



WEST HANTS REGIONAL MUNICIPALITY REPORT

Information X	Recommendation ☐	Decision Request ☐	Councillor Activity ☐
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To: Mayor Zebian and Members of West Hants Regional Municipal Council

Submitted by: _____

Kari Fougere, Acting Director of Planning and Development

Date: 2026-01-13

Subject: Visual Effects Study of Existing and Proposed Wind Energy Projects

LEGISLATIVE AUTHORITY

N/A

RECOMMENDATION or DECISION REQUEST

This report is for information only.

BACKGROUND

Property X	Public Opinion ☐	Environment X	Social ☐	Economic ☐	Councillor Activity ☐
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At the November 26th, 2024 Council meeting, staff presented a development agreement application for a new wind farm development in the Vaughn and Upper Vaughn area. At that meeting, Council postponed first reading and directed staff to come back with information including a Cumulative Visual Effects Study for the project.

The direction previously provided for staff in November 2024 to provide information on a cumulative visual effects study was originally connected to that wind farm development agreement application. In January 2025, correspondence was received from the Provincial Planning Department regarding requested MPS and LUB amendments relating to wind turbine setbacks. The Province approved the amendments and Minister Lohr authorized and imposed further amendments specifically relating to setback requirements and the removal of the consideration of visual intrusive impacts on the landscape from the MPS. As a result of these

new minimum requirements, the development agreement application was subsequently withdrawn by the applicants and resubmitted to be evaluated under new planning policy.

At the February 25th, 2025 Council meeting, Council approved the Visual Effects Study of existing and proposed wind farms in the Vaughn and Upper Vaugh area to be completed by Dillon Consulting Limited, to be used as information outside of the review of any planning applications relating to wind farm development. The information can be used to determine the cumulative effects of wind farm development in Vaughn and Upper Vaughn area for future decision making outside of planning applications.

DISCUSSION

The overall purpose of the study was to assess the visual impacts and shadow flicker effects from the South Canoe (existing), Benjamin Mills (approved and under development), and Beak Lake (proposed and currently in the appeal process) wind farms in the general Vaughn and Upper Vaughn areas of the municipality. The study used GIS and WindPro modelling to evaluate where turbines are and may be visible, what areas may experience shadow flicker, and how the projects appear together on the landscape.

The key findings of the study include:

- **Visibility:** Turbines may be visible from various locations in the area within 15km, but visibility is greatly reduced when vegetation and terrain are considered. The number of impacted buildings were greatly reduced when vegetation was included in the analysis (from 4370 buildings impacted to 2210 buildings).
- **Shadow flicker:** None of three projects evaluated are anticipated to exceed provincial shadow flicker limits using realistic scenarios, and there are limited receptors that experience or will experience any flicker, and results appear to be generally consistent with previous environmental assessments when the same inputs are used. It was noted that cumulative shadow flicker from multiple projects at the same location is unlikely as projects are too far apart for flicker effects to overlap meaningfully.
- **Visual Simulations:** 24 photo simulations from 15 viewpoints were created. These showed that the individual projects are visible from various public locations, and that simultaneous visibility of all three projects is limited especially from public roads and parks. Some private residences may experience greater cumulative views due to fewer visual obstructions.
- **Cumulative Visual Effects:** It was noted that some locations (i.e., Wile Settlement and Upper Falmouth) can see more than one projects. There were limited public viewpoints identified with the potential to visualize multiple projects, however there is the potential for private properties to visualize turbines from more than one project from unobstructed sight lines. Vegetation and topography significantly reduce cumulative visibility.

Overall conclusions:

- Modeling of Shadow flicker impacts are not anticipated to exceed comply with provincial standards when realistic conditions are applied.

- Cumulative shadow flicker is not expected to be an issue.
- Visual impacts exist, but are moderated by distance, vegetation, and terrain.

It is important to note that provincial regulations specify that visual or aesthetic appearance is not a criteria municipality can use to approve or deny wind projects. This study and the information within can be used to understand the impact of wind projects in the area for community awareness and potential future policy considerations. The study could inform broader policy discussions and planning considerations, provided any future amendments remain consistent with the Statements of Provincial Interest and other MGA requirements. As previously discussed, in a report to Council on March 25th, 2025 from planning staff, there are significant limitations on the Municipality's ability to restrict or limit wind turbine development through planning policy.

NEXT STEPS

N/A

FINANCIAL IMPLICATIONS

N/A

ALTERNATIVES

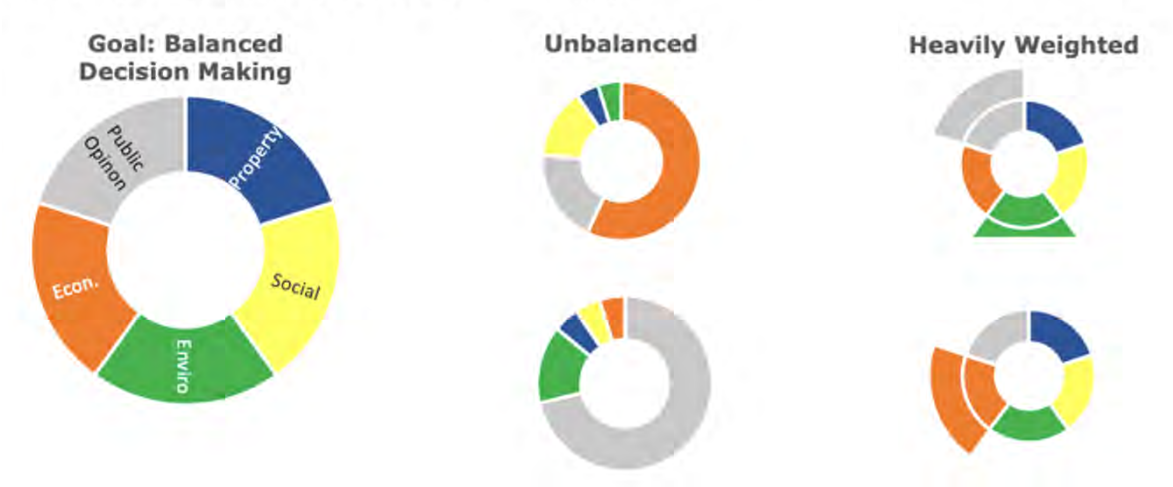
N/A

ATTACHMENTS

Attachment A: Visual Effects Study of Existing and Proposed Wind Energy Projects

CHIEF ADMINISTRATIVE OFFICER REVIEW

Council has been provided with a reference taken from the Meeting and Committee Procedural Policy , Appendix C “Decision Making by Council and Committee of the Whole” as a reminder of the principles highlighted for good decision making.



(For use if report is from a Councillor. CAO to provide additional comments on background, department/staff responsible and workload, budget, options, preferred strategy. State “Not Applicable” if report is from staff which already incorporates CAO review.)

Report Prepared by: _____

Kari Fougere, Acting Director of Planning and Development

Report Reviewed by: _____

Alex Dunphy, Senior Planner

Report Approved by: _____

Mark Phillips, Chief Administrative Officer



WEST HANTS REGIONAL MUNICIPALITY

Visual Effects Study of Existing and Proposed Wind Energy Projects



December 9, 2025

West Hants Regional Municipality
PO Box 3000
Windsor, New Brunswick
E3B 5H1

Attention: Kari Fougere, LPP, MCIP
Acting Director of Planning and Development

Visual Effects Study of Existing and Proposed Wind Farms

Dillon Consulting Limited (Dillon) is pleased to provide this report outlining the methodology and results of the Visual Effects Study for existing and proposed wind energy projects in the West Hants Regional Municipality.

Please do not hesitate to contact the undersigned if you have any questions.

Sincerely,

DILLON CONSULTING LIMITED

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Executive Summary

Dillon Consulting was retained by West Hants Regional Municipality to conduct a cumulative visual effects study for the existing South Canoe, approved Benjamins Mill, and proposed Bear Lake wind energy projects. The methodology employed WindPro software and GIS analysis to model viewsheds and shadow flicker under both "worst-case" scenarios (assuming bare earth and constant sunshine) and realistic scenarios (accounting for vegetation and historical weather data).

For Benjamins Mill and South Canoe, shadow flicker is not expected to exceed regulatory limits within the municipality. While the theoretical "worst-case" model for Bear Lake showed 11 receptors exceeding the 30-hour annual limit, the adjusted model using historical sunshine data predicts zero receptors will exceed this threshold. The study found that cumulative shadow flicker effects are unlikely because the projects are separated by distances greater than the maximum predicted range of shadow cast by the turbines.

To assess the visual impact on the landscape, the team produced photo montages from 15 selected viewpoints, highlighting that while individual projects are visible from various locations, simultaneous cumulative visibility of all three projects is limited.

1.0

Background

The West Hants Regional Municipality is seeking to understand the cumulative visual impacts of three wind energy projects: the existing South Canoe Wind Project, the approved Benjamins Mill Wind Project, and the proposed Bear Lake Wind Project. This study will provide a "cumulative visual effects study" to assess the overall visual impact on the landscape and community.

2.0

Regulatory Environment

Nova Scotia has an evolving regulatory framework to govern wind energy development. The provincial government's intent is to position Nova Scotia as a clean energy and economic powerhouse by harnessing its wind resources. This commitment is underscored by ambitious targets, including the goal of achieving 80% clean electricity by 2030. The province views wind energy as critical for economic growth, job creation, energy independence, and meeting climate change goals (Nova Scotia Department of Energy, 2025).

Onshore wind energy development in Nova Scotia is governed by a combination of provincial legislation, and municipal policies and regulations. Provincially, large scale wind projects are regulated under the Electricity Act and are subject to the Environmental Assessment process for projects over 2MW.

In March 2025, Minimum Planning Requirements Regulations under section 214 of the Municipal Government Act (MGA) were amended to create a provincial standard for wind turbine setbacks (Province of Nova Scotia, 2025). These setbacks are either four times the turbine height, or the distance needed to limit noise to 40 dBA at dwellings, and shadow flicker below 30 minutes per day or 30 hours per year. The amendments also specify that the visual impact or aesthetic appearance of a proposed wind project is not a matter municipal council can consider before approval.

The MGA permits municipalities to include lawful height and density restrictions in their Municipal Planning Strategies (MPS) and Land Use By-laws (LUB), but these policies and regulations must align with the Statements of Provincial Interest (SPI) and other MGA requirements.

3.0

GIS Analysis Methodology

A GIS analysis was performed to determine the potential visual impacts of the proposed projects. Dillon used **ArcGIS Pro** to prepare spatial data, and **WindPro software** to model the potential visual impacts of the proposed wind energy projects, which included the following analyses:

- **Viewshed Analysis (Zone of Visual Influence):** A 15 km study area from each of the turbines was created to identify areas where turbines have the potential to be visible from, and the number of turbines that may be visible.
- **Shadow Flicker Analysis:** A 3 km study area from each of the turbines was created to estimate the amount of shadow flicker for each receptor identified within the study area.
- **Visual Simulations (Photo Montages):** Digital photographs were taken in the field at 15 selected viewpoints to create photo montages for 12 of the viewpoints.

A data review was completed to characterize the study area from a land use perspective and to determine the location of sensitive receptors to be included in analyses. Potential sensitive receptors may include residences, institutional buildings, cabins, or public gathering spaces and viewpoints.

The following data for the study area was reviewed to support both the viewshed and shadow flicker analyses:

- Civic Addresses (Nova Scotia Civic Address File, 2025);
- Property Boundaries (Service Nova Scotia, 2025);
- Crown Land (Nova Scotia Department of Natural Resources, 2025);
- Buildings (Nova Scotia Topographic Database, 2025);
- Road Network (Service Nova Scotia, 2025);
- Digital Elevation Model (DEM) (Nova Scotia Department of Internal Services Geomatics Information Services Division, 2019);
- Digital Surface Model (DSM) (Nova Scotia Department of Internal Services Geomatics Information Services Division, 2019);
- Protected Areas Systems (Nova Scotia Environment and Climate Change, 2024);
- Significant Habitat Areas (Nova Scotia Department of Natural Resources and Renewables, 2025); and
- Aerial Imagery (Esri, 2025).

3.1

Viewshed Analysis (Zone of Visual Influence)

A 15 km study area was established from each turbine for the viewshed analyses. A 15 km study area was chosen as turbines beyond 15 km are expected to only be visible in clear conditions, and if visible from this distance, are likely to only be a minor feature in the landscape. The first analysis, a 'worst-case' scenario, used a bare earth Digital Elevation Model (DEM) without vegetation obstruction. The second analysis used a Digital Surface Model (DSM) to include vegetation obstruction. This desktop analysis determined the geographic areas and the number of turbines potentially visible for each scenario.

To inform a conservative assessment of visual impact, the total turbine heights, representing the maximum potential structure height for each respective project, were used as inputs for the viewshed analysis. The specific heights used were Bear Lake (211 m), Phase 1 Benjamin Mills (196 m), Phase 2 Benjamins Mills (199.5 m), and South Canoe (150 m). A summary of the turbine locations is included in **Appendix A, Table A3**.

3.2 Shadow Flicker Analysis

For the shadow flicker analysis, a 3 km study area from each of the turbines was created. Receptors identified within 3 km of the turbines from the viewshed analysis were imported into WindPro for modelling. While shadow flicker is unlikely to occur well beyond 2 km from a turbine, a conservative 3 km study area was adopted for the analysis. The shadow flicker analysis was completed using the Shadow Module in WindPro 4.1.

The shadow flicker analysis was completed using two terrain conditions. A bare earth scenario using a DEM with no vegetation obstruction, and a DSM with vegetation obstruction. The assessment applied a Greenhouse mode for all receptors, which treats each structure as fully transparent to sunlight, and therefore provides a conservative estimate of potential shadow flicker. For each terrain condition, two sunlight conditions were applied. The first was a worst-case scenario in which the sun shines whenever it is above the horizon, and the turbines are always operating. The second was a sunshine adjusted scenario that assumes turbines are always operating and incorporates the average daily sunshine hours from the Kentville weather station. The Kentville weather station is approximately 30 km to the northwest of the study area. The sunshine hours used in the assessment are summarized in **Table 1**.

Table 1: Average Daily Sunshine Hours Observed at the Kentville Weather Station

Month	Average Daily Sunshine Hours
January	2.53
February	3.50
March	4.28
April	4.96
May	6.33
June	7.24
July	7.51
August	7.27
September	5.85
October	4.44
November	2.81
December	1.86

The turbine models used in the shadow flicker analysis varied by project. For Benjamin Mills (Phase I), the Enercon E-138 EP3 E3 model, with a 138 m rotor diameter, and 127 m hub height was used. For Benjamin Mills (Phase II), the Enercon E-175 EP5 E2 model, with a 175 m rotor diameter, and a 112 m hub height was used. For South Canoe, the Acciona AW116 model, with a rotor diameter of 116 m, and a hub height of 92 m was used.

For Bear Lake, the Goldwind GWH182 model (120 m hub height, 182 m rotor diameter) is planned for the project. Since this specific Goldwind model is not currently in the WindPro catalogue, a custom turbine model was created for the shadow flicker analysis. To provide a comparative benchmark against a model with existing software data, the most similar turbine available in the WindPro catalogue, the Enercon E175 EP5 E2 (132.5m hub height, 175m rotor diameter) was also analyzed. The shadow flicker results for the two models were then compared.

3.3 Visual Simulations (Photo Montages)

Photo montages showing visual renderings of the wind energy projects were created for 12 locations that were selected through the viewshed analysis as offering potential views of the greatest number of turbines, and an additional 4 locations selected through the shadow flicker analysis.

Visual Renderings were produced using the Photo Montage module in WindPro 4.1, an industry standard software for creating wind turbine visualizations. Renderings were created under normal visibility conditions (i.e., clear skies) with the turbines superimposed on the photographs.

4.0 Results

This section details the findings of the GIS analysis.

4.1 Viewshed Analysis (Zone of Visual Influence)

The viewshed analysis identified the geographic areas from which the turbines of the South Canoe, Benjamins Mill, and Bear Lake wind energy projects may be visible to local residents.

Table 2 summarizes the total number of sensitive receptors identified within the 15 km study area, and the number with potential visibility of the turbines when considering the worst-case and vegetated scenario. The results of the viewshed analyses are shown in **Figures 1, 2, and 3**, and a summary of the significant habitat and protected natural areas is presented in **Appendix A**.

Table 2: Viewshed Analysis Results

Receptor Type	Initial Identification (15 km Study Area)	Worst-Case (Bare Earth) Scenario	Vegetated Scenario
Buildings	8,096	6,622	2,515
Significant Habitat	40	37	37
Protected Natural Areas	9	9	9
Unoccupied Parcels	1,437	1,098	451

Within 3 km of each project, the analysis identified 291 potential sensitive receptors for Bear Lake, 269 for Benjamin Mills, and 283 for South Canoe. Because of their proximity to existing and proposed turbine locations, these receptors were included in the Shadow Flicker Assessment (**Section 4.2**).

4.2 Shadow Flicker

The shadow flicker analysis quantified the potential duration and frequency of flickering shadows cast by the turbine blades at nearby receptor locations. The shadow flicker analysis was completed using Wind Pro 4.1 software, an industry standard.

The shadow flicker results are shown as contours in **Figures 4** through **9**, and in **Appendix B**, representing the predicted shadow flicker duration across the study areas. Separate contours are shown for the bare earth, and vegetated terrain scenarios to reflect the different ranges of values produced by each model. The bare earth scenario generates the maximum theoretical shadow flicker exposure and produces a wider range of predicted shadow flicker exposure. The vegetated scenario introduces obstructions that lower the range of predicted shadow flicker exposure. To distinguish between the two scenarios, the bare earth contours are represented using a green to red colour ramp, while the vegetated scenario contours use a pink to purple colour ramp. The results of each potential wind energy project is presented separately in the following sections.

4.2.1 Benjamin Mills

The shadow flicker analysis for the Benjamin Mills Wind Project included 269 potential sensitive receptors. Four scenarios were modelled to reflect the range of possible project conditions. Two project layouts were considered. Phase I and Phase II turbines, and Phase II turbines only. For each layout, both bare-earth and vegetated terrain were modelled under worst-case and adjusted sunshine scenarios.

A consolidated summary of results is provided in **Table 3**, with detailed scenario specific results included in **Appendix B**. Figures illustrating the shadow flicker for both scenarios (bare earth, no adjusted sunshine and the vegetated scenario with adjusted sunshine) are presented in **Figures 4** and **5**.

Of the 269 receptors identified, 3 are expected to receive shadow flicker. These are buildings on Highway 14, and Oakview Park Road in the community of Mill Section. Shadow flicker experienced at

these locations is expected to be caused by turbine T1, which is being constructed in the second phase of the Benjamin Mills Wind Project.

Shadow flicker is not expected to exceed 30 hours per year, or 30 minutes on the worst day in any scenario.

A comparison with the original Environmental Assessment (EA) (Natural Forces, 2021) shows a difference in the number of predicted affected receptors in the worst-case scenario (3 in this study versus 7 in the EA). The Visual Assessment submitted as part of the EA reported 7 affected receptors. This discrepancy is due to variations in key model inputs used in the two analyses. This analysis utilized the final turbine specifications, which are slightly shorter than the initial models used in the EA, resulting in a 40 m reduction in the calculated shadow flicker extent.

Table 3: Benjamin Mills Shadow Flicker for West Hants Regional Municipality

Scenario	Total receptors receiving measurable flicker	>30 hours per year	>30 minutes per day on the worst day	Locations Affected	Contributing Turbines
Bare Earth - All Turbines	3	0	0	Highway 14, Oakview Park Road	T1
Bare Earth - Phase II Turbines	3	0	0	Highway 14, Oakview Park Road	T1
Vegetated - All Turbines	1	0	0	Highway 14	T1
Vegetated - Phase II Turbines	1	0	0	Highway 14	T1

4.2.2 South Canoe

The shadow flicker analysis for the South Canoe Wind Project included 283 potential sensitive receptors. Bare earth and vegetated terrain were assessed under worst-case and adjusted sunshine conditions. Figures illustrating the shadow flicker for both scenarios (bare earth, no adjusted sunshine and the vegetated scenario with adjusted sunshine) are presented in **Figures 6 and 7**. A consolidated summary of results is provided in **Table 4**, with detailed scenario specific results included in **Appendix B**.

Considering both scenarios, receptors experiencing shadow flicker range from 6 to 21. Only one of these receptors is located within the West Hants Regional Municipality. This receptor is a building on Wilfred Hebb Road in the community of Leminster.

Shadow flicker is not expected to exceed 30 hours per year, or 30 minutes on the worst day at any location within West Hants Regional Municipality. One receptor, assumed to be a cabin located on an unnamed road in the community of Leville within the Municipality of the District of Chester, exceeds 30 minutes of shadow flicker on the worst day in the worst-case scenario. This receptor is located approximately 1 km from T22b.

The receptor identified to exceed the daily threshold was not identified in the shadow flicker analysis conducted for the South Canoe Wind Power Project Environmental Assessment (Strum Consulting, 2012), which covers this region. This omission is likely because the structure did not exist in the Nova Scotia building dataset at the time of the 2012 assessment.

Shadow flicker contribution is associated with T1b, T4, T6, T22b, T23a, T24, and T25. T24 contributes shadow flicker to the receptor on Wilfred Hebb Road.

Table 4: South Canoe Shadow Flicker Results for West Hants Regional Municipality

Scenario	Total receptors receiving measurable flicker	>30 hours per year	>30 minutes per day on the worst day	Locations Affected	Contributing Turbines
Bare Earth	21	0	0	Wilfred Hebb Road	T24, T25, T6, T4, T1b, T23a, T22b
Vegetated	6	0	0	Wilfred Hebb Road	T4, T6, T22b, T24, T25

4.2.3

Bear Lake

The shadow flicker analysis for the Bear Lake Wind Project included 291 potential sensitive receptors. Eight scenarios were modelled to reflect the range of possible project conditions, including two turbine manufacturers, two layout configurations, two terrain conditions, and two sunshine assumptions. The scenarios considered Goldwind and Enercon turbines and compared the Primary layout to the full turbine layout including both Alternate and Primary turbines. Figures illustrating the shadow flicker for both scenarios (bare earth, no adjusted sunshine and the vegetated scenario with adjusted sunshine) are presented in **Figures 8 and 9**. A summary of results is provided in **Table 5**, with detailed scenario specific results included in **Appendix B**.

Across all eight scenarios, the number of receptors experiencing any measurable shadow flicker ranged from 19 to 61.

Under conservative worst-case sunshine conditions, 11 receptors exceed 30 hours per year. These receptors are located on Chalet Drive, Armstrong Lake Road East, Armstrong Lake Road West, and Highway 14 in the communities of Vaughan and Upper Vaughan. Under the same conservative conditions, a maximum 25 receptors exceed 30 minutes of shadow flicker on the worst day of the year.

When vegetation obstruction is introduced to the worst-case sunshine scenario, 2 receptors exceed 30 hours per year. These receptors are located on Chalet Drive, and Armstrong Lake West Road in Vaughan. Under the same vegetated conditions, a maximum of 8 receptors exceed 30 minutes of shadow flicker on the worst day of the year.

When the analysis is adjusted to include average daily sunshine conditions, no receptors exceed 30 hours of shadow flicker exposure in any scenario. Maximum daily shadow flicker cannot be calculated because the model uses daily sunshine probability data, which cannot be reliably converted to minute time steps using WindPro software.

Shadow flicker contributions are associated with primary turbines T1, T9, T10, and T12, and alternate turbines A11 and A15.

Results between the Goldwind and Enercon differ due to the calculated distance of shadow flicker. The Enercon model is calculated within WindPro software at 1,739 m, while the custom Goldwind model uses the conservative industry standard of 10x the rotor diameter (182 m), for a calculated distance of 1,820 m.

A comparison with the original Environmental Assessment (EA) for the Bear Lake Wind Project shows a difference in the number of predicted exceedances under the worst-case scenario (11 receptors in this study versus 10 exceedances in the EA) (Strum Consulting, 2023). This slight numerical difference is the result of using updated site data. The model inputs varied, as demonstrated by the Goldwind model resulting in a shadow flicker extent 41 metres greater than the model used in the EA. When modeled using adjusted sunshine hours, both the previous EA and this study found that no receptors were expected to exceed the regulatory shadow flicker limits.

Table 5: Bear Lake Shadow Flicker for West Hants Regional Municipality

Scenario	Total receptors receiving measurable flicker	>30 hours per year	>30 minutes per day on the worst day	Locations Affected	Contributing Turbines
Bare Earth - All Turbines (Goldwind)	62	11	25	Chalet Drive, Armstrong Lake Road East, Armstrong Lake Road West, Highway 14	A11, A15, T1, T9, T10, T12
Bare Earth - All Turbines (Enercon)	60	11	14	Chalet Drive, Armstrong Lake Road East, Armstrong Lake Road West, Highway 14	A11, A15, T1, T9, T10, T12
Bare Earth - Primary Turbines (Goldwind)	46	2	16	Chalet Drive, Armstrong Lake Road West, Highway 14	T1, T9, T10, T12
Bare Earth - Primary Turbines (Enercon)	45	2	5	Chalet Drive, Armstrong Lake Road West, Highway 14	T1, T9, T10, T12
Vegetated - All Turbines (Goldwind)	35	2	8	Chalet Drive, Armstrong Lake Road East, Armstrong Lake Road West, Highway 14	T1, T9, A15
Vegetated - All Turbines (Enercon)	34	2	5	Chalet Drive, Armstrong Lake Road East, Armstrong Lake Road West	T1, T9, A15
Vegetated - Primary Turbines (Goldwind)	25	0	3	Armstrong Lake Road West, Highway 14	T1, T9
Vegetated - Primary Turbines (Enercon)	25	0	0	Armstrong Lake Road West, Highway 14	T1, T9

4.3 Visual Simulations

Photo montages were developed from 15 selected viewpoints to provide a realistic simulation of the visual changes to the landscape resulting from the wind energy projects. These locations were selected based on the results of the viewshed and shadow flicker analysis.

Viewpoints 5, 9, 11, and 12 were visited because these locations were modeled to have the potential for shadow flicker in the worst-case scenario.

For several locations, photographs were taken from nearby alternative positions to account for vegetation or built obstructions that limited visibility from the planned viewpoint locations. In these cases (Viewpoints 3, 7, 11, and 14), supplemental photographs were taken and are identified using the letter suffixes “A” or “B”. This approach was used to document situations where visibility of one or more wind energy projects may differ between the original position, “A”, and a nearby alternative position, “B”, due to local obstructions. In addition, for Viewpoints 9, 12, and 14, multiple renderings from the same camera position represent different viewing directions. These are numbered sequentially.

A total of 24 visual simulations were rendered as part of this study and a summary is provided in **Table 6**. The photo montage renderings, along with descriptions for each viewpoint, are provided in **Appendix C**.

Table 6: Visual Rendering Results

Location	Nearest Turbine	Distance from Nearest Turbine	Results of Visual Rendering	View Point Location
Dill Road, Currys Corner	T1 (Benjamin Mills, Phase II)	>10 km	Benjamin Mills (Phase I and Phase II) turbines are visible	VP1
Avon Forks RC Club, Windsor Forks	T1 (Benjamin Mills, Phase II)	>6 km	Benjamin Mills (Phase I and Phase II) turbines are visible	VP2
Castle Frederick Road, Upper Falmouth	T2 (Benjamin Mills, Phase II)	>6 km	Bear Lake (Primary and Alternative), and Benjamin Mills Phase II turbines are visible	VP3A
Castle Frederick Road, Upper Falmouth	T2 (Benjamin Mills, Phase II)	>6 km	Benjamin Mills (Phase I and Phase II) turbines are visible	VP3B
Dudley Park Lane, Upper Falmouth	T2 (Benjamin Mills, Phase II)	>6 km	Bear Lake (Primary and Alternate), and Benjamin Mills Phase II turbines are visible	VP4
Highway 14, Mill Section	T1 (Benjamin Mills, Phase II)	>1 km	Benjamin Mills (Phase II) turbines are visible	VP5

Location	Nearest Turbine	Distance from Nearest Turbine	Results of Visual Rendering	View Point Location
Loon Drive, Vaughan	A15 (Bear Lake, Alternate)	>5 km	Turbine view obstructed due to vegetation and topography	VP6
New Ross Road, Vaughan	A15 (Bear Lake, Alternate)	>4 km	Bear Lake (Primary) turbine visible	VP7A
New Ross Road, Vaughan	A15 (Bear Lake, Alternate)	>4 km	Benjamin Mills (Phase II) turbines are visible	VP7B
Armstrong Lake Park, Vaughan	A15 (Bear Lake, Alternate)	>3 km	Bear Lake (Primary and Alternate) turbines are visible	VP8
Armstrong Lake West Road, Vaughan	A15 (Bear Lake, Alternate)	>1km	Bear Lake (Alternate) turbine is visible	VP9-1
Armstrong Lake West Road, Vaughan	A15 (Bear Lake, Alternate)	>1 km	Bear Lake (Alternate) turbines are visible	VP9-2
Lakeview Crescent, Upper Vaughan	A15 (Bear Lake, Alternate)	>2 km	Turbine view obstructed due to vegetation and topography	VP10
Highway 14, Upper Vaughan	T1 (Bear Lake, Primary)	>1 km	Turbine view obstructed due to vegetation and topography	VP11A
Highway 14, Upper Vaughan	T1 (Bear Lake, Primary)	>1 km	Benjamin Mills (Phase II) turbines are visible	VP11B
Highway 14, Upper Vaughan	T1 (Bear Lake, Primary)	>1 km	Bear Lake (Alternate) turbine is visible	VP12-1
Highway 14, Upper Vaughan	T1 (Bear Lake, Primary)	>1 km	Bear Lake (Alternate) turbine is visible	VP12-2
Highway 14, Upper Vaughan	T1 (Bear Lake, Primary)	>1 km	Benjamin Mills (Phase II) turbines are visible	VP12-3
Wile Settlement Road, Wile Settlement	T27 (South Canoe)	>2 km	South Canoe turbines are visible	VP13
Wile Settlement Road, Wile Settlement	T27 (South Canoe)	>2 km	Bear Lake (Primary and Alternate) turbines are visible	VP14A-1
Wile Settlement Road, Wile Settlement	T27 (South Canoe)	>2 km	Bear Lake (Primary and Alternate) turbines are visible	VP14A-2
Wile Settlement Road, Wile Settlement	T27 (South Canoe)	>2 km	Bear Lake (Primary and Alternate) turbines are visible	VP14A-3

Location	Nearest Turbine	Distance from Nearest Turbine	Results of Visual Rendering	View Point Location
Wile Settlement Road, Wile Settlement	T27 (South Canoe)	>2 km	Benjamin Mills (Phase I and Phase II) turbines are visible	VP14B
New Ross Road, Leminster	T24 (South Canoe)	>2 km	Turbine view obstructed due to vegetation and topography	VP15

5.0 Cumulative Effects

The cumulative effects assessment considers the combined visual impact of all three wind energy projects (South Canoe, Benjamins Mill, and Bear Lake) operating simultaneously. This analysis evaluates the overall change to the visual character of the landscape, considering the density and distribution of turbines and their visibility from key vantage points throughout the region.

5.1 Cumulative Effects of Viewshed Analysis

The cumulative viewshed results for buildings within West Hants Regional Municipality are summarized in **Table 7**, which shows the number of potentially affected buildings grouped by the range of visible turbines for both the worst-case (bare earth, no obstructions) and vegetated scenarios. **Figures 10** and **11** illustrate the spatial distribution of these buildings, colour-coded by the number of turbines that may be visible under each scenario.

Buildings were identified as the primary sensitive receptors for this assessment. To account for uncertainty in building use, all structures in the receptor dataset were included in the analysis. This provides a conservative measure of potential visual impacts on residential dwellings.

The vegetated scenario shows a substantial reduction in potential turbine visibility compared to the worst-case results, highlighting the influence of vegetation cover in screening views. The analyses also indicate that buildings in and around the community of Vaughan have the highest potential turbine visibility relative to the rest of West Hants.

Table 7: Cumulative Viewshed Results for Buildings in West Hants Regional Municipality

Number of Turbines Potentially Visible	Worst Case (Bare Earth) Scenario	Vegetated Scenario
1-10	610	1,045
11-25	1034	681
26-40	2323	359
41-60	539	25
61-77	224	10
Total Buildings with Potential Visibility	4,730	2,210

5.2 Cumulative Effects of Shadow Flicker

The modeled shadow flicker contours for all project sites are shown in **Figure 12**. This bare earth, worst-case scenario represents the maximum theoretical extent of shadow flicker, without accounting for vegetation or sunshine limitations. The distance between the 0 hour contour, representing the extent of measurable shadow flicker, is greater than 2 km between the South Canoe and Bear Lake Wind Projects, while Benjamin Mills is located more than 5 km from either South Canoe or Bear Lake. The maximum shadow flicker extent among the wind energy projects assessed in this report is 1.82 km, observed for the Bear Lake wind energy project when using the Goldwind turbine model.

An assessment of cumulative effects indicates that shadow flicker at a single receptor from multiple projects is unlikely, primarily due to the distance between the wind energy projects. The potential for shadow flicker at distances greater than approximately ten rotor diameters from a turbine is considered very low.

5.3 Cumulative Effects of Visual Renderings

The results of the visual renderings indicate that multiple projects may be visible from Viewpoints 3, 4, and 14. These are locations in Wile Settlement, and Upper Falmouth. While every effort was made to visit locations with the highest visibility based on the results of the Viewshed analysis, site visits were limited to publicly accessible areas. Cumulative visual impacts are likely to be greater at private residences, where vegetation and topographic influence may be less pronounced. Viewpoints 14 and 7 illustrate this point. A private resident invited Dillon staff to create visual renderings from their property. The renderings show that Bear Lake, South Canoe, and Benjamin Mills turbines are all visible from this location, as shown on Figures 11, 12A, and 12B.

In Vaughan and Upper Vaughan, cumulative visibility at publicly accessible locations was limited to a single project due to the orientation and placement of the projects, with some views blocked from certain visual angles by topography and vegetation. Cumulative visual effects are likely to be greater at private residences, where such obstructions may be less pronounced.

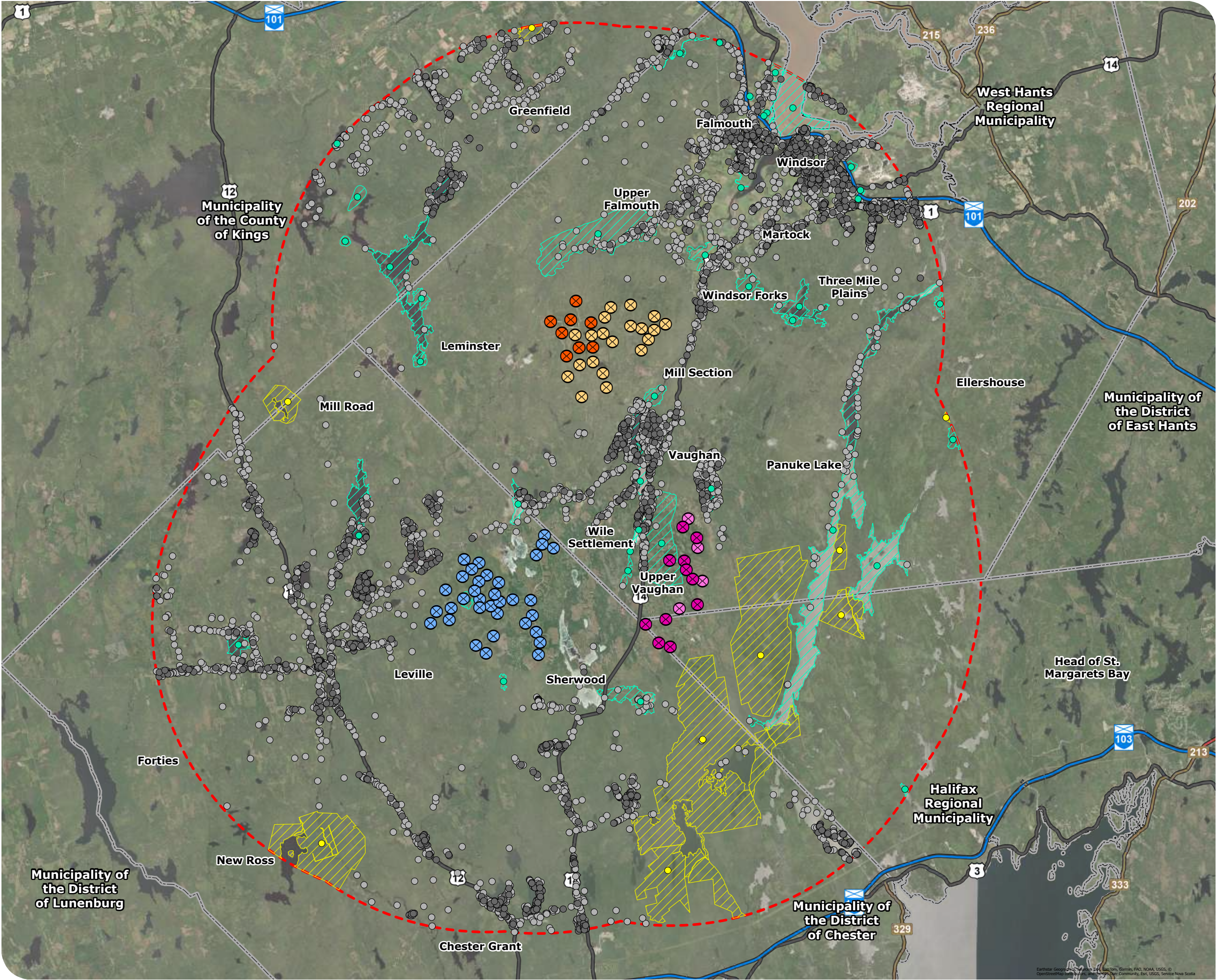
6.0

Conclusion

This report provides an assessment of the potential visual effects, including cumulative impacts, of existing and proposed wind farms in the Vaughan, and Upper Vaughan areas. The findings from the viewshed analysis, shadow flicker modeling, and visual simulations serve as a foundational tool for the West Hants Regional Municipality in its ongoing planning and decision-making processes related to wind energy development.

Figures





WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

ZONE OF VISUAL INFLUENCE ASSESSMENT - POTENTIAL SENSITIVE RECEPTORS

FIGURE 1

- Wind Project**
- Bear Lake (Alternate)
 - Bear Lake (Primary)
 - Benjamin Mills (Phase I)
 - Benjamin Mills (Phase II)
 - South Canoe (Existing)
- Potential Sensitive Receptor**
- Building
 - Unoccupied Parcel
 - Protected Natural Area
 - Significant Habitat
 - Protected Natural Area
 - Significant Habitat Area
 - Municipal Boundary
 - Area of Interest (15km Buffer)

SCALE 1:200,000

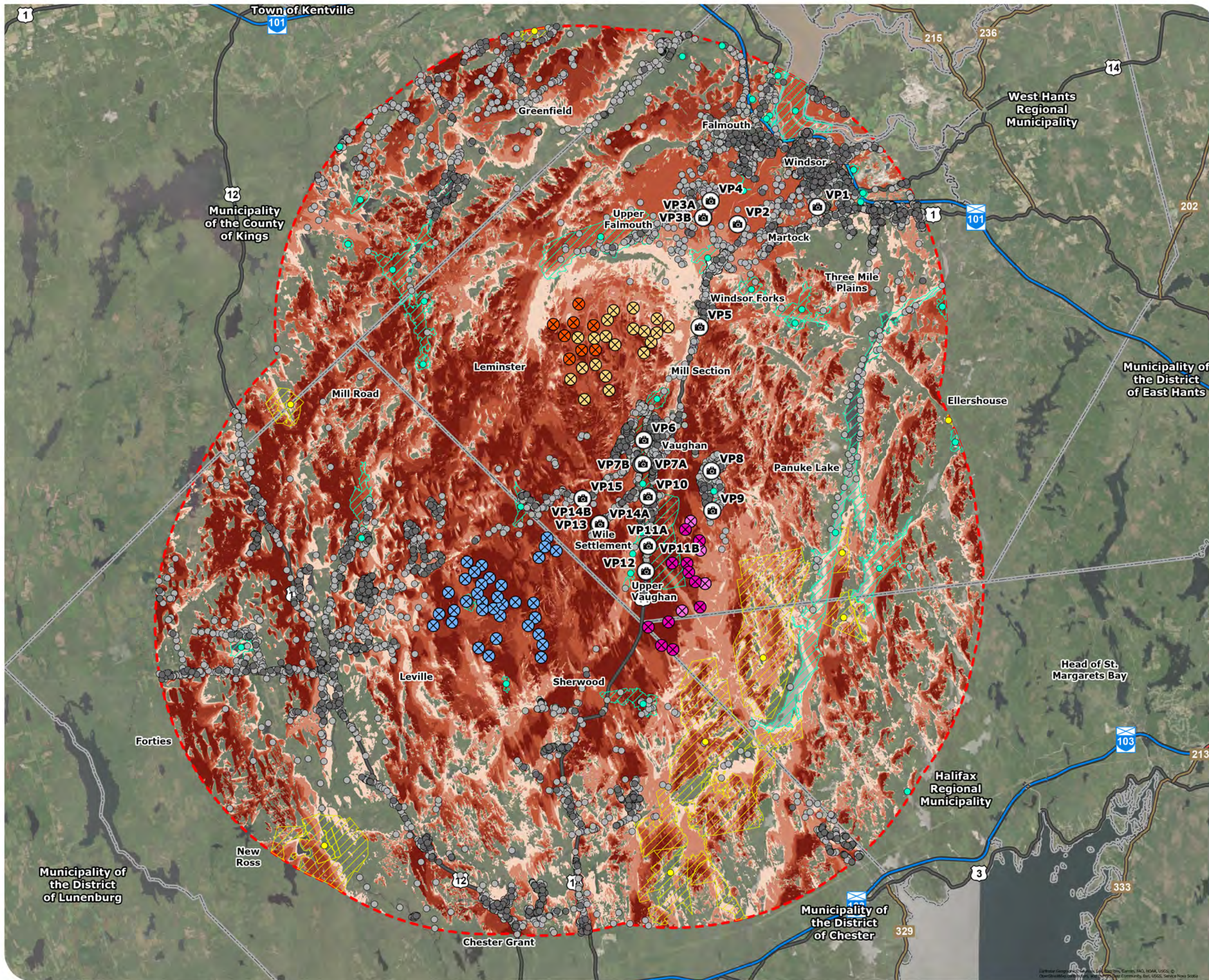
0 2 4 8 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA/HF
MAP CHECKED BY:
MAP PROJECTION: NAD 1983 (CSRS) v6 UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-02



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

ZONE OF VISUAL INFLUENCE ASSESSMENT - BARE EARTH SCENARIO

FIGURE 2

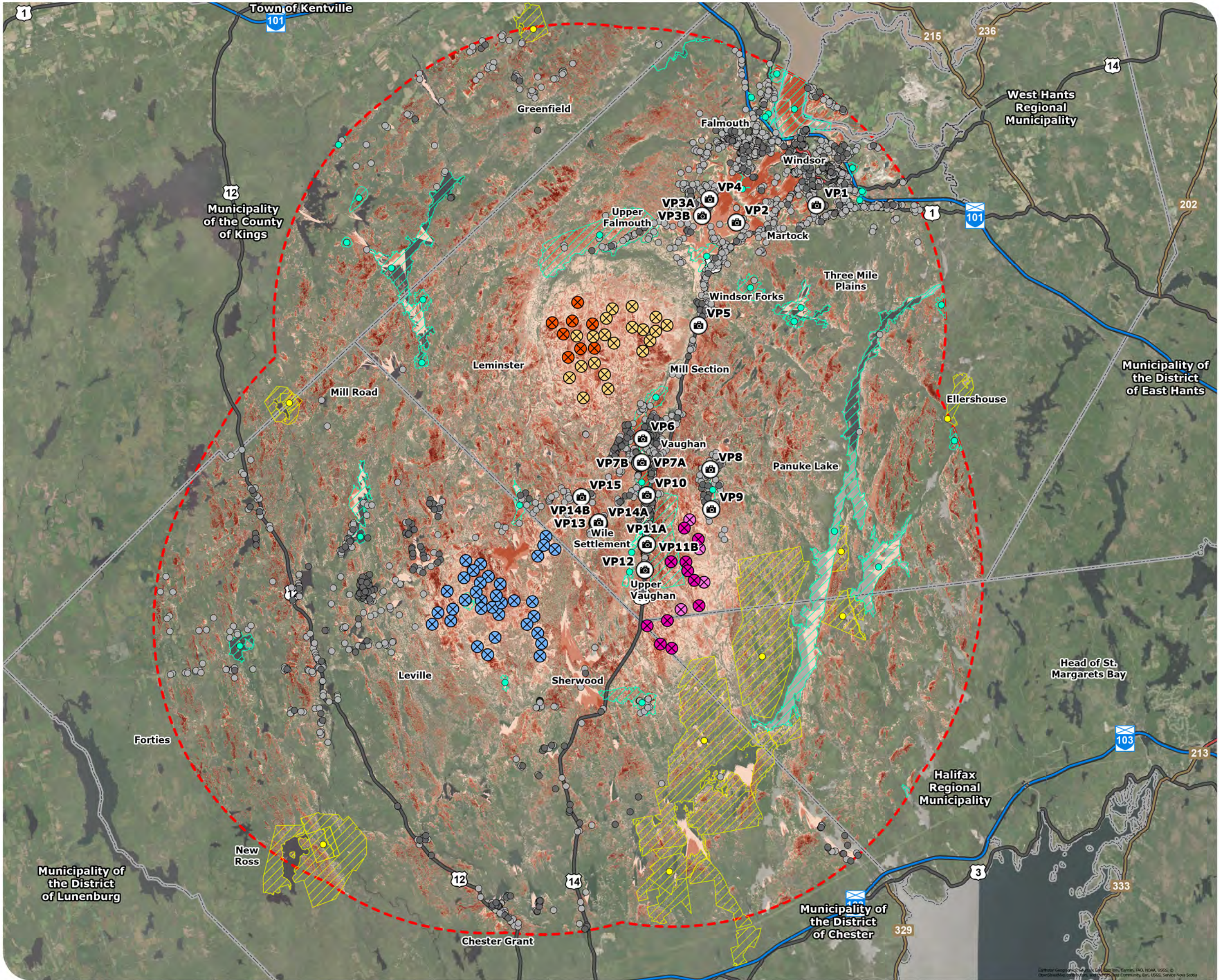
- Observation Location
- Wind Project**
 - Bear Lake (Alternate)
 - Bear Lake (Primary)
 - Benjamin Mills (Phase I)
 - Benjamin Mills (Phase II)
 - South Canoe (Existing)
- Potential Sensitive Receptor**
 - Building
 - Unoccupied Parcel
 - Protected Natural Area
 - Significant Habitat
- Zone of Visual Influence**
 - 1 - 10 Potentially Visible Turbines
 - 11 - 25 Potentially Visible Turbines
 - 26 - 40 Potentially Visible Turbines
 - 41 - 60 Potentially Visible Turbines
 - 60 - 77 Potentially Visible Turbines
 - Municipal Boundary
 - Area of Interest (15km Buffer)

SCALE 1:200,000
0 2 4 8 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova
MAP CREATED BY: JA/HF
MAP CHECKED BY:
MAP PROJECTION: NAD 1983 (CSRS) v6 UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-03



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

ZONE OF VISUAL INFLUENCE ASSESSMENT - VEGETATION OBSTRUCTION SCENARIO

FIGURE 3

- Observation Location
- Wind Project**
 - Bear Lake (Alternate)
 - Bear Lake (Primary)
 - Benjamin Mills (Phase I)
 - Benjamin Mills (Phase II)
 - South Canoe (Existing)
- Potential Sensitive Receptor**
 - Building
 - Unoccupied Parcel
 - Protected Natural Area
 - Significant Habitat
 - Protected Natural Area
 - Significant Habitat Area
- Zone of Visual Influence**
 - 1 - 10 Potentially Visible Turbines
 - 11 - 25 Potentially Visible Turbines
 - 26 - 40 Potentially Visible Turbines
 - 41 - 60 Potentially Visible Turbines
 - 60 - 77 Potentially Visible Turbines
 - Municipal Boundary
 - Area of Interest (15km Buffer)

SCALE 1:200,000
0 2 4 8 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

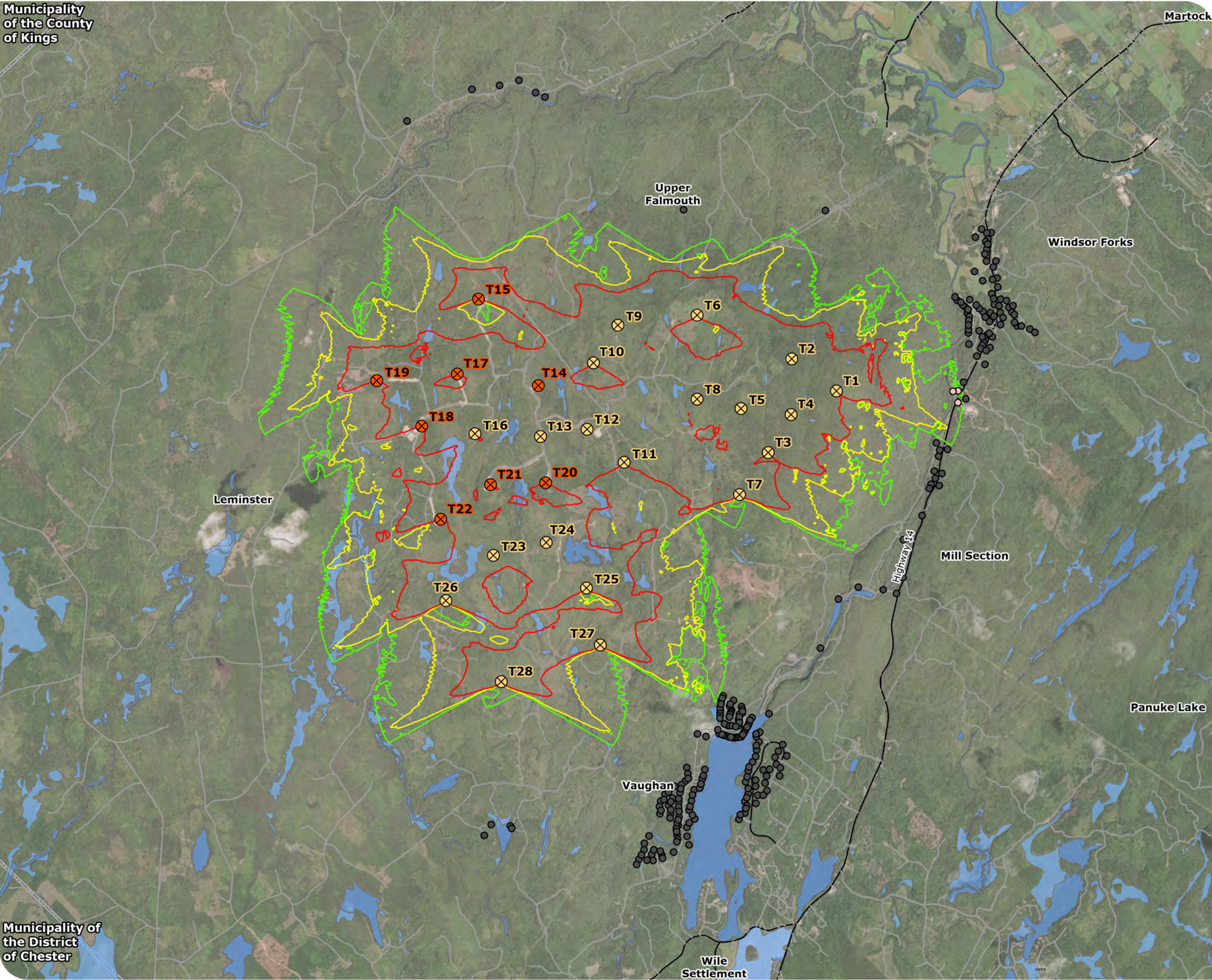
MAP CREATED BY: JA/HF
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MAP PROJECTION: NAD 1983 (CSRS) v6 UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-03

Municipality
of the County
of Kings

Municipality of
the District
of Chester



WEST HANTS REGIONAL
MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING
AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT
- BENJAMIN MILLS (BARE
EARTH, WORST CASE
SCENARIO)

FIGURE 4

- Shadow Flicker Receptor**
- Below Regulatory Threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Benjamin Mills (Phase I)
 - ⊗ Benjamin Mills (Phase II)
- Modelled Hours of Shadow Flicker**
- 10
 - 30
 - 100
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

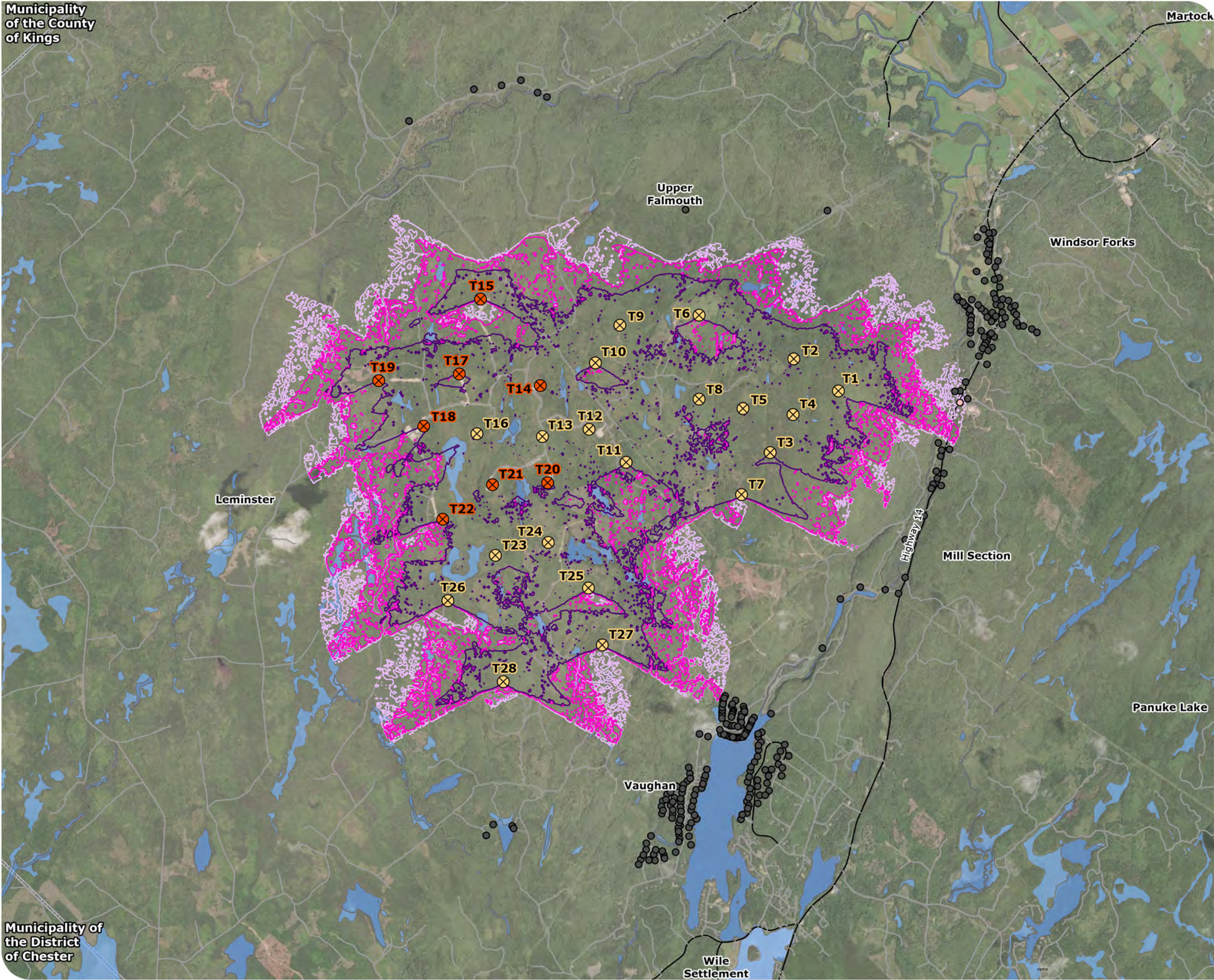
MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09

Municipality
of the County
of Kings

Municipality of
the District
of Chester



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING
AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BENJAMIN MILLS (VEGETATED SCENARIO WITH ADJUSTED SUNSHINE HOURS)

FIGURE 5

Shadow Flicker Receptor

- Below threshold
- No Shadow Flicker Expected

Wind Project

- ⊗ Benjamin Mills (Phase I)
- ⊗ Benjamin Mills (Phase II)

Modelled Hours of Shadow Flicker

- 4
- 8
- 30
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

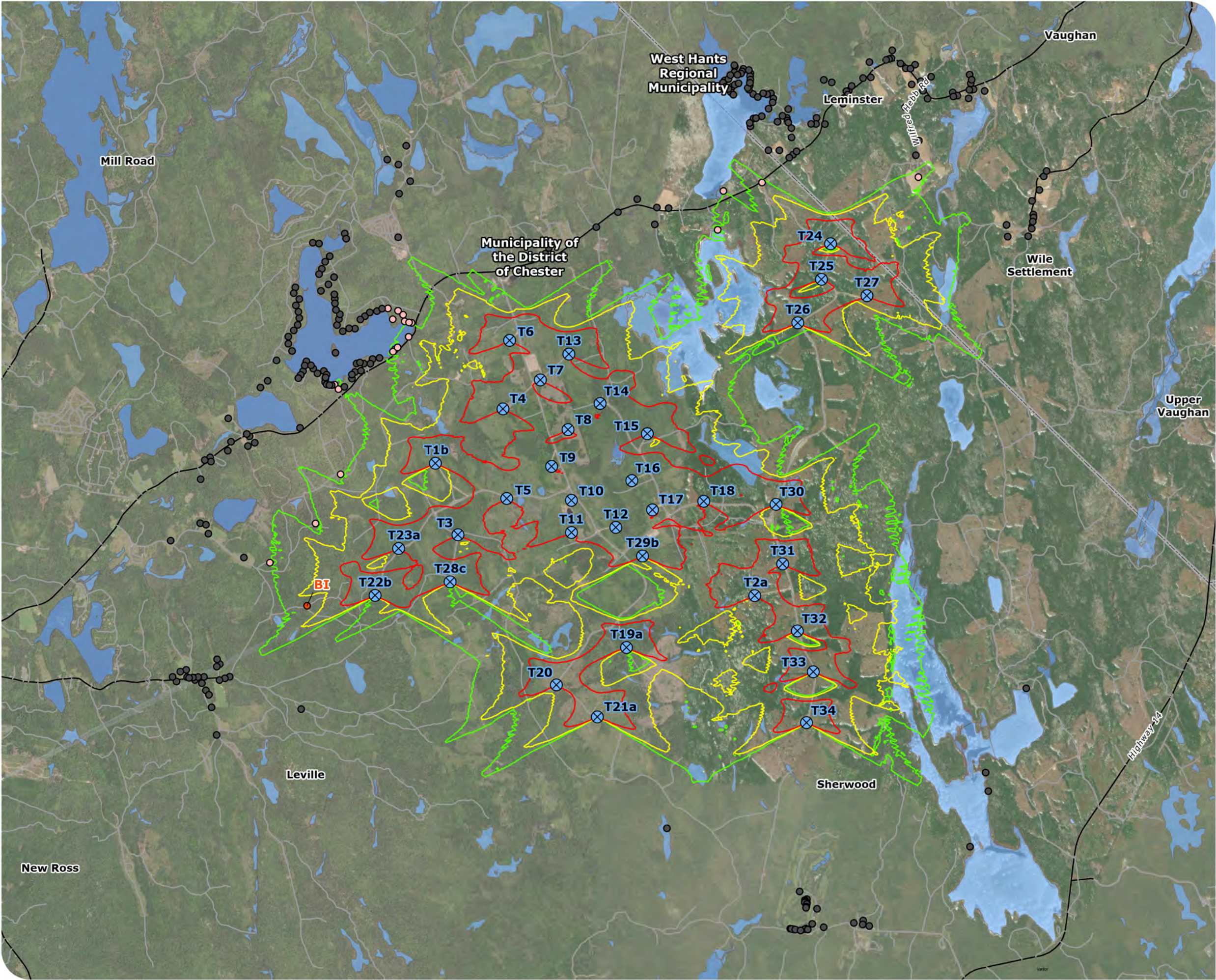
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - SOUTH CANOE (BARE EARTH, WORST CASE SCENARIO)

FIGURE 6

Shadow Flicker Receptor

- Exceeds 30 Minutes (Worst Day)
- Below Regulatory Threshold
- No Shadow Flicker Expected

Wind Project

- ⊗ South Canoe (Existing)

Modelled Hours of Shadow Flicker

- 10
- 30
- 100
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

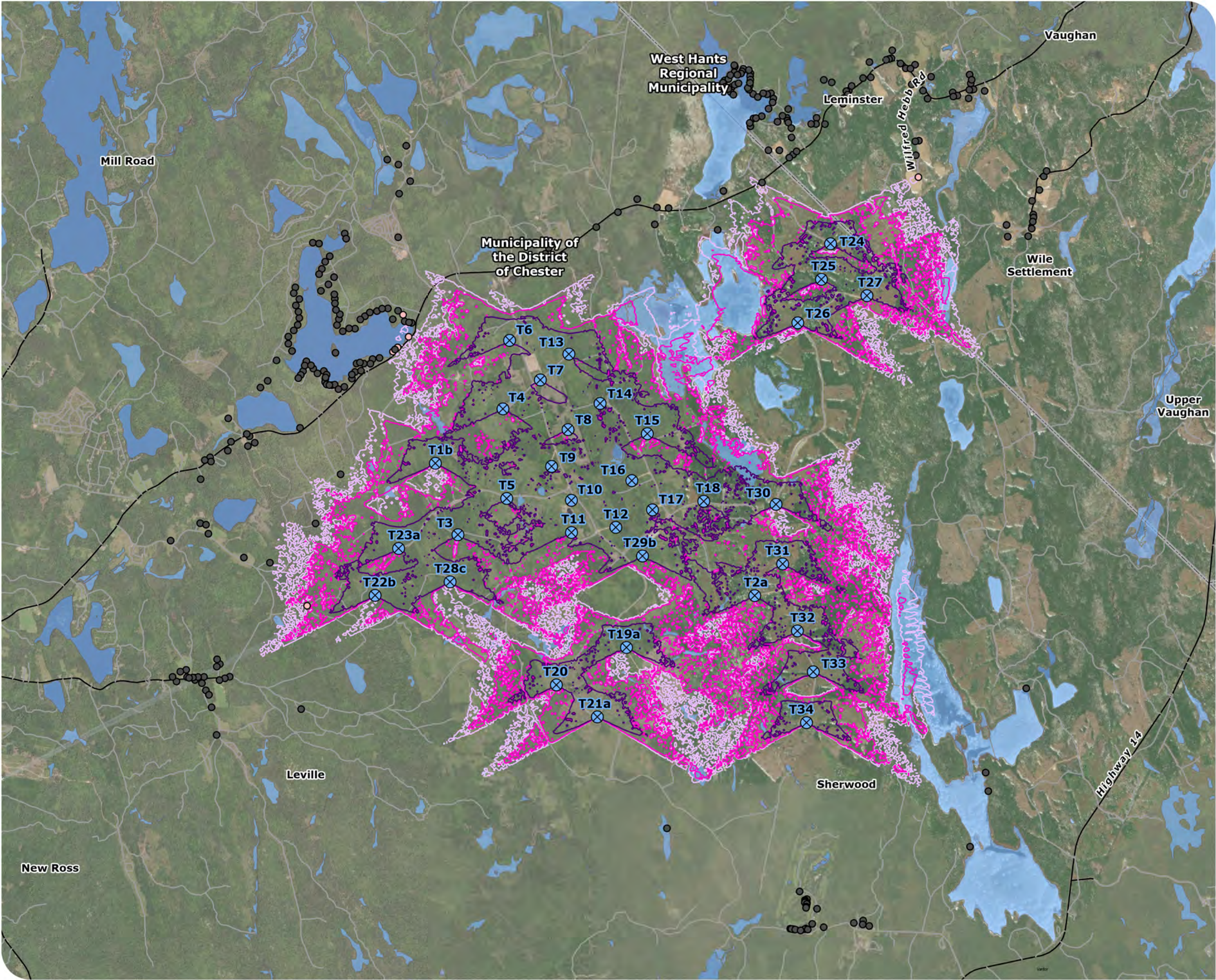
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MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - SOUTH CANOE (VEGETATED SCENARIO WITH ADJUSTED SUNSHINE HOURS)

FIGURE 7

Shadow Flicker Receptor

- Below threshold
- No Shadow Flicker Expected

Wind Project

- ⊗ South Canoe (Existing)

Modelled Hours of Shadow Flicker

- 4
- 8
- 30

— Paved Road

— Unpaved Road

Waterbody

Municipal Boundary

SCALE 1:50,000

0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09

WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BEAR LAKE (BARE EARTH, WORST CASE SCENARIO) GOLDWIND TURBINE MODEL

FIGURE 8

Shadow Flicker Receptor

- Exceeds 30 Hours Per Year
- Exceeds 30 Minutes (Worst Day)
- Below Regulatory Threshold
- No Shadow Flicker Expected

Wind Project

- Bear Lake (Alternate)
- Bear Lake (Primary)

Modelled Hours of Shadow Flicker

- 10
- 30
- 100
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

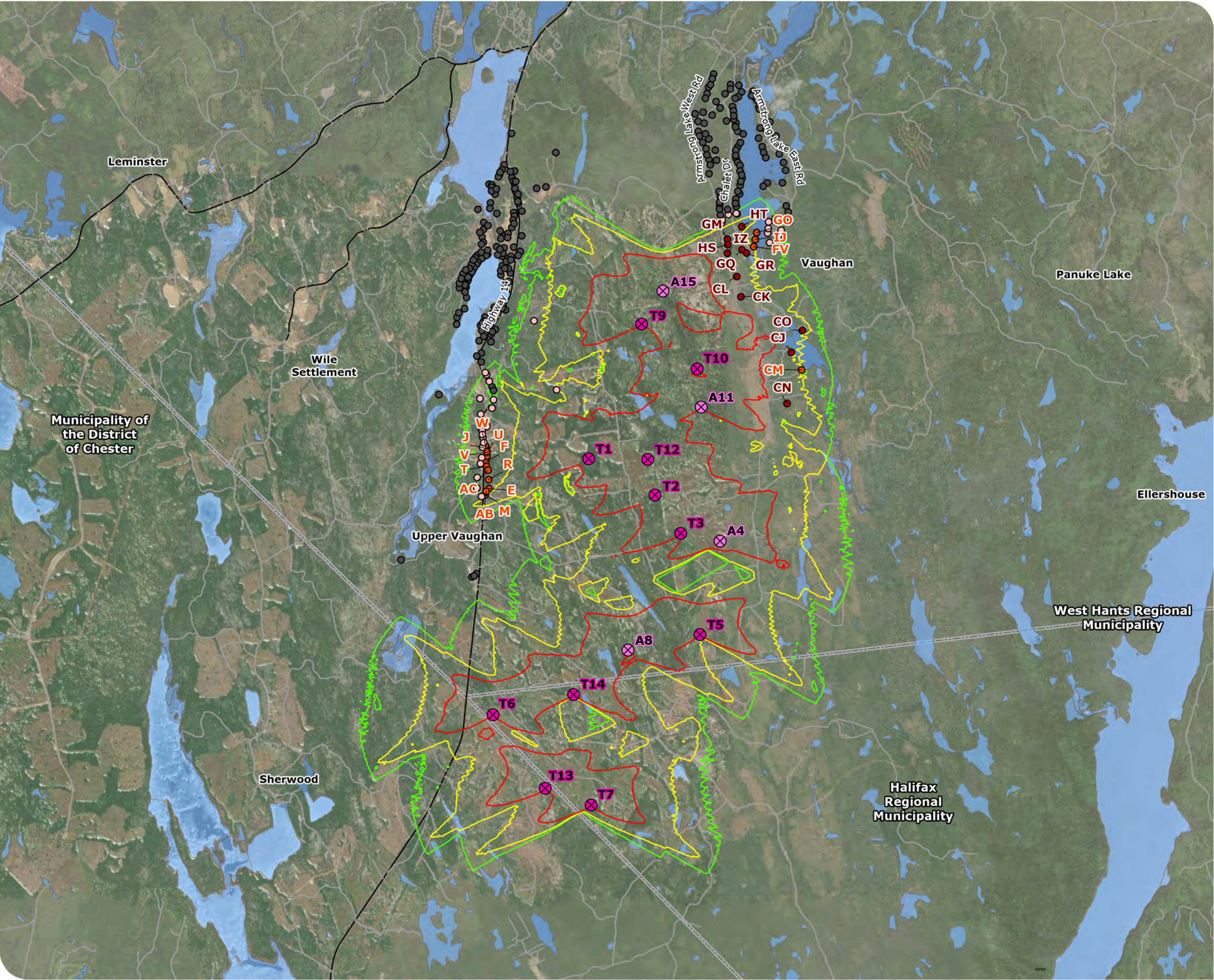
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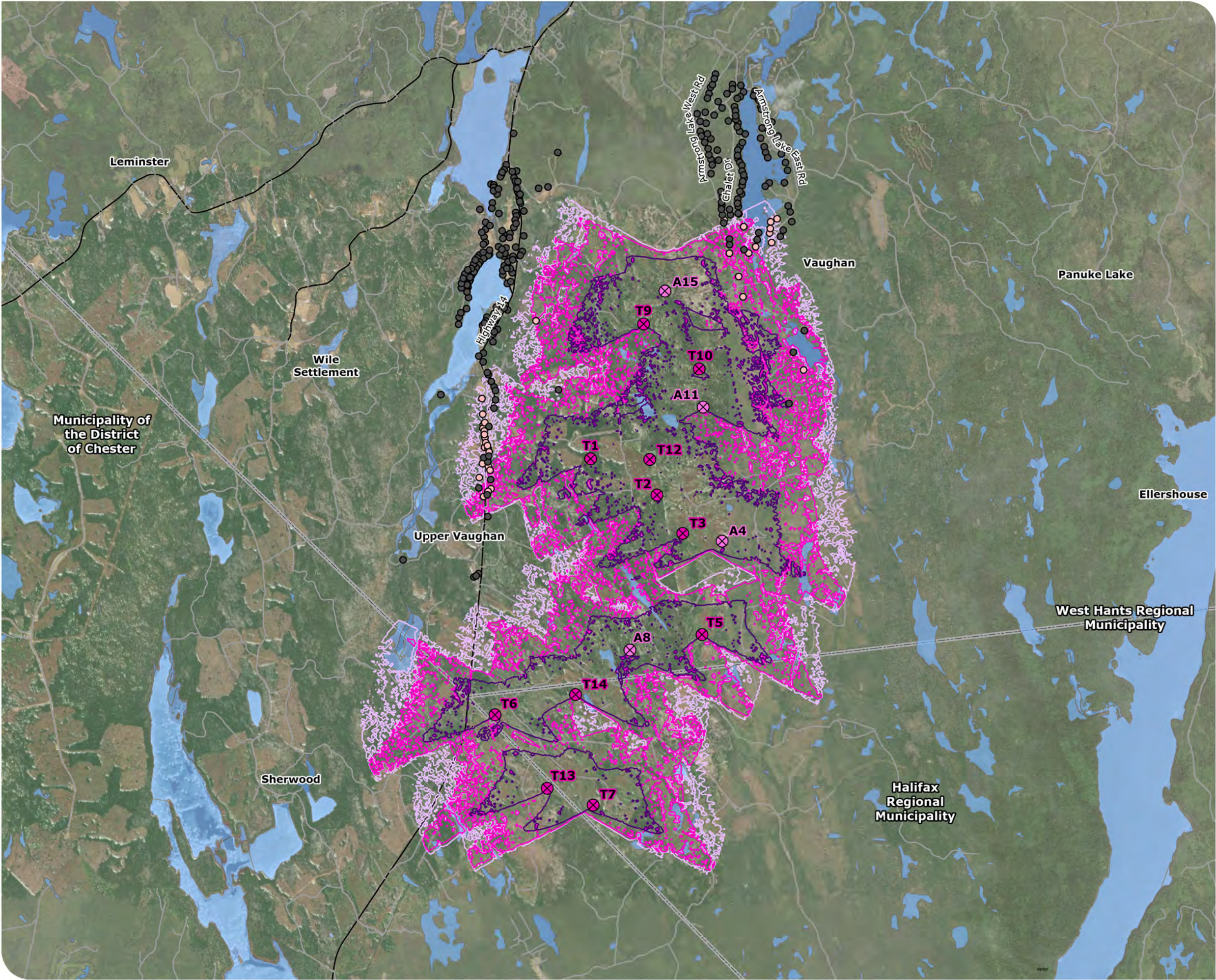
MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09





WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BEAR LAKE (VEGETATED SCENARIO WITH ADJUSTED SUNSHINE HOURS) GOLDWIND TURBINE MODEL

FIGURE 9

Shadow Flicker Receptor

- Below threshold
- No Shadow Flicker Expected

Wind Project

- ⊗ Bear Lake (Alternate)
- ⊗ Bear Lake (Primary)

Modelled Hours of Shadow Flicker

- 4
- 8
- 30
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

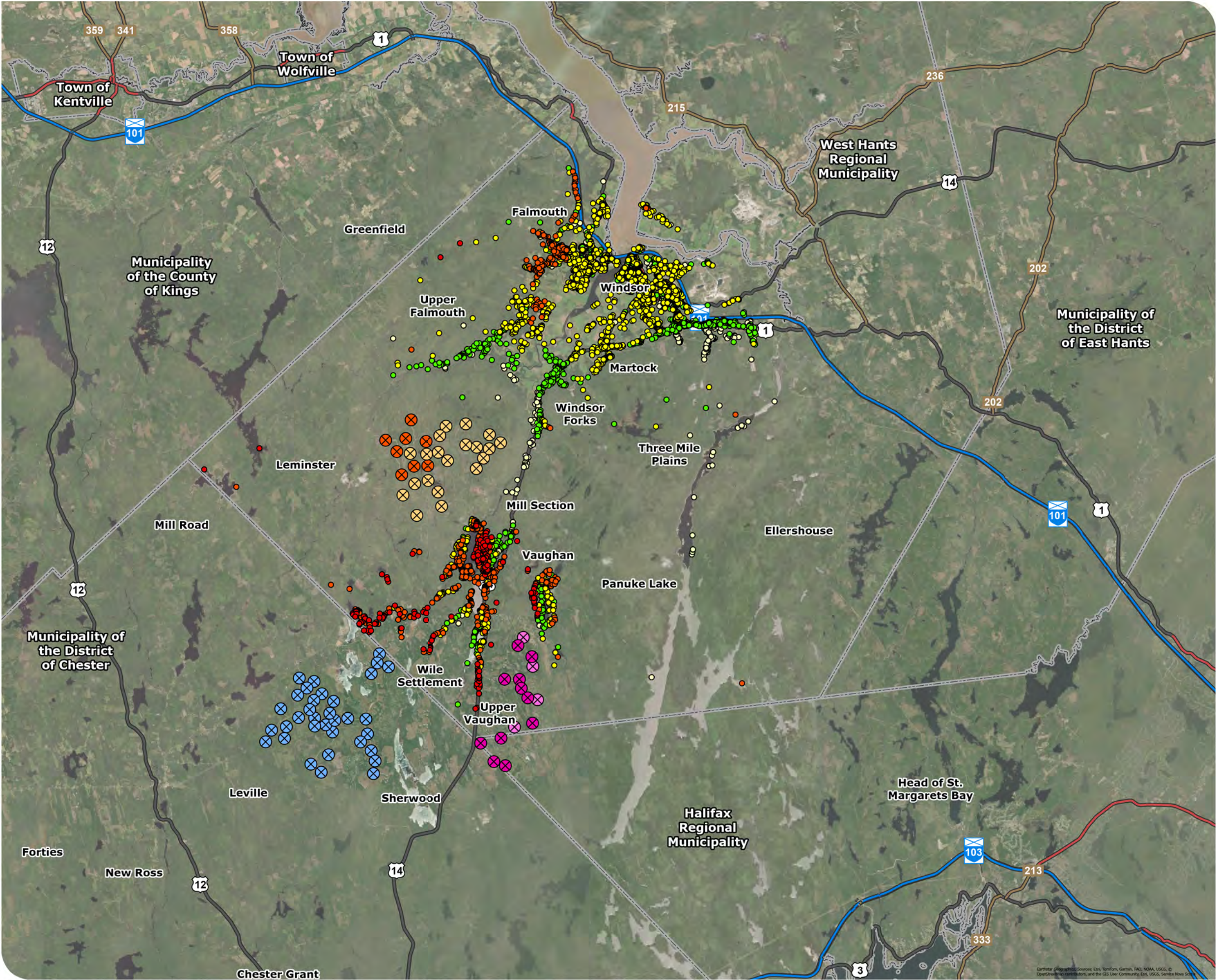
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
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DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

CUMULATIVE ZONE OF VISUAL INFLUENCE (BARE EARTH SCENARIO)

FIGURE 10

Potential Sensitive Building Receptor

- 1–10 Potentially Visible Turbines
- 11–25 Potentially Visible Turbines
- 26–40 Potentially Visible Turbines
- 41–60 Potentially Visible Turbines
- 61–77 Potentially Visible Turbines

Wind Project

- ⊗ Bear Lake (Alternate)
- ⊗ Bear Lake (Primary)
- ⊗ Benjamin Mills (Phase I)
- ⊗ Benjamin Mills (Phase II)
- ⊗ South Canoe (Existing)
- ▭ Municipal Boundary

SCALE 1:200,000

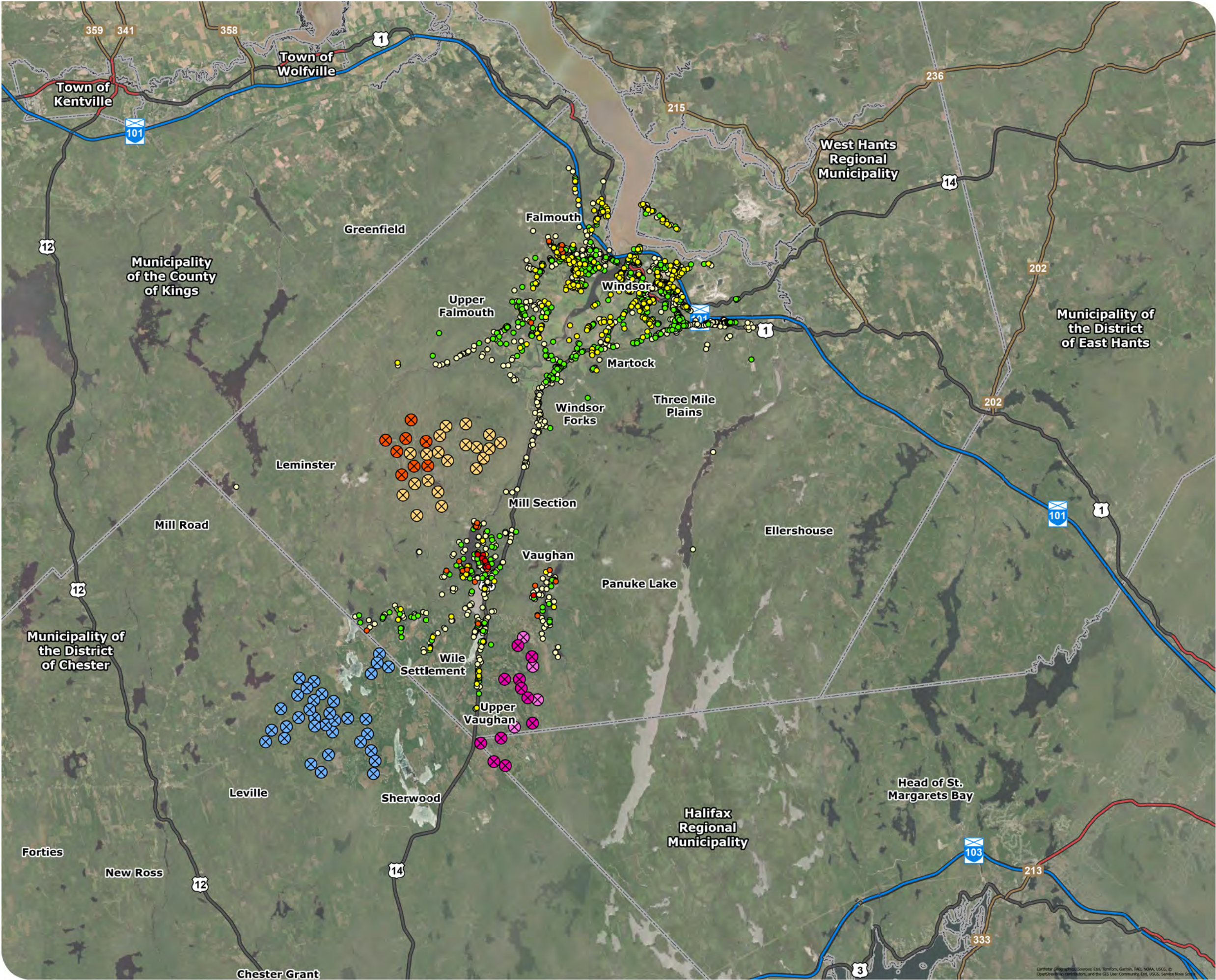
0 2 4 8 Kilometers

MAP DRAWING INFORMATION:
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MAP PROJECTION: NAD 1983 (CSRS) v6 UTM Zone 20N



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WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

CUMULATIVE ZONE OF VISUAL INFLUENCE (VEGETATED SCENARIO)

FIGURE 11

Potential Sensitive Building Receptor

- 1-10 Potentially Visible Turbines
- 11-25 Potentially Visible Turbines
- 26-40 Potentially Visible Turbines
- 41-60 Potentially Visible Turbines
- 61-77 Potentially Visible Turbines

Wind Project

- ⊗ Bear Lake (Alternate)
- ⊗ Bear Lake (Primary)
- ⊗ Benjamin Mills (Phase I)
- ⊗ Benjamin Mills (Phase II)
- ⊗ South Canoe (Existing)
- ▭ Municipal Boundary

SCALE 1:200,000

0 2 4 8 Kilometers

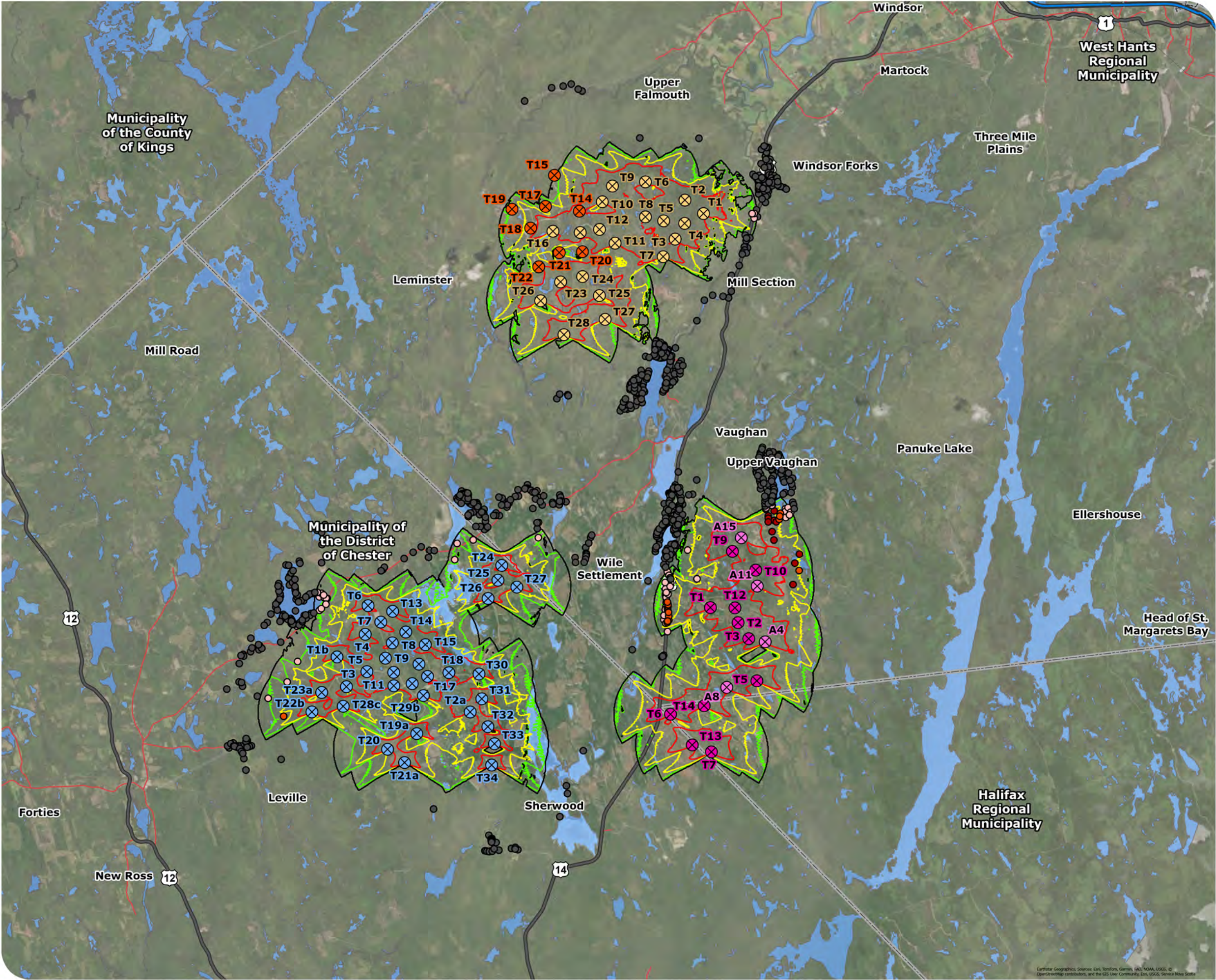


MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA/HF
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MAP PROJECTION: NAD 1983 (CSRS) v6 UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

CUMULATIVE EFFECTS OF SHADOW FLICKER - BARE EARTH (WORST CASE SCENARIO)

FIGURE 12

- Shadow Flicker Receptor**
- Exceeds 30 Hours Per Year
 - Exceeds 30 Minutes (Worst Day)
 - Below Regulatory Threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Alternate)
 - ⊗ Bear Lake (Primary)
 - ⊗ Benjamin Mills (Phase I)
 - ⊗ Benjamin Mills (Phase II)
 - ⊗ South Canoe (Existing)
- Waterbody
- Municipal Boundary
- Shadow (Legend)
- Modelled Hours of Shadow Flicker**
- 0
 - 10
 - 30
 - 100

SCALE 1:120,000

0 1 2 4 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA/HF
MAP CHECKED BY:
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09

Appendix A

Tables

Table A1. Significant Habitat Areas

Species	Type	Distance to Nearest Turbine (km)	Turbine	Project	Status
White-tailed Deer	Deer Wintering	<1 km	T1	Bear Lake	Proposed
Common Nighthawk	Species of Concern	<1 km	T5	South Canoe Wind Farm	Existing
Common Loon	Species of Concern	>1 km	A15	Bear Lake	Proposed
Olive-sided Flycatcher	Species at Risk	>1 km	T21a	South Canoe Wind Farm	Existing
Common Loon	Species of Concern	>1 km	T24	South Canoe Wind Farm	Existing
Common Loon	Species of Concern	>1 km	T9	Bear Lake	Proposed
Common Loon	Species of Concern	>1 km	T9	Bear Lake	Proposed
White-tailed Deer	Deer Wintering	>1 km	T15	Benjamin Mills	Phase I / Under Construction
Common Loon	Species of Concern	>1 km	T27	Benjamin Mills	Proposed
Bald Eagle	Other Habitat	>2 km	T27	Benjamin Mills	Proposed
Common Loon	Species of Concern	>2 km	T1	Bear Lake	Proposed
Eastern Wood-Pewee	Species at Risk	>2 km	T13	Bear Lake	Proposed
Bald Eagle	Other Habitat	>3 km	T1	Benjamin Mills	Proposed
Bald Eagle	Other Habitat	>4 km	T1	Benjamin Mills	Proposed
Common Loon	Species of Concern	>4 km	T5	Bear Lake	Proposed
Common Loon	Species of Concern	>5 km	T1b	South Canoe Wind Farm	Existing
Common Loon	Species of Concern	>5 km	T1	Benjamin Mills	Proposed
Bald Eagle	Other Habitat	>6 km	T1	Benjamin Mills	Proposed
Common Loon	Species of Concern	>6 km	T19	Benjamin Mills	Phase I / Under Construction
Bald Eagle	Other Habitat	>6 km	T19	Benjamin Mills	Phase I / Under Construction
Bald Eagle	Other Habitat	>6 km	T19	Benjamin Mills	Phase I / Under Construction
Common Loon	Species of Concern	>7 km	A4	Bear Lake	Proposed
Wood Turtle	Species at Risk	>8 km	T2	Benjamin Mills	Proposed
Double-crested Cormorant	Migratory Bird	>9 km	T22b	South Canoe Wind Farm	Existing
Bald Eagle	Other Habitat	>11 km	T19	Benjamin Mills	Phase I / Under Construction
American Black Duck	Species of Concern	>11 km	T2	Benjamin Mills	Proposed
Bobolink	Species at Risk	>11 km	T2	Benjamin Mills	Proposed
Bald Eagle	Other Habitat	>12 km	T19	Benjamin Mills	Phase I / Under Construction
Eastern Wood-Pewee	Species at Risk	>12 km	T1	Benjamin Mills	Proposed
Bald Eagle	Other Habitat	>12 km	T2	Benjamin Mills	Proposed
Barn Swallow	Species at Risk	>12 km	T1	Benjamin Mills	Proposed
Eastern Wood-Pewee	Species at Risk	>12 km	T2	Benjamin Mills	Proposed
Wood Turtle	Species at Risk	>12 km	T6	Benjamin Mills	Proposed
Eastern Wood-Pewee	Species at Risk	>12 km	T1	Benjamin Mills	Proposed
Bald Eagle	Other Habitat	>14 km	T2	Benjamin Mills	Proposed
Chimney Swift	Species at Risk	>14 km	T10	Bear Lake	Proposed
Common Loon	Species of Concern	>14 km	T7	Bear Lake	Proposed
Canada Warbler	Species at Risk	>14 km	T1	Benjamin Mills	Proposed
Wood Turtle	Species at Risk	>14 km	T6	Benjamin Mills	Proposed
Common Loon	Species of Concern	>14 km	T19	Benjamin Mills	Phase I / Under Construction

Table A2. Protected Natural Areas

Name	Type	Distance to Turbine (km)	Turbine	Project	Status
South Panuke Wilderness Area	Wilderness Area	>1 km	T7	Bear Lake	Primary
South Panuke Wilderness Area	Wilderness Area	>1 km	A4	Bear Lake	Alternative
South Panuke Wilderness Area	Wilderness Area	>6 km	A4	Bear Lake	Alternative
Panuke Lake Nature Reserve	Nature Reserve	>6 km	A4	Bear Lake	Alternative
Long Lake Nature Reserve	Nature Reserve	>10 km	T7	Bear Lake	Primary
Holden Lake Wilderness Area	Wilderness Area	>11 km	T22b	South Canoe Wind Farm	Existing
Gold River Lake Conservation Lands	Land Trust or Conservation Easement	>11 km	T6	South Canoe Wind Farm	Existing
Wolfville Watershed Nature Preserve	Land Trust or Conservation Easement	>14 km	T15	Benjamin Mills	Phase I
Eagles Nest Nature Reserve	Nature Reserve	>14 km	T10	Bear Lake	Primary

Table A3. Wind Turbine Locations

Turbine ID	Easting	Northing	Project	Phase
T24	396709.9248	4961808.606	South Canoe Wind Farm	Existing
T25	396587.4218	4961328.625	South Canoe Wind Farm	Existing
T27	397199.3385	4961109.312	South Canoe Wind Farm	Existing
T26	396268.8397	4960743.261	South Canoe Wind Farm	Existing
T30	395974.8383	4958298.982	South Canoe Wind Farm	Existing
T31	396064.7213	4957497.435	South Canoe Wind Farm	Existing
T2a	395688.1008	4957069.355	South Canoe Wind Farm	Existing
T32	396261.7985	4956594.84	South Canoe Wind Farm	Existing
T33	396477.4013	4956043.469	South Canoe Wind Farm	Existing
T34	396385.3214	4955358.948	South Canoe Wind Farm	Existing
T21a	393568.7498	4955437.131	South Canoe Wind Farm	Existing
T20	393016.8239	4955868.081	South Canoe Wind Farm	Existing
T19a	393961.8344	4956371.818	South Canoe Wind Farm	Existing
T29b	394175.7761	4957604.219	South Canoe Wind Farm	Existing
T18	395001.1045	4958339.627	South Canoe Wind Farm	Existing
T12	393817.6758	4957987.845	South Canoe Wind Farm	Existing
T17	394310.4597	4958224.295	South Canoe Wind Farm	Existing
T16	394033.0955	4958618.063	South Canoe Wind Farm	Existing
T15	394241.436	4959250.426	South Canoe Wind Farm	Existing
T14	393605.5566	4959658.162	South Canoe Wind Farm	Existing
T13	393184.9409	4960323.138	South Canoe Wind Farm	Existing
T6	392387.0213	4960505.632	South Canoe Wind Farm	Existing
T7	392800.84	4959974.473	South Canoe Wind Farm	Existing
T4	392296.4916	4959585.263	South Canoe Wind Farm	Existing
T8	393173.2417	4959305.428	South Canoe Wind Farm	Existing
T10	393218.7063	4958353.306	South Canoe Wind Farm	Existing
T9	392951.9711	4958810.859	South Canoe Wind Farm	Existing
T5	392348.6594	4958377.499	South Canoe Wind Farm	Existing
T1b	391386.8051	4958852.396	South Canoe Wind Farm	Existing
T28c	391584.6807	4957254.632	South Canoe Wind Farm	Existing
T3	391690.5881	4957889.369	South Canoe Wind Farm	Existing
T23a	390890.8503	4957704.634	South Canoe Wind Farm	Existing
T22b	390575.5751	4957072.429	South Canoe Wind Farm	Existing
T11	393219.8313	4957919.644	South Canoe Wind Farm	Existing
T14	399218.2611	4973254.211	Benjamin Mills	Phase I
T15	398411.2774	4974417.314	Benjamin Mills	Phase I
T17	398124.6758	4973410.01	Benjamin Mills	Phase I
T18	397645.6296	4972709.31	Benjamin Mills	Phase I
T19	397039.5344	4973320.423	Benjamin Mills	Phase I
T20	399316.9195	4971946.517	Benjamin Mills	Phase I
T21	398572.8474	4971918.97	Benjamin Mills	Phase I
T22	397902.8475	4971455.97	Benjamin Mills	Phase I
T1	403232.8465	4973181.969	Benjamin Mills	Phase II
T2	402630.8367	4973613.275	Benjamin Mills	Phase II
T3	402313.6425	4972352.561	Benjamin Mills	Phase II
T4	402620.9263	4972862.991	Benjamin Mills	Phase II
T5	401946.2415	4972944.3	Benjamin Mills	Phase II
T6	401355.611	4974201.914	Benjamin Mills	Phase II
T7	401927.1057	4971787.219	Benjamin Mills	Phase II
T8	401355.687	4973071.075	Benjamin Mills	Phase II
T9	400289.169	4974067.624	Benjamin Mills	Phase II
T10	399959.6638	4973560.088	Benjamin Mills	Phase II
T11	400373.2805	4972220.959	Benjamin Mills	Phase II
T12	399873.7887	4972665.648	Benjamin Mills	Phase II
T13	399245.4744	4972568.29	Benjamin Mills	Phase II
T16	398364.4089	4972607.186	Benjamin Mills	Phase II
T23	398611.5149	4970968.62	Benjamin Mills	Phase II
T24	399324.1979	4971142.384	Benjamin Mills	Phase II
T25	399864.4649	4970529.046	Benjamin Mills	Phase II
T26	397970.8475	4970358.97	Benjamin Mills	Phase II
T27	400051.4988	4969761.007	Benjamin Mills	Phase II
T28	398718.3753	4969267.969	Benjamin Mills	Phase II
T13	402869.0631	4956009.096	Bear Lake	Primary
T14	403251.8542	4957272.6	Bear Lake	Primary
T5	404955.0472	4958078.552	Bear Lake	Primary
T6	402165.4594	4956998.79	Bear Lake	Primary
T7	403489.1621	4955783.562	Bear Lake	Primary
T1	403453.8546	4960446.863	Bear Lake	Primary
T10	404916.4899	4961655.937	Bear Lake	Primary
T12	404250.1073	4960437.002	Bear Lake	Primary
T2	404348.1714	4959958.446	Bear Lake	Primary
T3	404695.302	4959442.275	Bear Lake	Primary
T9	404167.1348	4962260.787	Bear Lake	Primary
A4	405225.8502	4959338.439	Bear Lake	Alternate
A15	404455.4922	4962704.474	Bear Lake	Alternate
A11	404970.8928	4961142.179	Bear Lake	Alternate
A8	403982.8074	4957870.533	Bear Lake	Alternate

Appendix B

Shadow Flicker Results

Table B1. Bear Lake (Bare Earth) All Turbines (Goldwind)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	12:49	0:28	4:52
C	402024.92	4960600.34	13:59	0:29	5:46
E	402111.35	4960042.64	24:40	0:32	11:28
F	402067.95	4960405.79	15:59	0:30	6:48
G	401948.01	4960053.12	17:19	0:28	8:01
H	402029.37	4960733.25	13:37	0:29	5:29
I	402041.09	4960664.04	14:03	0:29	5:47
J	402071.64	4960585.48	15:04	0:30	6:14
K	402014.36	4960461.54	14:26	0:29	6:01
L	401995.87	4960380.88	14:26	0:29	6:10
M	402060.13	4959961.7	27:01	0:30	12:35
N	402067.72	4959668.57	4:57	0:14	2:19
O	402001.6	4960853.76	12:47	0:28	4:56
P	402019.98	4960820.43	13:14	0:28	5:10
Q	402022.11	4960773.39	13:22	0:29	5:18
R	402106.61	4960165.76	20:12	0:32	9:13
S	401953.45	4960193.66	15:13	0:28	6:47
T	402077.23	4960342.98	16:46	0:31	7:16
U	402081.57	4960482.64	15:47	0:31	6:34
V	402086.71	4960537.82	15:33	0:31	6:27
W	402063.75	4960623.42	14:39	0:30	6:03
Y	402083.77	4960880.62	14:16	0:29	5:26
AA	402011.4	4959937.86	25:14	0:29	11:45
AB	402072.27	4960007.51	24:13	0:30	11:16
AC	402099.07	4960292.67	17:55	0:31	7:52
AD	402074.95	4961577.4	6:02	0:14	1:42
AE	402172.74	4961240.6	8:44	0:22	3:00
AL	402061.49	4961606.64	6:23	0:14	1:47
AM	402115.28	4961486.65	3:45	0:11	1:06
AP	402000.16	4961046.79	12:39	0:27	4:42
AQ	402027.51	4960932.89	13:13	0:28	4:59
BL	401989.89	4961257.21	12:46	0:26	4:24
BP	402151.66	4961127.99	2:00	0:07	0:44
CG	402717.86	4962303.72	23:46	0:29	10:11
CI	403021.09	4961374.71	27:46	0:29	7:24
CJ	406183.65	4961880.23	36:20	0:32	13:03
CK	405505.76	4962627.6	42:02	0:40	17:33
CL	405447.77	4962900.2	40:54	0:41	15:57
CM	406321.61	4961641.79	29:59	0:30	11:52
CN	406125.03	4961189.93	54:19	0:34	24:40
CO	406331.58	4962172.43	37:28	0:28	11:21
FV	405676.13	4963301.43	18:31	0:32	6:33
GH	405451.87	4963744.02	16:21	0:27	3:40
GM	405322.11	4963404.15	58:57	0:40	15:20
GO	405717.21	4963492.13	19:30	0:30	5:50
GP	405864.87	4963486.05	15:00	0:27	4:46
GQ	405518.5	4963261.6	46:30	0:36	14:26
GR	405582.54	4963216.39	38:02	0:34	12:36
HJ	405337.11	4963733.89	4:03	0:15	0:50
HK	405877.97	4963636.51	17:11	0:26	4:57
HL	405245.99	4963622.08	13:52	0:28	3:04
HM	405873	4963546.99	15:37	0:27	4:42
HR	405891.2	4963357.1	13:49	0:27	4:56
HS	405325.5	4963329.44	62:16	0:41	17:09
HT	405515.12	4963571.38	38:01	0:33	9:41
HZ	405964.69	4963677.47	15:07	0:25	4:21
II	406046.87	4963523.98	11:41	0:24	3:49
IJ	405697.67	4963397.93	18:32	0:31	6:04
IN	406008.7	4963439.2	12:04	0:25	4:11
IO	405440.96	4963750.73	14:27	0:27	3:13
IX	405252.84	4963662.79	4:53	0:17	1:01
IZ	405322.46	4963214.01	67:33	0:42	20:06

Table B2. Bear Lake (Bare Earth) All Turbines (Enercon)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	11:47	0:27	4:29
C	402024.92	4960600.34	12:55	0:28	5:20
E	402111.35	4960042.64	23:25	0:30	10:53
F	402067.95	4960405.79	14:54	0:29	6:21
G	401948.01	4960053.12	16:08	0:27	7:30
H	402029.37	4960733.25	12:32	0:28	5:04
I	402041.09	4960664.04	12:56	0:28	5:20
J	402071.64	4960585.48	13:52	0:29	5:44
K	402014.36	4960461.54	13:30	0:28	5:39
L	401995.87	4960380.88	13:34	0:28	5:49
M	402060.13	4959961.7	26:33	0:29	12:23
N	402067.72	4959668.57	1:53	0:09	0:52
O	402001.6	4960853.76	11:47	0:27	4:34
P	402019.98	4960820.43	12:13	0:27	4:47
Q	402022.11	4960773.39	12:21	0:28	4:56
R	402106.61	4960165.76	18:49	0:30	8:37
S	401953.45	4960193.66	14:11	0:27	6:21
T	402077.23	4960342.98	15:27	0:29	6:43
U	402081.57	4960482.64	14:34	0:29	6:05
V	402086.71	4960537.82	14:14	0:29	5:54
W	402063.75	4960623.42	13:30	0:29	5:35
Y	402083.77	4960880.62	13:08	0:28	5:01
AA	402011.4	4959937.86	24:27	0:28	11:23
AB	402072.27	4960007.51	23:09	0:29	10:45
AC	402099.07	4960292.67	16:39	0:30	7:21
AE	402172.74	4961240.6	9:14	0:23	3:12
AM	402115.28	4961486.65	4:24	0:13	1:17
AN	402153.92	4961412.94	0:12	0:02	0:03
AP	402000.16	4961046.79	11:37	0:26	4:19
AQ	402027.51	4960932.89	12:01	0:27	4:32
BL	401989.89	4961257.21	11:34	0:25	4:02
BP	402151.66	4961127.99	2:40	0:09	0:59
CG	402717.86	4962303.72	13:00	0:28	5:23
CI	403021.09	4961374.71	22:39	0:28	6:14
CJ	406183.65	4961880.23	33:10	0:31	12:04
CK	405505.76	4962627.6	39:49	0:38	16:39
CL	405447.77	4962900.2	38:53	0:39	15:13
CM	406321.61	4961641.79	27:30	0:29	10:55
CN	406125.03	4961189.93	54:34	0:33	24:46
CO	406331.58	4962172.43	31:47	0:27	9:55
FV	405676.13	4963301.43	16:52	0:30	6:03
GH	405451.87	4963744.02	17:52	0:28	4:03
GM	405322.11	4963404.15	55:16	0:38	14:33
GO	405717.21	4963492.13	17:22	0:28	5:15
GP	405864.87	4963486.05	13:35	0:26	4:24
GQ	405518.5	4963261.6	40:42	0:34	12:55
GR	405582.54	4963216.39	34:15	0:33	11:28
HG	405442.41	4963843.16	1:45	0:09	0:22
HJ	405337.11	4963733.89	6:43	0:19	1:26
HK	405877.97	4963636.51	15:10	0:25	4:24
HL	405245.99	4963622.08	16:25	0:29	3:40
HM	405873	4963546.99	14:01	0:26	4:16
HR	405891.2	4963357.1	12:33	0:26	4:32
HS	405325.5	4963329.44	58:17	0:39	16:11
HT	405515.12	4963571.38	35:15	0:31	9:05
IJ	405697.67	4963397.93	16:47	0:29	5:35
IN	406008.7	4963439.2	11:06	0:24	3:54
IO	405440.96	4963750.73	16:06	0:27	3:37
IX	405252.84	4963662.79	7:53	0:21	1:42
IZ	405322.46	4963214.01	61:56	0:41	18:41

Table B3. Bear Lake (Bare Earth) Primary Turbines (Goldwind)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	12:49	0:28	4:52
C	402024.92	4960600.34	13:59	0:29	5:46
E	402111.35	4960042.64	24:40	0:32	11:28
F	402067.95	4960405.79	15:59	0:30	6:48
G	401948.01	4960053.12	17:19	0:28	8:01
H	402029.37	4960733.25	13:37	0:29	5:29
I	402041.09	4960664.04	14:03	0:29	5:47
J	402071.64	4960585.48	15:04	0:30	6:14
K	402014.36	4960461.54	14:26	0:29	6:01
L	401995.87	4960380.88	14:26	0:29	6:10
M	402060.13	4959961.7	27:01	0:30	12:35
N	402067.72	4959668.57	4:57	0:14	2:19
O	402001.6	4960853.76	12:47	0:28	4:56
P	402019.98	4960820.43	13:14	0:28	5:10
Q	402022.11	4960773.39	13:22	0:29	5:18
R	402106.61	4960165.76	20:12	0:32	9:13
S	401953.45	4960193.66	15:13	0:28	6:47
T	402077.23	4960342.98	16:46	0:31	7:16
U	402081.57	4960482.64	15:47	0:31	6:34
V	402086.71	4960537.82	15:33	0:31	6:27
W	402063.75	4960623.42	14:39	0:30	6:03
Y	402083.77	4960880.62	14:16	0:29	5:26
AA	402011.4	4959937.86	25:14	0:29	11:45
AB	402072.27	4960007.51	24:13	0:30	11:16
AC	402099.07	4960292.67	17:55	0:31	7:52
AD	402074.95	4961577.4	6:02	0:14	1:42
AE	402172.74	4961240.6	8:44	0:22	3:00
AL	402061.49	4961606.64	6:23	0:14	1:47
AM	402115.28	4961486.65	3:45	0:11	1:06
AP	402000.16	4961046.79	12:39	0:27	4:42
AQ	402027.51	4960932.89	13:13	0:28	4:59
BL	401989.89	4961257.21	12:46	0:26	4:24
BP	402151.66	4961127.99	2:00	0:07	0:44
CG	402717.86	4962303.72	13:53	0:29	5:45
CI	403021.09	4961374.71	27:46	0:29	7:24
CJ	406183.65	4961880.23	17:06	0:32	6:57
CK	405505.76	4962627.6	13:35	0:30	5:13
CL	405447.77	4962900.2	13:26	0:29	4:49
CM	406321.61	4961641.79	15:05	0:30	6:18
CN	406125.03	4961189.93	40:11	0:34	18:47
CO	406331.58	4962172.43	13:31	0:28	5:03
GM	405322.11	4963404.15	15:43	0:26	3:32
GQ	405518.5	4963261.6	22:29	0:27	6:04
GR	405582.54	4963216.39	16:53	0:26	4:52
HS	405325.5	4963329.44	24:42	0:29	5:52
IZ	405322.46	4963214.01	33:10	0:30	8:23

Table B4. Bear Lake (Bare Earth) Primary Turbines (Enercon)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	11:47	0:27	4:29
C	402024.92	4960600.34	12:55	0:28	5:20
E	402111.35	4960042.64	23:25	0:30	10:53
F	402067.95	4960405.79	14:54	0:29	6:21
G	401948.01	4960053.12	16:08	0:27	7:30
H	402029.37	4960733.25	12:32	0:28	5:04
I	402041.09	4960664.04	12:56	0:28	5:20
J	402071.64	4960585.48	13:52	0:29	5:44
K	402014.36	4960461.54	13:30	0:28	5:39
L	401995.87	4960380.88	13:34	0:28	5:49
M	402060.13	4959961.7	26:33	0:29	12:23
N	402067.72	4959668.57	1:53	0:09	0:52
O	402001.6	4960853.76	11:47	0:27	4:34
P	402019.98	4960820.43	12:13	0:27	4:47
Q	402022.11	4960773.39	12:21	0:28	4:56
R	402106.61	4960165.76	18:49	0:30	8:37
S	401953.45	4960193.66	14:11	0:27	6:21
T	402077.23	4960342.98	15:27	0:29	6:43
U	402081.57	4960482.64	14:34	0:29	6:05
V	402086.71	4960537.82	14:14	0:29	5:54
W	402063.75	4960623.42	13:30	0:29	5:35
Y	402083.77	4960880.62	13:08	0:28	5:01
AA	402011.4	4959937.86	24:27	0:28	11:23
AB	402072.27	4960007.51	23:09	0:29	10:45
AC	402099.07	4960292.67	16:39	0:30	7:21
AE	402172.74	4961240.6	9:14	0:23	3:12
AM	402115.28	4961486.65	4:24	0:13	1:17
AN	402153.92	4961412.94	0:12	0:02	0:03
AP	402000.16	4961046.79	11:37	0:26	4:19
AQ	402027.51	4960932.89	12:01	0:27	4:32
BL	401989.89	4961257.21	11:34	0:25	4:02
BP	402151.66	4961127.99	2:40	0:09	0:59
CG	402717.86	4962303.72	13:00	0:28	5:23
CI	403021.09	4961374.71	22:39	0:28	6:14
CJ	406183.65	4961880.23	15:51	0:31	6:28
CK	405505.76	4962627.6	13:29	0:29	5:12
CL	405447.77	4962900.2	13:34	0:29	4:54
CM	406321.61	4961641.79	13:57	0:29	5:50
CN	406125.03	4961189.93	39:45	0:33	18:35
CO	406331.58	4962172.43	12:26	0:27	4:39
GM	405322.11	4963404.15	16:49	0:26	3:49
GQ	405518.5	4963261.6	18:57	0:26	5:13
GR	405582.54	4963216.39	14:57	0:25	4:20
HS	405325.5	4963329.44	24:56	0:28	5:59
IZ	405322.46	4963214.01	30:49	0:28	7:52

Table B5. Bear Lake (Vegetated) All Turbines (Goldwind)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	12:52	0:28	4:53
C	402024.92	4960600.34	13:57	0:29	5:46
E	402111.35	4960042.64	2:55	0:09	1:20
H	402029.37	4960733.25	13:32	0:29	5:28
I	402041.09	4960664.04	13:15	0:29	5:27
J	402071.64	4960585.48	14:54	0:30	6:10
L	401995.87	4960380.88	0:05	0:01	0:02
O	402001.6	4960853.76	11:00	0:27	4:16
P	402019.98	4960820.43	13:01	0:28	5:05
Q	402022.11	4960773.39	13:19	0:29	5:18
S	401953.45	4960193.66	9:19	0:19	4:10
T	402077.23	4960342.98	3:49	0:12	1:41
V	402086.71	4960537.82	15:26	0:30	6:24
W	402063.75	4960623.42	8:51	0:18	3:39
AA	402011.4	4959937.86	23:44	0:29	11:02
AB	402072.27	4960007.51	21:48	0:30	10:07
AC	402099.07	4960292.67	9:41	0:25	4:17
AP	402000.16	4961046.79	12:36	0:27	4:41
AQ	402027.51	4960932.89	13:04	0:28	4:56
BL	401989.89	4961257.21	10:57	0:24	3:47
CG	402717.86	4962303.72	0:25	0:05	0:10
CK	405505.76	4962627.6	3:52	0:13	1:41
CL	405447.77	4962900.2	19:11	0:39	7:51
CM	406321.61	4961641.79	0:46	0:05	0:19
FV	405676.13	4963301.43	18:39	0:32	6:34
GH	405451.87	4963744.02	13:49	0:23	3:06
GP	405864.87	4963486.05	14:16	0:27	4:33
GR	405582.54	4963216.39	16:51	0:31	6:13
HK	405877.97	4963636.51	17:11	0:26	4:57
HM	405873	4963546.99	15:30	0:27	4:40
HR	405891.2	4963357.1	9:59	0:20	3:32
HT	405515.12	4963571.38	34:18	0:33	8:49
HZ	405964.69	4963677.47	0:26	0:04	0:07
IX	405252.84	4963662.79	2:51	0:13	0:35
IZ	405322.46	4963214.01	43:32	0:42	13:47

Table B6. Bear Lake (Vegetated) All Turbines (Enercon)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	11:47	0:27	4:30
C	402024.92	4960600.34	12:51	0:28	5:18
E	402111.35	4960042.64	4:10	0:11	1:55
H	402029.37	4960733.25	12:33	0:28	5:06
I	402041.09	4960664.04	12:44	0:28	5:16
J	402071.64	4960585.48	13:50	0:29	5:43
L	401995.87	4960380.88	0:25	0:03	0:11
O	402001.6	4960853.76	10:30	0:26	4:05
P	402019.98	4960820.43	12:07	0:27	4:46
Q	402022.11	4960773.39	12:12	0:27	4:53
S	401953.45	4960193.66	9:49	0:20	4:24
T	402077.23	4960342.98	4:47	0:14	2:07
V	402086.71	4960537.82	14:25	0:29	5:59
W	402063.75	4960623.42	8:48	0:18	3:38
AA	402011.4	4959937.86	24:22	0:28	11:21
AB	402072.27	4960007.51	22:25	0:29	10:24
AC	402099.07	4960292.67	10:37	0:26	4:42
AP	402000.16	4961046.79	11:27	0:26	4:16
AQ	402027.51	4960932.89	12:05	0:27	4:34
BL	401989.89	4961257.21	10:40	0:23	3:43
CG	402717.86	4962303.72	0:41	0:07	0:17
CK	405505.76	4962627.6	5:17	0:15	2:18
CL	405447.77	4962900.2	19:45	0:39	8:05
CM	406321.61	4961641.79	1:10	0:07	0:29
FV	405676.13	4963301.43	16:58	0:30	6:03
GH	405451.87	4963744.02	15:53	0:24	3:37
GP	405864.87	4963486.05	13:36	0:26	4:24
GR	405582.54	4963216.39	17:12	0:31	6:22
HK	405877.97	4963636.51	15:10	0:25	4:24
HM	405873	4963546.99	14:01	0:26	4:16
HR	405891.2	4963357.1	9:39	0:20	3:27
HT	405515.12	4963571.38	33:58	0:31	8:48
IX	405252.84	4963662.79	5:55	0:18	1:15
IZ	405322.46	4963214.01	44:18	0:41	14:05

Table B7. Bear Lake (Vegetated) Primary Turbines (Goldwind)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	12:52	0:28	4:53
C	402024.92	4960600.34	13:57	0:29	5:46
E	402111.35	4960042.64	2:55	0:09	1:20
H	402029.37	4960733.25	13:32	0:29	5:28
I	402041.09	4960664.04	13:15	0:29	5:27
J	402071.64	4960585.48	14:54	0:30	6:10
L	401995.87	4960380.88	0:05	0:01	0:02
O	402001.6	4960853.76	11:00	0:27	4:16
P	402019.98	4960820.43	13:01	0:28	5:05
Q	402022.11	4960773.39	13:19	0:29	5:18
S	401953.45	4960193.66	9:19	0:19	4:10
T	402077.23	4960342.98	3:49	0:12	1:41
V	402086.71	4960537.82	15:26	0:30	6:24
W	402063.75	4960623.42	8:51	0:18	3:39
AA	402011.4	4959937.86	23:44	0:29	11:02
AB	402072.27	4960007.51	21:48	0:30	10:07
AC	402099.07	4960292.67	9:41	0:25	4:17
AP	402000.16	4961046.79	12:36	0:27	4:41
AQ	402027.51	4960932.89	13:04	0:28	4:56
BL	401989.89	4961257.21	10:57	0:24	3:47
CG	402717.86	4962303.72	0:25	0:05	0:10
CK	405505.76	4962627.6	0:15	0:03	0:05
CL	405447.77	4962900.2	0:01	0:01	0:00
CM	406321.61	4961641.79	0:46	0:05	0:19
IZ	405322.46	4963214.01	15:36	0:21	4:05

Table B8. Bear Lake (Vegtated) Primary Turbines (Enercon)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
B	402007.41	4960897.66	11:47	0:27	4:30
C	402024.92	4960600.34	12:51	0:28	5:18
E	402111.35	4960042.64	4:10	0:11	1:55
H	402029.37	4960733.25	12:33	0:28	5:06
I	402041.09	4960664.04	12:44	0:28	5:16
J	402071.64	4960585.48	13:50	0:29	5:43
L	401995.87	4960380.88	0:25	0:03	0:11
O	402001.6	4960853.76	10:30	0:26	4:05
P	402019.98	4960820.43	12:07	0:27	4:46
Q	402022.11	4960773.39	12:12	0:27	4:53
S	401953.45	4960193.66	9:49	0:20	4:24
T	402077.23	4960342.98	4:47	0:14	2:07
V	402086.71	4960537.82	14:25	0:29	5:59
W	402063.75	4960623.42	8:48	0:18	3:38
AA	402011.4	4959937.86	24:22	0:28	11:21
AB	402072.27	4960007.51	22:25	0:29	10:24
AC	402099.07	4960292.67	10:37	0:26	4:42
AP	402000.16	4961046.79	11:27	0:26	4:16
AQ	402027.51	4960932.89	12:05	0:27	4:34
BL	401989.89	4961257.21	10:40	0:23	3:43
CG	402717.86	4962303.72	0:41	0:07	0:17
CK	405505.76	4962627.6	0:37	0:04	0:14
CL	405447.77	4962900.2	0:08	0:03	0:02
CM	406321.61	4961641.79	1:10	0:07	0:29
IZ	405322.46	4963214.01	16:15	0:23	4:17

Table B9. Benjamin Mills (Bare Earth) All Turbines

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
FU	404868.36	4973025.54	11:10	0:25	4:56
GE	404869.96	4973183.49	10:20	0:24	4:23
GH	404801.67	4973176.24	11:17	0:25	4:50

Table B10. Benjamin Mills (Bare Earth) Phase II Turbines

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
FU	404868.36	4973025.54	11:10	0:25	4:56
GE	404869.96	4973183.49	10:20	0:24	4:23
GH	404801.67	4973176.24	11:17	0:25	4:50

Table B11. Benjamin Mills (Vegetated) All Turbines

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
FU	404868.36	4973025.54	11:10	0:25	4:57

Table B12. Benjamin Mills (Vegetated) Phase II Turbines

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
FU	404868.36	4973025.54	11:10	0:25	4:57

Table B13. South Canoe (Bare Earth)

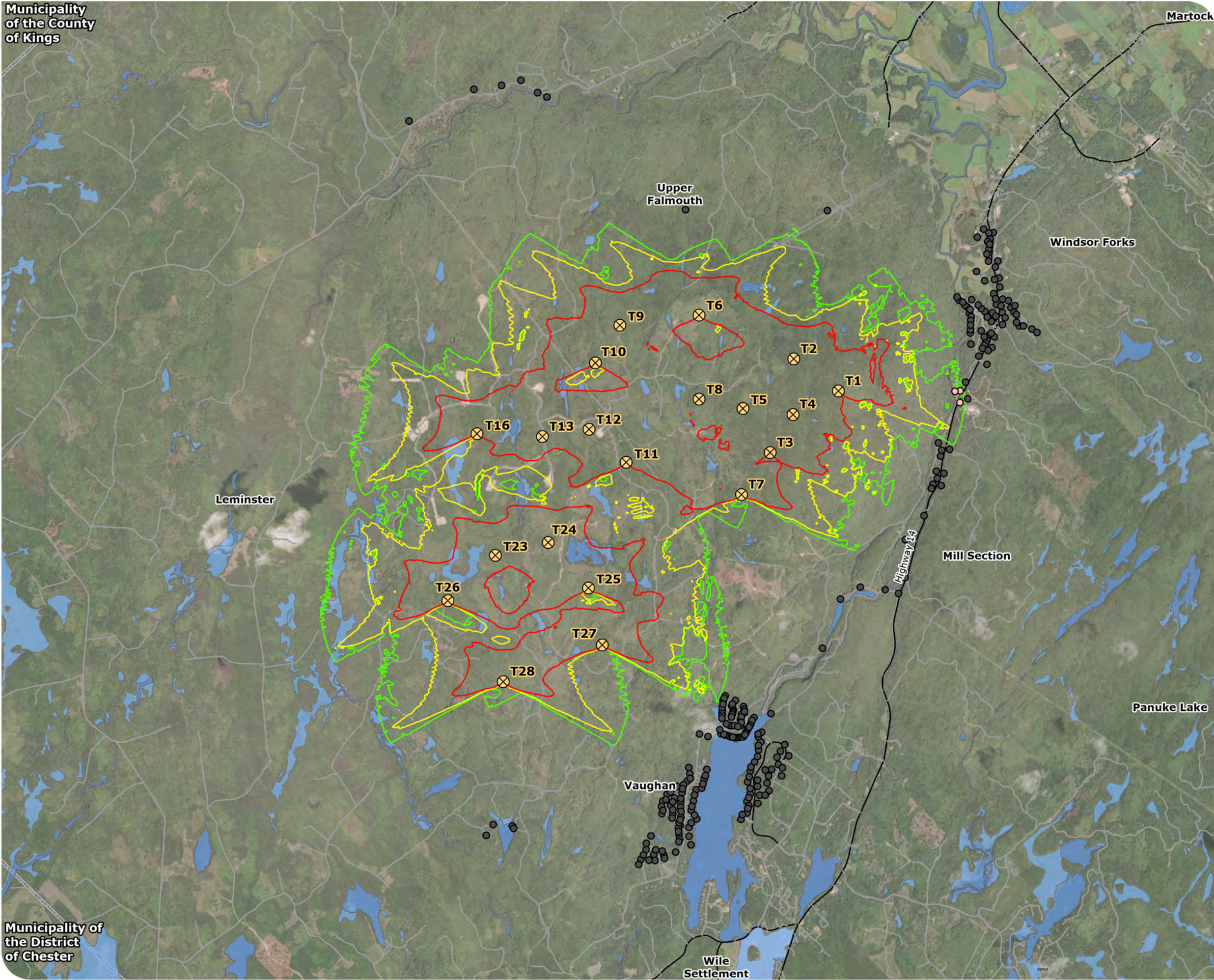
Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
BI	389658.12	4956932.58	16:11	0:30	7:10
BJ	389157.62	4957513.28	5:10	0:18	1:56
BL	389772.73	4958040.91	9:03	0:23	3:25
BM	390109.83	4958703.22	6:50	0:21	2:57
BP	390030.11	4959910.69	1:34	0:07	0:26
DA	390081.12	4959849.96	0:26	0:04	0:07
DD	390812.26	4960791.45	4:39	0:17	1:50
DG	390972.85	4960762.29	5:48	0:19	2:19
DH	391066.49	4960742.57	10:00	0:20	3:23
DI	390841.86	4960383.71	9:53	0:18	3:42
DJ	390815.33	4960355.2	9:17	0:18	3:34
DM	390883.34	4960905.74	5:01	0:18	1:54
DS	391031.52	4960748.28	11:22	0:20	3:37
EC	390951.42	4960851.34	5:37	0:19	2:08
ED	390877.33	4960411.49	10:33	0:18	3:51
EF	391026.11	4960554.65	15:37	0:20	5:09
EX	390747.27	4960937.02	0:14	0:02	0:05
FN	395188.73	4961995.09	9:48	0:18	3:42
FO	395265.23	4962517.58	5:21	0:17	1:50
FQ	395785.68	4962631.97	17:27	0:24	4:03
FS	397891.79	4962704.59	16:58	0:20	4:10

Table B14. South Canoe (Vegetated)

Receptor ID	Easting	Northing	Worst Case Shadow Hours Per Year	Worst Case Max. Shadow Hours Per Day	Shadow Hours Per Year (Average Sunshine Conditions)
BI	389658.12	4956932.58	15:26	0:30	6:48
DJ	390815.33	4960355.2	4:26	0:17	1:25
EC	390951.42	4960851.34	5:08	0:18	1:57
ED	390877.33	4960411.49	10:30	0:18	3:47
EF	391026.11	4960554.65	16:49	0:20	5:22
FS	397891.79	4962704.59	16:18	0:20	3:59

Municipality
of the County
of Kings

Municipality of
the District
of Chester



**WEST HANTS REGIONAL
MUNICIPALITY**

VISUAL EFFECTS STUDY OF EXISTING
AND PROPOSED WIND FARMS

**SHADOW FLICKER ASSESSMENT
- BENJAMIN MILLS PHASE II
TURBINES (BARE EARTH,
WORST CASE SCENARIO)**

FIGURE B1

Shadow Flicker Receptor

- Below Regulatory Threshold
- No Shadow Flicker Expected

Wind Project

- ⊗ Benjamin Mills (Phase II)

Modelled Hours of Shadow Flicker

- 10
- 30
- 100

- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

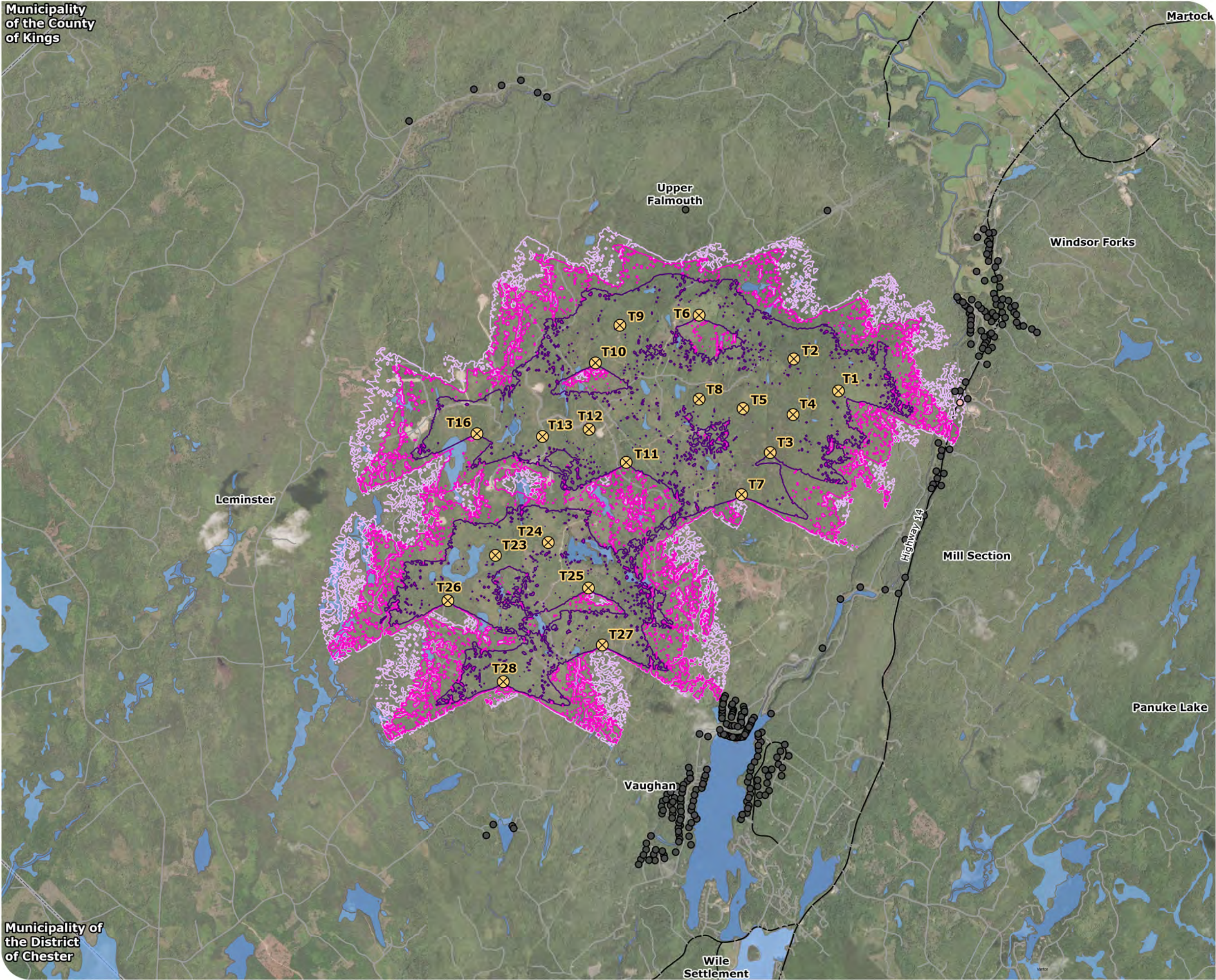
MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09

Municipality
of the County
of Kings

Municipality of
the District
of Chester



**WEST HANTS REGIONAL
MUNICIPALITY**

VISUAL EFFECTS STUDY OF EXISTING
AND PROPOSED WIND FARMS

**SHADOW FLICKER ASSESSMENT
- BENJAMIN MILLS PHASE II
TURBINES (VEGETATED
SCENARIO WITH ADJUSTED
SUNSHINE HOURS)**

FIGURE B2

Shadow Flicker Receptor

- Below Regulatory Threshold
- No Shadow Flicker Expected

Wind Project

- ⊗ Benjamin Mills (Phase II)

Modelled Hours of Shadow Flicker

- 4
- 8
- 30

- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

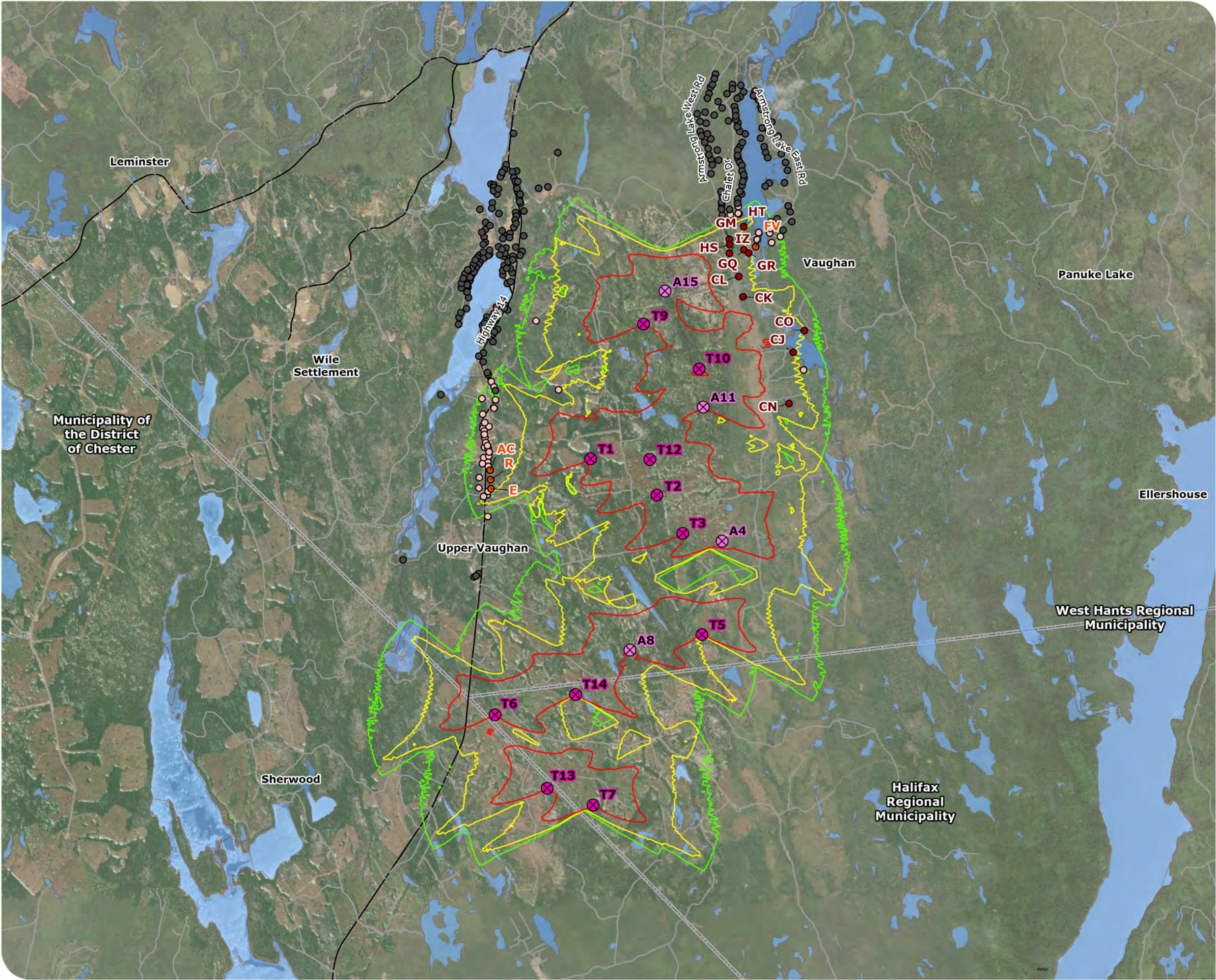
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
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DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

**SHADOW FLICKER ASSESSMENT
- BEAR LAKE (BARE EARTH, WORST CASE SCENARIO)
ENERCON TURBINE MODEL**

FIGURE B3

- Shadow Flicker Receptor**
- Exceeds 30 Hours Per Year
 - Exceeds 30 Minutes (Worst Day)
 - Below Regulatory Threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Alternate)
 - ⊗ Bear Lake (Primary)
- Modelled Hours of Shadow Flicker**
- 10
 - 30
 - 100
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

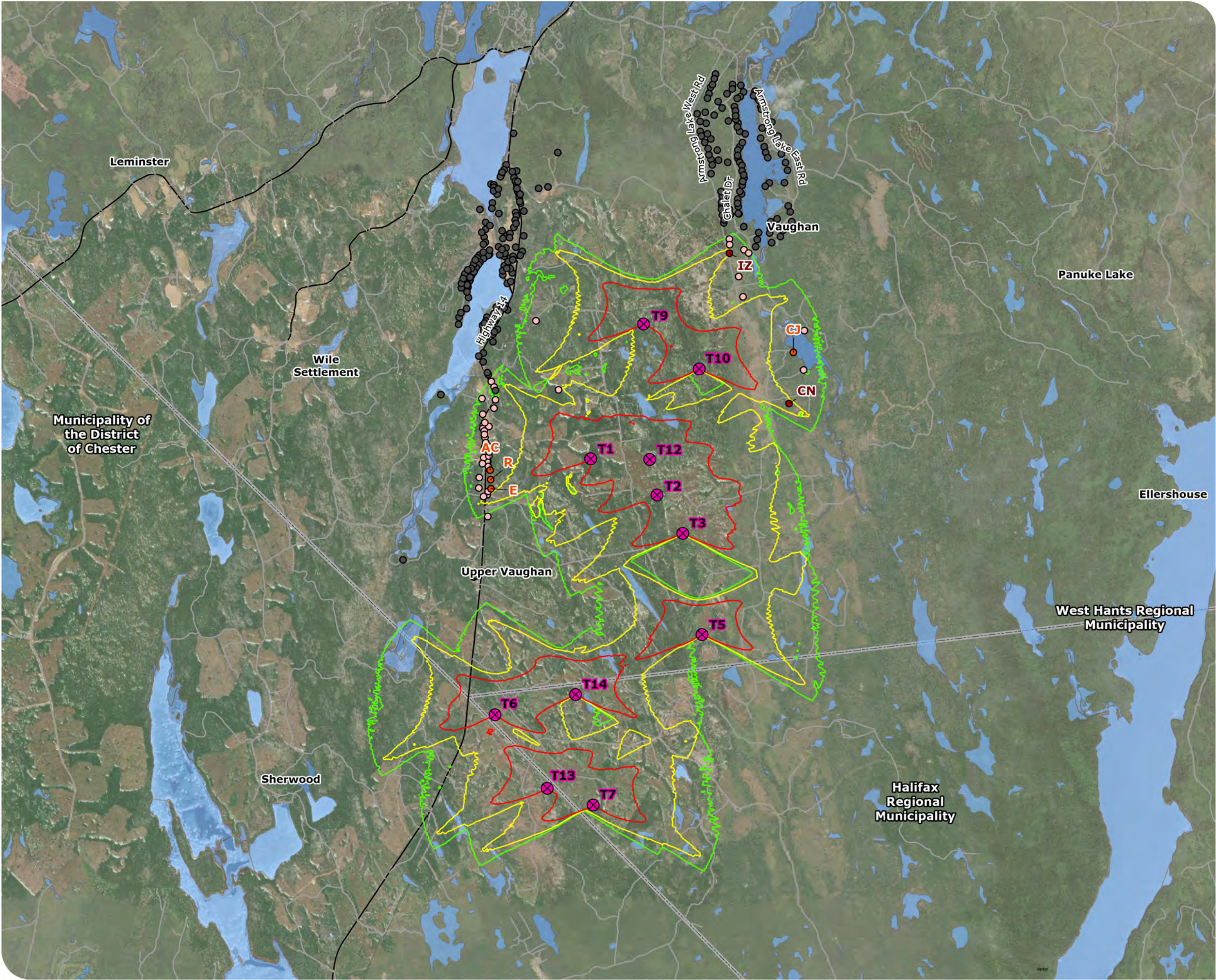
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BEAR LAKE PRIMARY (BARE EARTH, WORST CASE SCENARIO) GOLDWIND TURBINE MODEL

FIGURE B4

- Shadow Flicker Receptor**
- Exceeds 30 Hours Per Year
 - Exceeds 30 Minutes (Worst Day)
 - Below Regulatory Threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Primary)
- Modelled Hours of Shadow Flicker**
- 10
 - 30
 - 100
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

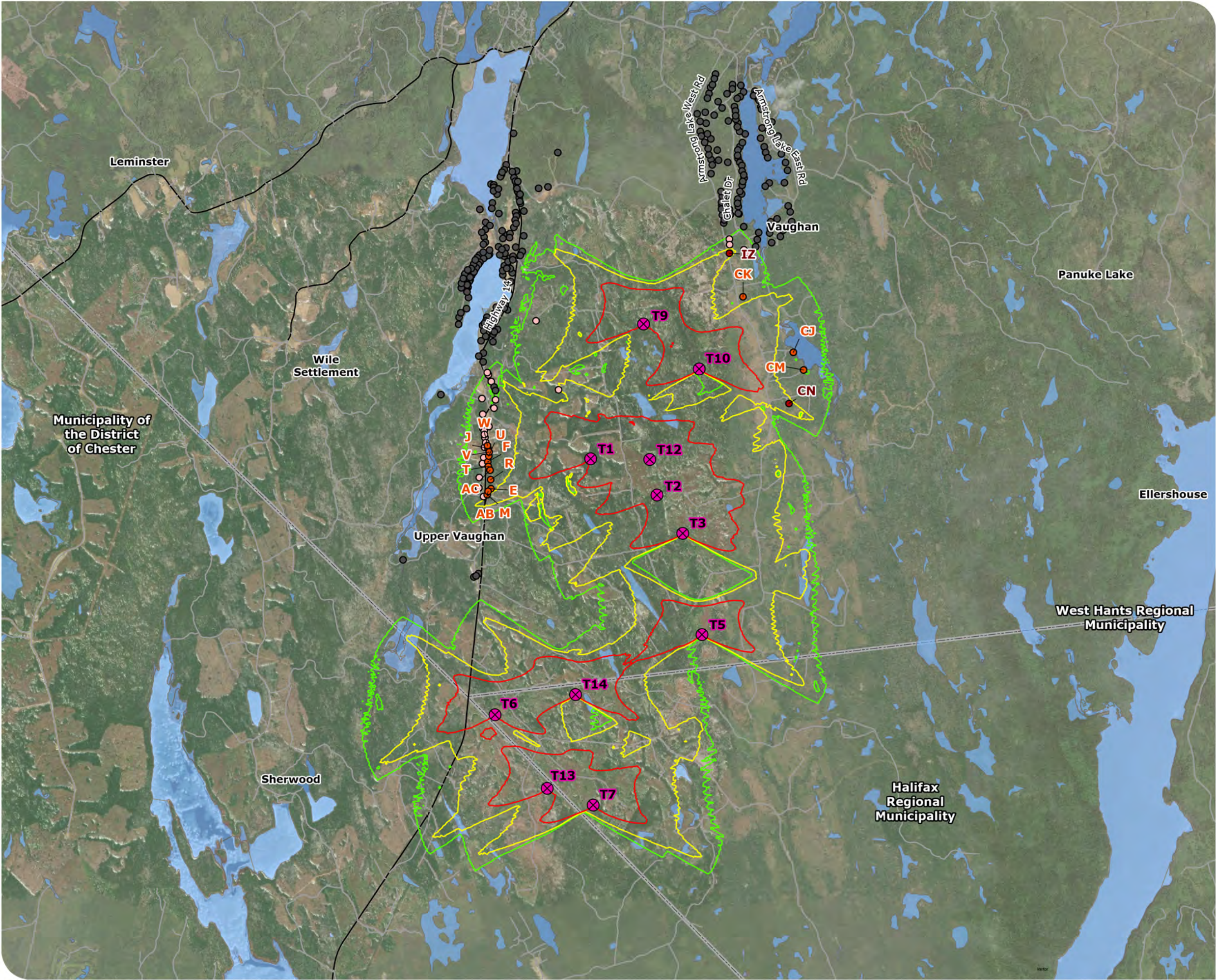
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BEAR LAKE PRIMARY (BARE EARTH, WORST CASE SCENARIO) ENERCON TURBINE MODEL

FIGURE B5

- Shadow Flicker Receptor**
- Exceeds 30 Hours Per Year
 - Exceeds 30 Minutes (Worst Day)
 - Below Regulatory Threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Primary)
- Modelled Hours of Shadow Flicker**
- 10
 - 30
 - 100
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BEAR LAKE (VEGETATED SCENARIO WITH ADJUSTED SUNSHINE HOURS) ENERCON TURBINE MODEL

FIGURE B6

- Shadow Flicker Receptor**
- Below threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Alternate)
 - ⊗ Bear Lake (Primary)
- Modelled Hours of Shadow Flicker**
- 4
 - 8
 - 30
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

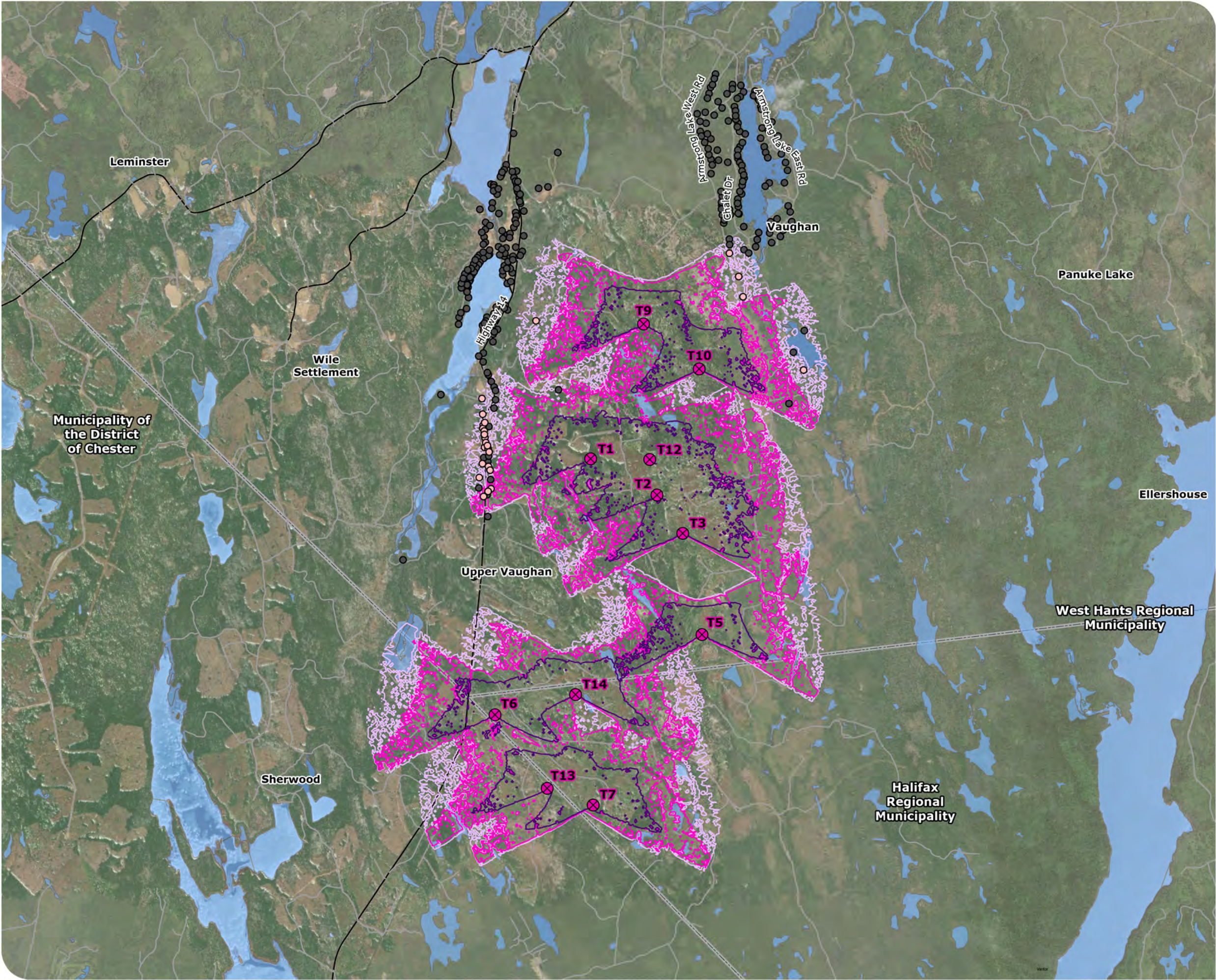
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

SHADOW FLICKER ASSESSMENT - BEAR LAKE PRIMARY (VEGETATED SCENARIO WITH ADJUSTED SUNSHINE HOURS) ENERCON TURBINE MODEL

FIGURE B7

- Shadow Flicker Receptor**
- Below threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Primary)
- Modelled Hours of Shadow Flicker**
- 4
 - 8
 - 30
- Legend**
- Paved Road
 - Unpaved Road
 - Waterbody
 - Municipal Boundary

SCALE 1:50,000

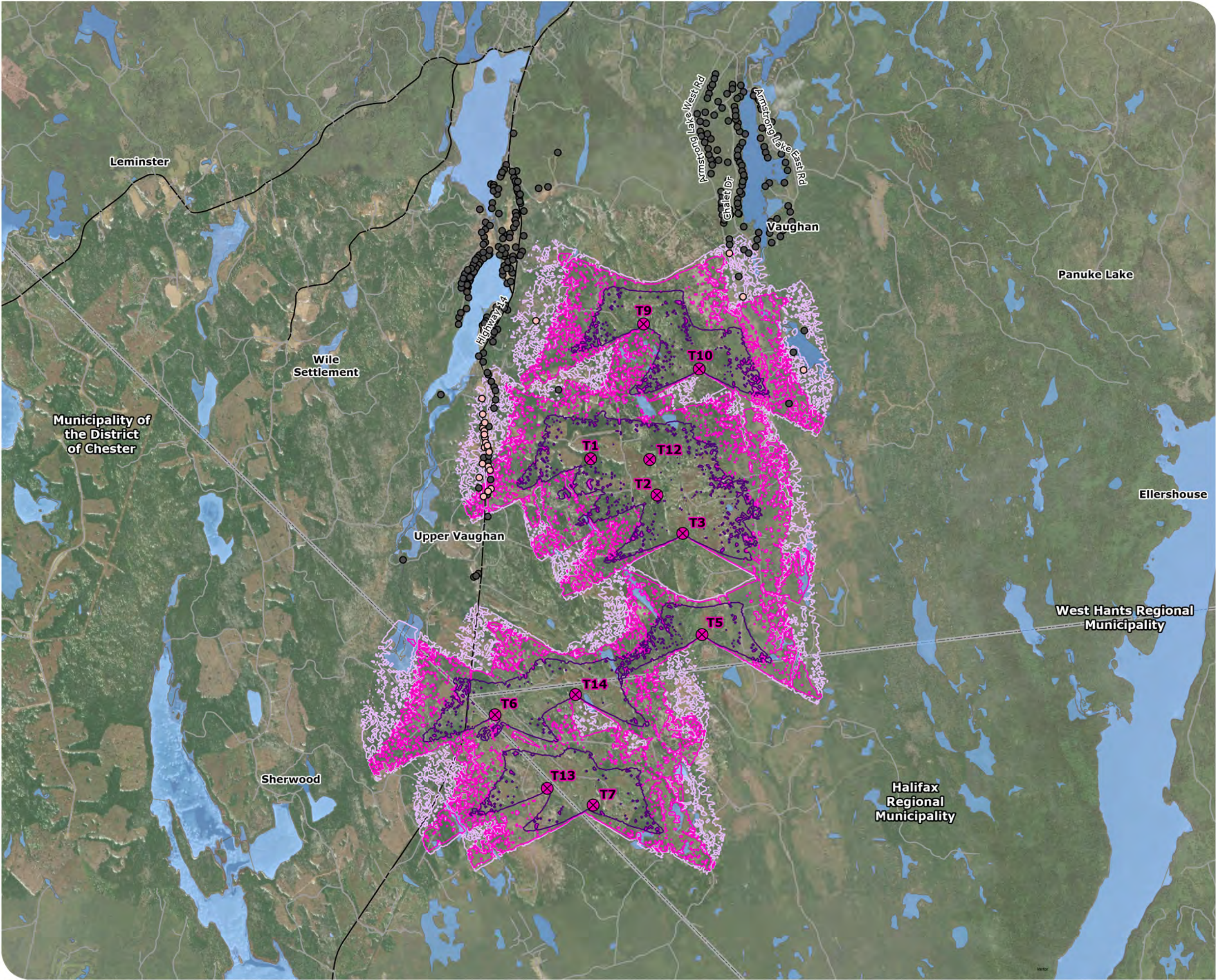
0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

**SHADOW FLICKER ASSESSMENT
- BEAR LAKE PRIMARY
(VEGETATED SCENARIO WITH
ADJUSTED SUNSHINE HOURS)
GOLDWIND TURBINE MODEL**

FIGURE B8

- Shadow Flicker Receptor**
- Below Regulatory Threshold
 - No Shadow Flicker Expected
- Wind Project**
- ⊗ Bear Lake (Primary)
- Modelled Hours of Shadow Flicker**
- 4
 - 8
 - 30
- Paved Road
- Unpaved Road
- Waterbody
- Municipal Boundary

SCALE 1:50,000

0 0.5 1 2 Kilometers

MAP DRAWING INFORMATION:
DATA PROVIDED BY West Hants Regional Municipality, GeoNova

MAP CREATED BY: JA
MAP CHECKED BY: JAB
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-12-09

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

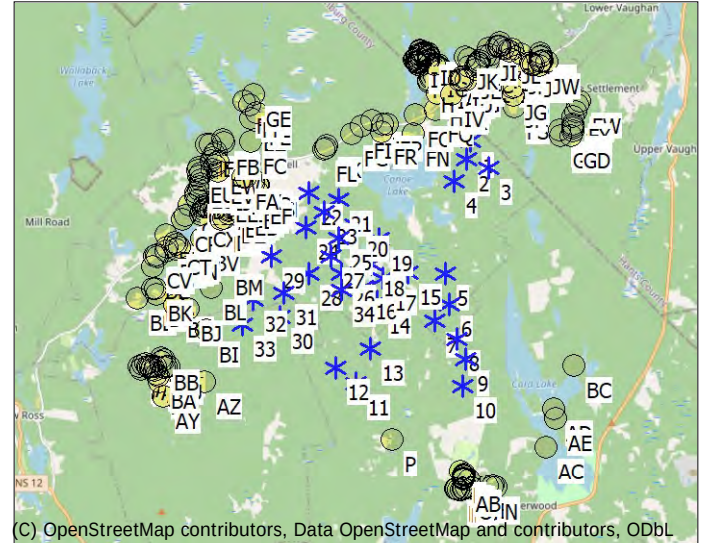
DHM: Elevation Grid Data Object: SC_Shadow_DSM_EMDGrid_0.wpg (1)

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL
Scale 1:200,000
* Existing WTG
Shadow receptor

WTGs

	Easting	Northing	Z [m]	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM
1	396,709.92	4,961,808.61	234.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
2	396,587.42	4,961,328.63	231.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
3	397,199.34	4,961,109.31	231.3	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
4	396,268.84	4,960,743.26	242.2	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
5	395,974.84	4,958,298.98	229.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
6	396,064.72	4,957,497.43	225.7	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
7	395,688.10	4,957,069.36	229.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
8	396,261.80	4,956,594.84	231.2	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
9	396,477.40	4,956,043.47	226.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
10	396,385.32	4,955,358.95	222.3	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
11	393,568.75	4,955,437.13	234.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
12	393,016.82	4,955,868.08	231.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
13	393,961.83	4,956,371.82	227.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
14	394,175.78	4,957,604.22	231.3	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
15	395,001.10	4,958,339.63	230.8	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
16	393,817.68	4,957,987.85	248.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
17	394,310.46	4,958,224.30	247.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
18	394,033.10	4,958,618.06	249.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
19	394,241.44	4,959,250.43	244.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
20	393,605.56	4,959,658.16	243.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
21	393,184.94	4,960,323.14	242.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
22	392,387.02	4,960,505.63	258.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
23	392,800.84	4,959,974.47	254.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
24	392,296.49	4,959,585.26	242.7	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
25	393,173.24	4,959,305.43	252.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
26	393,218.71	4,958,353.31	251.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
27	392,951.97	4,958,810.86	252.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
28	392,348.66	4,958,377.50	245.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
29	391,386.81	4,958,852.40	244.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
30	391,584.68	4,957,254.63	249.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
31	391,690.59	4,957,889.37	253.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
32	390,890.85	4,957,704.63	259.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
33	390,575.58	4,957,072.43	251.8	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
34	393,219.83	4,957,919.64	263.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	396,165.94	4,952,584.91	166.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	396,216.42	4,952,576.13	169.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	396,199.81	4,952,578.88	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	396,182.77	4,952,581.63	167.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	397,022.49	4,952,661.66	227.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	397,229.74	4,952,620.84	227.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	396,616.43	4,952,604.15	197.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	397,148.11	4,952,695.35	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	396,375.28	4,952,586.42	180.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	396,360.75	4,952,578.32	180.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	396,233.36	4,952,573.69	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	396,305.46	4,952,560.82	179.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	396,401.99	4,952,573.67	180.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	397,142.18	4,952,641.71	238.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	396,462.27	4,952,649.99	194.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	394,505.01	4,953,936.30	192.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	396,526.69	4,952,852.27	191.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	396,292.40	4,953,085.90	158.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	396,388.02	4,952,965.42	171.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	396,384.76	4,952,899.06	177.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	396,389.97	4,952,983.10	170.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	396,364.20	4,952,970.26	167.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	396,364.04	4,952,953.53	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	396,391.10	4,952,932.87	177.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	396,362.86	4,952,936.62	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	396,388.14	4,952,916.15	177.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	396,382.08	4,952,882.38	177.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	396,378.61	4,952,865.98	178.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	398,587.74	4,953,688.40	166.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	398,797.35	4,954,686.72	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	398,833.14	4,954,436.72	156.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	387,899.28	4,955,913.01	193.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	387,846.62	4,955,975.24	191.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	388,030.22	4,956,070.12	205.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	387,951.68	4,956,045.87	198.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	388,616.50	4,955,977.77	223.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	388,143.26	4,955,965.50	202.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	388,147.69	4,955,934.42	209.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	388,483.64	4,956,148.23	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	388,442.01	4,956,113.99	219.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	388,269.44	4,955,975.18	208.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	388,190.41	4,955,973.63	202.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	388,042.38	4,955,972.37	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	388,120.29	4,955,966.93	205.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	388,551.10	4,955,955.98	221.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	388,069.19	4,955,961.87	204.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	388,478.66	4,955,932.32	219.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	388,372.29	4,955,565.40	223.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	388,241.88	4,955,890.68	211.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	388,295.08	4,955,794.43	216.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	388,439.33	4,955,193.58	224.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	389,578.42	4,955,540.98	234.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	388,336.77	4,955,733.89	214.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	388,446.33	4,956,212.05	218.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	399,344.30	4,955,821.18	146.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	387,821.11	4,957,809.79	198.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	388,224.55	4,958,637.02	199.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	388,218.71	4,958,044.23	214.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	388,329.01	4,957,903.10	211.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	388,807.11	4,957,582.27	228.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	389,658.12	4,956,932.58	245.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	389,157.62	4,957,513.28	227.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	388,297.30	4,958,024.61	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
BL	389,772.73	4,958,040.91	231.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	390,109.83	4,958,703.22	237.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	389,990.97	4,959,903.41	206.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	388,590.65	4,959,021.26	216.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	390,030.11	4,959,910.69	207.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	389,648.89	4,960,224.73	208.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	388,860.97	4,959,083.63	226.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	389,478.74	4,960,641.12	216.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	388,351.99	4,958,931.67	206.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	388,596.68	4,959,456.15	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	389,563.35	4,959,328.31	200.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	388,884.24	4,959,214.84	217.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	388,633.87	4,959,141.46	205.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	389,741.09	4,960,127.02	214.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	389,884.49	4,960,094.38	205.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	389,604.43	4,960,091.55	207.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	389,797.89	4,960,061.98	208.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	389,921.58	4,960,044.69	205.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	389,904.51	4,959,987.01	208.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	389,900.74	4,959,945.08	205.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	389,921.14	4,959,912.70	206.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	389,959.00	4,959,905.00	206.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	389,405.59	4,960,461.80	209.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	389,906.79	4,960,007.38	215.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	390,040.68	4,960,339.48	214.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	389,573.42	4,960,041.76	203.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	390,061.29	4,960,712.25	206.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	389,127.30	4,959,962.24	214.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	388,953.69	4,959,128.60	218.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	389,246.82	4,960,237.08	217.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	389,456.08	4,960,363.70	201.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	389,553.32	4,960,807.78	217.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	389,029.89	4,959,871.99	216.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	388,363.92	4,958,875.48	207.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	388,845.97	4,959,246.22	212.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	389,626.32	4,960,167.63	218.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	388,281.17	4,958,894.16	193.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	389,711.25	4,960,170.75	216.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	389,540.96	4,959,997.70	220.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	389,541.56	4,960,891.48	231.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	389,405.88	4,960,557.29	219.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	390,081.12	4,959,849.96	223.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	389,531.62	4,960,714.99	225.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	390,086.82	4,960,793.22	225.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	390,812.26	4,960,791.45	211.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	390,303.69	4,960,664.33	205.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	390,160.19	4,959,880.73	221.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	390,972.85	4,960,762.29	205.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	391,066.49	4,960,742.57	207.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	390,841.86	4,960,383.71	207.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	390,815.33	4,960,355.20	216.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	390,422.22	4,960,193.65	212.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	390,324.35	4,960,194.26	207.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	390,883.34	4,960,905.74	220.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	390,438.02	4,960,832.08	207.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	390,303.42	4,960,081.28	212.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	390,540.42	4,960,255.28	205.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	390,224.64	4,960,667.79	206.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	390,599.04	4,960,901.00	207.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	391,031.52	4,960,748.28	202.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	390,262.52	4,959,991.98	207.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	390,503.02	4,960,882.98	210.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	390,375.32	4,960,787.98	208.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	390,100.02	4,960,857.98	226.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
DX	390,511.33	4,960,192.81	223.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	390,383.75	4,960,097.78	211.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	390,261.52	4,960,046.06	214.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	390,370.65	4,960,208.10	224.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	390,633.55	4,960,270.93	217.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	390,951.42	4,960,851.34	228.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	390,877.33	4,960,411.49	219.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	390,138.82	4,960,629.29	219.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	391,026.11	4,960,554.65	214.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	390,031.14	4,961,067.67	217.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	389,844.57	4,961,173.74	207.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	390,033.96	4,961,005.54	224.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	390,047.63	4,960,917.10	213.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	389,735.58	4,961,821.67	216.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	389,857.12	4,961,469.28	208.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	389,819.89	4,961,398.65	211.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	389,901.75	4,961,565.21	208.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	389,963.36	4,961,639.69	211.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	389,554.31	4,961,062.88	220.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	389,819.32	4,961,810.48	207.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	389,945.64	4,961,260.19	220.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	389,507.35	4,960,977.26	230.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	389,500.09	4,961,220.30	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	389,478.44	4,961,141.92	230.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	390,025.61	4,961,126.36	231.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	390,021.91	4,961,357.92	228.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	390,747.27	4,960,937.02	208.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	390,165.83	4,961,945.43	214.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	390,898.13	4,962,482.61	209.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	390,669.02	4,960,934.28	206.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	390,184.57	4,961,876.53	212.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	390,885.02	4,961,894.98	226.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	390,738.84	4,962,940.83	205.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	391,047.26	4,962,649.94	197.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	390,888.18	4,962,873.62	214.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	393,554.10	4,962,031.25	217.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	394,105.06	4,962,408.71	241.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	393,845.12	4,962,232.81	232.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	392,866.69	4,961,672.35	220.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	392,914.62	4,961,750.58	219.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	392,808.79	4,961,634.30	225.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	394,370.22	4,962,295.60	235.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	395,188.73	4,961,995.09	204.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	395,265.23	4,962,517.58	209.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	394,528.08	4,962,287.68	229.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	395,785.68	4,962,631.97	216.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	394,341.81	4,962,067.99	227.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	397,891.79	4,962,704.59	199.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	399,422.90	4,962,385.33	184.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	399,078.91	4,962,060.68	185.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	399,580.14	4,962,714.64	191.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	399,618.14	4,962,786.98	185.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	399,521.59	4,962,531.51	198.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	399,438.49	4,962,201.04	182.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	399,443.18	4,962,161.66	183.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	399,432.74	4,962,106.15	184.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	399,094.56	4,961,903.74	182.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	399,417.93	4,962,011.78	178.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	399,371.30	4,961,908.87	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	390,993.42	4,963,127.58	209.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	395,420.56	4,964,191.63	212.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	395,629.14	4,964,103.72	202.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	395,283.39	4,964,006.93	202.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	395,382.37	4,963,920.70	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GJ	395,365.72	4,963,847.66	196.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	395,666.47	4,963,824.66	199.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	395,728.71	4,963,783.51	197.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	395,873.80	4,963,625.84	200.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	395,671.39	4,963,495.57	205.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	396,183.27	4,963,239.89	203.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	396,203.39	4,963,007.75	206.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	395,624.95	4,964,063.91	202.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	396,152.65	4,962,967.69	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	395,332.74	4,963,893.83	201.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	395,905.63	4,963,833.25	201.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	395,854.38	4,963,820.19	197.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	395,938.32	4,963,762.64	198.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	395,928.38	4,963,711.83	201.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	396,138.81	4,963,621.77	200.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	395,781.92	4,963,524.53	196.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	396,121.50	4,963,501.26	197.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	395,704.45	4,963,498.96	198.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	396,128.85	4,963,466.13	194.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	395,994.62	4,963,449.78	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	396,139.88	4,963,439.32	196.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	396,019.44	4,963,065.15	214.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	395,609.43	4,963,882.69	205.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	395,411.91	4,964,211.76	199.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	395,535.28	4,964,162.77	200.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	395,518.33	4,964,129.41	208.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	395,411.65	4,964,116.55	199.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	395,502.56	4,964,100.69	199.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	395,455.23	4,964,082.56	199.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	395,629.02	4,964,017.35	206.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	395,259.28	4,963,977.18	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	395,418.26	4,963,948.10	198.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	395,621.52	4,963,940.39	201.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	395,291.23	4,963,920.59	198.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	395,593.95	4,963,905.00	197.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	395,469.58	4,963,968.12	198.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	395,399.13	4,963,814.03	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	395,623.39	4,963,974.73	205.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	395,628.74	4,963,388.26	199.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	396,180.17	4,963,365.78	190.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	395,872.08	4,963,066.05	214.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	395,620.26	4,963,434.52	198.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	395,333.52	4,964,026.74	199.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	396,061.33	4,963,530.73	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	395,359.24	4,964,078.78	192.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	395,800.98	4,963,834.13	197.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	395,608.59	4,964,146.52	214.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	397,539.32	4,964,412.08	179.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	396,954.31	4,963,869.89	194.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	396,632.98	4,963,418.82	199.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	397,924.62	4,963,995.98	160.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	396,877.02	4,963,694.28	195.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	397,529.37	4,964,306.27	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	397,496.16	4,964,294.88	172.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	397,456.95	4,964,283.60	170.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	397,651.05	4,964,235.02	176.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	396,921.17	4,963,862.50	194.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	396,940.32	4,963,816.14	198.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	398,015.31	4,963,761.30	159.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	396,887.45	4,963,769.12	197.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	397,714.21	4,963,647.86	173.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	396,520.66	4,963,502.79	195.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	396,512.53	4,963,420.57	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	396,447.12	4,963,420.93	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0

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SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
IV	396,251.20	4,963,051.87	202.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	397,846.75	4,964,218.41	176.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	397,721.85	4,964,169.71	176.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	397,250.61	4,964,048.41	186.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	397,146.42	4,964,038.34	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	396,724.78	4,963,980.60	191.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	397,801.85	4,963,953.24	176.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	396,992.44	4,963,931.18	189.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	397,899.04	4,963,195.94	183.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	396,705.24	4,963,756.79	201.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	397,858.07	4,962,999.52	189.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	397,850.33	4,963,186.85	188.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	397,954.34	4,963,868.79	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	397,232.40	4,964,253.75	181.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	398,062.79	4,964,056.66	158.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	396,617.99	4,964,014.24	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	397,784.99	4,964,166.41	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	398,353.78	4,963,845.75	157.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	398,418.07	4,963,802.86	164.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JO	398,362.83	4,963,789.88	158.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	398,568.39	4,963,766.09	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	398,582.28	4,964,084.83	171.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	398,597.11	4,963,967.55	167.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	398,610.50	4,963,880.31	157.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	398,784.22	4,963,865.10	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	398,609.84	4,964,015.83	161.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	398,634.82	4,963,886.83	158.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	398,577.80	4,963,880.18	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A	0:00	0	0:00	0:00
B	0:00	0	0:00	0:00
C	0:00	0	0:00	0:00
D	0:00	0	0:00	0:00
E	0:00	0	0:00	0:00
F	0:00	0	0:00	0:00
G	0:00	0	0:00	0:00
H	0:00	0	0:00	0:00
I	0:00	0	0:00	0:00
J	0:00	0	0:00	0:00
K	0:00	0	0:00	0:00
L	0:00	0	0:00	0:00
M	0:00	0	0:00	0:00
N	0:00	0	0:00	0:00
O	0:00	0	0:00	0:00
P	0:00	0	0:00	0:00
Q	0:00	0	0:00	0:00
R	0:00	0	0:00	0:00
S	0:00	0	0:00	0:00
T	0:00	0	0:00	0:00
U	0:00	0	0:00	0:00
V	0:00	0	0:00	0:00
W	0:00	0	0:00	0:00
X	0:00	0	0:00	0:00
Y	0:00	0	0:00	0:00
Z	0:00	0	0:00	0:00
AA	0:00	0	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
AB	0:00	0	0:00	0:00	
AC	0:00	0	0:00	0:00	
AD	0:00	0	0:00	0:00	
AE	0:00	0	0:00	0:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	0:00	0	0:00	0:00	
AM	0:00	0	0:00	0:00	
AN	0:00	0	0:00	0:00	
AO	0:00	0	0:00	0:00	
AP	0:00	0	0:00	0:00	
AQ	0:00	0	0:00	0:00	
AR	0:00	0	0:00	0:00	
AS	0:00	0	0:00	0:00	
AT	0:00	0	0:00	0:00	
AU	0:00	0	0:00	0:00	
AV	0:00	0	0:00	0:00	
AW	0:00	0	0:00	0:00	
AX	0:00	0	0:00	0:00	
AY	0:00	0	0:00	0:00	
AZ	0:00	0	0:00	0:00	
BA	0:00	0	0:00	0:00	
BB	0:00	0	0:00	0:00	
BC	0:00	0	0:00	0:00	
BD	0:00	0	0:00	0:00	
BE	0:00	0	0:00	0:00	
BF	0:00	0	0:00	0:00	
BG	0:00	0	0:00	0:00	
BH	0:00	0	0:00	0:00	
BI	15:26	42	0:30	6:48	
BJ	0:00	0	0:00	0:00	
BK	0:00	0	0:00	0:00	
BL	0:00	0	0:00	0:00	
BM	0:00	0	0:00	0:00	
BN	0:00	0	0:00	0:00	
BO	0:00	0	0:00	0:00	
BP	0:00	0	0:00	0:00	
BQ	0:00	0	0:00	0:00	
BR	0:00	0	0:00	0:00	
BS	0:00	0	0:00	0:00	
BT	0:00	0	0:00	0:00	
BU	0:00	0	0:00	0:00	
BV	0:00	0	0:00	0:00	
BW	0:00	0	0:00	0:00	
BX	0:00	0	0:00	0:00	
BY	0:00	0	0:00	0:00	
BZ	0:00	0	0:00	0:00	
CA	0:00	0	0:00	0:00	
CB	0:00	0	0:00	0:00	
CC	0:00	0	0:00	0:00	
CD	0:00	0	0:00	0:00	
CE	0:00	0	0:00	0:00	
CF	0:00	0	0:00	0:00	
CG	0:00	0	0:00	0:00	
CH	0:00	0	0:00	0:00	
CI	0:00	0	0:00	0:00	
CJ	0:00	0	0:00	0:00	
CK	0:00	0	0:00	0:00	
CL	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CM	0:00	0	0:00	0:00
CN	0:00	0	0:00	0:00
CO	0:00	0	0:00	0:00
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00
CX	0:00	0	0:00	0:00
CY	0:00	0	0:00	0:00
CZ	0:00	0	0:00	0:00
DA	0:00	0	0:00	0:00
DB	0:00	0	0:00	0:00
DC	0:00	0	0:00	0:00
DD	0:00	0	0:00	0:00
DE	0:00	0	0:00	0:00
DF	0:00	0	0:00	0:00
DG	0:00	0	0:00	0:00
DH	0:00	0	0:00	0:00
DI	0:00	0	0:00	0:00
DJ	4:26	24	0:17	1:25
DK	0:00	0	0:00	0:00
DL	0:00	0	0:00	0:00
DM	0:00	0	0:00	0:00
DN	0:00	0	0:00	0:00
DO	0:00	0	0:00	0:00
DP	0:00	0	0:00	0:00
DQ	0:00	0	0:00	0:00
DR	0:00	0	0:00	0:00
DS	0:00	0	0:00	0:00
DT	0:00	0	0:00	0:00
DU	0:00	0	0:00	0:00
DV	0:00	0	0:00	0:00
DW	0:00	0	0:00	0:00
DX	0:00	0	0:00	0:00
DY	0:00	0	0:00	0:00
DZ	0:00	0	0:00	0:00
EA	0:00	0	0:00	0:00
EB	0:00	0	0:00	0:00
EC	5:08	24	0:18	1:57
ED	10:30	52	0:18	3:47
EE	0:00	0	0:00	0:00
EF	16:49	89	0:20	5:22
EG	0:00	0	0:00	0:00
EH	0:00	0	0:00	0:00
EI	0:00	0	0:00	0:00
EJ	0:00	0	0:00	0:00
EK	0:00	0	0:00	0:00
EL	0:00	0	0:00	0:00
EM	0:00	0	0:00	0:00
EN	0:00	0	0:00	0:00
EO	0:00	0	0:00	0:00
EP	0:00	0	0:00	0:00
EQ	0:00	0	0:00	0:00
ER	0:00	0	0:00	0:00
ES	0:00	0	0:00	0:00
ET	0:00	0	0:00	0:00
EU	0:00	0	0:00	0:00
EV	0:00	0	0:00	0:00
EW	0:00	0	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	16:18	62	0:20	3:59	
FT	0:00	0	0:00	0:00	
FU	0:00	0	0:00	0:00	
FV	0:00	0	0:00	0:00	
FW	0:00	0	0:00	0:00	
FX	0:00	0	0:00	0:00	
FY	0:00	0	0:00	0:00	
FZ	0:00	0	0:00	0:00	
GA	0:00	0	0:00	0:00	
GB	0:00	0	0:00	0:00	
GC	0:00	0	0:00	0:00	
GD	0:00	0	0:00	0:00	
GE	0:00	0	0:00	0:00	
GF	0:00	0	0:00	0:00	
GG	0:00	0	0:00	0:00	
GH	0:00	0	0:00	0:00	
GI	0:00	0	0:00	0:00	
GJ	0:00	0	0:00	0:00	
GK	0:00	0	0:00	0:00	
GL	0:00	0	0:00	0:00	
GM	0:00	0	0:00	0:00	
GN	0:00	0	0:00	0:00	
GO	0:00	0	0:00	0:00	
GP	0:00	0	0:00	0:00	
GQ	0:00	0	0:00	0:00	
GR	0:00	0	0:00	0:00	
GS	0:00	0	0:00	0:00	
GT	0:00	0	0:00	0:00	
GU	0:00	0	0:00	0:00	
GV	0:00	0	0:00	0:00	
GW	0:00	0	0:00	0:00	
GX	0:00	0	0:00	0:00	
GY	0:00	0	0:00	0:00	
GZ	0:00	0	0:00	0:00	
HA	0:00	0	0:00	0:00	
HB	0:00	0	0:00	0:00	
HC	0:00	0	0:00	0:00	
HD	0:00	0	0:00	0:00	
HE	0:00	0	0:00	0:00	
HF	0:00	0	0:00	0:00	
HG	0:00	0	0:00	0:00	
HH	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
HI	0:00	0	0:00	0:00	
HJ	0:00	0	0:00	0:00	
HK	0:00	0	0:00	0:00	
HL	0:00	0	0:00	0:00	
HM	0:00	0	0:00	0:00	
HN	0:00	0	0:00	0:00	
HO	0:00	0	0:00	0:00	
HP	0:00	0	0:00	0:00	
HQ	0:00	0	0:00	0:00	
HR	0:00	0	0:00	0:00	
HS	0:00	0	0:00	0:00	
HT	0:00	0	0:00	0:00	
HU	0:00	0	0:00	0:00	
HV	0:00	0	0:00	0:00	
HW	0:00	0	0:00	0:00	
HX	0:00	0	0:00	0:00	
HY	0:00	0	0:00	0:00	
HZ	0:00	0	0:00	0:00	
IA	0:00	0	0:00	0:00	
IB	0:00	0	0:00	0:00	
IC	0:00	0	0:00	0:00	
ID	0:00	0	0:00	0:00	
IE	0:00	0	0:00	0:00	
IF	0:00	0	0:00	0:00	
IG	0:00	0	0:00	0:00	
IH	0:00	0	0:00	0:00	
II	0:00	0	0:00	0:00	
IJ	0:00	0	0:00	0:00	
IK	0:00	0	0:00	0:00	
IL	0:00	0	0:00	0:00	
IM	0:00	0	0:00	0:00	
IN	0:00	0	0:00	0:00	
IO	0:00	0	0:00	0:00	
IP	0:00	0	0:00	0:00	
IQ	0:00	0	0:00	0:00	
IR	0:00	0	0:00	0:00	
IS	0:00	0	0:00	0:00	
IT	0:00	0	0:00	0:00	
IU	0:00	0	0:00	0:00	
IV	0:00	0	0:00	0:00	
IW	0:00	0	0:00	0:00	
IX	0:00	0	0:00	0:00	
IY	0:00	0	0:00	0:00	
IZ	0:00	0	0:00	0:00	
JA	0:00	0	0:00	0:00	
JB	0:00	0	0:00	0:00	
JC	0:00	0	0:00	0:00	
JD	0:00	0	0:00	0:00	
JE	0:00	0	0:00	0:00	
JF	0:00	0	0:00	0:00	
JG	0:00	0	0:00	0:00	
JH	0:00	0	0:00	0:00	
JI	0:00	0	0:00	0:00	
JJ	0:00	0	0:00	0:00	
JK	0:00	0	0:00	0:00	
JL	0:00	0	0:00	0:00	
JM	0:00	0	0:00	0:00	
JN	0:00	0	0:00	0:00	
JO	0:00	0	0:00	0:00	
JP	0:00	0	0:00	0:00	
JQ	0:00	0	0:00	0:00	
JR	0:00	0	0:00	0:00	
JS	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Vegetated)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
JT	0:00	0	0:00	0:00	
JU	0:00	0	0:00	0:00	
JV	0:00	0	0:00	0:00	
JW	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (1)	16:18	3:59
2	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (2)	0:00	0:00
3	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (3)	0:00	0:00
4	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (4)	0:00	0:00
5	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (5)	0:00	0:00
6	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (6)	0:00	0:00
7	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (7)	0:00	0:00
8	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (8)	0:00	0:00
9	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (9)	0:00	0:00
10	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (10)	0:00	0:00
11	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (11)	0:00	0:00
12	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (12)	0:00	0:00
13	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (13)	0:00	0:00
14	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (14)	0:00	0:00
15	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (15)	0:00	0:00
16	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (16)	0:00	0:00
17	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (17)	0:00	0:00
18	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (18)	0:00	0:00
19	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (19)	0:00	0:00
20	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (20)	0:00	0:00
21	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (21)	0:00	0:00
22	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (22)	16:57	6:52
23	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (23)	0:00	0:00
24	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (24)	18:47	5:19
25	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (25)	0:00	0:00
26	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (26)	0:00	0:00
27	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (27)	0:00	0:00
28	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (28)	0:00	0:00
29	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (29)	0:00	0:00
30	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (30)	0:00	0:00
31	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (31)	0:00	0:00
32	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (32)	0:00	0:00
33	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (33)	15:26	6:48
34	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (34)	0:00	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

SC_BareEarth_ShadowFlicker_JA

Description:

South Canoe (Bare Earth) Worst Case Scenario

Licensed user:

Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288
Jacob Albury / jalbury@dillon.ca
Calculated:
2025-11-13 8:38 PM/4.1.254

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

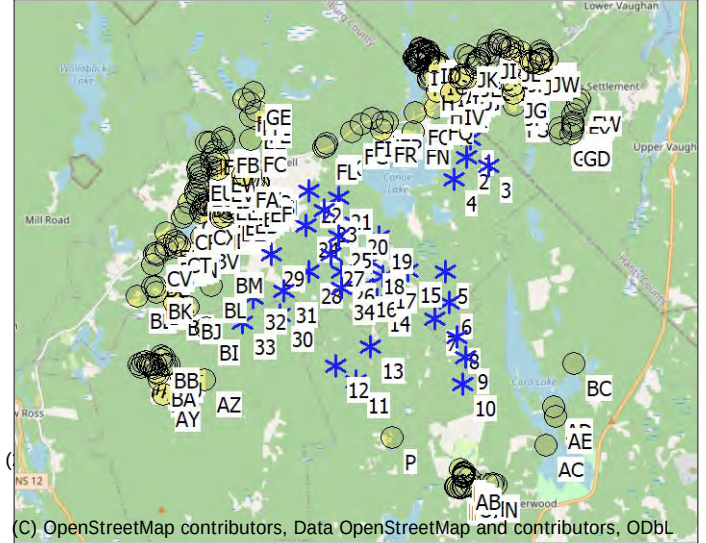
DHM: Elevation Grid Data Object: SC_BareEarth_ShadowFlicker_JA_EMDGrid_1.wpg (

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



Scale 1:200,000
* Existing WTG
Shadow receptor

WTGs

	Easting	Northing	Z [m]	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.					Calculation distance [m]	RPM
1	396,709.92	4,961,808.61	234.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
2	396,587.42	4,961,328.63	231.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
3	397,199.34	4,961,109.31	231.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
4	396,268.84	4,960,743.26	242.2	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
5	395,974.84	4,958,298.98	229.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
6	396,064.72	4,957,497.43	225.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
7	395,688.10	4,957,069.36	229.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
8	396,261.80	4,956,594.84	231.2	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
9	396,477.40	4,956,043.47	226.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
10	396,385.32	4,955,358.95	222.3	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
11	393,568.75	4,955,437.13	234.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
12	393,016.82	4,955,868.08	232.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
13	393,961.83	4,956,371.82	226.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
14	394,175.78	4,957,604.22	231.3	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
15	395,001.10	4,958,339.63	230.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
16	393,817.68	4,957,987.85	248.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
17	394,310.46	4,958,224.30	247.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
18	394,033.10	4,958,618.06	249.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
19	394,241.44	4,959,250.43	244.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
20	393,605.56	4,959,658.16	243.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
21	393,184.94	4,960,323.14	242.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
22	392,387.02	4,960,505.63	258.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
23	392,800.84	4,959,974.47	254.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
24	392,296.49	4,959,585.26	242.7	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
25	393,173.24	4,959,305.43	252.1	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
26	393,218.71	4,958,353.31	251.6	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
27	392,951.97	4,958,810.86	252.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
28	392,348.66	4,958,377.50	245.9	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
29	391,386.81	4,958,852.40	244.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
30	391,584.68	4,957,254.63	249.4	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
31	391,690.59	4,957,889.37	253.0	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
32	390,890.85	4,957,704.63	259.8	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
33	390,575.58	4,957,072.43	251.8	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6
34	393,219.83	4,957,919.64	263.5	Acciona Windpower AW116/30... Yes	Yes	Acciona Windpower	AW116/3000-3,000	3,000	116.0	92.0	1,735	15.6

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	396,165.94	4,952,584.91	159.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	396,216.42	4,952,576.13	162.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	396,199.81	4,952,578.88	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	396,182.77	4,952,581.63	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	397,022.49	4,952,661.66	221.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	397,229.74	4,952,620.84	221.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	396,616.43	4,952,604.15	197.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	397,148.11	4,952,695.35	224.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	396,375.28	4,952,586.42	178.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	396,360.75	4,952,578.32	177.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	396,233.36	4,952,573.69	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	396,305.46	4,952,560.82	172.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	396,401.99	4,952,573.67	179.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	397,142.18	4,952,641.71	225.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	396,462.27	4,952,649.99	188.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	394,505.01	4,953,936.30	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	396,526.69	4,952,852.27	184.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	396,292.40	4,953,085.90	151.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	396,388.02	4,952,965.42	166.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	396,384.76	4,952,899.06	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	396,389.97	4,952,983.10	165.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	396,364.20	4,952,970.26	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	396,364.04	4,952,953.53	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	396,391.10	4,952,932.87	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	396,362.86	4,952,936.62	165.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	396,388.14	4,952,916.15	170.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	396,382.08	4,952,882.38	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	396,378.61	4,952,865.98	170.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	398,587.74	4,953,688.40	149.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	398,797.35	4,954,686.72	147.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	398,833.14	4,954,436.72	146.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	387,899.28	4,955,913.01	189.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	387,846.62	4,955,975.24	186.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	388,030.22	4,956,070.12	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	387,951.68	4,956,045.87	194.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	388,616.50	4,955,977.77	220.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	388,143.26	4,955,965.50	202.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	388,147.69	4,955,934.42	203.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	388,483.64	4,956,148.23	216.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	388,442.01	4,956,113.99	213.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	388,269.44	4,955,975.18	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	388,190.41	4,955,973.63	202.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	388,042.38	4,955,972.37	197.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	388,120.29	4,955,966.93	201.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	388,551.10	4,955,955.98	217.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	388,069.19	4,955,961.87	198.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	388,478.66	4,955,932.32	213.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	388,372.29	4,955,565.40	218.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	388,241.88	4,955,890.68	204.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	388,295.08	4,955,794.43	210.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	388,439.33	4,955,193.58	220.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	389,578.42	4,955,540.98	231.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	388,336.77	4,955,733.89	213.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	388,446.33	4,956,212.05	218.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	399,344.30	4,955,821.18	146.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	387,821.11	4,957,809.79	193.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	388,224.55	4,958,637.02	191.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	388,218.71	4,958,044.23	209.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	388,329.01	4,957,903.10	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	388,807.11	4,957,582.27	220.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	389,658.12	4,956,932.58	233.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	389,157.62	4,957,513.28	224.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	388,297.30	4,958,024.61	209.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

SC_BareEarth_ShadowFlicker_JA

Description:

South Canoe (Bare Earth) Worst Case Scenario

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:38 PM/4.1.254

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
BL	389,772.73	4,958,040.91	227.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	390,109.83	4,958,703.22	232.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	389,990.97	4,959,903.41	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	388,590.65	4,959,021.26	209.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	390,030.11	4,959,910.69	202.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	389,648.89	4,960,224.73	201.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	388,860.97	4,959,083.63	221.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	389,478.74	4,960,641.12	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	388,351.99	4,958,931.67	199.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	388,596.68	4,959,456.15	214.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	389,563.35	4,959,328.31	200.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	388,884.24	4,959,214.84	210.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	388,633.87	4,959,141.46	200.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	389,741.09	4,960,127.02	202.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	389,884.49	4,960,094.38	201.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	389,604.43	4,960,091.55	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	389,797.89	4,960,061.98	202.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	389,921.58	4,960,044.69	201.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	389,904.51	4,959,987.01	202.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	389,900.74	4,959,945.08	200.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	389,921.14	4,959,912.70	202.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	389,959.00	4,959,905.00	201.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	389,405.59	4,960,461.80	206.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	389,906.79	4,960,007.38	202.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	390,040.68	4,960,339.48	200.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	389,573.42	4,960,041.76	200.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	390,061.29	4,960,712.25	203.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	389,127.30	4,959,962.24	206.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	388,953.69	4,959,128.60	218.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	389,246.82	4,960,237.08	216.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	389,456.08	4,960,363.70	201.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	389,553.32	4,960,807.78	209.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	389,029.89	4,959,871.99	201.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	388,363.92	4,958,875.48	201.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	388,845.97	4,959,246.22	205.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	389,626.32	4,960,167.63	203.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	388,281.17	4,958,894.16	192.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	389,711.25	4,960,170.75	202.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	389,540.96	4,959,997.70	202.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	389,541.56	4,960,891.48	212.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	389,405.88	4,960,557.29	203.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	390,081.12	4,959,849.96	207.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	389,531.62	4,960,714.99	208.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	390,086.82	4,960,793.22	206.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	390,812.26	4,960,791.45	204.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	390,303.69	4,960,664.33	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	390,160.19	4,959,880.73	204.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	390,972.85	4,960,762.29	201.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	391,066.49	4,960,742.57	201.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	390,841.86	4,960,383.71	202.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	390,815.33	4,960,355.20	202.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	390,422.22	4,960,193.65	205.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	390,324.35	4,960,194.26	202.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	390,883.34	4,960,905.74	212.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	390,438.02	4,960,832.08	204.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	390,303.42	4,960,081.28	204.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	390,540.42	4,960,255.28	201.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	390,224.64	4,960,667.79	202.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	390,599.04	4,960,901.00	200.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	391,031.52	4,960,748.28	202.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	390,262.52	4,959,991.98	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	390,503.02	4,960,882.98	203.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	390,375.32	4,960,787.98	203.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	390,100.02	4,960,857.98	210.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
DX	390,511.33	4,960,192.81	206.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	390,383.75	4,960,097.78	210.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	390,261.52	4,960,046.06	202.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	390,370.65	4,960,208.10	202.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	390,633.55	4,960,270.93	200.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	390,951.42	4,960,851.34	208.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	390,877.33	4,960,411.49	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	390,138.82	4,960,629.29	200.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	391,026.11	4,960,554.65	199.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	390,031.14	4,961,067.67	210.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	389,844.57	4,961,173.74	200.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	390,033.96	4,961,005.54	208.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	390,047.63	4,960,917.10	208.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	389,735.58	4,961,821.67	206.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	389,857.12	4,961,469.28	204.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	389,819.89	4,961,398.65	203.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	389,901.75	4,961,565.21	203.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	389,963.36	4,961,639.69	204.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	389,554.31	4,961,062.88	207.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	389,819.32	4,961,810.48	202.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	389,945.64	4,961,260.19	206.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	389,507.35	4,960,977.26	214.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	389,500.09	4,961,220.30	208.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	389,478.44	4,961,141.92	210.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	390,025.61	4,961,126.36	213.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	390,021.91	4,961,357.92	211.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	390,747.27	4,960,937.02	203.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	390,165.83	4,961,945.43	206.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	390,898.13	4,962,482.61	205.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	390,669.02	4,960,934.28	203.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	390,184.57	4,961,876.53	207.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	390,885.02	4,961,894.98	226.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	390,738.84	4,962,940.83	195.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	391,047.26	4,962,649.94	196.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	390,888.18	4,962,873.62	200.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	393,554.10	4,962,031.25	217.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	394,105.06	4,962,408.71	233.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	393,845.12	4,962,232.81	220.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	392,866.69	4,961,672.35	215.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	392,914.62	4,961,750.58	213.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	392,808.79	4,961,634.30	213.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	394,370.22	4,962,295.60	229.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	395,188.73	4,961,995.09	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	395,265.23	4,962,517.58	194.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	394,528.08	4,962,287.68	222.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	395,785.68	4,962,631.97	216.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	394,341.81	4,962,067.99	221.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	397,891.79	4,962,704.59	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	399,422.90	4,962,385.33	179.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	399,078.91	4,962,060.68	180.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	399,580.14	4,962,714.64	185.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	399,618.14	4,962,786.98	181.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	399,521.59	4,962,531.51	192.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	399,438.49	4,962,201.04	178.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	399,443.18	4,962,161.66	178.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	399,432.74	4,962,106.15	178.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	399,094.56	4,961,903.74	176.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	399,417.93	4,962,011.78	173.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	399,371.30	4,961,908.87	169.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	390,993.42	4,963,127.58	205.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	395,420.56	4,964,191.63	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	395,629.14	4,964,103.72	197.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	395,283.39	4,964,006.93	193.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	395,382.37	4,963,920.70	194.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GJ	395,365.72	4,963,847.66	192.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	395,666.47	4,963,824.66	194.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	395,728.71	4,963,783.51	192.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	395,873.80	4,963,625.84	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	395,671.39	4,963,495.57	193.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	396,183.27	4,963,239.89	196.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	396,203.39	4,963,007.75	200.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	395,624.95	4,964,063.91	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	396,152.65	4,962,967.69	202.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	395,332.74	4,963,893.83	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	395,905.63	4,963,833.25	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	395,854.38	4,963,820.19	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	395,938.32	4,963,762.64	193.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	395,928.38	4,963,711.83	196.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	396,138.81	4,963,621.77	192.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	395,781.92	4,963,524.53	193.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	396,121.50	4,963,501.26	191.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	395,704.45	4,963,498.96	193.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	396,128.85	4,963,466.13	190.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	395,994.62	4,963,449.78	194.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	396,139.88	4,963,439.32	191.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	396,019.44	4,963,065.15	208.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	395,609.43	4,963,882.69	192.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	395,411.91	4,964,211.76	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	395,535.28	4,964,162.77	195.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	395,518.33	4,964,129.41	196.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	395,411.65	4,964,116.55	194.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	395,502.56	4,964,100.69	196.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	395,455.23	4,964,082.56	195.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	395,629.02	4,964,017.35	200.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	395,259.28	4,963,977.18	193.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	395,418.26	4,963,948.10	193.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	395,621.52	4,963,940.39	196.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	395,291.23	4,963,920.59	192.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	395,593.95	4,963,905.00	192.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	395,469.58	4,963,968.12	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	395,399.13	4,963,814.03	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	395,623.39	4,963,974.73	197.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	395,628.74	4,963,388.26	194.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	396,180.17	4,963,365.78	190.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	395,872.08	4,963,066.05	209.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	395,620.26	4,963,434.52	193.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	395,333.52	4,964,026.74	193.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	396,061.33	4,963,530.73	191.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	395,359.24	4,964,078.78	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	395,800.98	4,963,834.13	191.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	395,608.59	4,964,146.52	195.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	397,539.32	4,964,412.08	172.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	396,954.31	4,963,869.89	189.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	396,632.98	4,963,418.82	194.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	397,924.62	4,963,995.98	156.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	396,877.02	4,963,694.28	195.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	397,529.37	4,964,306.27	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	397,496.16	4,964,294.88	167.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	397,456.95	4,964,283.60	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	397,651.05	4,964,235.02	168.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	396,921.17	4,963,862.50	188.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	396,940.32	4,963,816.14	191.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	398,015.31	4,963,761.30	154.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	396,887.45	4,963,769.12	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	397,714.21	4,963,647.86	167.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	396,520.66	4,963,502.79	191.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	396,512.53	4,963,420.57	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	396,447.12	4,963,420.93	190.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
IV	396,251.20	4,963,051.87	198.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	397,846.75	4,964,218.41	169.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	397,721.85	4,964,169.71	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	397,250.61	4,964,048.41	181.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	397,146.42	4,964,038.34	178.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	396,724.78	4,963,980.60	187.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	397,801.85	4,963,953.24	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	396,992.44	4,963,931.18	185.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	397,899.04	4,963,195.94	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	396,705.24	4,963,756.79	188.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	397,858.07	4,962,999.52	183.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	397,850.33	4,963,186.85	180.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	397,954.34	4,963,868.79	155.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	397,232.40	4,964,253.75	175.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	398,062.79	4,964,056.66	154.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	396,617.99	4,964,014.24	186.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	397,784.99	4,964,166.41	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	398,353.78	4,963,845.75	153.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	398,418.07	4,963,802.86	155.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JO	398,362.83	4,963,789.88	153.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	398,568.39	4,963,766.09	157.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	398,582.28	4,964,084.83	166.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	398,597.11	4,963,967.55	160.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	398,610.50	4,963,880.31	154.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	398,784.22	4,963,865.10	157.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	398,609.84	4,964,015.83	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	398,634.82	4,963,886.83	155.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	398,577.80	4,963,880.18	149.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	0:00	0	0:00	0:00	
C	0:00	0	0:00	0:00	
D	0:00	0	0:00	0:00	
E	0:00	0	0:00	0:00	
F	0:00	0	0:00	0:00	
G	0:00	0	0:00	0:00	
H	0:00	0	0:00	0:00	
I	0:00	0	0:00	0:00	
J	0:00	0	0:00	0:00	
K	0:00	0	0:00	0:00	
L	0:00	0	0:00	0:00	
M	0:00	0	0:00	0:00	
N	0:00	0	0:00	0:00	
O	0:00	0	0:00	0:00	
P	0:00	0	0:00	0:00	
Q	0:00	0	0:00	0:00	
R	0:00	0	0:00	0:00	
S	0:00	0	0:00	0:00	
T	0:00	0	0:00	0:00	
U	0:00	0	0:00	0:00	
V	0:00	0	0:00	0:00	
W	0:00	0	0:00	0:00	
X	0:00	0	0:00	0:00	
Y	0:00	0	0:00	0:00	
Z	0:00	0	0:00	0:00	
AA	0:00	0	0:00	0:00	

To be continued on next page...

Project:

SC_BareEarth_ShadowFlicker_JA

Description:

South Canoe (Bare Earth) Worst Case Scenario

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 Calculated:
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SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AB	0:00	0	0:00	0:00
AC	0:00	0	0:00	0:00
AD	0:00	0	0:00	0:00
AE	0:00	0	0:00	0:00
AF	0:00	0	0:00	0:00
AG	0:00	0	0:00	0:00
AH	0:00	0	0:00	0:00
AI	0:00	0	0:00	0:00
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	0:00	0	0:00	0:00
AM	0:00	0	0:00	0:00
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	0:00	0	0:00	0:00
AQ	0:00	0	0:00	0:00
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	16:11	42	0:30	7:10
BJ	5:10	24	0:18	1:56
BK	0:00	0	0:00	0:00
BL	9:03	31	0:23	3:25
BM	6:50	29	0:21	2:57
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	1:34	22	0:07	0:26
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	0:00	0	0:00	0:00
CH	0:00	0	0:00	0:00
CI	0:00	0	0:00	0:00
CJ	0:00	0	0:00	0:00
CK	0:00	0	0:00	0:00
CL	0:00	0	0:00	0:00

To be continued on next page...

Project:

SC_BareEarth_ShadowFlicker_JA

Description:

South Canoe (Bare Earth) Worst Case Scenario

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:38 PM/4.1.254

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CM	0:00	0	0:00	0:00
CN	0:00	0	0:00	0:00
CO	0:00	0	0:00	0:00
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00
CX	0:00	0	0:00	0:00
CY	0:00	0	0:00	0:00
CZ	0:00	0	0:00	0:00
DA	0:26	10	0:04	0:07
DB	0:00	0	0:00	0:00
DC	0:00	0	0:00	0:00
DD	4:39	21	0:17	1:50
DE	0:00	0	0:00	0:00
DF	0:00	0	0:00	0:00
DG	5:48	24	0:19	2:19
DH	10:00	48	0:20	3:23
DI	9:53	50	0:18	3:42
DJ	9:17	46	0:18	3:34
DK	0:00	0	0:00	0:00
DL	0:00	0	0:00	0:00
DM	5:01	23	0:18	1:54
DN	0:00	0	0:00	0:00
DO	0:00	0	0:00	0:00
DP	0:00	0	0:00	0:00
DQ	0:00	0	0:00	0:00
DR	0:00	0	0:00	0:00
DS	11:22	53	0:20	3:37
DT	0:00	0	0:00	0:00
DU	0:00	0	0:00	0:00
DV	0:00	0	0:00	0:00
DW	0:00	0	0:00	0:00
DX	0:00	0	0:00	0:00
DY	0:00	0	0:00	0:00
DZ	0:00	0	0:00	0:00
EA	0:00	0	0:00	0:00
EB	0:00	0	0:00	0:00
EC	5:37	24	0:19	2:08
ED	10:33	49	0:18	3:51
EE	0:00	0	0:00	0:00
EF	15:37	75	0:20	5:09
EG	0:00	0	0:00	0:00
EH	0:00	0	0:00	0:00
EI	0:00	0	0:00	0:00
EJ	0:00	0	0:00	0:00
EK	0:00	0	0:00	0:00
EL	0:00	0	0:00	0:00
EM	0:00	0	0:00	0:00
EN	0:00	0	0:00	0:00
EO	0:00	0	0:00	0:00
EP	0:00	0	0:00	0:00
EQ	0:00	0	0:00	0:00
ER	0:00	0	0:00	0:00
ES	0:00	0	0:00	0:00
ET	0:00	0	0:00	0:00
EU	0:00	0	0:00	0:00
EV	0:00	0	0:00	0:00
EW	0:00	0	0:00	0:00

To be continued on next page...

Project:

SC_BareEarth_ShadowFlicker_JA

Description:

South Canoe (Bare Earth) Worst Case Scenario

Licensed user:

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 CA-N6A 5R2 London, Ontario
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 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:38 PM/4.1.254

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
EX	0:14	9	0:02	0:05	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	9:48	48	0:18	3:42	
FO	5:21	25	0:17	1:50	
FP	0:00	0	0:00	0:00	
FQ	17:27	52	0:24	4:03	
FR	0:00	0	0:00	0:00	
FS	16:58	64	0:20	4:10	
FT	0:00	0	0:00	0:00	
FU	0:00	0	0:00	0:00	
FV	0:00	0	0:00	0:00	
FW	0:00	0	0:00	0:00	
FX	0:00	0	0:00	0:00	
FY	0:00	0	0:00	0:00	
FZ	0:00	0	0:00	0:00	
GA	0:00	0	0:00	0:00	
GB	0:00	0	0:00	0:00	
GC	0:00	0	0:00	0:00	
GD	0:00	0	0:00	0:00	
GE	0:00	0	0:00	0:00	
GF	0:00	0	0:00	0:00	
GG	0:00	0	0:00	0:00	
GH	0:00	0	0:00	0:00	
GI	0:00	0	0:00	0:00	
GJ	0:00	0	0:00	0:00	
GK	0:00	0	0:00	0:00	
GL	0:00	0	0:00	0:00	
GM	0:00	0	0:00	0:00	
GN	0:00	0	0:00	0:00	
GO	0:00	0	0:00	0:00	
GP	0:00	0	0:00	0:00	
GQ	0:00	0	0:00	0:00	
GR	0:00	0	0:00	0:00	
GS	0:00	0	0:00	0:00	
GT	0:00	0	0:00	0:00	
GU	0:00	0	0:00	0:00	
GV	0:00	0	0:00	0:00	
GW	0:00	0	0:00	0:00	
GX	0:00	0	0:00	0:00	
GY	0:00	0	0:00	0:00	
GZ	0:00	0	0:00	0:00	
HA	0:00	0	0:00	0:00	
HB	0:00	0	0:00	0:00	
HC	0:00	0	0:00	0:00	
HD	0:00	0	0:00	0:00	
HE	0:00	0	0:00	0:00	
HF	0:00	0	0:00	0:00	
HG	0:00	0	0:00	0:00	
HH	0:00	0	0:00	0:00	

To be continued on next page...

Project:

SC_BareEarth_ShadowFlicker_JA

Description:

South Canoe (Bare Earth) Worst Case Scenario

Licensed user:

Dillon Consulting Limited
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 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:38 PM/4.1.254

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
HI	0:00	0	0:00	0:00	
HJ	0:00	0	0:00	0:00	
HK	0:00	0	0:00	0:00	
HL	0:00	0	0:00	0:00	
HM	0:00	0	0:00	0:00	
HN	0:00	0	0:00	0:00	
HO	0:00	0	0:00	0:00	
HP	0:00	0	0:00	0:00	
HQ	0:00	0	0:00	0:00	
HR	0:00	0	0:00	0:00	
HS	0:00	0	0:00	0:00	
HT	0:00	0	0:00	0:00	
HU	0:00	0	0:00	0:00	
HV	0:00	0	0:00	0:00	
HW	0:00	0	0:00	0:00	
HX	0:00	0	0:00	0:00	
HY	0:00	0	0:00	0:00	
HZ	0:00	0	0:00	0:00	
IA	0:00	0	0:00	0:00	
IB	0:00	0	0:00	0:00	
IC	0:00	0	0:00	0:00	
ID	0:00	0	0:00	0:00	
IE	0:00	0	0:00	0:00	
IF	0:00	0	0:00	0:00	
IG	0:00	0	0:00	0:00	
IH	0:00	0	0:00	0:00	
II	0:00	0	0:00	0:00	
IJ	0:00	0	0:00	0:00	
IK	0:00	0	0:00	0:00	
IL	0:00	0	0:00	0:00	
IM	0:00	0	0:00	0:00	
IN	0:00	0	0:00	0:00	
IO	0:00	0	0:00	0:00	
IP	0:00	0	0:00	0:00	
IQ	0:00	0	0:00	0:00	
IR	0:00	0	0:00	0:00	
IS	0:00	0	0:00	0:00	
IT	0:00	0	0:00	0:00	
IU	0:00	0	0:00	0:00	
IV	0:00	0	0:00	0:00	
IW	0:00	0	0:00	0:00	
IX	0:00	0	0:00	0:00	
IY	0:00	0	0:00	0:00	
IZ	0:00	0	0:00	0:00	
JA	0:00	0	0:00	0:00	
JB	0:00	0	0:00	0:00	
JC	0:00	0	0:00	0:00	
JD	0:00	0	0:00	0:00	
JE	0:00	0	0:00	0:00	
JF	0:00	0	0:00	0:00	
JG	0:00	0	0:00	0:00	
JH	0:00	0	0:00	0:00	
JI	0:00	0	0:00	0:00	
JJ	0:00	0	0:00	0:00	
JK	0:00	0	0:00	0:00	
JL	0:00	0	0:00	0:00	
JM	0:00	0	0:00	0:00	
JN	0:00	0	0:00	0:00	
JO	0:00	0	0:00	0:00	
JP	0:00	0	0:00	0:00	
JQ	0:00	0	0:00	0:00	
JR	0:00	0	0:00	0:00	
JS	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: South Canoe (Bare Earth) Worst Case Scenario

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
JT	0:00	0	0:00	0:00	
JU	0:00	0	0:00	0:00	
JV	0:00	0	0:00	0:00	
JW	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (1)	44:18	11:56
2	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (2)	5:16	1:50
3	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (3)	0:00	0:00
4	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (4)	0:00	0:00
5	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (5)	0:00	0:00
6	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (6)	0:00	0:00
7	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (7)	0:00	0:00
8	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (8)	0:00	0:00
9	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (9)	0:00	0:00
10	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (10)	0:00	0:00
11	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (11)	0:00	0:00
12	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (12)	0:00	0:00
13	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (13)	0:00	0:00
14	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (14)	0:00	0:00
15	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (15)	0:00	0:00
16	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (16)	0:00	0:00
17	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (17)	0:00	0:00
18	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (18)	0:00	0:00
19	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (19)	0:00	0:00
20	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (20)	0:00	0:00
21	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (21)	0:00	0:00
22	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (22)	28:36	11:38
23	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (23)	0:00	0:00
24	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (24)	22:46	6:13
25	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (25)	0:00	0:00
26	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (26)	0:00	0:00
27	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (27)	0:00	0:00
28	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (28)	0:00	0:00
29	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (29)	8:42	3:29
30	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (30)	0:00	0:00
31	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (31)	0:00	0:00
32	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (32)	9:03	3:25
33	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (33)	21:21	9:06
34	Acciona Windpower AW116/3000 3000 116.0 !O! hub: 92.0 m (TOT: 150.0 m) (34)	0:00	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines Assumptions for shadow calculations

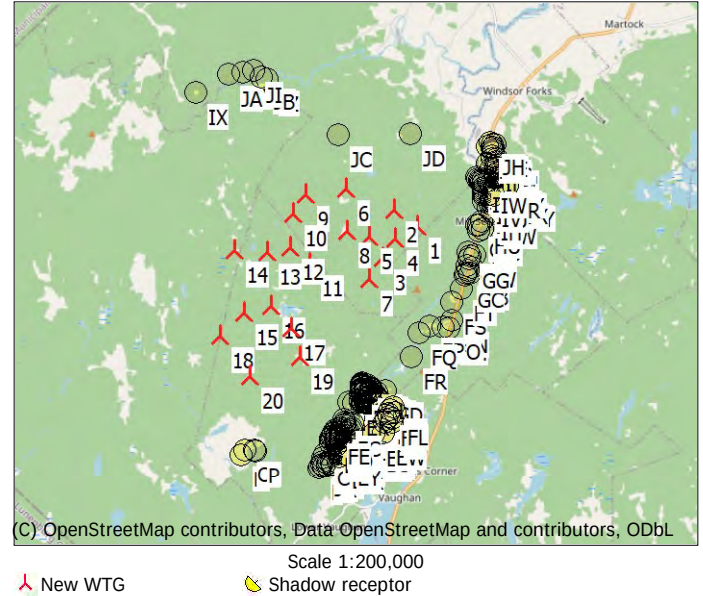
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.53 3.50 4.28 4.96 6.33 7.24 7.51 7.27 5.85 4.44 2.81 1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.
Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
DHM: Elevation Grid Data Object: BM_ShadowFlicker_DSM_JA_EMDGrid_0.wpg (1)
Receptor grid resolution: 1.0 m
Topographic shadow included in calculation

All coordinates are in
UTM (north)-NAD83(CSRs)v6 (US+CA), geocentric, GRS80 Zone: 20



WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	403,232.85	4,973,181.97	252.4	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
2	402,630.84	4,973,613.27	240.5	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
3	402,313.64	4,972,352.56	246.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
4	402,620.93	4,972,862.99	252.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
5	401,946.24	4,972,944.30	268.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
6	401,355.61	4,974,201.91	253.9	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
7	401,927.11	4,971,787.22	262.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
8	401,355.69	4,973,071.07	244.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
9	400,289.17	4,974,067.62	254.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
10	399,959.66	4,973,560.09	238.7	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
11	400,373.28	4,972,220.96	247.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
12	399,873.79	4,972,665.65	242.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
13	399,245.47	4,972,568.29	247.5	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
14	398,364.41	4,972,607.19	264.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
15	398,611.51	4,970,968.62	233.9	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
16	399,324.20	4,971,142.38	249.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
17	399,864.46	4,970,529.05	244.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
18	397,970.85	4,970,358.97	251.7	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
19	400,051.50	4,969,761.01	245.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
20	398,718.38	4,969,267.97	253.9	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	400,880.48	4,966,929.83	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	401,039.83	4,966,971.61	118.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	400,744.41	4,966,940.36	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	400,570.82	4,966,873.87	133.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	400,641.81	4,967,006.03	131.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	400,540.72	4,966,805.93	142.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	400,761.12	4,966,859.33	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	400,680.22	4,966,864.18	128.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	400,770.88	4,967,002.81	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BM_ShadowFlicker_DSM_JA

Description:

Benjamin Mills Shadow Flicker

Vegetated Scenario

Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:

Dillon Consulting Limited

130 Dufferin Avenue Suite 1210

CA-N6A 5R2 London, Ontario

519.438.1288

Jacob Albury / jalbury@dillon.ca

Calculated:

2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
J	400,605.55	4,966,933.67	128.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	400,889.01	4,966,887.91	125.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	400,859.49	4,966,985.09	120.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	398,488.58	4,967,197.14	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	398,838.60	4,967,324.69	172.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	398,582.01	4,967,343.13	178.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	398,857.91	4,967,291.63	174.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,156.60	4,968,349.23	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	401,230.28	4,968,029.09	127.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,423.62	4,967,957.14	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	401,249.59	4,967,535.73	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,186.42	4,968,455.92	119.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	401,108.65	4,967,645.25	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,102.60	4,968,186.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,923.71	4,967,749.53	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,008.27	4,967,917.93	113.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	402,143.47	4,968,260.08	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,245.52	4,968,078.49	131.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	401,459.90	4,968,085.45	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,045.42	4,968,066.52	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,030.06	4,967,985.84	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,269.40	4,967,901.90	150.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	402,142.45	4,967,857.65	119.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,054.08	4,967,857.06	136.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,044.14	4,967,754.41	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	401,024.27	4,967,702.49	118.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	401,998.95	4,967,655.01	112.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,278.47	4,967,661.58	108.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,024.10	4,967,598.01	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	401,919.86	4,967,414.60	108.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	401,100.32	4,967,331.92	124.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	401,218.29	4,967,305.27	117.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	400,999.29	4,967,487.55	123.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	401,075.94	4,967,297.21	126.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,084.46	4,967,207.44	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	401,093.56	4,967,146.65	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,360.24	4,968,563.21	123.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	402,000.83	4,967,498.94	120.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,315.39	4,967,812.30	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,937.71	4,967,476.72	108.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	402,146.42	4,967,627.68	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	402,171.82	4,967,737.98	128.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,142.48	4,967,940.76	118.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	401,292.08	4,967,741.95	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,259.22	4,967,588.28	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	401,323.25	4,967,420.24	108.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	401,110.67	4,967,442.61	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	400,997.06	4,967,832.89	127.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	400,864.25	4,967,656.64	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	400,970.96	4,967,600.41	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,079.09	4,967,250.37	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	400,854.28	4,967,489.64	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,438.96	4,968,003.03	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	401,292.96	4,967,470.79	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	402,199.39	4,968,584.94	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	400,847.98	4,967,586.80	131.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,054.23	4,968,118.69	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,151.84	4,968,527.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,153.54	4,968,408.94	115.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,043.86	4,967,828.19	116.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	401,245.34	4,967,070.23	111.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,012.31	4,967,561.81	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	401,389.91	4,967,834.00	111.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,407.69	4,967,890.49	116.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
BV	402,149.38	4,968,563.53	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	400,908.65	4,967,680.22	127.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	401,215.14	4,968,110.88	121.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	402,297.87	4,967,798.51	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	400,644.99	4,967,090.67	123.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,107.67	4,967,693.70	124.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	400,706.61	4,967,189.90	128.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,052.29	4,968,702.80	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	402,012.02	4,968,638.98	122.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.24	4,968,542.87	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,060.34	4,968,725.32	112.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	401,900.29	4,968,516.94	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	401,788.70	4,968,522.52	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	401,768.72	4,968,676.39	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	401,664.67	4,968,856.71	112.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	401,678.58	4,968,995.09	115.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	401,816.55	4,968,886.69	122.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	401,915.71	4,968,745.05	115.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	401,953.16	4,968,931.48	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	401,916.75	4,968,763.80	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,007.98	4,968,619.37	106.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	401,678.87	4,969,020.11	113.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	401,915.91	4,968,678.82	125.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	401,995.97	4,968,602.20	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	401,983.50	4,968,575.13	113.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,769.64	4,968,527.61	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,094.42	4,968,782.99	110.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,068.29	4,968,747.27	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,041.42	4,968,677.50	113.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,028.45	4,968,654.94	108.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	401,951.88	4,968,526.41	110.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	401,925.33	4,968,521.19	109.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,873.21	4,968,514.20	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	401,850.03	4,968,512.43	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	401,826.31	4,968,514.20	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,808.70	4,968,520.48	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	401,711.45	4,968,546.14	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	401,649.04	4,968,569.54	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,724.37	4,968,698.84	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	401,798.88	4,968,672.64	114.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,830.36	4,968,674.63	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	401,665.34	4,968,817.04	112.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	401,668.54	4,968,885.03	117.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,665.87	4,968,920.03	115.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,706.04	4,969,075.76	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	401,692.78	4,969,044.71	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,677.48	4,968,965.24	116.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	401,844.85	4,969,014.64	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,792.51	4,968,940.42	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	401,811.39	4,968,866.21	119.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	401,805.76	4,968,844.63	119.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	401,799.19	4,968,822.58	119.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	401,790.75	4,968,791.15	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	401,962.63	4,968,894.62	114.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	401,961.45	4,968,843.81	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	401,926.36	4,968,828.39	122.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	401,924.35	4,968,792.65	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	401,924.04	4,968,716.72	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	401,971.93	4,968,553.93	112.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	401,689.45	4,968,557.89	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,323.54	4,968,836.86	105.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,633.98	4,968,619.60	104.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	401,876.48	4,968,661.47	129.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,966.98	4,968,866.13	131.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BM_ShadowFlicker_DSM_JA

Description:

Benjamin Mills Shadow Flicker

Vegetated Scenario

Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:

Dillon Consulting Limited

130 Dufferin Avenue Suite 1210

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Jacob Albury / jalbury@dillon.ca

Calculated:

2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EH	401,802.67	4,968,965.47	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	401,662.56	4,968,775.11	105.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	401,196.12	4,967,928.93	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	401,474.94	4,968,528.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	401,085.21	4,967,369.00	134.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,103.89	4,967,578.73	127.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	402,024.29	4,967,705.67	121.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	401,100.42	4,967,406.58	125.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	401,112.07	4,967,520.13	127.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	401,125.14	4,967,772.13	128.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	401,249.18	4,967,367.25	118.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	400,869.83	4,967,534.16	123.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,332.68	4,968,086.16	158.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	401,144.65	4,967,879.77	132.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,289.98	4,967,996.81	154.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,245.29	4,967,738.29	150.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	401,081.95	4,967,112.15	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	401,219.74	4,967,185.68	116.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	400,991.60	4,967,431.16	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	401,001.46	4,967,541.44	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	401,133.17	4,967,825.00	125.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	401,235.31	4,967,964.09	114.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	401,001.31	4,967,649.02	124.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	400,970.84	4,967,781.00	133.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,509.06	4,968,419.84	154.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,450.92	4,968,331.58	153.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,423.10	4,968,154.35	156.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,465.95	4,967,999.48	165.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,475.42	4,968,106.57	170.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,404.20	4,968,248.85	160.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,562.23	4,968,267.42	170.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	404,039.87	4,970,454.91	28.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	404,129.85	4,970,670.25	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	403,860.80	4,970,505.22	29.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,526.05	4,970,539.83	66.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	403,258.51	4,970,379.28	56.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	403,016.11	4,969,717.89	83.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	404,132.60	4,971,178.58	22.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	404,384.94	4,971,502.81	32.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	404,868.36	4,973,025.54	24.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	404,651.71	4,972,070.57	35.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	404,728.71	4,972,395.13	26.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	404,609.04	4,972,304.35	18.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	404,550.08	4,972,102.08	21.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	404,563.49	4,972,004.20	22.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	404,505.83	4,971,924.94	23.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	404,615.35	4,971,907.89	24.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	404,483.99	4,971,868.67	22.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	404,973.26	4,973,076.47	48.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	404,869.96	4,973,183.49	31.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	404,577.62	4,972,482.28	18.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	404,621.38	4,972,384.93	25.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	404,801.67	4,973,176.24	27.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,234.84	4,973,863.74	61.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	405,273.11	4,975,231.00	38.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,256.53	4,975,091.31	44.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,231.32	4,975,025.78	46.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,379.69	4,974,932.43	71.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,344.08	4,974,850.70	64.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,405.09	4,974,580.58	65.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,358.74	4,974,345.44	54.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,306.71	4,974,235.40	60.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,324.21	4,974,154.08	65.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,665.44	4,974,058.16	91.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BM_ShadowFlicker_DSM_JA

Description:

Benjamin Mills Shadow Flicker

Vegetated Scenario

Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:

Dillon Consulting Limited

130 Dufferin Avenue Suite 1210

CA-N6A 5R2 London, Ontario

519.438.1288

Jacob Albury / jalbury@dillon.ca

Calculated:

2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GT	405,836.72	4,974,015.98	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,203.91	4,974,252.71	60.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	404,997.23	4,974,227.67	28.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,026.38	4,974,411.14	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	405,440.74	4,974,074.93	62.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,905.05	4,973,970.12	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,267.27	4,973,941.14	58.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	405,330.38	4,973,910.80	65.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,242.40	4,975,192.57	37.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,268.77	4,975,158.08	41.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,091.97	4,974,790.36	30.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,394.92	4,974,702.14	66.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	405,334.03	4,974,681.94	51.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,200.68	4,974,666.35	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,322.45	4,974,492.11	58.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	405,348.19	4,974,423.63	59.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,443.08	4,974,417.88	73.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,521.92	4,974,397.22	80.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,421.44	4,974,329.28	63.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,555.25	4,974,305.22	79.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,597.31	4,974,239.93	83.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,437.75	4,974,237.98	64.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,476.48	4,974,169.27	67.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,215.22	4,973,830.11	60.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,196.60	4,973,796.45	60.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,300.22	4,973,765.46	71.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,173.81	4,973,753.87	61.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	404,944.45	4,973,301.12	33.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	405,248.69	4,973,726.01	64.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	405,232.18	4,973,539.05	61.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,723.17	4,974,056.43	96.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	405,609.53	4,974,331.01	83.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,292.48	4,974,117.17	65.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,631.74	4,974,105.36	85.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	404,966.03	4,974,311.20	51.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	404,859.41	4,974,402.72	14.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,015.92	4,973,812.55	33.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	405,195.71	4,973,910.46	56.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,252.52	4,974,928.39	46.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	405,008.01	4,973,963.60	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,122.89	4,973,650.72	64.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	405,021.97	4,974,181.59	37.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,236.18	4,974,176.22	65.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	404,934.06	4,974,337.95	41.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	404,830.15	4,974,446.89	17.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,154.94	4,974,291.20	60.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	405,015.63	4,974,131.00	40.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,005.01	4,974,277.80	48.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,012.21	4,974,007.00	40.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,351.75	4,974,187.52	80.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,628.52	4,974,209.59	77.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,011.46	4,974,068.58	24.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	404,908.40	4,974,377.36	44.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,289.57	4,973,958.75	75.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	405,155.11	4,973,991.98	60.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,114.26	4,974,339.15	39.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	397,448.46	4,976,816.13	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	398,694.42	4,977,296.48	86.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	399,305.58	4,977,139.76	71.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	398,321.75	4,977,243.53	106.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	399,180.60	4,977,199.25	77.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	401,172.70	4,975,622.50	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	403,083.21	4,975,610.56	160.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,316.66	4,975,314.03	39.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:
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 Calculated:
 2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

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No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JF	405,257.56	4,975,309.29	39.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,102.51	4,975,252.15	32.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,188.52	4,975,360.58	27.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	398,954.64	4,977,364.34	84.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	0:00	0	0:00	0:00	
C	0:00	0	0:00	0:00	
D	0:00	0	0:00	0:00	
E	0:00	0	0:00	0:00	
F	0:00	0	0:00	0:00	
G	0:00	0	0:00	0:00	
H	0:00	0	0:00	0:00	
I	0:00	0	0:00	0:00	
J	0:00	0	0:00	0:00	
K	0:00	0	0:00	0:00	
L	0:00	0	0:00	0:00	
M	0:00	0	0:00	0:00	
N	0:00	0	0:00	0:00	
O	0:00	0	0:00	0:00	
P	0:00	0	0:00	0:00	
Q	0:00	0	0:00	0:00	
R	0:00	0	0:00	0:00	
S	0:00	0	0:00	0:00	
T	0:00	0	0:00	0:00	
U	0:00	0	0:00	0:00	
V	0:00	0	0:00	0:00	
W	0:00	0	0:00	0:00	
X	0:00	0	0:00	0:00	
Y	0:00	0	0:00	0:00	
Z	0:00	0	0:00	0:00	
AA	0:00	0	0:00	0:00	
AB	0:00	0	0:00	0:00	
AC	0:00	0	0:00	0:00	
AD	0:00	0	0:00	0:00	
AE	0:00	0	0:00	0:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	0:00	0	0:00	0:00	
AM	0:00	0	0:00	0:00	
AN	0:00	0	0:00	0:00	
AO	0:00	0	0:00	0:00	
AP	0:00	0	0:00	0:00	
AQ	0:00	0	0:00	0:00	
AR	0:00	0	0:00	0:00	
AS	0:00	0	0:00	0:00	
AT	0:00	0	0:00	0:00	
AU	0:00	0	0:00	0:00	
AV	0:00	0	0:00	0:00	
AW	0:00	0	0:00	0:00	
AX	0:00	0	0:00	0:00	
AY	0:00	0	0:00	0:00	

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - Phase II Turbines

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 Calculated:
 2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

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No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
AZ	0:00	0	0:00	0:00	
BA	0:00	0	0:00	0:00	
BB	0:00	0	0:00	0:00	
BC	0:00	0	0:00	0:00	
BD	0:00	0	0:00	0:00	
BE	0:00	0	0:00	0:00	
BF	0:00	0	0:00	0:00	
BG	0:00	0	0:00	0:00	
BH	0:00	0	0:00	0:00	
BI	0:00	0	0:00	0:00	
BJ	0:00	0	0:00	0:00	
BK	0:00	0	0:00	0:00	
BL	0:00	0	0:00	0:00	
BM	0:00	0	0:00	0:00	
BN	0:00	0	0:00	0:00	
BO	0:00	0	0:00	0:00	
BP	0:00	0	0:00	0:00	
BQ	0:00	0	0:00	0:00	
BR	0:00	0	0:00	0:00	
BS	0:00	0	0:00	0:00	
BT	0:00	0	0:00	0:00	
BU	0:00	0	0:00	0:00	
BV	0:00	0	0:00	0:00	
BW	0:00	0	0:00	0:00	
BX	0:00	0	0:00	0:00	
BY	0:00	0	0:00	0:00	
BZ	0:00	0	0:00	0:00	
CA	0:00	0	0:00	0:00	
CB	0:00	0	0:00	0:00	
CC	0:00	0	0:00	0:00	
CD	0:00	0	0:00	0:00	
CE	0:00	0	0:00	0:00	
CF	0:00	0	0:00	0:00	
CG	0:00	0	0:00	0:00	
CH	0:00	0	0:00	0:00	
CI	0:00	0	0:00	0:00	
CJ	0:00	0	0:00	0:00	
CK	0:00	0	0:00	0:00	
CL	0:00	0	0:00	0:00	
CM	0:00	0	0:00	0:00	
CN	0:00	0	0:00	0:00	
CO	0:00	0	0:00	0:00	
CP	0:00	0	0:00	0:00	
CQ	0:00	0	0:00	0:00	
CR	0:00	0	0:00	0:00	
CS	0:00	0	0:00	0:00	
CT	0:00	0	0:00	0:00	
CU	0:00	0	0:00	0:00	
CV	0:00	0	0:00	0:00	
CW	0:00	0	0:00	0:00	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	0:00	0	0:00	0:00	
FT	0:00	0	0:00	0:00	
FU	11:10	35	0:25	4:57	

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FV	0:00	0	0:00	0:00
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	0:00	0	0:00	0:00
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	0:00	0	0:00	0:00
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	0:00	0	0:00	0:00
GQ	0:00	0	0:00	0:00
GR	0:00	0	0:00	0:00
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	0:00	0	0:00	0:00
HL	0:00	0	0:00	0:00
HM	0:00	0	0:00	0:00
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	0:00	0	0:00	0:00
HS	0:00	0	0:00	0:00
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
Description: Benjamin Mills Shadow Flicker
Vegetated Scenario
Benjamin Mills (Vegetated) - Phase II Turbines

Licensed user:
Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288
Jacob Albury / jalbury@dillon.ca
Calculated:
2025-11-13 8:02 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	0:00	0	0:00	0:00
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (1)	11:10	4:57
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (2)	0:00	0:00
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (3)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (4)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (5)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (6)	0:00	0:00
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (7)	0:00	0:00
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (8)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (9)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (10)	0:00	0:00
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (11)	0:00	0:00
12	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (12)	0:00	0:00
13	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (13)	0:00	0:00
14	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (14)	0:00	0:00
15	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (15)	0:00	0:00
16	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (16)	0:00	0:00
17	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (17)	0:00	0:00
18	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (18)	0:00	0:00
19	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (19)	0:00	0:00
20	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (20)	0:00	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

Project: BM_ShadowFlicker_DSM_JA
Description: Benjamin Mills Shadow Flicker
Vegetated Scenario
Benjamin Mills (Vegetated) - All Turbines

Licensed user:
Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288
Jacob Albury / jalbury@dillon.ca
Calculated:
2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines
Assumptions for shadow calculations

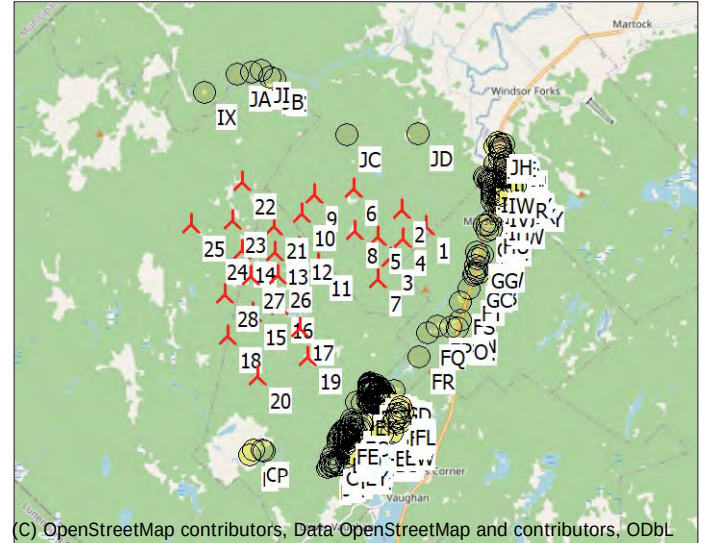
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.53 3.50 4.28 4.96 6.33 7.24 7.51 7.27 5.85 4.44 2.81 1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.
Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
DHM: Elevation Grid Data Object: BM_ShadowFlicker_DSM_JA_EMDGrid_0.wpg (1)
Receptor grid resolution: 1.0 m
Topographic shadow included in calculation

All coordinates are in
UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



Scale 1:200,000
New WTG
Shadow receptor

WTGs

Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
				Valid	Manufact.	Type-generator				Calculation distance [m]	RPM
		[m]									[RPM]
1	403,232.85	4,973,181.97	252.4 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
2	402,630.84	4,973,613.27	240.5 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
3	402,313.64	4,972,352.56	246.8 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
4	402,620.93	4,972,862.99	252.8 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
5	401,946.24	4,972,944.30	268.8 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
6	401,355.61	4,974,201.91	253.9 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
7	401,927.11	4,971,787.22	262.2 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
8	401,355.69	4,973,071.07	244.1 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
9	400,289.17	4,974,067.62	254.0 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
10	399,959.66	4,973,560.09	238.7 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
11	400,373.28	4,972,220.96	247.0 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
12	399,873.79	4,972,665.65	242.3 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
13	399,245.47	4,972,568.29	247.5 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
14	398,364.41	4,972,607.19	264.3 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
15	398,611.51	4,970,968.62	233.9 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
16	399,324.20	4,971,142.38	249.2 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
17	399,864.46	4,970,529.05	244.2 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
18	397,970.85	4,970,358.97	251.7 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
19	400,051.50	4,969,761.01	245.8 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
20	398,718.38	4,969,267.97	253.9 ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
21	399,218.26	4,973,254.21	243.7 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
22	398,411.28	4,974,417.31	249.8 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
23	398,124.68	4,973,410.01	265.7 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
24	397,645.63	4,972,709.31	248.4 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
25	397,039.53	4,973,320.42	240.5 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
26	399,316.92	4,971,946.52	257.5 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
27	398,572.85	4,971,918.97	257.2 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1
28	397,902.85	4,971,455.97	260.6 ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes		ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	400,880.48	4,966,929.83	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	401,039.83	4,966,971.61	118.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	400,744.41	4,966,940.36	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	400,570.82	4,966,873.87	133.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	400,641.81	4,967,006.03	131.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	400,540.72	4,966,805.93	142.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	400,761.12	4,966,859.33	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	400,680.22	4,966,864.18	128.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	400,770.88	4,967,002.81	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	400,605.55	4,966,933.67	128.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	400,889.01	4,966,887.91	125.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	400,859.49	4,966,985.09	120.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	398,488.58	4,967,197.14	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	398,838.60	4,967,324.69	172.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	398,582.01	4,967,343.13	178.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	398,857.91	4,967,291.63	174.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,156.60	4,968,349.23	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	401,230.28	4,968,029.09	127.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,423.62	4,967,957.14	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	401,249.59	4,967,535.73	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,186.42	4,968,455.92	119.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	401,108.65	4,967,645.25	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,102.60	4,968,186.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,923.71	4,967,749.53	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,008.27	4,967,917.93	113.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	402,143.47	4,968,260.08	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,245.52	4,968,078.49	131.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	401,459.90	4,968,085.45	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,045.42	4,968,066.52	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,030.06	4,967,985.84	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,269.40	4,967,901.90	150.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	402,142.45	4,967,857.65	119.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,054.08	4,967,857.06	136.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,044.14	4,967,754.41	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	401,024.27	4,967,702.49	118.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	401,998.95	4,967,655.01	112.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,278.47	4,967,661.58	108.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,024.10	4,967,598.01	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	401,919.86	4,967,414.60	108.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	401,100.32	4,967,331.92	124.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	401,218.29	4,967,305.27	117.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	400,999.29	4,967,487.55	123.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	401,075.94	4,967,297.21	126.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,084.46	4,967,207.44	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	401,093.56	4,967,146.65	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,360.24	4,968,563.21	123.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	402,000.83	4,967,498.94	120.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,315.39	4,967,812.30	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,937.71	4,967,476.72	108.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	402,146.42	4,967,627.68	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	402,171.82	4,967,737.98	128.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,142.48	4,967,940.76	118.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	401,292.08	4,967,741.95	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,259.22	4,967,588.28	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	401,323.25	4,967,420.24	108.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	401,110.67	4,967,442.61	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	400,997.06	4,967,832.89	127.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	400,864.25	4,967,656.64	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	400,970.96	4,967,600.41	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,079.09	4,967,250.37	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	400,854.28	4,967,489.64	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,438.96	4,968,003.03	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	401,292.96	4,967,470.79	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
BL	402,199.39	4,968,584.94	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	400,847.98	4,967,586.80	131.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,054.23	4,968,118.69	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,151.84	4,968,527.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,153.54	4,968,408.94	115.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,043.86	4,967,828.19	116.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	401,245.34	4,967,070.23	111.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,012.31	4,967,561.81	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	401,389.91	4,967,834.00	111.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,407.69	4,967,890.49	116.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,149.38	4,968,563.53	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	400,908.65	4,967,680.22	127.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	401,215.14	4,968,110.88	121.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	402,297.87	4,967,798.51	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	400,644.99	4,967,090.67	123.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,107.67	4,967,693.70	124.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	400,706.61	4,967,189.90	128.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,052.29	4,968,702.80	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	402,012.02	4,968,638.98	122.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.24	4,968,542.87	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,060.34	4,968,725.32	112.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	401,900.29	4,968,516.94	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	401,788.70	4,968,522.52	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	401,768.72	4,968,676.39	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	401,664.67	4,968,856.71	112.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	401,678.58	4,968,995.09	115.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	401,816.55	4,968,886.69	122.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	401,915.71	4,968,745.05	115.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	401,953.16	4,968,931.48	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	401,916.75	4,968,763.80	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,007.98	4,968,619.37	106.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	401,678.87	4,969,020.11	113.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	401,915.91	4,968,678.82	125.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	401,995.97	4,968,602.20	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	401,983.50	4,968,575.13	113.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,769.64	4,968,527.61	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,094.42	4,968,782.99	110.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,068.29	4,968,747.27	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,041.42	4,968,677.50	113.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,028.45	4,968,654.94	108.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	401,951.88	4,968,526.41	110.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	401,925.33	4,968,521.19	109.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,873.21	4,968,514.20	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	401,850.03	4,968,512.43	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	401,826.31	4,968,514.20	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,808.70	4,968,520.48	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	401,711.45	4,968,546.14	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	401,649.04	4,968,569.54	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,724.37	4,968,698.84	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	401,798.88	4,968,672.64	114.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,830.36	4,968,674.63	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	401,665.34	4,968,817.04	112.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	401,668.54	4,968,885.03	117.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,665.87	4,968,920.03	115.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,706.04	4,969,075.76	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	401,692.78	4,969,044.71	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,677.48	4,968,965.24	116.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	401,844.85	4,969,014.64	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,792.51	4,968,940.42	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	401,811.39	4,968,866.21	119.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	401,805.76	4,968,844.63	119.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	401,799.19	4,968,822.58	119.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	401,790.75	4,968,791.15	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	401,962.63	4,968,894.62	114.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
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 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
DX	401,961.45	4,968,843.81	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	401,926.36	4,968,828.39	122.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	401,924.35	4,968,792.65	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	401,924.04	4,968,716.72	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	401,971.93	4,968,553.93	112.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	401,689.45	4,968,557.89	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,323.54	4,968,836.86	105.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,633.98	4,968,619.60	104.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	401,876.48	4,968,661.47	129.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,966.98	4,968,866.13	131.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	401,802.67	4,968,965.47	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	401,662.56	4,968,775.11	105.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	401,196.12	4,967,928.93	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	401,474.94	4,968,528.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	401,085.21	4,967,369.00	134.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,103.89	4,967,578.73	127.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	402,024.29	4,967,705.67	121.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	401,100.42	4,967,406.58	125.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	401,112.07	4,967,520.13	127.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	401,125.14	4,967,772.13	128.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	401,249.18	4,967,367.25	118.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	400,869.83	4,967,534.16	123.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,332.68	4,968,086.16	158.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	401,144.65	4,967,879.77	132.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,289.98	4,967,996.81	154.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,245.29	4,967,738.29	150.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	401,081.95	4,967,112.15	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	401,219.74	4,967,185.68	116.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	400,991.60	4,967,431.16	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	401,001.46	4,967,541.44	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	401,133.17	4,967,825.00	125.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	401,235.31	4,967,964.09	114.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	401,001.31	4,967,649.02	124.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	400,970.84	4,967,781.00	133.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,509.06	4,968,419.84	154.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,450.92	4,968,331.58	153.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,423.10	4,968,154.35	156.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,465.95	4,967,999.48	165.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,475.42	4,968,106.57	170.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,404.20	4,968,248.85	160.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,562.23	4,968,267.42	170.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	404,039.87	4,970,454.91	28.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	404,129.85	4,970,670.25	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	403,860.80	4,970,505.22	29.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,526.05	4,970,539.83	66.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	403,258.51	4,970,379.28	56.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	403,016.11	4,969,717.89	83.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	404,132.60	4,971,178.58	22.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	404,384.94	4,971,502.81	32.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	404,868.36	4,973,025.54	24.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	404,651.71	4,972,070.57	35.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	404,728.71	4,972,395.13	26.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	404,609.04	4,972,304.35	18.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	404,550.08	4,972,102.08	21.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	404,563.49	4,972,004.20	22.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	404,505.83	4,971,924.94	23.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	404,615.35	4,971,907.89	24.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	404,483.99	4,971,868.67	22.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	404,973.26	4,973,076.47	48.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	404,869.96	4,973,183.49	31.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	404,577.62	4,972,482.28	18.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	404,621.38	4,972,384.93	25.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	404,801.67	4,973,176.24	27.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,234.84	4,973,863.74	61.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
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 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GJ	405,273.11	4,975,231.00	38.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,256.53	4,975,091.31	44.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,231.32	4,975,025.78	46.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,379.69	4,974,932.43	71.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,344.08	4,974,850.70	64.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,405.09	4,974,580.58	65.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,358.74	4,974,345.44	54.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,306.71	4,974,235.40	60.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,324.21	4,974,154.08	65.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,665.44	4,974,058.16	91.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,836.72	4,974,015.98	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,203.91	4,974,252.71	60.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	404,997.23	4,974,227.67	28.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,026.38	4,974,411.14	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	405,440.74	4,974,074.93	62.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,905.05	4,973,970.12	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,267.27	4,973,941.14	58.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	405,330.38	4,973,910.80	65.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,242.40	4,975,192.57	37.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,268.77	4,975,158.08	41.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,091.97	4,974,790.36	30.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,394.92	4,974,702.14	66.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	405,334.03	4,974,681.94	51.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,200.68	4,974,666.35	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,322.45	4,974,492.11	58.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	405,348.19	4,974,423.63	59.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,443.08	4,974,417.88	73.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,521.92	4,974,397.22	80.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,421.44	4,974,329.28	63.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,555.25	4,974,305.22	79.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,597.31	4,974,239.93	83.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,437.75	4,974,237.98	64.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,476.48	4,974,169.27	67.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,215.22	4,973,830.11	60.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,196.60	4,973,796.45	60.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,300.22	4,973,765.46	71.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,173.81	4,973,753.87	61.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	404,944.45	4,973,301.12	33.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	405,248.69	4,973,726.01	64.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	405,232.18	4,973,539.05	61.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,723.17	4,974,056.43	96.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	405,609.53	4,974,331.01	83.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,292.48	4,974,117.17	65.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,631.74	4,974,105.36	85.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	404,966.03	4,974,311.20	51.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	404,859.41	4,974,402.72	14.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,015.92	4,973,812.55	33.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	405,195.71	4,973,910.46	56.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,252.52	4,974,928.39	46.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	405,008.01	4,973,963.60	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,122.89	4,973,650.72	64.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	405,021.97	4,974,181.59	37.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,236.18	4,974,176.22	65.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	404,934.06	4,974,337.95	41.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	404,830.15	4,974,446.89	17.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,154.94	4,974,291.20	60.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	405,015.63	4,974,131.00	40.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,005.01	4,974,277.80	48.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,012.21	4,974,007.00	40.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,351.75	4,974,187.52	80.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,628.52	4,974,209.59	77.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,011.46	4,974,068.58	24.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	404,908.40	4,974,377.36	44.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,289.57	4,973,958.75	75.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
Description: Benjamin Mills Shadow Flicker
Vegetated Scenario
Benjamin Mills (Vegetated) - All Turbines

Licensed user:
Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288
Jacob Albury / jalbury@dillon.ca
Calculated:
2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
IV	405,155.11	4,973,991.98	60.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,114.26	4,974,339.15	39.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	397,448.46	4,976,816.13	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	398,694.42	4,977,296.48	86.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	399,305.58	4,977,139.76	71.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	398,321.75	4,977,243.53	106.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	399,180.60	4,977,199.25	77.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	401,172.70	4,975,622.50	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	403,083.21	4,975,610.56	160.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,316.66	4,975,314.03	39.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,257.56	4,975,309.29	39.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,102.51	4,975,252.15	32.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,188.52	4,975,360.58	27.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	398,954.64	4,977,364.34	84.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	0:00	0	0:00	0:00	
C	0:00	0	0:00	0:00	
D	0:00	0	0:00	0:00	
E	0:00	0	0:00	0:00	
F	0:00	0	0:00	0:00	
G	0:00	0	0:00	0:00	
H	0:00	0	0:00	0:00	
I	0:00	0	0:00	0:00	
J	0:00	0	0:00	0:00	
K	0:00	0	0:00	0:00	
L	0:00	0	0:00	0:00	
M	0:00	0	0:00	0:00	
N	0:00	0	0:00	0:00	
O	0:00	0	0:00	0:00	
P	0:00	0	0:00	0:00	
Q	0:00	0	0:00	0:00	
R	0:00	0	0:00	0:00	
S	0:00	0	0:00	0:00	
T	0:00	0	0:00	0:00	
U	0:00	0	0:00	0:00	
V	0:00	0	0:00	0:00	
W	0:00	0	0:00	0:00	
X	0:00	0	0:00	0:00	
Y	0:00	0	0:00	0:00	
Z	0:00	0	0:00	0:00	
AA	0:00	0	0:00	0:00	
AB	0:00	0	0:00	0:00	
AC	0:00	0	0:00	0:00	
AD	0:00	0	0:00	0:00	
AE	0:00	0	0:00	0:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	0:00	0	0:00	0:00	
AM	0:00	0	0:00	0:00	
AN	0:00	0	0:00	0:00	
AO	0:00	0	0:00	0:00	

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
AP	0:00	0	0:00	0:00	
AQ	0:00	0	0:00	0:00	
AR	0:00	0	0:00	0:00	
AS	0:00	0	0:00	0:00	
AT	0:00	0	0:00	0:00	
AU	0:00	0	0:00	0:00	
AV	0:00	0	0:00	0:00	
AW	0:00	0	0:00	0:00	
AX	0:00	0	0:00	0:00	
AY	0:00	0	0:00	0:00	
AZ	0:00	0	0:00	0:00	
BA	0:00	0	0:00	0:00	
BB	0:00	0	0:00	0:00	
BC	0:00	0	0:00	0:00	
BD	0:00	0	0:00	0:00	
BE	0:00	0	0:00	0:00	
BF	0:00	0	0:00	0:00	
BG	0:00	0	0:00	0:00	
BH	0:00	0	0:00	0:00	
BI	0:00	0	0:00	0:00	
BJ	0:00	0	0:00	0:00	
BK	0:00	0	0:00	0:00	
BL	0:00	0	0:00	0:00	
BM	0:00	0	0:00	0:00	
BN	0:00	0	0:00	0:00	
BO	0:00	0	0:00	0:00	
BP	0:00	0	0:00	0:00	
BQ	0:00	0	0:00	0:00	
BR	0:00	0	0:00	0:00	
BS	0:00	0	0:00	0:00	
BT	0:00	0	0:00	0:00	
BU	0:00	0	0:00	0:00	
BV	0:00	0	0:00	0:00	
BW	0:00	0	0:00	0:00	
BX	0:00	0	0:00	0:00	
BY	0:00	0	0:00	0:00	
BZ	0:00	0	0:00	0:00	
CA	0:00	0	0:00	0:00	
CB	0:00	0	0:00	0:00	
CC	0:00	0	0:00	0:00	
CD	0:00	0	0:00	0:00	
CE	0:00	0	0:00	0:00	
CF	0:00	0	0:00	0:00	
CG	0:00	0	0:00	0:00	
CH	0:00	0	0:00	0:00	
CI	0:00	0	0:00	0:00	
CJ	0:00	0	0:00	0:00	
CK	0:00	0	0:00	0:00	
CL	0:00	0	0:00	0:00	
CM	0:00	0	0:00	0:00	
CN	0:00	0	0:00	0:00	
CO	0:00	0	0:00	0:00	
CP	0:00	0	0:00	0:00	
CQ	0:00	0	0:00	0:00	
CR	0:00	0	0:00	0:00	
CS	0:00	0	0:00	0:00	
CT	0:00	0	0:00	0:00	
CU	0:00	0	0:00	0:00	
CV	0:00	0	0:00	0:00	
CW	0:00	0	0:00	0:00	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BM_ShadowFlicker_DSM_JA

Description:

Benjamin Mills Shadow Flicker

Vegetated Scenario

Benjamin Mills (Vegetated) - All Turbines

Licensed user:

Dillon Consulting Limited

130 Dufferin Avenue Suite 1210

CA-N6A 5R2 London, Ontario

519.438.1288

Jacob Albury / jalbury@dillon.ca

Calculated:

2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

Shadow, worst case			Shadow, expected values	
No.	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FL	0:00	0	0:00	0:00
FM	0:00	0	0:00	0:00
FN	0:00	0	0:00	0:00
FO	0:00	0	0:00	0:00
FP	0:00	0	0:00	0:00
FQ	0:00	0	0:00	0:00
FR	0:00	0	0:00	0:00
FS	0:00	0	0:00	0:00
FT	0:00	0	0:00	0:00
FU	11:10	35	0:25	4:57
FV	0:00	0	0:00	0:00
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	0:00	0	0:00	0:00
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	0:00	0	0:00	0:00
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	0:00	0	0:00	0:00
GQ	0:00	0	0:00	0:00
GR	0:00	0	0:00	0:00
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	0:00	0	0:00	0:00
HL	0:00	0	0:00	0:00
HM	0:00	0	0:00	0:00
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	0:00	0	0:00	0:00
HS	0:00	0	0:00	0:00
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00

To be continued on next page...

Project: BM_ShadowFlicker_DSM_JA
 Description: Benjamin Mills Shadow Flicker
 Vegetated Scenario
 Benjamin Mills (Vegetated) - All Turbines

Licensed user:
 Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	0:00	0	0:00	0:00
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (1)	11:10	4:57
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (2)	0:00	0:00
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (3)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (4)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (5)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (6)	0:00	0:00
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (7)	0:00	0:00
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (8)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (9)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (10)	0:00	0:00
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (11)	0:00	0:00
12	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (12)	0:00	0:00
13	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (13)	0:00	0:00
14	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (14)	0:00	0:00
15	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (15)	0:00	0:00
16	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (16)	0:00	0:00
17	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (17)	0:00	0:00
18	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (18)	0:00	0:00
19	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (19)	0:00	0:00

To be continued on next page...

BM_ShadowFlicker_DSM_JA

Description:

Benjamin Mills Shadow Flicker
Vegetated Scenario
Benjamin Mills (Vegetated) - All Turbines

Licensed user:

Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288
Jacob Albury / jalbury@dillon.ca
Calculated:
2025-11-13 7:45 PM/4.1.254

SHADOW - Main Result

Calculation: Benjamin Mills (Vegetated) - All Turbines

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
20	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (20)	0:00	0:00
21	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (21)	0:00	0:00
22	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (22)	0:00	0:00
23	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (23)	0:00	0:00
24	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (24)	0:00	0:00
25	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (25)	0:00	0:00
26	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (26)	0:00	0:00
27	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (27)	0:00	0:00
28	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (28)	0:00	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

Assumptions for shadow calculations

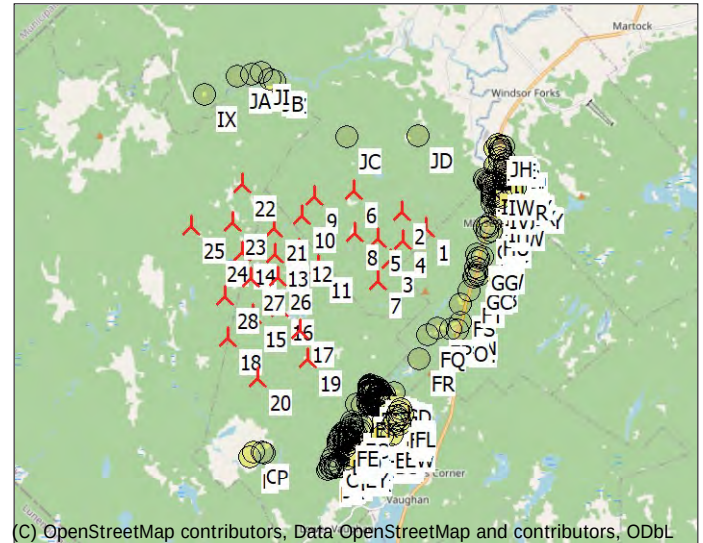
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.53 3.50 4.28 4.96 6.33 7.24 7.51 7.27 5.85 4.44 2.81 1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.
Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
DHM: Elevation Grid Data Object: BM_ShadowFlicker_JA_EMDGrid_0.wpg (3)
Receptor grid resolution: 1.0 m
Topographic shadow included in calculation

All coordinates are in
UTM (north)-NAD83(CSRs)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL
Scale 1:200,000
New WTG Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance	RPM
											[m]	[RPM]
1	403,232.85	4,973,181.97	244.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
2	402,630.84	4,973,613.27	233.4	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
3	402,313.64	4,972,352.56	244.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
4	402,620.93	4,972,862.99	243.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
5	401,946.24	4,972,944.30	262.2	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
6	401,355.61	4,974,201.91	245.3	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
7	401,927.11	4,971,787.22	252.6	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
8	401,355.69	4,973,071.07	243.7	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
9	400,289.17	4,974,067.62	247.6	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
10	399,959.66	4,973,560.09	237.7	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
11	400,373.28	4,972,220.96	243.6	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
12	399,873.79	4,972,665.65	241.8	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
13	399,245.47	4,972,568.29	246.8	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
14	398,364.41	4,972,607.19	255.8	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
15	398,611.51	4,970,968.62	233.4	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
16	399,324.20	4,971,142.38	238.3	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
17	399,864.46	4,970,529.05	242.7	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
18	397,970.85	4,970,358.97	249.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
19	400,051.50	4,969,761.01	237.0	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
20	398,718.38	4,969,267.97	252.9	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes	ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-	
21	399,218.26	4,973,254.21	242.5	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
22	398,411.28	4,974,417.31	246.6	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
23	398,124.68	4,973,410.01	256.6	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
24	397,645.63	4,972,709.31	246.0	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
25	397,039.53	4,973,320.42	238.0	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
26	399,316.92	4,971,946.52	256.7	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
27	398,572.85	4,971,918.97	256.5	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	
28	397,902.85	4,971,455.97	255.7	ENERCON E-138 EP3 E3 4260 138.3 !O!... Yes	ENERCON	E-138 EP3 E3-4,260	4,260	138.3	127.0	1,688	11.1	

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	400,880.48	4,966,929.83	116.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	401,039.83	4,966,971.61	113.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	400,744.41	4,966,940.36	113.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	400,570.82	4,966,873.87	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	400,641.81	4,967,006.03	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	400,540.72	4,966,805.93	129.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	400,761.12	4,966,859.33	114.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	400,680.22	4,966,864.18	117.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	400,770.88	4,967,002.81	113.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	400,605.55	4,966,933.67	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	400,889.01	4,966,887.91	116.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	400,859.49	4,966,985.09	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	398,488.58	4,967,197.14	179.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	398,838.60	4,967,324.69	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	398,582.01	4,967,343.13	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	398,857.91	4,967,291.63	168.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,156.60	4,968,349.23	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	401,230.28	4,968,029.09	118.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,423.62	4,967,957.14	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	401,249.59	4,967,535.73	108.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,186.42	4,968,455.92	111.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	401,108.65	4,967,645.25	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,102.60	4,968,186.43	106.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,923.71	4,967,749.53	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,008.27	4,967,917.93	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	402,143.47	4,968,260.08	105.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,245.52	4,968,078.49	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	401,459.90	4,968,085.45	104.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,045.42	4,968,066.52	105.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,030.06	4,967,985.84	109.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,269.40	4,967,901.90	143.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	402,142.45	4,967,857.65	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,054.08	4,967,857.06	121.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,044.14	4,967,754.41	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	401,024.27	4,967,702.49	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	401,998.95	4,967,655.01	105.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,278.47	4,967,661.58	104.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,024.10	4,967,598.01	107.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	401,919.86	4,967,414.60	103.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	401,100.32	4,967,331.92	121.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	401,218.29	4,967,305.27	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	400,999.29	4,967,487.55	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	401,075.94	4,967,297.21	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,084.46	4,967,207.44	119.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	401,093.56	4,967,146.65	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,360.24	4,968,563.21	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	402,000.83	4,967,498.94	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,315.39	4,967,812.30	107.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,937.71	4,967,476.72	102.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	402,146.42	4,967,627.68	123.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	402,171.82	4,967,737.98	122.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,142.48	4,967,940.76	117.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	401,292.08	4,967,741.95	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,259.22	4,967,588.28	108.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	401,323.25	4,967,420.24	102.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	401,110.67	4,967,442.61	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	400,997.06	4,967,832.89	124.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	400,864.25	4,967,656.64	121.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	400,970.96	4,967,600.41	116.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,079.09	4,967,250.37	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	400,854.28	4,967,489.64	116.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,438.96	4,968,003.03	106.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	401,292.96	4,967,470.79	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
BL	402,199.39	4,968,584.94	107.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	400,847.98	4,967,586.80	119.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,054.23	4,968,118.69	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,151.84	4,968,527.43	105.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,153.54	4,968,408.94	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,043.86	4,967,828.19	109.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	401,245.34	4,967,070.23	105.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,012.31	4,967,561.81	106.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	401,389.91	4,967,834.00	105.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,407.69	4,967,890.49	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,149.38	4,968,563.53	104.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	400,908.65	4,967,680.22	119.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	401,215.14	4,968,110.88	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	402,297.87	4,967,798.51	147.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	400,644.99	4,967,090.67	113.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,107.67	4,967,693.70	113.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	400,706.61	4,967,189.90	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,052.29	4,968,702.80	107.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	402,012.02	4,968,638.98	107.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.24	4,968,542.87	104.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,060.34	4,968,725.32	106.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	401,900.29	4,968,516.94	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	401,788.70	4,968,522.52	104.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	401,768.72	4,968,676.39	110.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	401,664.67	4,968,856.71	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	401,678.58	4,968,995.09	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	401,816.55	4,968,886.69	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	401,915.71	4,968,745.05	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	401,953.16	4,968,931.48	110.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	401,916.75	4,968,763.80	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,007.98	4,968,619.37	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	401,678.87	4,969,020.11	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	401,915.91	4,968,678.82	110.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	401,995.97	4,968,602.20	107.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	401,983.50	4,968,575.13	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,769.64	4,968,527.61	104.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,094.42	4,968,782.99	104.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,068.29	4,968,747.27	106.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,041.42	4,968,677.50	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,028.45	4,968,654.94	106.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	401,951.88	4,968,526.41	104.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	401,925.33	4,968,521.19	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,873.21	4,968,514.20	104.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	401,850.03	4,968,512.43	104.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	401,826.31	4,968,514.20	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,808.70	4,968,520.48	105.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	401,711.45	4,968,546.14	104.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	401,649.04	4,968,569.54	103.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,724.37	4,968,698.84	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	401,798.88	4,968,672.64	110.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,830.36	4,968,674.63	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	401,665.34	4,968,817.04	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	401,668.54	4,968,885.03	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,665.87	4,968,920.03	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,706.04	4,969,075.76	112.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	401,692.78	4,969,044.71	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,677.48	4,968,965.24	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	401,844.85	4,969,014.64	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,792.51	4,968,940.42	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	401,811.39	4,968,866.21	113.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	401,805.76	4,968,844.63	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	401,799.19	4,968,822.58	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	401,790.75	4,968,791.15	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	401,962.63	4,968,894.62	109.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
DX	401,961.45	4,968,843.81	108.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	401,926.36	4,968,828.39	108.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	401,924.35	4,968,792.65	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	401,924.04	4,968,716.72	110.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	401,971.93	4,968,553.93	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	401,689.45	4,968,557.89	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,323.54	4,968,836.86	102.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,633.98	4,968,619.60	104.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	401,876.48	4,968,661.47	110.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,966.98	4,968,866.13	108.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	401,802.67	4,968,965.47	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	401,662.56	4,968,775.11	105.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	401,196.12	4,967,928.93	118.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	401,474.94	4,968,528.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	401,085.21	4,967,369.00	121.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,103.89	4,967,578.73	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	402,024.29	4,967,705.67	106.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	401,100.42	4,967,406.58	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	401,112.07	4,967,520.13	112.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	401,125.14	4,967,772.13	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	401,249.18	4,967,367.25	105.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	400,869.83	4,967,534.16	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,332.68	4,968,086.16	143.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	401,144.65	4,967,879.77	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,289.98	4,967,996.81	144.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,245.29	4,967,738.29	136.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	401,081.95	4,967,112.15	113.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	401,219.74	4,967,185.68	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	400,991.60	4,967,431.16	113.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	401,001.46	4,967,541.44	113.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	401,133.17	4,967,825.00	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	401,235.31	4,967,964.09	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	401,001.31	4,967,649.02	115.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	400,970.84	4,967,781.00	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,509.06	4,968,419.84	150.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,450.92	4,968,331.58	147.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,423.10	4,968,154.35	151.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,465.95	4,967,999.48	159.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,475.42	4,968,106.57	156.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,404.20	4,968,248.85	148.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,562.23	4,968,267.42	155.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	404,039.87	4,970,454.91	20.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	404,129.85	4,970,670.25	23.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	403,860.80	4,970,505.22	22.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,526.05	4,970,539.83	65.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	403,258.51	4,970,379.28	55.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	403,016.11	4,969,717.89	67.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	404,132.60	4,971,178.58	19.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	404,384.94	4,971,502.81	16.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	404,868.36	4,973,025.54	20.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	404,651.71	4,972,070.57	27.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	404,728.71	4,972,395.13	20.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	404,609.04	4,972,304.35	14.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	404,550.08	4,972,102.08	15.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	404,563.49	4,972,004.20	16.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	404,505.83	4,971,924.94	16.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	404,615.35	4,971,907.89	21.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	404,483.99	4,971,868.67	16.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	404,973.26	4,973,076.47	39.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	404,869.96	4,973,183.49	20.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	404,577.62	4,972,482.28	12.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	404,621.38	4,972,384.93	12.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	404,801.67	4,973,176.24	14.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,234.84	4,973,863.74	57.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GJ	405,273.11	4,975,231.00	31.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,256.53	4,975,091.31	39.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,231.32	4,975,025.78	41.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,379.69	4,974,932.43	65.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,344.08	4,974,850.70	58.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,405.09	4,974,580.58	61.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,358.74	4,974,345.44	53.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,306.71	4,974,235.40	53.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,324.21	4,974,154.08	61.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,665.44	4,974,058.16	84.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,836.72	4,974,015.98	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,203.91	4,974,252.71	52.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	404,997.23	4,974,227.67	16.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,026.38	4,974,411.14	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	405,440.74	4,974,074.93	56.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,905.05	4,973,970.12	119.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,267.27	4,973,941.14	55.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	405,330.38	4,973,910.80	61.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,242.40	4,975,192.57	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,268.77	4,975,158.08	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,091.97	4,974,790.36	22.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,394.92	4,974,702.14	61.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	405,334.03	4,974,681.94	48.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,200.68	4,974,666.35	23.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,322.45	4,974,492.11	53.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	405,348.19	4,974,423.63	55.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,443.08	4,974,417.88	69.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,521.92	4,974,397.22	77.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,421.44	4,974,329.28	58.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,555.25	4,974,305.22	72.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,597.31	4,974,239.93	78.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,437.75	4,974,237.98	60.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,476.48	4,974,169.27	60.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,215.22	4,973,830.11	56.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,196.60	4,973,796.45	55.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,300.22	4,973,765.46	63.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,173.81	4,973,753.87	54.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	404,944.45	4,973,301.12	27.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	405,248.69	4,973,726.01	58.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	405,232.18	4,973,539.05	56.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,723.17	4,974,056.43	91.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	405,609.53	4,974,331.01	76.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,292.48	4,974,117.17	61.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,631.74	4,974,105.36	79.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	404,966.03	4,974,311.20	32.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	404,859.41	4,974,402.72	14.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,015.92	4,973,812.55	27.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	405,195.71	4,973,910.46	51.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,252.52	4,974,928.39	43.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	405,008.01	4,973,963.60	21.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,122.89	4,973,650.72	42.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	405,021.97	4,974,181.59	19.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,236.18	4,974,176.22	54.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	404,934.06	4,974,337.95	28.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	404,830.15	4,974,446.89	9.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,154.94	4,974,291.20	49.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	405,015.63	4,974,131.00	16.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,005.01	4,974,277.80	34.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,012.21	4,974,007.00	23.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,351.75	4,974,187.52	69.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,628.52	4,974,209.59	77.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,011.46	4,974,068.58	15.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	404,908.40	4,974,377.36	23.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,289.57	4,973,958.75	51.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
IV	405,155.11	4,973,991.98	39.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,114.26	4,974,339.15	39.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	397,448.46	4,976,816.13	114.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	398,694.42	4,977,296.48	83.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	399,305.58	4,977,139.76	67.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	398,321.75	4,977,243.53	96.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	399,180.60	4,977,199.25	59.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	401,172.70	4,975,622.50	171.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	403,083.21	4,975,610.56	155.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,316.66	4,975,314.03	34.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,257.56	4,975,309.29	33.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,102.51	4,975,252.15	23.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,188.52	4,975,360.58	21.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	398,954.64	4,977,364.34	81.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	0:00	0	0:00	0:00	
C	0:00	0	0:00	0:00	
D	0:00	0	0:00	0:00	
E	0:00	0	0:00	0:00	
F	0:00	0	0:00	0:00	
G	0:00	0	0:00	0:00	
H	0:00	0	0:00	0:00	
I	0:00	0	0:00	0:00	
J	0:00	0	0:00	0:00	
K	0:00	0	0:00	0:00	
L	0:00	0	0:00	0:00	
M	0:00	0	0:00	0:00	
N	0:00	0	0:00	0:00	
O	0:00	0	0:00	0:00	
P	0:00	0	0:00	0:00	
Q	0:00	0	0:00	0:00	
R	0:00	0	0:00	0:00	
S	0:00	0	0:00	0:00	
T	0:00	0	0:00	0:00	
U	0:00	0	0:00	0:00	
V	0:00	0	0:00	0:00	
W	0:00	0	0:00	0:00	
X	0:00	0	0:00	0:00	
Y	0:00	0	0:00	0:00	
Z	0:00	0	0:00	0:00	
AA	0:00	0	0:00	0:00	
AB	0:00	0	0:00	0:00	
AC	0:00	0	0:00	0:00	
AD	0:00	0	0:00	0:00	
AE	0:00	0	0:00	0:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	0:00	0	0:00	0:00	
AM	0:00	0	0:00	0:00	
AN	0:00	0	0:00	0:00	
AO	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
AP	0:00	0	0:00	0:00	
AQ	0:00	0	0:00	0:00	
AR	0:00	0	0:00	0:00	
AS	0:00	0	0:00	0:00	
AT	0:00	0	0:00	0:00	
AU	0:00	0	0:00	0:00	
AV	0:00	0	0:00	0:00	
AW	0:00	0	0:00	0:00	
AX	0:00	0	0:00	0:00	
AY	0:00	0	0:00	0:00	
AZ	0:00	0	0:00	0:00	
BA	0:00	0	0:00	0:00	
BB	0:00	0	0:00	0:00	
BC	0:00	0	0:00	0:00	
BD	0:00	0	0:00	0:00	
BE	0:00	0	0:00	0:00	
BF	0:00	0	0:00	0:00	
BG	0:00	0	0:00	0:00	
BH	0:00	0	0:00	0:00	
BI	0:00	0	0:00	0:00	
BJ	0:00	0	0:00	0:00	
BK	0:00	0	0:00	0:00	
BL	0:00	0	0:00	0:00	
BM	0:00	0	0:00	0:00	
BN	0:00	0	0:00	0:00	
BO	0:00	0	0:00	0:00	
BP	0:00	0	0:00	0:00	
BQ	0:00	0	0:00	0:00	
BR	0:00	0	0:00	0:00	
BS	0:00	0	0:00	0:00	
BT	0:00	0	0:00	0:00	
BU	0:00	0	0:00	0:00	
BV	0:00	0	0:00	0:00	
BW	0:00	0	0:00	0:00	
BX	0:00	0	0:00	0:00	
BY	0:00	0	0:00	0:00	
BZ	0:00	0	0:00	0:00	
CA	0:00	0	0:00	0:00	
CB	0:00	0	0:00	0:00	
CC	0:00	0	0:00	0:00	
CD	0:00	0	0:00	0:00	
CE	0:00	0	0:00	0:00	
CF	0:00	0	0:00	0:00	
CG	0:00	0	0:00	0:00	
CH	0:00	0	0:00	0:00	
CI	0:00	0	0:00	0:00	
CJ	0:00	0	0:00	0:00	
CK	0:00	0	0:00	0:00	
CL	0:00	0	0:00	0:00	
CM	0:00	0	0:00	0:00	
CN	0:00	0	0:00	0:00	
CO	0:00	0	0:00	0:00	
CP	0:00	0	0:00	0:00	
CQ	0:00	0	0:00	0:00	
CR	0:00	0	0:00	0:00	
CS	0:00	0	0:00	0:00	
CT	0:00	0	0:00	0:00	
CU	0:00	0	0:00	0:00	
CV	0:00	0	0:00	0:00	
CW	0:00	0	0:00	0:00	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	0:00	0	0:00	0:00	
FT	0:00	0	0:00	0:00	
FU	11:10	34	0:25	4:56	
FV	0:00	0	0:00	0:00	
FW	0:00	0	0:00	0:00	
FX	0:00	0	0:00	0:00	
FY	0:00	0	0:00	0:00	
FZ	0:00	0	0:00	0:00	
GA	0:00	0	0:00	0:00	
GB	0:00	0	0:00	0:00	
GC	0:00	0	0:00	0:00	
GD	0:00	0	0:00	0:00	
GE	10:20	34	0:24	4:23	
GF	0:00	0	0:00	0:00	
GG	0:00	0	0:00	0:00	
GH	11:17	34	0:25	4:50	
GI	0:00	0	0:00	0:00	
GJ	0:00	0	0:00	0:00	
GK	0:00	0	0:00	0:00	
GL	0:00	0	0:00	0:00	
GM	0:00	0	0:00	0:00	
GN	0:00	0	0:00	0:00	
GO	0:00	0	0:00	0:00	
GP	0:00	0	0:00	0:00	
GQ	0:00	0	0:00	0:00	
GR	0:00	0	0:00	0:00	
GS	0:00	0	0:00	0:00	
GT	0:00	0	0:00	0:00	
GU	0:00	0	0:00	0:00	
GV	0:00	0	0:00	0:00	
GW	0:00	0	0:00	0:00	
GX	0:00	0	0:00	0:00	
GY	0:00	0	0:00	0:00	
GZ	0:00	0	0:00	0:00	
HA	0:00	0	0:00	0:00	
HB	0:00	0	0:00	0:00	
HC	0:00	0	0:00	0:00	
HD	0:00	0	0:00	0:00	
HE	0:00	0	0:00	0:00	
HF	0:00	0	0:00	0:00	
HG	0:00	0	0:00	0:00	
HH	0:00	0	0:00	0:00	
HI	0:00	0	0:00	0:00	
HJ	0:00	0	0:00	0:00	
HK	0:00	0	0:00	0:00	
HL	0:00	0	0:00	0:00	
HM	0:00	0	0:00	0:00	
HN	0:00	0	0:00	0:00	
HO	0:00	0	0:00	0:00	
HP	0:00	0	0:00	0:00	
HQ	0:00	0	0:00	0:00	
HR	0:00	0	0:00	0:00	
HS	0:00	0	0:00	0:00	
HT	0:00	0	0:00	0:00	
HU	0:00	0	0:00	0:00	
HV	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	0:00	0	0:00	0:00
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (47)	22:49	9:55
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (48)	0:00	0:00
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (49)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (50)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (51)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (52)	0:00	0:00
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (53)	0:00	0:00
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (54)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (55)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (56)	0:00	0:00
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (57)	0:00	0:00
12	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (58)	0:00	0:00
13	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (59)	0:00	0:00
14	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (60)	0:00	0:00
15	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (61)	0:00	0:00
16	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (62)	0:00	0:00
17	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (63)	0:00	0:00
18	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (64)	0:00	0:00
19	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (65)	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - All Turbines

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
20	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (66)	0:00	0:00
21	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (68)	0:00	0:00
22	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (69)	0:00	0:00
23	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (70)	0:00	0:00
24	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (71)	0:00	0:00
25	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (72)	0:00	0:00
26	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (73)	0:00	0:00
27	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (74)	0:00	0:00
28	ENERCON E-138 EP3 E3 4260 138.3 !O! hub: 127.0 m (TOT: 196.1 m) (75)	0:00	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

Assumptions for shadow calculations

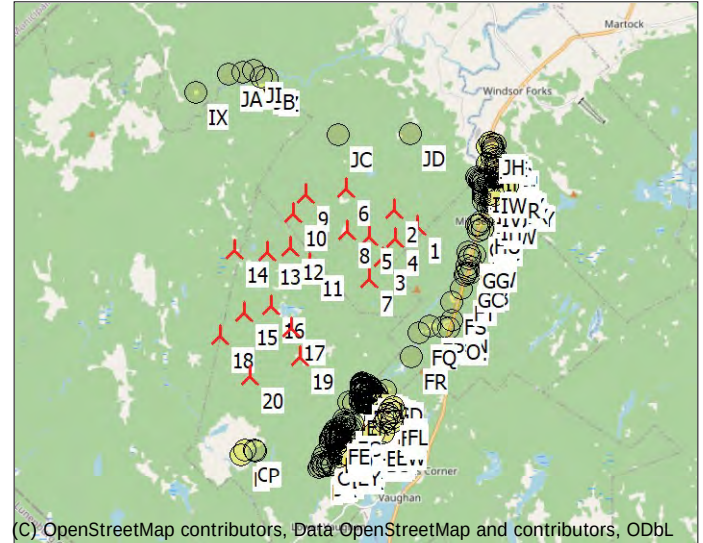
Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence 3 °
Day step for calculation 1 days
Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
2.53 3.50 4.28 4.96 6.33 7.24 7.51 7.27 5.85 4.44 2.81 1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.
Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
DHM: Elevation Grid Data Object: BM_ShadowFlicker_JA_EMDGrid_0.wpg (3)
Receptor grid resolution: 1.0 m
Topographic shadow included in calculation

All coordinates are in
UTM (north)-NAD83(CSRs)v6 (US+CA), geocentric, GRS80 Zone: 20



Scale 1:200,000
New WTG Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	403,232.85	4,973,181.97	244.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
2	402,630.84	4,973,613.27	233.4	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
3	402,313.64	4,972,352.56	244.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
4	402,620.93	4,972,862.99	243.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
5	401,946.24	4,972,944.30	262.2	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
6	401,355.61	4,974,201.91	245.3	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
7	401,927.11	4,971,787.22	252.6	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
8	401,355.69	4,973,071.07	243.7	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
9	400,289.17	4,974,067.62	247.6	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
10	399,959.66	4,973,560.09	237.7	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
11	400,373.28	4,972,220.96	243.6	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
12	399,873.79	4,972,665.65	241.8	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
13	399,245.47	4,972,568.29	246.8	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
14	398,364.41	4,972,607.19	255.8	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
15	398,611.51	4,970,968.62	233.4	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
16	399,324.20	4,971,142.38	238.3	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
17	399,864.46	4,970,529.05	242.7	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
18	397,970.85	4,970,358.97	249.5	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
19	400,051.50	4,969,761.01	237.0	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-
20	398,718.38	4,969,267.97	252.9	ENERCON E-175 EP5 E2 7000 175.0 !O!... Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	112.0	1,741	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	400,880.48	4,966,929.83	116.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	401,039.83	4,966,971.61	113.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	400,744.41	4,966,940.36	113.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	400,570.82	4,966,873.87	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	400,641.81	4,967,006.03	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	400,540.72	4,966,805.93	129.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	400,761.12	4,966,859.33	114.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	400,680.22	4,966,864.18	117.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	400,770.88	4,967,002.81	113.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
J	400,605.55	4,966,933.67	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	400,889.01	4,966,887.91	116.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	400,859.49	4,966,985.09	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	398,488.58	4,967,197.14	179.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	398,838.60	4,967,324.69	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	398,582.01	4,967,343.13	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	398,857.91	4,967,291.63	168.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,156.60	4,968,349.23	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	401,230.28	4,968,029.09	118.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,423.62	4,967,957.14	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	401,249.59	4,967,535.73	108.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,186.42	4,968,455.92	111.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	401,108.65	4,967,645.25	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,102.60	4,968,186.43	106.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,923.71	4,967,749.53	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,008.27	4,967,917.93	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	402,143.47	4,968,260.08	105.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,245.52	4,968,078.49	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	401,459.90	4,968,085.45	104.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,045.42	4,968,066.52	105.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,030.06	4,967,985.84	109.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,269.40	4,967,901.90	143.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	402,142.45	4,967,857.65	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,054.08	4,967,857.06	121.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,044.14	4,967,754.41	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	401,024.27	4,967,702.49	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	401,998.95	4,967,655.01	105.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,278.47	4,967,661.58	104.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,024.10	4,967,598.01	107.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	401,919.86	4,967,414.60	103.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	401,100.32	4,967,331.92	121.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	401,218.29	4,967,305.27	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	400,999.29	4,967,487.55	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	401,075.94	4,967,297.21	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,084.46	4,967,207.44	119.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	401,093.56	4,967,146.65	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,360.24	4,968,563.21	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	402,000.83	4,967,498.94	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,315.39	4,967,812.30	107.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,937.71	4,967,476.72	102.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	402,146.42	4,967,627.68	123.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	402,171.82	4,967,737.98	122.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,142.48	4,967,940.76	117.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	401,292.08	4,967,741.95	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,259.22	4,967,588.28	108.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	401,323.25	4,967,420.24	102.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	401,110.67	4,967,442.61	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	400,997.06	4,967,832.89	124.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	400,864.25	4,967,656.64	121.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	400,970.96	4,967,600.41	116.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,079.09	4,967,250.37	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	400,854.28	4,967,489.64	116.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,438.96	4,968,003.03	106.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	401,292.96	4,967,470.79	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	402,199.39	4,968,584.94	107.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	400,847.98	4,967,586.80	119.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,054.23	4,968,118.69	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,151.84	4,968,527.43	105.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,153.54	4,968,408.94	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,043.86	4,967,828.19	109.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	401,245.34	4,967,070.23	105.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,012.31	4,967,561.81	106.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	401,389.91	4,967,834.00	105.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,407.69	4,967,890.49	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
BV	402,149.38	4,968,563.53	104.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	400,908.65	4,967,680.22	119.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	401,215.14	4,968,110.88	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	402,297.87	4,967,798.51	147.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	400,644.99	4,967,090.67	113.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,107.67	4,967,693.70	113.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	400,706.61	4,967,189.90	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,052.29	4,968,702.80	107.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	402,012.02	4,968,638.98	107.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.24	4,968,542.87	104.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,060.34	4,968,725.32	106.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	401,900.29	4,968,516.94	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	401,788.70	4,968,522.52	104.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	401,768.72	4,968,676.39	110.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	401,664.67	4,968,856.71	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	401,678.58	4,968,995.09	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	401,816.55	4,968,886.69	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	401,915.71	4,968,745.05	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	401,953.16	4,968,931.48	110.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	401,916.75	4,968,763.80	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,007.98	4,968,619.37	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	401,678.87	4,969,020.11	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	401,915.91	4,968,678.82	110.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	401,995.97	4,968,602.20	107.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	401,983.50	4,968,575.13	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,769.64	4,968,527.61	104.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,094.42	4,968,782.99	104.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,068.29	4,968,747.27	106.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,041.42	4,968,677.50	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,028.45	4,968,654.94	106.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	401,951.88	4,968,526.41	104.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	401,925.33	4,968,521.19	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,873.21	4,968,514.20	104.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	401,850.03	4,968,512.43	104.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	401,826.31	4,968,514.20	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,808.70	4,968,520.48	105.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	401,711.45	4,968,546.14	104.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	401,649.04	4,968,569.54	103.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,724.37	4,968,698.84	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	401,798.88	4,968,672.64	110.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,830.36	4,968,674.63	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	401,665.34	4,968,817.04	107.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	401,668.54	4,968,885.03	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,665.87	4,968,920.03	108.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,706.04	4,969,075.76	112.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	401,692.78	4,969,044.71	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,677.48	4,968,965.24	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	401,844.85	4,969,014.64	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,792.51	4,968,940.42	112.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	401,811.39	4,968,866.21	113.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	401,805.76	4,968,844.63	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	401,799.19	4,968,822.58	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	401,790.75	4,968,791.15	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	401,962.63	4,968,894.62	109.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	401,961.45	4,968,843.81	108.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	401,926.36	4,968,828.39	108.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	401,924.35	4,968,792.65	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	401,924.04	4,968,716.72	110.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	401,971.93	4,968,553.93	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	401,689.45	4,968,557.89	103.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,323.54	4,968,836.86	102.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,633.98	4,968,619.60	104.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	401,876.48	4,968,661.47	110.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,966.98	4,968,866.13	108.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EH	401,802.67	4,968,965.47	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	401,662.56	4,968,775.11	105.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	401,196.12	4,967,928.93	118.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	401,474.94	4,968,528.43	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	401,085.21	4,967,369.00	121.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,103.89	4,967,578.73	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	402,024.29	4,967,705.67	106.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	401,100.42	4,967,406.58	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	401,112.07	4,967,520.13	112.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	401,125.14	4,967,772.13	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	401,249.18	4,967,367.25	105.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	400,869.83	4,967,534.16	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,332.68	4,968,086.16	143.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	401,144.65	4,967,879.77	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,289.98	4,967,996.81	144.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,245.29	4,967,738.29	136.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	401,081.95	4,967,112.15	113.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	401,219.74	4,967,185.68	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	400,991.60	4,967,431.16	113.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	401,001.46	4,967,541.44	113.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	401,133.17	4,967,825.00	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	401,235.31	4,967,964.09	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	401,001.31	4,967,649.02	115.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	400,970.84	4,967,781.00	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,509.06	4,968,419.84	150.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,450.92	4,968,331.58	147.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,423.10	4,968,154.35	151.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,465.95	4,967,999.48	159.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,475.42	4,968,106.57	156.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,404.20	4,968,248.85	148.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,562.23	4,968,267.42	155.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	404,039.87	4,970,454.91	20.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	404,129.85	4,970,670.25	23.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	403,860.80	4,970,505.22	22.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,526.05	4,970,539.83	65.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	403,258.51	4,970,379.28	55.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	403,016.11	4,969,717.89	67.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	404,132.60	4,971,178.58	19.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	404,384.94	4,971,502.81	16.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	404,868.36	4,973,025.54	20.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	404,651.71	4,972,070.57	27.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	404,728.71	4,972,395.13	20.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	404,609.04	4,972,304.35	14.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	404,550.08	4,972,102.08	15.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	404,563.49	4,972,004.20	16.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	404,505.83	4,971,924.94	16.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	404,615.35	4,971,907.89	21.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	404,483.99	4,971,868.67	16.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	404,973.26	4,973,076.47	39.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	404,869.96	4,973,183.49	20.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	404,577.62	4,972,482.28	12.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	404,621.38	4,972,384.93	12.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	404,801.67	4,973,176.24	14.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,234.84	4,973,863.74	57.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	405,273.11	4,975,231.00	31.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,256.53	4,975,091.31	39.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,231.32	4,975,025.78	41.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,379.69	4,974,932.43	65.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,344.08	4,974,850.70	58.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,405.09	4,974,580.58	61.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,358.74	4,974,345.44	53.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,306.71	4,974,235.40	53.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,324.21	4,974,154.08	61.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,665.44	4,974,058.16	84.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GT	405,836.72	4,974,015.98	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,203.91	4,974,252.71	52.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	404,997.23	4,974,227.67	16.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,026.38	4,974,411.14	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	405,440.74	4,974,074.93	56.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,905.05	4,973,970.12	119.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,267.27	4,973,941.14	55.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	405,330.38	4,973,910.80	61.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,242.40	4,975,192.57	31.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,268.77	4,975,158.08	34.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,091.97	4,974,790.36	22.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,394.92	4,974,702.14	61.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	405,334.03	4,974,681.94	48.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,200.68	4,974,666.35	23.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,322.45	4,974,492.11	53.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	405,348.19	4,974,423.63	55.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,443.08	4,974,417.88	69.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,521.92	4,974,397.22	77.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,421.44	4,974,329.28	58.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,555.25	4,974,305.22	72.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,597.31	4,974,239.93	78.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,437.75	4,974,237.98	60.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,476.48	4,974,169.27	60.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,215.22	4,973,830.11	56.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,196.60	4,973,796.45	55.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,300.22	4,973,765.46	63.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,173.81	4,973,753.87	54.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	404,944.45	4,973,301.12	27.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	405,248.69	4,973,726.01	58.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	405,232.18	4,973,539.05	56.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,723.17	4,974,056.43	91.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	405,609.53	4,974,331.01	76.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,292.48	4,974,117.17	61.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,631.74	4,974,105.36	79.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	404,966.03	4,974,311.20	32.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	404,859.41	4,974,402.72	14.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,015.92	4,973,812.55	27.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	405,195.71	4,973,910.46	51.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,252.52	4,974,928.39	43.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	405,008.01	4,973,963.60	21.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,122.89	4,973,650.72	42.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	405,021.97	4,974,181.59	19.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,236.18	4,974,176.22	54.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	404,934.06	4,974,337.95	28.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	404,830.15	4,974,446.89	9.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,154.94	4,974,291.20	49.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	405,015.63	4,974,131.00	16.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,005.01	4,974,277.80	34.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,012.21	4,974,007.00	23.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,351.75	4,974,187.52	69.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,628.52	4,974,209.59	77.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,011.46	4,974,068.58	15.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	404,908.40	4,974,377.36	23.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,289.57	4,973,958.75	51.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	405,155.11	4,973,991.98	39.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,114.26	4,974,339.15	39.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	397,448.46	4,976,816.13	114.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	398,694.42	4,977,296.48	83.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	399,305.58	4,977,139.76	67.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	398,321.75	4,977,243.53	96.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	399,180.60	4,977,199.25	59.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	401,172.70	4,975,622.50	171.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	403,083.21	4,975,610.56	155.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,316.66	4,975,314.03	34.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JF	405,257.56	4,975,309.29	33.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,102.51	4,975,252.15	23.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,188.52	4,975,360.58	21.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	398,954.64	4,977,364.34	81.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	0:00	0	0:00	0:00	
C	0:00	0	0:00	0:00	
D	0:00	0	0:00	0:00	
E	0:00	0	0:00	0:00	
F	0:00	0	0:00	0:00	
G	0:00	0	0:00	0:00	
H	0:00	0	0:00	0:00	
I	0:00	0	0:00	0:00	
J	0:00	0	0:00	0:00	
K	0:00	0	0:00	0:00	
L	0:00	0	0:00	0:00	
M	0:00	0	0:00	0:00	
N	0:00	0	0:00	0:00	
O	0:00	0	0:00	0:00	
P	0:00	0	0:00	0:00	
Q	0:00	0	0:00	0:00	
R	0:00	0	0:00	0:00	
S	0:00	0	0:00	0:00	
T	0:00	0	0:00	0:00	
U	0:00	0	0:00	0:00	
V	0:00	0	0:00	0:00	
W	0:00	0	0:00	0:00	
X	0:00	0	0:00	0:00	
Y	0:00	0	0:00	0:00	
Z	0:00	0	0:00	0:00	
AA	0:00	0	0:00	0:00	
AB	0:00	0	0:00	0:00	
AC	0:00	0	0:00	0:00	
AD	0:00	0	0:00	0:00	
AE	0:00	0	0:00	0:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	0:00	0	0:00	0:00	
AM	0:00	0	0:00	0:00	
AN	0:00	0	0:00	0:00	
AO	0:00	0	0:00	0:00	
AP	0:00	0	0:00	0:00	
AQ	0:00	0	0:00	0:00	
AR	0:00	0	0:00	0:00	
AS	0:00	0	0:00	0:00	
AT	0:00	0	0:00	0:00	
AU	0:00	0	0:00	0:00	
AV	0:00	0	0:00	0:00	
AW	0:00	0	0:00	0:00	
AX	0:00	0	0:00	0:00	
AY	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
AZ	0:00	0	0:00	0:00	
BA	0:00	0	0:00	0:00	
BB	0:00	0	0:00	0:00	
BC	0:00	0	0:00	0:00	
BD	0:00	0	0:00	0:00	
BE	0:00	0	0:00	0:00	
BF	0:00	0	0:00	0:00	
BG	0:00	0	0:00	0:00	
BH	0:00	0	0:00	0:00	
BI	0:00	0	0:00	0:00	
BJ	0:00	0	0:00	0:00	
BK	0:00	0	0:00	0:00	
BL	0:00	0	0:00	0:00	
BM	0:00	0	0:00	0:00	
BN	0:00	0	0:00	0:00	
BO	0:00	0	0:00	0:00	
BP	0:00	0	0:00	0:00	
BQ	0:00	0	0:00	0:00	
BR	0:00	0	0:00	0:00	
BS	0:00	0	0:00	0:00	
BT	0:00	0	0:00	0:00	
BU	0:00	0	0:00	0:00	
BV	0:00	0	0:00	0:00	
BW	0:00	0	0:00	0:00	
BX	0:00	0	0:00	0:00	
BY	0:00	0	0:00	0:00	
BZ	0:00	0	0:00	0:00	
CA	0:00	0	0:00	0:00	
CB	0:00	0	0:00	0:00	
CC	0:00	0	0:00	0:00	
CD	0:00	0	0:00	0:00	
CE	0:00	0	0:00	0:00	
CF	0:00	0	0:00	0:00	
CG	0:00	0	0:00	0:00	
CH	0:00	0	0:00	0:00	
CI	0:00	0	0:00	0:00	
CJ	0:00	0	0:00	0:00	
CK	0:00	0	0:00	0:00	
CL	0:00	0	0:00	0:00	
CM	0:00	0	0:00	0:00	
CN	0:00	0	0:00	0:00	
CO	0:00	0	0:00	0:00	
CP	0:00	0	0:00	0:00	
CQ	0:00	0	0:00	0:00	
CR	0:00	0	0:00	0:00	
CS	0:00	0	0:00	0:00	
CT	0:00	0	0:00	0:00	
CU	0:00	0	0:00	0:00	
CV	0:00	0	0:00	0:00	
CW	0:00	0	0:00	0:00	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	0:00	0	0:00	0:00	
FT	0:00	0	0:00	0:00	
FU	11:10	34	0:25	4:56	

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FV	0:00	0	0:00	0:00
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	10:20	34	0:24	4:23
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	11:17	34	0:25	4:50
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	0:00	0	0:00	0:00
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	0:00	0	0:00	0:00
GQ	0:00	0	0:00	0:00
GR	0:00	0	0:00	0:00
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	0:00	0	0:00	0:00
HL	0:00	0	0:00	0:00
HM	0:00	0	0:00	0:00
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	0:00	0	0:00	0:00
HS	0:00	0	0:00	0:00
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: Benjamin Mills (Bare Earth) Worst Case Scenario - Phase II Turbines

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	0:00	0	0:00	0:00
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (47)	22:49	9:55
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (48)	0:00	0:00
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (49)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (50)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (51)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (52)	0:00	0:00
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (53)	0:00	0:00
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (54)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (55)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (56)	0:00	0:00
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (57)	0:00	0:00
12	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (58)	0:00	0:00
13	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (59)	0:00	0:00
14	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (60)	0:00	0:00
15	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (61)	0:00	0:00
16	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (62)	0:00	0:00
17	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (63)	0:00	0:00
18	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (64)	0:00	0:00
19	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (65)	0:00	0:00
20	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 112.0 m (TOT: 199.5 m) (66)	0:00	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)
 Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

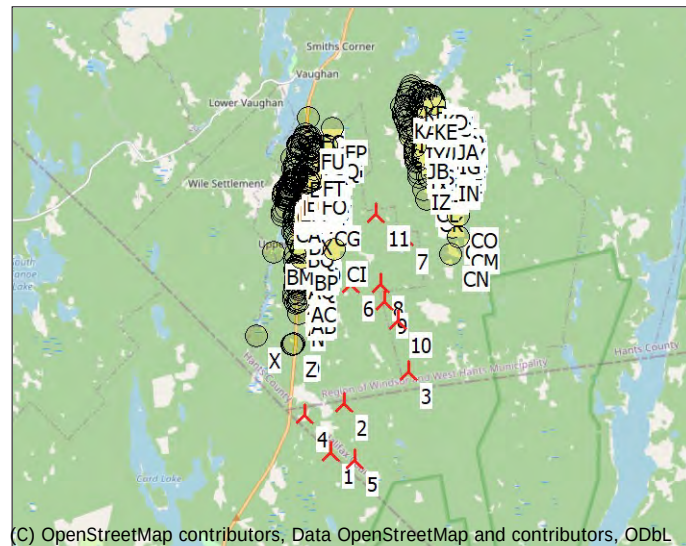
DHM: Elevation Grid Data Object: BL_ShadowFlicker_DSM_EMDGrid_0.wpg (1)

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	402,869.06	4,956,009.10	239.4	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
2	403,251.85	4,957,272.60	244.1	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
3	404,955.05	4,958,078.55	205.1	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
4	402,165.46	4,956,998.79	215.6	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
5	403,489.16	4,955,783.56	232.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
6	403,453.85	4,960,446.86	252.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
7	404,916.49	4,961,655.94	256.4	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
8	404,250.11	4,960,437.00	262.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
9	404,348.17	4,959,958.45	270.8	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
10	404,695.30	4,959,442.28	260.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
11	404,167.13	4,962,260.79	247.5	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	183.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	175.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	168.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	167.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	402,001.60	4,960,853.76	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	402,019.98	4,960,820.43	162.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
S	401,953.45	4,960,193.66	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	171.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	171.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	159.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	187.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	173.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	178.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	136.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	144.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	125.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	124.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	138.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	142.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	155.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	116.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	123.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	112.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	142.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	144.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	116.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	141.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	115.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	131.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	134.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	140.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,705.53	4,962,412.55	135.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	401,712.16	4,962,748.16	139.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	110.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	142.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CE	401,737.72	4,962,874.49	140.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	201.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	227.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	159.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	169.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	123.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	130.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	123.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	131.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	122.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	129.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	134.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	117.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	126.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	115.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	113.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	108.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	124.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	115.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	120.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	119.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,798.44	4,962,989.70	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	401,900.21	4,963,123.06	133.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EQ	402,212.80	4,963,300.66	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	124.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	124.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	126.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	128.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	128.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	132.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	136.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	138.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	132.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	133.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	123.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	177.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	154.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	137.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	170.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	203.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	174.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	190.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	180.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	182.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	205.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	187.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	174.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	174.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	168.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	176.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	169.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	168.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	173.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	196.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,436.33	4,964,604.17	180.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,046.54	4,964,539.89	191.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
HC	405,858.85	4,964,160.64	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	165.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	192.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	171.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	177.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	181.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	167.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	185.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	165.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	190.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	190.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	181.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	169.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	172.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	162.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	199.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	195.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	171.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	175.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	185.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	181.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	200.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	188.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	193.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	206.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	194.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	200.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	170.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	171.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	209.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	177.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	178.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	163.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	174.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	405,135.27	4,965,625.96	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	405,169.99	4,965,255.45	196.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JO	405,666.84	4,965,396.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	171.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	196.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	165.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	199.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	194.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	180.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A	0:00	0	0:00	0:00
B	12:52	36	0:28	4:53
C	13:57	37	0:29	5:46
D	0:00	0	0:00	0:00
E	2:55	41	0:09	1:20
F	0:00	0	0:00	0:00
G	0:00	0	0:00	0:00
H	13:32	36	0:29	5:28
I	13:15	37	0:29	5:27
J	14:54	39	0:30	6:10
K	0:00	0	0:00	0:00
L	0:05	5	0:01	0:02
M	0:00	0	0:00	0:00
N	0:00	0	0:00	0:00
O	11:00	36	0:27	4:16
P	13:01	36	0:28	5:05
Q	13:19	37	0:29	5:18
R	0:00	0	0:00	0:00
S	9:19	41	0:19	4:10
T	3:49	31	0:12	1:41
U	0:00	0	0:00	0:00
V	15:26	38	0:30	6:24
W	8:51	38	0:18	3:39
X	0:00	0	0:00	0:00
Y	0:00	0	0:00	0:00
Z	0:00	0	0:00	0:00
AA	23:44	70	0:29	11:02
AB	21:48	60	0:30	10:07
AC	9:41	38	0:25	4:17
AD	0:00	0	0:00	0:00
AE	0:00	0	0:00	0:00
AF	0:00	0	0:00	0:00
AG	0:00	0	0:00	0:00
AH	0:00	0	0:00	0:00
AI	0:00	0	0:00	0:00
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AM	0:00	0	0:00	0:00
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	12:36	35	0:27	4:41
AQ	13:04	36	0:28	4:56
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	10:57	37	0:24	3:47
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	0:00	0	0:00	0:00
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	0:25	7	0:05	0:10
CH	0:00	0	0:00	0:00
CI	0:00	0	0:00	0:00
CJ	0:00	0	0:00	0:00
CK	0:15	9	0:03	0:05
CL	0:01	1	0:01	0:00
CM	0:46	14	0:05	0:19
CN	0:00	0	0:00	0:00
CO	0:00	0	0:00	0:00
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	0:00	0	0:00	0:00	
FT	0:00	0	0:00	0:00	
FU	0:00	0	0:00	0:00	
FV	0:00	0	0:00	0:00	
FW	0:00	0	0:00	0:00	
FX	0:00	0	0:00	0:00	
FY	0:00	0	0:00	0:00	
FZ	0:00	0	0:00	0:00	
GA	0:00	0	0:00	0:00	
GB	0:00	0	0:00	0:00	
GC	0:00	0	0:00	0:00	
GD	0:00	0	0:00	0:00	
GE	0:00	0	0:00	0:00	
GF	0:00	0	0:00	0:00	
GG	0:00	0	0:00	0:00	
GH	0:00	0	0:00	0:00	
GI	0:00	0	0:00	0:00	
GJ	0:00	0	0:00	0:00	
GK	0:00	0	0:00	0:00	
GL	0:00	0	0:00	0:00	
GM	0:00	0	0:00	0:00	
GN	0:00	0	0:00	0:00	
GO	0:00	0	0:00	0:00	
GP	0:00	0	0:00	0:00	
GQ	0:00	0	0:00	0:00	
GR	0:00	0	0:00	0:00	
GS	0:00	0	0:00	0:00	
GT	0:00	0	0:00	0:00	
GU	0:00	0	0:00	0:00	
GV	0:00	0	0:00	0:00	
GW	0:00	0	0:00	0:00	
GX	0:00	0	0:00	0:00	
GY	0:00	0	0:00	0:00	
GZ	0:00	0	0:00	0:00	
HA	0:00	0	0:00	0:00	
HB	0:00	0	0:00	0:00	
HC	0:00	0	0:00	0:00	
HD	0:00	0	0:00	0:00	
HE	0:00	0	0:00	0:00	
HF	0:00	0	0:00	0:00	
HG	0:00	0	0:00	0:00	
HH	0:00	0	0:00	0:00	
HI	0:00	0	0:00	0:00	
HJ	0:00	0	0:00	0:00	
HK	0:00	0	0:00	0:00	
HL	0:00	0	0:00	0:00	
HM	0:00	0	0:00	0:00	
HN	0:00	0	0:00	0:00	
HO	0:00	0	0:00	0:00	
HP	0:00	0	0:00	0:00	
HQ	0:00	0	0:00	0:00	
HR	0:00	0	0:00	0:00	
HS	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	15:36	78	0:21	4:05
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00
KA	0:00	0	0:00	0:00
KB	0:00	0	0:00	0:00
KC	0:00	0	0:00	0:00
KD	0:00	0	0:00	0:00
KE	0:00	0	0:00	0:00

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 8:08 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Goldwind)

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name		Worst case [h/year]	Expected [h/year]
1	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (16)	0:00	0:00
2	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (17)	0:00	0:00
3	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (18)	0:00	0:00
4	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (19)	0:00	0:00
5	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (20)	0:00	0:00
6	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (21)	117:46	49:10
7	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (22)	0:46	0:19
8	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (23)	0:00	0:00
9	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (24)	0:00	0:00
10	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (25)	0:00	0:00
11	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (26)	16:17	4:21

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

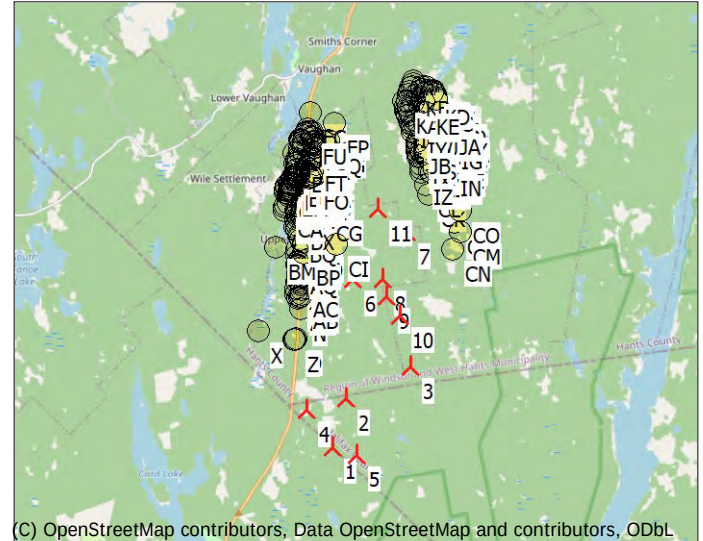
DHM: Elevation Grid Data Object: BL_ShadowFlicker_DSM_EMDGrid_0.wpg (1)

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	402,869.06	4,956,009.10	239.4	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
2	403,251.85	4,957,272.60	244.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
3	404,955.05	4,958,078.55	205.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
4	402,165.46	4,956,998.79	215.6	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
5	403,489.16	4,955,783.56	232.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
6	403,453.85	4,960,446.86	252.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
7	404,916.49	4,961,655.94	256.4	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
8	404,250.11	4,960,437.00	262.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
9	404,348.17	4,959,958.45	270.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
10	404,695.30	4,959,442.28	260.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
11	404,167.13	4,962,260.79	247.5	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Slope of	Direction mode	Eye height
						a.g.l.	window		(ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	183.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	175.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	168.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	167.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	402,001.60	4,960,853.76	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	402,019.98	4,960,820.43	162.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
S	401,953.45	4,960,193.66	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	171.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	171.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	159.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	187.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	173.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	178.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	136.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	144.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	125.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	124.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	138.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	142.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	155.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	116.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	123.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	112.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	142.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	144.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	116.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	141.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	115.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	131.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	134.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	140.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,705.53	4,962,412.55	135.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	401,712.16	4,962,748.16	139.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	110.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	142.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

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 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CE	401,737.72	4,962,874.49	140.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	201.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	227.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	159.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	169.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	123.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	130.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	123.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	131.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	122.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	129.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	134.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	117.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	126.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	115.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	113.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	108.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	124.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	115.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	120.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	119.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,798.44	4,962,989.70	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	401,900.21	4,963,123.06	133.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EQ	402,212.80	4,963,300.66	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	124.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	124.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	126.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	128.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	128.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	132.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	136.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	138.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	132.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	133.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	123.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	177.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	154.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	137.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	170.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	203.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	174.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	190.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	180.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	182.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	205.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	187.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	174.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	174.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	168.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	176.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	169.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	168.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	173.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	196.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,436.33	4,964,604.17	180.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,046.54	4,964,539.89	191.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
HC	405,858.85	4,964,160.64	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	165.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	192.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	171.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	177.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	181.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	167.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	185.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	165.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	190.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	190.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	181.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	169.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	172.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	162.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	199.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	195.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	171.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	175.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	185.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	181.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	200.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	188.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	193.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	206.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	194.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	200.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	170.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	171.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	209.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	177.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	178.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	163.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	174.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	405,135.27	4,965,625.96	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	405,169.99	4,965,255.45	196.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JO	405,666.84	4,965,396.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	171.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	196.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	165.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	199.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	194.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	180.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A	0:00	0	0:00	0:00
B	11:47	34	0:27	4:30
C	12:51	36	0:28	5:18
D	0:00	0	0:00	0:00
E	4:10	45	0:11	1:55
F	0:00	0	0:00	0:00
G	0:00	0	0:00	0:00
H	12:33	35	0:28	5:06
I	12:44	36	0:28	5:16
J	13:50	37	0:29	5:43
K	0:00	0	0:00	0:00
L	0:25	15	0:03	0:11
M	0:00	0	0:00	0:00
N	0:00	0	0:00	0:00
O	10:30	34	0:26	4:05
P	12:07	34	0:27	4:46
Q	12:12	34	0:27	4:53
R	0:00	0	0:00	0:00
S	9:49	40	0:20	4:24
T	4:47	32	0:14	2:07
U	0:00	0	0:00	0:00
V	14:25	38	0:29	5:59
W	8:48	36	0:18	3:38
X	0:00	0	0:00	0:00
Y	0:00	0	0:00	0:00
Z	0:00	0	0:00	0:00
AA	24:22	72	0:28	11:21
AB	22:25	62	0:29	10:24
AC	10:37	38	0:26	4:42
AD	0:00	0	0:00	0:00
AE	0:00	0	0:00	0:00
AF	0:00	0	0:00	0:00
AG	0:00	0	0:00	0:00
AH	0:00	0	0:00	0:00
AI	0:00	0	0:00	0:00
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AM	0:00	0	0:00	0:00
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	11:27	34	0:26	4:16
AQ	12:05	35	0:27	4:34
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	10:40	36	0:23	3:43
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	0:00	0	0:00	0:00
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	0:41	9	0:07	0:17
CH	0:00	0	0:00	0:00
CI	0:00	0	0:00	0:00
CJ	0:00	0	0:00	0:00
CK	0:37	14	0:04	0:14
CL	0:08	4	0:03	0:02
CM	1:10	19	0:07	0:29
CN	0:00	0	0:00	0:00
CO	0:00	0	0:00	0:00
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	0:00	0	0:00	0:00	
FT	0:00	0	0:00	0:00	
FU	0:00	0	0:00	0:00	
FV	0:00	0	0:00	0:00	
FW	0:00	0	0:00	0:00	
FX	0:00	0	0:00	0:00	
FY	0:00	0	0:00	0:00	
FZ	0:00	0	0:00	0:00	
GA	0:00	0	0:00	0:00	
GB	0:00	0	0:00	0:00	
GC	0:00	0	0:00	0:00	
GD	0:00	0	0:00	0:00	
GE	0:00	0	0:00	0:00	
GF	0:00	0	0:00	0:00	
GG	0:00	0	0:00	0:00	
GH	0:00	0	0:00	0:00	
GI	0:00	0	0:00	0:00	
GJ	0:00	0	0:00	0:00	
GK	0:00	0	0:00	0:00	
GL	0:00	0	0:00	0:00	
GM	0:00	0	0:00	0:00	
GN	0:00	0	0:00	0:00	
GO	0:00	0	0:00	0:00	
GP	0:00	0	0:00	0:00	
GQ	0:00	0	0:00	0:00	
GR	0:00	0	0:00	0:00	
GS	0:00	0	0:00	0:00	
GT	0:00	0	0:00	0:00	
GU	0:00	0	0:00	0:00	
GV	0:00	0	0:00	0:00	
GW	0:00	0	0:00	0:00	
GX	0:00	0	0:00	0:00	
GY	0:00	0	0:00	0:00	
GZ	0:00	0	0:00	0:00	
HA	0:00	0	0:00	0:00	
HB	0:00	0	0:00	0:00	
HC	0:00	0	0:00	0:00	
HD	0:00	0	0:00	0:00	
HE	0:00	0	0:00	0:00	
HF	0:00	0	0:00	0:00	
HG	0:00	0	0:00	0:00	
HH	0:00	0	0:00	0:00	
HI	0:00	0	0:00	0:00	
HJ	0:00	0	0:00	0:00	
HK	0:00	0	0:00	0:00	
HL	0:00	0	0:00	0:00	
HM	0:00	0	0:00	0:00	
HN	0:00	0	0:00	0:00	
HO	0:00	0	0:00	0:00	
HP	0:00	0	0:00	0:00	
HQ	0:00	0	0:00	0:00	
HR	0:00	0	0:00	0:00	
HS	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	16:15	78	0:23	4:17
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00
KA	0:00	0	0:00	0:00
KB	0:00	0	0:00	0:00
KC	0:00	0	0:00	0:00
KD	0:00	0	0:00	0:00
KE	0:00	0	0:00	0:00

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 6:32 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) Primary Turbines (Enercon)

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (16)	0:00	0:00
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (17)	0:00	0:00
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (18)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (19)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (20)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (21)	117:59	49:35
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (22)	1:10	0:29
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (23)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (24)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (25)	0:00	0:00
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (26)	17:41	4:52

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

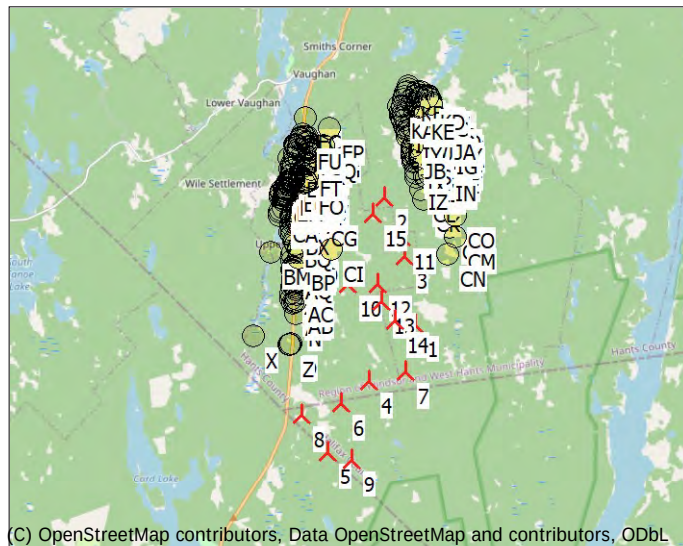
DHM: Elevation Grid Data Object: BL_ShadowFlicker_DSM_EMDGrid_0.wpg (1)

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	405,225.85	4,959,338.44	241.6	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
2	404,455.49	4,962,704.47	234.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
3	404,970.89	4,961,142.18	256.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
4	403,982.81	4,957,870.53	233.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
5	402,869.06	4,956,009.10	239.4	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
6	403,251.85	4,957,272.60	244.1	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
7	404,955.05	4,958,078.55	205.1	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
8	402,165.46	4,956,998.79	215.6	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
9	403,489.16	4,955,783.56	232.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
10	403,453.85	4,960,446.86	252.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
11	404,916.49	4,961,655.94	256.4	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
12	404,250.11	4,960,437.00	262.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
13	404,348.17	4,959,958.45	270.8	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
14	404,695.30	4,959,442.28	260.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
15	404,167.13	4,962,260.79	247.5	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	183.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	175.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	168.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	167.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	402,001.60	4,960,853.76	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
P	402,019.98	4,960,820.43	162.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,953.45	4,960,193.66	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	171.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	171.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	159.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	187.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	173.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	178.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	136.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	144.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	125.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	124.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	138.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	142.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	155.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	116.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	123.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	112.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	142.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	144.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	116.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	141.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	115.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	131.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	134.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	140.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,705.53	4,962,412.55	135.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

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 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CB	401,712.16	4,962,748.16	139.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	110.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	142.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.72	4,962,874.49	140.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	201.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	227.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	159.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	169.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	123.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	130.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	123.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	131.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	122.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	129.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	134.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	117.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	126.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	115.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	113.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	108.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	124.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	115.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	120.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	119.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,798.44	4,962,989.70	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EN	401,900.21	4,963,123.06	133.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	402,212.80	4,963,300.66	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	124.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	124.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	126.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	128.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	128.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	132.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	136.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	138.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	132.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	133.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	123.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	177.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	154.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	137.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	170.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	203.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	174.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	190.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	180.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	182.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	205.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	187.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	174.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	174.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	168.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	176.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	169.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	168.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	173.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	196.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,436.33	4,964,604.17	180.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GZ	405,046.54	4,964,539.89	191.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,858.85	4,964,160.64	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	165.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	192.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	171.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	177.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	181.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	167.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	185.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	165.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	190.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	190.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	181.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	169.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	172.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	162.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	199.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	195.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	171.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	175.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	185.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	181.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	200.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	188.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	193.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	206.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	194.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	200.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	170.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	171.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	209.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	177.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	178.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	163.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	174.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	405,135.27	4,965,625.96	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JL	405,169.99	4,965,255.45	196.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JO	405,666.84	4,965,396.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	171.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	196.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	165.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	199.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	194.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	180.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	12:52	36	0:28	4:53	
C	13:57	37	0:29	5:46	
D	0:00	0	0:00	0:00	
E	2:55	41	0:09	1:20	
F	0:00	0	0:00	0:00	
G	0:00	0	0:00	0:00	
H	13:32	36	0:29	5:28	
I	13:15	37	0:29	5:27	
J	14:54	39	0:30	6:10	
K	0:00	0	0:00	0:00	
L	0:05	5	0:01	0:02	
M	0:00	0	0:00	0:00	
N	0:00	0	0:00	0:00	
O	11:00	36	0:27	4:16	
P	13:01	36	0:28	5:05	
Q	13:19	37	0:29	5:18	
R	0:00	0	0:00	0:00	
S	9:19	41	0:19	4:10	
T	3:49	31	0:12	1:41	
U	0:00	0	0:00	0:00	
V	15:26	38	0:30	6:24	
W	8:51	38	0:18	3:39	
X	0:00	0	0:00	0:00	
Y	0:00	0	0:00	0:00	
Z	0:00	0	0:00	0:00	
AA	23:44	70	0:29	11:02	
AB	21:48	60	0:30	10:07	
AC	9:41	38	0:25	4:17	
AD	0:00	0	0:00	0:00	
AE	0:00	0	0:00	0:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	0:00	0	0:00	0:00
AM	0:00	0	0:00	0:00
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	12:36	35	0:27	4:41
AQ	13:04	36	0:28	4:56
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	10:57	37	0:24	3:47
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	0:00	0	0:00	0:00
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	0:25	7	0:05	0:10
CH	0:00	0	0:00	0:00
CI	0:00	0	0:00	0:00
CJ	0:00	0	0:00	0:00
CK	3:52	34	0:13	1:41
CL	19:11	51	0:39	7:51
CM	0:46	14	0:05	0:19
CN	0:00	0	0:00	0:00
CO	0:00	0	0:00	0:00
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00
CX	0:00	0	0:00	0:00
CY	0:00	0	0:00	0:00
CZ	0:00	0	0:00	0:00
DA	0:00	0	0:00	0:00
DB	0:00	0	0:00	0:00
DC	0:00	0	0:00	0:00
DD	0:00	0	0:00	0:00
DE	0:00	0	0:00	0:00
DF	0:00	0	0:00	0:00
DG	0:00	0	0:00	0:00
DH	0:00	0	0:00	0:00
DI	0:00	0	0:00	0:00
DJ	0:00	0	0:00	0:00
DK	0:00	0	0:00	0:00
DL	0:00	0	0:00	0:00
DM	0:00	0	0:00	0:00
DN	0:00	0	0:00	0:00
DO	0:00	0	0:00	0:00
DP	0:00	0	0:00	0:00
DQ	0:00	0	0:00	0:00
DR	0:00	0	0:00	0:00
DS	0:00	0	0:00	0:00
DT	0:00	0	0:00	0:00
DU	0:00	0	0:00	0:00
DV	0:00	0	0:00	0:00
DW	0:00	0	0:00	0:00
DX	0:00	0	0:00	0:00
DY	0:00	0	0:00	0:00
DZ	0:00	0	0:00	0:00
EA	0:00	0	0:00	0:00
EB	0:00	0	0:00	0:00
EC	0:00	0	0:00	0:00
ED	0:00	0	0:00	0:00
EE	0:00	0	0:00	0:00
EF	0:00	0	0:00	0:00
EG	0:00	0	0:00	0:00
EH	0:00	0	0:00	0:00
EI	0:00	0	0:00	0:00
EJ	0:00	0	0:00	0:00
EK	0:00	0	0:00	0:00
EL	0:00	0	0:00	0:00
EM	0:00	0	0:00	0:00
EN	0:00	0	0:00	0:00
EO	0:00	0	0:00	0:00
EP	0:00	0	0:00	0:00
EQ	0:00	0	0:00	0:00
ER	0:00	0	0:00	0:00
ES	0:00	0	0:00	0:00
ET	0:00	0	0:00	0:00
EU	0:00	0	0:00	0:00
EV	0:00	0	0:00	0:00
EW	0:00	0	0:00	0:00
EX	0:00	0	0:00	0:00
EY	0:00	0	0:00	0:00
EZ	0:00	0	0:00	0:00
FA	0:00	0	0:00	0:00
FB	0:00	0	0:00	0:00
FC	0:00	0	0:00	0:00
FD	0:00	0	0:00	0:00
FE	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FF	0:00	0	0:00	0:00
FG	0:00	0	0:00	0:00
FH	0:00	0	0:00	0:00
FI	0:00	0	0:00	0:00
FJ	0:00	0	0:00	0:00
FK	0:00	0	0:00	0:00
FL	0:00	0	0:00	0:00
FM	0:00	0	0:00	0:00
FN	0:00	0	0:00	0:00
FO	0:00	0	0:00	0:00
FP	0:00	0	0:00	0:00
FQ	0:00	0	0:00	0:00
FR	0:00	0	0:00	0:00
FS	0:00	0	0:00	0:00
FT	0:00	0	0:00	0:00
FU	0:00	0	0:00	0:00
FV	18:39	45	0:32	6:34
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	13:49	42	0:23	3:06
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	0:00	0	0:00	0:00
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	14:16	40	0:27	4:33
GQ	0:00	0	0:00	0:00
GR	16:51	46	0:31	6:13
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	17:11	52	0:26	4:57
HL	0:00	0	0:00	0:00
HM	15:30	45	0:27	4:40
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HQ	0:00	0	0:00	0:00
HR	9:59	40	0:20	3:32
HS	0:00	0	0:00	0:00
HT	34:18	82	0:33	8:49
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:26	11	0:04	0:07
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	2:51	16	0:13	0:35
IY	0:00	0	0:00	0:00
IZ	43:32	134	0:42	13:47
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00
KA	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 7:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
KB	0:00	0	0:00	0:00	
KC	0:00	0	0:00	0:00	
KD	0:00	0	0:00	0:00	
KE	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name		Worst case [h/year]	Expected [h/year]
1	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (1)	0:00	0:00
2	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (2)	135:07	42:37
3	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (3)	0:00	0:00
4	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (4)	0:00	0:00
5	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (5)	0:00	0:00
6	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (6)	0:00	0:00
7	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (7)	0:00	0:00
8	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (8)	0:00	0:00
9	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (9)	0:00	0:00
10	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (10)	117:46	49:10
11	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (11)	0:46	0:19
12	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (12)	0:00	0:00
13	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (13)	0:00	0:00
14	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (14)	0:00	0:00
15	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (15)	16:17	4:21

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

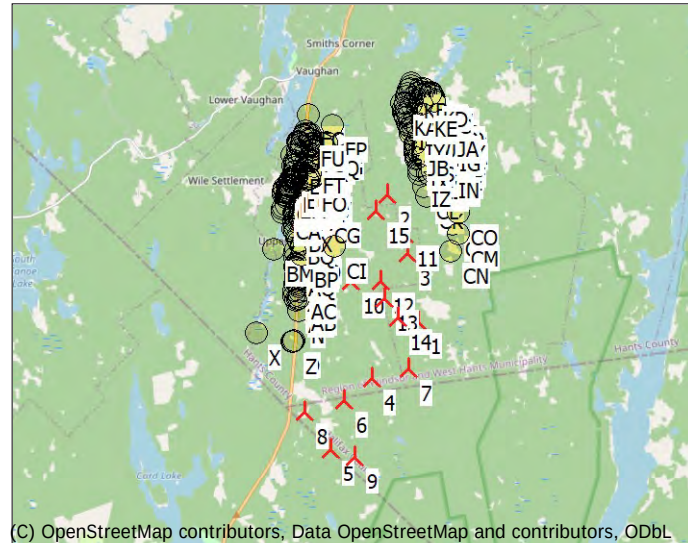
DHM: Elevation Grid Data Object: BL_ShadowFlicker_DSM_EMDGrid_0.wpg (1)

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM
			[m]									[RPM]
1	405,225.85	4,959,338.44	241.6	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
2	404,455.49	4,962,704.47	234.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
3	404,970.89	4,961,142.18	256.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
4	403,982.81	4,957,870.53	233.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
5	402,869.06	4,956,009.10	239.4	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
6	403,251.85	4,957,272.60	244.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
7	404,955.05	4,958,078.55	205.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
8	402,165.46	4,956,998.79	215.6	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
9	403,489.16	4,955,783.56	232.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
10	403,453.85	4,960,446.86	252.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
11	404,916.49	4,961,655.94	256.4	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
12	404,250.11	4,960,437.00	262.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
13	404,348.17	4,959,958.45	270.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
14	404,695.30	4,959,442.28	260.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
15	404,167.13	4,962,260.79	247.5	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	183.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	175.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	168.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	167.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	169.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
O	402,001.60	4,960,853.76	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	402,019.98	4,960,820.43	162.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,953.45	4,960,193.66	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	171.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	171.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	159.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	187.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	173.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	178.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	136.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	144.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	113.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	125.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	124.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	135.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	138.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	142.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	155.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	116.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	123.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	112.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	142.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	116.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	144.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	116.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	120.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	141.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	115.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	131.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	134.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	120.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	140.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CA	401,705.53	4,962,412.55	135.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	401,712.16	4,962,748.16	139.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	110.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	142.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.72	4,962,874.49	140.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	201.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	111.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	227.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	159.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	169.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	123.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	130.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	114.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	115.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	123.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	114.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	131.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	113.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	122.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	129.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	134.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	109.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	125.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	117.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	125.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	126.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	115.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	113.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	109.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	108.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	128.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	124.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	115.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	120.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	119.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EM	401,798.44	4,962,989.70	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	401,900.21	4,963,123.06	133.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	118.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	402,212.80	4,963,300.66	122.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	120.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	124.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	124.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	133.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	126.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	116.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	128.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	128.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	132.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	136.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	138.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	132.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	133.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	123.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	177.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	154.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	133.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	137.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	133.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	170.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	203.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	175.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	174.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	190.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	192.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	180.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	170.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	182.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	205.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	187.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	174.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	174.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	168.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	176.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	169.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	168.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	173.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	196.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GY	405,436.33	4,964,604.17	180.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,046.54	4,964,539.89	191.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,858.85	4,964,160.64	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	167.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	168.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	165.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	192.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	171.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	177.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	181.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	167.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	185.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	165.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	170.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	192.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	190.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	190.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	171.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	204.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	181.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	169.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	172.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	162.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	199.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	165.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	193.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	195.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	165.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	171.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	175.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	185.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	181.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	200.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	188.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	193.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	206.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	194.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	200.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	170.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	171.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	209.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	198.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	177.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	210.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	178.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	163.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	174.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	164.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JK	405,135.27	4,965,625.96	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	405,169.99	4,965,255.45	196.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	170.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	172.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JO	405,666.84	4,965,396.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	171.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	196.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	165.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	169.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	199.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	194.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	201.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	163.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	180.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A	0:00	0	0:00	0:00
B	11:47	34	0:27	4:30
C	12:51	36	0:28	5:18
D	0:00	0	0:00	0:00
E	4:10	45	0:11	1:55
F	0:00	0	0:00	0:00
G	0:00	0	0:00	0:00
H	12:33	35	0:28	5:06
I	12:44	36	0:28	5:16
J	13:50	37	0:29	5:43
K	0:00	0	0:00	0:00
L	0:25	15	0:03	0:11
M	0:00	0	0:00	0:00
N	0:00	0	0:00	0:00
O	10:30	34	0:26	4:05
P	12:07	34	0:27	4:46
Q	12:12	34	0:27	4:53
R	0:00	0	0:00	0:00
S	9:49	40	0:20	4:24
T	4:47	32	0:14	2:07
U	0:00	0	0:00	0:00
V	14:25	38	0:29	5:59
W	8:48	36	0:18	3:38
X	0:00	0	0:00	0:00
Y	0:00	0	0:00	0:00
Z	0:00	0	0:00	0:00
AA	24:22	72	0:28	11:21
AB	22:25	62	0:29	10:24
AC	10:37	38	0:26	4:42
AD	0:00	0	0:00	0:00
AE	0:00	0	0:00	0:00
AF	0:00	0	0:00	0:00
AG	0:00	0	0:00	0:00
AH	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Max shadow hours per day [h/day]	Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]		Shadow hours per year [h/year]
AI	0:00	0	0:00	0:00
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	0:00	0	0:00	0:00
AM	0:00	0	0:00	0:00
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	11:27	34	0:26	4:16
AQ	12:05	35	0:27	4:34
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	10:40	36	0:23	3:43
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	0:00	0	0:00	0:00
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	0:41	9	0:07	0:17
CH	0:00	0	0:00	0:00
CI	0:00	0	0:00	0:00
CJ	0:00	0	0:00	0:00
CK	5:17	43	0:15	2:18
CL	19:45	54	0:39	8:05
CM	1:10	19	0:07	0:29
CN	0:00	0	0:00	0:00
CO	0:00	0	0:00	0:00
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours	Shadow days	Max shadow	Shadow hours
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00
CX	0:00	0	0:00	0:00
CY	0:00	0	0:00	0:00
CZ	0:00	0	0:00	0:00
DA	0:00	0	0:00	0:00
DB	0:00	0	0:00	0:00
DC	0:00	0	0:00	0:00
DD	0:00	0	0:00	0:00
DE	0:00	0	0:00	0:00
DF	0:00	0	0:00	0:00
DG	0:00	0	0:00	0:00
DH	0:00	0	0:00	0:00
DI	0:00	0	0:00	0:00
DJ	0:00	0	0:00	0:00
DK	0:00	0	0:00	0:00
DL	0:00	0	0:00	0:00
DM	0:00	0	0:00	0:00
DN	0:00	0	0:00	0:00
DO	0:00	0	0:00	0:00
DP	0:00	0	0:00	0:00
DQ	0:00	0	0:00	0:00
DR	0:00	0	0:00	0:00
DS	0:00	0	0:00	0:00
DT	0:00	0	0:00	0:00
DU	0:00	0	0:00	0:00
DV	0:00	0	0:00	0:00
DW	0:00	0	0:00	0:00
DX	0:00	0	0:00	0:00
DY	0:00	0	0:00	0:00
DZ	0:00	0	0:00	0:00
EA	0:00	0	0:00	0:00
EB	0:00	0	0:00	0:00
EC	0:00	0	0:00	0:00
ED	0:00	0	0:00	0:00
EE	0:00	0	0:00	0:00
EF	0:00	0	0:00	0:00
EG	0:00	0	0:00	0:00
EH	0:00	0	0:00	0:00
EI	0:00	0	0:00	0:00
EJ	0:00	0	0:00	0:00
EK	0:00	0	0:00	0:00
EL	0:00	0	0:00	0:00
EM	0:00	0	0:00	0:00
EN	0:00	0	0:00	0:00
EO	0:00	0	0:00	0:00
EP	0:00	0	0:00	0:00
EQ	0:00	0	0:00	0:00
ER	0:00	0	0:00	0:00
ES	0:00	0	0:00	0:00
ET	0:00	0	0:00	0:00
EU	0:00	0	0:00	0:00
EV	0:00	0	0:00	0:00
EW	0:00	0	0:00	0:00
EX	0:00	0	0:00	0:00
EY	0:00	0	0:00	0:00
EZ	0:00	0	0:00	0:00
FA	0:00	0	0:00	0:00
FB	0:00	0	0:00	0:00
FC	0:00	0	0:00	0:00
FD	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FE	0:00	0	0:00	0:00
FF	0:00	0	0:00	0:00
FG	0:00	0	0:00	0:00
FH	0:00	0	0:00	0:00
FI	0:00	0	0:00	0:00
FJ	0:00	0	0:00	0:00
FK	0:00	0	0:00	0:00
FL	0:00	0	0:00	0:00
FM	0:00	0	0:00	0:00
FN	0:00	0	0:00	0:00
FO	0:00	0	0:00	0:00
FP	0:00	0	0:00	0:00
FQ	0:00	0	0:00	0:00
FR	0:00	0	0:00	0:00
FS	0:00	0	0:00	0:00
FT	0:00	0	0:00	0:00
FU	0:00	0	0:00	0:00
FV	16:58	43	0:30	6:03
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	15:53	46	0:24	3:37
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	0:00	0	0:00	0:00
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	13:36	40	0:26	4:24
GQ	0:00	0	0:00	0:00
GR	17:12	45	0:31	6:22
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	15:10	46	0:25	4:24
HL	0:00	0	0:00	0:00
HM	14:01	42	0:26	4:16
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	9:39	37	0:20	3:27
HS	0:00	0	0:00	0:00
HT	33:58	84	0:31	8:48
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	5:55	24	0:18	1:15
IY	0:00	0	0:00	0:00
IZ	44:18	136	0:41	14:05
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Vegetated) All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-09-09 5:20 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Vegetated) All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
KA	0:00	0	0:00	0:00	
KB	0:00	0	0:00	0:00	
KC	0:00	0	0:00	0:00	
KD	0:00	0	0:00	0:00	
KE	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (1)	0:00	0:00
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (2)	138:22	43:47
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (3)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (4)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (5)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (6)	0:00	0:00
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (7)	0:00	0:00
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (8)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (9)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (10)	117:59	49:35
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (11)	1:10	0:29
12	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (12)	0:00	0:00
13	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (13)	0:00	0:00
14	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (14)	0:00	0:00
15	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (15)	17:41	4:52

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

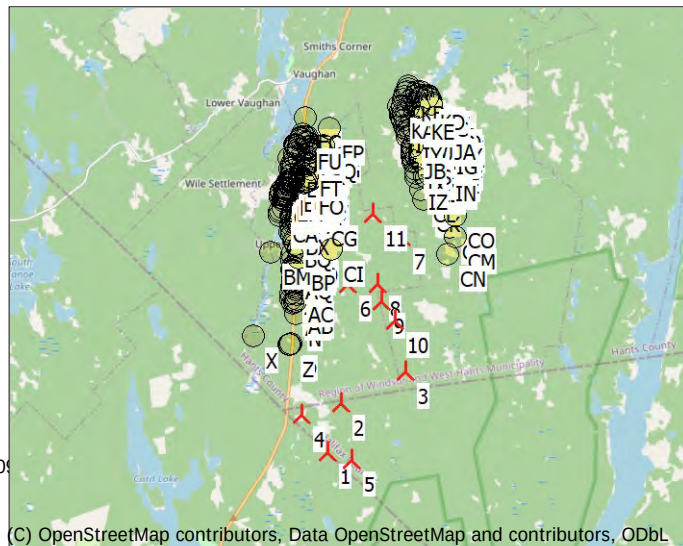
DHM: Elevation Grid Data Object: BL_ShadowFlicker_BareEarth_RECOVER001 2025-01

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	402,869.06	4,956,009.10	237.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
2	403,251.85	4,957,272.60	239.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
3	404,955.05	4,958,078.55	203.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
4	402,165.46	4,956,998.79	215.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
5	403,489.16	4,955,783.56	227.1	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
6	403,453.85	4,960,446.86	239.9	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
7	404,916.49	4,961,655.94	247.6	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
8	404,250.11	4,960,437.00	261.8	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
9	404,348.17	4,959,958.45	260.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
10	404,695.30	4,959,442.28	259.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
11	404,167.13	4,962,260.79	243.7	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	175.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	155.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	178.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	167.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	159.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	163.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	161.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	166.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	402,001.60	4,960,853.76	155.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	402,019.98	4,960,820.43	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
S	401,953.45	4,960,193.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	166.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	165.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	154.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	130.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	136.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	118.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	107.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	130.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	137.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	150.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	153.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	117.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	134.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	110.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	127.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	140.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	137.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	120.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	117.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,705.53	4,962,412.55	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	401,712.16	4,962,748.16	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CE	401,737.72	4,962,874.49	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	198.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	106.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	212.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	156.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	173.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	103.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	127.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	105.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	112.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	113.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	111.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	103.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	102.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	102.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	127.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	105.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	126.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	104.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,798.44	4,962,989.70	123.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	401,900.21	4,963,123.06	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EQ	402,212.80	4,963,300.66	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	104.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	128.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	129.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	124.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	153.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	128.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	131.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	152.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	157.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	190.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	186.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	186.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	184.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	188.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	168.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	159.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	160.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	158.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	192.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	162.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,436.33	4,964,604.17	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,046.54	4,964,539.89	186.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	158.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
HC	405,858.85	4,964,160.64	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	161.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	188.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	162.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	180.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	183.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	162.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	160.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	188.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	165.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	158.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	190.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	159.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	181.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	179.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	158.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	182.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	189.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	191.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	186.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	158.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	193.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	158.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	159.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	195.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	174.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	167.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	405,135.27	4,965,625.96	192.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	405,169.99	4,965,255.45	185.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	164.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JO	405,666.84	4,965,396.89	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	166.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	185.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	161.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	192.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	160.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	194.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	189.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	12:49	36	0:28	4:52	
C	13:59	38	0:29	5:46	
D	0:00	0	0:00	0:00	
E	24:40	61	0:32	11:28	
F	15:59	40	0:30	6:48	
G	17:19	48	0:28	8:01	
H	13:37	36	0:29	5:29	
I	14:03	37	0:29	5:47	
J	15:04	38	0:30	6:14	
K	14:26	38	0:29	6:01	
L	14:26	38	0:29	6:10	
M	27:01	72	0:30	12:35	
N	4:57	27	0:14	2:19	
O	12:47	36	0:28	4:56	
P	13:14	36	0:28	5:10	
Q	13:22	36	0:29	5:18	
R	20:12	50	0:32	9:13	
S	15:13	42	0:28	6:47	
T	16:46	42	0:31	7:16	
U	15:47	40	0:31	6:34	
V	15:33	40	0:31	6:27	
W	14:39	38	0:30	6:03	
X	0:00	0	0:00	0:00	
Y	14:16	38	0:29	5:26	
Z	0:00	0	0:00	0:00	
AA	25:14	69	0:29	11:45	
AB	24:13	62	0:30	11:16	
AC	17:55	44	0:31	7:52	
AD	6:02	40	0:14	1:42	
AE	8:44	38	0:22	3:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	6:23	44	0:14	1:47	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288

Jacob Albury / jalbury@dillon.ca

Calculated:

2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AM	3:45	30	0:11	1:06
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	12:39	36	0:27	4:42
AQ	13:13	36	0:28	4:59
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	12:46	38	0:26	4:24
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	2:00	24	0:07	0:44
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	13:53	36	0:29	5:45
CH	0:00	0	0:00	0:00
CI	27:46	86	0:29	7:24
CJ	17:06	40	0:32	6:57
CK	13:35	38	0:30	5:13
CL	13:26	42	0:29	4:49
CM	15:05	38	0:30	6:18
CN	40:11	94	0:34	18:47
CO	13:31	37	0:28	5:03
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
CX	0:00	0	0:00	0:00
CY	0:00	0	0:00	0:00
CZ	0:00	0	0:00	0:00
DA	0:00	0	0:00	0:00
DB	0:00	0	0:00	0:00
DC	0:00	0	0:00	0:00
DD	0:00	0	0:00	0:00
DE	0:00	0	0:00	0:00
DF	0:00	0	0:00	0:00
DG	0:00	0	0:00	0:00
DH	0:00	0	0:00	0:00
DI	0:00	0	0:00	0:00
DJ	0:00	0	0:00	0:00
DK	0:00	0	0:00	0:00
DL	0:00	0	0:00	0:00
DM	0:00	0	0:00	0:00
DN	0:00	0	0:00	0:00
DO	0:00	0	0:00	0:00
DP	0:00	0	0:00	0:00
DQ	0:00	0	0:00	0:00
DR	0:00	0	0:00	0:00
DS	0:00	0	0:00	0:00
DT	0:00	0	0:00	0:00
DU	0:00	0	0:00	0:00
DV	0:00	0	0:00	0:00
DW	0:00	0	0:00	0:00
DX	0:00	0	0:00	0:00
DY	0:00	0	0:00	0:00
DZ	0:00	0	0:00	0:00
EA	0:00	0	0:00	0:00
EB	0:00	0	0:00	0:00
EC	0:00	0	0:00	0:00
ED	0:00	0	0:00	0:00
EE	0:00	0	0:00	0:00
EF	0:00	0	0:00	0:00
EG	0:00	0	0:00	0:00
EH	0:00	0	0:00	0:00
EI	0:00	0	0:00	0:00
EJ	0:00	0	0:00	0:00
EK	0:00	0	0:00	0:00
EL	0:00	0	0:00	0:00
EM	0:00	0	0:00	0:00
EN	0:00	0	0:00	0:00
EO	0:00	0	0:00	0:00
EP	0:00	0	0:00	0:00
EQ	0:00	0	0:00	0:00
ER	0:00	0	0:00	0:00
ES	0:00	0	0:00	0:00
ET	0:00	0	0:00	0:00
EU	0:00	0	0:00	0:00
EV	0:00	0	0:00	0:00
EW	0:00	0	0:00	0:00
EX	0:00	0	0:00	0:00
EY	0:00	0	0:00	0:00
EZ	0:00	0	0:00	0:00
FA	0:00	0	0:00	0:00
FB	0:00	0	0:00	0:00
FC	0:00	0	0:00	0:00
FD	0:00	0	0:00	0:00
FE	0:00	0	0:00	0:00
FF	0:00	0	0:00	0:00
FG	0:00	0	0:00	0:00
FH	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FI	0:00	0	0:00	0:00
FJ	0:00	0	0:00	0:00
FK	0:00	0	0:00	0:00
FL	0:00	0	0:00	0:00
FM	0:00	0	0:00	0:00
FN	0:00	0	0:00	0:00
FO	0:00	0	0:00	0:00
FP	0:00	0	0:00	0:00
FQ	0:00	0	0:00	0:00
FR	0:00	0	0:00	0:00
FS	0:00	0	0:00	0:00
FT	0:00	0	0:00	0:00
FU	0:00	0	0:00	0:00
FV	0:00	0	0:00	0:00
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	0:00	0	0:00	0:00
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	15:43	44	0:26	3:32
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	0:00	0	0:00	0:00
GQ	22:29	70	0:27	6:04
GR	16:53	52	0:26	4:52
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	0:00	0	0:00	0:00
HL	0:00	0	0:00	0:00
HM	0:00	0	0:00	0:00
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	0:00	0	0:00	0:00
HS	24:42	60	0:29	5:52

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
130 Dufferin Avenue Suite 1210
CA-N6A 5R2 London, Ontario
519.438.1288

Jacob Albury / jalbury@dillon.ca

Calculated:

2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	33:10	78	0:30	8:23
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00
KA	0:00	0	0:00	0:00
KB	0:00	0	0:00	0:00
KC	0:00	0	0:00	0:00
KD	0:00	0	0:00	0:00
KE	0:00	0	0:00	0:00

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:50 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Goldwind)

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name		Worst case [h/year]	Expected [h/year]
1	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (19)	0:00	0:00
2	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (20)	0:00	0:00
3	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (21)	0:00	0:00
4	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (22)	0:00	0:00
5	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (23)	0:00	0:00
6	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (24)	172:53	71:16
7	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (25)	85:53	37:05
8	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (26)	27:46	7:24
9	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (27)	0:00	0:00
10	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (28)	0:00	0:00
11	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (29)	104:17	32:07

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

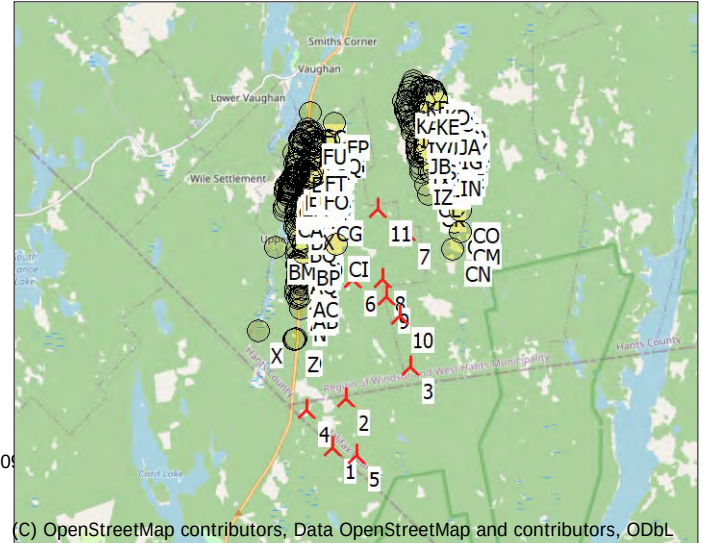
DHM: Elevation Grid Data Object: BL_ShadowFlicker_BareEarth_RECOVER001 2025-01

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRs)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	402,869.06	4,956,009.10	237.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
2	403,251.85	4,957,272.60	239.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
3	404,955.05	4,958,078.55	203.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
4	402,165.46	4,956,998.79	215.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
5	403,489.16	4,955,783.56	227.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
6	403,453.85	4,960,446.86	239.9	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
7	404,916.49	4,961,655.94	247.6	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
8	404,250.11	4,960,437.00	261.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
9	404,348.17	4,959,958.45	260.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
10	404,695.30	4,959,442.28	259.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
11	404,167.13	4,962,260.79	243.7	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation	Slope of	Direction mode	Eye height
						a.g.l.	window		(ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	175.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	155.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	178.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	167.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	159.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	163.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	161.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	166.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	402,001.60	4,960,853.76	155.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	402,019.98	4,960,820.43	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
S	401,953.45	4,960,193.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	166.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	165.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	154.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	130.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	136.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	118.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	107.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	130.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	137.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	150.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	153.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	117.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	134.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	110.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	127.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	140.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	137.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	120.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	117.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,705.53	4,962,412.55	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	401,712.16	4,962,748.16	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

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 130 Dufferin Avenue Suite 1210
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 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CE	401,737.72	4,962,874.49	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	198.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	106.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	212.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	156.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	173.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	103.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	127.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	105.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	112.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	113.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	111.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	103.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	102.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	102.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	127.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	105.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	126.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	104.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,798.44	4,962,989.70	123.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	401,900.21	4,963,123.06	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EQ	402,212.80	4,963,300.66	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	104.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	128.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	129.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	124.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	153.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	128.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	131.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	152.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	157.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	190.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	186.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	186.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	184.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	188.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	168.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	159.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	160.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	158.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	192.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	162.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,436.33	4,964,604.17	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,046.54	4,964,539.89	186.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	158.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
HC	405,858.85	4,964,160.64	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	161.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	188.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	162.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	180.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	183.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	162.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	160.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	188.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	165.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	158.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	190.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	159.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	181.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	179.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	158.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	182.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	189.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	191.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	186.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	158.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	193.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	158.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	159.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	195.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	174.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	167.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	405,135.27	4,965,625.96	192.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	405,169.99	4,965,255.45	185.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	164.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
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 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JO	405,666.84	4,965,396.89	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	166.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	185.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	161.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	192.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	160.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	194.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	189.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	11:47	34	0:27	4:29	
C	12:55	35	0:28	5:20	
D	0:00	0	0:00	0:00	
E	23:25	62	0:30	10:53	
F	14:54	40	0:29	6:21	
G	16:08	46	0:27	7:30	
H	12:32	36	0:28	5:04	
I	12:56	36	0:28	5:20	
J	13:52	38	0:29	5:44	
K	13:30	38	0:28	5:39	
L	13:34	38	0:28	5:49	
M	26:33	75	0:29	12:23	
N	1:53	15	0:09	0:52	
O	11:47	34	0:27	4:34	
P	12:13	35	0:27	4:47	
Q	12:21	35	0:28	4:56	
R	18:49	48	0:30	8:37	
S	14:11	41	0:27	6:21	
T	15:27	41	0:29	6:43	
U	14:34	39	0:29	6:05	
V	14:14	37	0:29	5:54	
W	13:30	37	0:29	5:35	
X	0:00	0	0:00	0:00	
Y	13:08	36	0:28	5:01	
Z	0:00	0	0:00	0:00	
AA	24:27	71	0:28	11:23	
AB	23:09	62	0:29	10:45	
AC	16:39	44	0:30	7:21	
AD	0:00	0	0:00	0:00	
AE	9:14	37	0:23	3:12	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	
AJ	0:00	0	0:00	0:00	
AK	0:00	0	0:00	0:00	
AL	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AM	4:24	31	0:13	1:17
AN	0:12	9	0:02	0:03
AO	0:00	0	0:00	0:00
AP	11:37	34	0:26	4:19
AQ	12:01	35	0:27	4:32
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	11:34	37	0:25	4:02
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	2:40	25	0:09	0:59
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	13:00	36	0:28	5:23
CH	0:00	0	0:00	0:00
CI	22:39	66	0:28	6:14
CJ	15:51	40	0:31	6:28
CK	13:29	37	0:29	5:12
CL	13:34	41	0:29	4:54
CM	13:57	38	0:29	5:50
CN	39:45	90	0:33	18:35
CO	12:26	36	0:27	4:39
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00
CU	0:00	0	0:00	0:00
CV	0:00	0	0:00	0:00
CW	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
CX	0:00	0	0:00	0:00
CY	0:00	0	0:00	0:00
CZ	0:00	0	0:00	0:00
DA	0:00	0	0:00	0:00
DB	0:00	0	0:00	0:00
DC	0:00	0	0:00	0:00
DD	0:00	0	0:00	0:00
DE	0:00	0	0:00	0:00
DF	0:00	0	0:00	0:00
DG	0:00	0	0:00	0:00
DH	0:00	0	0:00	0:00
DI	0:00	0	0:00	0:00
DJ	0:00	0	0:00	0:00
DK	0:00	0	0:00	0:00
DL	0:00	0	0:00	0:00
DM	0:00	0	0:00	0:00
DN	0:00	0	0:00	0:00
DO	0:00	0	0:00	0:00
DP	0:00	0	0:00	0:00
DQ	0:00	0	0:00	0:00
DR	0:00	0	0:00	0:00
DS	0:00	0	0:00	0:00
DT	0:00	0	0:00	0:00
DU	0:00	0	0:00	0:00
DV	0:00	0	0:00	0:00
DW	0:00	0	0:00	0:00
DX	0:00	0	0:00	0:00
DY	0:00	0	0:00	0:00
DZ	0:00	0	0:00	0:00
EA	0:00	0	0:00	0:00
EB	0:00	0	0:00	0:00
EC	0:00	0	0:00	0:00
ED	0:00	0	0:00	0:00
EE	0:00	0	0:00	0:00
EF	0:00	0	0:00	0:00
EG	0:00	0	0:00	0:00
EH	0:00	0	0:00	0:00
EI	0:00	0	0:00	0:00
EJ	0:00	0	0:00	0:00
EK	0:00	0	0:00	0:00
EL	0:00	0	0:00	0:00
EM	0:00	0	0:00	0:00
EN	0:00	0	0:00	0:00
EO	0:00	0	0:00	0:00
EP	0:00	0	0:00	0:00
EQ	0:00	0	0:00	0:00
ER	0:00	0	0:00	0:00
ES	0:00	0	0:00	0:00
ET	0:00	0	0:00	0:00
EU	0:00	0	0:00	0:00
EV	0:00	0	0:00	0:00
EW	0:00	0	0:00	0:00
EX	0:00	0	0:00	0:00
EY	0:00	0	0:00	0:00
EZ	0:00	0	0:00	0:00
FA	0:00	0	0:00	0:00
FB	0:00	0	0:00	0:00
FC	0:00	0	0:00	0:00
FD	0:00	0	0:00	0:00
FE	0:00	0	0:00	0:00
FF	0:00	0	0:00	0:00
FG	0:00	0	0:00	0:00
FH	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
FI	0:00	0	0:00	0:00
FJ	0:00	0	0:00	0:00
FK	0:00	0	0:00	0:00
FL	0:00	0	0:00	0:00
FM	0:00	0	0:00	0:00
FN	0:00	0	0:00	0:00
FO	0:00	0	0:00	0:00
FP	0:00	0	0:00	0:00
FQ	0:00	0	0:00	0:00
FR	0:00	0	0:00	0:00
FS	0:00	0	0:00	0:00
FT	0:00	0	0:00	0:00
FU	0:00	0	0:00	0:00
FV	0:00	0	0:00	0:00
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	0:00	0	0:00	0:00
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	16:49	48	0:26	3:49
GN	0:00	0	0:00	0:00
GO	0:00	0	0:00	0:00
GP	0:00	0	0:00	0:00
GQ	18:57	58	0:26	5:13
GR	14:57	46	0:25	4:20
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	0:00	0	0:00	0:00
HK	0:00	0	0:00	0:00
HL	0:00	0	0:00	0:00
HM	0:00	0	0:00	0:00
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	0:00	0	0:00	0:00
HS	24:56	62	0:28	5:59

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HT	0:00	0	0:00	0:00
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	0:00	0	0:00	0:00
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	0:00	0	0:00	0:00
IO	0:00	0	0:00	0:00
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	0:00	0	0:00	0:00
IY	0:00	0	0:00	0:00
IZ	30:49	80	0:28	7:52
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00
KA	0:00	0	0:00	0:00
KB	0:00	0	0:00	0:00
KC	0:00	0	0:00	0:00
KD	0:00	0	0:00	0:00
KE	0:00	0	0:00	0:00

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:04 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - Primary Turbines (Enercon)

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (19)	0:00	0:00
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (20)	0:00	0:00
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (21)	0:00	0:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (22)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (23)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (24)	160:28	66:47
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (25)	81:59	35:33
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (26)	22:39	6:14
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (27)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (28)	0:00	0:00
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (29)	101:23	31:22

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

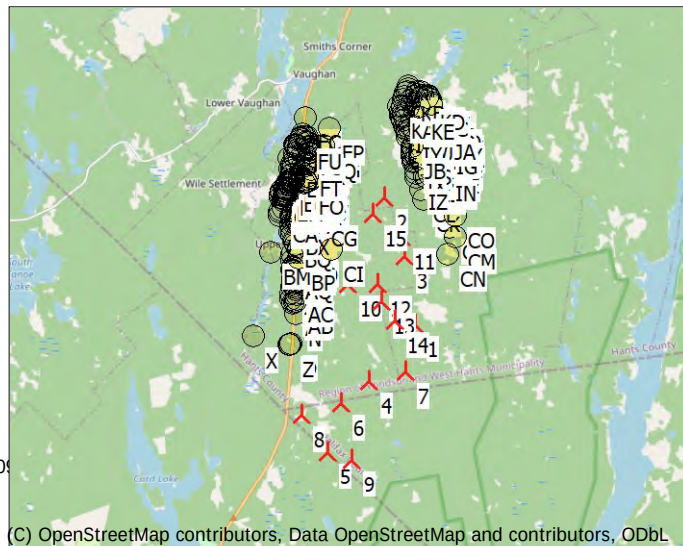
DHM: Elevation Grid Data Object: BL_ShadowFlicker_BareEarth_RECOVER001 2025-01

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	405,225.85	4,959,338.44	241.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
2	404,455.49	4,962,704.47	228.0	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
3	404,970.89	4,961,142.18	246.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
4	403,982.81	4,957,870.53	226.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
5	402,869.06	4,956,009.10	237.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
6	403,251.85	4,957,272.60	239.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
7	404,955.05	4,958,078.55	203.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
8	402,165.46	4,956,998.79	215.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
9	403,489.16	4,955,783.56	227.1	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
10	403,453.85	4,960,446.86	239.9	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
11	404,916.49	4,961,655.94	247.6	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
12	404,250.11	4,960,437.00	261.8	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
13	404,348.17	4,959,958.45	260.3	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
14	404,695.30	4,959,442.28	259.2	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-
15	404,167.13	4,962,260.79	243.7	Goldwind 8000 182.0 !-! hub: 120.0 m (TOT...	No	Goldwind	-8,000	8,000	182.0	120.0	1,820	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	175.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	155.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	178.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	167.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	159.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	163.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	161.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	166.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
O	402,001.60	4,960,853.76	155.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
P	402,019.98	4,960,820.43	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,953.45	4,960,193.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	166.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	165.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	154.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	130.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	136.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	118.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	107.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	130.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	137.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	150.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	153.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	117.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	134.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	110.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	127.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	140.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	137.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	120.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	117.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CA	401,705.53	4,962,412.55	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CB	401,712.16	4,962,748.16	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.72	4,962,874.49	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	198.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	106.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	212.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	156.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	173.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	103.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	127.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	105.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	112.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	113.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	111.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	103.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	102.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	102.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	127.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	105.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	126.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	104.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EM	401,798.44	4,962,989.70	123.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EN	401,900.21	4,963,123.06	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	402,212.80	4,963,300.66	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	104.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	128.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	129.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	124.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	153.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	128.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	131.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	152.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	157.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	190.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	186.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	186.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	184.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	188.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	168.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	159.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	160.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	158.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	192.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	162.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GY	405,436.33	4,964,604.17	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GZ	405,046.54	4,964,539.89	186.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	158.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,858.85	4,964,160.64	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	161.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	188.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	162.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	180.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	183.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	162.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	160.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	188.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	165.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	158.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	190.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	159.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	181.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	179.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	158.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	182.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	189.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	191.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	186.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	158.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	193.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	158.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	159.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	195.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	174.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	167.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JK	405,135.27	4,965,625.96	192.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JL	405,169.99	4,965,255.45	185.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	164.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JO	405,666.84	4,965,396.89	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	166.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	185.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	161.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	192.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	160.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	194.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	189.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
A	0:00	0	0:00	0:00	
B	12:49	36	0:28	4:52	
C	13:59	38	0:29	5:46	
D	0:00	0	0:00	0:00	
E	24:40	61	0:32	11:28	
F	15:59	40	0:30	6:48	
G	17:19	48	0:28	8:01	
H	13:37	36	0:29	5:29	
I	14:03	37	0:29	5:47	
J	15:04	38	0:30	6:14	
K	14:26	38	0:29	6:01	
L	14:26	38	0:29	6:10	
M	27:01	72	0:30	12:35	
N	4:57	27	0:14	2:19	
O	12:47	36	0:28	4:56	
P	13:14	36	0:28	5:10	
Q	13:22	36	0:29	5:18	
R	20:12	50	0:32	9:13	
S	15:13	42	0:28	6:47	
T	16:46	42	0:31	7:16	
U	15:47	40	0:31	6:34	
V	15:33	40	0:31	6:27	
W	14:39	38	0:30	6:03	
X	0:00	0	0:00	0:00	
Y	14:16	38	0:29	5:26	
Z	0:00	0	0:00	0:00	
AA	25:14	69	0:29	11:45	
AB	24:13	62	0:30	11:16	
AC	17:55	44	0:31	7:52	
AD	6:02	40	0:14	1:42	
AE	8:44	38	0:22	3:00	
AF	0:00	0	0:00	0:00	
AG	0:00	0	0:00	0:00	
AH	0:00	0	0:00	0:00	
AI	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	6:23	44	0:14	1:47
AM	3:45	30	0:11	1:06
AN	0:00	0	0:00	0:00
AO	0:00	0	0:00	0:00
AP	12:39	36	0:27	4:42
AQ	13:13	36	0:28	4:59
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	12:46	38	0:26	4:24
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	2:00	24	0:07	0:44
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	23:46	72	0:29	10:11
CH	0:00	0	0:00	0:00
CI	27:46	86	0:29	7:24
CJ	36:20	88	0:32	13:03
CK	42:02	93	0:40	17:33
CL	40:54	93	0:41	15:57
CM	29:59	77	0:30	11:52
CN	54:19	138	0:34	24:40
CO	37:28	119	0:28	11:21
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00
CT	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
CU	0:00	0	0:00	0:00	
CV	0:00	0	0:00	0:00	
CW	0:00	0	0:00	0:00	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	
FE	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
FF	0:00	0	0:00	0:00
FG	0:00	0	0:00	0:00
FH	0:00	0	0:00	0:00
FI	0:00	0	0:00	0:00
FJ	0:00	0	0:00	0:00
FK	0:00	0	0:00	0:00
FL	0:00	0	0:00	0:00
FM	0:00	0	0:00	0:00
FN	0:00	0	0:00	0:00
FO	0:00	0	0:00	0:00
FP	0:00	0	0:00	0:00
FQ	0:00	0	0:00	0:00
FR	0:00	0	0:00	0:00
FS	0:00	0	0:00	0:00
FT	0:00	0	0:00	0:00
FU	0:00	0	0:00	0:00
FV	18:31	46	0:32	6:33
FW	0:00	0	0:00	0:00
FX	0:00	0	0:00	0:00
FY	0:00	0	0:00	0:00
FZ	0:00	0	0:00	0:00
GA	0:00	0	0:00	0:00
GB	0:00	0	0:00	0:00
GC	0:00	0	0:00	0:00
GD	0:00	0	0:00	0:00
GE	0:00	0	0:00	0:00
GF	0:00	0	0:00	0:00
GG	0:00	0	0:00	0:00
GH	16:21	44	0:27	3:40
GI	0:00	0	0:00	0:00
GJ	0:00	0	0:00	0:00
GK	0:00	0	0:00	0:00
GL	0:00	0	0:00	0:00
GM	58:57	98	0:40	15:20
GN	0:00	0	0:00	0:00
GO	19:30	52	0:30	5:50
GP	15:00	42	0:27	4:46
GQ	46:30	118	0:36	14:26
GR	38:02	100	0:34	12:36
GS	0:00	0	0:00	0:00
GT	0:00	0	0:00	0:00
GU	0:00	0	0:00	0:00
GV	0:00	0	0:00	0:00
GW	0:00	0	0:00	0:00
GX	0:00	0	0:00	0:00
GY	0:00	0	0:00	0:00
GZ	0:00	0	0:00	0:00
HA	0:00	0	0:00	0:00
HB	0:00	0	0:00	0:00
HC	0:00	0	0:00	0:00
HD	0:00	0	0:00	0:00
HE	0:00	0	0:00	0:00
HF	0:00	0	0:00	0:00
HG	0:00	0	0:00	0:00
HH	0:00	0	0:00	0:00
HI	0:00	0	0:00	0:00
HJ	4:03	20	0:15	0:50
HK	17:11	52	0:26	4:57
HL	13:52	38	0:28	3:04
HM	15:37	45	0:27	4:42
HN	0:00	0	0:00	0:00
HO	0:00	0	0:00	0:00
HP	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HQ	0:00	0	0:00	0:00
HR	13:49	40	0:27	4:56
HS	62:16	112	0:41	17:09
HT	38:01	82	0:33	9:41
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	15:07	48	0:25	4:21
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	11:41	38	0:24	3:49
IJ	18:32	47	0:31	6:04
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	12:04	37	0:25	4:11
IO	14:27	40	0:27	3:13
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	4:53	22	0:17	1:01
IY	0:00	0	0:00	0:00
IZ	67:33	134	0:42	20:06
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00
KA	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-30 6:28 AM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Goldwind)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
KB	0:00	0	0:00	0:00	
KC	0:00	0	0:00	0:00	
KD	0:00	0	0:00	0:00	
KE	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name		Worst case [h/year]	Expected [h/year]
1	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (1)	0:00	0:00
2	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (2)	204:48	68:35
3	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (3)	71:23	23:38
4	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (4)	0:00	0:00
5	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (5)	0:00	0:00
6	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (6)	0:00	0:00
7	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (7)	0:00	0:00
8	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (8)	0:00	0:00
9	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (9)	0:00	0:00
10	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (10)	172:53	71:16
11	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (11)	85:53	37:05
12	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (12)	27:46	7:24
13	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (13)	0:00	0:00
14	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (14)	0:00	0:00
15	Goldwind	8000 182.0 !-! hub: 120.0 m (TOT: 211.0 m) (15)	104:17	32:07

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Assumptions for shadow calculations

Maximum distance for influence

Calculate only when more than 20 % of sun is covered by the blade

Please look in WTG table

Minimum sun height over horizon for influence

3 °

Day step for calculation

1 days

Time step for calculation

1 minutes

Sunshine probability S (Average daily sunshine hours) [KENTVILLE]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.53	3.50	4.28	4.96	6.33	7.24	7.51	7.27	5.85	4.44	2.81	1.86

No operational time reduction. It is assumed the WTGs are always running with worst case wind direction.

Monthly aggregation of real case reduction

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

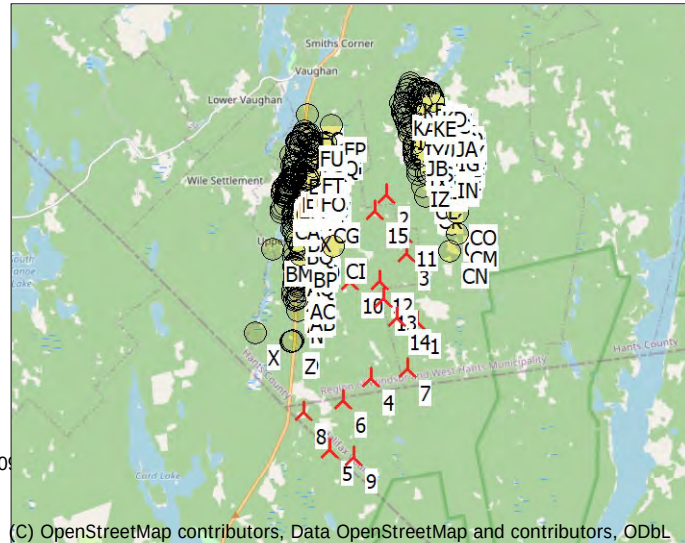
DHM: Elevation Grid Data Object: BL_ShadowFlicker_BareEarth_RECOVER001 2025-01

Receptor grid resolution: 1.0 m

Topographic shadow included in calculation

All coordinates are in

UTM (north)-NAD83(CSRS)v6 (US+CA), geocentric, GRS80 Zone: 20



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:200,000

New WTG

Shadow receptor

WTGs

	Easting	Northing	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
1	405,225.85	4,959,338.44	241.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
2	404,455.49	4,962,704.47	228.0	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
3	404,970.89	4,961,142.18	246.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
4	403,982.81	4,957,870.53	226.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
5	402,869.06	4,956,009.10	237.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
6	403,251.85	4,957,272.60	239.9	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
7	404,955.05	4,958,078.55	203.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
8	402,165.46	4,956,998.79	215.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
9	403,489.16	4,955,783.56	227.1	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
10	403,453.85	4,960,446.86	239.9	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
11	404,916.49	4,961,655.94	247.6	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
12	404,250.11	4,960,437.00	261.8	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
13	404,348.17	4,959,958.45	260.3	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
14	404,695.30	4,959,442.28	259.2	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-
15	404,167.13	4,962,260.79	243.7	ENERCON E-175 EP5 E2 7000 175.0 !O!...Yes		ENERCON	E-175 EP5 E2-7,000	7,000	175.0	132.5	1,739	-

Shadow receptor-Input

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
A	401,880.72	4,958,855.08	175.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
B	402,007.41	4,960,897.66	155.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
C	402,024.92	4,960,600.34	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
D	401,942.55	4,958,900.89	178.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
E	402,111.35	4,960,042.64	169.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
F	402,067.95	4,960,405.79	167.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
G	401,948.01	4,960,053.12	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
H	402,029.37	4,960,733.25	159.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
I	402,041.09	4,960,664.04	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
J	402,071.64	4,960,585.48	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
K	402,014.36	4,960,461.54	163.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
L	401,995.87	4,960,380.88	161.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
M	402,060.13	4,959,961.70	166.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
N	402,067.72	4,959,668.57	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
O	402,001.60	4,960,853.76	155.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
P	402,019.98	4,960,820.43	156.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Q	402,022.11	4,960,773.39	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
R	402,106.61	4,960,165.76	169.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
S	401,953.45	4,960,193.66	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
T	402,077.23	4,960,342.98	168.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
U	402,081.57	4,960,482.64	166.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
V	402,086.71	4,960,537.82	165.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
W	402,063.75	4,960,623.42	162.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
X	400,926.92	4,959,085.58	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Y	402,083.77	4,960,880.62	154.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
Z	401,910.92	4,958,869.68	177.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AA	402,011.40	4,959,937.86	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AB	402,072.27	4,960,007.51	166.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AC	402,099.07	4,960,292.67	169.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AD	402,074.95	4,961,577.40	130.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AE	402,172.74	4,961,240.60	136.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AF	401,831.58	4,962,856.86	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AG	401,808.15	4,962,617.30	110.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AH	402,152.19	4,962,402.95	119.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AI	402,136.04	4,962,232.26	118.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AJ	402,008.37	4,961,870.62	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AK	401,946.60	4,961,828.76	107.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AL	402,061.49	4,961,606.64	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AM	402,115.28	4,961,486.65	130.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AN	402,153.92	4,961,412.94	134.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AO	402,172.04	4,961,365.61	137.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AP	402,000.16	4,961,046.79	150.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AQ	402,027.51	4,960,932.89	153.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AR	401,868.23	4,962,946.18	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AS	402,270.79	4,962,922.75	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AT	401,850.62	4,962,913.51	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AU	401,819.14	4,962,833.09	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AV	401,795.44	4,962,795.53	111.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AW	401,802.74	4,962,757.40	110.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AX	401,786.89	4,962,721.98	116.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AY	401,788.55	4,962,692.66	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
AZ	402,302.22	4,962,513.18	110.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BA	402,182.64	4,962,487.93	112.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BB	401,782.57	4,962,467.82	108.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BC	402,334.07	4,962,450.60	117.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BD	402,056.27	4,962,352.73	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BE	402,041.29	4,962,300.00	110.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BF	401,997.26	4,962,243.82	107.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BG	402,138.03	4,962,123.22	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BH	401,977.41	4,962,035.19	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BI	402,137.82	4,962,021.98	134.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BJ	401,675.01	4,962,257.96	110.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BK	402,199.08	4,962,187.49	127.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BL	401,989.89	4,961,257.21	140.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BM	401,436.70	4,961,310.14	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BN	402,121.48	4,962,171.85	118.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BO	402,290.81	4,962,473.10	112.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BP	402,151.66	4,961,127.99	137.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BQ	402,005.76	4,961,751.24	120.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BR	402,013.80	4,962,170.56	109.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BS	402,162.12	4,962,312.37	117.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BT	402,156.12	4,962,155.63	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BU	401,760.30	4,962,936.28	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BV	402,023.88	4,962,271.45	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BW	401,829.12	4,962,891.09	111.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BX	402,040.71	4,962,094.51	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BY	401,681.21	4,962,351.10	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
BZ	401,790.31	4,962,787.56	112.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).

Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
CA	401,705.53	4,962,412.55	117.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CB	401,712.16	4,962,748.16	126.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CC	402,330.60	4,962,807.29	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CD	401,713.13	4,962,808.66	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CE	401,737.72	4,962,874.49	126.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CF	402,397.52	4,962,949.68	118.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CG	402,717.86	4,962,303.72	198.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CH	402,377.46	4,962,832.97	106.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CI	403,021.09	4,961,374.71	212.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CJ	406,183.65	4,961,880.23	156.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CK	405,505.76	4,962,627.60	163.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CL	405,447.77	4,962,900.20	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CM	406,321.61	4,961,641.79	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CN	406,125.03	4,961,189.93	173.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CO	406,331.58	4,962,172.43	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CP	402,035.44	4,963,533.34	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CQ	402,019.18	4,963,431.39	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CR	402,091.85	4,963,197.05	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CS	402,040.37	4,963,171.00	111.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CT	402,333.50	4,963,069.59	115.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CU	401,894.05	4,962,990.71	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CV	402,316.15	4,964,404.89	108.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CW	402,371.62	4,963,006.98	120.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CX	402,289.30	4,964,337.19	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CY	402,253.53	4,964,274.64	103.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
CZ	402,035.17	4,963,360.12	126.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DA	402,193.21	4,964,009.74	109.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DB	401,961.07	4,963,804.45	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DC	402,039.85	4,963,630.00	109.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DD	402,261.74	4,963,515.91	115.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DE	401,987.13	4,963,495.43	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DF	402,331.70	4,963,459.62	127.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DG	402,314.60	4,963,286.03	105.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DH	401,957.70	4,963,188.53	118.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DI	402,074.62	4,963,184.37	109.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DJ	401,926.03	4,963,152.11	119.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DK	402,341.88	4,963,144.44	109.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DL	402,010.85	4,963,142.55	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DM	401,961.91	4,963,091.45	112.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DN	401,942.38	4,963,062.81	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DO	402,290.05	4,963,045.40	113.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DP	401,911.59	4,963,020.38	109.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DQ	402,268.82	4,962,978.79	111.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DR	401,882.53	4,962,962.92	110.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DS	402,238.19	4,964,244.33	103.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DT	402,111.33	4,964,143.67	102.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DU	402,149.17	4,964,134.97	103.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DV	402,149.56	4,964,101.97	106.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DW	402,145.66	4,964,053.04	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DX	402,130.69	4,963,892.32	102.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DY	402,122.33	4,963,818.48	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
DZ	402,271.22	4,963,413.38	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EA	402,367.29	4,963,479.20	127.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EB	402,361.56	4,963,424.49	125.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EC	402,210.52	4,964,080.08	111.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ED	402,261.31	4,964,305.33	105.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EE	401,877.13	4,963,065.13	117.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EF	402,092.83	4,963,255.71	114.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EG	401,845.64	4,963,007.97	114.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EH	402,009.48	4,963,334.59	126.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EI	402,217.02	4,963,748.78	114.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EJ	402,289.03	4,963,174.87	105.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EK	402,323.91	4,963,009.69	115.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EL	402,298.45	4,963,212.95	104.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
EM	401,798.44	4,962,989.70	123.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EN	401,900.21	4,963,123.06	119.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EO	402,006.33	4,963,227.30	115.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EP	402,229.53	4,963,192.45	108.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EQ	402,212.80	4,963,300.66	103.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ER	402,258.29	4,963,266.15	104.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ES	402,097.38	4,963,587.13	104.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ET	402,341.12	4,963,102.48	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EU	402,554.65	4,963,781.63	130.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EV	402,468.56	4,964,048.08	128.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EW	402,491.95	4,963,960.65	129.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EX	402,419.13	4,963,562.15	125.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EY	402,552.58	4,963,448.46	121.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
EZ	402,533.08	4,963,238.98	121.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FA	402,505.61	4,963,184.41	117.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FB	402,407.41	4,963,173.23	112.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FC	402,414.97	4,964,828.05	106.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FD	402,455.61	4,964,321.31	124.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FE	402,420.94	4,964,230.95	122.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FF	402,440.08	4,964,184.60	124.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FG	402,878.63	4,964,106.51	153.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FH	402,460.25	4,964,085.23	127.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FI	402,502.83	4,964,008.45	128.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FJ	402,508.57	4,963,886.34	131.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FK	402,444.78	4,963,296.12	114.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FL	402,443.65	4,963,761.31	128.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FM	402,453.59	4,963,715.05	128.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FN	402,436.20	4,963,660.00	129.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FO	402,405.06	4,963,125.39	116.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FP	403,011.20	4,964,569.62	175.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FQ	402,752.79	4,964,088.49	152.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FR	402,498.62	4,963,910.99	130.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FS	402,472.88	4,964,179.88	126.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FT	402,448.82	4,963,614.98	126.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FU	402,398.64	4,964,313.34	117.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FV	405,676.13	4,963,301.43	157.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FW	405,009.01	4,964,964.61	190.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FX	405,534.98	4,964,820.78	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FY	405,791.55	4,964,647.72	164.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
FZ	405,437.67	4,964,491.26	168.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GA	405,075.08	4,964,475.70	186.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GB	405,462.67	4,964,436.80	168.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GC	405,300.26	4,964,438.36	186.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GD	405,490.34	4,964,395.35	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GE	405,521.01	4,964,226.53	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GF	405,494.78	4,964,128.97	164.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GG	405,219.47	4,963,860.79	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GH	405,451.87	4,963,744.02	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GI	405,226.74	4,963,729.42	184.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GJ	404,929.92	4,964,854.17	188.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GK	405,436.48	4,963,944.98	168.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GL	405,463.82	4,964,648.40	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GM	405,322.11	4,963,404.15	165.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GN	405,437.75	4,964,966.70	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GO	405,717.21	4,963,492.13	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GP	405,864.87	4,963,486.05	161.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GQ	405,518.50	4,963,261.60	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GR	405,582.54	4,963,216.39	159.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GS	405,893.99	4,964,980.84	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GT	405,459.07	4,964,854.62	160.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GU	405,742.69	4,964,763.62	158.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GV	405,072.62	4,964,753.86	192.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GW	405,497.96	4,964,703.96	162.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GX	406,110.35	4,964,624.70	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
GY	405,436.33	4,964,604.17	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
GZ	405,046.54	4,964,539.89	186.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HA	406,105.10	4,964,330.51	158.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HB	405,493.51	4,964,320.23	172.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HC	405,858.85	4,964,160.64	161.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HD	405,805.03	4,964,116.44	160.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HE	405,486.99	4,964,013.89	164.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HF	406,114.08	4,963,851.28	161.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HG	405,442.41	4,963,843.16	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HH	405,214.91	4,963,807.50	188.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HI	406,141.66	4,963,770.58	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HJ	405,337.11	4,963,733.89	172.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HK	405,877.97	4,963,636.51	162.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HL	405,245.99	4,963,622.08	180.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HM	405,873.00	4,963,546.99	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HN	405,306.19	4,964,192.55	183.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HO	405,216.31	4,963,901.96	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HP	405,811.23	4,964,570.47	162.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HQ	405,976.46	4,964,793.06	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HR	405,891.20	4,963,357.10	163.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HS	405,325.50	4,963,329.44	164.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HT	405,515.12	4,963,571.38	160.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HU	405,430.02	4,964,915.68	164.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HV	404,927.32	4,964,988.89	188.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HW	404,944.86	4,964,792.17	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HX	405,035.45	4,964,621.81	186.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HY	406,078.50	4,964,435.26	158.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
HZ	405,964.69	4,963,677.47	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IA	405,515.78	4,964,267.27	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IB	405,226.53	4,963,981.73	192.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IC	405,325.11	4,963,802.52	174.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
ID	405,502.34	4,964,181.91	165.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IE	406,162.38	4,963,639.45	165.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IF	405,847.07	4,964,867.09	161.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IG	406,063.55	4,964,163.20	158.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IH	405,026.49	4,964,820.55	190.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
II	406,046.87	4,963,523.98	166.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IJ	405,697.67	4,963,397.93	159.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IK	405,074.98	4,964,285.70	181.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IL	405,309.31	4,964,995.21	179.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IM	405,763.20	4,964,900.42	158.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IN	406,008.70	4,963,439.20	164.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IO	405,440.96	4,963,750.73	162.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IP	405,838.82	4,964,499.88	158.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IQ	405,977.20	4,964,790.79	172.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IR	405,463.26	4,964,047.23	167.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IS	405,432.26	4,963,885.90	164.5	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IT	405,092.03	4,964,403.76	182.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IU	405,432.89	4,964,531.14	170.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IV	404,989.04	4,964,707.92	189.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IW	405,158.81	4,964,602.18	191.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IX	405,252.84	4,963,662.79	182.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IY	405,175.62	4,964,467.09	186.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
IZ	405,322.46	4,963,214.01	162.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JA	406,022.13	4,964,552.26	158.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JB	405,209.94	4,964,045.09	193.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JC	405,069.36	4,965,448.42	193.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JD	405,513.19	4,965,385.84	158.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JE	405,467.05	4,965,322.14	159.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JF	405,095.02	4,965,483.49	195.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JG	405,290.54	4,965,361.33	174.7	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JH	405,746.41	4,965,185.39	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JI	405,364.56	4,965,484.91	167.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JJ	405,476.42	4,965,474.72	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
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 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Easting	Northing	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
JK	405,135.27	4,965,625.96	192.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JL	405,169.99	4,965,255.45	185.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JM	405,409.40	4,965,017.76	164.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JN	405,362.32	4,965,426.57	167.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JO	405,666.84	4,965,396.89	159.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JP	405,679.95	4,965,366.44	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JQ	405,047.78	4,965,364.89	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JR	405,390.94	4,965,187.92	166.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JS	405,223.69	4,965,170.16	185.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JT	405,705.89	4,965,299.29	160.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JU	405,427.58	4,965,298.42	161.9	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JV	405,025.94	4,965,301.05	192.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JW	405,722.51	4,965,272.66	160.0	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JX	405,117.04	4,965,073.26	194.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JY	405,403.72	4,965,130.98	162.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
JZ	404,997.53	4,965,111.87	189.8	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KA	404,888.56	4,965,091.18	186.1	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KB	405,119.65	4,965,564.51	195.2	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KC	405,754.85	4,965,152.49	159.3	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KD	405,646.88	4,965,335.72	159.6	1.0	1.0	1.0	90.0	"Green house mode"	2.0
KE	405,406.87	4,965,064.53	163.4	1.0	1.0	1.0	90.0	"Green house mode"	2.0

Calculation Results

Shadow receptor

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A	0:00	0	0:00	0:00
B	11:47	34	0:27	4:29
C	12:55	35	0:28	5:20
D	0:00	0	0:00	0:00
E	23:25	62	0:30	10:53
F	14:54	40	0:29	6:21
G	16:08	46	0:27	7:30
H	12:32	36	0:28	5:04
I	12:56	36	0:28	5:20
J	13:52	38	0:29	5:44
K	13:30	38	0:28	5:39
L	13:34	38	0:28	5:49
M	26:33	75	0:29	12:23
N	1:53	15	0:09	0:52
O	11:47	34	0:27	4:34
P	12:13	35	0:27	4:47
Q	12:21	35	0:28	4:56
R	18:49	48	0:30	8:37
S	14:11	41	0:27	6:21
T	15:27	41	0:29	6:43
U	14:34	39	0:29	6:05
V	14:14	37	0:29	5:54
W	13:30	37	0:29	5:35
X	0:00	0	0:00	0:00
Y	13:08	36	0:28	5:01
Z	0:00	0	0:00	0:00
AA	24:27	71	0:28	11:23
AB	23:09	62	0:29	10:45
AC	16:39	44	0:30	7:21
AD	0:00	0	0:00	0:00
AE	9:14	37	0:23	3:12
AF	0:00	0	0:00	0:00
AG	0:00	0	0:00	0:00
AH	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]
AI	0:00	0	0:00	0:00
AJ	0:00	0	0:00	0:00
AK	0:00	0	0:00	0:00
AL	0:00	0	0:00	0:00
AM	4:24	31	0:13	1:17
AN	0:12	9	0:02	0:03
AO	0:00	0	0:00	0:00
AP	11:37	34	0:26	4:19
AQ	12:01	35	0:27	4:32
AR	0:00	0	0:00	0:00
AS	0:00	0	0:00	0:00
AT	0:00	0	0:00	0:00
AU	0:00	0	0:00	0:00
AV	0:00	0	0:00	0:00
AW	0:00	0	0:00	0:00
AX	0:00	0	0:00	0:00
AY	0:00	0	0:00	0:00
AZ	0:00	0	0:00	0:00
BA	0:00	0	0:00	0:00
BB	0:00	0	0:00	0:00
BC	0:00	0	0:00	0:00
BD	0:00	0	0:00	0:00
BE	0:00	0	0:00	0:00
BF	0:00	0	0:00	0:00
BG	0:00	0	0:00	0:00
BH	0:00	0	0:00	0:00
BI	0:00	0	0:00	0:00
BJ	0:00	0	0:00	0:00
BK	0:00	0	0:00	0:00
BL	11:34	37	0:25	4:02
BM	0:00	0	0:00	0:00
BN	0:00	0	0:00	0:00
BO	0:00	0	0:00	0:00
BP	2:40	25	0:09	0:59
BQ	0:00	0	0:00	0:00
BR	0:00	0	0:00	0:00
BS	0:00	0	0:00	0:00
BT	0:00	0	0:00	0:00
BU	0:00	0	0:00	0:00
BV	0:00	0	0:00	0:00
BW	0:00	0	0:00	0:00
BX	0:00	0	0:00	0:00
BY	0:00	0	0:00	0:00
BZ	0:00	0	0:00	0:00
CA	0:00	0	0:00	0:00
CB	0:00	0	0:00	0:00
CC	0:00	0	0:00	0:00
CD	0:00	0	0:00	0:00
CE	0:00	0	0:00	0:00
CF	0:00	0	0:00	0:00
CG	13:00	36	0:28	5:23
CH	0:00	0	0:00	0:00
CI	22:39	66	0:28	6:14
CJ	33:10	86	0:31	12:04
CK	39:49	90	0:38	16:39
CL	38:53	91	0:39	15:13
CM	27:30	75	0:29	10:55
CN	54:34	135	0:33	24:46
CO	31:47	98	0:27	9:55
CP	0:00	0	0:00	0:00
CQ	0:00	0	0:00	0:00
CR	0:00	0	0:00	0:00
CS	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
CT	0:00	0	0:00	0:00	
CU	0:00	0	0:00	0:00	
CV	0:00	0	0:00	0:00	
CW	0:00	0	0:00	0:00	
CX	0:00	0	0:00	0:00	
CY	0:00	0	0:00	0:00	
CZ	0:00	0	0:00	0:00	
DA	0:00	0	0:00	0:00	
DB	0:00	0	0:00	0:00	
DC	0:00	0	0:00	0:00	
DD	0:00	0	0:00	0:00	
DE	0:00	0	0:00	0:00	
DF	0:00	0	0:00	0:00	
DG	0:00	0	0:00	0:00	
DH	0:00	0	0:00	0:00	
DI	0:00	0	0:00	0:00	
DJ	0:00	0	0:00	0:00	
DK	0:00	0	0:00	0:00	
DL	0:00	0	0:00	0:00	
DM	0:00	0	0:00	0:00	
DN	0:00	0	0:00	0:00	
DO	0:00	0	0:00	0:00	
DP	0:00	0	0:00	0:00	
DQ	0:00	0	0:00	0:00	
DR	0:00	0	0:00	0:00	
DS	0:00	0	0:00	0:00	
DT	0:00	0	0:00	0:00	
DU	0:00	0	0:00	0:00	
DV	0:00	0	0:00	0:00	
DW	0:00	0	0:00	0:00	
DX	0:00	0	0:00	0:00	
DY	0:00	0	0:00	0:00	
DZ	0:00	0	0:00	0:00	
EA	0:00	0	0:00	0:00	
EB	0:00	0	0:00	0:00	
EC	0:00	0	0:00	0:00	
ED	0:00	0	0:00	0:00	
EE	0:00	0	0:00	0:00	
EF	0:00	0	0:00	0:00	
EG	0:00	0	0:00	0:00	
EH	0:00	0	0:00	0:00	
EI	0:00	0	0:00	0:00	
EJ	0:00	0	0:00	0:00	
EK	0:00	0	0:00	0:00	
EL	0:00	0	0:00	0:00	
EM	0:00	0	0:00	0:00	
EN	0:00	0	0:00	0:00	
EO	0:00	0	0:00	0:00	
EP	0:00	0	0:00	0:00	
EQ	0:00	0	0:00	0:00	
ER	0:00	0	0:00	0:00	
ES	0:00	0	0:00	0:00	
ET	0:00	0	0:00	0:00	
EU	0:00	0	0:00	0:00	
EV	0:00	0	0:00	0:00	
EW	0:00	0	0:00	0:00	
EX	0:00	0	0:00	0:00	
EY	0:00	0	0:00	0:00	
EZ	0:00	0	0:00	0:00	
FA	0:00	0	0:00	0:00	
FB	0:00	0	0:00	0:00	
FC	0:00	0	0:00	0:00	
FD	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
FE	0:00	0	0:00	0:00	
FF	0:00	0	0:00	0:00	
FG	0:00	0	0:00	0:00	
FH	0:00	0	0:00	0:00	
FI	0:00	0	0:00	0:00	
FJ	0:00	0	0:00	0:00	
FK	0:00	0	0:00	0:00	
FL	0:00	0	0:00	0:00	
FM	0:00	0	0:00	0:00	
FN	0:00	0	0:00	0:00	
FO	0:00	0	0:00	0:00	
FP	0:00	0	0:00	0:00	
FQ	0:00	0	0:00	0:00	
FR	0:00	0	0:00	0:00	
FS	0:00	0	0:00	0:00	
FT	0:00	0	0:00	0:00	
FU	0:00	0	0:00	0:00	
FV	16:52	44	0:30	6:03	
FW	0:00	0	0:00	0:00	
FX	0:00	0	0:00	0:00	
FY	0:00	0	0:00	0:00	
FZ	0:00	0	0:00	0:00	
GA	0:00	0	0:00	0:00	
GB	0:00	0	0:00	0:00	
GC	0:00	0	0:00	0:00	
GD	0:00	0	0:00	0:00	
GE	0:00	0	0:00	0:00	
GF	0:00	0	0:00	0:00	
GG	0:00	0	0:00	0:00	
GH	17:52	46	0:28	4:03	
GI	0:00	0	0:00	0:00	
GJ	0:00	0	0:00	0:00	
GK	0:00	0	0:00	0:00	
GL	0:00	0	0:00	0:00	
GM	55:16	100	0:38	14:33	
GN	0:00	0	0:00	0:00	
GO	17:22	48	0:28	5:15	
GP	13:35	40	0:26	4:24	
GQ	40:42	108	0:34	12:55	
GR	34:15	92	0:33	11:28	
GS	0:00	0	0:00	0:00	
GT	0:00	0	0:00	0:00	
GU	0:00	0	0:00	0:00	
GV	0:00	0	0:00	0:00	
GW	0:00	0	0:00	0:00	
GX	0:00	0	0:00	0:00	
GY	0:00	0	0:00	0:00	
GZ	0:00	0	0:00	0:00	
HA	0:00	0	0:00	0:00	
HB	0:00	0	0:00	0:00	
HC	0:00	0	0:00	0:00	
HD	0:00	0	0:00	0:00	
HE	0:00	0	0:00	0:00	
HF	0:00	0	0:00	0:00	
HG	1:45	14	0:09	0:22	
HH	0:00	0	0:00	0:00	
HI	0:00	0	0:00	0:00	
HJ	6:43	26	0:19	1:26	
HK	15:10	46	0:25	4:24	
HL	16:25	42	0:29	3:40	
HM	14:01	42	0:26	4:16	
HN	0:00	0	0:00	0:00	
HO	0:00	0	0:00	0:00	

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

Dillon Consulting Limited
 130 Dufferin Avenue Suite 1210
 CA-N6A 5R2 London, Ontario
 519.438.1288
 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case		Shadow, expected values	
	Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
HP	0:00	0	0:00	0:00
HQ	0:00	0	0:00	0:00
HR	12:33	37	0:26	4:32
HS	58:17	114	0:39	16:11
HT	35:15	84	0:31	9:05
HU	0:00	0	0:00	0:00
HV	0:00	0	0:00	0:00
HW	0:00	0	0:00	0:00
HX	0:00	0	0:00	0:00
HY	0:00	0	0:00	0:00
HZ	0:00	0	0:00	0:00
IA	0:00	0	0:00	0:00
IB	0:00	0	0:00	0:00
IC	0:00	0	0:00	0:00
ID	0:00	0	0:00	0:00
IE	0:00	0	0:00	0:00
IF	0:00	0	0:00	0:00
IG	0:00	0	0:00	0:00
IH	0:00	0	0:00	0:00
II	0:00	0	0:00	0:00
IJ	16:47	44	0:29	5:35
IK	0:00	0	0:00	0:00
IL	0:00	0	0:00	0:00
IM	0:00	0	0:00	0:00
IN	11:06	36	0:24	3:54
IO	16:06	44	0:27	3:37
IP	0:00	0	0:00	0:00
IQ	0:00	0	0:00	0:00
IR	0:00	0	0:00	0:00
IS	0:00	0	0:00	0:00
IT	0:00	0	0:00	0:00
IU	0:00	0	0:00	0:00
IV	0:00	0	0:00	0:00
IW	0:00	0	0:00	0:00
IX	7:53	28	0:21	1:42
IY	0:00	0	0:00	0:00
IZ	61:56	136	0:41	18:41
JA	0:00	0	0:00	0:00
JB	0:00	0	0:00	0:00
JC	0:00	0	0:00	0:00
JD	0:00	0	0:00	0:00
JE	0:00	0	0:00	0:00
JF	0:00	0	0:00	0:00
JG	0:00	0	0:00	0:00
JH	0:00	0	0:00	0:00
JI	0:00	0	0:00	0:00
JJ	0:00	0	0:00	0:00
JK	0:00	0	0:00	0:00
JL	0:00	0	0:00	0:00
JM	0:00	0	0:00	0:00
JN	0:00	0	0:00	0:00
JO	0:00	0	0:00	0:00
JP	0:00	0	0:00	0:00
JQ	0:00	0	0:00	0:00
JR	0:00	0	0:00	0:00
JS	0:00	0	0:00	0:00
JT	0:00	0	0:00	0:00
JU	0:00	0	0:00	0:00
JV	0:00	0	0:00	0:00
JW	0:00	0	0:00	0:00
JX	0:00	0	0:00	0:00
JY	0:00	0	0:00	0:00
JZ	0:00	0	0:00	0:00

To be continued on next page...

Project:

BL_ShadowFlicker_BareEarth

Description:

Bear Lake Shadow Flicker using Bare Earth (DEM).
 Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

Licensed user:

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 Jacob Albury / jalbury@dillon.ca
 Calculated:
 2025-11-13 4:27 PM/4.1.254

SHADOW - Main Result

Calculation: Bear Lake (Bare Earth) Worst Case Scenario - All Turbines (Enercon)

...continued from previous page

No.	Shadow, worst case			Shadow, expected values	
	Shadow hours	Shadow days	Max shadow	Shadow hours	
	per year [h/year]	per year [days/year]	hours per day [h/day]	per year [h/year]	
KA	0:00	0	0:00	0:00	
KB	0:00	0	0:00	0:00	
KC	0:00	0	0:00	0:00	
KD	0:00	0	0:00	0:00	
KE	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (1)	0:00	0:00
2	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (2)	188:39	62:02
3	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (3)	64:36	22:00
4	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (4)	0:00	0:00
5	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (5)	0:00	0:00
6	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (6)	0:00	0:00
7	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (7)	0:00	0:00
8	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (8)	0:00	0:00
9	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (9)	0:00	0:00
10	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (10)	160:28	66:47
11	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (11)	81:59	35:33
12	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (12)	22:39	6:14
13	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (13)	0:00	0:00
14	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (14)	0:00	0:00
15	ENERCON E-175 EP5 E2 7000 175.0 !O! hub: 132.5 m (TOT: 220.0 m) (15)	101:23	31:22

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

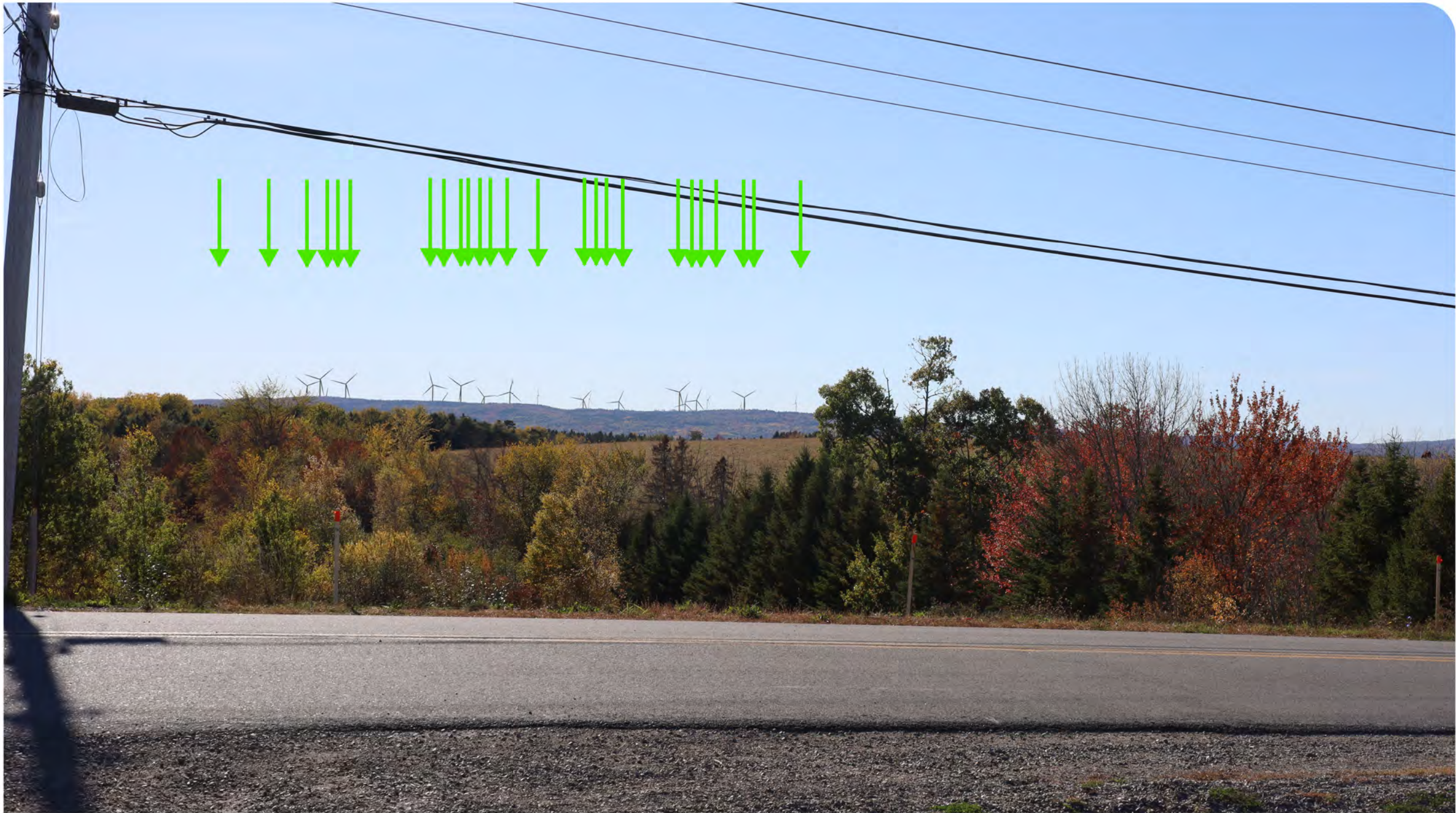
The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Appendix C

Photo Montage

1. **Figure C1** presents a view to the southwest from View Point 1 on Dill Road in Currys Corner. Benjamin Mills Phase I turbines T14, T17, T18, T20, T21, and T22 are visible. Benjamin Mills Phase II turbines T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T16, T23, T24, T25, T26, T27 are potentially visible.
2. **Figure C2** presents a view to the southwest from View Point 2 on Avon Forks RC Club in Windsor Forks. Benjamin Mills Phase I turbines T14, T15, T17, T19, and T20 are visible. Benjamin Mills Phase II turbines T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T16, T23, T26 are potentially visible.
3. **Figure C3A** presents a view to the south-southwest from View Point 3A on Castle Frederick Road in Upper Falmouth. Benjamin Mills Phase II turbines T1, T2, T3, T4, T5, T6, T7, and T8 are potentially visible. Bear Lake Alternate turbines A11, and A15 are potentially visible. Bear Lake Primary Turbines T2, T7, T9, T10, T12, T13, and T14 are potentially visible.
4. **Figure C3B** presents a view to the southwest from View Point 3B on Castle Frederick Road in Upper Falmouth. The photo used in this rendering was taken 15 m to the west of the photo used in Figure C3A. Benjamin Mills Phase I turbines T14, T15, T17, T20, and T21 are visible. Benjamin Mills Phase II turbines T6, T9, T10, T12, and T13 are potentially visible.
5. **Figure C4** presents a view to the south from View Point 4 on Dudley Park Lane in Upper Falmouth. Benjamin Mills Phase II turbines T1, T2, T3, T4, T5, T7, and T11 are potentially visible. Bear Lake Alternate turbines A11, and A15 are potentially visible. Bear Lake Primary turbines T1, T6, T9, and T10 are potentially visible.
6. **Figure C5** presents a view to the west from View Point 5 on Highway 14 in Mill Section. Benjamin Mills Phase II turbines T3, and T4 are potentially visible. This location was visited due to the expectation of shadow flicker in the worst-case scenario.
7. **Figure C6A** presents a view to the southeast from View Point 7A on New Ross Road in Vaughan. Bear Lake Primary turbine T2 is potentially visible.
8. **Figure C6B** presents a view to the north from View Point 7B on New Ross Road in Vaughan. Benjamin Mills Phase II turbines T1, T2, T3, T4, T5, T6, T7, and T8 are potentially visible.
9. **Figure C7** presents a view to the south from View Point 8 at Armstrong Lake Park in Vaughan. Bear Lake Primary turbines T2, T3, T5, T10, are potentially visible. Bear Lake Alternate turbines A4, and A11 are potentially visible.
10. **Figure C8-1** presents a view to the southwest from View Point 9 on Armstrong Lake West Road in Vaughan. Bear Lake Alternate turbine A15 is potentially visible. This location was visited due to the expectation of shadow flicker in the worst-case scenario.

11. **Figure C8-2** presents a view to the southwest from View Point 9 on Armstrong Lake West Road in Vaughan. Bear Lake Primary turbines T10, and T12 are potentially visible. This location was visited due to the expectation of shadow flicker in the worst-case scenario.
12. **Figure C9** presents a view to the northwest from View Point 11B on Highway 14 in Upper Vaughan. Benjamin Mills Phase II turbines T26, and T28 are potentially visible.
13. **Figure C10-1** presents a view to the southeast from View Point 12 on Highway 14 in Upper Vaughan. Bear Lake Primary turbine T6 is potentially visible. This location was visited due to the expectation of shadow flicker in the worst-case scenario.
14. **Figure C10-2** presents a view to the northeast from View Point 12 on Highway 14 in Upper Vaughan. Bear Lake Primary turbine T1 is potentially visible. This location was visited due to the expectation of shadow flicker in the worst-case scenario.
15. **Figure C10-3** presents a view to the northeast from View Point 12 on Highway 14 in Upper Vaughan. Benjamin Mills Phase II turbines T2, T3, and T4 are potentially visible. This location was visited due to the expectation of shadow flicker in the worst-case scenario.
16. **Figure C11** presents a view to the southwest from View Point 13 on Wile Settlement Road in Wile Settlement. South Canoe turbines T12, T17, T25, T26, and T27 are visible.
17. **Figure 12A-1** presents a view to the southeast from Viewpoint 14A at a private residence on Wile Settlement Road in Wile Settlement. Bear Lake Primary turbines T3, T5, T6, T13, T14, and T17 are potentially visible. Bear Lake Alternate turbine A8 is potentially visible.
18. **Figure 12A-2** presents a view to the southeast from Viewpoint 14A at a private residence on Wile Settlement Road in Wile Settlement. Bear Lake Primary turbines T1, T2, T3, T5, T12, and T14 are potentially visible. Bear Lake Alternate turbines A4, and A8 are potentially visible.
19. **Figure 12A-3** presents a view to the east from Viewpoint 14A at a private residence on Wile Settlement Road in Wile Settlement. Bear Lake Primary turbines T9, and T10 are potentially visible. Bear Lake alternate turbines A11, and A15 are potentially visible.
20. **Figure 12B** presents a view to the northwest from Viewpoint 14B at a private residence on Wile Settlement Road in Wile Settlement. Benjamin Mills Phase I turbines T18, and T22 are visible. Benjamin Mills Phase II turbines T26, and T28 are potentially visible.



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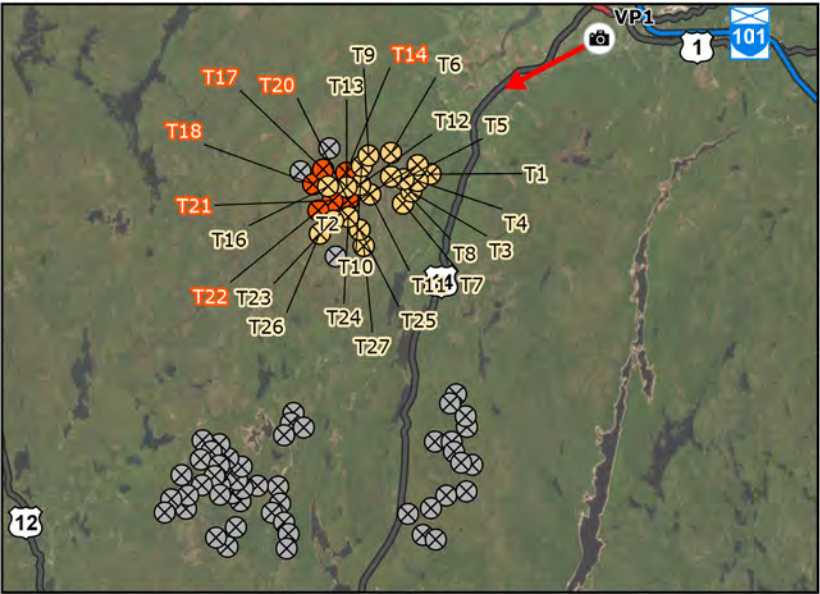
VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION
FIGURE C1

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Benjamin Mills (Phase I)
 - Benjamin Mills (Phase II)
- Camera Bearing
- Turbine Potentially Visible

Technical Information

Visual Simulation Location: Currys Corner
View Coordinates: Latitude: 44° 57' 52.95" N
Longitude: 64° 07' 30.22" W
Easting: 411273.64 m
Northing: 4979645.67 m
Distance to Nearest Turbine: 10.32 Km
Direction of View: South West Heading 242°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 3:30 PM
Photo Credit: Dillon Consulting Limited



MAP DRAWING INFORMATION:
DATA PROVIDED BY: GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

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WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION

FIGURE C2

-  Observation Location
-  Turbine Visibility Obstructed

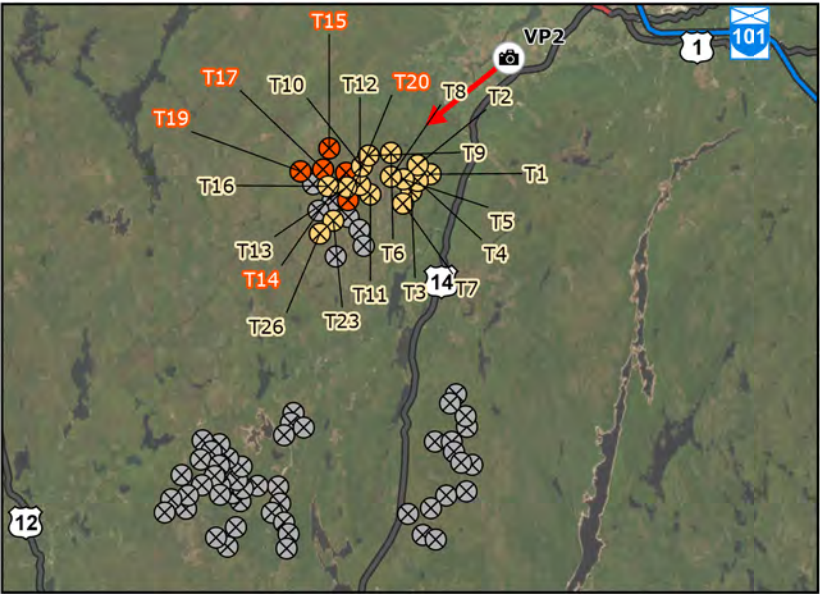
Turbine Potentially Visible

-  Benjamin Mills (Phase I)
-  Benjamin Mills (Phase II)

-  Camera Bearing
-  Turbine Potentially Visible

Technical Information

Visual Simulation Location: Windsor Forks
View Coordinates: Latitude: 44° 57' 20.9" N
Longitude: 64° 10' 46.03" W
Easting: 406969.73 m
Northing: 4978717.55 m
Distance to Nearest Turbine: 6.68 Km
Direction of View: South West Heading 231°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 3:00 PM
Photo Credit: Dillon Consulting Limited

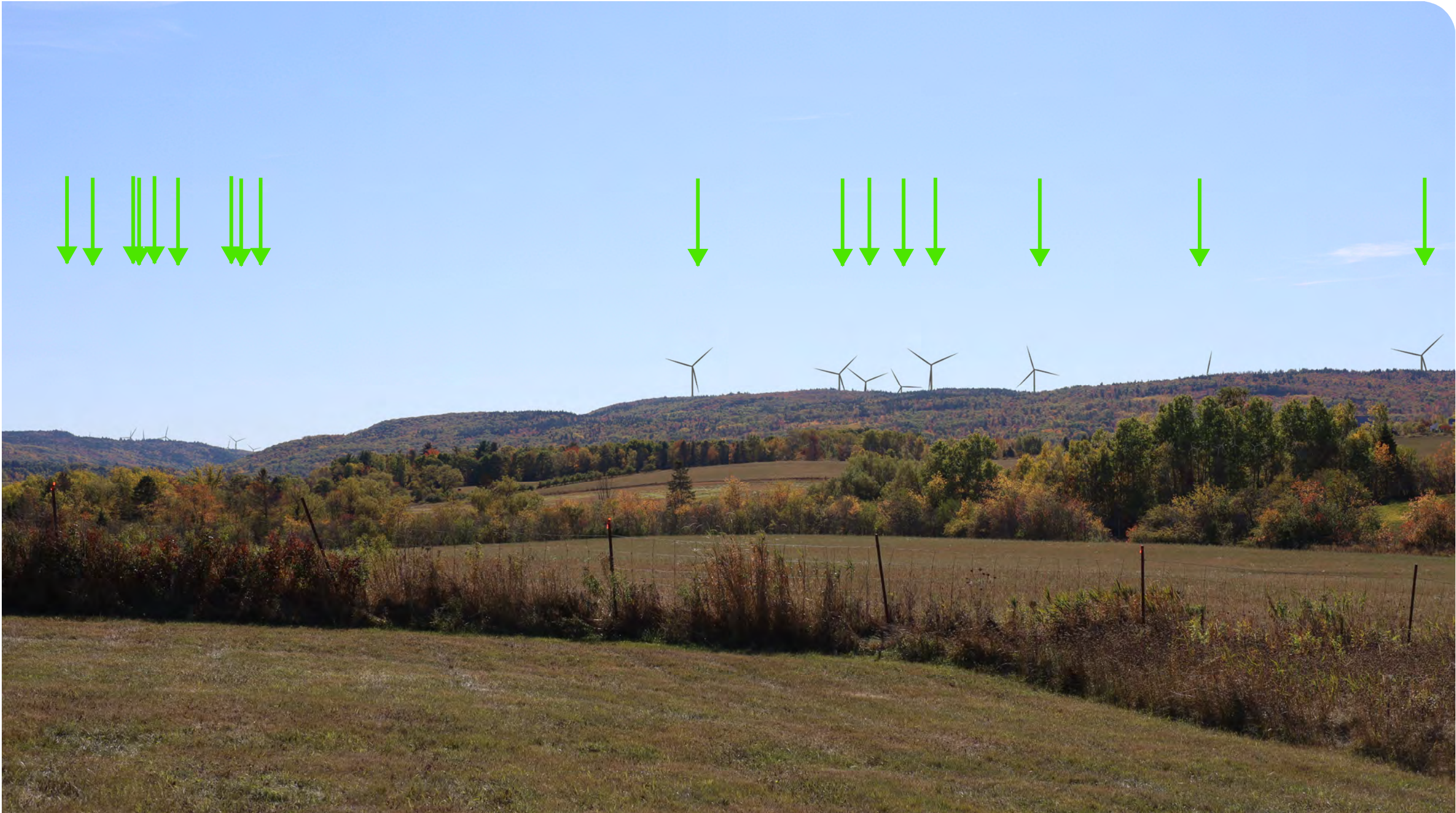


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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

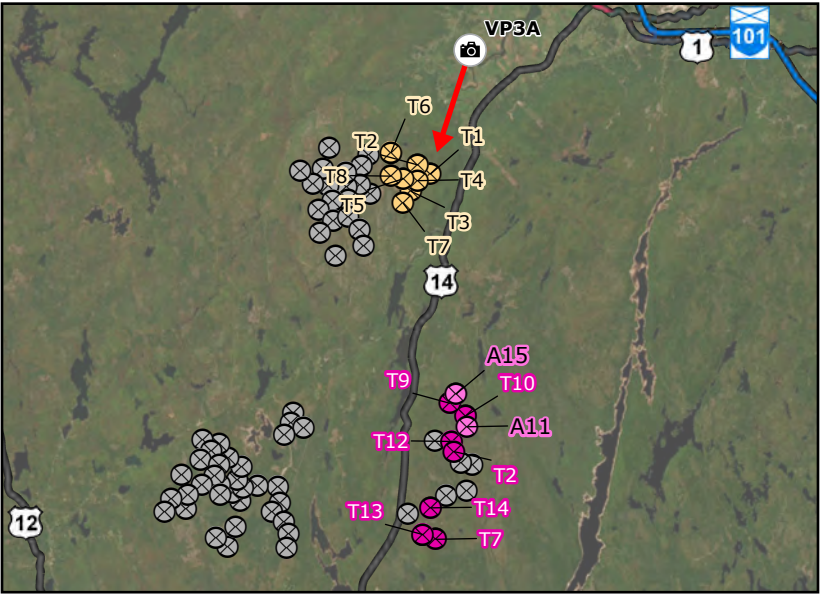
VISUAL SIMULATION

FIGURE C3A

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Bear Lake (Primary)
 - Bear Lake (Alternate)
 - Benjamin Mills (Phase II)
- Camera Bearing
- Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Falmouth
View Coordinates: Latitude: 44° 57' 31.61" N
Longitude: 64° 12' 10.59" W
Easting: 405121.88 m
Northing: 4979075.2 m
Distance to Nearest Turbine: 6.0 Km
Direction of View: South, South West Heading 198°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 2:20 PM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

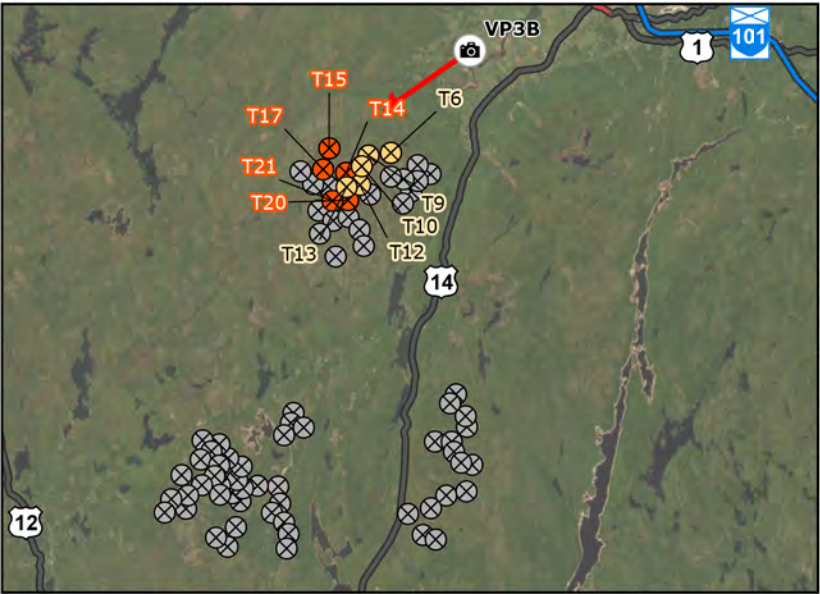
VISUAL SIMULATION

FIGURE C3-B

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Benjamin Mills (Phase I)
 - Benjamin Mills (Phase II)
- Camera Bearing
- Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Falmouth
View Coordinates: Latitude: 44° 57' 31.55" N
Longitude: 64° 12' 10.99" W
Easting: 405112.98 m
Northing: 4979073.66 m
Distance to Nearest Turbine: 6.0 Km
Direction of View: South West Heading 235°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 2:28 PM
Photo Credit: Dillon Consulting Limited



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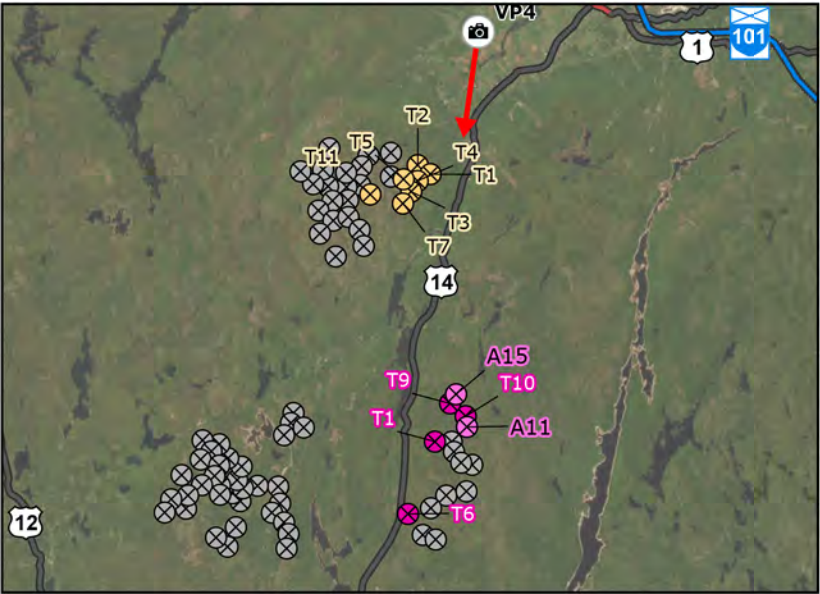
VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION
FIGURE C4

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - ⊗ Bear Lake (Primary)
 - ⊗ Bear Lake (Alternate)
 - ⊗ Benjamin Mills (Phase II)
 - ➡ Camera Bearing
 - ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Falmouth
View Coordinates: Latitude: 44° 58' 0.8" N
Longitude: 64° 11' 53.27" W
Easting: 405514.63 m
Northing: 4979970.53 m
Distance to Nearest Turbine: 6.98 Km
Direction of View: South Heading 188°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/09/15
Time of Photo: 11:00 AM
Photo Credit: Dillon Consulting Limited



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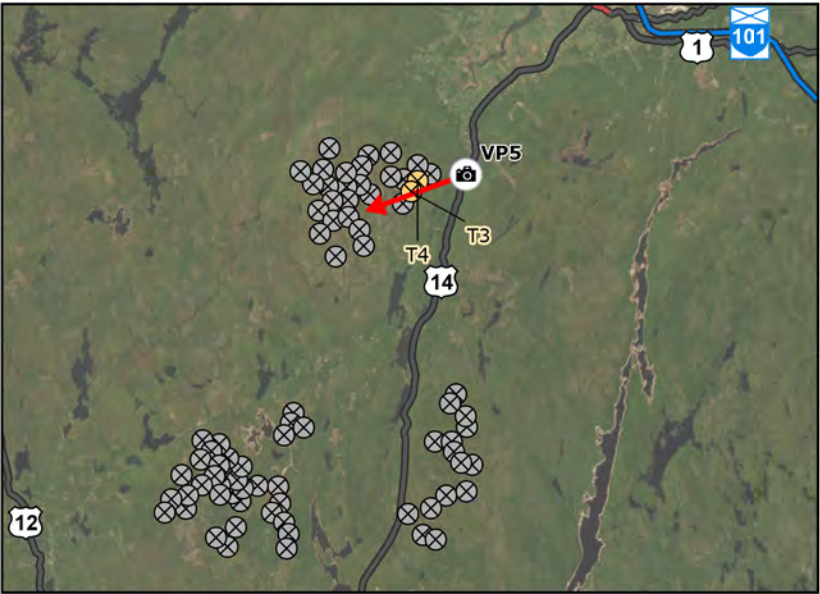
VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION
FIGURE C5

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - ⊗ Benjamin Mills (Phase II)
- ➡ Camera Bearing
- ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Mill Section
View Coordinates: Latitude: 44° 54' 20.14" N
Longitude: 64° 12' 15.48" W
Easting: 404926.94 m
Northing: 4973168.6 m
Distance to Nearest Turbine: 1.69 Km
Direction of View: West Heading 250°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 1:30 PM
Photo Credit: Dillon Consulting Limited



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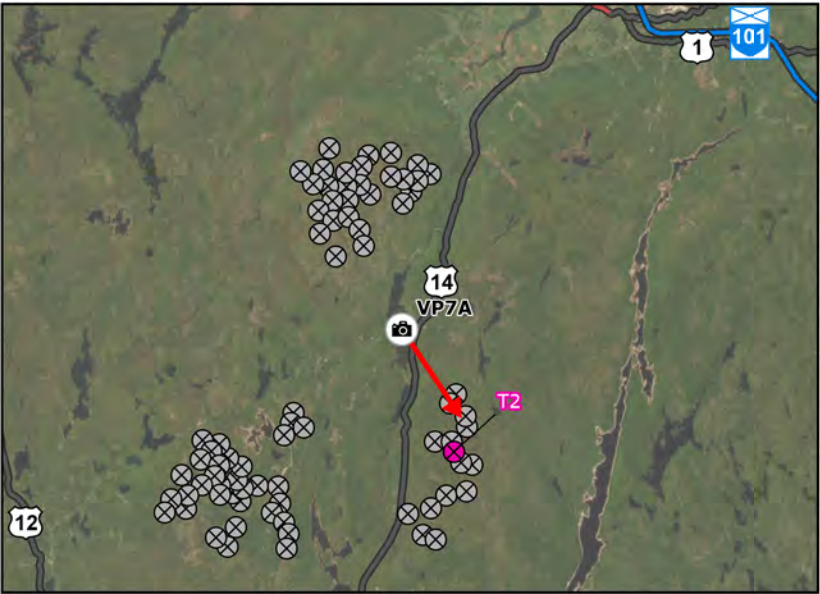
VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION
FIGURE C6A

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
- ✳ Bear Lake (Primary)
- ➡ Camera Bearing
- ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Vaughan
View Coordinates: Latitude: 44° 50' 19.63" N
Longitude: 64° 14' 29.79" W
Easting: 401868.29 m
Northing: 4965791.46 m
Distance to Nearest Turbine: 4.03 Km
Direction of View: South East Heading 146°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/09/15
Time of Photo: 12:11 PM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

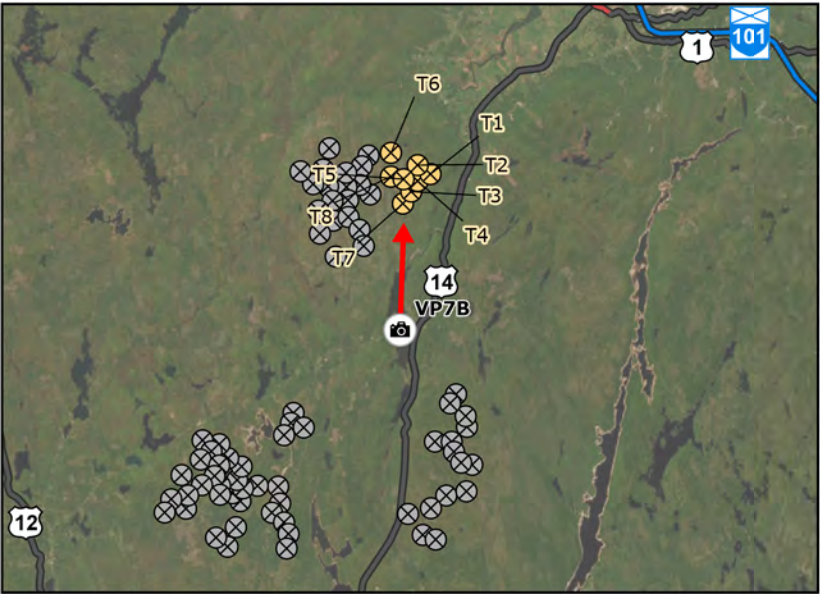
VISUAL SIMULATION

FIGURE C6B

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Benjamin Mills (Phase II)
 - Camera Bearing
 - Turbine Potentially Visible

Technical Information

Visual Simulation Location: Vaughan
View Coordinates: Latitude: 44° 50' 18.6" N
Longitude: 64° 14' 33.53" W
Easting: 401785.57 m
Northing: 4965761.07 m
Distance to Nearest Turbine: 4.06 Km
Direction of View: North Heading 2°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 11:57 AM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION
FIGURE C7

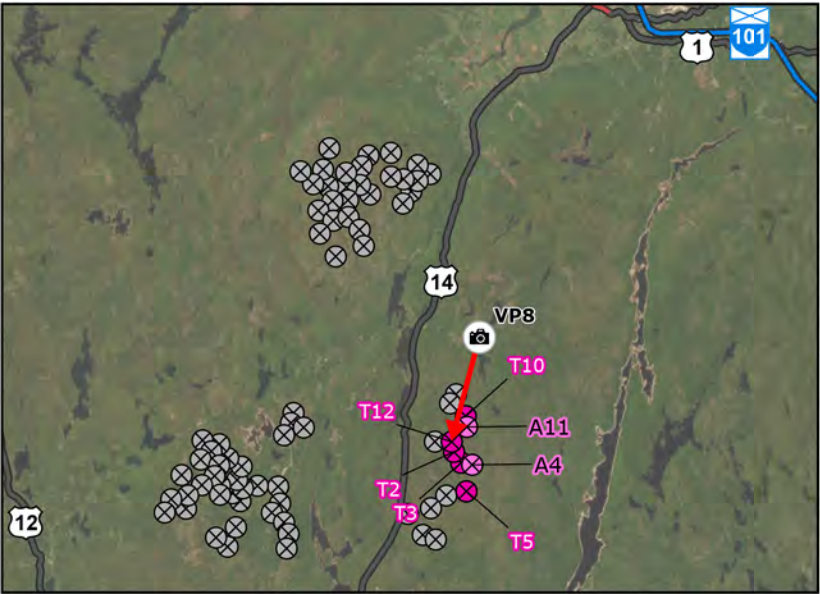
- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed

Turbine Potentially Visible

- ⊗ Bear Lake (Primary)
- ⊗ Bear Lake (Alternate)
- ➡ Camera Bearing
- ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Armstrong Lake Park
View Coordinates: Latitude: 44° 50' 9.28" N
Longitude: 64° 11' 41.38" W
Easting: 405560.82 m
Northing: 4965416.7 m
Distance to Nearest Turbine: 2.93 Km
Direction of View: South Heading 195°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/09/16
Time of Photo: 10:05 AM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

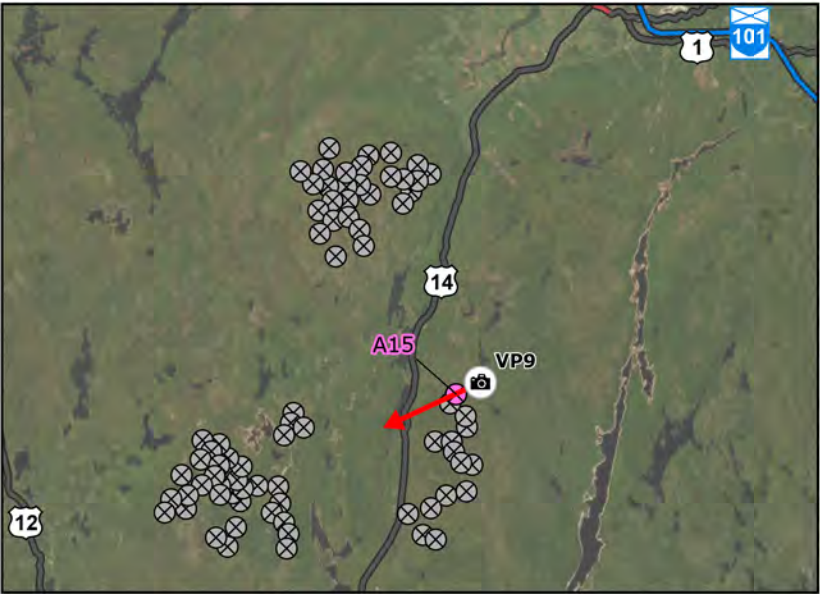
VISUAL SIMULATION

FIGURE C8-1

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Bear Lake (Alternate)
 - Camera Bearing
 - Turbine Potentially Visible

Technical Information

Visual Simulation Location: Armstrong Lake West
View Coordinates: Latitude: 44° 50' 9.28" N
Longitude: 64° 11' 37.63" W
Easting: 405611.48 m
Northing: 4963264.79 m
Distance to Nearest Turbine: 1.28 Km
Direction of View: South West Heading 245°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 11:02 AM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

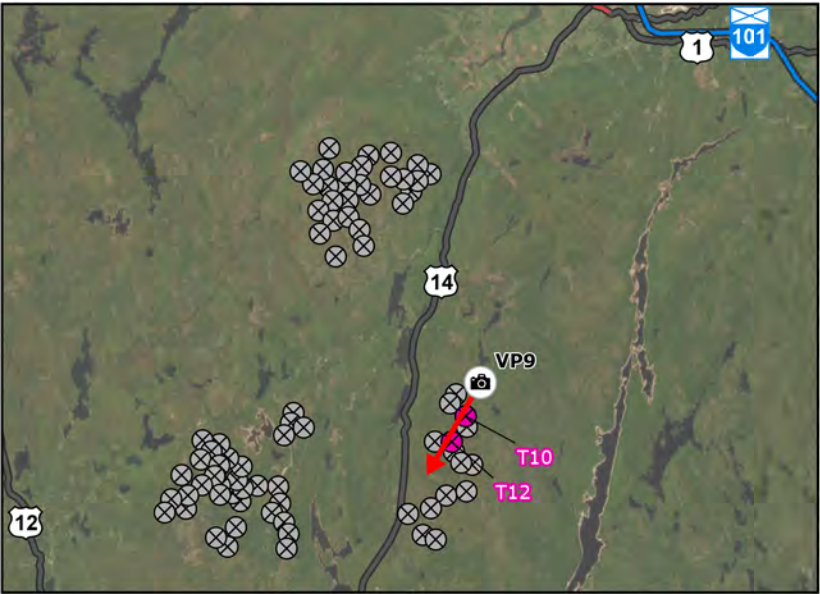
VISUAL SIMULATION

FIGURE C8-2

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Bear Lake (Primary)
 - Camera Bearing
 - Turbine Potentially Visible

Technical Information

Visual Simulation Location: Armstrong Lake West
View Coordinates: Latitude: 44° 50' 9.28" N
Longitude: 64° 11' 37.63" W
Easting: 405611.48 m
Northing: 4963264.79 m
Distance to Nearest Turbine: 1.28 Km
Direction of View: South West Heading 210°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 11:05 AM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

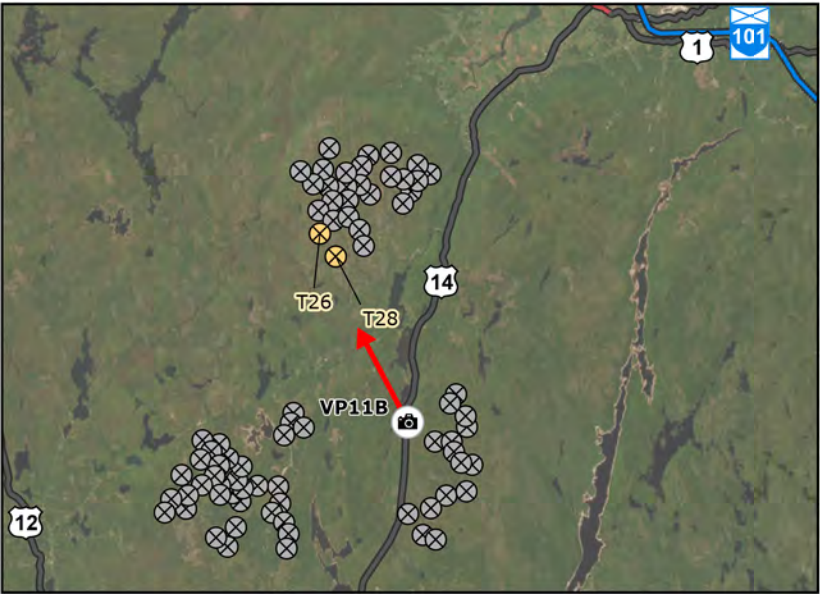
VISUAL SIMULATION

FIGURE C9

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Benjamin Mills (Phase II)
 - Camera Bearing
 - Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Vaughan
View Coordinates: Latitude: 44° 47' 56.57" N
Longitude: 64° 14' 14.0" W
Easting: 402147.56 m
Northing: 4961371.88 m
Distance to Nearest Turbine: 1.6 Km
Direction of View: North West Heading 332.46°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 10:19 AM
Photo Credit: Dillon Consulting Limited



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WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION

FIGURE C10-1

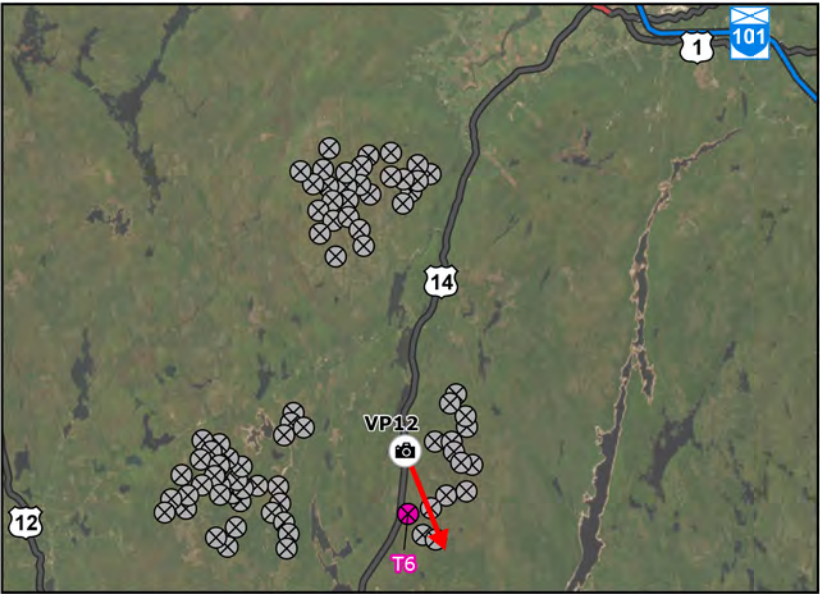
- Observation Location
- Turbine Visibility Obstructed

Turbine Potentially Visible

- Bear Lake (Primary)
- Camera Bearing
- Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Vaughan
View Coordinates: Latitude: 44° 47' 12.13" N
Longitude: 64° 14' 18.44" W
Easting: 4960002.15 m
Northing: 402029.25 m
Distance to Nearest Turbine: 1.49 Km
Direction of View: South East Heading 158°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 9:20 AM
Photo Credit: Dillon Consulting Limited



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VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

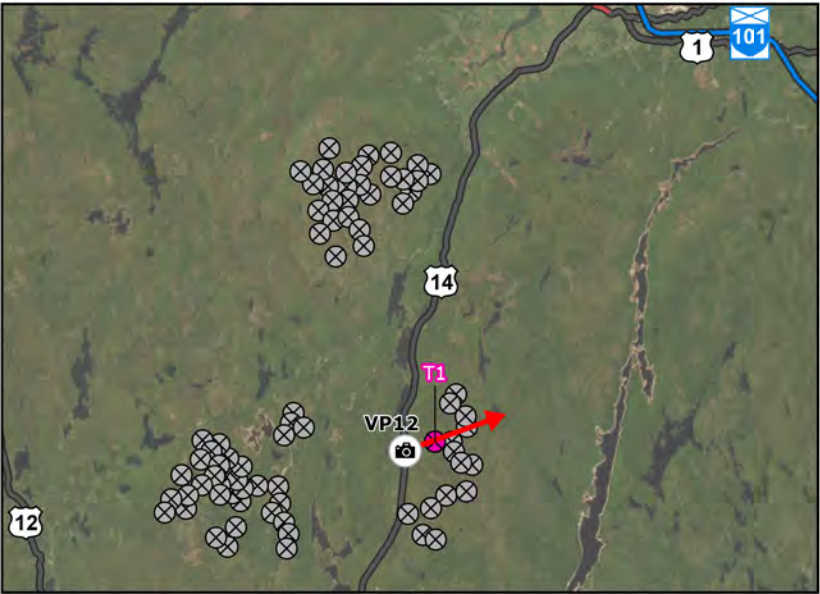
VISUAL SIMULATION

FIGURE C10-2

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - Bear Lake (Primary)
 - Camera Bearing
 - Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Vaughan
View Coordinates: Latitude: 44° 47' 12.13" N
Longitude: 64° 14' 18.44" W
Easting: 4960002.15 m
Northing: 402029.25 m
Distance to Nearest Turbine: 1.49 Km
Direction of View: North East Heading 70°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 9:20 AM
Photo Credit: Dillon Consulting Limited



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DATE: 2025-11-27



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION

FIGURE C10-3

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - ⊗ Benjamin Mills (Phase II)
 - ➡ Camera Bearing
 - ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Upper Vaughan
View Coordinates: Latitude: 44° 47' 12.13" N
Longitude: 64° 14' 18.44" W
Easting: 4960002.15 m
Northing: 402029.25 m
Distance to Nearest Turbine: 1.49 Km
Direction of View: North East Heading 19°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 9:17 AM
Photo Credit: Dillon Consulting Limited



MAP DRAWING INFORMATION:
DATA PROVIDED BY: GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

MAP CREATED BY: RR
MAP CHECKED BY: JA
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-11-27



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

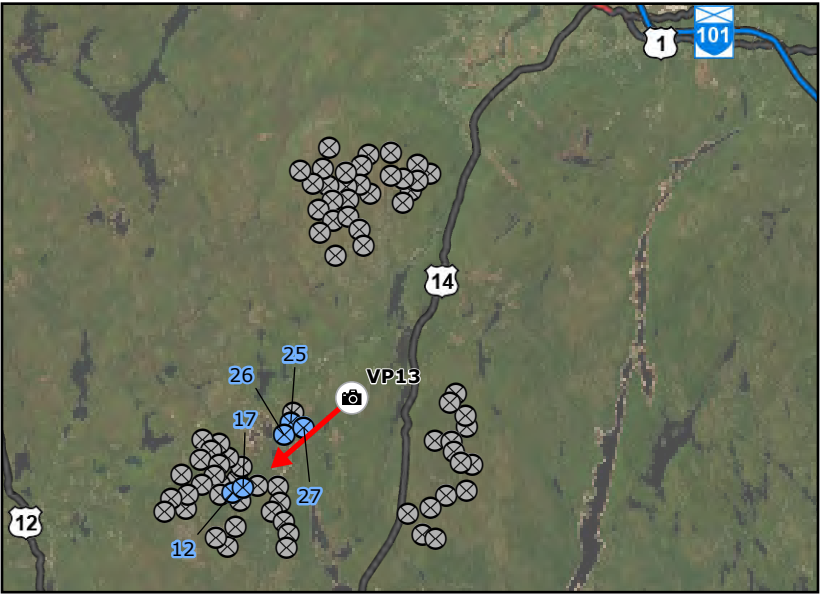
VISUAL SIMULATION

FIGURE C11

- Observation Location
- Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - South Canoe (Existing)
 - Camera Bearing
 - Turbine Potentially Visible

Technical Information

Visual Simulation Location: Wile Settlement
View Coordinates: Latitude: 44° 48' 32.25" N
Longitude: 64° 16' 15.98" W
Easting: 399485.00 m
Northing: 4962514.34 m
Distance to Nearest Turbine: 2.68 Km
Direction of View: Southwest Heading 229°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 11:40 AM
Photo Credit: Dillon Consulting Limited

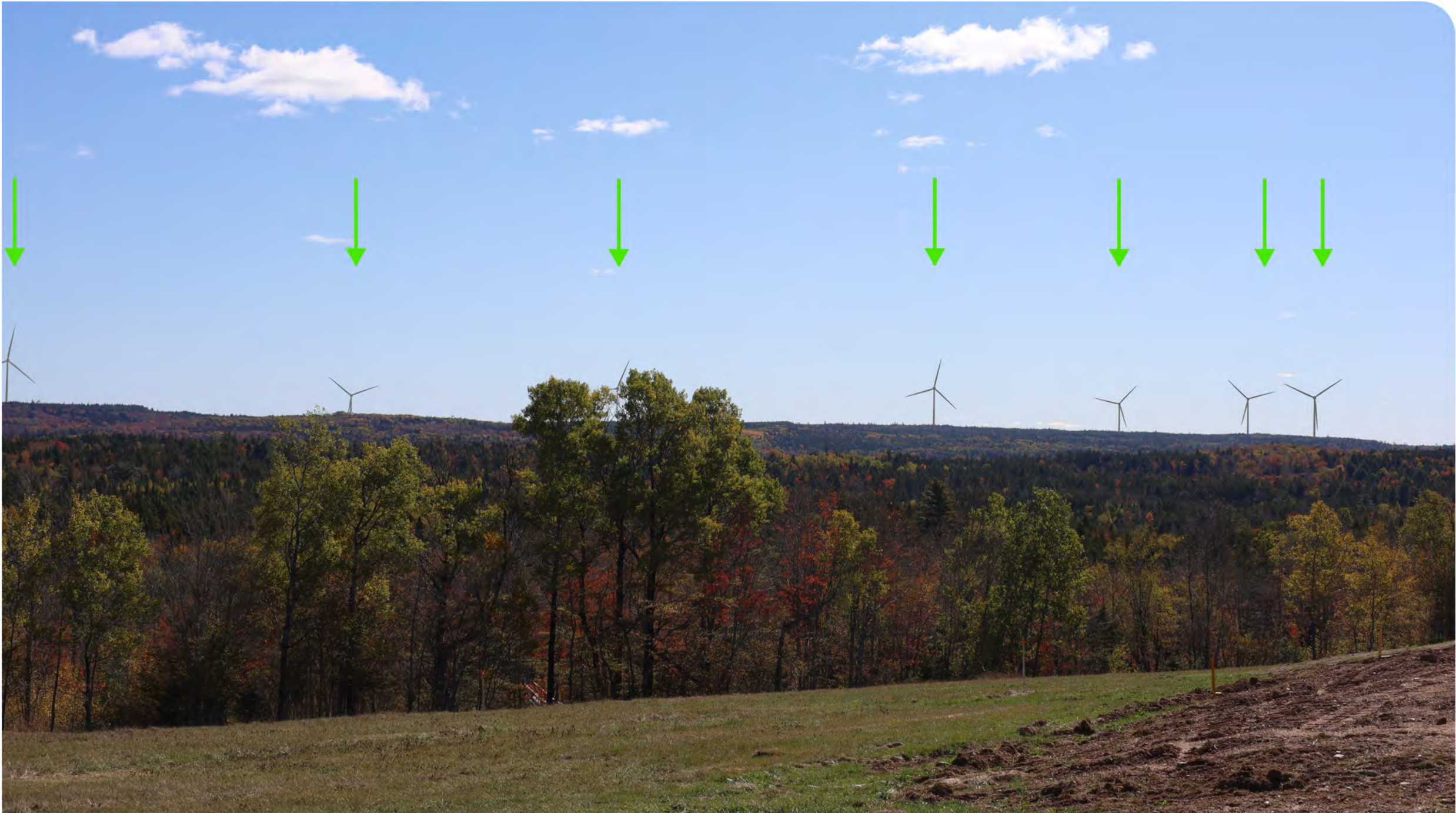


MAP DRAWING INFORMATION:
DATA PROVIDED BY GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

MAP CREATED BY: RR
MAP CHECKED BY: JA
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-11-27



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

VISUAL SIMULATION

FIGURE C12A-1

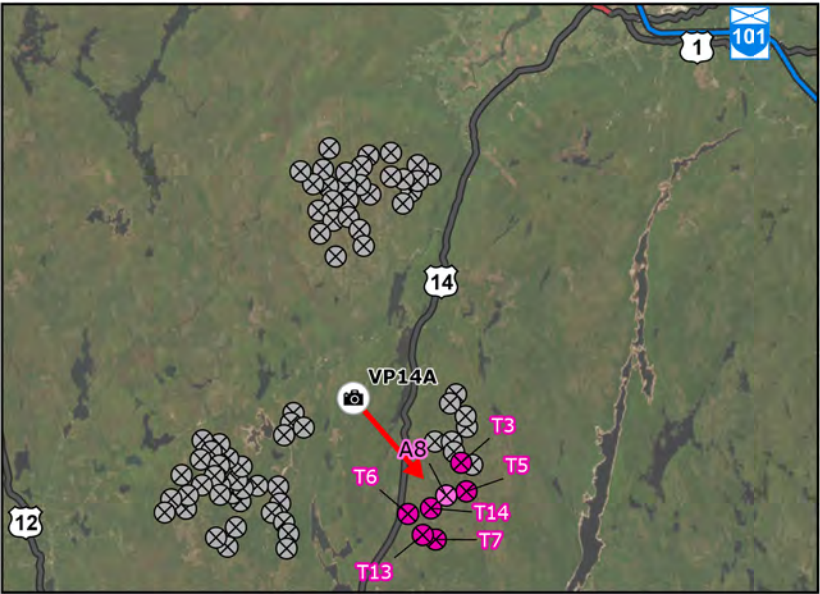
- Observation Location
- Turbine Visibility Obstructed

Turbine Potentially Visible

- Bear Lake (Primary)
- Bear Lake (Alternate)
- Camera Bearing
- Turbine Potentially Visible

Technical Information

Visual Simulation Location: Wile Settlement
View Coordinates: Latitude: 44° 48' 32.3" N
Longitude: 64° 16' 12.37" W
Easting: 399564.42 m
Northing: 4962514.53 m
Distance to Nearest Turbine: 2.75 Km
Direction of View: South East Heading 139°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 11:55 AM
Photo Credit: Dillon Consulting Limited



MAP DRAWING INFORMATION:
DATA PROVIDED BY: GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

MAP CREATED BY: RR
MAP CHECKED BY: JA
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-11-27



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

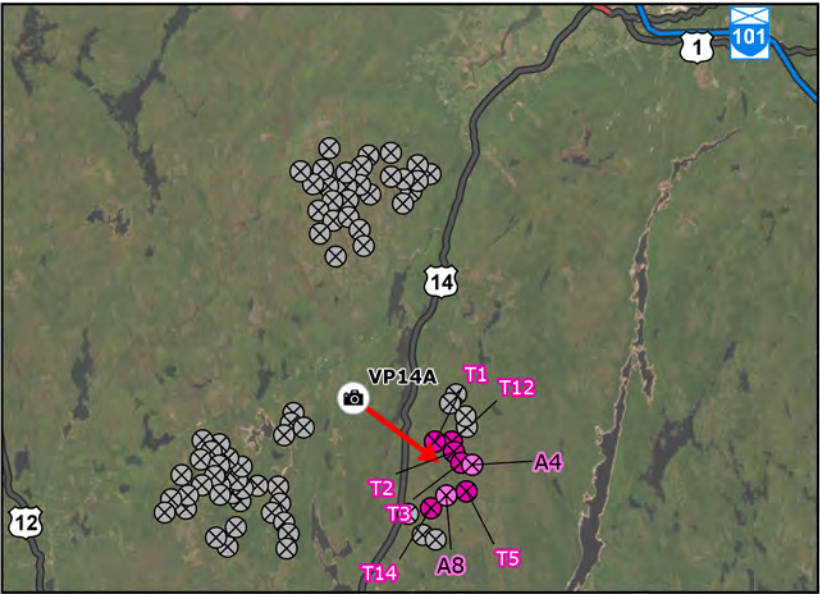
VISUAL SIMULATION

FIGURE C12A-2

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - ⊗ Bear Lake (Primary)
 - ⊗ Bear Lake (Alternate)
 - ➡ Camera Bearing
 - ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Wile Settlement
View Coordinates: Latitude: 44° 48' 32.3" N
Longitude: 64° 16' 12.37" W
Easting: 399564.42 m
Northing: 4962514.53 m
Distance to Nearest Turbine: 2.75 Km
Direction of View: South East Heading 127°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 11:58 AM
Photo Credit: Dillon Consulting Limited



MAP DRAWING INFORMATION:
DATA PROVIDED BY: GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

MAP CREATED BY: RR
MAP CHECKED BY: JA
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-11-27



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

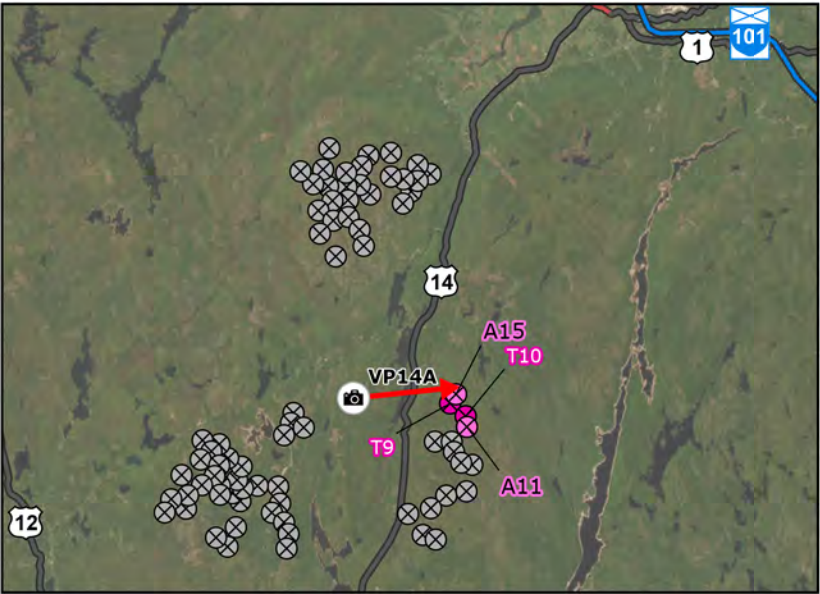
VISUAL SIMULATION

FIGURE C12A-3

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - ⊗ Bear Lake (Primary)
 - ⊗ Bear Lake (Alternate)
 - ➡ Camera Bearing
 - ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Wile Settlement
View Coordinates: Latitude: 44° 48' 32.3" N
Longitude: 64° 16' 12.37" W
Easting: 399564.42 m
Northing: 4962514.53 m
Distance to Nearest Turbine: 2.75 Km
Direction of View: East Heading 84°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 12:04 PM
Photo Credit: Dillon Consulting Limited



MAP DRAWING INFORMATION:
DATA PROVIDED BY: GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

MAP CREATED BY: RR
MAP CHECKED BY: JA
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-11-27



WEST HANTS REGIONAL MUNICIPALITY

VISUAL EFFECTS STUDY OF EXISTING AND PROPOSED WIND FARMS

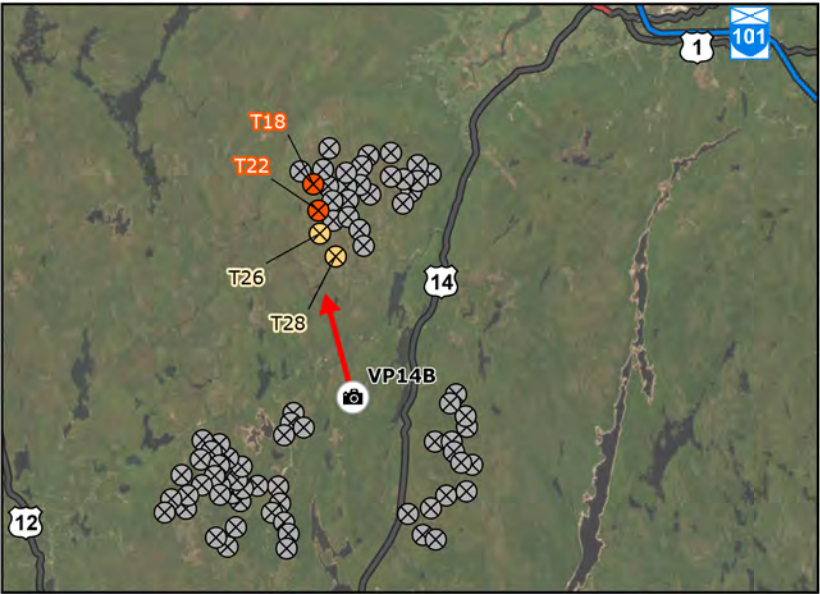
VISUAL SIMULATION

FIGURE C12B

- 📷 Observation Location
- ⊗ Turbine Visibility Obstructed
- Turbine Potentially Visible**
 - ⊗ Benjamin Mills (Phase I)
 - ⊗ Benjamin Mills (Phase II)
 - ➡ Camera Bearing
 - ➡ Turbine Potentially Visible

Technical Information

Visual Simulation Location: Wile Settlement
View Coordinates: Latitude: 44° 48' 33.63" N
Longitude: 64° 16' 13.67" W
Easting: 399536.43 m
Northing: 4962555.95 m
Distance to Nearest Turbine: 2.75 Km
Direction of View: Northwest Heading 345°
Camera Make/Model: Canon EOS RP
Lens: 50 mm
Image Resolution: 6240 x 4160
Weather Conditions: Clear Sky
Date of Photo: 2025/10/10
Time of Photo: 12:15 PM
Photo Credit: Dillon Consulting Limited



MAP DRAWING INFORMATION:
DATA PROVIDED BY: GEONOVA, WEST HANTS REGIONAL MUNICIPALITY, DILLON CONSULTING LIMITED

MAP CREATED BY: RR
MAP CHECKED BY: JA
MAP PROJECTION: NAD 1983 CSRS UTM Zone 20N



PROJECT: 25-1033
STATUS: DRAFT
DATE: 2025-11-27

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