Project update

From September to December 2021, the City of Medicine Hat (CoMH) has been collecting feedback from many residents near both potential sites presented in September 2021. This feedback was reviewed and considered in decision making including changes to site layout, determination of the preferred and alternate sites, and proposed mitigation measures.

We continue to collect feedback and discuss the Project, including potential mitigation measures, with community members. In the upcoming months, we will be filing an application with the Alberta Utilities Commission (AUC) who will be the final decision maker for the new substation ("the Project").

Project background

The City of Medicine Hat (CoMH) is proposing the construction of a new substation (MHS-11) to accommodate the growth and increasing electrical needs in the southwest area of the City. The proposed Project will connect to the existing 138 kV transmission line and distribute the electricity to the 13.8 kV distribution system to support the community’s growth. Currently, the CoMH has determined a preferred and alternate location for the Project, and both will be presented for regulatory review with only one being constructed.

How similar is it to MHS-10?

The newly constructed MHS-10 substation (located in the Box Springs Industrial Area) will have similar components to what is being proposed for this site. Although MHS-11 will be similar in appearance, there are no residences in proximity to MHS-10 so there is little mitigation regarding noise and lighting. Light mitigation for MHS-11 will be implemented and noise will comply with provincial guidelines found with the AUC’s Rule 012.
How were the preferred and alternate sites determined?

Understanding potential impacts from the Project is important in determining a preferred and alternate site for the Project. Numerous aspects are considered in determining a preferred site, including:

- Public and interested party feedback
- Engineering and technical considerations
- Environmental evaluation
- Economic evaluation

These sites remain on the same lands considered as part of Stage 1. After considering feedback received, adjustments on each site have been incorporated into the Project in an attempt to reduce impacts to local residents. The location of the preferred and alternate sites are shown on Page 3.

What environmental work has been undertaken?

CoMH has been engaging with Alberta Environment and Parks since the onset of the Project and their feedback has been incorporated into the evaluation of sites and the surveys undertaken as part of the environmental evaluation.

Surveys have been conducted for both sites and include:

- Raptor stick nest
- Visual amphibian
- Snake hibernacula
- Breeding bird surveys
- Early and late rare plants
- Wetlands/watercourses

Results of the environmental evaluation will be compiled and presented to the AUC for their consideration in the regulatory review process and site selection.

Will there be transmission line modifications?

Yes. The existing transmission line will service the station and there will be a need to modify the line and install four (4) structures at site to enter and leave the station. These will be similar in appearance to what is currently present along the transmission line (single pole structure, with guy wires) and their locations have been identified on the maps provided with this newsletter.
Why is Site 1 Preferred and what does an Alternate site mean?

Site 1 has been deemed the preferred site after consideration of various factors in the development of a substation site. It is noted that the sites are very similar in many regards such as the site footprint, proximity to residences, and technical considerations. The three primary factors in determining the preferred site are:

- Through the environmental evaluation work undertaken by professional biologists, Site 1 (preferred) was deemed environmentally preferred compared to Site 2 (alternate), as it is not located on native prairie, has limited water features, and is located near a provincial highway (existing disturbance). Regardless of site determined, the environmental evaluation will identify potential environmental impacts and will implement appropriate mitigation measures to be reviewed and approved by the AUC.
- The preferred site is estimated to cost over two million dollars less than the alternate when considering the interconnection of distribution lines and site development costs such as grading and additional fill requirements.
- Feedback from community members has been mixed and both sites yield similar concerns from local residents. Both sites are similar in the mitigation measures that can be implemented to limit potential noise, lighting, and visual concerns.

Site 2 is deemed an alternate site. Both sites are constructable and feasible to meet the needs of the CoMH’s electricity needs. Both sites will be presented to the AUC, who is the final decision maker in relation to the Project.
Substation MHS-11

Site 1
Preferred Site

Proposed Transmission Structure
Existing Structure to be Replaced
Proposed Substation Site Boundary
Existing Transmission Line
Road
City of Medicine Hat Boundary

Substation Components
- Proposed Substation Site Access
- Proposed Fence Boundary
- Proposed Substation
- Temporary Workspace
- Guy Anchor Area

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What is the City of Medicine Hat proposing to lower potential impacts to community members?

The City of Medicine Hat is committed to determining screening measures to limit potential visual impacts to residents. This may include creation of a berm or vegetation screening and will be dependent on what site is approved by the AUC, if at all.

The City of Medicine Hat will modify lighting to the extent possible to limit light disturbance to nearby residences. This could include lowering lighting, using different types of lights, or shielding them so they do not disperse.

The City of Medicine Hat has modified the sites by shifting each location slightly north to accommodate feedback received from local area residents in the engagement process. The sites were moved approximately 30 m which will not significantly increase the cost of the Project nor result in additional environmental or technical issues. These shifts will increase the distance to the closest residences and in the case of Site 1, will enable the retention of some of the existing vegetation.

A noise impact assessment will be submitted as part of the Facility Application to the AUC. CoMH is committed to adhering to the permissible sound levels set by provincial regulation (AUC Rule 012).

What will make up the substation?

Through ongoing design work, CoMH will be developing a 100 m x 100 m site (328 ft x 328 ft) that will be graveled and an area of 80 m x 88 m (262 ft x 289 ft) will be fenced to house the equipment necessary to “step down” the electrical voltage for distribution to the community. The substation will consist of the following components:

- Control building
- Two switchgear buildings
- Two power transformers
- Five circuit breakers
- Three enclosed 13.8 kV cap banks
- Eight hand-operated disconnect switches
- Outdoor steel structures and buswork

Additionally, a gravel access driveway will be installed to gain entry to the site, and transmission line structures will be installed to go in and come out of the substation. These components may be subject to change.
<table>
<thead>
<tr>
<th>Concern/question/comment</th>
<th>Response</th>
</tr>
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<tbody>
<tr>
<td><strong>How did CoMH determine these two sites?</strong></td>
<td>There are a number of factors that go into siting a substation facility. Specific technical factors include the proximity to the existing transmission line, the proximity to the distribution feeders, the future and existing loads to be supported from the substation, and the Transmission Facility Owner service territory. Technical factors such as ground resistivity and electrical interference with other facilities like pipelines or well sites are considered in decision making.</td>
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<td><strong>There will be a continuous loud noise from the substation.</strong></td>
<td>The substation will meet the provincial guidelines for noise set forth in AUC’s Rule 012. The results of the Noise Impact Assessment will be part of the filing to the AUC.</td>
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<td><strong>There are health effects associated with living in proximity to a substation.</strong></td>
<td>The City of Medicine Hat understands this concern and there is significant industry research that has been done on electric and magnetic fields. City of Medicine Hat will follow the guidelines of national and international agencies. Health Canada states that it <em>does not consider that any precautionary measures are needed regarding daily exposures to electric and magnetic fields at extremely low frequency. There is no conclusive evidence of any harm caused by exposures at levels found in Canadian homes and schools, including those located just outside the boundaries of power line corridors.</em> If you would like more information on the topic, please contact our Project team.</td>
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<td><strong>There will be continuous light from the substation.</strong></td>
<td>There will be a need to illuminate the site (Alberta Electrical Utility Code – 8-222) and we will work to reduce the potential lighting that could affect local residents. This could include different types of lights, lowered lighting, or shielding.</td>
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<td><strong>The City of Medicine Hat is trying to site this Project on land not designated to be used for this type of development.</strong></td>
<td>The land is zoned residential and under the City of Medicine Hat’s Land Use Bylaw (Section 11.3). Utilities (such as transmission lines or substations) are permitted uses in all districts whether they are listed uses in the district or not.</td>
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<td><strong>This Project will affect property value.</strong></td>
<td>The City of Medicine Hat takes this concern seriously, however many factors go into the evaluation of property. As no locations are exactly the same it is difficult to compare values when there are various criteria that can determine the outcome.</td>
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<td><strong>Sites should be moved further away from residential development because of visual impact.</strong></td>
<td>Residential proximity is a consideration in determining a preferred site for the Project and we understand that proximity is a concern of residents. To gain some increased spacing from the proposed sites to residential development, the CoMH has modified the placement of each site to accommodate additional distance that may provide screening opportunities.</td>
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<td><strong>What is CoMH doing from a safety perspective?</strong></td>
<td>Either site will be fenced and there will be restricted access to the site for members of the public. If there were to be an incident at site, CoMH representatives will follow guidelines set forth in their emergency response plans for city facilities.</td>
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What is next?

CoMH will be sharing information, answering questions, and collecting feedback on the Project as they begin the development of the Facility Application required to be filed with the AUC. The application will be filed in the upcoming months and will be available for review by the AUC and any interested party.

Timelines
(subject to change)

What does the City of Medicine Hat want from you?

Feedback from the community will help our team continue to understand and reduce impacts to people and the environment and will be considered in the preparation of the Facility Application. Sharing your knowledge of the area and your property will help the City of Medicine Hat make informed decisions as the Project moves forward.

Questions or comments about the project? Contact us.

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