

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ENERGY FACILITY SITING BOARD**

In re The Narragansett Electric Company	:	
d/b/a National Grid and Clear River Energy LLC	:	Docket No. SB-2017-01
(Burrillville Interconnection Project)	:	

Joint Pre-Filed Testimony of

Gordon W. Perkins
and
Steven Breitzka

In Support of the Joint Application of

The Narragansett Electric Company d/b/a National Grid
and Clear River Energy LLC

August 24, 2018

EXECUTIVE SUMMARY

Gordon Perkins is a senior project manager and Steven Breitzka is a registered Landscape Architect and Project Manager with EDR. Mr. Perkins and Mr. Breitzka will summarize the Visual Impact Assessment that was prepared by EDR and filed by National Grid and Clear River Energy Center LLC as Appendix C to the Environmental Report. Mr. Perkins is responsible for the all technical studies and analysis included in the visibility assessment and Mr. Breitzka provided rating panel input for the visual impact analysis. Mr. Perkins and Mr. Breitzka opine that there are limited visual impacts due to the use of the existing transmission corridor and a structure design which is consistent with the existing transmission lines. Based on the limited visual impacts, Mr. Perkins and Mr. Breitzka concluded that mitigation of the visual impacts does not appear warranted.

PREFILED TESTIMONY OF GORDON W. PERKINS AND STEVEN BREITZKA

Q. Mr. Perkins, please state your name and business address.

A. My name is Gordon W. Perkins. My business address is 217 Montgomery Street, Suite 1000, Syracuse, New York 13202.

Q. Mr. Perkins, by whom are you employed and in what position?

A. I am a Senior Project Manager with Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (“EDR”).

Q. Does Mr. Breitzka also work for EDR?

A. Yes, Steven Breitzka is a registered Landscape Architect and Project Manager with EDR.

Q. What is EDR?

A. EDR is a multi-disciplinary environmental consulting, land planning and design firm founded in 1979. We offer Landscape Architecture, Environmental Impact Analysis, Regulatory Compliance, Ecological Investigation, Community Planning, Civil Engineering, and Visual Communications services to utilities, communities, institutions, corporations, developers and private individuals throughout the Northeast. The assessment of aesthetic resources and visual impact has been a cornerstone of EDR’s success since its founding. As a critical component of one of our core practice disciplines (Environmental Services), visual impact analysis has always been linked to our broader mission: providing environmentally sound solutions within the context of the existing community. EDR has been performing visual assessment studies for over 30 years, and maintains a full-time staff of professionals dedicated to visual impact assessment. Our visual impact experience includes numerous evaluations of energy and infrastructure

1 projects including transmission lines, substations and wind power-generating facilities.

2 EDR uses the latest computer technology to produce highly realistic, accurate photo-
3 quality visual simulations, and our methods and procedures follow established regulatory
4 guidance and best practices. We have published several articles on visual impact analysis
5 and have presented at various regional and national conferences. Professional
6 memberships include: American Wind Energy Association, American Planning
7 Association, American Society of Landscape Architects, U.S. Green Building Council,
8 Society of Wetland Scientists, and The Wildlife Society, among others.

9 **Q. Mr. Perkins, what are your responsibilities with EDR?**

10 A. As a Senior Project Manager, I am responsible for conducting and/or overseeing visual
11 impact assessments as well as for the ongoing advancement of EDR's technical
12 methodologies used in such assessments, including new techniques in data collection,
13 processing and analysis, and 3-D modeling. I am also responsible for assigning,
14 scheduling and coordinating staff, overseeing project teams, and providing quality
15 assurance.

16 **Q. Mr. Perkins, please describe your education, training and experience.**

17 A. I have a Bachelor of Landscape Architecture with an emphasis in Ecology from the State
18 University of New York College of Environmental Science and Forestry, and am a
19 Certified Geographic Information Systems Professional (GISP). I have more than 17
20 years of professional experience focusing primarily on visualization and visual impact
21 assessment, with extensive expertise in 2-D and 3-D visualization tools used in visual
22 impact assessment. Examples of projects on which I have conducted/coordinated such

1 assessments in Rhode Island include the Interstate Reliability Project, Rhode Island
2 Reliability Project, and Southern Rhode Island Transmission Project.

3 **Q. Mr. Perkins, does your curriculum vitae, which is attached as Attachment EDR-1,**
4 **fairly and accurately represent your experience with respect to the study and**
5 **evaluation of visual impacts?**

6 A. Yes, it does.

7 **Q. Mr. Breitzka, what are your responsibilities with EDR?**

8 A. As a landscape architect and project manager at EDR, my responsibilities include all
9 facets of project development. This includes: marketing, proposal writing and fee
10 structuring, initial programming, conceptual design, construction drawings and
11 specifications, municipal and review board presentations and approvals, quality control
12 review, invoicing, and project planning.

13 **Q. Mr. Breitzka, please describe your education, training and experience.**

14 A. I hold a Bachelor of Science in Landscape Architecture from Cornell University. I am a
15 Registered Landscape Architect (“RLA”) in the State of New York and I am a Leadership
16 in Energy and Environmental Design Accredited Professional (“LEED AP”) through the
17 United States Green Building Council (“USGBC”). I have 20 years of experience
18 working on a variety of project types including: commercial, federal, health care, higher
19 education, industrial, large scale master plan, municipal, park, residential, and resort
20 designs. Over the last five years I have assisted on several visual impact assessment
21 projects examining a variety of infrastructure facilities, including transmission lines,
22 substations, utility-scale wind farms, and transportation corridors. My role on these

1 projects has been to evaluate the visual impact of the proposed facility on the existing
2 landscape.

3 **Q. Mr. Breitzka, does your curriculum vitae, which is attached as Attachment EDR-2**
4 **fairly and accurately represent your experience with respect to study and evaluation**
5 **of visual impacts?**

6 A. Yes, it does.

7 **Q. Mr. Perkins, have you previously testified before state permitting agencies?**

8 A. Yes, I provided testimony to the Rhode Island Energy Facility Siting Board (“EFSB”) on
9 the Rhode Island Reliability Project (Docket No. SB 2008-02). I have also provided
10 testimony to the New York State Public Service Commission on cases 13-T-0292 - West
11 Point Power Partners, and 06-T-0650 - New York Regional Interconnection and the
12 Connecticut Siting Council, Petition Number 1313A - DWW Solar II, LLC. A listing of
13 additional projects is included in my curriculum vitae which is attached hereto as
14 Attachment EDR-1.

15 **Q. Mr. Breitzka, have you previously provided testimony?**

16 A. Yes. I provided testimony to the EFSB on the Aquidneck Island Reliability Project
17 (Docket No. SB-2016-01). I also regularly present plans and documents to various
18 municipal review boards and decision-making bodies. A listing of these projects is
19 included in my curriculum vitae which is attached hereto as Attachment EDR-2.

20 **Q. Are you familiar with the Burrillville Interconnection Project (the “Project”)?**

21 A. Yes, we have been engaged by ESS Group, Inc. and National Grid to assess the visual
22 impact of the Project.

1 **Q. What is the scope of your testimony in this proceeding?**

2 A. In our testimony we will summarize the Visual Impact Assessment (“VIA”) which we
3 prepared for the Project. Our assessment was filed by National Grid and Clear River
4 Energy Center LLC (“CRE”) as Appendix C to their application to the EFSB in this
5 proceeding. Gordon Perkins is responsible for the all technical studies and analysis
6 included in the visibility assessment and Steve Breitzka provided rating panel input for
7 the visual impact analysis.

8 **Q. Please describe the methodology for conducting an assessment of visual impacts.**

9 A. A VIA is used to determine the extent of potential project visibility and to evaluate visual
10 impacts associated with a project using an accepted impact assessment methodology. On
11 this project, EDR used standard analyses of potential project visibility, and evaluated
12 visual impact using a rating system based on methodology developed by the U.S.
13 Department of Interior Bureau of Land Management (“BLM”). The VIA prepared for the
14 Project includes identification of visually sensitive resources, characterization of
15 landscape similarity zones, identification of viewer groups, viewshed mapping,
16 confirmatory visual assessment fieldwork, visual simulations, visual impact analysis, and
17 assessment of the need for visual impact mitigation. The VIA methodology used on this
18 Project provides a comprehensive and quantitative means of evaluating existing visual
19 character and aesthetic quality and the ability of a landscape to accommodate visual
20 change. Photographs of existing conditions at representative viewpoints, and visual
21 simulations showing Project conditions in those same photographs, were used to
22 determine changes in visual quality and characterize visual impacts.

1 **Q. What is the extent of the defined study area that was evaluated in your analysis?**

2 A. EDR defined an area extending one mile from the center of the proposed project as the
3 Visual Study Area. The proposed project involves the construction of a new 345 kV
4 transmission line (3052 Line) by National Grid and CRE in Burrillville, Rhode Island
5 between the proposed Clear River Energy Center (“CREC”) and the Sherman Road
6 Switching Station. The Project also involves the reconfiguration of the two existing 345
7 kV transmission lines (341 Line and 347 Line) for a distance of approximately 1.6 miles
8 along the route.

9 **Q. Please summarize the contents of the VIA.**

10 A. The VIA for the Project addresses:

- 11 (a) Visually sensitive sites and intensive land uses within the study area;
- 12 (b) Landscape Similarity Zones within the study area;
- 13 (c) Viewer groups within the study area;
- 14 (d) Visibility of the existing and proposed transmission lines within the study area;
- 15 (e) Appearance of the existing and proposed 345 kV transmission lines based on
16 photographic simulations;
- 17 (f) The nature and degree of visual change resulting from the construction of the Project;
18 and
- 19 (g) The need for mitigation and the feasibility of mitigation alternatives.

20 **Q. Please list the specific methodology utilized in the VIA.**

21 A. The VIA for the proposed Project includes:

- 22 (a) The identification of visually sensitive resources within a 1-mile radius of the

1 transmission line corridor. Visually sensitive resources include historic resources
2 listed on the National Register of Historic Places (“NRHP”), NRHP candidate
3 sites, parks and recreational areas, scenic areas, and areas of intensive land use.

4 (b) The definition of landscape character within the study area, based on the
5 existing pattern of land cover (as indicated in the U. S. Geological Survey
6 [USGS] National Land Cover Dataset [NLCD]) and landscape characteristics.

7 This analysis resulted in the definition of five distinct landscape similarity zones
8 (“LSZ”) within the study area. LSZ’s are areas of similar landscape/aesthetic
9 character based upon patterns of landform, vegetation, water resources, land use,
10 and user activity.

11 (c) The identification of specific user groups within the study area to evaluate
12 viewer sensitivity and assure the selection of appropriate representative
13 viewpoints during the visual impact evaluation.

14 (d) To evaluate potential Project visibility, a topographic viewshed analysis was
15 performed for the existing transmission lines on the ROW and the proposed new
16 transmission lines. The viewshed analysis utilized USGS digital elevation model
17 (“DEM”) data, the height of the existing and proposed structures, and a computer
18 program (ESRI ArcGIS® with the Spatial Analyst extension) to determine
19 locations where the existing and proposed structures would be potentially visible
20 conservatively based on the screening provided by topography only (i.e., ignoring
21 the screening effect of vegetation and structures).

22 (e) To more accurately account for the screening effect of forest vegetation, a

1 vegetation viewshed analysis was also prepared for the proposed new structures.

2 The vegetation viewshed analysis involved creation of a vegetation layer based on
3 the location of mapped forest vegetation as indicated in the USGS NLCD, with an
4 assumed elevation of 40 feet. This layer was added to the digital elevation model
5 to produce a base layer for the viewshed analysis, as described above. Once the
6 viewshed analysis was completed, the areas covered by the forest vegetation layer
7 were designated as “not visible” on the resulting data layer to reflect the fact that
8 views from within forested areas will generally be well screened.

9 (f) To more accurately evaluate potential visibility of the proposed Project, areas
10 within a 1-mile radius of the line were visited in the field. Photo documentation of
11 potential Project visibility was obtained from 32 representative viewpoints within
12 the study area. The existing transmission lines were used as locational and scale
13 references for evaluation of potential Project visibility.

14 (g) From the 32 viewpoints documented during field review, photos from 8
15 viewpoints were selected for use in the development of visual simulations.

16 Viewpoints were selected because they provided open views of the Project from
17 different distances and directions, illustrate Project visibility from sensitive
18 resources, and/or were representative of the viewer/user groups and LSZ’s within
19 the study area that are most likely to have views of the proposed Project.

20 (h) To illustrate the anticipated visual changes associated with the proposed
21 Project, digital models of the proposed facilities were prepared based on
22 engineering plans provided by National Grid and CRE. The models were used to

1 create realistic photographic simulations of the completed Project from each of
2 the selected viewpoints using AutoCAD Civil 3D® and Autodesk 3ds Max®
3 software.

4 (i) The visual impact assessment methodology utilized on this Project involved
5 completion of a visual contrast rating form based on methods developed by the
6 U.S. Department of the Interior BLM. The form provides for the description of
7 existing scenic quality, viewer sensitivity, and variable effects such as viewing
8 angles and atmospheric conditions, in addition to the evaluation of the contrast
9 between the proposed Project and the existing view. The evaluation procedure
10 involves using a numerical contrast rating system to compare representative views
11 with, and without, the proposed Project in place and quantifying visual impact.
12 Three rating panel members, including one visual assessment expert and two
13 landscape architects (including Mr. Breitzka) evaluated the visual impact of the
14 proposed Project using the simplified BLM methodology. The panel members
15 were only responsible for rating the completed simulation package and were not
16 involved in the technical studies, field analysis, or the preparation of the VIA
17 report. The VIA evaluation involved viewing and rating 11"x17" color prints of
18 the views from the selected representative viewpoints. The visual ratings of the
19 Project's contrast with existing landscape features (e.g., vegetation, land form,
20 water, and land use) were compiled to obtain an average score for each viewpoint,
21 which was used to determine the relative magnitude of visual impact. These
22 scores and comments from the raters provided guidance as to whether visual

mitigation was warranted.

Q. What conclusions did you reach as a result of the analyses conducted in the VIA?

A. In the VIA we concluded that the proposed Project will result in a minor increase in transmission line visibility when compared to the visibility of the existing lines. However, it is likely to have an effect on the visual/aesthetic character of some near foreground views within the study area. Our specific conclusions, which are contained on pp. 76-77 of the VIA, are as follows:

- Topographic viewshed analysis, which ignores the screening effect of vegetation and built structures, indicates a potential 0.5% increase in visible area when compared to the topographic viewshed of the existing transmission lines.
- Vegetation viewshed analysis, which considers the screening effect of mapped forest vegetation, indicates that approximately 5.4% of the study area has potential views of the proposed Project. This represents a 0.8% increase in visible area when compared to the viewshed of the existing transmission lines.
- Topographic viewshed analysis indicates that views of the proposed transmission line could potentially be available from the majority of the visually sensitive resources that occur within the 1-mile visual study area. However, vegetation viewshed analysis suggests that views of the Project from many of these sensitive sites will be fully or significantly screened by intervening forest vegetation.
- Field review suggests that actual Project visibility is likely to be more limited than suggested by viewshed mapping. Mature forests throughout the study area screen (or partially screen) views of the Project from most locations. The existing 341

1 and 347 Transmission Lines were visible (and therefore, the Project would be
2 visible) from within the ROW when crossed by public roads. These types of
3 views will be temporary and fleeting for vehicular traffic. Bikers and walkers will
4 experience slightly more exposure to the changes introduced by the Project, but
5 the effect will still be fleeting in nature.

- 6 • Fieldwork also confirmed that views from visually sensitive sites toward the
7 Project are also likely to be more limited than suggested by viewshed analysis. In
8 almost all cases, views of the Project from sensitive sites located outside the
9 immediate Project ROW will be partially or completely screened. From all of the
10 documented historic sites within the study area, views of the existing transmission
11 lines are screened by intervening topography and vegetation. The existing
12 transmission lines run through the Round Top Management Area, Town Farm
13 Road/Wilson Reservoir State Scenic Area, Wallum Lake State Scenic Area, and
14 the Wallum Lake Rod and Gun Club. Open, unobstructed views of the Project
15 will be available from multiple locations within these areas. However, these
16 resources include large areas of land and the types of activities they offer are
17 typically focused away from the ROW and those activities will not be adversely
18 impacted by the addition of the proposed 3052 Line. For example, public fishing
19 access areas at the Big Top Management Area revealed no visibility of the
20 existing transmission lines.
- 21 • Simulations of the proposed transmission line indicate that the Project will not
22 significantly alter the visual character and scenic quality of the existing views.

1 Evaluation by the rating panel indicates that the proposed transmission lines’
2 overall contrast with the visual/aesthetic character of the area will generally be
3 minimal. Some degree of contrast with the existing vegetation and sky was noted
4 for several viewpoints due to clearing within the ROW and the new structures’
5 greater height, and more dominant visual presence. However, this effect was
6 limited due to the proposed location of the Project on an existing transmission line
7 ROW with low baseline scenic quality.

8 **Q. What were your overall conclusions regarding whether mitigation of the Project’s**
9 **visual impact is warranted?**

10 A. As indicated by the results of the analyses summarized above, visual impact of the
11 proposed Project will generally be restricted to sites where public roads cross the ROW
12 and offer an unobstructed view of the proposed transmission lines. In all instances, views
13 of the landscape from these road crossings already include the existing transmission lines.
14 Siting of the proposed line within an existing transmission corridor significantly reduces
15 adverse visual impacts by avoiding the need for a new ROW and minimizing perceived
16 change in land use. The H-frame design of many of the new structures is consistent with
17 the design of the existing structures, and the design limits the extent to which the new
18 structures extend above the adjacent tree lines into the sky. The natural brown color of
19 the self-weathering steel poles also generally blends well with the existing structures on
20 the ROW and the background vegetation. As a result, mitigation of visual impacts does
21 not appear warranted.

22 **Q. Does this complete your testimony?**

The Narragansett Electric Company
d/b/a National Grid and Clear River Energy LLC
Burrillville Interconnection Project
EFSB Docket No. SB-2017-01
Witnesses: Perkins and Breitzka

1 A. Yes it does.

The Narragansett Electric Company
d/b/a National Grid and Clear River Energy LLC
Burrillville Interconnection Project
EFSB Docket No. SB-2017-01
Witnesses: Perkins and Breitzka

ATTACHMENTS

EDR-1	Curriculum vitae of Gordon W. Perkins
EDR-2	Curriculum vitae of Steven Breitzka



Gordon Perkins, GISP

Senior Project Manager



Gordon is a Senior Project Manager with more than 15 years of professional experience. Gordon is one of the leading expert consultants in Visualization and Visual Impact Assessment in the Northeast and is well known to many of our clients and colleagues in the renewable energy industry. Gordon has extensive expertise in digital graphics and uses 2-D and 3-D software applications to create visual simulations and effectively communicate design concepts. Gordon has also conducted research and fieldwork involving riparian restoration design and implementation.

As a Senior Project Manager with EDR, Gordon's responsibilities include the ongoing evaluation and improvement of our technical methodologies used in visual impact assessment, including new techniques in data collection, processing and analysis, and 3-D modeling. Gordon is also responsible for assigning, scheduling and coordinating assistance from the in-house multi-disciplined team of professionals. He remains hands-on throughout the project, overseeing and advising the EDR Team as needed, as well as providing quality assurance.

employment history

Senior Project Manager, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Syracuse, NY, 2016-Present.

Project Scientist – Visualization and GIS Specialist, ESS Group, Inc., East Providence, RI, 2011-2016

Senior Visual Analyst – Project Manager, Saratoga Associates Landscape Architects, Architects, Engineers, and Planners, P.C., Syracuse, NY, 2008-2011.

Project Manager and Visualization Specialist, Environmental Design & Research, Syracuse, NY, 2001-2008.

education

State University of New York College of Environmental Science and Forestry, Syracuse, NY, *Bachelor of Landscape Architecture, Ecology Emphasis*, 2001.

Keystone College, La Plume, PA, *Associate of Arts*, 1998.

registration / certifications

Certified Geographic Information Systems Professional (GISP)

Federal Aviation Association, *Unmanned Aerial Vehicle (UAV) Pilot Certification for Commercial Flights*

professional affiliations

Member, Alliance for Clean Energy New York

Member, American Wind Energy Association

project experience

Interstate 81 (I-81) Viaduct Project – Visual Impact Assessment, City of Syracuse, Onondaga County, NY – Assistant Project Manager for Visual Impact Assessment conducted in accordance with Federal Highway Administration (FHWA) Visual Impact Assessment protocol as part of NEPA review as part of a consultant team with Parsons, AKRF, Inc., and TWMLA for the replacement of approximately 5 miles of elevated Interstate highways in the City of Syracuse, New York (NYSDOT PIN 3501.60, D031085).

Icebreaker Wind Project, Erie County, Cleveland, OH – Project Manager for Visual Impact Assessment for a proposed 20 megawatt (MW) offshore wind project in Lake Erie. Obtained photographs, assisted with preparation of visual simulations, and oversaw production of Visual Impact Assessment Report.

Galloo Island Wind Project, Jefferson County, NY – Prepared Visual Impact Assessment and technique support for proposed 30-turbine wind energy facility located on an island in Lake Ontario.



Hardscrabble Wind Power Project, Towns of Fairfield, Norway, and Little Falls in Herkimer County, NY – Developed viewshed maps and created visual simulations for the Visual Impact Assessment (VIA) for a 61-turbine project. Assisted with preparation of the Visual Impact Assessment Report which evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Kenmore Mercy Hospital, Buffalo, NY – Visual Specialist for the John Repetski Memorial Garden at Kenmore Mercy Hospital.

Penn Forest Wind Project, Town of Penn Forest, Carbon County, PA – Visual Specialist for a proposed 40 turbine locations, permanent meteorological towers, overhead and underground collection and interconnect systems, a substation, and access roads that included viewshed mapping, obtaining photos from pre-selected viewpoints, and preparing preliminary photo simulations of the proposed project.

Block Island Wind Farm, Block Island, RI – Visual Specialist for a proposed 30 MW wind farm facility located in the Atlantic Ocean, 3 miles off the coast. On-shore facilities include electrical lines, switchyards, and substations. The project involved the preparation of 28 daytime and nighttime simulations of the offshore turbines from viewpoints on Block Island and the mainland.

Jamestown Board of Public Utilities Power Plant and Operations Center, Jamestown, NY - Prepared visual simulations for a 40 MW clean-coal power-generating plant and operations center. Visual impacts of the project were assessed by creating computer models of the proposed facilities and computer-assisted visual simulations of potential impacts as viewed from representative viewpoints. Assisted with preparation of Visual Impact Assessment Report that evaluated project visibility and visual impact on sensitive receptors and identified mitigation options, which included recommendations regarding design and siting, the color and texture of built materials, and lighting.

Long Island Offshore Wind Park (LIOWP), Long Island, NY - Prepared visual simulations of the Long Island Offshore Wind Park (LIOWP) Project, a proposed 140-megawatt offshore wind power project. Provided daytime simulations of the project from multiple locations on the southern Long Island shoreline. As a sub consultant to ENSR, EDR performed photographic and survey fieldwork and detailed computer modeling to develop realistic simulations of the proposed wind farm. EDR also participated in public outreach meetings and workshops concerning the project.

Meyersdale Wind Power, Meyersdale, PA – Responsible for computer modeling and creating a series of graphics for the public presentation of a proposed 20-unit wind power generating facility. Created five graphic panels with simulations of the proposed facility, along with supporting maps and graphics.

University Avenue, Syracuse, NY – This project included recommendations and guidelines for street improvements along University Avenue, a main corridor onto the Syracuse University campus. Responsible for creating photo-renderings from conceptual plans that illustrated the proposed improvements to pedestrian and vehicular spaces.

Flat Rock Transmission Line, Lewis County, NY – Performed viewshed mapping, line of sight cross sections and field verification for visual impact assessment of a 10 mile, 230 kV transmission line. Also prepared eight photo simulations of the proposed project.

NYS Route 3 Community Development Study, Black River, NY – Responsible for providing graphic and technical assistance in this highway corridor development guideline package. Assisted in creating a professional full length video and a 150 slide DVD presentation with 3-D animations and videography.

Fenner Wind Power, Fenner, NY – Assisted with preparation of daytime visual simulations and a Visual Impact Assessment Report for this 20-turbine project. Also performed photo documentation of nighttime visibility and visual impact of the constructed project. Results were used as a baseline for evaluating nighttime impacts of other similar projects.

New York Regional Interconnect, New York State - Coordinated field operations for over 1000 visual resources over a 190Mile (570 Square Mile) Study area. Team leader in the selection and production of simulation for over 75 viewpoints. Provided expert witness testimony before the Public Service Commission of New York State.

Bushkill Communications Tower, Town of Bushkill, PA – Conducted fieldwork and prepared viewshed maps and visual simulations to evaluate the visibility and visual impact of a proposed wireless communication facility. The focus of the evaluation was the project's potential impact on the Delaware Water Gap National Recreation Area. Analytical results were used by the project developer in negotiations with National Park Service.

NYS Route 3 Community Development Study, Jefferson County, NY – Responsible for providing graphic and technical assistance in this highway corridor development guideline package prepared for the Tug Hill Commission. Assisted in creating a professional, full-length video and a 150 slide DVD presentation with 3-D animations and videography.



Empire Newsprint Recycling and Power Plant, Rensselaer County, NY – Responsible for creating an architecturally detailed 3-D model and photo simulations of a proposed power plant (including cooling tower and stack plumes) and an associated 345 kV transmission line. Also assisted with fieldwork involving photo documentation of existing views. Simulations were part of a Visual Impact Assessment for the proposed project, prepared as part of the PSC Article VII application.

Cape Wind Offshore Wind Farm, Nantucket Sound, MA – Created survey accurate visual simulations for America's first offshore wind proposal. Completed daytime and, first in the industry nighttime visual simulations, depicting a 420-megawatt wind farm. Provided fieldwork oversight and photography from critical points throughout Cape Cod and the Islands.

Maple Ridge Wind Farm, Lewis County, NY - Assisted in the completion of a visual analysis for a 320-megawatt wind farm in upstate New York. Completed field verification (balloon study), visual simulations, viewshed analysis, and nighttime impact assessment.

Southern Rhode Island Transmission Project, East Greenwich, RI - Completed photography and field verification for a 7.3-mile 115kV transmission line and associated substation. Created visual simulations representing realistic and accurate right-of-way clearing and proposed improvements. Provided expert witness testimony before the Rhode Island Energy Facilities Siting Board.

Tompkins County Public Safety Communications System, Tompkins County, NY – Developed viewshed maps and visual simulations for Visual Impact Assessment component of the Draft Environmental Impact Statement (DEIS) prepared for the siting of nine new towers for wireless communications.

New York State Statewide Wireless Network –Developed visual simulations for the Generic Visual Impact Assessment (GVIA) included as an appendix of the DEIS prepared for the siting of wireless communications towers throughout New York State. The report defined landscape similarity zones and viewer groups, identified sensitive resources/receptors, supervised the development of visual simulations, and participated in the preparation of the GVIA report.

Jordanville Wind Power Project, Towns of Stark and Warren in Herkimer County, NY – Developed viewshed maps and created visual simulations for the Visual Impact Assessment (VIA) for a proposed 150 MW, 75-turbine project. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Top Notch Wind Power Project, Towns of Fairfield, Norway, and Little Falls in Herkimer County, NY – Developed viewshed maps and created visual simulations for the Visual Impact Assessment (VIA) for a 61-turbine project. The VIA report described visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Cohocton Wind Power Project, Town of Cohocton in Steuben County, NY – Prepared visual simulations for the Visual Impact Assessment (VIA) for an 82 MW, 41-turbine project. Assisted with preparation of the Visual Impact Assessment Report which evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Marble River Wind Farm, Towns of Clinton and Ellenburg in Clinton County, NY – Created visual simulations for the Visual Impact Assessment (VIA) for a 200 MW, 109-turbine project. Assisted with preparation of the Visual Impact Assessment Report which evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Dairy Hills Wind Farm, Towns of Castile, Covington, Perry, and Warsaw in Wyoming County, NY – Conducted visual field work and created visual simulations for a 160 MW, 80-turbine project. Assisted with preparation of the Visual Impact Assessment Report that described the appearance of visible components of the proposed project, defined the visual character of the study area, and inventoried and evaluated visual resources and viewer groups. The study also evaluated potential project visibility within the study area, identified key views, and assessed visual impacts associated with the proposed wind power project.

Hamlet of Brewerton Revitalization Project, Onondaga County, NY - *Prior to EDR*, project manager for a multi million-dollar highway and park design improvement project. Provided expertise in state design guidelines and federal grant guidelines. Presented at major televised public outreach events.

Walden Pond Shoreline Erosion Assessment and Monitoring – *Prior to EDR*, designed a system by which MASS DCR can photographically document erosion rates and severity. Produced an interactive map package which allows the user to compare multiple years of erosion data and photographs. Provided field survey and documentation in order to demonstrate to rate of erosion.



Gordon Perkins, GISP

Senior Project Manager

Town of Dennis Comprehensive Dredge and Beach Nourishment Plan, Town of Dennis, MA - *Prior to EDR*, completed dredge design and grading for the Bass River and associated mooring basins. Created permitting drawings for dredge and beach nourishment using LIDAR and bathymetry survey data. Assisted the Town of Dennis in a cost benefit analysis to prioritize dredging activity.

Winchester Country Club Course Expansion, Winchester, MA - *Prior to EDR*, responsible for design, grading and permitting for a 15-acre golf course expansion. Provided expertise in invasive species management and wetland buffer enhancement. Performed cutfill calculations and watershed analysis.

BOEM Offshore Visualizations for the MA/RI WEA - *Prior to EDR*, created over 400 surveys accurate visual simulations depicting the BOEM wind energy areas in Massachusetts and Rhode Island. Used digital imaging techniques to depict four seasons and four times of day from each viewpoint. Contracted survey and meteorological experts in order to produce accurate visibility models.



Steven M. Breitzka, RLA, LEED™ AP

Senior Managing Landscape Architect



Steve is a Senior Managing Landscape Architect of EDR. He has more than 18 years of professional experience in landscape architecture. He is a New York State Registered Landscape Architect. Currently, he is a member of The American Society of Landscape Architects, U.S. Green Building Council, and The Town & Village of Tully Planning Board.

As a Senior Managing Landscape Architect at EDR, Steve's responsibilities include directing as in-house leader of concept design, preliminary design, design development, construction documentation, bidding and construction administration phases; providing technical guidance to production team, performs research with government agencies and material suppliers as required; coordinates in-house production activities with those of the prime consultant, project sub-consultants to EDR and other EDR disciplines.

education

Cornell University, College of Agriculture and Life Sciences, Ithaca, New York, *Bachelor of Science in Landscape Architecture*, 1998

registration / certifications

Registered Landscape Architect: NY
NYS License # 002507

professional affiliations

Member, American Society of Landscape Architects

Member, U.S. Green Building Council

Member, Town & Village of Tully Planning Board

publications

"Drawing Inspiration" *Landscape Architect and Specifier News*
Volume 27, Number 11, November 2011.

employment history

Senior Landscape Architect and Project Manager, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Syracuse, NY, November 2017 - Present.

Landscape Architect and Project Manager, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C., Syracuse, NY, May 2012 – November 2017.

Landscape Architect and Senior Associate, RNL, Denver, CO, 2003-2012.

Landscape Designer and Office Manager, Douglas Ian Associates, Rochester, NY, 2002-2003.

Landscape Designer, Dufresne-Henry Inc., Boston, Massachusetts, 2000-2002.

Landscape Architect, RNL, Denver, CO, 1998-2000

project experience

Marriott Syracuse Downtown (former Hotel Syracuse), Syracuse, NY – Responsible for coordinating site planning and design services for the transformation of the outdoor hard and soft-scapes, exterior access points, and streetscape improvements to enhance the restoration of this c.1924 hotel.



Steven M. Breitzka, RLA, LEED™ AP

Senior Managing Landscape Architect

SUNY State University at Oswego, North Corridor Dormitory Project, Phase I – Senior Managing Landscape Architect – responsible for coordinating conceptual site planning and design to enhance North Corridor Dormitory project.

SUNY State University of New York at Morrisville, Academic Quad – Senior Managing Landscape Architect – responsible for coordinating schematic design and writing accompanying reports for the centralized 5.5-acre quadrangle site surrounded by the Campus academic buildings.

SUNY State University of New York at Oneonta, Physical Science Building – Senior Managing Landscape Architect – responsible for coordinating site planning and design services for \$30M renovation and addition of the Physical Science Building. The spaces on the southwest side of the building have potential to serve as outdoor classrooms displaying sustainable stormwater and native landscape initiatives. Scope includes the design of the bio-swales, meadows, and the building entry plazas. *LEED™ Silver (target rating)*.

SUNY State University at Oswego, West Campus, Onondaga & Seneca East Quadrangle – Senior Managing Landscape Architect – responsible for coordinating conceptual design for the 2-acre quadrangle site surrounded by three dormitory buildings, two dining halls, and a fitness center.

SUNY State University of New York at Plattsburgh, Hawkins Hall Pond Infrastructure Replacement – Senior Managing Landscape Architect – responsible for coordinating concept design through bid document phase services for a landscape design surrounding the historic pond. Landscape includes restoration of disturbed areas for approximately 110,000 SF (low level restoration) and 20,000 SF of plantings including trees, shrubs, and perennials. Improvements include site furniture, lighting layout, benches, relocation and restoration of memorial benches, waterfall and water aeration features.

Cazenovia College, Christakos Field Gateway Project – Senior Managing Landscape Architect - responsible for coordinating site planning and design services for design and construction documents to install gateway elements including brick clad freestanding columns, custom steel swing gates, custom metal signage and steel fencing, grading and pavement areas.

Le Moyne College, Dewitt, NY – Senior Managing Landscape Architect – developed a Statuary Placement Master Plan including final design for the St. Ignatius sculpture at the Panasci Family Chapel. Worked with nationally-recognized sculptor, Brian Hanlon of Hanlon Studios.

Le Moyne College, Dewitt, NY – Senior Managing Landscape Architect – responsible for designing multiple exterior staircase options at Reilly Hall to improve pedestrian circulation over 26 vertical feet of grade change.

Jefferson Community College, Watertown, NY – Senior Managing Landscape Architect – responsible for developing planting plan to enhance new design-build on-campus student housing project for the community college campus.

Boundary Breaks Vineyard, Lodi, NY – Senior Managing Landscape Architect – coordinated master planning / conceptual design and schematic design for a new winemaking facility and tasting room. Phase 1 includes a rustic gravel parking lot with associated landscape, walking paths, and an outdoor event space / amphitheater with a commanding view of Seneca Lake.

The Greens at Sunset Ridge Golf Club, Marcellus, NY – Senior Managing Landscape Architect – developed preliminary master plan options and cost estimating for the senior living community. Prepared documentation for New York State Consolidated Funding Application.

Onondaga Nation Fire House & Community Hall, Nedrow, NY – Responsible for managing site planning, design and engineering for a new fire house and community center. When designing the new facility, the design team kept thinking about a statement made to them, by the Onondaga Nation spiritual leader of the Six Nations, "When you leave the woods, it should look the same as before you walked in." The goal was to build a *Net Zero Energy Building* and site with high environmental standards. It was constructed of natural, local and recyclable/renewable products entirely by workers from Onondaga Nation who are skilled in their trades.

McAuliffe Health Center, DeWitt, NY – Senior Managing Landscape Architect – responsible for coordinating the site and landscape design approvals process for this adult daycare center through the Town of DeWitt Planning Board and Zoning Board of Appeals.

Embracing Age, Baldwinsville, NY – Senior Managing Landscape Architect – coordinated the concept design and the preliminary municipal review process through the Village Planning Board for the 18-acre senior living community. Project included new roadway infrastructure, stormwater management, walking paths, clubhouse amenities, and associated outdoor spaces for the 190-unit community.



Steven M. Breitzka, RLA, LEED™ AP Senior Managing Landscape Architect

Energy Project Visual Impact Assessments – Landscape Architect – responsible for preparing Visual Impact Assessments (VIAs) for commercial wind power and power line projects in Upstate New York. The VIAs present the visual character and significant aesthetic resources within a 5 or 10-mile visual study radius. Viewshed analysis, line-of-sight cross sections, field review, and computer-assisted visual simulations were used to evaluate the potential visibility and visual impact of these projects. Notable projects include: the CHG & E A&C Line, the Crown City Wind Farm, and the Scioto Ridge Wind Farm.

Miron Residence, Skaneateles, NY – Senior Managing Landscape Architect – responsible for coordinating site design and approvals process through the Town Planning Board. Design includes shoreline and outdoor patios and garden spaces.

Wallace Residence, Skaneateles, NY – Landscape Architect – responsible for new deck and railing design and layout documents and modeling.

Skaneateles Country Club, Skaneateles, NY – Senior Managing Landscape Architect – responsible for coordinating preliminary design documents for Phases 1-3 of the clubhouse master plan.

Skaneateles Country Club, Skaneateles, NY – Senior Managing Landscape Architect- Responsible for coordinating site planning and design for shoreline improvements that incorporate aspects of accessibility, grading and green infrastructure. The focus of this project was fresh, family-friendly character and aesthetic with the addition of outdoor gathering seating, gathering and event spaces. Durable and easily repaired construction systems along with a low maintenance landscape were major considerations in the design.

Up the Creek Farm, Fairport, NY – Landscape Architect – responsible for landform design to serve as a visual and auditory buffer adjacent for a horse farm located adjacent to a major highway.

Emerson Park, Auburn, NY – Senior Managing Landscape Architect – responsible for coordinating grant application materials including a boat launch improvement master plan and cost estimate.

Katlynn Marine, Sodus Point, NY – Senior Managing Landscape Architect – responsible for coordinating overall marina master plan including updated circulation patterns, new outdoor spaces, and sustainable site initiatives.

Research Support Facility, National Renewable Energy Laboratory, Golden, CO – *Prior to EDR*, collaborated on the environmentally sensitive design for the primary entry plaza, outdoor employee café, and surrounding landscape and stormwater strategies for the 222,000 square foot *LEED™ Platinum Plus Zero Energy Building*. Initiated new submittal and review process throughout all design-build stages. Created template for campus interpretive signage program showcasing sustainable practices. Lead Quality Control for each drawing and specification submittal.

The Crossing, Church of the Nazarene, Broomfield, CO – *Prior to EDR*, master planned the full build-out vision for the mixed-use 78-acre site. Designed entry experience, Great Lawn, sustainable parking areas, and plazas for Phase 1 – a 68,000 square foot church. Coordinated zoning and entitlement process through the City and County of Broomfield.

One Steamboat Place, Steamboat Springs, CO – *Prior to EDR*, designed one-acre public outdoor space, outdoor pool and plaza, and overall site for the private “cowboy chic” luxury condominiums at the base of Steamboat Mountain. Developed project from concept design through construction administration. Designed signature site elements including custom lighting and outdoor fireplaces to compliment the distinctive architectural style and unique client flair. Lead Quality Control for the multi-disciplinary site design team.

Salvation Army Red Shield Community Center, Denver, CO – *Prior to EDR*, lead entitlement process through the City and County of Denver including rezoning, site development, and traffic engineering plans. Designed landscape and entry plaza for the neighborhood youth center.

Ball Aerospace and Technologies Corporation, Boulder, CO – *Prior to EDR*, designed 280-space porous asphalt parking lot as part of 15-year campus implementation plan. Coordinated project through the City of Boulder entitlement and engineering process.

Eastlake Boardwalk and Overlook, Thornton, CO – *Prior to EDR*, evaluated fire-proof design options for a replacement deck system. Designed innovative overlook inspired by material re-use, local stone quarries, and lightweight structure.

Lambertson Lakes, Thornton, CO – *Prior to EDR*, utilized a narrative + 3D visualization approach to generate four concepts for a new trail system and landscape focused around upgraded dam projects.

Margaret Carpenter Recreation Center, Thornton, CO – *Prior to EDR*, designed the 136-acre park master plan and subsequent 25-acre Phase 1 master plan including sports fields, historic carousel site, outdoor spaces, and accompanying parking.



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George Eastman House, Rochester, NY – *Prior to EDR*, restored historic pathways and gardens surrounding the museum.

Wellesley College, Wellesley, MA – *Prior to EDR*, designed master plan for new NCAA athletic facility.

Salisbury Greenway, Brockton, MA – *Prior to EDR*, designed Phase 1 and signage for the new pocket park greenway.

DASNY / Albany State University, Alumni Quadrangle New Construction Project – responsible for site planning and design services to support razing and replacing Waterbury Hall with new alumni commons that will integrate dining, retail, fitness, meeting rooms, social spaces, and a new contemporary residence hall in a phased approach. Site work shall include relocating and reconfiguring the existing service entrance, loading dock, and utilities to support the new alumni commons and residence hall. *LEED™ Silver Base Rating*.

Upstate Medical University, New Ambulatory Care Center, Academic & Laboratory Building Project – responsible for site planning and design services to support development of a new 200,000 SF, 5-story building on an open parking lot, allowing for green space at the east end of Sarah Loguen Street. The proposed building will house treatment facilities. *LEED™ Silver Base Rating*

City of Auburn, Equal Rights Heritage Center, Auburn, NY – Managing site planning, design, and engineering services to support development of a new regional welcome center in the South State Street Historic District in Downtown Auburn. The project is located directly across from Memorial City Hall and adjacent to the William H. Seward House Museum (a national historic landmark). It provides a rare opportunity to highlight regional tourism and the agricultural industries.

PACE CNY / Sander's Creek Corporate Center, Syracuse, NY – Managed site planning and design to support development of a new 38,000 SF adult day care facility including parking, drop-off zones, and an outdoor seating area.