Denise Holmes

From: Lyle Parsons <Lyle.Parsons@rjburnside.com>
Sent: Tuesday, January 12, 2016 11:00 AM
To: dwhite@melancthontownship.ca
Cc: dholmes@melancthontownship.ca; Chris Shilton
Subject: Proposal to Examine the Feasibility for Solar Project(s) - Township of Melancthon
Attachments: 038216_Melancthon_Solar_Development_Proposal.pdf; SOQ - Renewable Energy and Energy Conservation Services_Oct 2015.pdf

Darren

As discussed please find a proposal to examine the feasibility of a solar renewable energy facility for the Township. The Township has some municipally owned land were a ground mount system could be installed including potential at the landfill site.

Please note the proposal is set up in a phased fashion so that if at early stages of the work it is apparent that the system or systems have no grid connection available or are not otherwise feasible we will stop work and minimize expenditures. This work should be conducted well in advance of the FIT 5 announcement so that if systems are found to be viable the Township can have applications ready to go. It is a competitive process for projects so advance preparation is recommended.

The IESO is working on development of a funding program to cover what they term is soft engineering costs to help municipalities develop renewable energy projects. As proposed the funding would only be available for projects that have received a FIT contract. Therefore the costs included in the attached proposal would not be covered as per the proposed funding draft rules. However, it appears that much if not all costs of the phase 3 work in our attached program would be covered and if we are selected to undertake the phase 1 and 2 work program we would be pleased to make application at no cost to the Township for funding when the final program is announced by the IESO in 2016.

Finally we would be pleased to attend at Council to discuss our proposal and the opportunity for revenue generation through the proposed project(s).

Best wishes

BURNSIDE

Lyle Parsons, B.E.S.
VP Environment
Renewable Energy and Energy Conservation Team Leader

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DEL2 FEB 18 2016

BURNSIDE

Original

Proposal for

Rooftop & Ground-mount Solar Investigations

Township of Melancthon

R.J. Burnside & Associates Limited
15 Townline
Orangeville ON L9W 3R4 CANADA

January 12, 2016
900038216.0000

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Appendix A Authorization To Proceed

Disclaimer

This document contains proprietary and confidential information. As such, it is for the sole use of the addressee and R.J. Burnside & Associates Limited, and proprietary information shall not be disclosed, in any manner, to a third party except by the express written permission of R.J. Burnside & Associates Limited. This document is deemed to be the intellectual property of R.J. Burnside & Associates Limited in accordance with Canadian copyright law.

Jan. 26/16

– written permission was obtained from Lyle Parsons to release document for Public Agenda Pkg.

DBK

1.0 Introduction

The Township will be aware that municipalities are encouraged by the provincial government to undertake renewable energy and energy conservation projects. These opportunities are necessary to help prevent climate change that is occurring around the globe and will generate revenue for the municipality. R.J. Burnside & Associates Limited (Burnside) is contributing to this effort by helping our clients develop programs and projects that will both conserve energy use and also generate electricity through the use of renewable energy technologies. We appreciate the opportunity to submit this proposal to aid in the potential development of up to two solar photovoltaic (PV) installations or more; however, for the purpose of a cost estimate, this proposal is based on consideration of one rooftop system and one ground-mount system.

The work proposed and cost estimate provided herein includes a phased approach in consultation with the Township of Melancthon (Melancthon) to first assess feasibility and then apply for Feed-In-Tariff (FIT) contracts. If it is determined as we proceed with the feasibility work that the project is not viable, work will stop. Burnside can offer additional services that would benefit Melancthon once FIT contracts have been obtained, and can provide separate cost estimates for those services upon request.

These projects considered by this proposal provide an opportunity for Melancthon to generate revenue for at least 20 years under contract for the sale of electricity to the provincial grid.

1.1 Corporate Background and Qualifications

The Township is very familiar with Burnside, who have provided engineering and environmental consulting services to the municipality in the past.

Our renewable energy services include a highly qualified team of engineering and environmental experts with leveraged experience in the development of renewable energy projects regardless of project size, technology, or complexity. We are committed to facilitating the successful implementation of renewable energy projects in a responsible, efficient, cost-effective, and technically sound manner.

Please refer to our Renewable Energy and Energy Conservation Statement of Qualifications attached under a separate cover, including a list of representative project experience.

1.2 IESO FIT Program

For successful contract recipients, the Independent Electricity System Operator's (IESO) Feed-In-Tariff (FIT) program offers a guaranteed rate for electricity generated from renewable energy installations. Renewable energy projects with a capacity between 10 kW to 500 kW are eligible for the FIT program. The IESO encourages municipalities to participate in the FIT program through incentives such as priority points for the application (increasing the chances of getting a FIT contract) and price adders for the resulting contract (getting a higher rate for the electricity exported).

The FIT program has undergone several updates since 2009, the most recent of which is referred to as "FIT 4" based on Version 4.0.2 of the Rules and Contract. Certain aspects of this proposal are based on satisfying the requirements under the FIT 4 Rules. While the application window for FIT 4 has closed, we anticipate the next FIT program will launch in 2016 with similar rules, requirements, and timelines.

1.3 Project Description

We would encourage Melancthon to study the feasibility of entering into FIT contracts with the IESO to potentially construct and operate two different solar photovoltaic (PV) installations located on either or both of:

1. a municipally-owned building to support a rooftop system; and/or
2. a municipally-owned parcel of land (such as a landfill site) to support a ground-mount system.

The work outlined in this proposal is based on the assumption that we will first assess the feasibility and economic benefit of a FIT installation at each of these locations, and then prepare up to two potential FIT Applications.

2.0 Scope of Work and Methodology

Burnside utilizes and promotes a cost-effective phased approach to the development of solar PV projects. The proposed phases are as follows for the development of a rooftop and/or ground-mount installation:

1. Preliminary Site Assessment and Feasibility Study;
2. IESO FIT Application;
3. Preparation of a Request for Proposal (RFP) for Engineering, Procurement and Construction (EPC) teams, and Evaluation of Proposals; and

4. Construction Supervision and Contract Administration.

The details of this proposal describe how Burnside would complete phases 1 and 2, including the associated costs to complete the work. Any number of the phases above can be completed in order to meet Melancthon's needs. Burnside would not move forward to the subsequent phase of work without authorization from Melancthon.

2.1 Phase 1: Preliminary Site Assessments and Feasibility Studies

2.1.1 Preliminary Grid Connection Assessments

Burnside will submit a "pre-FIT" consultation form to the Local Distribution Company to obtain necessary information required to review the connection availability of the grid to accept a renewable energy project at each of the two site locations identified by Melancthon. Burnside will also use this information to prepare potential FIT applications. In the event that there appears to be no connection availability, Burnside will advise Melancthon and stop work on that particular project component. The cost estimate provided herein is based on a pre-FIT consultation with the Local Distribution Company for the two locations identified in discussions with Melancthon.

2.1.2 Preliminary Rooftop Structural Assessment

Assuming connection to the grid is available at the rooftop solar PV location, a Professional Engineer from Burnside, registered in the Province of Ontario, will complete a preliminary structural assessment of the building's roof structure that would be impacted by a proposed solar installation. The purpose of this assessment is to estimate whether the roof structure has adequate design resistance to support the design loads resulting from the installation of the proposed solar array. This is one of the program requirements for a FIT application.

Burnside has extensive experience performing structural reviews for rooftop solar installations. The geometry, design, and construction of the building, as well as the available design information all have an impact on the level of effort required to complete this review. As such, we have included a range of estimated costs based on past experience with a diverse portfolio of structural rooftop solar evaluations. Our approach is to perform a preliminary structural review at this stage to minimize expenditure prior to receiving a FIT contract. We anticipate that a more thorough structural assessment will be required to support the installation of the proposed solar array and it will likely be completed at a later stage by the EPC contractor.

The preliminary structural assessment will consist of the following:

- Burnside will collect and review any available engineering and architectural drawings of the structure;

- Burnside will conduct a visual review of the exposed portions of the roof structure. The purpose of this review is to assess the general condition of the structural elements, verify that the structure is consistent with any structural drawings and our assumptions, and to gather any other information required to complete the preliminary structural assessment;
- Burnside will estimate the design resistance of the existing roof structure based on information from any available structural drawings, observations of the existing structure and applicable codes at the time of construction;
- Burnside will calculate the design dead, snow, live, wind and seismic loads acting on the roof structure as a result of the installation of the proposed solar array. These loads will be calculated in accordance with the current edition of the Ontario Building Code and will be based on information from any available structural drawings, observations of the existing structure and an assumed array layout; and
- Burnside will compare the calculated design loads acting on the roof structure as a result of the installation of the proposed solar array to the estimated design resistance of the existing roof structure. This will allow us to estimate whether the existing roof structure will require reinforcement to support the proposed solar array.

The results of the preliminary structural assessment will be shared with Melancthon, including our opinion of whether the existing roof structure is adequate to support the proposed solar array and any additional recommendations. Should Melancthon decide to proceed with an IESO FIT application, Burnside will complete the applicable existing building structural assessment form required as part of the application.

2.1.3 Ground-Mount Site Assessment

Assuming connection to the grid is available at the ground-mount solar PV location, Burnside will visit the site and analyze the site's suitability for a ground-mount solar installation. Information that would affect the feasibility of the project, such as shading obstructions and electrical connection considerations will be documented for further analysis below.

Burnside will also collect any relevant information from Melancthon regarding the site and confirm any special requirements, investigations, or approvals that might apply to a renewable energy installation at the selected site. Burnside will also make recommendations regarding technology selection as it relates to the site characteristics.

2.1.4 Rooftop & Ground-mount Solar PV Feasibility Studies

Where connection to the grid is available, Burnside will assess the feasibility of a FIT project for each of the two proposed sites. The results will be detailed in a report, including information from the preliminary grid connection assessments, rooftop

preliminary structural assessment, and ground-mount site assessment noted above, as well as the design and economic details described below.

Design

Burnside will develop two preliminary solar PV array layout designs, one rooftop and one ground-mount, with the objective of maximizing the capacity and feasibility of the installations. While these layouts will be preliminary and conceptual, they will consider constraints, technical factors, and FIT rules, as the layouts will form the basis of FIT application capacities.

Among other considerations, Burnside's preliminary rooftop design will take into account the following factors:

- maximizing electricity generation from the space available;
- minimizing roof penetrations;
- accommodating the results of the preliminary structural assessment; and
- minimizing impacts from rooftop and other shading obstructions.

Burnside's preliminary ground-mount design will take into account the following factors:

- maximizing electricity generation from the space available;
- minimizing impacts from shading obstructions;
- the use of fixed, single-axis, and dual-axis tracking support systems; and
- consideration of site characteristics as they relate to technology selection.

The preliminary designs will include a proposed conceptual module layout depicting quantity and positioning of the solar modules. Burnside will also outline additional design considerations that may impact the performance and capital cost of the project.

Economic Analysis

Burnside will develop performance models of the proposed photovoltaic systems, providing an estimate of the system performance. The modelling will include consideration for losses attributed to snow, long-term panel degradation, and other factors. The modelling will also be informed by experience with real-life operational data from other comparable solar PV projects in Ontario, where possible. The economic analysis will also include anticipated material, labour, and connection costs. In the case of the ground-mount system, it will include anticipated costs associated with potential geotechnical and environmental study requirements.

Burnside will provide an assessment summary, including the anticipated electricity generation and financial returns over the FIT contract period. This assessment will be based on the expected capital and operational costs, including any roof improvements or special measures for any ground-mount system that may be necessary to accommodate

the solar installations. The financial summary will include the predicted return on investment and simple payback calculations based on current contract pricing with the IESO and expected electricity output.

Burnside will also provide Melancthon with modelling files and a printout of the modelling details, including a 20-year graphical representation of financial details. The rooftop and ground-mount systems will be modeled separately so that decisions can be made by Council to proceed with a FIT application for one or both projects; or none if the results are not favourable.

2.2 Phase 2: IESO FIT Applications

Assuming at least one of the projects is approved by Council, Burnside will register an account with the IESO on behalf of Melancthon and prepare up to two FIT applications based on the findings listed above and the instruction from Melancthon. Melancthon will be required to provide the necessary property and owner information as required to complete the FIT application(s). Burnside will review the FIT application(s) for accuracy and completeness prior to submitting to the IESO. Melancthon will be provided with access to the IESO account to track the status of the application, review process, and potential FIT contract offer.

IESO has developed a comprehensive set of prescribed forms that are required to be completed as part of a complete FIT application. There are mandatory forms, as well as optional forms that provide "priority points" to give the application a better chance of obtaining a FIT contract. Burnside recommends applying with as many priority points as possible given the competitiveness of the FIT application process. The prescribed forms anticipated for Melancthon's potential rooftop and ground-mount projects are summarized in the table below.

Table 1: IESO Prescribed Forms Applicable to Rooftop and Ground-mount Solar PV FIT Applications

Prescribed Form	Applicable to Rooftop Solar FIT Application	Applicable to Ground-mount Solar FIT Application
Access Rights Declaration	✓	✓
Applicant Legal Name and Entity Confirmation	✓	✓
Municipal or Public Sector Entity Participation Project Declaration	✓	✓

Prescribed Form	Applicable to Rooftop Solar FIT Application	Applicable to Ground-mount Solar FIT Application
Municipal Council Blanket Support Resolution (as applicable)	✓	✓
Municipal Council Resolution Confirmation (as applicable)	✓	✓
Municipal Council Support Resolution (as applicable)	✓	✓
Confirmation of Permission to Construct for Rooftop Solar on an Unconstructed Building (if applicable)	✓	
Engineer / Architect Confirmation for Rooftop Solar Project on an Unconstructed Building (if applicable	✓	
Engineering Confirmation for Rooftop Solar Project on an Existing Building	✓	
Zoning Certificate for Non-Rooftop Solar Project		✓
Land Evaluation Study Peer Review Declaration for Non-Rooftop Solar (if applicable)		✓
Land Use Restriction Exemption Resolution (if applicable)		✓
Visual Screening and Setback Acknowledgement (if applicable)		✓

Melancthon will be required to complete the prescribed forms intended for the applicant, equity owner / partner, and host Municipality. Burnside will facilitate the completion of the applicable forms to the extent possible and review each completed form in order to ensure they are thorough and complete, and that any required attachments are in place.

In the event that an "Unconstructed Building" (i.e., building expansion or planned building) is intended to be used to support a portion or all of the proposed rooftop solar installation, Burnside assumes for efficiency purposes that the designer of the Unconstructed Building would complete the "Engineer / Architect Confirmation for Rooftop Solar Project on an Unconstructed Building" prescribed form.

2.3 Phase 3: Requests for Proposals (RFP)

If the FIT applications are successful in obtaining a contract and if desired by Melancthon, Burnside can offer assistance in finding and selecting an appropriate contractor for the detailed design, procurement, permitting, and construction of the project(s). It is worth noting that IESO is currently developing a funding program that may cover some or all of the work we propose under this phase. A cost estimate for this phase of work can be provided to Melancthon upon request, but if IESO funding is available as anticipated, municipal expenditures for this phase of work may not be required.

2.3.1 Requests for Proposals (RFP)

Burnside would initially prepare up to two detailed Request for Proposals (RFPs) to be issued to Engineering, Procurement and Construction (EPC) contractors. One RFP would be issued for the rooftop solar PV system and a second RFP would be issued for the ground-mount solar PV system. Separate RFPs will allow for the unique requirements of each project setting to be addressed (i.e., building rooftop versus ground-mount), and will likely solicit more proposals from contractors as there may be some who only provide one type of system. The RFPs would include detailed requirements to ensure that proposals can be properly evaluated, and that contractors will provide high quality systems to Melancthon.

2.3.2 Evaluation of Proposals

Burnside would assist Melancthon in selecting the contractor offering the highest value proposition based on the technical and financial details of the proposal. Based on past experience this is a very important component of the services we offer. One of our recent clients will receive substantial additional long term financial benefit from our assessment of contractor's submissions. Clients appreciate this service since, as Burnside has found, the assessment and evaluation of submissions is relatively complicated.

2.4 Phase 4: Construction Services

If desired by Melancthon, Burnside can provide project management, construction review, and contract administration services for Melancthon throughout the construction process. This will help to ensure that the project gets built correctly and on time. Cost estimates for these services can be provided upon request.

3.0 Schedule and Consulting Fees

Burnside is ready to begin work upon receipt of the signed Authorization to Proceed in Appendix A. The estimated cost, **including** HST, to complete each of the phases of work described herein for both sites is outlined in the table below. We would encourage the Township to approve this work as early as possible in 2016 such that the necessary site assessments and feasibility studies can be completed well in advance of the next opportunity to apply to the FIT program.

Table 2: Cost Estimate

Item	Total Cost (Including HST)
Phase 1: Preliminary Site Assessments and Feasibility Studies	
a) Preliminary Grid Connection Assessments	$ 610.00
b) Preliminary Rooftop Structural Assessment	$1,200.00 - $ 4,500.00
c) Ground-Mount Site Assessment	$ 3,260.00
d) Rooftop and Ground-mount Solar PV Feasibility Studies	$10,930.00
Phase 2: IESO FIT Applications	$11,210.00
Total	**$27,210.00 - $30,510.00**

We propose to complete the scope of work outlined in Phase 1 and Phase 2 on a time and expense basis such that we can adapt according to the project requirements based on Melancthon's decisions. As stated earlier, Burnside will not proceed with subsequent phases of work without prior authorization from Melancthon.

4.0 Assumptions and Limitations

- "The Corporation of the Township of Melancthon" is assumed to be the applicant and owner of the proposed solar PV projects, and the owner of the building(s) and properties upon which they are proposed to be installed.

- Burnside will provide Melancthon with mandatory and preferred site selection criteria such that Melancthon can identify one suitable building for a rooftop solar PV project and one suitable site for a ground-mount solar PV project. Cost estimates for Burnside to investigate additional sites or buildings can be provided upon request.

- Melancthon will provide Burnside with information as required to facilitate the FIT application process. This information includes, but is not limited to prescribed forms; property information; owner information; and engineering and architectural drawings related to the existing building.

- It is assumed that the structural elements under the roof (i.e., beams, joists, etc.) are exposed and would be accessible and visible from the ground / floor level and by scissor lift during a structural review by Burnside of any existing building where a solar installation is proposed.

- Burnside will schedule project activities to complete the scope of work as quickly and efficiently as possible. However, since the timing of receiving information and application materials is influenced by other parties, Burnside cannot be held responsible for completing the scope of work within the targeted schedule or preparing complete FIT applications within the applicable application timing window.

- Burnside cannot guarantee that any FIT application will result in obtaining a contract.

- Burnside does not guarantee the performance or outcomes related to the cost, revenue, or electricity generated by any solar PV project.

- The cost estimate is based on the scope outlined in Phase 1 and Phase 2 of this proposal, including two complete solar PV feasibility studies and FIT applications.

- The cost estimate for the preliminary rooftop structural assessment is based on reviewing the applicable portion of a single building having a consistent roof structure, without past or proposed building expansions.

- The cost estimate for the preliminary rooftop structural assessment includes the necessary review required to complete a FIT application. A subsequent structural analysis will likely be required by the EPC contractor based on the detailed design of their proposed system. If desired by Melancthon, Burnside could review the EPC contractor's structural analysis on behalf of Melancthon and can provide a cost estimate for this service upon request.

- The cost estimate includes a $750 expense for a scissor lift to access the underside of the roof during the structural assessment. This is a conservative estimate; actual costs will be invoiced.

- If Melancthon wishes to submit FIT Applications, the Township will be required to submit a non-refundable certified cheque, likely in the amount of $500.00 (HST included), to accompany each FIT Application to IESO. Additional optional application fees to IESO likely ranging from $0 to $55/kW may be required if Melancthon decides to pursue a certain type of priority points. Burnside has included a budget allowance of $1,000.00 in the cost estimate above for two non-refundable FIT application fees, but has not included a budget allowance for additional optional application fees to obtain priority points.

- In an effort to save paper and associated costs, documentation provided to Melancthon will be emailed in digital (pdf) format.

We look forward to facilitating the successful development of two solar PV installations for Melancthon and are ready to begin work on this project immediately upon contract award and signing by Melancthon.

Respectfully submitted by:

R.J. Burnside & Associates Limited

Lyle Parsons, BES
VP, Environment
CS:mp

BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

Authorization To Proceed

R.J. Burnside & Associates Limited 15 Townline Orangeville ON L9W 3R4 CANADA
telephone (519) 941-5331 **fax** (519) 941-8120 **web** www.rjburnside.com

BURNSIDE
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Authorization to Proceed

Date:	January 12, 2016	**Project No.:**	900038216.0000
Client Name:	Township of Melancthon		
Project Name:	Rooftop & Ground-mount Solar Investigations		
Submitted By:	Lyle Parsons, BES		

I, _____, a recognized signing authority for _____, hereby authorize the firm of R.J. Burnside & Associates Limited (the Consultant), to arrange for or perform the work described in the Proposal Letter dated January 12, 2016.

I understand that the payment is based on Time plus Expenses.

By affixing my signature, I understand that the scope of work contained in the Proposal Letter (noted above) is governed by the attached Standard Conditions of Service.

_____ _____
Signature Date

_____
Position/Title

I have authority to bind the Organization.

To guarantee the rates and pricing provided in the attached proposal, this Authorization to Proceed must be signed and returned to R.J. Burnside & Associates Limited within 60 days from the date above.

Standard Conditions of Service

Services
The services provided, if not specifically limited by the Client, will be at the Consultant's discretion for acting in the Client's best interest for the type of work requested.

Fees and Expenses
Billing will be in accordance with the fees as outlined in the proposal, plus expenses. Expenses properly incurred in connection with the project will be billed at cost plus an administrative charge of eight percent.

The Consultant will assist in selecting and coordinating other Consultants on Client's behalf. The Consultant does not accept any liability for other Consultants' work and encourage Clients to do their own investigations. Clients are encouraged to request that other Consultants invoice them directly and save the eight percent added administration charge on that expense.

Invoices
Invoices will be submitted on a monthly basis. Interest (1 percent per month of the unpaid amount) will be added to all unpaid balances after 30 days from date of invoicing. If the Client objects to all or any portion of an invoice, the Client shall so notify the Consultant in writing within 14 calendar days of the invoice date, identify the cause of disagreement, and pay when due that portion of the invoice, if any, not in dispute.

If the Client fails to pay undisputed invoiced amounts within 30 calendar days of the date of the invoice, the Consultant may at any time, without waiving any other claim against the Client and without thereby incurring any liability, suspend or terminate this Agreement as provided elsewhere in these Standard Conditions of Service.

Changes in Scope
The scope of work identified is based on the Consultant's understanding of the work required to complete the project at the time of this proposal. In light of occurrences or discoveries that were not originally contemplated by or known by the Consultant, the Consultant may be required to discuss with the Client a change in the scope of the project, which may require a revision to this agreement. Should such a situation arise, the Consultant shall identify the changed conditions which make such discussions necessary and the Consultant and the Client shall promptly and in good faith enter into renegotiation of this agreement in order to continue to meet the Clients' needs. If an agreement cannot be reached on the change in scope, the Client agrees that the Consultant has the absolute right to terminate this agreement.

Mediation
All claims, disputes and other matters in question between the parties to this agreement, arising out of or relating to this agreement or the breach thereof shall be decided by mediation, unless the parties mutually agree otherwise.

Limitation of Liability
For purposes of limitation of liability provisions contained herein, the Client expressly agrees that it has entered into this Agreement with the Consultant, both on its own behalf, and as agent on behalf of its employees and principals.

The Consultant's liability to the Client in Contract and Tort is limited to the total amount of the fee paid for professional services.

The Client expressly agrees that the Consultant's employees and principals shall have no personal liability to the Client in respect of a claim, whether in contract, tort and/or other cause of action in law. Accordingly, the Client expressly agrees that it will bring no proceedings and take no action in any court of law against any of the Consultant's employees or principals in their personal capacity.

No other party shall rely on the Consultant's work without the express written consent of the Consultant.

The Client will give prompt written notice to the Consultant whenever the Client or his representative becomes aware of any defects or deficiencies in Consultant's work.

Hold Harmless
Burnside's commitments as set forth in this Agreement are based on the expectation that all of the services described in this Agreement will be provided. In the event the Client later elects to reduce Burnside's scope of services, the Client hereby agrees to release, hold harmless, defend and indemnify Burnside from any and all claims, damages, losses or costs associated with or arising out of such reduction in services.

Field Review Services
Where engaged by the Client, the Consultant will provide field review services. It is understood that in engaging the Consultant, the Client recognizes that the role of the Consultant in completing field review is to ensure conformity of the construction with the identified design. The Consultant does not provide direction to the Contractor on construction methods, nor does the Consultant warrant the Contractors work - this is the sole responsibility of the Contractor for which the Consultant will not take any liability. Prior to the initiation of construction, the Client and the Consultant will agree on a field review schedule. The Client acknowledges that where a reduced field review schedule is agreed, the Consultant will not be held liable for any work completed by the Contractor for which the Consultant has not been on site to witness conformity with the design.

Governing Law
The laws of the Province of Ontario will govern the validity of this agreement, its interpretation and performance, and remedies for contract breach or any other claims related to this agreement.

Assignment
Neither party shall assign responsibilities without the written consent of the other.

Termination
The Client or Consultant may terminate this Agreement at any time and no further expense will be incurred beyond the time of notice to terminate. In the event such termination becomes necessary, the party effecting termination shall so notify the other party in writing, and termination will become effective 14 calendar days after receipt of such notice.

Irrespective of which party shall effect termination or the cause therefore, the Client shall, within 30 calendar days of termination, remunerate the Consultant for services rendered and costs incurred, in accordance with the Consultant's prevailing fee schedule and expense reimbursement policy. Services shall include those rendered up to the time of termination, as well as those associated with termination itself, such as demobilizing, modifying schedules, reassigning personnel, and so on. Costs shall include those incurred up to the time of termination, as well as those associated with termination and post-termination activities.

Suspension
Upon 14-calendar day's written notice to the Consultant, the Client may suspend the Consultant's work. If payment of the Consultant's invoices is not maintained on a 30 calendar day current basis by the Client, the Consultant may by 14-calendar day's written notice to the Client suspend further work until payment is restored to a current basis. Suspension for any reason exceeding 45-calendar days shall, at the Consultant's option, make this Agreement subject to renegotiation or termination, as provided for elsewhere in this Agreement. Any suspension shall extend the time schedule for performance in a manner that is satisfactory to both the Client and the Consultant, and the Consultant shall be compensated for services performed and charges incurred prior to the suspension date, plus suspension charges.

Suspension charges may include, but shall not be limited to, services and costs associated with putting analyses and documents in order, rescheduling and reassigning personnel and/or equipment and issuing necessary or customary notices to appropriate government boards. Compensation to the Consultant shall be based upon the Consultant's prevailing fee schedule and expense reimbursement policy.

Ownership of Documents
The Client shall be entitled to a copy of all drawings, specifications, designs and documents prepared by the Consultant but shall not use them for any other project. The originals shall remain the property of the Consultant.

Client's Responsibility
The Client will fully disclose all relevant information or data pertinent to the Project, which is required by the Consultant. The Consultant shall be entitled to rely upon the accuracy and completeness of such information and data furnished by or on behalf of the Client.

The Client will give prompt consideration to all requests or documents relating to the project submitted by the Consultant and whenever prompt action is necessary, inform the Consultant of his decisions in such reasonable time so as not to delay the Services of the Consultant. The Client shall arrange and make provision for the Consultant's entry and ready access to the project site as necessary to enable the Consultant to perform his services.

Tax
Any applicable taxes will be added to invoices.

Statement of Qualifications for Renewable Energy and Energy Conservation Services

R.J. Burnside & Associates Limited
15 Townline
Orangeville ON L9W 3R4 CANADA

October 2015

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Disclaimer

This document contains proprietary and confidential information. As such, it is for the sole use of the addressee and R.J. Burnside & Associates Limited, and proprietary information shall not be disclosed, in any manner, to a third party except by the express written consent of R.J. Burnside & Associates Limited. This document is deemed to be the intellectual property of R.J. Burnside & Associates Limited in accordance with Canadian copyright law.

1.0 Introduction

1.1 R.J. Burnside & Associates Limited

R.J. Burnside & Associates Limited (Burnside) is an engineering and environmental consulting firm comprised of approximately 350 professional, technical and support personnel. We have been providing our clients with a comprehensive range of skills in design, project management, construction administration, and plant operations since 1970. Burnside was incorporated in 1970 in the Town of Orangeville, Ontario, Canada. Our firm currently operates from eleven office locations in Canada.

Burnside has consistently provided quality engineering and consulting services to a progressively expanding number of Canadian and international public and private sector clients. Burnside is a client-focused organization, where project managers develop close working relationships with their clients. Burnside's primary areas of expertise include renewable energy, institutional / commercial / industrial infrastructure and development, solid waste management, stormwater management, groundwater supply systems, individual sanitation schemes, wastewater collection and treatment, roads and bridges, and other municipal facilities. We have several specialized divisions, including environmental assessment and planning; solid waste management; groundwater supply and contaminant hydrogeology; site assessment and remediation; remote sensing; and geographic information systems (GIS). The firm has experienced professional engineers and scientists who work to evaluate and implement renewable energy and energy conservation opportunities for our clients. These team members focus on wind, solar, water, biogas, and biomass electricity generation and transmission. Specific services in these areas are further described in Section 2.0 of this document.

Burnside operates through a group of companies, including:

- Neegan Burnside Ltd., a majority owned Aboriginal firm committed to assisting First Nations in meeting their development and economic goals while respecting First Nation community, culture, values and beliefs;
- Nuna Burnside Engineering and Environmental Ltd., addressing engineering and environmental needs in Nunavut;
- R.J. Burnside International Limited, extending corporate engineering and environmental services globally; and
- Well Initiatives Ltd., specializing in long-term maintenance and sustainability of groundwater supply wells.

Our international team focuses primarily on governmental funding agencies, and works closely with local representatives and community stakeholders. In Canada, we also

have public sector professionals and support staff focused on the needs of municipal and other government based clients.

Our work with the Indigenous people of Canada has given us a unique understanding of the needs and challenges that are inherent with under-serviced and culturally sensitive areas. A more detailed description of our majority owned Aboriginal firm, Neegan Burnside Ltd., is provided in Section 1.2 below.

Burnside's mission with respect to renewable energy and energy conservation is to reduce the impact of greenhouse gas emissions to the environment and provide cost effective, sustainable solutions for our clients. We have been involved with renewable energy projects for many years, but it was not until the Province of Ontario passed the Green Energy Act that a strong financial footing for renewable energy development was established. Burnside has developed a strong and experienced technical team that can provide full service to proposed developments of renewable energy and energy conservation projects. At this time, Burnside is involved in renewable energy development work for a number of wind, solar, biogas, biomass, and water power projects. Among these projects, Burnside has completed feasibility studies and technical engineering component work for civil, electrical, structural and mechanical aspects of project development. Burnside has also provided project management services and obtained approvals as required from various government agencies involved, including Renewable Energy Approvals (REA) under the Ontario Environmental Protection Act. Through feasibility studies, approvals, detailed design, careful tendering, construction administration, and operations monitoring, we can assure our clients that they will be getting the most cost effective renewable energy and energy conservation solutions. Our approach will maximize benefits and minimize risks, to facilitate successful project development.

Burnside continues to work with our clients using an appropriate balance of innovative technology and first principles know-how. Our people deliver the personal attention required to meet and exceed our clients' expectations. For a detailed summary of R.J. Burnside & Associates Limited and its Renewable Energy and Energy Conservation services, see Appendix A.

1.2 Neegan Burnside Ltd.

Neegan Burnside Ltd. (Neegan Burnside) is a majority owned Aboriginal firm committed to assisting First Nations in meeting their development and economic goals while respecting First Nation community, culture, values and beliefs. Together with partners R.J. Burnside & Associates Limited and Nuna Burnside Engineering and Environmental Ltd., our success can be seen in over 1,400 completed projects for more than 200 First Nation clients in North America (see Figure 1 below). We have worked in every First Nation across Canada. The various associates of the firm have been providing services

to First Nation communities for over 40 years and offer a true understanding of First Nation culture that allows effective and successful facilitation with First Nation communities.

Under the leadership of President, Cory Jones, P.Eng., from Chippewas of Nawash First Nation, Neegan Burnside offers a unique combination of technical capacity and innovative thinking to provide superior project control and personal responsiveness to clients. Our partnership with Burnside enables a seamless sharing of human resources and equipment and access to our full team of professionals, including engineers (civil, structural, electrical), environmental scientists (environmental assessment, natural environment, hydrology), technicians, and specialized support staff. We believe in establishing strong local partnerships and working within Aboriginal communities to implement well-adapted and effective solutions. Among other staff, Neegan Burnside has 9 Aboriginal employees in engineering and support services representing different Aboriginal communities in Ontario and Manitoba. We have the knowledge, experience, resources and high quality of service to assist with any energy project, irrespective of its size or complexity. Our broad spectrum of experience and expertise in balancing the environmental, economic and social responsibilities associated with power generation, coupled with our local presence, provides a unique opportunity to service clients throughout all phases of energy projects from planning through decommissioning.

We continue to be guided by a client- and community-focused approach. We understand and value the need for community engagement to respond appropriately with solutions that mitigate environmental and social impacts. This is evident, for example, in all capital planning studies we undertake, in which an examination of the suitability of existing assets is greatly enhanced by community involvement. Our experience has revealed that consultation and continuous liaising with various stakeholders within the community is an effective application of the client-specific 'first principles' philosophy to problem definition and needs analysis. Our team also understands the added value of knowing local government and funding institutions' processes. For a detailed summary of Neegan Burnside and its Renewable Energy and Energy Conservation services, see Appendix A.

1.3 Nuna Burnside Engineering and Environmental Ltd.

Nuna Burnside Engineering and Environmental Ltd. (Nuna Burnside) is a joint venture company within the Burnside group of companies. Our professional, technical and support staff provide a full range of services including renewable energy, energy conservation, energy needs evaluation infrastructure development, housing strategies, community planning and solid waste management. With offices in Orangeville, Ontario, Calgary, Alberta, and Winnipeg, Manitoba, we can effectively provide services to northern clients.

Figure 1: Neegan Burnside & Nuna Burnside Project Locations

2.0 Renewable Energy and Energy Conservation Services

Our professional team provides environmental and engineering consulting services in support of renewable energy generation and energy conservation. We have proven experience on wind, solar, water, biogas, and biomass electricity generation and transmission projects. Our broad spectrum of experience and expertise in balancing the environmental, technical, and economic and social responsibilities associated with energy projects enables us to manage renewable energy projects throughout all phases from planning to decommissioning. For renewable energy and energy conservation projects, we offer expertise in:

Project Management

- Coordinate all aspects of study / work
- Project scheduling, budgeting and reporting
- Project permitting / approvals
- Project financial modelling and analysis

Civil Engineering Services

- Infrastructure design (i.e., roads, culverts, etc.)
- Stormwater and wastewater management analysis and design
- Site plan design
- Organics storage
- Building Sciences Services
- Building envelope design to enhance energy conservation
- LEED Certified Buildings
- Green roof design
- Energy conservation measures
- Life cycle planning
- Building condition assessment
- Cladding renewal

Consultation

- Public and agency consultation
- Public and Private Sector representation
- First Nation consultation / facilitation and Aboriginal involvement

Mechanical Engineering Services

- Energy assessments
- Mechanical systems design and review
- Hazard assessment
- Streamflow analysis and hydropower capacity analysis

Structural Engineering Services

- Building analysis and design for rooftop solar installations
- Solar racking system review and assessment
- Ground-mount solar and wind turbine foundation design and review
- Installation inspection and certification
- Building and foundation design and review

Environment Services

- Site Surveys
  - Bird and bat surveys
  - Fish inventories and aquatic habitat assessments
  - Agricultural land use
  - Breeding amphibians
  - Ecological Land Classification (ELC)
  - Botany and forest resource assessment
- Land use planning, setback, and constraints analysis
- Site audits, remediation and decommissioning
- Hydrogeology / groundwater analysis
- Environmental constraints identification
- Renewable Energy Approval (REA) and Environmental Compliance Approval (ECA) Applications
- Individual and Class Environmental Assessments
- Environmental Activity and Sector Registry (EASR) Registration
- Environmental Site Assessments (ESA)
- Air and Noise assessments
- Preliminary Archaeological and Cultural Heritage assessments
- Solar access / shading, and glare assessments
- Peer Review

Construction Services and Contract Administration

- Owner's Engineer services
- EPC & standard construction contract preparation
- Contract tendering, evaluation, and award
- Contract administration
- Construction inspection and field services
- Pre-engineering, layout and as-built surveys

Electrical Engineering Services

- Connection impact assessments
- Solar photovoltaic system layout and design
- Coordination of interconnection with local Utility and IESO
- Funding and contract applications
- Medium voltage power distribution design
- Low voltage power distribution design
- Controls (PLC and SCADA)
- Electrical design and distribution for buildings
- Transmission facility design
- Substation and collector system design

The following categories of work illustrate some of the varied experience Burnside has obtained across different industry sectors. A more detailed list of relevant project experience is provided in Appendix B.

2.1 Government Project Experience

Burnside provided consulting services in support of a proposed Green Energy Complex in Barbados comprised of a 30 MW Waste to Energy Facility, a 4 MW Landfill Gas to Energy Facility, a 7 MW Wind Farm, and a 10 MW Solar Farm. Services also included the beautification and engineered closure of the existing landfill at the site, procurement of a centralized administration building, maintenance workshop, leachate treatment plant, and provision of logistics and technical support for successful, integrated operations.

Neegan Burnside and London Economics Inc. (LEI) collectively advised the Ontario Power Authority (now IESO) on the establishment of the Aboriginal Renewable Energy Fund. We provided an estimate of development costs for each renewable energy technology and size and reviewed provincial and local approval requirements. Moreover, we contributed to the development of the overall fund framework, including eligibility criteria, application requirements, and monitoring processes.

Burnside assisted the Town of Mono in Ontario with the development of a 100 kW solar photovoltaic installation on the roof of their public works building. Burnside performed a structural assessment of the roof; developed a detailed Request for Proposal (RFP); evaluated submissions from EPC contractors and analyzed them in a way that allowed for objective comparison; and made recommendations to the Town of Mono based on the technical and financial details of the submitted proposals. The project was successfully constructed and is currently in operation, on target with Burnside's projected electricity generation models.

Burnside completed an energy conservation assessment of two arenas for the Town of Erin in Ontario. In the assessment, Burnside visited the facilities and recommended energy conservation measures to be implemented in the short- medium- and long-term based on a cost-benefit analysis. A significant amount of energy and cost savings opportunities were identified for the Town, including a significant reduction in greenhouse gas emissions.

2.2 Project Funding Experience

Neegan Burnside has considerable experience in obtaining funding from various sources, in particular for First Nation projects. We have successfully obtained funding in the past from INAC (now AANDC) for hundreds of First Nation projects. We have also obtained funding for over 14 different First Nation communities to undertake renewable

energy feasibility studies to explore development of solar, wind and water power projects.

2.3 Project Permitting Experience

Neegan Burnside and Burnside successfully obtained three of the first four Renewable Energy Approvals in the province of Ontario. These were for Class II wind projects in Southwestern Ontario. Burnside also obtained a Renewable Energy Approval for the 100 MW Grand Bend Wind Farm, a Class IV wind project located just North of Grand Bend, Ontario. Burnside also obtained the conservation authority permits required to construct the infrastructure associated with the Grand Bend Wind Farm. Furthermore, Burnside has recently submitted applications for Renewable Energy Approval and Environmental Compliance Approval of the 3.6 MW Whitesand First Nation Cogeneration and Pellet Mill Project near Armstrong, Ontario. This was the first biomass (thermal treatment) project to be proposed for Renewable Energy Approval in Ontario, and approval is anticipated in the Fall of 2015. The unique aspects of this project required a separate Environmental Compliance Approval for the project's ancillary wood pellet plant.

3.0 Team Qualifications and Experience

3.1 Project Team

Burnside offers a team of highly qualified professionals with a wide range of skills and directly related experience in support of renewable energy generation and conservation, including wind, solar, water, biogas, and biomass electricity generation and transmission. Our team includes experienced engineers, planners, geoscientists, environmental specialists, certified energy managers, LEED® Accredited Professionals and professionals with green roof knowledge.

Below we provide short summaries highlighting the expertise and background of just a few of our specialists that are available for consideration. Complete Curricula Vitae are available upon request.

Lyle Parsons, BES, VP Environment, Renewable Energy and Energy Conservation Team Leader

Mr. Parsons is Vice President, Environment and a Senior Project Manager with R.J. Burnside & Associates Limited. He is the leader of our Renewable Energy and Energy Conservation Services group. He has over 40 years of experience in environmental assessment and planning and direct environmental management of multi-disciplinary Ontario and international projects. Lyle has developed an extensive knowledge of the Large Renewable Procurement (LRP) Program and its requirements. He is also project manager for wind power projects in Southwestern Ontario. Lyle

managed the Ontario Power Authority's (OPA, now merged with IESO) Aboriginal Renewable Energy Fund advisory service project in association with London Economics Inc. (LEI). He also worked with LEI on development of a municipal funding program for the OPA.

Mr. Parsons brings with him a wealth of experience from both the private sector and government. He has managed many projects involving approvals under the federal, provincial, and municipal statutes, often resulting in the development of unique, creative, and cost-effective solutions for private and public sector clients. He leads many strategic planning projects with the objective of finding cost effective, creative and environmentally sustainable solutions.

Chris Shilton, P. Eng., LEED®AP, Civil Engineer

Chris is a Professional Engineer and LEED® Accredited Professional, driven by solving problems through a combination of experience, research, collaboration, and an open mind for alternative approach.

The majority of Chris' experience comes from 10 years in the land development industry, where he has managed and contributed to multidisciplinary project teams. During this time, his roles in design, contract administration, and project management have developed his diverse skill set, and exposed him to the many different aspects and stakeholders of land development projects. His adaptive learning ability allows him to draw from these experiences and apply them to demonstrate creative and comprehensive problem solving skills. In 2010, Chris applied his land development consulting experience to the renewable energy industry to deliver sustainable projects that generate triple bottom line dividends.

For over five years, Chris has successfully fulfilled project management and technical engineering roles on hundreds of renewable energy projects ranging from 100 kW to 100 MW across multiple technology sectors of solar, wind and biomass. Chris was also project manager for a significant municipal energy conservation project. In these roles, Chris employed his diverse project management and design experience to facilitate the successful implementation of renewable energy and energy conservation projects.

Sammy Elias, P. Eng., Electrical Engineer

Sammy Elias is an Electrical Engineer with R.J. Burnside & Associates Limited and provides technical assistance to both public and private clients. The majority of Sammy's experience has been in the fields of transit facilities, building services, commercial / residential development, pump station design for water and wastewater control, electrical design and layout for medical centers, emergency / standby generator systems, indoor and outdoor lighting, fire alarm design / upgrades, building assessments, cost analysis and tender specifications preparation. Recently, Sammy has been focused on Ontario's renewable energy Feed-in-Tariff (FIT) Program, which

includes delivery of FIT consultations, contracts, developing the scope of renewable projects, and technical designs.

Carl Lankinen, P. Eng., Structural Engineer

Carl seeks challenge and has worked on a number of unique projects such as wind turbines and foundations, solar trackers, solar farms, straw bale buildings, water standpipes, zip-lines, smoke stacks, industrial bridges, air supported structures, air inflated structures, a yurt and specialized structural systems supporting cutting edge projector systems. During this experience, he has designed cast-in-place concrete, precast concrete, pre-stressed concrete, hot rolled steel, cold-formed steel, wood, timber, masonry, aluminum, glass components and has completed design work utilizing fibre reinforced polymer composites. He has leveraged his proven structural engineering abilities on over 1,800 projects ranging from small residential to large industrial, commercial and institutional.

Mr. Lankinen has acted as a structural expert on a number of expert reports for insurance companies and law firms. He has opined on a variety of issues including house fires, explosion damage, structural collapses, tornado damage, foundation underpinning for environment repairs and wind damage. He has also completed a number of peer reviews of drawings, calculations, reports, buildings and components. To this end, he has qualified as an expert witness while testifying at a Professional Engineers of Ontario tribunal.

Lorena Niemi, P. Eng., Civil Design Engineer

As an engineer, Project Manager and Sector Leader, Lorena is involved in the completion and coordination of the design of a variety of land development projects for residential, commercial, industrial, institutional and golf course clients covering infrastructure, grading and stormwater management works. In addition, Lorena has been involved in the design of municipal services under various land development projects. Lorena maintains effective interaction with both clients and approval agencies to obtain the necessary approvals. She is familiar with development and design regulations in Ontario and a number of municipalities and governing agencies.

Jill Boland, P. Eng., LEED®AP BD + C, Mechanical Engineer

Jill Boland is an intermediate mechanical engineer with over 9 years of experience in the field of building services including municipal, industrial, and commercial applications. She has managed, designed, inspected and assessed HVAC, plumbing and fire protection systems for numerous challenging and diverse projects. Jill has a strong interest in energy management and has designed and supervised the construction of LEED certified buildings.

Nicholle Smith, B.A., EMPD, Terrestrial Ecologist

Nicholle Smith is an Ecologist and Project Manager with over 15 years of experience in both the public and private sectors. The first five years of her career were spent in the public sector as a Natural Heritage Ecologist at Credit Valley Conservation and the remainder of her career has been spent in consulting. Nicholle has extensive knowledge of the policies applicable to her area of expertise including local, municipal and regional planning policies within the Ontario multi-tier system, including the Provincial Policy Statement and Planning Act.

Chris Pfhol, C.E.T. (EP), Senior Aquatic Ecologist

Christopher has a broad range of experience in Canada and internationally, with 15 years of professional experience in environmental assessment, baseline studies, habitat restoration, environmental monitoring and protection, fisheries and fish habitat, Species at Risk, hydrology, hydrogeology and contaminated sites. He has extensive knowledge of the Fisheries Act, Endangered Species Act, and Species at Risk Act, as it pertains to the protection of aquatic and terrestrial species and their habitat. Christopher is responsible for obtaining permits from various government agencies (MNRF, DFO, Conservations Authorities), environmental impact assessment, environmental and construction monitoring, developing and conducting sampling programs for fisheries and aquatic habitat inventories, and the preparation of technical reports based on project requirements.

Tricia Radburn, B.Sc., Environmental Planning

Tricia is experienced in assessing and analyzing development impacts on environmental and natural heritage features. Certified in Ecological Land Classification and Wetland Evaluation, Tricia has conducted field studies and analyzed environmental conditions for Environmental Impact Studies under the Planning Act, Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan and a variety of class environmental assessment processes. She is knowledgeable of a wide variety of permitting processes and has experience with approvals under the Public Lands Act, Endangered Species Act, Species at Risk Act, Fisheries Act, Environmental Protection Act, and Conservation Authority regulations. Prior to working at Burnside, Tricia worked for the Upper Thames River Conservation Authority where she helped to incorporate O.Reg. 97/04 – Development, Interference with Wetlands and Alterations to Shorelines and Watercourses into UTRCA policies and guidelines.

She recently completed a Master's Degree in First Nation Energy Planning under Ontario's new Green Energy Act, Renewable Energy Approval Regulation and various incentive programs.

Mark Sheedy, Construction Services

As Vice President, Field Services, Mark Sheedy heads up the Field Services Team throughout the company and is responsible for Quality Control for that group. During his 29 years of consulting experience, Mr. Sheedy has been involved in an extensive number of projects for a wide variety of significant clients, notably First Nation infrastructure construction projects. Related experience includes coordinating the engineering team to act as the Owner's review engineer for two hydro-electric development sites in the Thunder Bay general region and acting as Contracts Administrator for infrastructure expansion for the Grassy Narrows Community near Kenora. Project value was approximately $6M and included a new water plant with lake intake, water standpipe and 8 km water distribution main. Also included was a package sewage plant, as well as distribution and collection systems with extensive trench rock excavation. This involved site visits over a two year period and liaison with the First Nation and Federal Government Authorities.

Ernie Groskopfs, P. Eng., Senior Designer

Ernie Groskopfs is a Senior Design Engineer with R.J. Burnside & Associates Limited with extensive experience in the design of municipal infrastructure and site plan design for energy projects. Ernie managed grading design and review for the construction of two 50 acre solar farms, each approximately 8 MW near Port Dover. Tasks included drainage and grading design and review for two sites containing over 70,000 solar panels each. Ernie was also involved in the design of the site servicing, grading and associated approvals for the development of an 800 MW power generation facility. Works included the site grading and servicing design along with the associated external works including the routing of underground transmission cable and watermain.

Arunas Kalinauskas, B.Sc., Senior GIS Specialist

Arunas Kalinauskas, Business Development Asset Management/GIS, has over 30 years of experience in geomatics, data integration and analysis, and asset management. Arunas has led a team at Burnside on projects in collaboration with the Canadian Space Agency, and the American National Aeronautics and Space Administration both nationally and internationally. For over the last ten years Arunas has lead both the analysis of asset infrastructure data and the development of tools that assist in the management of municipal and First Nation assets. Arunas and his team were a key part in the analysis and report delivery of the First Nations, Water and Wastewater System Inspections Study for all First Nations across Canada (over 1,400 systems). Arunas in the last few years has been leading all Asset Management Plan projects at Burnside. He has the technical understanding of asset management best practices and experience facilitating workshops and meetings to get the information required to develop asset management plans. Arunas has been successful in managing, delivering and receiving Council approval of all of his Asset Management Plan projects.

Recently, Arunas has led Burnside developers, and strategic partners in the development of effective asset management and capital planning tools. In this role, Arunas has been formulating solutions that combine client expectations with engineering expertise gathered from Burnside's engineering staff.

Harvey Watson, P.Eng., Air and Noise Specialist

Harvey has over 10 years of experience in the Air and Noise Approvals industry and over 15 years of project management experience. Harvey has successfully completed more than 100 applications for Ontario Environmental Compliance Approvals (ECA, formerly C of A). All of the applications resulted in the Ministry of the Environment issuing an approval. Harvey has extensive experience measuring and modelling air and noise emissions to predict impact on sensitive receptors. He has prepared numerous Acoustic and Air Assessment Reports as well as designed mitigation measures to reduce impact on sensitive receptors.

Kristina Zeromskiene, Ph.D., Air and Noise Specialist

Kristina has experience with air and noise emission inventories, industrial approvals and environmental assessments for the power generation sectors. She has completed a variety of air and noise quality assessments and approvals for industrial and commercial facilities. She has reviewed and assisted multiple clients in air and noise emission assessments and reporting to federal, provincial and municipal governments.

4.0 Why Hire Burnside?

Burnside offers clients a highly qualified team to facilitate the successful implementation of renewable energy and energy conservation projects in Ontario and around the world. Our team is leveraged by:

- Expert knowledge of the electricity industry and regulatory framework in targeted local, national, and international markets, including a comprehensive understanding of how to successfully implement projects across multiple jurisdictions;
- Expertise in capitalizing on government incentive programs;
- Senior staff with relevant expertise and experience to implement the work;
- An impressive record of meeting demanding schedules, client objectives and approvals;
- Motivated professionals who have a vested interest in meeting your needs and will be continuously involved in the daily requirements of the work; and
- A 100% employee–owned firm focused on client support, where 60% of our clients are repeat clients representing 94% of our revenue.

We are very interested in further developing your renewable energy and energy conservation projects and are continuously expanding our experience, skills, capabilities and resources.

Respectfully submitted by:

R.J. Burnside & Associates Limited

Lyle Parsons, B.E.S.
LP:mp:kc

BURNSIDE

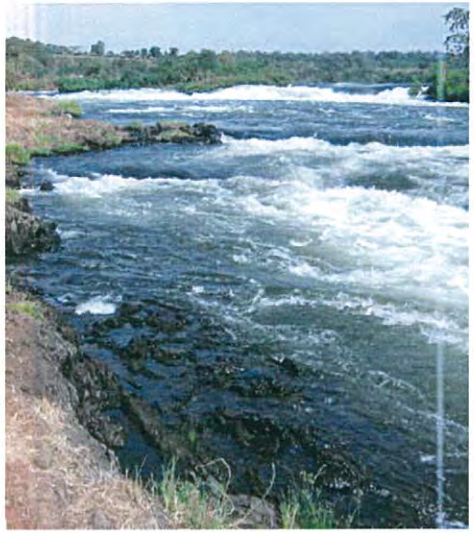
[THE DIFFERENCE IS OUR PEOPLE]

Appendix A

Corporate Brochures

BURNSIDE

RENEWABLE ENERGY SERVICES



Burnside's Renewable Energy and Conservation Group is focused on providing consulting services in support of renewable energy generation including conservation. We also offer energy audits and use assessments to develop energy conservation programs. Our professional group draws from a diverse mix of engineers, geoscientists, environmental specialists, certified energy managers, LEED Accredited Professionals, electrical engineers and Green Roof Accredited Professionals.

With government incentives and programs for both renewable energy and energy conservation throughout Canada, interest in the development of clean resources has never been higher. Burnside's broad spectrum of experience and expertise in balancing the environmental, technical, economic and social responsibilities associated with energy projects provides a unique opportunity to provide services to clients throughout all phases of renewable energy projects from planning through decommissioning.

Burnside has the knowledge, experience, resources and high quality of service to assist you with any renewable energy project irrespective of its size or complexity. Our team has extensive experience in federal and provincial legislation across Canada, such as Ontario's Green Energy and Economy Act, and the associated initiatives that will assist the province's renewable energy resources building economically viable projects.

Planning Services

Advisory Services
Prime Consulting and Project Management
Environmental Assessments
Feasibility Studies
Operations and Maintenance Planning
Public/Agency/Stakeholder Consultation

Detailed Design Services

Civil Engineering and Site Servicing
Structural Engineering
Electrical Engineering
Mechanical Engineering

Specialty Services

Contract Administration
Environmental Services
Building Science
Sustainability and LEED

SOLAR ENERGY

Burnside has the knowledge, experience and resources to assist you with any solar energy project irrespective of its size or complexity. We have managed solar projects ranging in size from small FIT roof-top systems to MW sized ground mount projects and have the capability to take your project from the feasibility study stage through to completion.

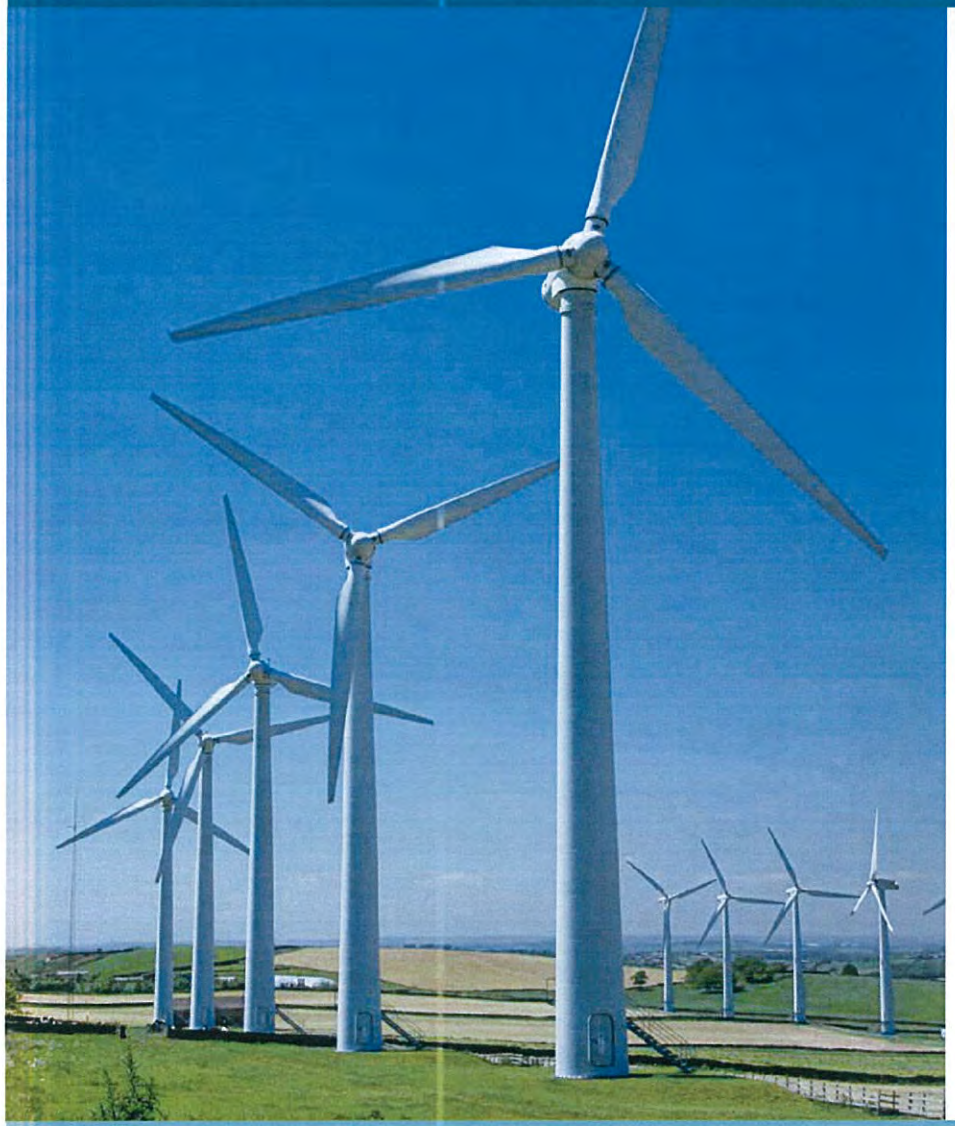
A primary objective of Corporate Social Responsibility is to minimize the environmental carbon footprint. This objective can be achieved through the use of renewable energy solutions include solar systems. Burnside can assist in the assessment, design and implementation for both existing facilities and new build construction.

Some of our service offerings include:

- Assistance with Feed-In-Tariff (FIT) applications
- Solar feasibility assessments and technical peer reviews
- Building structural assessment to accommodate solar systems
- Solar energy connection impact assessments,
- Coordination of interconnection for renewable energy generation with Hydro Utility
- For large parcels of land possibly ground mount solar we can provide a full suite of environmental services including the appropriate REA studies including other approval requirements

... sustaining a green earth for tomorrow

WIND ENERGY



Wind power is an important emerging energy resource throughout Canada. As one of the fastest growing renewable energy technologies in the world, wind power, with its reliability and minimal environmental impacts, has the potential to make a significant contribution to Canada's growing energy needs. Burnside has the knowledge, experience, resources and high quality of service to assist you with any wind energy project irrespective of its size or complexity.

With new provincial renewable energy initiatives and the availability of other incentives and programs for renewable energy throughout the world, interest in the development of this clean resource has never been higher. Burnside's broad spectrum of experience and expertise in balancing the environmental, economic and social responsibilities associated with wind power generation, coupled with our local presence in Ontario and Manitoba provides a unique opportunity to service clients throughout all phases of wind power projects from planning through decommissioning.

Some of our wind power clients include:

- Northland Power Inc.
- Captus Power Corp.
- Eolectric
- EPCOR
- Municipalities and Townships
- MV Power Systems
- Wind Prospect Inc.

Let Burnside help you plan, design and construct all aspects of your wind energy project.

Through the experience of our people and specialized partnerships, Burnside's team can assist in a variety of areas, including:

Project Management

- Coordinate all aspects of study/work
- Project scheduling, budgeting and reporting

Environmental Services

- Site Surveys
  - Bird and bat surveys
  - Fish inventories and habitat assessments
  - Agricultural land use
  - Breeding amphibians
  - Ecological Land Classification (ELC)
  - Botany and forest resource assessment
- Land use planning
- Site audits, remediation and decommissioning
- Hydrogeology
- Environmental constraints identification
- Green Energy Act / Renewable Energy Approval Applications
- Environmental assessments and screenings
- Noise and Archaeological assessments
- Peer Review
- Streamflow analysis and hydropower capacity analysis

Public/Agency/Stakeholder Consultation

- Public and agency consultation
- Public and Private Sector representation
- First Nation and Metis consultation/ facilitation and accomodation

Electrical Engineering Services

- Energy connection impact assessments
- Coordination of interconnection for renewable energy generation with Hydro Utility and Ontario Power Authority
- Funding and contract applications
- Medium voltage power distribution design (overhead and underground)
- Low voltage power distribution design
- Controls (PLC and SCADA) Electrical design and distribution for buildings

Civil Engineering Services

- Infrastructure design
- Stormwater management services
- Site plan design

Structural Engineering Services

- Structural support of solar panels
- Transmission facility design
- Organics storage
- Foundation and building design

Building Sciences Services

- Building envelope design to enhance energy conservation
- LEED Certified Buildings
- Green roof design
- Energy audits and conservation measures
- Life cycle planning
- Building condition assessment
- Cladding renewal

Mechanical Engineering Services

- Energy audits assessments
- Mechanical systems design and review
- Hazard assessment
- Combined heat and power systems

Construction Services and Contract Administration

- EPC & standard construction contract preparation
- Contract tendering and award
- Contract administration
- Construction inspection and field services
- Pre-engineering, layout and as-built survey

Contact:

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R.J. Burnside & Associates Limited

Company Profile

Neegan Burnside Ltd., is a Canadian owned engineering and environmental consulting firm developed to meet the needs of aboriginal communities. In association with R.J. Burnside & Associates Limited, we have access to over 335 professional, technical and support staff providing a full range of services including infrastructure development, housing strategies, community planning, energy needs evaluation and solid waste assessments. Our offices in Orangeville and Winnipeg provide services to First Nation clients in Western and Central Canada.

Integrated Water Resources

Neegan Burnside has been meeting the needs of First Nations communities for since its inception over 10 years ago, designing and providing construction administration services for water and wastewater infrastructure requirements. We offer a comprehensive package of services including planning, detailed design, construction supervision, project management, operator training and environmental assessment. Our staff provides contaminant hydrogeology investigations for evaluation of contaminants associated with various land uses and potential for impact on water supply.

Environmental Sciences

We have conducted numerous Phase I, II and III environmental site assessments at facilities and properties for our First Nations clients. Detailed site investigations are conducted to assess soil and groundwater contamination, above ground and underground storage tank conditions, the quantities and condition of asbestos insulation, and the types of equipment containing PCBs.

Transportation

Our transportation services include functional street designs, sound street improvement planning, proper truck routing and access controls, bridge design, construction repair, maintenance, and complete replacement.

Structural Engineering and Building Design

Neegan Burnside has completed several structural design projects including utility buildings, schools, hospitals and community centers. We design effective building structures that use current technology and construction practices incorporating specific attention to the cultural requirements of the community. Our projects use energy-efficient heating, ventilating, air-conditioning, plumbing and drainage designs. We resolve concerns about mould found in residential and institutional buildings by evaluating vapour barriers, insulation and cladding to ensure the integrity of the building envelope.

Geographic Information Technology

Neegan Burnside's use of GIS and satellite technology is a cost-effective tool for assessment mapping, road and utilities maintenance, land use planning and development, by-law enforcement and emergency response assistance in First Nations communities. As well, we provide a cost-effective process to locate groundwater and mineral resources by integrating satellite imagery with geological, geophysical and hydrological data.

Experience and Knowledge

In over 40 years of experience, Neegan Burnside and Burnside have worked with practically every First Nation community in Canada. Our staff understands the needs and challenges of providing services to remote and under-serviced communities. We have successfully completed projects with extremely short deadlines and extensive approval requirements. When required, we are available to assist with accessing funding and financing to ensure the realization of your project. Recognizing the uniqueness of each project and each community, Neegan Burnside uses innovative and appropriate technology along with personal attention to meet the needs of our clients.

Company Profile

Burnside is an engineering and science-based consulting firm of over 335 professional, technical and support staff. We provide our clients with a comprehensive range of skills including design, project management, construction administration, and plant operations. Burnside was incorporated in 1970 in the Town of Orangeville, Ontario, Canada. Our firm currently operates from 11 offices in Canada and overseas in Barbados and Mozambique.

Burnside consistently provide quality infrastructure, engineering and consulting services to a progressively expanding number of clients in Canada and internationally. Our staff often assists our clients on projects with short deadlines, extensive approval requirements including securing necessary financing. While providing our clients with personal attention, we, at Burnside combine innovative and new technologies with our extensive consulting knowledge.

This reputation has enabled Burnside to represent more municipalities than almost any other consultant in Ontario. Our staff often becomes integrated with our client's team, particularly in small municipalities where we effectively act as the municipality's engineering department. We also work extensively on behalf of the private development community; in fact, Burnside has one of the most well respected golf services teams in Canada.

Integrated Water Resources

Burnside has specialized in water technology for over 40 years. This experience includes hydrology, hydraulics and land drainage, but particularly the development and sustainability of water and wastewater infrastructure for communities. Burnside also carries out contaminant hydrogeology investigations and identifies the potential for contaminants affecting areas of groundwater recharge and water supply wells.

Structural Engineering and Building Design

Burnside provides services related to the structural, mechanical, electrical and site servicing for the development of commercial, institutional and industrial facilities. We design effective building structures that use current technology and construction practices to meet the specific needs of each client. We also manage the entire development of the site from greenfield or brownfield right through the construction phase.

Environmental Sciences

Our seasoned team of engineers, designers, and environmental scientists also specialize in solid waste management. Our services include environmental assessments through all design phases to contract administration and operator training.

Our environmental planning and assessment professionals have the necessary skills and knowledge in planning, design, licensing and permitting requirements. We have conducted numerous Phase I, II and III environmental site assessments at various client facilities and properties. Detailed site investigations are conducted to assess soils and groundwater contamination, above ground and underground storage tank conditions, and contamination from fuels, oils, chlorinated organics, PCBs, and other chemicals.

In support of renewable energy generation and conservation, we offer professional services in wind power generation and transmission, water power, biogas, biomass, and solar energy.

Geographic Information Technology

Our GIS and satellite technology services provide cost-effective tools for assessment mapping, road and utilities maintenance, land use planning, development, bylaw enforcement and emergency response assistance. We provide a flexible, cost-effective process to locate groundwater and mineral resources by integrating satellite imagery with geological, geophysical and hydrological data. With our business partner ESRI, we are also a recognized developer of software solutions designed to assist municipalities comply with regulations related to infrastructure.

Transportation

Our experienced professionals are specialized in the design and construction of roads and bridge upgrades and replacement. Our teams address all facets of the project including financial analysis, planning, design, contract administration, GIS and environmental assessment. We are experienced in managing transportation projects through complex approval processes.

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[THE DIFFERENCE IS OUR PEOPLE]

Appendix B

Relevant Project Experience

R.J. Burnside & Associates Limited

R.J. Burnside & Associates Limited	
Client Job Title	**Brief Project Description**
Sanitation Service Authority, Barbados Green Energy Complex **2013 – Ongoing**	Burnside provided consulting services in support of a proposed Green Energy Complex in Barbados comprised of a 30 MW Waste to Energy Facility, a 4 MW Landfill Gas to Energy Facility, a 7 MW Wind Farm, and a 10 MW Solar Farm. Services also included the beautification and engineered closure of the existing landfill at the site, procurement of a centralized administration building, maintenance workshop, leachate treatment plant, and provision of logistics and technical support for successful, integrated operations.
EDF-EN Canada, Friday Lake Wind Energy Centre Environmental Consulting Services **2015**	Burnside performed a variety of tasks related to studying the feasibility of a 100 MW wind farm near Temiskaming Shores, Ontario as well fulfilling the IESO requirements for an application to the LRP Program for a power purchasing contract. The first task completed was a Fatal Flaw Analysis. This study included a desktop review using GIS to identify a variety of site considerations for the project area. Burnside then prepared a Constraints Identification Report based on the results of the Fatal Flaw Analysis. The report summarized the potential concerns and presented recommendations for the siting of wind turbine generating equipment. Burnside also created reports summarizing background information on local stakeholders and aboriginal groups, utilizing their previous experience with First Nations. Furthermore, Burnside provided recommendations for stakeholder consultation efforts. When the developer decided to move forward with the project, Burnside prepared the following components of the LRP I Application Submission: • Crown Land Site Report; • MTCS Archaeological Sites Confirmation; • Algonquins of Ontario Land Claim Acknowledgement Declaration; • Site Considerations Report; and, • Public Meeting Summary Report.
Town of Erin, **Energy Conservation Assessment for Two Arenas** **2014 – 2015**	Burnside was retained by the Town of Erin to perform energy conservation assessments for two arenas in Erin and Hillsburgh, Ontario. In the assessment, Burnside visited the facilities and recommended energy conservation measures to be implemented in the short- medium- and long-term based on a cost-benefit analysis. A significant amount of energy and cost savings opportunities were identified for the Town, including a significant reduction in greenhouse gas emissions. Burnside also evaluated the potential for rooftop solar PV installations on the arenas and provided the Town with electrical and financial projections based on preliminary design layouts.

Town of Mono, **100 kW Rooftop Solar PV Project** **2013 – 2014**	Burnside was retained to assist with the development of a 100 kW rooftop solar PV project located on a public works building in Mono, Ontario. Burnside was initially retained to undertake a preliminary structural assessment and determine if the public works building could support at least 75% of the maximum 100 kW FIT contract capacity. A preliminary layout of the rooftop solar installation was developed, and determined that the main public works building could accommodate a sufficiently large portion of the system. The Burnside structural assessment determined that the existing building could support the solar installation with some limited structural enhancements. As part of the work, a report detailing the structural design enhancements was provided to the Town. Based on the results of the due diligence investigations above, Burnside was subsequently asked to prepare a detailed Request For Proposal (RFP) to be issued to contractors who would design and build the system and provide the appropriate guarantees that it will perform to high standards set by Burnside in the RFP. Burnside reviewed bidder submissions, compared them with independent technical review and financial projections, and provided recommendations to the Town. The above process and advice from Burnside provided the Town of Mono with confidence that the installed rooftop solar PV system would be safely supported by the roof, perform to a high standard, and provide realistic economic benefits.
EHV Power, **Two Ontario Solar PV Farms** **June 2010 – Jan 2011**	Burnside worked with the Engineering Procurement and Construction project team under EHV Power to assist with design and construction for the delivery of two significant photovoltaic solar farms in the Port Dover area on the sunny north shores of Lake Erie. These solar farms cover two sites at approximately 50 acres each in size, and produce 7.5 MW and 8 MW respectively, which is enough to power between 700 to 1,000 homes. Each project involved approximately 73,000 solar modules and associated equipment for connection to the grid. According to the U.S. Environmental Protection Agency's system for calculating emissions savings, the average 10 MW installation will displace approximately 31.2 million pounds of greenhouse gas emissions annually, the equivalent of taking more than 2,500 cars off the road or planting more than 3,200 acres of forest. The Burnside team provided structural, electrical and civil engineering services on these projects, including: • Reviewing and sealing of the low voltage & high voltage electrical design; • Coordination with ESA, Local utilities, Hydro One Networks and the Ontario Grid Control Centre (OGCC); • Reviewing and sealing of inverter grounding and overall grounding for the entire site; • Reviewing and sealing for grounding potential rise study, along

	with reviewing the step and touch potential study for the entire site; • Reviewing and sealing of protection and control schematics for interconnection with Utilities; and, • Commissioning of High Voltage substation.
Westerhout Poultry Inc. and Westerhout Enterprises, **Feed-In Tariff / REA Class 2 Wind** **Dec. 2009 – Nov. 2010**	Burnside completed Feed-In Tariff (FIT) applications for two separate projects. One was for Westerhout Poultry Inc. for two 16 kW wind turbines with a total generating nameplate capacity of 32 kW. The second project was for Westerhout Enterprises for three 16 kW wind turbines with a total generating nameplate capacity of 48 kW. Burnside assisted with: Initial FIT consultation; Pre-FIT Local Distribution Company (LDC) meetings; and preliminary and detailed electrical design, including single line diagram preparation for suitable interconnection methods required by local authorities having jurisdiction. Burnside also completed the Connection Impact Assessment required by the LDC. This approach provided our client with a turn-key approach to their FIT project. Burnside prepared the Renewable Energy Approval application and all supporting documentation. The application received approval from the Ministry of the Environment.
MV Power Systems, Wind Turbine Electrical Engineering Consulting **May – Sept. 2009**	As a start-up Ontario manufacturer and installer of wind turbines, MV Power Systems provides state of the art, Canadian made, wind harnessing technologies. The free standing 55 ft. structures come with 6 kW, 12 kW or 16 kW wind turbines and voltage ranges of up to 600 VAC. Burnside was retained as the electrical engineering consultant for the project to provide technical assistance to MV Power Systems and their clients. This work included coordination with the local utility company, completion of net metering forms, and single line diagram drafting.
Eolectric Inc., Honeywood 10 MW Wind Project **2006 – 2009**	Geilectric Inc., through its agent Eolectric Inc., a Canadian-based firm specializing in the development of wind power projects, proposed to develop up to 10 MW of wind energy in Mulmur Township. Burnside provided the client with a comprehensive service to complete applications for interconnection, designs, Environmental Assessment and environmental approvals under Ontario Regulation 116/01.
Wind Prospect Inc., **Harwich Wind Farm Environmental Assessment Peer Review – 10MW** **Nov. – Dec. 2008**	Wind Prospect Inc. retained Burnside to undertake a peer review of the "Harwich Wind Farm Proposal Environmental Impact Study (EIS) / Environmental Study Report (ESR)". The objective of this review was to ensure that the existing EIS and ESR were compliant with federal Environmental Assessment (EA) requirements, as dictated by the Canadian Environmental Assessment Act.

Eolectric Inc., **South River Wind Farm Environmental and Regulatory Constraints Screening** **2007**	Burnside was retained by Eolectric Inc. to prepare an Environmental and Regulatory Constraints Screening Report for four proposed wind power generation projects within the Districts of Nipissing and Parry Sound. The four study areas spanned organized and unorganized municipalities which included both Crown and private lands. The report was designed to provide Eolectric with sufficient information to decide on project viability in any of the four study areas. Burnside reviewed all policies and regulations affecting land use and electrical generation projects in order to determine their applicability and resulting implications for the proposed project. Documents reviewed included: • The Ontario Environmental Assessment Act and Electricity Projects Regulation (O.Reg. 116/01); • The Canadian Environmental Assessment Act , including federal funding sources; • The Environmental Protection Act and associated Certificate of Approval for Noise; • Environmental and land use planning requirements, including site plan; and • Identified Mining and forestry claims. Burnside also completed a desktop review of potential environmental constraints in each study area, including a review of: • Aerial photography and available mapping sources; • Local records of breeding birds, rare and protected species; • Parks, Areas of Natural and Scientific Interest ("ANSIs"), wildlife reserves and other protected areas; • The Migratory Bird Convention Act; and, • Federal and provincial guidelines for conducting background monitoring and assessing potential impacts to bird and bat populations.
Geilectric Inc., **Sowerby Wind Farm Preliminary Environmental Constraints** **Analysis** **2007**	Burnside was retained by Geilectric Inc. to prepare a Preliminary Environmental Constraints Analysis (PECA) report for a proposed wind power generation project within the Municipality of Huron Shores, near Thessalon, Ontario. The study area included Crown land, private land and lands of the Thessalon First Nation. The PECA report was designed to assist Geilectric in making an informed decision about project viability within the identified study area. The investigation followed the same process for document review and desktop environmental constraints analysis as outlined above for the South River Wind Farm.

Collingwood Ethanol Plant **July 2006 – July 2007**	The Collingwood Ethanol Plant, located close to Hwy 26 at the southeast corner of Collingwood, provides an example of a conversion to this relatively new industry. Formerly known as the Nacan starch plant, the Collingwood Ethanol Plant is an extension of the original facility. The initial stages of the conversion of corn to ethanol, and to the previous starch product manufactured at the plant are very similar, thus allowing some of the original infrastructure and facilities to be re-used for the ethanol production. Converting the old facility into an ethanol plant had capital benefits in comparison to starting an ethanol plant on a new site. The project timetable was condensed requiring that the process design, engineering, structural and civil design proceed just ahead of construction. The process design was completed in the USA, with supporting engineering from the structural and civil engineering fields as well as the building code review, being completed by Burnside. Burnside staff designed new internal roads, loading stations, tank foundations, relocation and modification of structural towers and frames, new process buildings, supports for new process equipment in and on the roof of the existing structures, modifications and repairs to the old buildings and foundations, access catwalks, and supports for process lines. In addition, periodic reviews and reports to satisfy building permit requirements were completed.
Geilectric Inc., **East Garafraxa and Marsville Wind Farm Environmental and Regulatory Constraints Screening** **Sept. – Nov. 2006**	Geilectric Inc. retained Burnside to prepare an Environmental and Regulatory Constraints Screening Report for a proposed wind power generation project on two blocks totalling approximately 1,116 ha in the Township of East Garafraxa, Ontario, in the vicinity of the community of Marsville. The report was designed to assist Geilectric in making an informed decision about project viability within the identified study area. The investigation followed the same process for document review and desktop environmental constraints analysis as outlined above for the South River Wind Farm.

Neegan Burnside Ltd.

Neegan Burnside Ltd.	
Client, Project	**Brief Project Description**
Whitesand First Nation, Biomass Cogeneration and Wood Pellet Plant **May 2012 - Ongoing**	This project included a 3.6 MW combined heat and power biomass cogeneration plant and ancillary equipment that was considered a Class 1 Thermal Facility under O.Reg. 359/09, as well as a wood pellet plant that was not considered part of the renewable energy generation facility. As such, a complex set of approvals were required, including a Renewable Energy Approval, a Class Environmental Assessment for MNR Resource Stewardship and Facility Development Projects, and an Environmental Compliance Approval. Neegan Burnside led public, government agency, and aboriginal consultation; conducted field studies; analyzed groundwater characteristics for water supply; designed an on-site wastewater management facility; and prepared the following reports in accordance with O.Reg. 359/09: • Project Description Report; • Natural Heritage Assessment; • Water Assessment; • Surface Water Assessment; • Effluent Management Plan Report; • Construction Plan Report; • Design and Operations Report; • Hydrogeological Assessment; • Cultural Heritage Self-Assessment; • Emission Summary and Dispersion Modelling Report; • Decommissioning Plan Report; and, • Consultation Report. Burnside also managed sub-consultants to perform archaeological and acoustic assessments. All of these reports, which formed the basis of the application for Renewable Energy Approval, are available for reference online at www.whitesandfirstnation.com. This project was the first application for Renewable Energy Approval of a Class 1 Thermal Facility in Ontario, and replaces the historical need for diesel generators supplying electricity to the remote community. Renewable Energy Approval of the project is expected in Fall 2015.

Northland Power Inc., Grand Bend Wind Farm **Feb. 2011 – Ongoing**	Neegan Burnside is the project manager / prime consultant for this 100 MW wind farm located near Grand Bend, Ontario. It will consist of 40, 2.48 MW wind turbines, a transformer substation, switchyard, operations and maintenance building, a 36 kV electrical collection system, and approximately 30 km of underground 230 kV transmission line to connect to the provincial grid. Our professional team was responsible for development of all background studies to meet the requirements for Renewable Energy Approvals in Ontario. Studies included siting plans, design and operations, construction, decommissioning, natural heritage, archeological and cultural heritage, noise, visual, and public and aboriginal consultation among many others. These studies are available for reference online at http://grandbend.northlandpower.ca. Furthermore, our team was responsible for liaising with the local conservation authority and obtaining their required permits. Burnside is now assisting as the client's engineer and environmental monitor during construction in order to ensure that construction procedures and constructed works are completed in accordance with permitting requirements. The project is expected to be operational in Summer 2016.
Chippewas of the Thames First Nation, Solar Feasibility Study **Oct. 2010 – Ongoing**	This project involved an initial pre-feasibility study and a subsequent detailed assessment for the feasibility of a 10 MW ground mount solar photovoltaic project on First Nation reserve lands, as identified by Chippewas of the Thames First Nation. The feasibility study assessed the eligibility of the project for the Feed-In-Tariff (FIT) program based on the FIT program rules in effect at the time of the study; reviewed the available capacity of the provincial grid to accept the project at the proposed location; characterized the site's environmental, social and economic setting; outlined the regulatory approval process; analyzed multiple technology options, including their corresponding benefits and risks; prepared conceptual project layouts; and performed electricity production and financial modelling for multiple technologies. Neegan Burnside identified constraints in the study and illustrated how those constraints impacted the proposed layout, size, technology, and land requirements for the project. Neegan Burnside also presented the recommendations outlined in the feasibility study to Chippewas of the Thames First Nation.
Pic River First Nation, Pic River Hydro Power Projects **Feb. 2010 – Ongoing**	Neegan Burnside was retained to act as the engineer on behalf of the Pic River First Nation (PRFN), the owner of two potential hydro power facilities with a total capacity of approximately 6 MW. Neegan Burnside's role is to provide advice to PRFN with respect to the findings of various feasibility, environmental and engineering work being undertaken.

Multiple FN Communities, Solar, Wind and Water Power Feasibility Studies **2010 – 2012**	Pre-feasibility studies including: site suitability, connection assessment, traditional knowledge, identification of interested parties and economic assessment were undertaken to develop solar, wind and water power projects at over 14 different FN communities in Southern and Northern Ontario. Work is continuing at a number of the projects to develop the opportunities identified by the Neegan Burnside Renewables Group. Solar projects ranged from 5 to 10 MW and wind power projects ranged from 50 to 100 MW. Water power projects were generally under 5 MW.
Grassy Narrows First Nation, **Hydro Power Feasibility Study** **2000 – 2012**	Neegan Burnside was retained to investigate the feasibility of generating hydroelectricity at Wabigoon Falls on the Wabigoon River and at Maynard Falls on the English River system. The general methodology for examining the potential for hydroelectric development at both sites was to complete a review of available documents, maps, aerial photography and river flow data. Site visits were then conducted to confirm general site conditions and water power head levels. This information was used to complete accurate technical and economic evaluations as key components of the feasibility study.
Naotkamegwanning First Nation, Hydro Power Pre-Feasibility Study **2009 – 2011**	Neegan Burnside (prime consultant) completed a pre-feasibility assessment for Naotkamegwanning First Nation to assess the viability of two types of hydroelectric generating facilities. A Dam-Head-Pond-Storage Plant and Run-of-the-River Plant were assessed based on Feed-In-Tariff prices and preliminary construction costs, and the latter was found to be more viable for the identified site. Based on the results of the pre-feasibility study, Naotkamegwanning First Nation took the necessary first steps in determining a more viable economical energy producing site.
Ontario Power Authority (OPA), **Development of the Aboriginal Renewable Energy Fund** **Feb. 2010 – Dec. 2010**	Neegan Burnside (prime consultant) and London Economics Inc. collectively advised on the establishment of the Aboriginal Renewable Energy Fund. We provided an estimate of development costs for each renewable energy technology and size, and reviewed provincial, federal and local approval requirements. Moreover, we contributed to the development of the overall fund framework, including eligibility criteria, application requirements, and monitoring processes.

Geilectric Inc., **Preliminary Environmental Constraints Analysis for Northwestern Ontario Wind Farms** **2009 – 2010** 	Geilectric Inc. retained Neegan Burnside to prepare a Preliminary Environmental Constraints Analysis (PECA) for two proposed wind power generation projects in the Districts of Thunder Bay and Kenora, Ontario. The majority of the study areas for the projects were proposed on or near First Nation Reserve and Crown lands. The PECA reports were designed to assist Geilectric in making an informed decision about project viability in the chosen study area. Neegan Burnside reviewed all policies and regulations affecting land use and electricity generation projects in order to determine their applicability and implications for the proposed projects. Work focused on desktop studies of existing mapping and records, and liaison with agencies, including the Ministry of Natural Resources, Ministry of Northern Development and Mines and Indian and Northern Affairs in order to identify known environmental, social and cultural constraints. Information collected from First Nation communities also formed a critical component of the analysis.
Wunnumin Lake First Nation, **Feasibility & Option Analysis of Alternative Energy Sources** **July 1997 – Oct. 1998** 	Wunnumin Lake First Nation is accessible only by regularly scheduled flights or by winter road. The main settlement consists of 115 occupied houses located on the southern shore of Wunnimum Lake. Working closely with our client, our firm studied alternative methods of energy production for the Northern Ontario First Nation community. 2,900 kW was the forecasted 20-year peak community power demand for Wunnumin Lake First Nation. Neegan Burnside examined options to the community including extension of the power grid to more innovative and self-sufficient choices such as hydroelectric, wind, and solar power generation. Corresponding with these alternatives was a consideration of employment, economic, and environmental impacts and the affect each would have on the community. A balance of the technical and socio-economic factors is always important in community projects. Options analyzed included: hydroelectric, diesel, connection to power grid, biomass district heating, wind, solar, and hybrid diesel/hydroelectric.