

Letter of Rationale

Fortis BC – Ellison Substation 240kWdc Solar PV Facility

Dear Ms. Steppuhn, Mr. Cashin, et al.,

FortisBC hereby submits the proposed project to the City of Kelowna's Land Use Management Department for review and Development Permit approval.

For many FortisBC customers, ownership of a photovoltaic ("PV") solar system is not feasible. Customer ownership and operation requires upfront capital costs, as well as ongoing operation and maintenance expenses. Cost aside, customers who live in rental properties, multi-unit residential buildings (MURBs), or townhomes are limited in their options. Other customers that have aging rooftops, or an unsuitable rooftop orientation, may also be unable to install a PV system. The Company's proposed solar array northwest of the Kelowna airport will allow these customers to have an option for making solar power part of their energy options.

The solar array will be built on land currently owned by FortisBC, adjacent to its existing Ellison Substation. The proposed solar PV facility is thought to be a good use of this remnant land parcel. The subject property is excellent from an electrical perspective as it is located adjacent to a substation and allows for relatively simple inter-connection to the FortisBC distribution system.

The solar PV facility would be located between the Ellison Substation to the west and Hwy 97N to the east, with a downward slope from west to east. The site is well-suited to harvesting solar energy.

The proposed PV facility will be comprised of 720 – 335 watt solar PV modules mounted on steel posts driven into the earth. The modules will be oriented due south (i.e. 180° from true north) and at a fixed tilt angle of 35° (from horizontal) to maximize the output on an annual basis. The modules will be mounted two high in portrait orientation (see attached layout). Other PV components that will be located on this site include inverters, transformers and "balance of system" components.

The solar panels would be arranged in four rows separated by an east/west lane and a north south lane down the center. Spacing between rows is necessary to ensure that self-shading (i.e. modules being shaded by other modules) does not occur.

With respect to reflectance/glare, the following has been excerpted from the module manufacturers "Statement about modules' reflection":

Canadian Solar uses "high-transmission low-iron" glass in our solar modules, and narrow down the accepted range of glass surface roughness. This type of glass transmits more light, producing less glare and reflectance than normal glass. This high-transmission glass meets the military's reflectance requirement, where this value has to be less than 10%. Canadian Solar declares that Modules produced using antireflection coated solar glass have a reflectance value below 4% when with up to 60° angle of incidence.

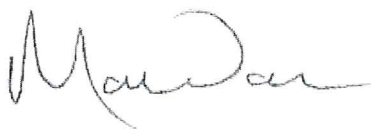
As the solar panels are located above the Highway 97 road surface and tilted at 35°, there will be little and more likely no impact on northbound motorists.

The proposed solar PV facility will be surrounded by approximately 295 metres of 2.13 m (7') high galvanized chain link fencing with ~0.3 m (1') high barbed wire for security reasons and to ensure conformance with the Canadian Electrical Code (CEC 26-304 & 306) requirements.

FortisBC is aware of City staff's desire for landscape buffering along the south and east property lines using lower growing shrubbery. We are, however, seeking a relaxation to this request as the high visibility location of this PV facility is one of the attributes that FortisBC is most excited about. The prominence at one of the City's gateways, including visitors arriving by air, is expected to garner significant interest. Having this solar PV facility unfiltered to the public eye is a desirable element of this proposed project.

Thank you for your consideration of our proposed project. FortisBC looks forward to working with the City of Kelowna to make this landmark renewable energy generating facility a reality for Kelowna and its residents.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Mark Warren', with a stylized, flowing script.

Mark Warren, P.Eng.

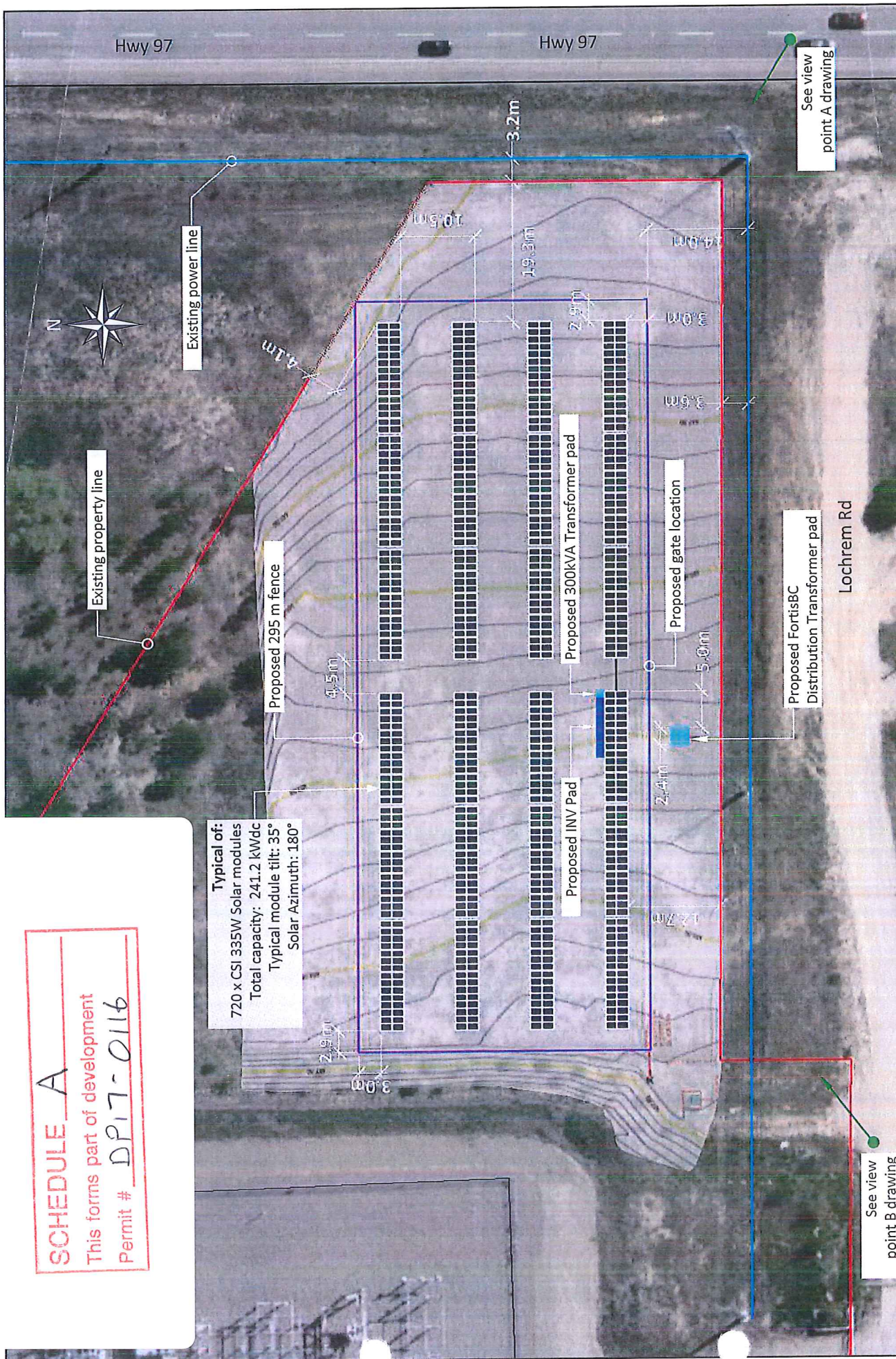
Director, Business Innovation and Measurement


SCHEDULE A

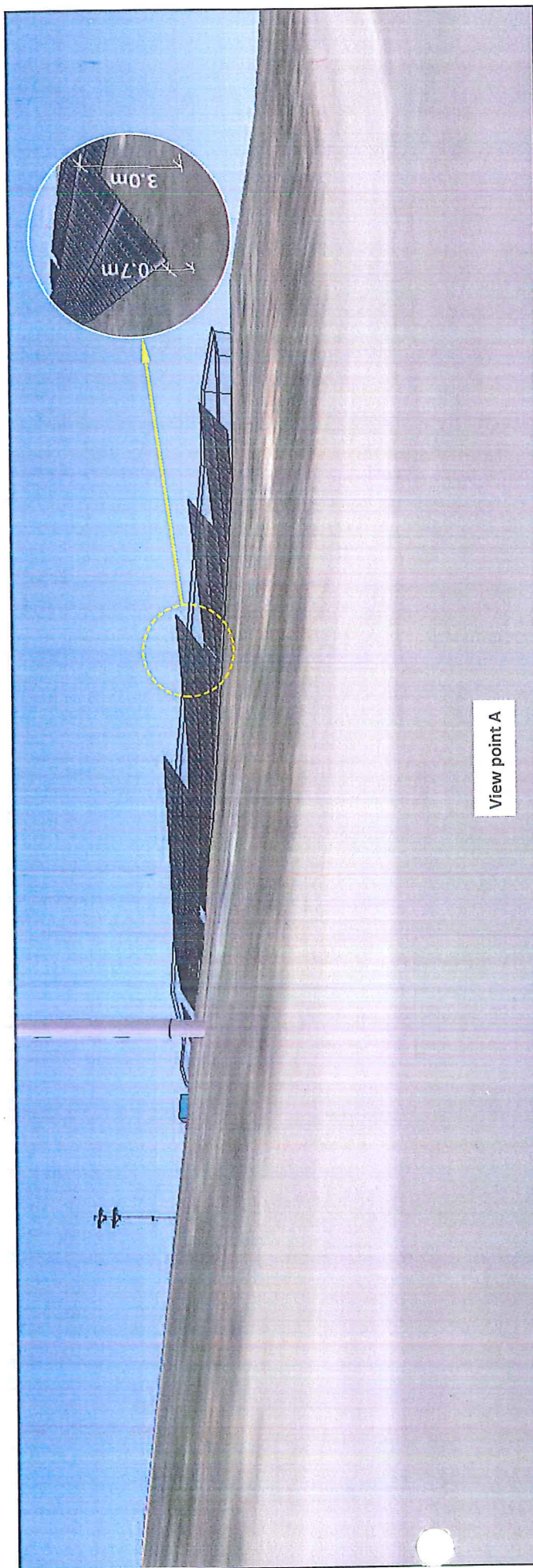
This forms part of development

Permit # DP17-0116

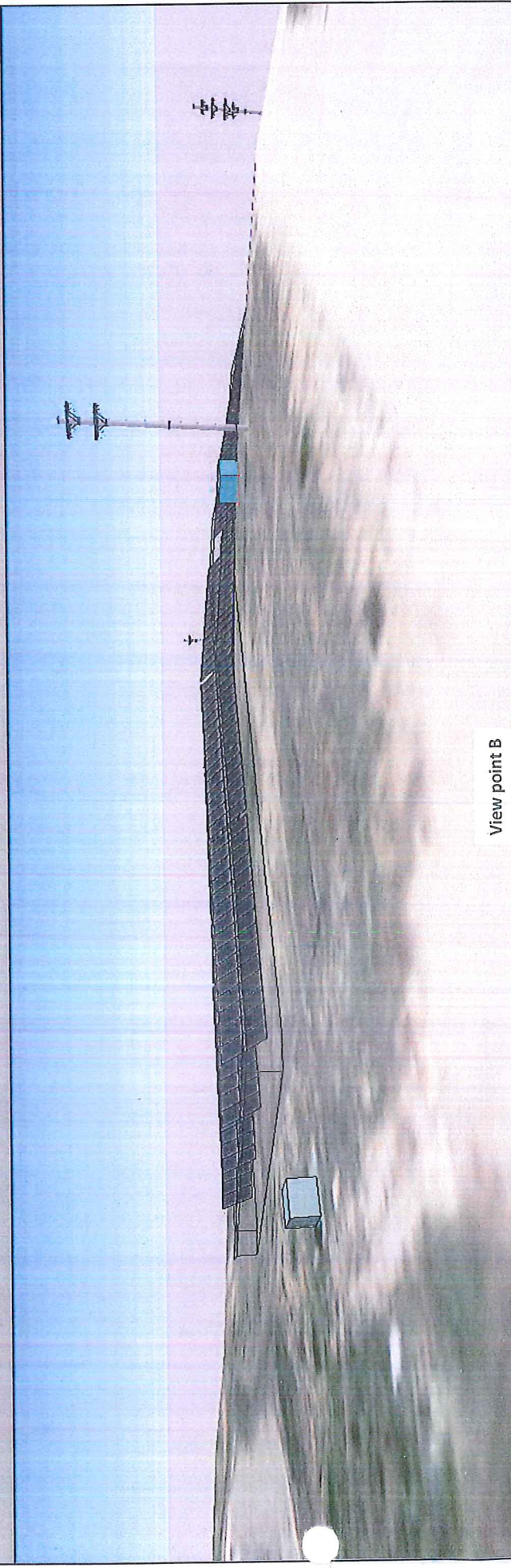
Typical of:
720 x CSI 335W Solar modules
Total capacity: 241.2 kWdc
Typical module tilt: 35°
Solar Azimuth: 180°



	Project Name: Fortis BC Ellison Kelowna	SkyFire Energy Inc.
Proprietary and confidential - The information contained in this drawing is the sole property of SkyFire Energy. Any reproduction in part or as a whole without the written permission of SkyFire Energy is prohibited.	241.2kW DC Grid tied PV System	Drawing Date: Nov 28, 2016 Drawn By: T-N SCALE: NOT TO SCALE DWG: 1/2 Ver.: 10
	Preliminary layout sketch (5786-LAY)	Site Add.: Kelowna, BC



View point A



View point B



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Project Name: Fortis BC Ellison Kelowna

241.2kW DC Grid tied PV System

Preliminary layout sketch (5786-LAY)

SkyFire Energy Inc.

Drawing Date: Nov 28, 2016 Drawn By: T-N

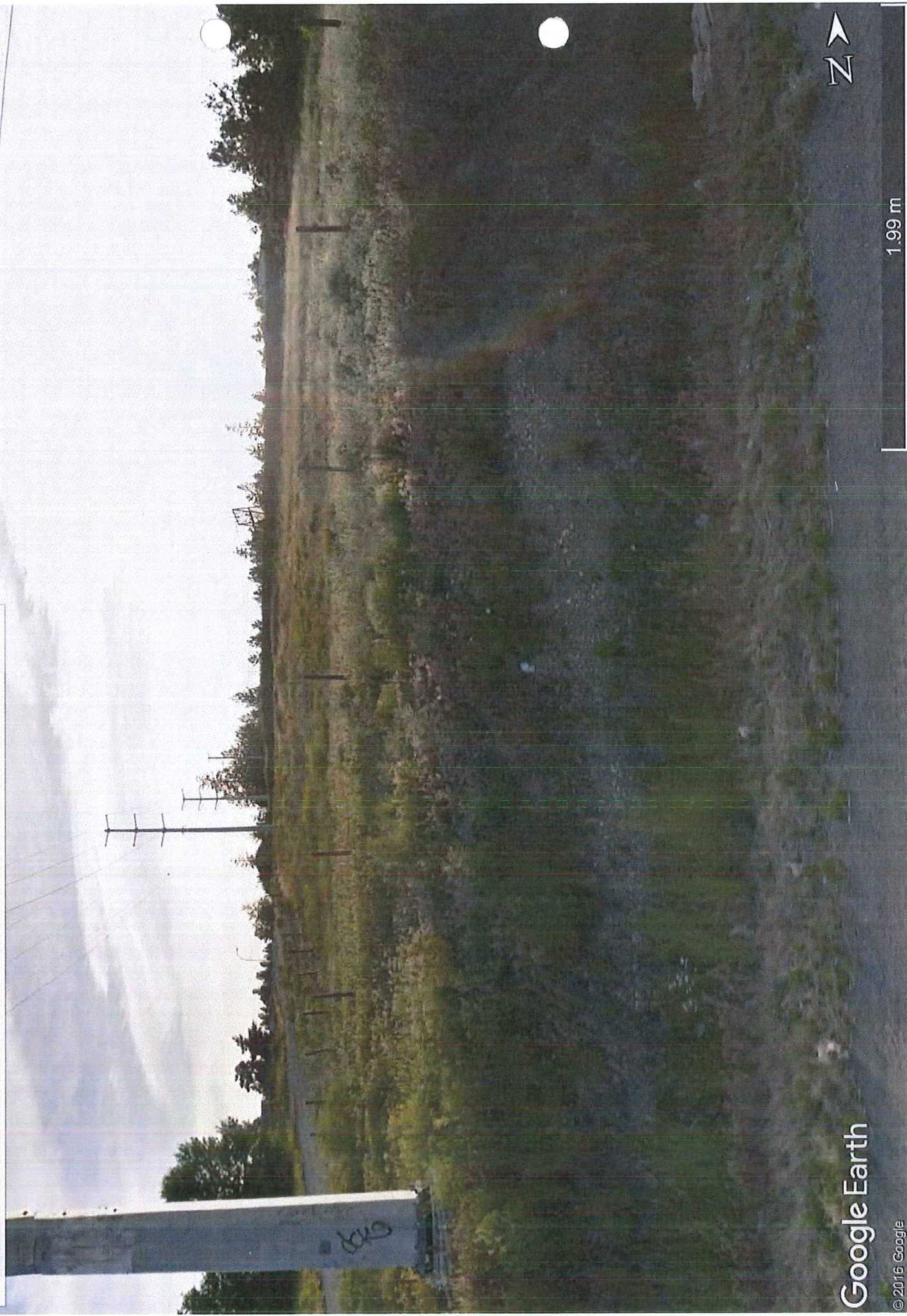
SCALE: NOT TO SCALE DWG: 2/2 Ver.: 10

Site Add.: Kelowna, BC

Kelowna - Ellison Solar PV Project

Subject Property looking west from Hwy 97N (southbound) at the eastern boundary.

Legend



1.99 m

Google Earth

© 2016 Google

Kelowna - Ellison Solar PV Project

Subject Property looking north from the intersection of Pier Mac Way and Lochrem Road along the southern boundary.

Legend



Google Earth

© 2016 Google

1.76 m





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navcanada.ca

September 30, 2017

Your file
2147 Pier Mac Way
Our file
17-1706

Mr. Anthony Bowers
FortisBC Inc.
2850 Benvoulin Rd
Kelowna, BC
V1W 2E3

RE: Other Permanent Structure(s): Solar Panels - Kelowna, BC
(N49° 57' 44.5" W119° 23' 08.5" / 8.5302' AGL / 1504.5932' AMSL)

Mr. Bowers,

NAV CANADA has evaluated the captioned proposal and has no objection to the project as submitted provided that any glare or reflectivity issues that negatively impacts aircrews using Kelowna Airport or NAV CANADA operations is remedied by FortisBC upon request.

NAV CANADA does not require notification of construction; however, if you should decide not to proceed with this project, please advise us accordingly so that we may formally close the file. If you have any questions, contact the Land Use Department by telephone at 1-866-577-0247 or e-mail at landuse@navcanada.ca.

NAV CANADA's land use evaluation is valid for a period of 12 months. Our assessment is limited to the impact of the proposed physical structure on the air navigation system and installations; it neither constitutes nor replaces any approvals or permits required by Transport Canada, Industry Canada, other Federal Government departments, Provincial or Municipal land use authorities or any other agency from which approval is required. Industry Canada addresses any spectrum management issues that may arise from your proposal and consults with NAV CANADA Engineering as deemed necessary.

Yours truly,

Gheorghe Adamache | NAV CANADA
Manager - AIM IFP Service Delivery

cc PACR - Pacific Region, Transport Canada
CYLW - KELOWNA
CRG2 - KELOWNA (ARGUS) (HELI)

DEVELOPMENT PERMIT



APPROVED ISSUANCE OF DEVELOPMENT PERMIT NO. DP17-0116

Issued To: FortisBC Inc.
Site Address: 2147 Pier Mac Way
Legal Description: Lot 2, Section 23, Township 23, District Lot 32A,
Land District O.D.Y.D, Plan KAP2257
Zoning Classification: P4 - Utilities, A1 - Agriculture 1
Development Permit Area: Farm Protection Development Permit Area

SCOPE OF APPROVAL

This Permit applies to and only to those lands within the Municipality as described above, and any and all buildings, structures and other development thereon.

This Permit is issued subject to compliance with all of the Bylaws of the Municipality applicable thereto, except as specifically varied or supplemented by this Permit, noted in the Terms and Conditions below.

The issuance of a Permit limits the Permit Holder to be in strict compliance with regulations of the Zoning Bylaw and all other Bylaws unless specific Variances have been authorized by the Permit. No implied Variances from bylaw provisions shall be granted by virtue of drawing notations that are inconsistent with bylaw provisions and that may not have been identified as required Variances by the applicant or Municipal staff.

1. TERMS AND CONDITIONS

THAT Development Permit No. DP17-0116 for Lot 2, Section 23, Township 23, District Lot 32A, Land District O.D.Y.D, Plan KAP2257, located at 2147 Pier Mac Way, Kelowna, BC to allow the placement of 720 Solar Panel Modules be subject to the following:

- A) The development on the land be in accordance with attached **Schedule "A"** (Site Plan - Fortis BC Ellison Kelowna, prepared by SkyFire Energy Inc., dated November 28, 2016).

AND FURTHER THAT this Development is valid for two (2) years from the date of Manager approval, with no opportunity to extend.

2. PERFORMANCE SECURITY

As a condition of the issuance of this Permit, Council is holding the security set out below to ensure that development is carried out in accordance with the terms and conditions of this Permit. Should any interest be earned upon the security, it shall accrue to the Permit Holder and be paid to the Permit Holder if the

security is returned. The condition of the posting of the security is that should the Permit Holder fail to carry out the development hereby authorized, according to the terms and conditions of this Permit within the time provided, the Municipality may use the security to carry out the work by its servants, agents or contractors, and any surplus shall be paid over to the Permit Holder, or should the Permit Holder carry out the development permitted by this Permit within the time set out above, the security shall be returned to the Permit Holder. There is filed accordingly:

- a) Cash in the amount of \$_____ OR
- b) A **Certified** Cheque in the amount of \$ _____OR
- c) An Irrevocable Letter of Credit in the amount of \$_____.

Before any bond or security required under this Permit is reduced or released, the Developer will provide the City with a statutory declaration certifying that all labour, material, workers' compensation and other taxes and costs have been paid.

3. DEVELOPMENT

The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit that shall form a part hereof.

If the Permit Holder does not commence the development permitted by this Permit within two years of the date of this Permit, this Permit shall lapse.

This Permit IS NOT a Building Permit.

4. APPLICANT'S AGREEMENT

I hereby declare that all of the above statements and the information contained in the material submitted in support of this Permit are to the best of my belief, true and correct in all respects. Upon issuance of the Permit for me by the Municipality, then in such case, I covenant and agree to save harmless and effectually indemnify the Municipality against:

- a) All actions and proceedings, costs, damages, expenses, claims, and demands whatsoever and by whomsoever brought, by reason of the Municipality granting to me the said Permit.
- b) All costs, expenses, claims that may be incurred by the Municipality if the construction by me of engineering or other types of works as called for by the Permit results in damages to any property owned in whole or in part by the Municipality or which the Municipality by duty or custom is obliged, directly or indirectly in any way or to any degree, to construct, repair, or maintain.

I further covenant and agree that should I be granted a Development Permit and/or Development Variance Permit, the Municipality may withhold the granting of any Occupancy Permit for the occupancy and / or use of any building or part thereof constructed upon the hereinbefore referred to land until all of the engineering works or other works called for by the Permit have been completed to the satisfaction of the Municipal Engineer and Divisional Director of Community Planning & Real Estate.

Should there be any change in ownership or legal description of the property, I undertake to notify the Community Planning Department immediately to avoid any unnecessary delay in processing the application.

5. APPROVALS

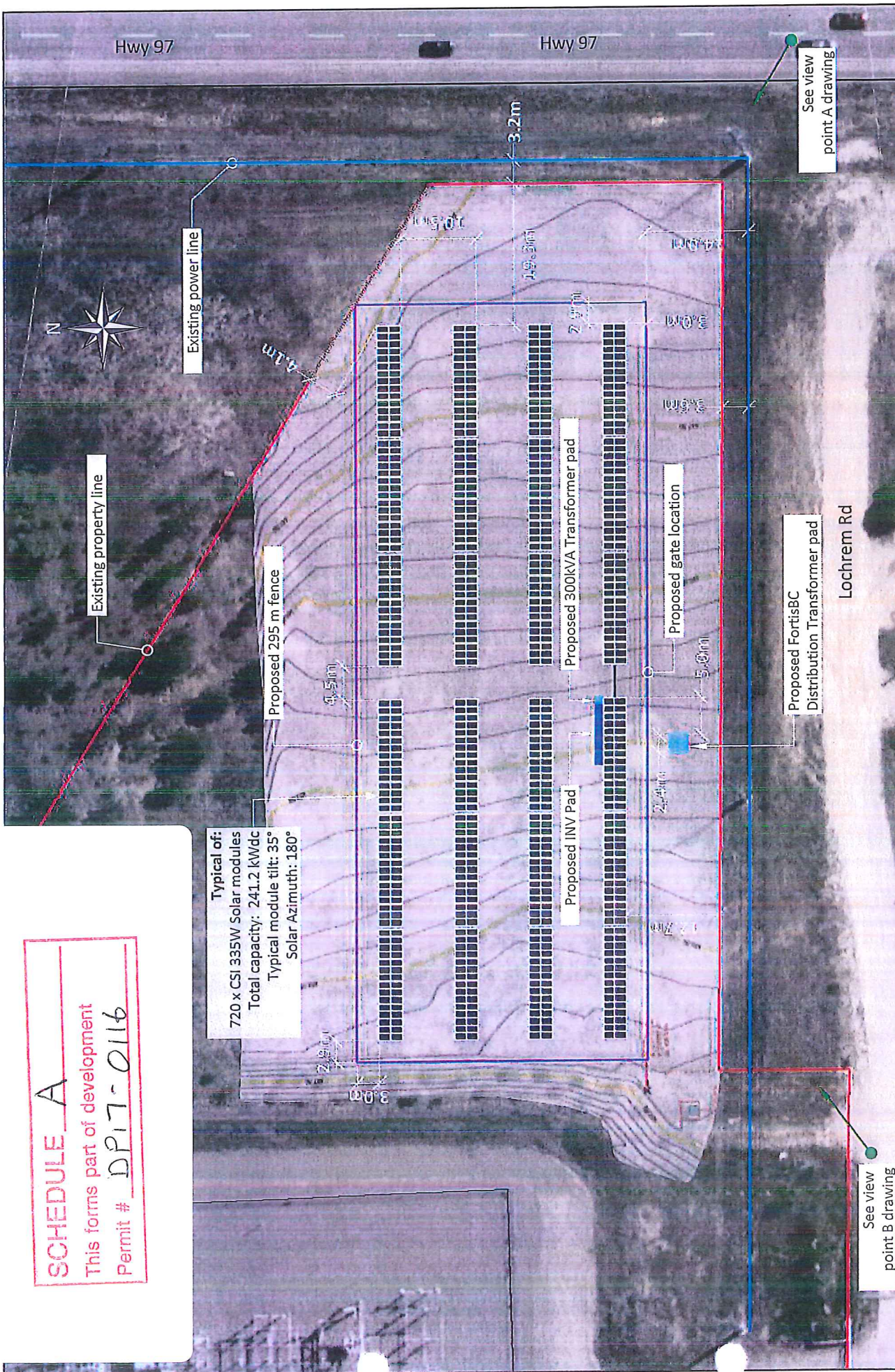
Issued by the Community Planning Department of the City of Kelowna on the 4th day of December 2017.

Todd Cashin, Suburban and Rural Planning Manager
Community Planning & Real Estate

**The PERMIT HOLDER is the CURRENT LAND OWNER.
Security shall be returned to the PERMIT HOLDER.**

SCHEDULE A
This forms part of development
Permit # DP17-0116

Permit # DP17-0116



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241.2kW DC Grid tied PV System

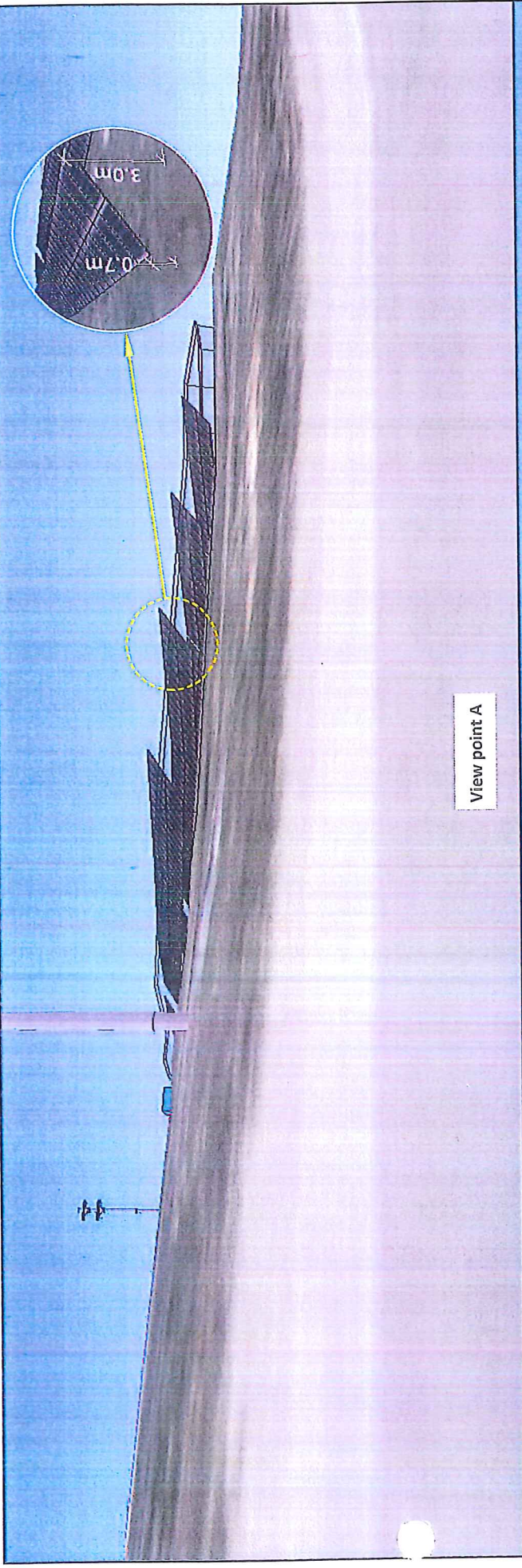
Preliminary layout sketch (5786-LAY)

SkyFire Energy Inc.

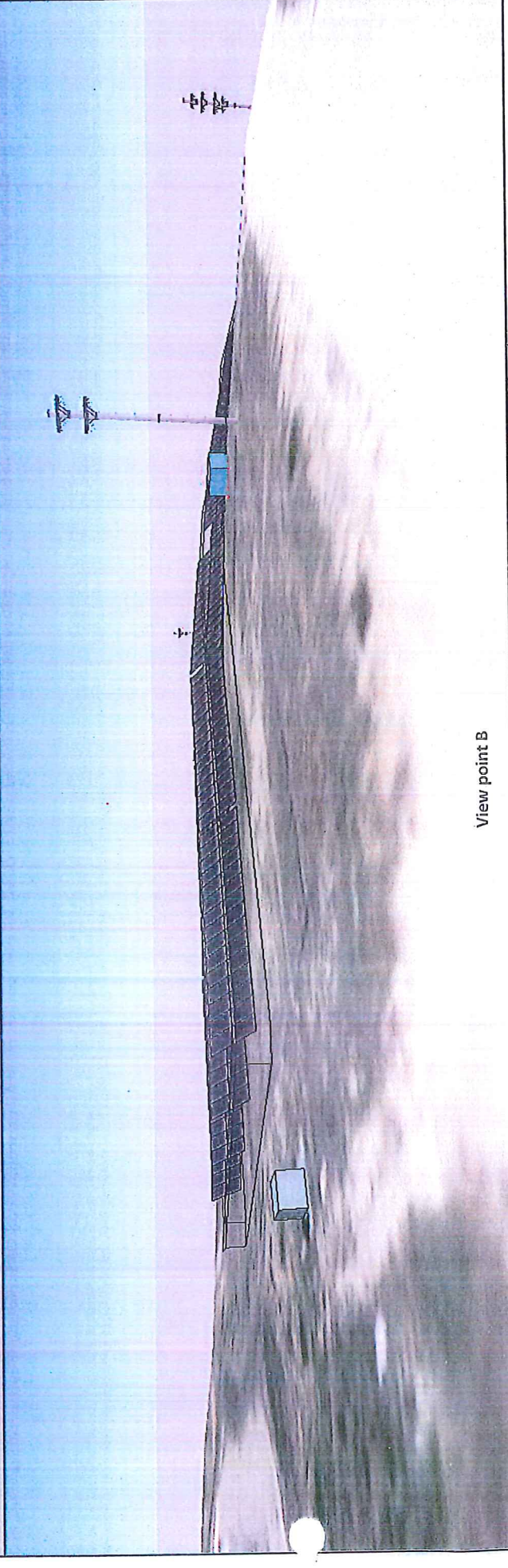
Drawing Date: Nov 28, 2016	Drawn By: T-N
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SCALE: NOT TO SCALE	DWG: 1/2	Ver.: 10
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Site Add.: Kelowna, BC



View point A



View point B

<div><div><div>skyFire</div><div>Energy</div><div>Solar Energy Systems</div></div></div>	<div>Proprietary and confidential - The information contained in this drawing is the sole property of SkyFire Energy. Any reproduction in part or as a whole without the written permission of SkyFire Energy is prohibited.</div>	Project Name: Fortis BC Ellison Kelowna		SkyFire Energy Inc.	
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