



Project Modifications Document

Cochrane Solar Project

JUNE 2019



Project Modifications Document Cochrane Solar Project

REPORT PREPARED FOR

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Northland Power Solar Martin's Meadows GP Inc.
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JUNE 2019

SAVANTA FILE: 8137

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1.0 INTRODUCTION

Northland Power Solar Abitibi GP Inc., Northland Power Solar Empire GP Inc. and Northland Power Solar Martin's Meadows GP Inc. (collectively referred to as Northland Power) have constructed and currently operate the Cochrane Solar Project in accordance with Renewable Energy Approval (REA) No. 1290-9A4KSE. The Project is located in the geographical Township of Glackmeyer, within the Town of Cochrane, Ontario, as shown on **Figure 1 (Appendix A)**. Commercial operations of the facility commenced in 2015. The facility is comprised of three areas referred to as Empire, Martin's Meadows and Abitibi.

Northland Power has identified a need to construct an access road between the Empire and Martin's Meadows areas of the facility. The purpose of the proposed access road is to improve the efficiency of the movement of operations and maintenance staff between the two project areas and minimize the use of public roads. The proposed access road will be approximately 112 m in length, between the existing fence lines of the Empire and Martin's Meadows areas and it will be approximately 5 m wide, with a granular surface. A water crossing structure, consisting of a 25-m long, 1500-mm diameter High Density Polyethylene (HDPE) pipe will be required on an unnamed tributary of Munroe Creek that flows in a southeasterly direction between the two areas of the facility.

Northland Power has also identified a need to construct a storage building on the Martin's Meadows portion of the facility. The purpose of the storage building is to house snow removal equipment. The proposed building will be approximately 9.1 m wide by 18.2 m long and 4.9 m high for a total overall footprint of approximately 165 m². It will be located at the north end of the facility, in an existing disturbed area in proximity to the existing operations and maintenance building (**Figure 1, Appendix A**).

Northland Power is applying for an amendment to the REA to facilitate the construction and operation of the proposed new access road and storage building.

This report provides details on the proposed changes to the Project (i.e., the proposed access road and storage building) and identifies the modifications that are required to each of the REA supporting documents submitted with the original and/or previous amendment applications. In addition, this report also outlines potential negative effects not addressed in the REA supporting documents and potential mitigation measures required to address those effects and outlines the public notification process completed to support the REA amendment application.

2.0 PROPOSED PROJECT CHANGES

The proposed Project changes include the proposed access road and storage building. Each is briefly described in the following sections.

2.1 Proposed Access Road

The proposed access road will be a 112-m long, granular surface access road between the Empire and Martin's Meadows project areas (**Figure 1, Appendix A**). A 25-m long, 1500 mm diameter HDPE (smooth interior surface) pipe will be required to cross an unnamed intermittently flowing tributary of Munroe Creek. The design drawing for the water crossing structure is provided in **Appendix B**.

Construction of the access road is anticipated to involve the following steps:

1. Establishment of equipment and material laydown areas within the existing Empire and Martin's Meadows fence lines;
2. Removal of existing portions of the fence lines on the Empire and Martin's Meadows areas;
3. Installation of sediment and erosion controls;
4. Mechanical clearing of woody vegetation (i.e., trees and shrubs);
5. Stripping of groundcover and topsoil;
6. Installation of HDPE water crossing structure;
7. Grading and installation of road bed and surficial materials;
8. Grading and re-vegetation of ditches to facilitate drainage away from the road surface (if necessary);
9. Restoration of disturbed areas (e.g., revegetation); and
10. Demobilization.

The road is anticipated to take approximately two weeks to install. Construction will proceed once all necessary permits and approvals have been obtained, subject to suitable weather and in-water work and vegetation removal timing constraints outlined in this letter.

The road is proposed in the same general location that an overhead electrical line was proposed in the original REA application. However, the REA was later amended to change the overhead line to a buried line, which is currently in place.

2.2 Proposed Storage Building

The proposed storage building will be located at the north end of the Martin's Meadows area of the facility (**Figure 1, Appendix A**). The proposed building will be approximately 9.1 m wide by 18.2 m long and 4.9 m high for a total overall footprint of approximately 165 m². The one-floor building will be constructed of a steel structure and siding with a concrete slab floor. A manufacturer's brochure depicting the general design of the building is provided in **Appendix E**.

The building will be equipped with a propane heater, but no air conditioning system or ventilation ducts/discharge vents will be installed. No water or sewage connections will be provided to the building.

Construction will occur within a previously disturbed and currently grassed area next to Glack-meyer Concession Road 8. Some minor grading will be conducted to prepare the gravel base for the concrete slab. The building structure will be installed over the course of approximately 1 week using heavy equipment. Building installation will proceed once the amended REA is obtained.

3.0 SUMMARY OF REVISIONS TO REA SUPPORTING DOCUMENTS

This section identifies the amendments required to each of the supporting documents submitted with the original and/or amended REA applications in order to incorporate and address the pro-posed Project Changes. Revisions are required to reports that cover all three project areas, as well as reports that were prepared specifically for the Empire project, since the proposed electrical line crossing and associated Project Location between the Empire and Martin’s Meadows areas was specifically addressed within the Empire project reports. Therefore, no revisions are necessary to any of the site-specific reports prepared for Martin’s Meadows and Abitibi to address the proposed access road.

Further, the proposed storage building on the Martin’s Meadows property is located within the area previously assessed in the site-specific Martin’s Meadows waterbody and natural heritage re-ports and is not anticipated to have any incremental negative effects on adjacent features, pro-vided the general mitigation identified in the reports is implemented. Therefore, no revisions are necessary to any of the site-specific reports prepared for Martin’s Meadows to address the pro-posed storage building.

Also, given that the areas proposed for the access road and storage building have already been assessed by the previously prepared Stage 1 and 2 Archaeological Assessment (The Archaeologists Inc. 2014), no amendments to that report are required.

Revisions are required to the following reports:

Cochrane Solar Project Reports

- Project Description Report (Hatch Ltd. 2013a);
- Construction Plan Report (Hatch Ltd. 2013b); and
- Design and Operations Report (Hatch Ltd. 2013c).

No revisions are necessary to any of the following Cochrane Solar Project reports:

- Decommissioning Plan Report (Hatch Ltd. 2013d); and
- Noise Assessment Study (Hatch Ltd. 2013e).

Empire Reports

- Waterbody Assessment Records Review (Hatch Ltd. 2012a), Site Investigation (Hatch Ltd. 2012b) and Environmental Impact Study (Hatch Ltd. 2013f).

In addition, discussions with the Ontario Ministry of Natural Resources and Forestry (MNRF) were completed to confirm that the proposed project changes remain consistent with the original confirmation letter issued by MNRF for the Natural Heritage Assessment Documentation (Records Review, Site Investigation Report, Evaluation of Significance and Environmental Impact Study).

The following sections identify the revisions required to each REA supporting documents to address the proposed changes to the Project discussed in section 2. The revisions are presented in tabular format with both the original text and amended or new text provided in separate columns. Where new text has been added or replaced in existing text, it is shown in red font in the tables in the following sections.

3.1 Cochrane Solar Project Reports

The following sections identify the revisions required to the reports prepared for the overall Cochrane Solar Facility (i.e., reports covering all three project areas).

3.1.1 Project Description Report

Table 1 identifies the required revisions to the Project Description Report (Hatch Ltd. 2013a) to address the proposed project changes identified in the section 2.0.

Table 1: Project Description Report Revisions

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
7	2.4	No Federal lands or resources will be utilized for the Project and based on resources within the Project area, issues under Federal jurisdiction are not anticipated. Therefore, no Federal involvement (including permits and approvals) is required.	No Federal lands or resources will be used for the Project. Fisheries and Oceans Canada (DFO) will need to review potential impacts of the proposed access road crossing of the unnamed intermittent tributary between Martin’s Meadows and Empire for implications under the Fisheries Act, but the crossing is not anticipated to require Authorization under the Fisheries Act. Therefore, no other Federal involvement (including permits and approvals) is required.
7	2.5.1	n/a	<u>New Paragraph</u> In addition to internal access roads within each of the three locations, a new access road will be constructed between the Martin’s Meadows and Empire project areas to improve the efficiency of movements of operations

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			and maintenance staff between project areas and reduce traffic on local roads. The proposed access road, which will require a water crossing structure over an unnamed intermittent watercourse, will be approximately 112 m long and 5 m wide. Erosion and sedimentation control measures will be installed during construction of the access road and water crossing structure.
8	New 2.5.7	n/a	<p><u>New Section – “Storage Building”</u></p> <p>A 9.1 m wide by 18.2 m long by 4.9 m high storage building will be constructed at the north end of the Martin’s Meadows area of the facility. The steel structure will be constructed on a concrete slab. Some minimal ground preparation will be required prior to concrete slab installation. The building will contain a propane heater and will be primarily used to store snow removal equipment and other small items. No water or sewer connections will be required for the building.</p>

3.1.2 Construction Plan Report

Table 2 identifies the required revisions to the Construction Plan Report (Hatch Ltd. 2013b) to address the proposed project changes identified in section 2.0.

Table 2: Construction Plan Report Revisions

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
8	2.2.4	n/a	<p><u>New Sentence</u></p> <p>In addition to access from local roads, an access road will be constructed between the Martin’s Meadows and the Empire project area to facilitate movement of operations and maintenance staff between these facilities.</p>
12	2.3.1.3	The construction of new access roads will be necessary to support construction activities and will provide access to the site during the operations phase of the Project.	The construction of new access roads will be necessary to support construction activities and will provide access to the site, and access between the Martin’s Meadows and Empire locations , during the operations phase of the Project.
12	2.3.1.3	n/a	<p><u>New Paragraph</u></p> <p>In addition to the access roads into each facility and the internal access roads, a new access road will be constructed between Martin’s Meadows and Empire to facilitate intra-facility movements of operations and maintenance staff and minimize use of local municipal roads. Road design will be the same as noted above for the internal facility access roads.</p> <p>A High Density Polyethylene (HDPE) pipe culvert will be required to cross the unnamed tributary of Munroe Creek that runs between the two sites. The culvert has been designed</p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			in accordance with MNRF water crossing requirements. Installation of the culvert and access road will be undertaken in a manner that will minimize potential negative environmental effects, with avoidance and mitigation measures implemented as necessary.
13	2.3.2.1	Foundation construction for electrical equipment, substation, and oil containment basin comprises of excavation and removal of in situ material, placement of granular material, formwork, reinforcing steel, grounding and placement of concrete.	Foundation construction for electrical equipment, substation, storage building and oil containment basin comprises of excavation and removal of in situ material, placement of granular material, formwork, reinforcing steel, grounding and placement of concrete.
16	2.3.2.9	n/a	<u>New Section – “Storage Building”</u> The proposed storage building will be constructed at the north end of the Martin’s Meadows area of the facility in an existing disturbed area adjacent to the existing operations and maintenance building. Construction will include site preparation, installation of underlying granular material and concrete slab, installation of steel structure, siding and roofing and installation of interior propane heater. No drainage system will be installed with roof runoff discharging directly to the ground.
18	3.3	Surface water quality of the watercourses located on and within 300 m of the Project	Surface water quality of the watercourses located on and within 300 m of the Project location could

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
		<p>location could potentially be impaired during construction by increased turbidity resulting from</p> <ul style="list-style-type: none"> • Erosion/sedimentation of excavated or exposed soils • Erosion caused by increased runoff from impervious or less pervious surfaces (e.g., concrete slabs, access roads), or • Deposition of fugitive dust. 	<p>potentially be impaired during construction by increased turbidity resulting from</p> <ul style="list-style-type: none"> • Erosion/sedimentation of excavated or exposed soils • Erosion caused by increased runoff from impervious or less pervious surfaces (e.g., concrete slabs, access roads) • Deposition of fugitive dust, or • In-water work associated with installation of the water crossing on the access road between Martin’s Meadows and Empire.
23	4.1	n/a	<p><u>New Bullet Point</u></p> <ul style="list-style-type: none"> • Work site isolation measures will be used (if necessary) to install the water crossing structure on the access road between Martin’s Meadows and Empire. Alternatively, the crossing will be installed when the watercourse is dry, with appropriate contingencies in place to manage flows should they occur during a precipitation event.
24	4.4	<p>However, installation of a water crossing (for access roads and fencing) on the Martin’s Meadows, Empire and Abitibi properties, the access road and transmission line crossing at</p>	<p>However, installation of a water crossing (for access roads and fencing) on the Martin’s Meadows, Empire and Abitibi properties, the access road and transmission line crossing at Munroe Creek (between</p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
		<p>Munroe Creek (between the Abitibi and Martin’s Meadows property), as well as transmission line crossings of the Frederick House River and other watercourses, have the potential to have adverse effects on aquatic habitat and biota.</p>	<p>the Abitibi and Martin’s Meadows property), the access road crossing at the unnamed tributary of Munroe Creek (between the Empire and Martin’s Meadows properties), as well as transmission line crossings of the Frederick House River and other watercourses, have the potential to have adverse effects on aquatic habitat and biota.</p>
24	4.4.1	<p>Mitigation measures to prevent/minimize adverse effects on aquatic habitat and biota during the upgrading of the existing water crossing will include</p> <ul style="list-style-type: none"> • Use of water diversion and cofferdam systems to minimize the amount of work in the watercourses • Adherence to timing restrictions for in-water works, as specified by the MNR • Removal of fish from areas to be dewatered, if applicable • Installation of shrouded dewatering pumps to avoid fish entrainment and mortality in pumps • Minimizing the duration of in-water works. <p>Given these mitigation measures, there will be some minor, short-term adverse effects</p>	<p>Mitigation measures to prevent/minimize adverse effects on aquatic habitat and biota during the upgrading of the existing water crossing, and installation of the new crossing on the access road between Martin’s Meadows and Empire will include</p> <ul style="list-style-type: none"> • Use of water diversion and cofferdam systems to minimize the amount of work in the watercourses or installation of water crossings when watercourses are dry, with appropriate contingencies to address flow that may occur during precipitation events • Adherence to timing restrictions for in-water works, as specified by the MNR • Removal of fish from areas to be dewatered, if applicable • Installation of shrouded dewatering pumps to avoid fish entrainment and mortality in pumps

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
		<p>on aquatic biota and habitat including temporary loss of habitat and disturbance of aquatic biota due to in and near water work. However, these effects will not have any long-term effects on aquatic resources.</p>	<ul style="list-style-type: none"> • Minimizing the duration of in-water works • Installation of water crossing structures in accordance with best management practices to minimize potential effects on indirect fish habitat functions (e.g., flow conveyance, flooding and nutrient/sediment transport processes). <p>Given these mitigation measures, there will be some minor, short-term adverse effects on aquatic biota and habitat including temporary loss of habitat and disturbance of aquatic biota due to in and near water work. The tributary of Munroe Creek that will be crossed by the access road between Martin’s Meadows and Empire does not provide direct fish habitat but provides indirect habitat functions that may support downstream fish communities. The proposed mitigation will ensure these indirect habitat functions are not adversely impacted by the proposed crossing. Therefore, overall, these effects will not have any long-term effects on aquatic resources.</p>
Appendix A	n/a	Site Plan	<p>A drawing showing the proposed new access road between Martin’s Meadows and Empire is provided in Appendix B of this Modifications Document.</p>

3.1.3 Design and Operations Plan Report

Table 3 identifies the required revisions to the Design and Operations Report (Hatch Ltd. 2013c) to address the proposed project changes identified in the section 2.0.

Table 3: Design and Operations Report Revisions

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
7	3.2.1.1	Security and/or work lights located at inverter buildings may be on at night.	Security and/or work lights located at inverter buildings and the storage building may be on at night.
7	3.2.1.2	As outlined in the site plans for each of the three properties, new access roads will be necessary to support construction activities and will provide access to the site during the operations phase of the project.	As outlined in the site plans for each of the three properties, new access roads will be necessary to support construction activities and will provide access to, and within the site during the operations phase of the project.
8	3.2.1.2	n/a	<u>New Paragraph</u> An additional access road will be constructed with a culvert across the unnamed tributary of Munroe Creek to connect the Empire property to the Martin’s Meadows property.
8	3.2.1.4	Foundation construction for electrical equipment, substations, and transformer oil spill containment basin comprises of excavation and removal of in situ material, placement of granular material, formwork, reinforcing steel,	Foundation construction for electrical equipment, substations, storage building and transformer oil spill containment basin comprises of excavation and removal of in situ material, placement of granular material, formwork, reinforcing steel,

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
		grounding, and placement of concrete.	grounding, and placement of concrete.
9	3.2.1.8	n/a	<p>Revised Section Title – “Maintenance and Storage Buildings”</p> <p><u>New Paragraph</u></p> <p>A storage building, approximately 9.1 m x 18.2 m, and 4.9 m in height will be constructed adjacent to the existing operations and maintenance building at the north end of the Martin’s Meadows area of the facility. The building will be of steel construction and will include a man-door and steel roll-up door constructed entirely of non-combustible material. The building will primarily be used for storage of snow removal equipment. It is anticipated that there will be no storage of chemicals, such as transformer oil, within the building, although equipment will contain fluids (e.g., oil and fuel). The facility will require an electrical connection and will be heated (propane). The building will not include any water or sewage requirements.</p>
19	Table 5.1	Surface Water, Aquatic Habitat and Biota row	<p><u>New Row under this Heading</u></p> <p><i>Sources of Negative Effect</i> – Long-term presence of the water crossing structure on the access road between Empire and Martin’s Meadows.</p> <p><i>Potential Negative Effect</i> – Adverse effects on water quality and indirect</p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<p>contributing fish habitat functions due to improper water crossing structure installation.</p> <p><i>Mitigation Measures</i> – Water crossing structure will be designed in accordance with best management practices for forest access roads. Erosion and sedimentation control measures will be implemented as necessary.</p> <p><i>Residual Negative Effect</i> – None. Mitigation will ensure that water crossing structure has no long-term effect on indirect fish habitat functions and biophysical processes in the watercourse.</p>
Appendix A	n/a	Site Plan	A drawing showing the proposed new access road between Martin’s Meadows and Empire is provided in Appendix B of this Modifications Document.

3.2 Empire Reports

The following sections identify the revisions required to the reports prepared for the Empire component of the Project.

3.2.1 Waterbody Assessment Documentation

3.2.1.1 Waterbody Records Review

Table 4 identifies the required revisions to the Waterbody Records Review Report (Hatch Ltd. 2012a) to address the proposed project changes identified in section 2.0.

Table 4: Waterbody Records Review Revisions

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
13	Table 3.1	<i>Description</i> - There are no waterbodies on the Solar Panel Project Location, but the transmission line Project location will cross approximately 24 watercourses.	<i>Description</i> - There are no waterbodies within the main Solar Panel Project Location, although the proposed access road to the adjoining solar facility (Martin's Meadows) will cross the unnamed Tributary of Munroe Creek. The transmission line Project location will cross approximately 24 watercourses.

3.3.1.2 Waterbody Site Investigation

Table 5 identifies the required revisions to the Water Body Site Investigations Report (Hatch Ltd. 2012b) to address the proposed project changes identified in the section 2.0.

Table 5: Waterbody Site Investigation Report Revisions

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
11	Table 2.1	<i>Description</i> - There are no waterbodies on the Solar Panel Project Location, but the transmission line Project location will cross approximately 24 watercourses.	<i>Description</i> - There are no waterbodies within the main Solar Panel Project Location, although the proposed access road to the adjoining solar facility (Martin's Meadows) will cross the unnamed Tributary of Munroe Creek. The transmission line Project location will cross approximately 24 watercourses.
17	4.1.2	As development will be located within 30 m of the average annual high water mark of this tributary, and it will be crossed by the connection line to the	As development will be located within 30 m of the average annual high water mark of this tributary, and it will be crossed by the connection line and access road to the adjoining

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
		adjoining facility, an EIS will be required to assess potential effects and mitigation requirements.	facility, an EIS will be required to assess potential effects and mitigation requirements.

3.3.1.3 Waterbody Environmental Impact Study

Table 6 identifies the required revisions to the Water Body Environmental Impact Study Report (Hatch Ltd. 2013f) to address the proposed project changes identified in section 2.0.

Table 6: Water Body Environmental Impact Study Report Revisions

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
13	1.2	However, there will be a connection line which crosses the tributary of Munroe Creek en route to the Martin’s Meadows property.	However, there will be an access road and connection line which crosses the tributary of Munroe Creek en route to the Martin’s Meadows property.
14	Table 3.1	<i>Activity</i> - Access Road Construction <i>Description</i> - Installation of ditches and culverts	<i>Activity</i> - Access Road Construction <i>Description</i> - Installation of ditches and culverts, including the culvert on the unnamed Tributary of Munroe Creek for the road to the adjoining facility.
19	4.1.1.3	n/a	<u>New Paragraph</u> Vegetation removal will be required within the 30 m setback adjacent to the unnamed Tributary of Munroe Creek associated with the construction of the proposed access road to the Empire property. Ditching will be installed if necessary along the access road to maintain surface

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<p>water drainage towards the watercourse, with mitigation implemented as necessary (e.g., through use of rock check dams or grassed lined ditches) to prevent erosion due to surface water runoff in the ditch. This minor removal of vegetation adjacent to the watercourse for the purposes of access road construction is not anticipated to have any significant adverse effects on surface water drainage.</p>
22	4.2.1	n/a	<p><u>New Bullet Point</u></p> <ul style="list-style-type: none"> • Access road water crossing installation
27	4.2.1.6	n/a	<p><u>New Section 4.2.1.6 – Access Road Crossing</u></p> <p>The MNRF’s documents entitled “Environmental Guidelines for Access Roads and Water Crossings” (MNR 1990) and “CSP Culvert Installation at Water Crossings on Forest Access Roads” (Wilson 1996) will be followed to the greatest extent possible to minimize direct impacts to surface water quality at the crossing location on the unnamed Tributary of Munroe Creek and prevent downstream impacts. General guidelines include the following:</p> <ul style="list-style-type: none"> • Use of a properly designed and installed HDPE culvert to minimize disturbance and alteration to the channel bed.

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<ul style="list-style-type: none"> • Aligning the road so it crosses the watercourse at an approximate right angle to minimize the distance required to be enclosed by crossing structure. • Where possible, water crossing installation will take place during low flow periods (e.g., winter, late summer) when the stream may be intermittent, and therefore dry, or flow diversion requirements will be minimized so that construction can occur under a dry condition. • Water pumped from the work area, if necessary to keep it dry, will be discharged to a heavily vegetated area at least 30 m from the water features, or treated in a sediment bag or other treatment method as necessary to meet MOECP discharge criteria prior to discharge. • Riprap will be placed around the culvert inlet and outlet to prevent erosion of fill. • Heavy construction machinery use on the streambed will be limited. A cofferdam and flow diversion system will be utilized to dewater the work areas if in-water work could have the potential to result in significant erosion of the bed and banks.

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<ul style="list-style-type: none"> • All disturbed areas will be revegetated after construction to protect against erosion. If revegetation is not possible due to the time of year, other stabilization methods will be implemented until revegetation can be completed. • Natural riparian overhead cover will be maintained to the greatest extent possible upstream and downstream from the water crossing to continue to provide thermal protection and allochthonous inputs of organic materials to the creek. <p>The installation of the culvert under a dry condition (either due to intermittent flow or use of work site isolation and flow diversion methods) will minimize the potential for adverse effects on surface water quality during culvert and road installation.</p>
31	4.4	<p>However, installation of the new connection line to the adjoining facility and the new transmission line which will cross or be located within 120 m of 38 watercourses, including the Frederickhouse River, Deception Creek and Lower Deception Lake will have the potential to have adverse effects on aquatic habitat and</p>	<p>However, installation of the new connection line and access road to the adjoining facility and the new transmission line which will cross or be located within 120 m of 38 watercourses, including the Frederickhouse River, Deception Creek and Lower Deception Lake will have the potential to have adverse effects on aquatic habitat and biota, as discussed in Section 4.4.1.</p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
		biota, as discussed in Section 4.4.1.	
33	4.4.3		<p><u>New Section 4.4.3 – Access Roads and Water Crossings</u></p> <p>In-water work may be required to facilitate the installation of the access road across the unnamed Tributary of Munroe Creek. As discussed previously, it is anticipated that crossing construction will occur in a dewatered condition, either due to use of work site isolation methods (e.g. dam and pump) or completion of construction when the intermittent tributary is dry (with appropriate contingencies in place to address potential flows during precipitation events). If the feature is wet during construction and work site isolation measures are employed, this will result in short-term dewatering of existing aquatic habitat in the tributary in the area between the cofferdams. This feature does not provide direct fish habitat, but fish may be present in reaches further downstream. In order to mitigate the potential for adverse effects on aquatic biota in the tributary, water crossing installation will occur outside the warm water timing restriction specified for the MNRF Cochrane District. Therefore, no in-water work will be conducted between April 1 and June 15 to protect the reproductive activities of the warm water fish community that may be present in lower reaches of the watercourse or in Munroe Creek.</p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<p>Therefore, no adverse effects on critical fish reproductive activities will occur.</p> <p>Given that the area of the watercourse where the culvert will be installed does not provide direct fish habitat, no fish salvage is anticipated to be required. However, if work-site isolation measures are required (due to the reach being wet) and fish are observed in the area to be dewatered, work will cease until the fish leave the area, or a fish salvage program can be implemented.</p> <p>Therefore, water crossing construction is not anticipated to result in any loss of habitat in the dewatered area or disruption to fish due to in-water work (i.e., cofferdam installation) since fish are not anticipated to be present in the area. However, in water work could potentially impact downstream fish populations. These effects will be mitigated to the extent possible by construction outside the reproductive period and employing work site isolation and erosion and sedimentation control measures.</p> <p>The footprint of the access road and culvert will not have any long-term effect on direct fish habitat. However, improperly sized or installed culverts can have adverse effects on indirect fish habitat functions, including flow conveyance and biophysical processes that maintain downstream fish habitat (e.g., water quality maintenance, transport of nutrients and sediments). The culvert will be</p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<p>appropriately sized and installed to ensure that it does not cause negative impacts on these indirect habitat functions.</p> <p>General guidelines for the protection of aquatic habitat include the following:</p> <ul style="list-style-type: none"> • Use of a properly designed and installed culvert to minimize the disturbed footprint and maintain biophysical processes in the watercourse. • Aligning the road so it crosses the watercourse at a right angle to minimize the distance required to be enclosed by crossing structure. • Where possible, water crossing installation will take place during low flow periods (e.g., winter, late summer) when the stream may be intermittent, or flow diversion requirements will be minimized so that construction can occur under a dry condition. • Riprap will be placed around the culvert inlet and outlet to prevent erosion of fill. • Heavy construction machinery use on the streambed will be limited. A cofferdam and flow diversion system will be utilized to dewater the work area if in-water work could have the potential to result in

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<p>significant erosion of the bed and banks.</p> <ul style="list-style-type: none"> All disturbed areas will be revegetated after construction to protect against erosion. If revegetation is not possible due to the time of year, other stabilization methods will be implemented until revegetation can be completed. Natural riparian overhead cover will be maintained to the greatest extent possible upstream and downstream from the water crossing to continue to provide thermal protection and allochthonous inputs of organic materials to the creek. <p>In order to prevent impacts on habitat upstream from the water crossing, the crossing structures will be installed so as to prevent upstream ponding during normal flow conditions. This will retain flowing habitat conditions.</p>
37	7	n/a	<p><u>New Sentence in First Paragraph</u></p> <p>The proposed access road between the Empire and Martin’s Meadows areas will cross the unnamed Tributary of Munroe Creek.</p>
38	7	n/a	<p><u>New Bullet Point</u></p>

PAGE	SECTION	ORIGINAL TEXT	AMENDED TEXT
			<ul style="list-style-type: none"> Adverse effects on aquatic biota and habitat due to installation of the access road and watercourse crossing on the Tributary of Munroe Creek
Appendix A	n/a	Site Plan	A drawing showing the proposed new access road between Martin’s Meadows and Empire is provided in Appendix B of this Modifications Document.

3.3.2 Natural Heritage Assessment Documentation

Discussions were held with the Cochrane District MNRF office and email correspondence was sent to the MNRF providing information on the proposed Project change and potential impacts on the Natural Heritage Assessment Documentation. MNRF responded with an email confirming that the original Natural Heritage Assessment is still valid and accepted by MNRF. Correspondence with MNRF is provided in **Appendix C**.

4.0 STAKEHOLDER NOTIFICATIONS

Based on review of a draft version of this Modifications Report, the Ministry of Environment, Conservation and Parks (MECP) confirmed that a Notice of Project Change would need to be distributed in accordance with paragraphs 1, 2, 3 and 4 of subsection 15(6) of Ontario Regulation 359/09, to the stakeholders identified in paragraph 5 of subsection 15(6) of Ontario Regulation 359/09.

In order to meet these requirements, a Notice of Project Change was prepared and distributed directly to the following stakeholders:

- All owners of land located within 120 m of the Project Location;
- All stakeholders who provided contact information at any of the public meetings held during the original REA application process;
- Aboriginal communities on the list obtained from MECP during the original application process;
- The Clerk of the Town of Cochrane;
- The Secretary-Treasurer of the Frederickhouse and Hunta Local Roads Boards;
- Hunta Area Landowners Association;
- The MECP Director; and
- MECP Timmins District Office District Manager.

A copy of the Notice of Project Change and a generic (unaddressed) version of the covering letter provided directly to these stakeholders is provided in **Appendix D**.

In addition to the direct mailing, the Notice of Project Change was posted in the following local newspapers with circulation in the project area:

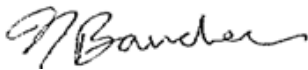
- Cochrane Times-Post – December 27, 2018 and January 3, 2019 editions; and
- Wawatay News – December 15, 2018 edition.

Copies of the tearsheets have been requested from these newspapers and can be provided to MECP upon request.

Distribution of the Notice of Project Change directly to the stakeholders noted above and posting in the two local newspapers has addressed the public notification requirements identified by MECP.

Report Prepared by:

SAVANTA INC. – A GEI Company



Noel Boucher
Project Manager
1-800-810-3281 Ext 1250
noelboucher@savanta.ca



Kyle Hunt
Project Director
1-800-810-3281 Ext 1300
kylehunt@savanta.ca

REFERENCES AND BACKGROUND MATERIALS

Hatch Ltd. 2013a. Cochrane Solar Project. Project Description Report. January 25, 2013. Pre-pared for Northland Power Inc. on behalf of Northland Power Solar Cochrane L.P.

Hatch Ltd. 2013b. Cochrane Solar Project. Construction Plan Report. February 8, 2013. Prepared for Northland Power Inc. on behalf of Northland Power Solar Cochrane L.P.

Hatch Ltd. 2013c. Cochrane Solar Project. Design and Operations Report. January 25, 2013. Prepared for Northland Power Inc. on behalf of Northland Power Solar Cochrane L.P.

Hatch Ltd. 2013d. Cochrane Solar Project. Decommissioning Plan Report. January 25, 2013. Prepared for Northland Power Inc. on behalf of Northland Power Solar Cochrane L.P.

Hatch Ltd. 2013e. Cochrane Solar Project. Noise Assessment Study Report. August 8, 2013. Prepared for Northland Power Inc. on behalf of Northland Power Solar Cochrane L.P.

Hatch Ltd. 2013f. Empire Solar Project. Water Body Environmental Impact Study Report. January 25, 2013. Prepared for Northland Power Inc. on behalf of Northland Power Solar Empire L.P.

Hatch Ltd. 2012a. Empire Solar Project. Water Body Records Review Report. October 22, 2012. Prepared for Northland Power Inc. on behalf of Northland Power Solar Empire L.P.

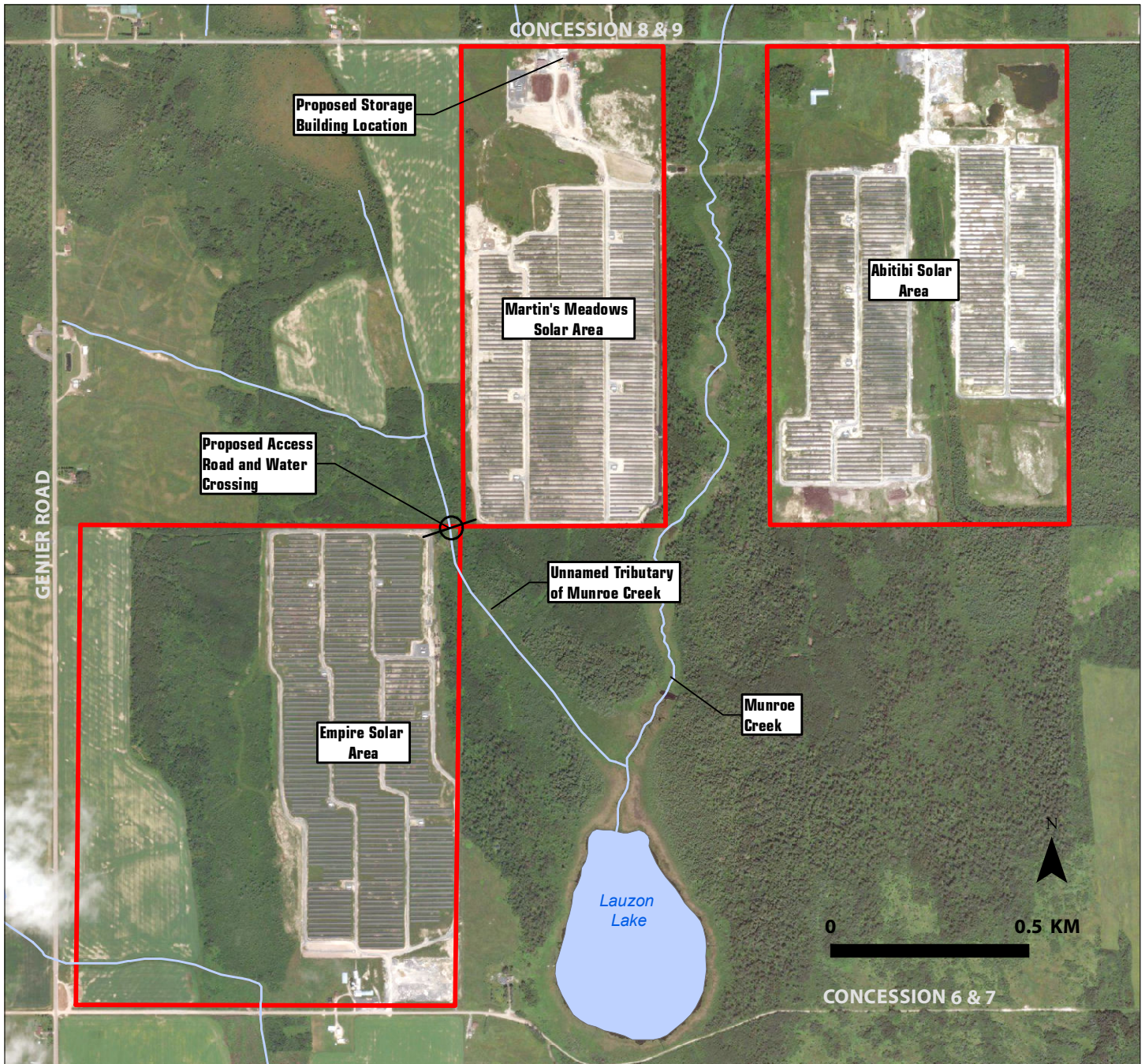
Hatch Ltd. 2012b. Empire Solar Project. Water Body Site Investigation Report. October 18, 2012. Prepared for Northland Power Inc. on behalf of Northland Power Solar Empire L.P.

The Archaeologists Inc. 2014. Stage 1 and 2 Archaeological Assessment for Northland Power – Empire Solar Site (27.6 kV Transmission Line). Part of Lots 15, Concession 8, and Lots 17 and 18, Concession 7, Township of Glackmeyer, District of Cochrane. Revised Report, January 14, 2014. 22 pp.

Ministry of Natural Resources (MNR) 1990. Environmental Guidelines for Access Roads and Water Crossings. 65 pp.

Wilson, R.G. 1996. CSP Culvert Installation at Water Crossings on Forest Access Roads. Technical Note TN-013. May 1996. 23 pp.

Appendix A – Figure



Cochrane Solar

Figure 1
Project Location

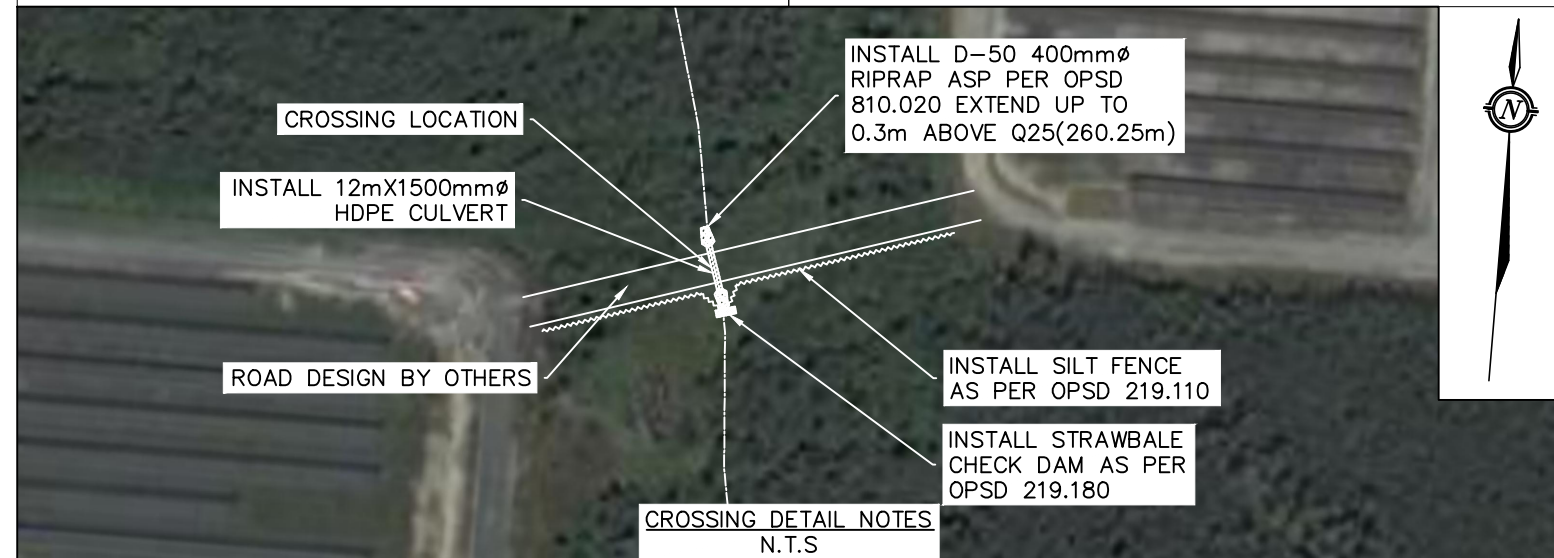
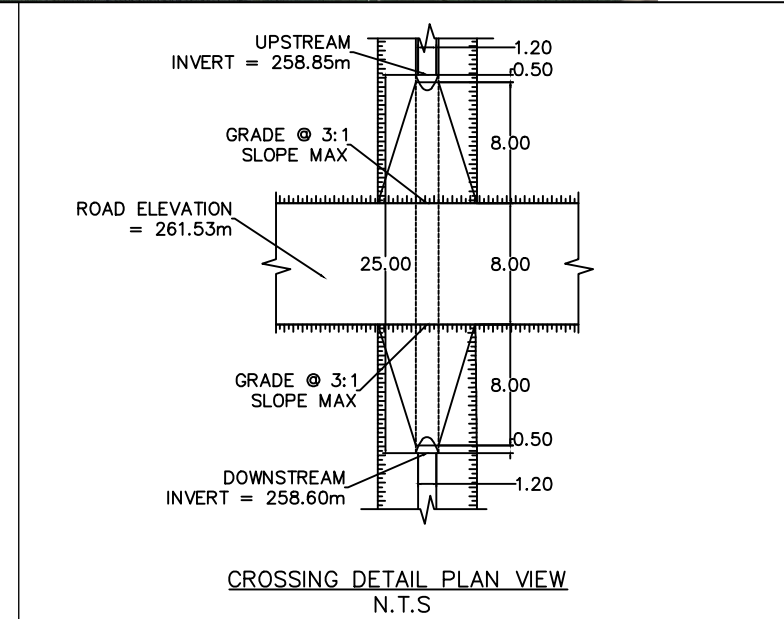
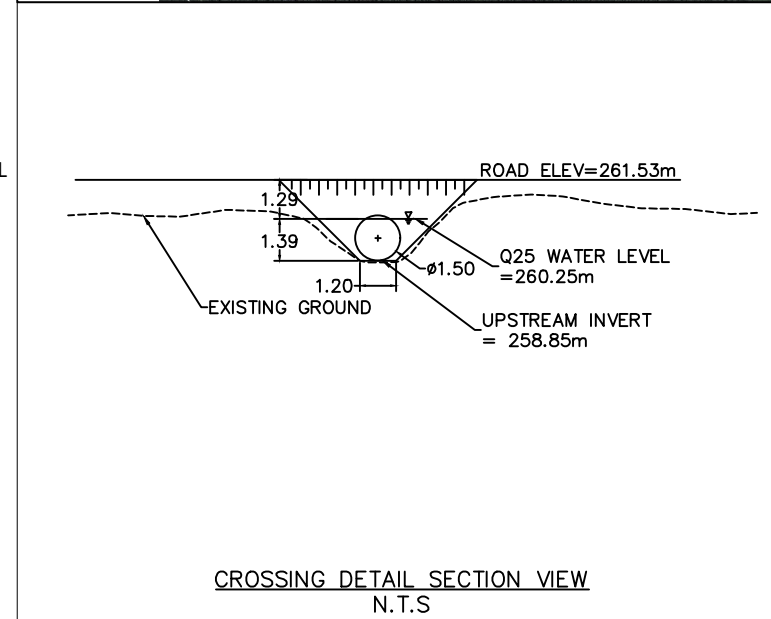
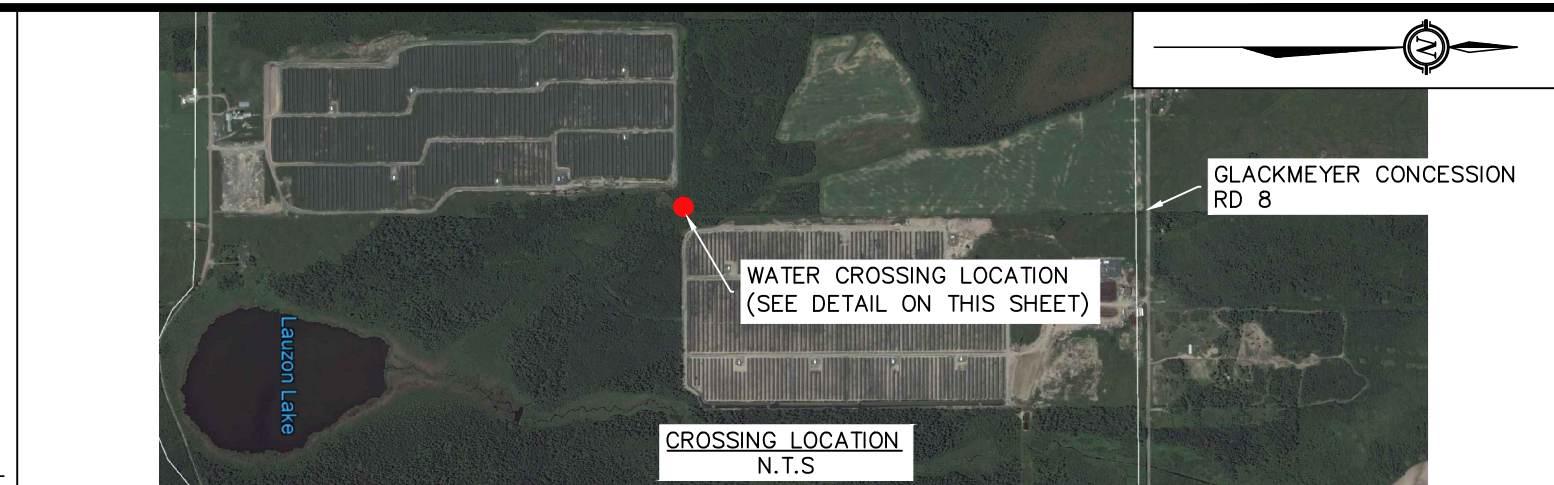


Appendix B – Engineering Drawing

EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL AND INSTALLING SILT FENCES AND OTHER SEDIMENT TRAPS.
2. THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE MINISTRY OF NATURAL RESOURCES AND FORESTRY (MNRF) APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (EXCAVATION, FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION.
3. AT THE DISCRETION OF THE CONTRACT ADMINISTRATOR, MNRF OR MUNICIPALITY, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
4. FOR SILT FENCE BARRIER, USE OPSD 219.110 OR OPSD 219.130 WHERE SHOWN. GEOTEXTILE FOR SILT FENCE SHALL BE ACCORDING TO OPSS 1860, TABLE 3. FOR STRAW BALE FLOW CHECK DAMS, USE OPSD 219.180.
5. THE CUT AREA IS TO BE RETOPSOILED, RESEEDED AND/OR STABILIZED UPON COMPLETION OF THE WORKS TO ENSURE EROSION CONTROL AND PROPER GROWTH OF VEGETATION UPON COMPLETION OF THE WORKS.
6. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR BEFORE ANY EXCAVATION OR CONSTRUCTION WORKS COMMENCE. ALL APPROVED SEDIMENT/EROSION CONTROL MEASURES ARE TO BE MONITORED REGULARLY AND MAINTAINED AS NECESSARY, TO ENSURE GOOD WORKING ORDER AND REMAIN IN PLACE UNTIL LANDSCAPING HAS BEEN ESTABLISHED (ie. 90% VEGETATION). IN THE EVENT THAT THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE DEEMED NOT TO BE PERFORMING ADEQUATELY, THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES AS APPROPRIATE TO THE SITUATION TO THE SATISFACTION OF THE MNRF, PROJECT MANAGER AND/OR MUNICIPAL STAFF.
7. EXCEPT AS PROVIDED IN PARAGRAPHS 4.(a), and (b) BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
 - a) WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
 - b) WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
8. THE SITE GRADING CONTRACTOR IS RESPONSIBLE FOR ENSURING SEDIMENT AND EROSION CONTROL STRUCTURES ARE INSTALLED AS SHOWN. CARE SHALL BE TAKEN AT THE REMOVAL STAGE TO ENSURE THAT ANY SILT THAT HAS ACCUMULATED IS PROPERLY HANDLED AND DISPOSED OF. THE REMOVAL STAGE OCCURS WHEN THE SITE IS CONSIDERED "VEGETATED" (ie. 90% OF THE SITE HAS VISIBLE VEGETATION)
9. SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
 - a) FOR HEAVY DUTY AND LIGHT-DUTY SEDIMENT BARRIERS AND COMPOST BERMS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
 - i) A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.
 - ii) A DEPTH OF 150 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
 - b) FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
 - c) ACCUMULATED SEDIMENT SHALL BE REMOVED IMMEDIATELY PRIOR TO THE REMOVAL OF THE CONTROL MEASURE.
 - d) ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSS 180.
10. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED PRIOR TO ANY FORECAST STORM EVENT AND FOLLOWING A STORM EVENT, AND RECTIFIED PRIOR TO THE STORM EVENT IF DEFICIENT.
11. DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPSS 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
12. STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. WATERCOURSES), AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS TO BE LEFT IN PLACE IN EXCESS OF 14 DAYS.
13. IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSD 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. WATERCOURSES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY WATERCOURSES CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. IF CLOSURE OF ANY PERMANENT WATER PASSAGE IS NECESSARY, THE CONTRACTOR SHALL RELEASE ANY STRANDED FISH TO THE OPEN PORTION OF THE WATERCOURSE WITHOUT HARM.
14. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPSS 805
15. WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPSS 518.
16. ALL SETTLING/FILTRATION BASINS SHALL BE EQUIPPED WITH TERRAFIX 270R GEOTEXTILE (OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.
17. FOR POTENTIAL SPILLS, THE CONTRACTOR SHALL HAVE ON SITE AT ALL TIMES AN EMERGENCY SPILL KIT THAT WILL INCLUDE AS A MINIMUM THE FOLLOWING ITEMS:
 - 10 - 18 in. X 18 in. ABSORBENT PADS
 - 5 LBS ZORBAL ABSORBING MATERIAL
 - 1 PAIR GOGGLES
 - 1 PAIR PVC GLOVES.
18. ANY CHANGES IN THE PROPOSED CONSTRUCTION WORKS, INCLUDING CHANGES BY THE CONTRACTOR OR PROJECT MANAGER, MUST BE REVIEWED AND APPROVED BY THE MNRF PRIOR TO IMPLEMENTATION.
19. THE OWNER IS ULTIMATELY RESPONSIBLE (CONTRACTOR RESPONSIBLE AS WELL) FOR FAILURE TO COMPLY WITH ANY AND/OR ALL OF THESE CONDITIONS AND MUST TAKE ALL PRECAUTIONS TO ENSURE NO SEDIMENT RUNOFF FROM THE WORK SITE INTO THE SURFACE WATERS OR STORM SEWERS DURING AND AFTER THE CONSTRUCTION PERIOD. FAILURE TO COMPLY WITH THE APPROVAL AND/OR CONDITIONS MAY RESULT IN APPROVAL BEING REVOKED AND IN THE INITIATION OF LEGAL ACTION TO REMEDY THE MATTER TO THE MNRF'S SATISFACTION.
20. CONTRACTOR TO INSTALL ADDITIONAL OPTIONAL SILT FENCE SHOULD THEY BE EXPERIENCING EROSION CONCERNS AND SEDIMENT BUILD UP IN THE INFILTRATION TRENCHES DURING CONSTRUCTION.

NOTE: ALL DIMENSIONS ARE IN METERS, UNLESS OTHERWISE STATED.



McINTOSH PERRY 1-1329 Gardiners Road Kingston, ON K7P 0L8 Tel: 613-542-3788 Fax: 613-542-7583 www.mcintoshperry.com		Client: NORTHLAND POWER INC. 5146 TAYLOR-KIDD BLVD, BATH, ON, K0H1G0	
		Project: MARTIN'S MEADOWS AND EMPIRE SOLAR CROSSING COCHRANE, ON	
Title: WATER CROSSING LOCATION AND DETAIL		Drawing Number:	
Drawn by: J.O	Scale: N.T.S.	0	ISSUED FOR REVIEW
Checked By: J.S	Date: AUG 16/18		AUG/21/18
Project Number: KP-18-7100		No.	Revision / Issue
			Date

DETAIL

E:\NAME: M:\02-Drawings\2018\18-7100 - Northland Power-Cul Site Access 80105 - Drawings & GIS\04 - Production Drawings\18-7100 - Northland Power - Site Access 810.dwg
 LAST SAVE: Tuesday, August 21, 2018 8:54:57 AM BY: J.S
 DATE PLOTTED: Tuesday, August 21, 2018 10:11:02 AM

Appendix C – MNRF Correspondence



Noel Boucher <noelboucher@savanta.ca>

Cochrane Solar Project - Proposed Access Road

1 message

Noel Boucher <noelboucher@savanta.ca>

Wed, Aug 15, 2018 at 9:18 AM

To: robin.stewart@ontario.ca

Cc: Jon Arkell <Jonathan.Arkell@northlandpower.com>

Hi Robin,

Thank you for taking the time yesterday to discuss the changes to the Cochrane Solar Project being proposed by Northland Power. As we discussed, they are proposing to construct an approximately 110-m long access road between the Empire and Martin's Meadows properties to provide more efficient movement for operations and maintenance staff between the various areas within the overall solar facility. I have attached a sketch showing the approximate location of the access road (using a recent aerial image which shows the constructed facility). The detailed design for the access road and water crossing is currently being completed and I can provide this once it is available to show the proposed location (I anticipate this within a week or so). The sketch also shows the current LIO wetland layer that I just pulled from the Make-A-Map website, although this layer differs from the mapping prepared for the original NHA. It is my understanding that Northland Power has already met with MNRF to discuss the water crossing requirements and obtain any necessary permits under the *Public Lands Act*.

Savanta has been retained to assist with obtaining an amendment to the Renewable Energy Approval (REA) from the Ministry of Environment, Conservation and Parks (MOECP). We anticipate that MOECP will require confirmation from MNRF that the proposed access road meets all Natural Heritage requirements under the Renewable Energy Approval Regulation (O.Reg. 359/09). For ease of reference, I have attached the NHA Confirmation Letter that was previously issued by MNRF for the Empire Solar Project (issued prior to the three areas being combined into one REA). I have also attached the latest version of the figure from the previous Natural Heritage Assessment (NHA) Reports, based on the 2014 amendment that incorporated an additional piece of land in the area of the currently proposed access road which was added to account for the land requirements associated with the buried electrical line that currently runs between the two properties.

With respect to the proposed access road, we offer the following regarding anticipated impacts and mitigation on natural heritage features:

- The area of the proposed access road was assessed in the original NHA since it was located within 120 m of the proposed solar panel locations of both Empire and Martin's Meadows. In addition, the original REA application included an overhead transmission line in this area, although ultimately an amendment to the REA was made to permit a buried line (which has been installed), instead of the originally proposed overhead line;
- A water crossing structure will be required to convey watercourse flows past the access road;
- The road will run through a wetland, which is currently shown on online LIO mapping as unevaluated, but that was identified as PSW for the purposes of the original solar project REA application;
- No other significant natural heritage features were identified in the area of the proposed access road;
- Vegetation within the area is primarily tall shrub swamp;
- A variety of mitigation will be used to minimize adverse effects including, but not limited to:
 - Implementation of erosion and sedimentation control and spill prevention and response measures during construction;
 - Work site isolation and flow diversion measures (if required) during installation of the culvert; and
 - Vegetation removal outside the breeding bird window.

Although some loss of wetland will occur for the road footprint (which can be quantified when we have the final road design), overall, as per the original NHA (which also considered wetland loss associated with installation of the solar

project), this proposed reduction in the amount of wetland is not anticipated to have an impact on the overall form and function of the wetland community, given that several hundred hectares of undisturbed wetland will remain present within the overall complex.

In terms of timing, Northland Power would like to complete construction of the road in late fall 2018, although that may prove difficult, based on the anticipated timing of the amended REA, which is required before construction of the road can proceed. If that timing isn't possible, I anticipate they'd like to install this in late winter before the in-water work and breeding bird timing windows come into effect.

Once the access road design report has been completed, we intend on preparing and submitting a letter to you with specifics on the road and quantifying the change in wetland area impact from the original NHA to facilitate your review under the requirements of O.Reg. 359/09.

Thank you very much for taking a look at this and please don't hesitate to contact me to discuss any aspect of the proposed amendment to the solar project.

Regards,
Noel

--

Noel Boucher
Senior Fisheries Biologist

Direct: 1-289-929-6951
Toll Free: 1-800-810-3281 Ext 1250
noelboucher@savanta.ca

SAVANTA INC.

www.savanta.ca

The information in this email is intended only for the named recipient and may be privileged or confidential. If you are not the intended recipient, please notify us immediately and do not copy, distribute or act based on this email.



3 attachments



Cochrane Solar Project_Access Road from Empire to Martins Meadows.pdf

2635K



Empire Solar_Project Location Figure from NHA.pdf

4381K



Cochrane Solar_MNRF NHA Confirmation Letter_25May2012.pdf

96K



Noel Boucher <noelboucher@savanta.ca>

Cochrane Solar Project - Proposed Access Road

1 message

Winters, Al (MNRF) <al.winters@ontario.ca>

Fri, Sep 14, 2018 at 10:36 AM

To: "noelboucher@savanta.ca" <noelboucher@savanta.ca>

Cc: "Stewart, Robin (MNRF)" <robin.stewart@ontario.ca>, "McAuley, Chris (MNRF)" <chris.mcauley@ontario.ca>, "Chenier, Chris (MNRF)" <chris.chenier@ontario.ca>, "Filion, Veronique (MNRF)" <Veronique.Filion@ontario.ca>

Hi Noel:

We agree with your assessment of the proposed road impacts on the wetland and thus the original natural heritage assessment under REA O.Reg 359/09 is still valid and accepted by MNRF. I hope this message meets your REA needs. If it doesn't or there's anything else you need from us please don't hesitate to get in touch.

Cheers,

Al Winters, District Manager

Ministry of Natural Resources and Forestry

Regional Operations Division – Northeast Region

Cochrane District Office

4-2 Highway 11 South

Cochrane, ON P0L 1C0

Office: 705.272.7137

Mobile: 705.272.9484

Fax: 705.272.7183

Email: al.winters@ontario.ca

Appendix D – Stakeholder Consultation

December 6, 2018

To Whom it May Concern:

**RE: Northland Power – Cochrane Solar Project
Notice of Project Design Change**

Northland Power Solar Abitibi GP Inc., Northland Power Solar Empire GP Inc. and Northland Power Solar Martin's Meadows GP Inc. (collectively referred to as Northland Power) have been operating the Cochrane Solar Project since 2015, in accordance with Renewable Energy Approval (REA) no. 1290-9A4KSE. The facility is comprised of three areas, referred to as Empire, Martin's Meadows and Abitibi.

Currently, there is no direct vehicular access between the Empire and Martin's Meadows areas and operations and maintenance staff must use public roads to move between these two areas of the facility. In order to improve the efficiency of movement and minimize use of public roads, Northland Power is proposing to construct an access road from the northeast corner of Empire to the southwest corner of Martin's Meadows. A water crossing structure, consisting of a 25-m long culvert will be required on an unnamed Tributary of Munroe Creek that passes through the area.

This notice is being provided to make you aware that Northland Power is planning to apply to the Ministry of Environment, Conservation and Parks (MOECP) for an amendment to the REA to permit the construction and operation of the proposed access road. Northland Power will also be applying for a permit from the Ministry of Natural Resources and Forestry.

Construction of the road will occur as soon as required permits and approvals are obtained, subject to other environmental timing considerations. Construction site best management practices associated with work in and around watercourses will be implemented throughout the duration of construction to minimize the potential for negative impacts on the watercourse and other natural heritage features during installation of the road and water crossing.

A Modifications Report has been prepared to provide more information on the proposed project change, including the required amendments to the supporting documents prepared for the original REA application. This report is available for review on the Project Website: <http://cochrane.northlandpower.ca>.

In addition to this notification letter, a notice is being published in the Wawatay News on December 15 and in the Cochrane Times-Post on December 27, 2018 and January 3, 2018. A copy of this notice is attached to this letter.

Should you have any questions, comments or concerns regarding this proposed amendment to the REA for the Cochrane Solar Project, please do not hesitate to contact the undersigned.

Yours truly,
Savanta Inc.

Noel Boucher
Project Manager
1-800-810-3281 Ext 1250
noelboucher@savanta.ca

Attachment (1)
- Notice of Project Change

NOTICE OF PROJECT CHANGE

Project Name:

Cochrane Solar Project

Project Applicant:

Northland Power Solar Abitibi GP Inc., Northland Power Solar Empire GP Inc. and Northland Power Solar Martin's Meadows GP Inc. (herein referred to as Northland Power)

Project Location:

The Empire property is on Part Lots 17 & 18, Concession 7; the Martin's Meadows property is on Lot 16, Concession 8 and the Abitibi property is on Part Lot 14 & 15, Concession 8, in the Town of Cochrane, Geographic Township of Glackmeyer.

Project Description:

Northland Power has been operating the 30 megawatt Cochrane Solar Project (consisting of the Empire, Martin's Meadows and Abitibi areas) since construction was completed in 2015, in accordance with Renewable Energy Approval (REA) number 1290-9A4KSE. The project generates electricity using solar panels on fixed, ground-mounted racking structures. Direct current generated by the solar panels is converted to alternating current by on-site inverters and stepped up to a voltage of 115 kilovolts before running through a 20-km long transmission line connecting with the provincial electricity grid. The project also includes internal access roads, a control building and site fencing.

Project Change:

Northland Power is proposing to construct an access road connecting the Empire and Martin's Meadows areas of the facility to improve the efficiency of the movement of operations and maintenance staff between the two project areas and minimize use of public roads. The proposed access road will require a culvert on an unnamed Tributary of Munroe Creek. Erosion and sedimentation control measures will be used to prevent negative impacts during construction. An amendment to the REA is required to permit construction and operation of the access road.

Project Documents:

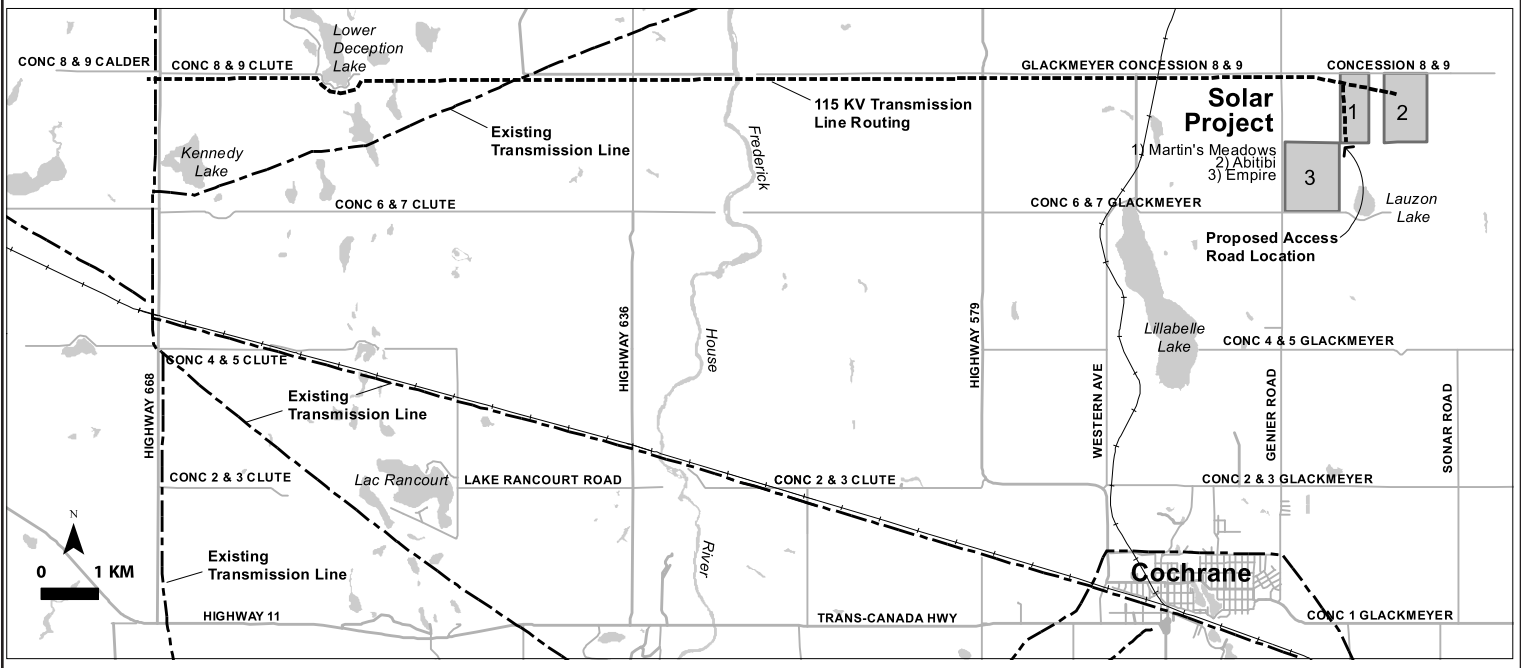
A Modifications Document has been prepared to provide additional information on the proposed project change, including a summary of how previous REA supporting documents have been revised. This document is available online at <http://cochrane.northlandpower.ca/>

Project Contacts:

For more information on the proposed project change or to discuss any comments or concerns please contact:

Northland Power
Jon Arkell, Environmental Engineer
30 St. Clair Ave. W.
Toronto, ON M4V 3A1
Tel: 647-288-1103
Email: jon.arkell@northlandpower.ca

Savanta Inc.
Noel Boucher, Project Manager
37 Bellevue Terrace
St. Catharines, ON L2S 1P4
Tel: 289-929-6951
Email: noelboucher@savanta.ca



Appendix E – Brochure



EasyBuild Steel Building



1-866-822-4022 1405 Denison Street, Markham, Ontario L3R 5V2



Introducing Norsteel's *EasyBuild*

The one true Do-it-Yourself Metal Building Solution

Welcome to Norsteel! This brochure is designed to introduce you to our new **EasyBuild** Steel Building from "the ground up". Starting with the framing of the building, we will take you through the walls, trim, and up to the roof. You will gain an understanding of the unique benefits that our **EasyBuild** system will provide: **Affordability**, and it's Do-it-Yourself construction; all without sacrificing on durability, strength and quality. You will also be able to view our **EasyBuild** throughout the publication, in a variety of colour options.

Call Norsteel today. We are your Metal Building Solution.

Introduction	2
Framing	3
Framing Diagram	4-5
Sidewalls	6
Roof	7
Trim	8
Affordability	9
DIY	10
Warranties	11
Colors	11

EasyBuild FRAMING SYSTEM

Our buildings have a hot-dip galvanized steel frame. All primary and secondary framing members are zinc coated and outperform inferior paint primers used by other manufacturers.

Our zinc galvanizing process prevents rust and ensures a long life-cycle of performance.

Our buildings are designed with a patented easy bolt-together connection technology, which complements a sturdy bracing system.

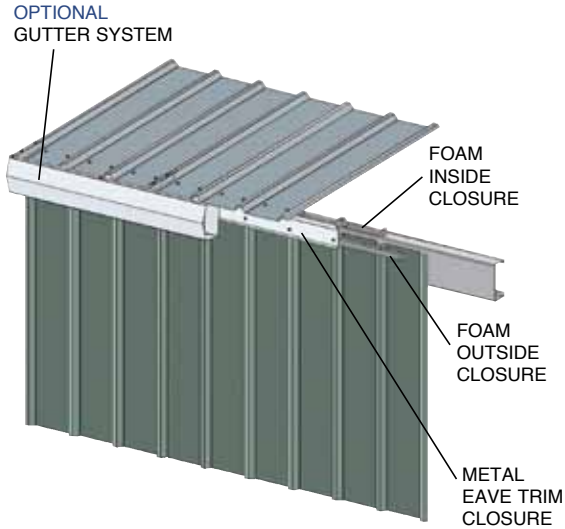
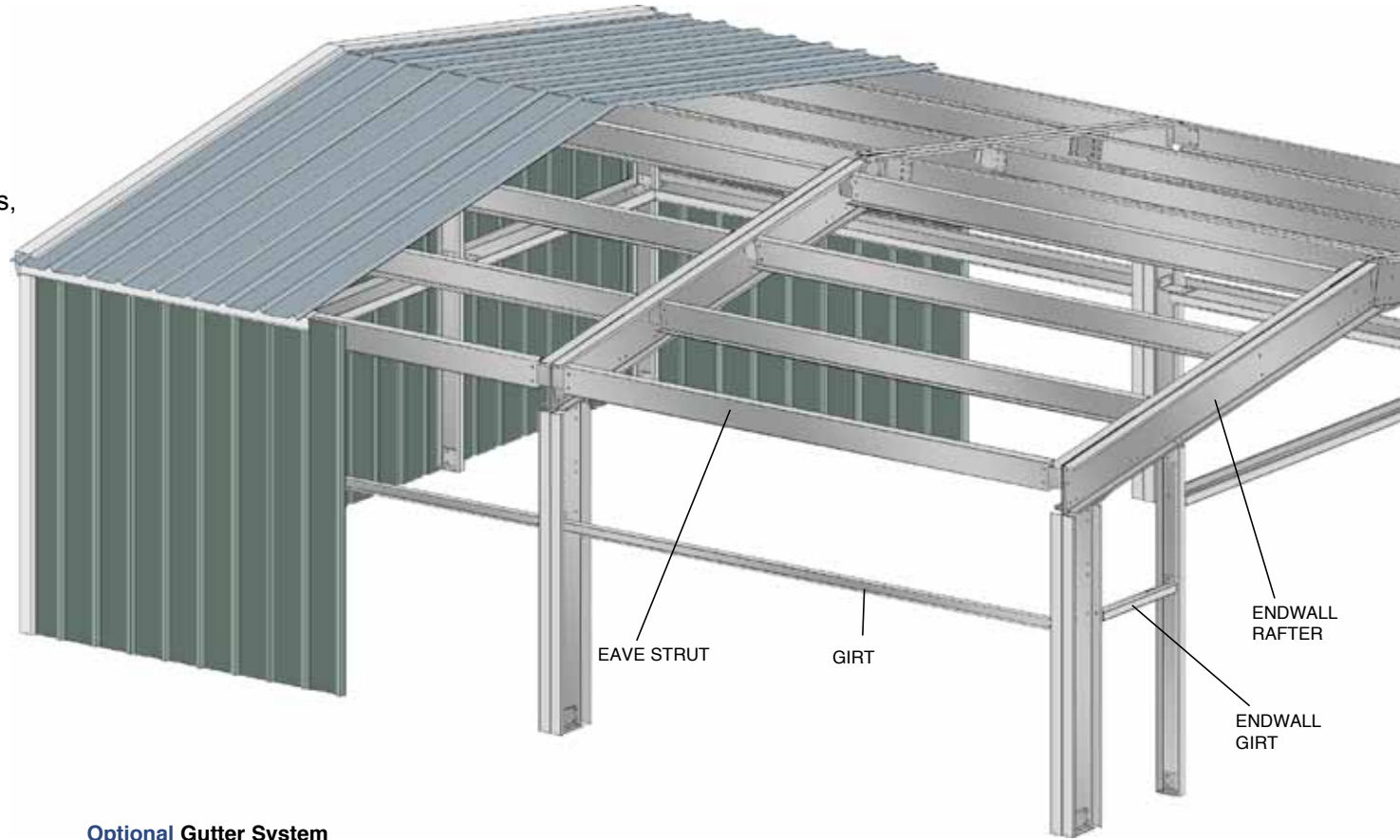


The *EasyBuild*

COMPONENTS

Our *EasyBuild* comes with a 25-year, 6 month limited warranty on AZ55 Galvalume® roof panels, a limited lifetime warranty on stainless steel capped roof fasteners and a 40-year limited warranty from the paint manufacturer on the siliconized polyester coloured coating on sidewall panels and trim.

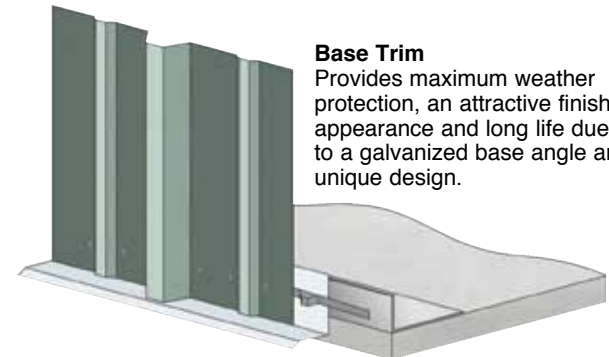
Galvanized secondary framing and extended weather-tight PBR roof panels are standard on all our *EasyBuild* steel buildings.



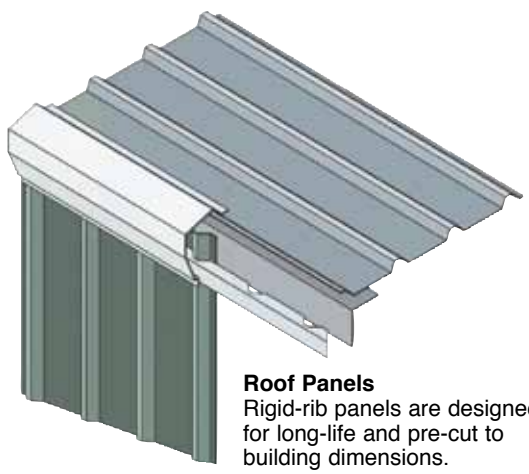
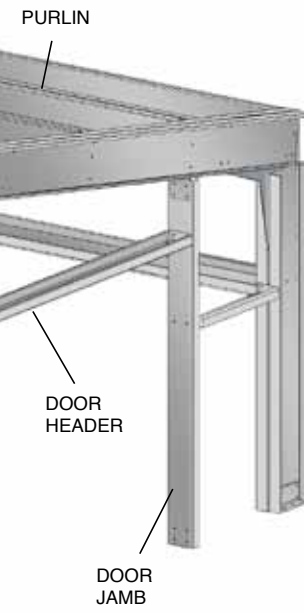
Optional Gutter System
Contour design efficiently controls drainage from rain and snow.



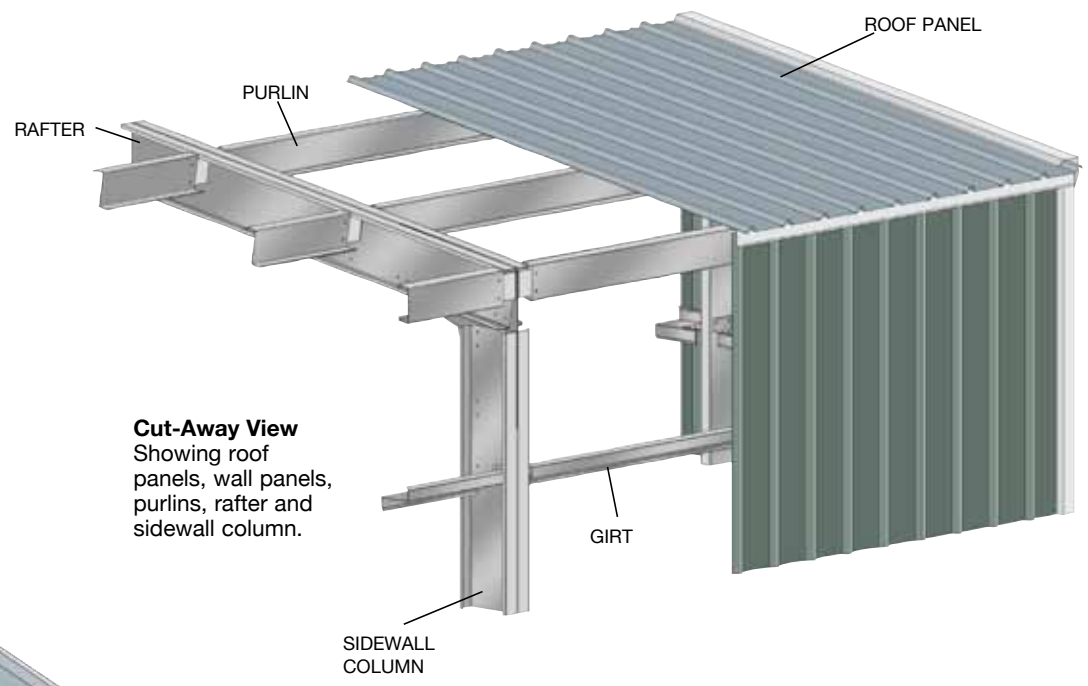
Corner Trim
1 1/4" deep rigid-rib design construction results in beauty and strength.



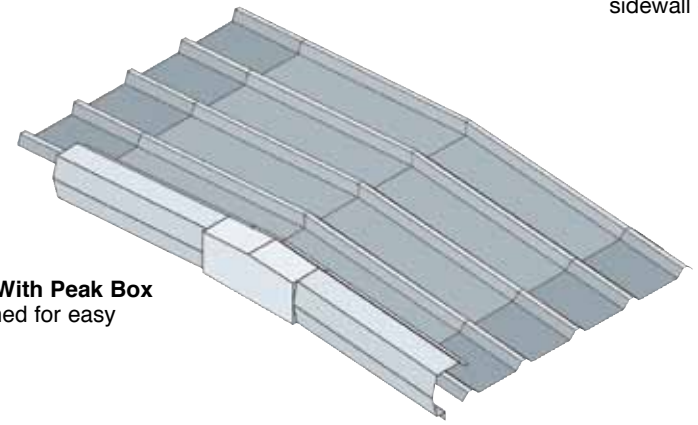
Base Trim
Provides maximum weather protection, an attractive finished appearance and long life due to a galvanized base angle and unique design.



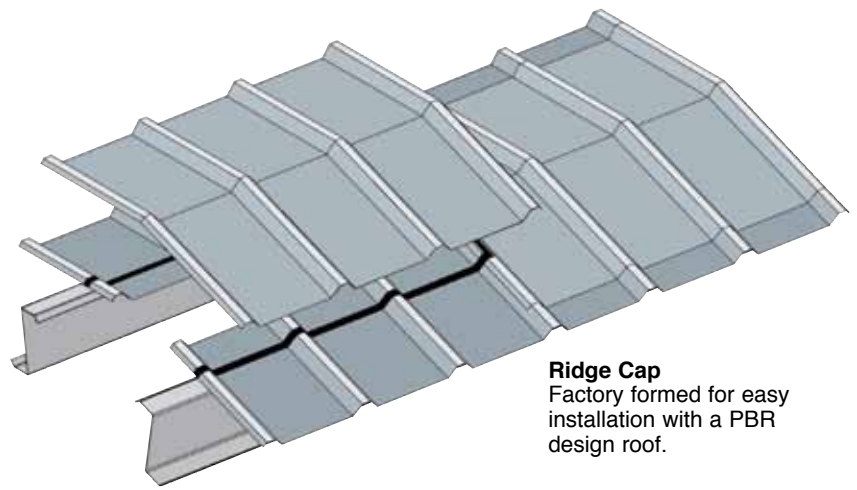
Roof Panels
Rigid-rib panels are designed for long-life and pre-cut to building dimensions.



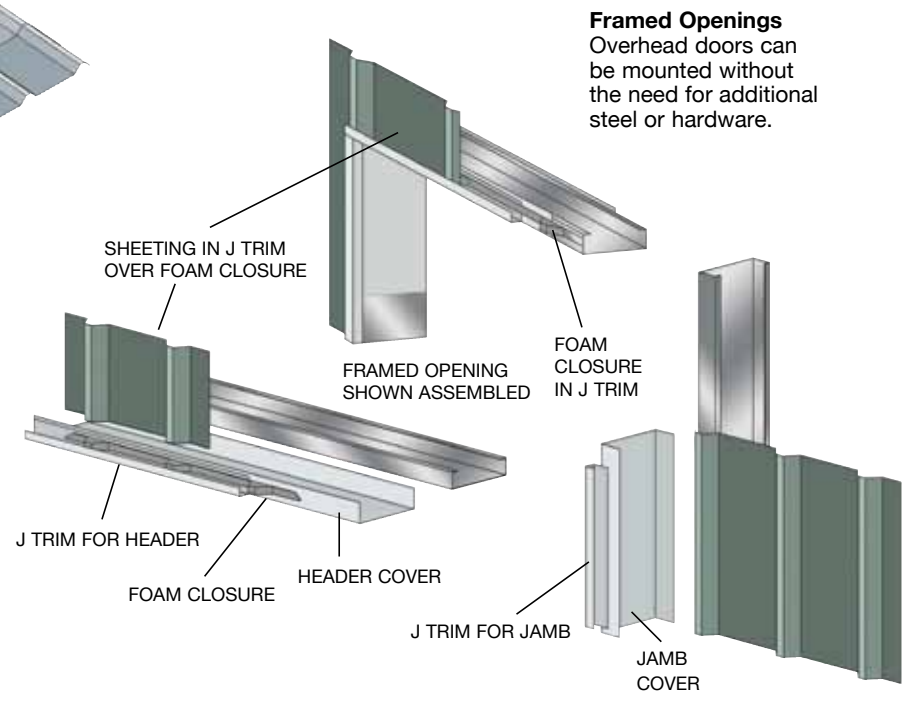
Cut-Away View
Showing roof panels, wall panels, purlins, rafter and sidewall column.



Ridge Cap With Peak Box
Factory formed for easy installation.



Ridge Cap
Factory formed for easy installation with a PBR design roof.



Framed Openings
Overhead doors can be mounted without the need for additional steel or hardware.



EasyBuild **SIDEWALL PANELS**

Our PBR sidewall panels come in twelve popular colors with a 40-year limited warranty against chipping, cracking, flaking or peeling. The paint has a siliconized polyester finish with a substrate galvanized coating beneath the paint providing further protection against rust.

The sidewall panels are continuous from floor to eave and meet or exceed required wind loads. These panels are 26-gauge as standard. Optional accessories are also

available and include: translucent wall panels, service doors, fixed or operable wall louvers, and framed openings for windows and garage doors.

All sidewall panels utilize screws that come assembled with neoprene washers. The washers eliminate the potential for rust by preventing damage to the sheeting, such as cracking paint due to overtightened screws. The heads of the screws are painted to match the colour of the sheeting. They will not rust, tarnish or turn black.



EasyBuild ROOF PANELS

AZ55 Galvalume® is an aluminum/zinc coating, which protects the roof sheeting against rust. It requires no maintenance or painting to retain its original luster and is comprised of 55% aluminum, 44% zinc and 1% silicone.

The AZ55 roof panels have a high aluminum content providing superior protection against rust and backed by a 25-year, 6 month limited rust-through perforation warranty.

In addition, the self-drilling roof fasteners are stainless steel capped and come fully assembled with a self-sealing neoprene washer for a weather-tight seal and a limited lifetime rust warranty.

Our roof panels are 26-gauge high-tensile steel with a corrugation depth of 1-1/4". The Purlin Bearing Rib (PBR) roof system provides a full overlap, which means our buildings are weather-tight, even under extreme conditions.



EasyBuild **TRIM** **PACKAGE**

J trim and base trim are included with your building to provide a finished appearance as well as added protection against leaks and the possibility of rodent and insect infestation.

Foam closures further ensure against leaks at the door openings.

Jamb and header covers for use around door openings complete the trim package.

Trim and cover material are supplied at no additional charge and enhance the functionality and beauty of your building. Trim is available in four complementary colors.



AFFORDABLE *EasyBuild*

Our pre-engineered steel buildings are designed and manufactured by industry experts who focus on value, strength, durability and easy construction for the first-time builder.

Our durable clear span structures provide years of

maintenance-free service at a price that is thousands of dollars below alternative methods of construction.

Our buildings are ideal for garages, workshops, storage facilities, commercial applications and a variety of light industrial uses.



DO-IT-YOURSELF *EasyBuild*

In place of heavy welded beams, our buildings use light-weight high performance, bolt-together components that do not require a crane, heavy equipment or special tools to construct.

You can erect your building in as few as 3 days with the help of family and friends, saving the unnecessary expense of hiring contractors or renting special tools.

Warranties

We stand behind our product with a full array of warranties. The company confidently offers warranties for several reasons.

The design of each of our steel buildings meets or exceeds IBC requirements, Canadian building codes, individual provincial codes and CSA-A660 standards. Industry experts pay very careful attention to local codes, including wind and snow loads. This ultimately provides added value to the customer in a maintenance-free product designed to last a lifetime.

High quality materials coupled with skilled craftsmanship reflect excellence built into every steel building. The use of stainless steel capped fasteners, a superior precision paint coating along with galvanized girts and purlins keep these steel buildings looking like new for decades.

- 40-Year Limited Paint Warranty
- 30-Year Limited Chalking and Paint Color Change Warranty
- Stainless Steel Capped Fasteners with a Lifetime Warranty
- 25-Year, 6 Month Limited Rust-Through Perforation Warranty on AZ55 Galvalume® Roof Panels

EasyBuild COLOUR SELECTION

Our buildings are precision coated with Valspar paints, a leading producer of paint, finishes and synthetic resins for industrial applications.

** Printed colors are matched as closely as possible.*

WALL PANEL COLOURS



TRIM COLOURS

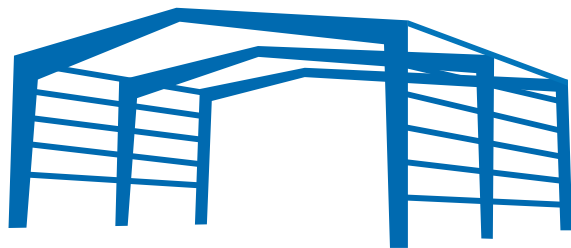


ROOF PANEL COLOURS



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Make a Norsteel Building, YOUR Steel Building



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