

## Additional Solar Farm Project Information and Updates

The City of St. Albert retained ATCO Power Ltd. (called "ATCO" in this report) through a competitive process, to provide engineering services for a potential solar photovoltaic (PV) energy project at the City owned Badger Lands site, which is located at Lot 43 on Villeneuve Road. ATCO's engineering, environmental, remediation specialist, and civil survey teams have completed their reviews.

The Badger Lands site is a suitable candidate for a solar energy project based on a site suitability comparison with other potential sites that the City of St. Albert had identified. As a brownfield site (i.e. one previously used for commercial or industrial purposes), Badger Lands presents a unique opportunity to repurpose land that is contaminated due to previous City operations. In addition, there are no large open-body wetlands in the site's vicinity and no historical resource values. The proximity to a transmission point of delivery substation is also a major benefit that will reduce the overall cost of the project.

After examining the FortisAlberta interconnection process for distributed energy resources (DERs) and other approvals needed, FortisAlberta and ATCO recommends that the City proceed to build this solar energy project in one 15 MW phase. Building the solar farm in one phase will be a cost savings to the City. There will be one application fee, one interconnection fee, lower O & M costs and one construction year.

An alternative staging plan is to split construction into three (3) separate 5 MW stages. Once construction is completed there would be two (2) years monitoring of performance, costs, and revenues. At the end of the monitoring period Administration would go back to Council at which time Council would approve or not approve the next step. This alternative option would involve added costs, time with approvals, additional environmental studies and engineering services, three (3x) times the interconnection and applications fees and increased operations & maintenance costs.

The preferred alignment for future Fowler Way bisects the Badger Lands with a planned 31m right-of-way. Fowler Way is expected to be constructed in the next 5 to 10 years.

With this additional input, ATCO has revised their site plan for the solar farm to include the alignment for Fowler Way. The solar farm is still separated into three arrays, roughly 5 MW each. The revised design has a total array size of 15.1 MW DC / 14.4 MW AC consisting of 28,450 x 530W modules (both monofacial and bifacial have been considered) with 9.144m (30 ft) spacing and 35-degree tilt angle. The array would be housed on a fixed racking system secured on helical screw piles and spiral-shaped steel pipes that have either plates or holes to which the solar panel brackets and railings are attached.

Subject to completion of required studies and regulatory approvals, ATCO has assumed an estimated construction start date in July 2022 with commissioning occurring in April,

2023. Please note that this is a preliminary site plan and schedule only and is subject to change upon equipment selection and costs, future infrastructure plans and City input, see Project Charter ENV-004 (attached). Administration expects that a construction start date in 2023 with completion in 2024 is more reasonable due to environmental and DER application process requirements.

Administration has reviewed and agrees that most of the cost estimates and assumptions used by the consultant for the project appear reasonable. However, Administration has also identified that the estimated capital cost per MW is lower than average in comparison to other solar farms in Alberta. These costs are currently a high level estimate only and would be further refined through more detailed design.

The preferred location for the solar farm is the Badger Lands. This site is located in an area identified to receive urban servicing through the City's Off-site Levy program. In accordance with Off-Site Levy Bylaw 30/2013, the off-site levies for the Badger Lands (43 City Annex North; Plan 0525581, Block 2, Lot 1) would be due at the time such land receives subdivision approval, or on the date of approval of a development permit. Consideration at this time could be given to the fact that OSL would be less (at least 17% less) if the Badger Lands were being developed as an urban subdivision, which they will ultimately be. OSL would not be applicable to portions dedicated as MR, SWMF, the Fowler Way/ Villeneuve Road intersection and the Ray Gibbon Drive/Fowler Way intersection.

The cost to remediate the Badger Lands for residential development was estimated by Administration to be between \$15.5M and \$25.0M. More detailed investigation of the remediation costs for potential uses to refine this remediation cost. It has been identified through detailed review as part of the solar project engineering that no remediation is required to accommodate the development of a solar farm at this site. If greater clarity is sought on the remediation costs for other potential uses for the Badger Lands, a remediation study could be completed at an expected cost of between \$25,000 and \$35,000. The remediation study would consider other potential uses for the site such as Fowler Way, residential, commercial, industrial, municipal facilities, municipal reserve and stormwater management facilities.

Following completion of the remediation study, and once the City has determined the ultimate uses for the site, City can complete a recommendation for the use of Tier 2 Remediation Guideline. Tier 2 is site-specific remediation based on the site contaminants, site pathways (soils and groundwater conditions) and the planned use for the site. If successful, the establishment of Tier 2 criteria would be expected to reduce the remediation costs. The cost to complete develop a Tier 2 Guideline and apply to Alberta Environment and Parks is estimated to be between \$55,000 and \$65,000.

Currently there is \$100,000 budget within 2022 Capital Charter ENV-001 to perform a remediation study at the Badger Lands site and establish a Tier 2 Remediation Guideline. Any of this work that is approved separately would reduce the amount within this Charter.