

DRAFT TEMPLATE BYLAWS FOR SOLAR POWER FACILITIES

Commentary: This model zoning and template bylaw was prepared to assist Alberta municipalities in establishing reasonable standards to facilitate the development of ground-mounted solar energy systems. The template zoning language is not intended to be adopted precisely as written. Communities will need to carefully consider how this language can be modified to suit local conditions and where it should be inserted into an existing zoning bylaw. It is recommended that any language adopted from this template be reviewed by municipal council and reviewed by the municipality's legal resources before final adoption.

(1) PURPOSE:

- (a) The purpose of this bylaw is to regulate and control, or where necessary, regulate and prohibit Development of any Solar Energy Facility (SEF) within the municipality.
- (b) No person shall commence Development of a SEF unless a SEF District has been approved as an authorized land use and a Development Permit has been issued for the proposed project.

Commentary: The definitions section usually stands alone in a bylaw. We recommend that the following terms be reviewed with current bylaws, and inserted where necessary, as additional definitions to the general definitions section.

(2) DEFINITIONS:

- (a) Relevant definitions for this bylaw are provided below:
 - **AEP-WM** means the Wildlife Management division of Alberta Environment and Parks or its successor responsible for the regulation and preservation of Alberta wildlife and environment, and approval authority for wildlife and environmental impacts from Solar Energy Facilities.
 - **AUC** means the Alberta Utilities Commission, or its successor that is the provincial regulator and approval authority for large-scale (5 MW and greater) solar energy generation facilities in Alberta.
 - **Commencement of Construction** means the first day of deployment of equipment or the initiation of construction activities of the Solar Energy Facility.
 - **Development** means a proposed project or improvement on the land under consideration that meets the intent and guidance of the municipal bylaw, and as will be aligned with the definition of Development in each Municipality's bylaw document.
 - **Development Authority** means the municipal body responsible for review and consideration of applications to amend the Municipal Land Use Bylaw and for Development Permits in accordance with the Municipal Land Use Bylaw.
 - **Development Permit** means a document issued by an authorized representative of the municipality authorizing a development of a Solar Energy Facility in accordance with the Municipal Land Use Bylaw.
 - **Environmental Evaluation** means a report compiling all of the environmental baseline surveys and studies that were carried out for the SEF site by a qualified environmental specialist, as determined by AEP-WM, to perform such work under the laws of Alberta.
 - **Land Use District** means the existing land use for a property (or properties) that adheres to and is compliant with the Municipal Land Use Bylaw.

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- **Municipal Land Use Bylaw** means the laws and regulations approved by municipal council that provide guidance, regulate, and in some cases prohibit, development of land and land uses within the municipality.
- **Solar Energy System:** A photovoltaic system that is connected to an electric circuit served by an electric utility.
- **Solar Energy Facility (SEF)** means a solar energy system designed to convert solar energy into electrical energy, and all supporting electrical equipment required to store or transmit such electricity including buried wires, inverters, a substation, and energy storage facilities, as the case may be, to a building or facility for direct use or to the electrical grid and injected into the distribution or transmission system.
- **Solar Energy Facility (SEF) District** means an overlay district for the titled properties comprising the Solar Energy Facility in which the requirements of the existing Land Use District remain in effect and which also allow for the development of a Solar Energy Facility within the district.

(3) SOLAR ENERGY FACILITY (SEF) DISTRICT:

- The purpose of creating this district is to provide for the development of solar power generation which feeds power into the local distribution system or the provincial grid. It shall take the form of an overlay district in which the requirements of the existing Land Use District will continue in effect for all uses other than the Solar Energy Facility and associated uses. In addition to the requirements of the Municipal Land Use Bylaw, the following regulations applicable to a Solar Energy Facility (SEF) Development Permit shall also apply to any SEF District. Such SEF District bylaw amendment can be made concurrently, or prior to, a Development Permit application for the SEF. For clarity, a SEF must be located on land that is zoned as a SEF District.
- Generally, any SEF Development Permit application should be made after final AUC approval is granted for the SEF unless a variance is granted by the municipality or an AUC approval is not required for the proposed project.

(4) SEF DISTRICT APPLICATIONS:

- (a) One application for a SEF District zoning shall be submitted for each SEF District and will include all titled property parcels on which the proposed SEF is to be located.

(5) SEF DEVELOPMENT PERMIT APPLICATIONS:

- (a) One application for a Development Permit shall be submitted for each SEF and will include all titled property parcels on which the proposed SEF is to be located.

(6) SEF SETBACKS:

- (a) The minimum setback from the edge of a municipal road right-of-way to the fenceline of the SEF shall be 10 metres;
- (b) The minimum setback from an undeveloped municipal road right-of-way or any adjacent property to the SEF fenceline shall be 5 metres;
- (c) Adjacent lands that are within the SEF District and have all of the following characteristics do not require a setback from the property line:

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- a. adjacent lands have no road allowance separation from the SEF;
 - b. adjacent lands have an agreement with the SEF developer; and
 - c. have a caveat registered on the title of the adjacent lands;
- (d) The minimum setback related to an Alberta Highway right-of-way shall be determined through consultation with (and confirmed by written approval from) Alberta Transportation;
- (e) Setbacks from residences shall be determined in accordance with current AUC Rule 012: Noise Control requirements (or any successor regulation) and not by any setback established by the municipality; and
- (f) The minimum setback for the SEF infrastructure from environmental features shall be established in accordance with the AEP-WM guidelines and where applicable, accepted by AEP-WM.

Commentary: AEP-WM does not review smaller scale SEF projects.

(7) ELECTRICAL LINES:

- (a) Except for a single above ground line along developed roads where no other above ground line currently exists, all distribution voltage collector lines (of less than 69 kilovolts) within the SEF District will be placed underground.

(8) GENERAL INFORMATION REQUIREMENTS FOR SEF DISTRICT APPLICATIONS

- (a) Contact details of the project proponent and property owners;
- (b) Site map with locations of the proposed land parcels forming the SEF District, any nearby active farmland, soil classification, major waterbodies, watercourses, flood plains, recreational areas, municipal or private airports/airstrips (registered and unregistered), and any major roads within 2 kilometres of the proposed SEF District;

(9) ADDITIONAL INFORMATION REQUIREMENTS FOR SEF DEVELOPMENT PERMIT APPLICATIONS

- (a) All applications for a SEF Development Permit (but not a SEF District) shall include the following information for the Development Authority to review prior to approval:
 - i. A site plan of the SEF showing all land parcels identifying the proposed location of all above and below ground infrastructure including setbacks as defined in this bylaw, the land contours and proposed access roads, as well as any associated substation, if present, and electrical infrastructure (collection systems, inverters, and transmission system and the connection plan with the transmission facility owner and/or the distribution facility owner as the case may be) on the properties on which the SEF is proposed to be located.
 - ii. Proposed changes to the landscape of the site, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
 - iii. A digital file of the SEF layout showing all above and below ground infrastructure in standard GIS format acceptable to the municipality (e.g. UTM coordinates NAD 83 Datum, Zone X).
 - iv. Information about the SEF characteristics and specifications including a summary report of the dimensions of the solar array structures, configuration and orientation of the structures, general characteristics of the electrical inverters and substation, if used, and the total rated output of the SEF in terms of alternating current and direct current.

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- v. Confirmation from the manufacturers that the solar PV modules, and electrical components meet the performance and safety standards required by the Alberta Electrical Code.
- vi. Engineering drawings of the structural design of the piling and racking design stamped by a licenced professional engineer.
- vii. A summary of how potential visual impacts have been mitigated either through vegetation screening (trees), physical barriers (walls or berms), or through direct consultation with landowners within 800m of the SEF boundary. If requested by the Development Authority, visual simulations may be needed for high traveled or sensitive viewscape areas, or locations of concern identified by stakeholders through the public consultation process for the SEF.

Commentary: While regulating the aesthetics can be considered a matter of protecting public welfare, attempting to place restrictions on setbacks, height, or solar components, as related to aesthetics, can create roadblocks to actual installation, increase costs, and ultimately may be regulations that become outdated in time with technology advancements and updated techniques. It is therefore not recommended that communities regulate the aesthetics of SEFs. SEFs should not be singled out and regulated more stringently than other uses that require site plan reviews.

- viii. A copy of the final Noise Impact Assessment (NIA) approved by AUC under AUC Rule 12: Noise Control (or any successor regulation), or if an AUC approval has not been issued (or will not be issued, e.g. for a smaller project), then an NIA report prepared by an independent third party expert in compliance with AUC Rule 12 (or any successor regulation), demonstrating compliance.
 - ix. A copy of the signed referral letter from AEP-WM for the specific SEF site layout that is presented in the application, or if a referral letter has not been prepared (or will not be prepared, e.g., for a smaller project) then a letter or other correspondence of non-objection from AEP-WM confirming their review of the site, and also that no further environmental assessment of the site is required.
 - x. A glare assessment for the site prepared and signed by a qualified third-party consultant, or an assessment prepared by the proponent with a certified industry software that can predict glare from a SEF. SEF's located within 5 kilometres of any registered airstrips must include flight paths in the glare assessment.
- Commentary: While there is no regulation in Alberta requiring a glare assessment, this assessment is important for understanding the potential impacts.***
- xi. A copy of the Participant Involvement Program (PIP) for the SEF that was submitted and approved by the AUC, or if an AUC approval is not required (e.g. for a smaller project) then a summary report of all stakeholder consultation activities conducted by the proponent for the project and an explanation of how the consultation regulations have been met, either in accordance with the PIP requirements under AUC Rule 007 (or any successor regulation), or under municipal requirements for smaller projects.
- (b) The applicant is required to provide the following plans to the Development Authority prior to the decision on issuance of a Development Permit:

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- i. A preliminary construction plan identifying any proposed grading, drainage plan and practices for soil stripping and erosion control.
 - ii. A draft traffic management plan having regard to municipal standards, showing any impacts to the local road system, including public road access, haul routes and dust control measures, which will be finalized prior to the commencement of construction.
 - iii. The applicant shall co-operate and consult with local emergency responders to develop an emergency response plan. A draft emergency response plan will be prepared and submitted with the application for the Development Permit and will be finalized prior to the Commencement of Construction. The proponent must demonstrate how the layout design of SEF allows for appropriate access for emergency response vehicles and equipment in the event of an emergency. The owner shall identify a responsible person for public inquiries throughout the construction and installation phase.
 - iv. A draft weed control management plan must be provided for review, and finalized prior to Commencement of Construction, to ensure no negative impact of noxious weeds on the site lands or for adjacent landowners.
- (c) The proponent shall provide a written commitment to install a security fence with a lockable gate to surround the SEF not less than 1.85 metres (6 feet) in height to avoid vandalism to the site and minimize public safety concerns.
 - (d) The proponent needs to demonstrate how the SEF provides a minimum solar array clearance to allow for perennial forage and prevention of soil erosion.
 - (e) The proponent shall implement any additional safety mechanisms or procedures as the Development Authority considers reasonable and appropriate on a case-by-case basis.

(10) ALTERATIONS AND REPOWERING:

- (f) Should a proponent of an existing SEF propose any material equipment change, or material change in SEF capacity, the proponent shall apply for an amendment of the Development Permit from the municipality outlining the changes identified after receiving approval from the AUC for same.

(11) DECOMMISSIONING:

- (a) The SEF shall be decommissioned and reclaimed in accordance with all applicable legislative requirements, including those of the AUC and AEP-WM in place at the time of decommissioning and reclamation.
- (b) At least one hundred and eighty (180) days prior to the end of commercial operation of the SEF, a decommissioning plan shall be submitted by the proponent to the Development Authority for its approval providing the following information:
 - i. A description of how surface infrastructure will be removed and remediated in compliance with AUC and AEP-WM regulation (or other applicable regulation at that time);
 - ii. A description of how subsurface infrastructure (ex: footings and wires) will be removed or retained;
 - iii. A description on how general features that are not SEF specific (such as roads, driveways, pathways and other similar disturbances) will be remediated or retained;

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- iv. How the public and project stakeholders will be notified and informed of the decommissioning;
 - v. a schedule and timeline of site activities to be carried out;
 - vi. a description of how the site will be kept secure and safe during the work; and
 - vii. a description of the haul routes and plan for disposal of removed materials.
- (c) Upon review of the decommissioning plan, the Development Authority may require a bond or security to ensure the plan is implemented properly and to cover potential risk or damage to the municipality.
- (d) Should a SEF discontinue producing power for one year or more, the SEF owner shall provide a status report to the Development Authority outlining actions the proponent is taking to reinstate power production. The Development Authority may consult with the AUC, as necessary, or if holding the proper authority to do so, may issue a decommissioning directive for the Solar Energy Facility if it is determined by the Development Authority that the proponent has not or will not take sufficient action to reinstate the production of power at the SEF.
- (e) Failure to comply with any decommissioning request may result in the issuance of an order for compliance or other enforcement action by the designated officer in accordance with the appropriate provisions of applicable law.

(12) DECISION CRITERIA:

Commentary: The siting of a solar facility is an important consideration, particularly for large-scale ground mount facilities. Caution should be placed on locations that result in significant loss of land and natural resources (ex. forested lands). For example, significant tree cutting may impact important water management, cooling, and climate benefits. Lower productivity land should be used preferentially to minimize the loss of productive food/crop land. Dual use of the land is recommended such as apiculture (bees) and grazing (sheep), among others.

- (a) As a SEF is categorized as a discretionary use, the Development Authority may approve the SEF or SEF District on a case by case basis having regard for:
- i. Information provided in the application;
 - ii. consideration of other land uses that may not be consistent with a SEF such as prime agricultural land (irrigated), recreational, or urban land uses;
 - iii. Proximity and impact on other existing land uses in the immediate area;
 - iv. Impact on underlying utilities;
 - v. Information received after project information has been made public by the municipality; and
 - vi. Consistency with the policies of the Municipal Land Use Bylaw and municipal development plan.
- (b) Prior to making a decision, the Development Authority shall consult and consider the input from any adjacent jurisdiction if its boundaries are located adjacent to the proposed SEF District.

(13) VALIDITY OF THE DEVELOPMENT PERMIT:

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- (a) Commencement of Construction shall commence and be completed within two (2) years of the issuance of the Development Permit.
- (b) Any portion of construction pursuant to a valid Development Permit not completed within two (2) years from the Commencement of Construction shall require a new application for a Development Permit unless a time extension is requested and granted.