventories and wetland delineations, habitat evaluations, noise analysis, hazardous waste investigations, site survey, landscape architecture, visual analyses, preparation of technical documents and regulatory applications, coordination with federal, state and local agencies, permitting, public outreach, and expert witness testimony. Mike and his team also have provided environmental monitoring to meet regulatory requirements and those set forth in contract documents and specifications.

Visibility and Aesthetic Assessments

For over 20 years, Mike has evaluated the visual effects of small and large-scale development projects, using the combination of predictive computer modeling and in-field analysis. The predictive model provides a quantifiable measurement of visibility throughout a pre-defined study area. Conducting field reviews with visual markers provides the ability to verify results of the computer model and record existing conditions through photographic documentation. Photographic simulations are prepared to depict scaled renderings of the proposed development, providing qualitative observations. Mike has completed more than 500 visual evaluations for electrical utilities, renewable energy facilities, telecommunication towers, and commercial development.

Environmental Siting and Permitting Services, Commercial Solar Facilities, Connecticut
Mike has served as Project Manager on numerous approved commercial solar projects ranging in size from less than 1 MW to 20 MW. Mike oversees the preparation of environmental assessments and impact analyses to support filings to the Connecticut Siting Council and southern New England municipalities involving: environmental due diligence and feasibility investigations; site/civil engineering design; wetland delineations; vernal pool studies and impact evaluations; habitat and wildlife assessments; breeding bird surveys; noise analyses, visibility assessments; archaeological surveys; consults and coordination with state agencies; development of protective measures for natural resources; and, securing stormwater permits. Mike and his team also provide environmental compliance monitoring during construction of these facilities.

Environmental Siting and Permitting Services, Fuel Cell Installations
Similar to solar development, the siting and permitting process for fuel cell generation facilities requires an assessment of the project's potential impacts on water and other natural resources, vegetation and wildlife, rare species, historic and cultural resources, noise, air quality, scenic and recreational areas, and the community.

Environmental Permitting Services for Wireless Telecommunications Clients, New England & NY
Mike has been providing environmental siting, land planning and permitting services on behalf of various telecommunications service providers and tower builders throughout New England and New York since 1997. He has testified on behalf of numerous clients regarding environmental and aesthetic considerations in front of local municipalities, the CT Siting Council and state and federal agencies. Representative services include: due diligence and land use evaluations; preliminary site screenings; preparation of environmental compliance documentation, environmental assessments to fulfill NEPA requirements; Phase I ESAs and Phase II field investigations; remedial planning and oversight; wetlands and vernal pool assessments; vegetative/biological surveys; noise analyses; visibility analyses; graphic support; securing regulatory permits; and, environmental monitoring during and post-construction.

Environmental Evaluations and Regulatory Permitting, Wind Farm Colebrook, Connecticut
Mike served as the Project Manager for environmental evaluations associated with the development of Connecticut's first commercial wind farm. He supervised due diligence investigations, natural resource studies and environmental permitting activities, including the evaluation of: wetlands and watercourses; flora and fauna; potential noise impacts and flicker phenomena; and, visual/aesthetic considerations. Mike provided expert testimony at local and state public hearings and assisted in preparing the Development and Management Plan and pre-construction coordination efforts of the 3.2 MW project.

Education	University of Connecticut, B.S. Natural Resources Management, December 1990 Stonehill College, B.A. Marketing, May 1981
Licenses	Licensed Environmental Professional, State of Connecticut, LEP No. 345

Josh Wilson, MESc., PWS

Senior Ecologist

Biohabitats
NORTHEAST HIGHLANDS & COASTAL BIOREGION

EMPLOYMENT

2022 – Present	Biohabitats, Inc., Glastonbury, CT, Senior Ecologist
2003 – 2022	Fuss & O'Neill, Inc., Manchester, CT, Senior Ecologist/Risk Assessor
2001 – 2003	Lenard Engineering, Inc. Storrs, CT, Environmental Scientist
1999 – 2001	Yale University, School of Forestry and Environmental Studies, New Haven, CT, Research Associate
1999	Maine Image Analysis Lab, University of Maine, Orono, ME, Research Associate
1998 - 1999	University of Maine Biology Department, Orono, ME, Teaching Assistant
1997	Center for Conservation Biology and Environmental Studies, Connecticut College, New London, CT, Research Associate

PROFESSIONAL ASSOCIATIONS

- Chairman, Inland Wetlands & Watercourses Agency, Town of East Hampton, CT. 2003-present
- President, Connecticut Association of Wetland Scientists. 2017-2019
- Registration, Society of Soil Scientists of Southern New England, November 2006.
- U.S. Army Corp of Engineers Wetland Delineation Method, Richard Chin Environmental Training, Inc., Boston, MA, March 2002.
- U.S. Army Corps of Engineering Wetland Delineation Manual Regional Supplement Workshop. Offered by Connecticut Association of Wetland Scientists, May 2011.
- Wetland Shrubs in Winter, New England Wildflower Society, Framingham, MA, March 2011
- Floodplain Soils Workshop. Offered by Connecticut Association of Wetland Scientists, October 2010.
- Incorporating Habitat Enhancement and Compensatory Mitigation into Sediment Remediation Design, Fifth International Conference on Remediation of Contaminated Sediments, February 2009.
- Building a Better Background Data Set, Fifth International Conference on Remediation of Contaminated Sediments, February 2009.
- Creation and Restoration of Wetlands, The Ohio State University, Columbus, Ohio, July 2005.
- Sediment, Surface Water, and Biota Sampling Methods, MA LSP/CT LEP Approved Course, June 2005.

EDUCATION

MESc., Ecology and Natural Resource Management (Wetlands & Watersheds), Yale University, School of Forestry and Environmental Studies. 2001. Master's Project: Impacts of Docks on Submerged Aquatic Vegetation in Hamburg Cove, CT
B.A., Biology, Connecticut College, 1997. Sr. Independent Thesis: The Effects of Paclitaxel on Differentiating Mesophyll Cells of Zinnia elegans.

PROFESSIONAL REGISTRATION

Professional Wetland Scientist (#1992). Society of Wetland Scientists Professional Certification Program. February 2010.
New England Soil Scientist Certification Program (various courses). University of Massachusetts, Division of Continuing Education, Amherst, Massachusetts, 2001 – 2004.

GRANTS, AWARDS, AND SUPPORT

- Connecticut Department of Environmental Protection Long Island Sound Fund Grant (2000)
- Yale Club of New Haven Scholarship (2000)
- Carpenter/Sperry/Mellon Student Research Grant (1999)
- Keck Science Foundation Grant (1996)

EXPERIENCE

Josh Wilson is a project manager and field scientist with interdisciplinary experience in soil science, botany, wildlife biology, and wetland ecology. As a Professional Wetland Scientist (PWS #1992) and senior soil scientist with Biohabitats, Mr. Wilson is responsible for overseeing and/or performing wetland and watercourse delineations, vegetation surveys, and ecological surveys in accordance with State and Federal regulations. With over twenty years if experience, Mr. Wilson has conducted numerous delineations of wetlands and deep water habitats; assessments of ecological integrity of water resources including rivers, streams, and lakes as well as freshwater and saltwater tidal wetlands; designs and evaluations of constructed wetlands for various purposes including enhancement, mitigation, compensation, and water treatment alternatives; designs for river restoration including dam removal and fish passage; and application for and compliance with local, State, and Federal permits potentially affecting wetlands and watercourses.

Additionally, Mr. Wilson has extensive experience in ecological risk assessment. Experience in ecological risk assessment follow the complete life cycle of the project and includes: developing work plans for site specific ecological risk assessments; coordinating and performing sampling efforts for pertinent media (e.g. soil, sediment, or surface water); conducting ecological evaluations including vegetation and wildlife surveys; performing statistical analyses of laboratory analytical data; evaluating laboratory analytical data in the framework of regulatory guidelines and in the context of site-specific ecological conditions; and working with State and Federal environmental agencies to ensure compliance with current regulations and guidelines.

RELEVANT PROJECT EXPERIENCE PRIOR TO BIOHABITATS

ECOLOGICAL RISK ASSESSMENTS

- Baseline Ecological Risk Assessment. 2019. Bass Plating Facility, Bloomfield, CT.
- Screening-Level Ecological Risk Assessment. 2006, 2019. Watertown Landfill, Watertown, CT.
- Ecological Risk Assessment of Sediments. 2015. Springborn Dam, Enfield, CT.
- Screening-Level Ecological Risk Assessment. 2014. Rogers Corporation, Killingly, CT.
- Screening-Level Ecological Risk Assessment. 2014. Kaman Aerospace Corporation, Moosup, CT.
- Preliminary Screening-Level Ecological Risk Assessment. 2006. Windsor-Bloomfield Landfill, Windsor, CT.
- Baseline Ecological Risk Assessment. 2013. Exeter Energy, Sterling, CT.
- Screening-Level Ecological Risk Assessment. 2009. Connecticut Resources Recovery Authority, Wallingford Landfill, Wallingford, CT.
- Baseline Ecological Risk Assessment. 2008. Sherwood Mills Industries Properties, 10 Main Street, Kensington CT.
- Screening-Level Ecological Risk Assessment. 2008. Sherwood Mills Industries Properties, 10 Main Street, Kensington CT.
- Screening-Level Ecological Risk Assessment. 2008. Stone's Ranch Military Reservation, Connecticut Army National Guard, East Lyme, CT.
- Supplemental Ecological Risk Assessment. 2007. Former Gilbert & Bennett Facility, Georgetown, CT.
- Ecological Risk Assessment: Scoping Level for Proposed Grassland Bird Management. 2007. General Cigar Property, Suffield CT and Southwick, MA.
- Screening-Level Ecological Risk Assessment. 2007. SNET/AT&T Meriden Garage, Meriden, CT.
- Baseline Ecological Risk Assessment. 2007. Former Norden Systems, Inc. Facility, Norwalk, CT.
- Screening-Level Ecological Risk Assessment: Release of Water Treatment Plant Residuals. 2005. Providence Water Supply Board, Providence, RI.
- Tier I Ecological Risk Assessment. 2003. Former Norden Systems, Inc. Facility, Norwalk, CT.

TECHNICAL REPORTS | Delineation, Permitting, Mitigation, And Biomonitoring

- Wetland Delineation. 2021. Anthony Properties, Southington, CT.
- Bruce Freeman Rail Trail Wetland Delineation & Replication Design. 2020. Town of Sudbury, MA.
- Harrington Apartments Dam Wetland Delineation and Removal Design. 2021. Town of Sprague, CT.
- Cranberry Bog Restoration Conceptual Study. 2019. Massachusetts Department of Ecological Restoration, Windswept Bogs, Nantucket, MA.
- Cranberry Bog Restoration Conceptual Study. 2019. Massachusetts Department of Ecological Restoration, Piscitelli Bogs, Wareham, MA.
- Wetland Mitigation Monitoring Report. 2015-2019. Falls Creek Farm, Oneco, CT.

- Wetland Mitigation Monitoring Report. 2016-2019. North Hillside Road Extension (Discovery Drive), University of Connecticut, Storrs, CT.
- Wetland Mitigation Monitoring Report. 2018-2019. Flatbush Avenue Mitigation Site, Connecticut Department of Transportation, Hartford, CT.
- Wetland Delineation & Endangered Species Survey. 2019. Hanover Pond Dam, Meriden, CT.
- Wetland Delineation Report. 2018. 250 East Main Street, Stratford, CT
- Wetland Delineation and Environmental Report. 2018. Avon Village Center, Avon, CT.
- Wetland Delineation and Environmental Report. 2018. MMCT, East Windsor, CT.
- Saltmarsh Restoration Demonstration. 2017. Village Creek Salt Marsh. Norwalk Land Trust & Village Creek Harbor Corporation, Norwalk, CT.
- Resource Area Delineations and Wetland Protection Act permitting. 2014-2018. Western Massachusetts Electric d.b.a. Eversource Energy, Throughout Western MA.
- Wetland Delineation, Environmental & Soil Scientist Reports. 2014-2018. Connecticut Light & Power d.b.a. Eversource Energy, Throughout CT
- Wetland Mitigation Third-party Assessment. 2014. Wintonbury Hills Golf Club, Bloomfield, CT.
- Wetland Delineation & Regulatory Assessment. 2014. United Illuminating Transmission Right of Way, Hamden and North Haven, CT.
- Wetland Mitigation Plan: Application for the Department of Army Permit. 2013. Filley Park, Town of Bloomfield, Bloomfield, CT.
- Wetland Delineation & Mitigation Report. 2014. Shelter Development, Canton, MA.
- Environmental and Soil Scientist Reports: CT DEEP Inland Water Resources Permit. 2013. Filley Park Dam Reconstruction & Stream Restoration, Town of Bloomfield, Bloomfield, CT.
- Wetland Delineation & Regulatory Assessment. 2013. United Illuminating Transmission Right of Way, Woodbridge and Hamden, CT.
- Wetland Delineation Report: Somers Solar Farm. 2012. HelioSage, Somers, CT.
- Wetland Delineation Report: Storrs Adventure Park. 2012. Mansfield, CT.
- Wetland Delineation & Mitigation Report. 2012. Middlesex Hospital Urgent Care Center, Westbrook, CT.
- Wetland Assessment Report. 2011. Loves Travel Stops and Country Stores, 3 Polster Road, Willington, CT.
- Wetland Mitigation Plan: Application for the Department of Army Permit. 2009. North Hillside Road Extension, University of Connecticut, Storrs, CT.
- Environmental and Soil Scientist Reports: CTDEP IWRD Individual Permits. 2009. North Hillside Road Extension, University of Connecticut, Storrs, CT.
- Wetland Delineation Report: Airline & Hop River Trail Extension. 2009. Town of Windham, CT.
- Wetland Delineation Report. 2009. Exeter Energy, Sterling, CT.
- Ecological Habitat Assessment. 2008. Naugatuck Renaissance Place CEPA & EIE, Town of Naugatuck.
- Ecological Habitat Assessment, Feasibility Study for Proposed Dam Removal. 2008. GLN Construction Management Inc., Bloomfield, CT.
- Wetland Delineation and Evaluation. 2008. Sherwood Mills Industries Properties, 10 Main Street, Kensington CT.
- Wetland Delineation and Ecological Evaluation. 2008. Falls Creek Farm, Oneco, CT.
- Environmental and Soil Scientist Reports: Diversion Permit. 2008. Grassy Hill Country Club, Orange, CT.
- Wetland and Watercourse Report. 2008. University of Hartford, West Hartford, CT.
- Wetland Delineation Report. 2008. Moark Egg Farm, Franklin, CT.
- Natural Resources Assessment. 2008. Mystic Substation, Stonington, CT.
- Evaluation of Potential Ecological Impacts. 2008. 367 Deercliff Avenue, Avon, CT.
- Wetland Delineation Report: Still River Greenway. 2008. Town of Brookfield, CT.
- Wetland Delineation Report. 2008. SNET/AT&T Meriden Garage, Meriden, CT.
- Wetland Delineation Report. 2008. 115kV Transmission and Substation, Town of Belmont, MA.
- Vernal Pool Evaluation. 2008. Route 66/East High Street, East Hampton, CT, Fuss & O'Neill, Inc
- Mitigation and Remediation Feasibility Study: Existing Wetland Impacts. 2007. Windsor-Bloomfield Landfill, Windsor, CT.
- Diversion Permit: Environmental Report. 2007. Hartford Golf Club, West Hartford, CT.
- Diversion Permit: Soil Scientist Report. 2007. Hartford Golf Club, West Hartford, CT.
- Wetland and Watercourse Report. 2007. FedEx Ground, Windsor, CT.
- Wetland Delineation Report. 2007. Massachusetts Turnpike Mile Marker 45.8, West Springfield, MA.
- Wetland and Watercourse Delineation Report. 2007. John Street Bridge, Greenwich, CT.

- Vernal Pool Evaluation. 2007. North Hillside Road Extension, NEPA Environmental Impact Statement. University of Connecticut, Storrs, CT.
- Vernal Pool Identification & Evaluation. 2007. Proposed CT Biodiesel Facility, Firestone Drive, Suffield, CT.
- Wetland and Watercourse Permit and Report; Southern Fill Remediation Area. 2007. Griswold Rubber Co., Moosup, CT.
- Wetland and Watercourse Report. 2006. Cumberland Farms, 6 Old Windsor Road, Bloomfield, CT.
- Vegetation Management Options Report. 2006. Willet Lake Dam, Neponset River Watershed Association, Norwood, MA.
- Wetland Delineation and Ecological Evaluation. 2006. Shallot Meadow Subdivision, Bahre Corner Road, Canton, CT.
- Wetland and Watercourses Delineation Report. 2005. Hotchkiss School, Lakeville, CT.
- Environmental and Soil Scientist Reports: Individual Permit for Dam Construction and 401 Water Quality Certification. 2004. Hartford Flood Commission, City of Hartford, CT.
- Application for the Department of Army Permit. 2004. Hartford Flood Commission, City of Hartford, CT.

REGULATORY AND PERMITTING EXPERIENCE

- United Illuminating, 2015-present (ongoing) (USACE, CTDEEP, Various Municipalities)
- Bruce Freeman Rail Trail, 2020-present (ongoing) (USACE, MADEP, MassDOT, Town of Sudbury)
- Anthony Properties, 2021 (Town of Southington)
- Harrington Apartments Dam Removal. 2021. (USACE, CTDEEP)
- Eversource/Comcast Reconstruction, 2020-2021 (USACE, CTDEEP, City of Stamford)
- Electric Boat South Yard Assembly Building, 2018-2019 (USACE, CTDEEP)
- Eversource Energy/Western Mass Electric 2006-2018. (USACE, MADEP, Various Municipalities)
- Eversource Energy/Connecticut Light & Power 2010-2018. (CSC, USACE, CTDEEP)
- University of Connecticut North Hillside Road (Discovery Drive), 2009-2012 (USACE, CTDEEP, CTDOT)
- Avon Village Center Redevelopment, 2018 (USACE, CTDEEP, Town of Avon)
- Rutan Pond Dam Removal & Stream Restoration, 2011 (USACE, CTDEEP)
- Filley Park Stream Restoration & Dam Reconstruction, 2012 (USACE, CTDEEP, Town of Bloomfield)
- Springborn Dam Removal & Stream Restoration, 2015 (USACE, CTDEEP, Town of Enfield)
- Norton Paper Mill Dam Removal & Stream Restoration, 2014 (USACE, CTDEEP, Town of Colchester)
- Love's Travel Stop, 2012-Present (CTDEEP, Town of Willington)
- Falls Creek Farm, 2007-2013 (USEPA)
- Center for Independent Living – Kensington, 2009 (Town of Berlin)
- CREC Public Service Academy, 2011 (USACE, CTDEEP, Town of Enfield)
- AVANGRID/United Illuminating 2009-Present (ongoing) (CSC, USACE, CTDEEP, Various Municipalities)
- Upper Pond Dam Restoration & Fish Ladder, 2015 (USACE, CTDEEP, Town of Darien)
- City of Hartford Flood Commission, 2009 (USACE, CTDEEP)
- Plumtrees Road, 2012
- Still River Greenway, 2013 (USACE, CTDEEP, Town of Brookfield)
- Suffield Academy Bridge, 2014 (USACE, USFWS, CTDEPP, Town of Suffield)

PRESENTATIONS AND PUBLICATIONS

- Dirrigl, F. J., Rolston, H., & Wilson, J. H. 2021. Scientific and Ethical Considerations in Rare Species Protection: The Case of Beavers in Connecticut. Ethics and the Environment, 26(1), 121–140. https://doi.org/10.2979/ethicsenviro.26.1.06
- Wilson, J. 2020. Cranberry Bog Restoration in Advance of Sea Level Rise. Presentation to The National Coastal and Estuarine 2020 Summit. Virtual and On-Demand. September 29 – October 1, 2020.
- Wilson, J. 2020. Flood Plain Restoration to Increase Maidford River's Flood Storage Capacity: New Meanders and Restored Riparian Buffers. Presentation to The National Coastal and Estuarine 2020 Summit. Virtual and On-Demand. September 29 – October 1, 2020.
- Wilson, J. 2020. Dam Removal Case Studies: Sediment Assessment & Management. Presentation to Environmental Business Council, Connecticut Dam Management Program, Sediment Assessment / Management for Dam Re-movals in Connecticut and Suggestions for Standardization. February 21, 2020.
- Callahan, M. Busa, J. and Wilson, J. 2020. Beavers and Bogs: Nature-based Vulnerability Preparedness and Effec-tive Management. Workshop Presentation at Massachusetts Association of Conservation Commission Annual Conference. February 29,2020.
- Wilson, J. 2018. Wetland Restoration: 11,5 Acres in Eastern Connecticut. Presentation to the Connecticut Associa-tion of Wetland Scientists. Annual Meeting. March 18, 2018.

- Wilson, J. 2016. Fish Passage Studies III: Sediment Redistribution and Impact Analysis: Springborn Dam - Enfield, Connecticut. International Conference on Engineering and Ecohydrology for Fish Passage. June 21, 2016.
- Harold, S., Gephard, S. and Wilson, J. 2013. Anguilla Brook Fish Passage Restoration and Dam Removal. Workshop Presentation at Connecticut Conference on Natural Resources. March 18, 2013.

Figure 1-1: General Project Location