



Jacob Poling INCE

Senior Acoustician
14 years of experience · Minneapolis, Minnesota

Jacob Poling is a Senior Acoustician specializing in acoustics and noise control. Jacob leads Stantec's U.S. Environmental Acoustics and Noise practice and has 14 years of professional experience in noise assessments for renewable energy, power generation, industrial, transportation, construction, and buildings projects. Jacob also has experience with vibration analysis for construction and rail projects, soundscape studies in national parks, and underwater acoustic measurement and modeling.

Jacob's experience spans the full project lifecycle from preliminary engineering and planning to final design and construction. He has testified in support of project permit applications at zoning and planning board hearings and supported clients in the legal process with expert review and depositions. Jacob's technical capabilities include noise and vibration measurements and monitoring, analysis and post-processing of measurement data, detailed acoustical modeling, design and analysis of noise mitigation measures, and preparation of technical reports.

PROJECT EXPERIENCE

ENVIRONMENTAL NOISE ASSESSMENT - INDUSTRIAL FACILITIES

Garrison Energy Center* | Calpine | Dover, Delaware | 2015 | Acoustical Engineer

Noise analyst that assisted with plant noise compliance measurements for the Garrison Energy Center, which is a 250 MW dual-cycle natural gas fired power plant. Far field measurements were completed at six locations surrounding the plant to evaluate whether the plant operating at full load complied with property line noise limits. Near field noise measurements were also made for a variety of equipment to determine whether equipment noise levels met manufacturer specifications and where plant workers would be required to wear hearing protection per OSHA regulations.

Avangrid Webster Electrical Substations* | Avangrid | Webster and Rochester, New York | 2022 | Acoustical Engineer

Acoustical engineer for three electrical substation noise studies. Sources included transformers and ventilation systems for GIS buildings. Task involved review of applicable regulations, calculation of equipment noise emission levels, measurement of existing ambient sound levels, prediction of future noise levels using the CadnaA model, specification of ventilation equipment to comply with noise limits, and reporting.

Spartan Power Plant* | Gilmerton Energy Center LLC | Chesapeake, Virginia | 2016 | Acoustical Engineer

Acoustical engineer for a community noise assessment for a 1,400 MW combined cycle natural gas-fired power plant. Role involved acoustical modeling of future power plant noise levels to evaluate compliance with the City of Chesapeake noise ordinance limits at the nearest residential properties.

Rich Road Solar* | St. Lawrence County, New York | 2022 | Acoustical Engineer

Review and technical support for a noise assessment of a proposed 240-megawatt solar energy generation facility with battery energy storage system.

Tracy Solar* | EDF Renewables | Jefferson County, New York | 2021 | Acoustical Engineer

Review and technical support for a noise assessment of a proposed 119-megawatt solar energy generation facility.

Nottingham Solar Project* | Athens, Ohio | 2021 | Acoustical Engineer

Review and technical support for a noise assessment of a proposed solar facility consistent with Ohio Power Siting Board requirements.

Pisgah Mountain Wind Farm* | SWEB Development | Clifton, Maine | 2017 | Acoustical Engineer

Acoustical engineer that contributed to post-construction operational noise measurements at five receptor locations to determine if the wind farm (5 turbines) complied with the noise limits defined in the Clifton Maine Noise Ordinance. The ordinance required noise measurements be performed with the wind farm operating (WEF-On) and with it shut off (WEF-Off).

NOISE AND VIBRATION IMPACT - AVIATION

Saint Joseph Medical Center Helipad* | Peace Health | Bellingham, Washington | 2022 | Acoustical Engineer

Analyst for community noise study of helicopter noise from a proposed hospital rooftop helipad. Role involved analysis of measured existing helicopter noise levels, development of a CadnaA model to predict future helicopter noise levels in the surrounding community, assessment of potential impacts, and preparation of the noise technical report and graphics.

Wing Delivery Drone Noise Support* | Wing Aviation | Palo Alto, California | 2019 | Acoustical Engineer

Acoustical engineer involved in flyby noise measurements of production and prototype drone aircrafts at Wing Aviation's test facility in Hollister, California. Flyby noise levels were measured and evaluated in accordance with 14 CFR Appendix J to Part 36 and ICAO Annex 16.

Utah Advanced Air Mobility Infrastructure Study* | Utah Department of Transportation | Utah | 2022 | Acoustical Engineer

Prepared noise section of a report assessing infrastructure needs for future advanced air mobility (AAM) and eVTOL (drone) aircraft services in the state of Utah. Assessment included how noise relates to community acceptance, effects of noise on aerial corridors and vertiport site selections in urban and suburban areas, research into applicable state and local noise regulations, discussion of potential AAM noise mitigation measures and strategies, and consideration of public outreach issues related to noise.

NOISE / ACOUSTICS

NJT New York Penn Station Central Concourse* | New Jersey Transit | New York, New York | 2022 | Acoustical Engineer

Acoustical engineer responsible for assessing public address (PA) system speech intelligibility within the proposed concourse area of the underground train station. Task included reviewing project plans and drawings and developing a 3D model of the concourse area using the Datakustik CadnaR software.

USPS High-Speed Industrial Printer Noise Mitigation Assessment* | United States Postal Service | Topeka, Kansas | 2021 | Acoustical Engineer

Reviewer for noise mitigation assessment of Didde and Line3 printing equipment within a USPS material distribution facility. The study assessed whether equipment noise mitigation options were feasible to reduce employee noise exposure and meet OSHA guidelines.

MARTA Tunnel Ventilation System Rehabilitation* | MARTA | Atlanta, Georgia | 2018 | Acoustical Engineer

Acoustical engineer for project to rehabilitate ventilation systems in sixteen (16) tunnels and stations throughout the MARTA transit system. Responsible for predicting interior (in-tunnel or in-station) and exterior (community) noise levels from operation of the emergency ventilation system and designing necessary noise mitigation measures.

ICT Roadway Rumble Strip Noise Research* | Illinois Center For Transportation | Illinois | 2022 | Acoustical Engineer

Member of research team for the R27-245-HS project "Quantification of the effectiveness and external noise of rumble strip designs." Role included input at the research proposal stage, review of research work plan, review of AASHTO T389 and AASHTO T390 measurement standards, and technical guidance on the field noise measurement protocol to meet the standards.

Manahawkin Bay Bridge Underwater Noise* | New Jersey Department of Transportation | Ocean County, New Jersey | 2013 | Acoustical Engineer

Acoustical engineer that contributed to development of the project's Underwater Construction Noise Speciation to protect Atlantic sturgeon and sea turtles from pile driving noise. Involved in codifying the acoustical performance requirements for an underwater bubble curtain and pile cap cushions. Performed underwater noise measurements using a hydrophone to evaluate contractor compliance with specification limits. Field measurements included ambient (background) conditions, pile driving at a variety of distances, and measurement of the noise reduction of a bubble curtain.



Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI
9408 Northfield Court
Raleigh, North Carolina 27603
Mobile (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

PROFESSIONAL EXPERIENCE

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
Hester & Company , Raleigh, N.C. Commercial appraiser	1996 – 2003

PROFESSIONAL AFFILIATIONS

MAI (Member, Appraisal Institute) designation #11796	2001
NC State Certified General Appraiser # A4359	1999
VA State Certified General Appraiser # 4001017291	
SC State Certified General Appraiser # 6209	
FL State Certified General Appraiser # RZ3950	
GA State Certified General Appraiser # 321885	
MI State Certified General Appraiser # 1201076620	
PA State Certified General Appraiser # GA004598	
OH State Certified General Appraiser # 2021008689	
IN State Certified General Appraiser # CG42100052	
KY State Certified General Appraiser # 5522	

EDUCATION

Bachelor of Arts in English , University of North Carolina, Chapel Hill	1993
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CONTINUING EDUCATION

Pennsylvania State Mandated Law for Appraisers	2023
What NOT to Do (NCDOT Course)	2023
The Income Approach – A Scope of Work Decision	2023
Valuation of Residential Solar	2022
Residential Property Measurement and ANSI	2022
Business Practices and Ethics	2022
Uniform Standards of Professional Appraisal Practice Update	2022
Sexual Harassment Prevention Training	2021
Appraisal of Land Subject to Ground Leases	2021
Michigan Appraisal Law	2020
Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017

Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012
Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005
Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996

EDUCATION

BS, Electrical Engineering,
University of Kentucky,
Lexington, Kentucky

**CERTIFICATIONS &
TRAINING**

Crash Analysis Workshop,
University of Kentucky
Transportation Research
Center, Lexington, Kentucky,
2014
AGi32 Lighting Design,
Lighting Analyst, Inc.,
Louisville, Kentucky, 2016

REGISTRATIONS

Professional Engineer
#19101, Commonwealth of
Kentucky
Certified Professional Traffic
Operations Engineer #2838,
Transportation Professional
Certification Board Inc.

Dan O'Dea PE, PTOE

Senior Transportation Engineer
34 years of experience

PROJECT EXPERIENCE

TRAFFIC IMPACT ASSESSMENTS

Pleasant Valley Solar Farm | East Kentucky Power | Caldwell and Lyon Counties, Kentucky | 2024 | Traffic Engineer

Dan led the effort to evaluate the traffic impacts of the proposed electrical generating facility. Traffic counts were obtained from KYTC for all available routes in the vicinity of the development to establish existing conditions. Traffic forecasts were developed based on population projections and historical traffic volume trends. Generalized Service Volume Tables were used to evaluate the roadways and are based on the Highway Capacity Manual (HCM). A quality / Level of Service (LOS) for existing and construction year volumes was estimated. An analysis of daily employee site visits was conducted to determine traffic impacts once the facility becomes operational. The results were summarized in a traffic analysis report.

Northern Bobcat Solar Farm | East Kentucky Power | Marion County, Kentucky | 2023 | Traffic Engineer

Dan led the effort to evaluate the traffic impacts of the proposed electrical generating facility. Traffic counts were obtained from KYTC for all available routes in the vicinity of the development to establish existing conditions. Traffic forecasts were developed based on population projections and historical traffic volume trends. Generalized Service Volume Tables were used to evaluate the roadways and are based on the Highway Capacity Manual (HCM). A quality / Level of Service (LOS) for existing and construction year volumes was estimated. An analysis of daily employee site visits was conducted to determine traffic impacts once the facility becomes operational. The results were summarized in a traffic analysis report.

Song Sparrow Solar Farm | East Kentucky Power | Ballard County, Kentucky | 2023 | Traffic Engineer

Dan led the effort to evaluate the traffic impacts of the proposed electrical generating facility. Traffic counts were obtained from KYTC for all available routes in the vicinity of the development to establish existing conditions. Traffic forecasts were developed based on population projections and historical traffic volume trends. Generalized Service Volume Tables were used to evaluate the roadways and are based on the Highway Capacity Manual (HCM). A quality / Level of Service (LOS) for existing and construction year volumes was estimated. An analysis of daily employee site visits was conducted to determine traffic impacts once the facility becomes operational. The results were summarized in a traffic analysis report.

Dogwood Comers Solar Farm | East Kentucky Power | Christian County Kentucky | 2023 | Traffic Engineer

Dan led the effort to evaluate the traffic impacts of the proposed electrical generating facility. Traffic counts were obtained from KYTC for all available routes in the vicinity of the development to establish existing conditions. Traffic forecasts were developed based on population projections and historical traffic volume trends. Generalized Service Volume Tables were used to evaluate the roadways and are based on the Highway Capacity Manual (HCM). A quality / Level of Service (LOS) for existing and construction year volumes was estimated. An analysis of daily employee site visits was conducted to determine traffic impacts once the facility becomes operational. The results were summarized in a traffic analysis report.

TRAFFIC STUDIES

Hal Greer Boulevard Corridor Study | West Virginia Department of Highways | Huntington, West Virginia | Traffic Analyst

Led the effort in the traffic services for the study which examined the need and various concepts for multimodal enhancements and traffic calming along the corridor. Traffic simulation models were developed to evaluate alternatives, and the findings were presented to WVDOH and stakeholders including Cabell Huntington Hospital and Marshall University. Prepared comprehensive report summarizing alternatives and final recommendations.

Beechurst Avenue Traffic Analysis | West Virginia Department of Highways | Morgantown, West Virginia | Traffic Analyst

Led the effort in the traffic services for the study which examined the need and various lane configurations for widening Beechurst Avenue from a 3-lane section to a 4-lane section between 8th Street and University Avenue. Traffic simulation models were developed to evaluate alternatives, and the findings were presented to WVDOH and stakeholders. Prepared comprehensive report summarizing alternatives and final recommendations.

Kentucky / Adams Street Improvement Study (US 68X), Bowling Green, Kentucky (Project Manager) | KYTC | Bowling Green, Kentucky | Project Manager

Dan led the effort to identify and evaluate potential traffic operational changes of the one-way couplet of Kentucky and Adams Street which are compatible with land use and increase safety for all modes of travel. Existing conditions were reviewed, and a crash analysis was performed for a three-year period within the limits of the study area. Four concepts were chosen for evaluation of operational and safety impacts and costs. A Transmodeler simulation model was used to estimate the operational impacts of the selected alternatives for both existing and future years. Using a comparison matrix, the project team recommended a one-way road diet with bike lanes and pedestrian crosswalk enhancements to be implemented with scheduled resurfacing.

KY 90 Corridor Study | KYTC | Monticello, Kentucky | 2021-2022 | Project Manager

Dan is leading the effort to identify and evaluate potential improvement options to improve safety, mobility, and capacity of KY 90 in the study area. Existing conditions were reviewed, and a crash analysis was performed for a three-year period within the limits of the study area. Traffic forecasts will be developed and a MetroQuest survey was used to gain valuable input from local stakeholders. Based on input from stakeholders and the project team, potential improvement concepts will be developed and evaluated for operational and safety impacts and costs. Using a comparison matrix, the project team will recommend short-term and long-term improvements summarized in a final report.

Newport Two-Way Feasibility Study | KYTC | Newport, Kentucky | Project Manager

Dan led the effort to identify and evaluate the feasibility of converting the one-way couplets of Monmouth Street / York Street and 4th Street / 5th Street to two-way operation. Existing conditions were reviewed, and a crash analysis was performed for a three-year period within the limits of the study area. Two concepts were chosen for evaluation of operational and safety impacts and costs. A TransModeler simulation model was used to estimate the operational impacts of the selected alternatives for both existing and future years. Using a comparison matrix, the project team demonstrated that two-way operation was feasible and identified challenges associated with conversion including loss of parking, connection to roundabout, impacts to traffic signal infrastructure, and loading zones.



June 18, 2024

Warren Swope
Project Management
East Kentucky Power Cooperative
warren.swope@ekpc.coop

Re: Northern Bobwhite Solar Project – Capitol Airspace Group Qualifications

Dear Mr. Swope,

For over twenty years, Capitol Airspace Group and its leadership have been providing analytical, strategic, and advocacy services to airports, communities, and commercial developers. The company's core competencies are in the Federal Aviation Administration (FAA) aeronautical study process, glint and glare analyses, understanding air traffic operations, the Department of Defense (DoD) mission compatibility evaluation process, and predicting interference with known communication, navigation, and surveillance systems.

This team has developed strong working relationships with key managers and decision makers within the FAA, DoD, and Federal Communications Corporation (FCC). These relationships allow us to develop solutions for the resolution of aviation impacts, such as predicted glare. This has led to successfully advocating for over 2,000 development projects and filing over 115,000 different aeronautical studies with the FAA.

Please direct any questions to me at 703-256-2485 or Dan.underwood@capitolairspace.com.

Respectfully,

Dan Underwood
Director of Military Programs
Capitol Airspace Group

Lucas Downs

Environmental Scientist

1 years of experience · Louisville, Kentucky

Lucas recently graduated from Clemson University with a B.S in Wildlife and Fisheries Biology. While there he learned about the biology and ecology of the Southeast region. He spent time working on projects involving wetlands, wood duck boxes, and fisheries management. Additionally, Lucas studied abroad in Bhutan. While there he and a group of his peers conducted research on the cause of Blue Pine Dieback in the Eastern Himalayan Mountains between Paro and Thimphu. Lucas participated in various education in-field experiences with environmental advocates, engineers, doctors, and politicians. Lucas presented the groups findings in a scientific paper to his peers and high ranking scientists and teachers.

EDUCATION

Himalayan Environmental and Development Studies, School for Field Studies, Paro, Bhutan, 2019

Bachelor of Science, Clemson University, Clemson, SC, United States, 2020

PROJECT EXPERIENCE

PHASE I & II ENVIRONMENTAL SITE ASSESSMENTS

175/1275 Interchange Scope | KYTC | Boone County, Kentucky | 2022 | Environmental Scientist

Conducted a Phase I Environmental Site Assessment field visit. Coordinated with site contacts to gather environmental site documentation and permits to determine any potential environmental concerns for the site. Prepared a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.

Bobo Road Expansion | Kentucky Transportation Cabinet | Paducah, Kentucky | 2022 | Environmental Scientist

Conducted a Phase I Environmental Site Assessment field visit. Coordinated with site contacts to gather environmental site documentation and permits to determine any potential environmental concerns for the site. Assisted in preparation of a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.

Murray-Calloway County Airport | Murray-Calloway County Airport Board | Calloway County, Kentucky | 2022 | Environmental Scientist

Conducted a Phase I Environmental Site Assessment field visit at the approximately 82-acre site. Coordinated with site contacts to gather environmental site documentation and permits to determine any potential environmental concerns for the site. Prepared a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.

Ridgeline Expansion Project | East Tennessee Natural Gas | Trousdale County, Tennessee | 2022 | Environmental Scientist

Conducted a Phase I Environmental Site Assessment field visit at the approximately 12-acre site. Coordinated with site contacts to gather environmental site documentation and permits to determine any potential environmental concerns for the site. Prepared a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.

Morris Forman Phase 1 | Louisville, Kentucky, United States | 2023 | Environmental Scientist

Conducted a Phase I Environmental Site Assessment field visit. Coordinated with site contacts to gather environmental site documentation and permits to determine any potential environmental concerns for the site. Prepared a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.

Ashwood Solar I | Kentucky, United States | 2023 | Environmental Scientist

Prepared a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.

Song Sparrow | 2023 | Environmental Scientist

Prepared a Phase I ESA report, photo log, and figures documenting the findings of the site visit and historical records review. Used Project-Specific Scope of Work for compliance with policy, principles, and procedures, and prepare report using appropriate technical guidance and checklists to meet the needs and requirements of the client.