Gold Bar Waste Water Treatment Plant (GBWWTP)
South Access Stairway

Environmental Impact Assessment Pursuant to Bylaw 7188
Final Report

Prepared for:
EPCOR Water Services Inc.
Edmonton, Alberta

Under Contract to:
ISL Engineering and Land Services Ltd.
Edmonton, Alberta

Project Number EP-977
May 2022

Prepared by:
Spencer Environmental Management Services Ltd.
Edmonton, Alberta

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Gold Bar Waste Water Treatment Plant
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10 May 2022
File: EP-977

Dear Mr. Antonakis,

Re: Environmental Impact Assessment Pursuant to Bylaw 7188 for Gold Bar Waste Water Treatment Plant South Access Stairway – Final Report

We are pleased to submit this pdf copy of the above-mentioned Environmental Impact Assessment (EIA). This final report includes changes made to reflect City of Edmonton administration comments on the draft EIA. Changes made are itemized in the concordance table that follows this cover letter. The EIA and SLS sign-off letter, including important City advisements and conditions, is appended to this final EIA (Appendix G).

A final Site Location Study has been prepared and is provided under separate cover.

Please contact either of the undersigned if you require additional information. Thank you for the opportunity to be of service.

Sincerely,

Spencer Environmental
Management Services Ltd.

Stephanie Jean, M.Sc., P.Biol.
Environmental Scientist

Lynn Maslen, M.Sc., P.Biol.
President

cc: Darin Hicks, P. Eng., ISL
Jesse Skipworth, P. Eng., ISL

City of Edmonton Bylaw 7188 Concordance Table for Select City Review Comments
GBWWTP South Access Stairway Draft EIA - File AA21-70
Table Prepared 10 May 2022

City of Edmonton—Initial Circulation Comments (January 2022)*

Review Comment*	Response	EIA Report Section Reference
Community and Recreation Facilities (River Valley Parks and Facilities)		
It is not explained well as to why the group believes that public access land should be used for a private access facility. At this time the project is not supported by River Valley Parks as the group fails to explain the need and why it cannot be addressed more appropriately from their own entrances and management.	• Additional discussions with EPCOR provided more detailed reasoning as to why the alternative locations at other EPCOR existing entrances are inferior to the proposed location. EPCOR also provided additional context regarding synergies of existing SUPS on EPCOR and Gold Bar park lands. See Section 4.6 for a full explanation of why this location was selected as the preferred option.	Section 4.6
Infrastructure Planning and Design (Engineering Services)		
Based on my review of the EIA and SLS reports, it does not appear that any background geotechnical information has been obtained to confirm the suitability of the location for the construction of the proposed staircase from a geotechnical and slope stability perspective. To address the geotechnical risks I would expect that the involvement of a geotechnical engineer should be confirmed and documented in the SLS and EIA.	• On 22 July 2021, Shawn McArthur of Engineering Services attended the City's EIA scoping meeting and deemed a geotechnical report unnecessary for this project based on his knowledge of the site, the project description, and the short and shallow slope that was present. On that basis, EPCOR did not retain a geotechnical specialist for the stairway project. The EIA has been updated to reflect this input from EE.	Section 3.3
The staircase appears to be approximately 2m in height and I am not aware of any known instability in this area, therefore it is expected that the instability risk for the proposed amenity is low. However, it is expected that a desktop geotechnical assessment conducted by a professional geotechnical engineer should be completed, including a site reconnaissance, review of satellite imagery/airphotos and a review of background and historical geotechnical information for the site to confirm the geotechnical conditions and overall stability and suitability of the proposed staircase location. The geotechnical engineer should also provide recommendations for the design and construction of the proposed staircase. This is expected to include recommendations related to		

Review Comment*	Response	EIA Report Section Reference
permanent erosion protection features to ensure long-term stability as well as foundation and site grading recommendations. In this context, the geotechnical engineer must also confirm that the city standard drawing 5201 detailing the foundation details for the staircase, will be suitable for the proposed staircase structure at the subject location and/or provide recommendations for a suitable alternative fountain option, if required.		

*CoE standard conditions/advisements included in the circulation comments are not included here.

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1.0 INTRODUCTION

EPCOR Water Services Inc. (EPCOR) owns and operates the Gold Bar Waste Water Treatment Plant (GBWWTP), located adjacent to City of Edmonton Gold Bar Park. The GBWWTP is a secure, fully fenced site, situated on the North Saskatchewan riverbank (Figure 1, Appendix A). The site has a main vehicular entrance gate on 50th Street, a contractor vehicular access in the park at the east site boundary and a pedestrian access gate in the park on the site south boundary. Visitors entering the site on foot approach the south gate using a park shared-use path (SUP) that parallels the site's south boundary and from there approach the pedestrian gate by way of an informal, bare-earth path that connects the park SUP to the gate (Plate 1.1 and 1.2). In response to significant recent use of the south access gate, EPCOR is proposing to upgrade that entrance by installing a new, wider gate and replacing the bare-earth path with a wooden stairway situated in the pathway alignment. The stairway component of the project would be located in the park, outside the boundaries of the GBWWTP (Figure 2, Appendix A).

Plate 1.1. View of proposed stairway location, looking north from the SUP toward existing pedestrian gate (05 August 2021) (Exposed soil in the foreground is the result of a current City sodding program associated with SUP upgrades).

Plate 1.2. View of proposed stairway location, looking south from the existing pedestrian gate upslope to the SUP (05 August 2021).

The GBWWTP and the proposed stairway project are located within the boundaries of the City of Edmonton's North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP) (Bylaw 7188). The location of project components outside of the EPCOR property and within Gold Bar Park triggers the need for an environmental review pursuant to Bylaw 7188. City of Edmonton ecological planners have determined that the appropriate level of review for the proposed project is an Environmental Impact Assessment (EIA) that will be subject to approval by City Council. Further, they have determined that a Site Location Study (SLS) must also be prepared for the proposed project, as the stairway meets their definition of a major facility proposed for development on public lands. The SLS will also be subject to City Council approval. EPCOR has retained ISL Engineering and Land Services Ltd. (ISL) to complete the stairway design. ISL has retained Spencer Environmental Management Services Ltd. (Spencer Environmental) to complete the EIA and SLS for the proposed project.

This report comprises the Bylaw 7188 EIA prepared for the new GBWWTP south access stairway. The SLS is provided under separate cover. The EIA format and content follow a project-specific Terms of Reference developed by City of Edmonton Ecological Planners (Appendix B). Ecological Planners determined that of the natural resources typically covered in an EIA, 'Surface Water Management', which includes surface water, groundwater and fish habitat, was not relevant. This EIA addresses all components of the GBWWTP south access stairway project located on City-owned property within the NSRV ARP. It does not assess the pedestrian gate upgrade although the gate is broadly described to provide context.

In November 2021, a draft EIA was submitted to Urban Planning and Economy for Bylaw 7188 review. City reviewers requested some additional information concerning

alternatives/need and geotechnical conditions. Responses were provided to the City in April and on 05 May 2022 Administration provided a sign-off letter. Information provided in the April response has been incorporated into this final EIA.

2.0 THE PROPERTY

2.1 Project Area Location, Disposition, Zoning

The project assessed by this EIA will be located between the GBWWTP's south fence line and the SUP south of the GBWWTP in Gold Bar Park, within Bylaw 7188 lands (Figure 1, Appendix A). The stairway project location is bounded to the north by the GBWWTP fence, to the east and west by natural river valley vegetation, and to the south by the SUP that connects Gold Bar Park and Capilano Park north of Gold Bar Park Road. A park maintenance yard and parking lot is located approximately 25 m to the south of the proposed stairway location. The stairway will be located in City-owned lands within the River Valley Gold Bar Neighbourhood on lands zoned Metropolitan Recreation Zone (A) (Figure 2, Appendix A). The GBWWTP is zoned Public Utility (PU) (Figure 2, Appendix A). The proposed stairway location is located well outside the City's Flood Protection Overlay area and the flood hazard lands shown on Government of Alberta's Flood Hazard Mapping.

2.2 Historic Conditions

Historical aerial photograph review was limited to available City of Edmonton pictometry imagery for 2007, 2013 to 2018 and 2020, and Google Earth (2021) imagery that spanned the period 2002 to 2020. Very little development was observed on the available aerial photographs in the proposed stairway location vicinity during this period, as this area of the river valley margin is located in Central Edmonton and has been developed for decades. Only one changed was observed - in 2008, a small gravel parking area with a temporary building appeared in the imagery in the grassed area to the northeast of the intersection between Gold Bar Park Road and 50 Street. In 2012 the parking area was gone, and grass was present in the area once again.

2.3 Summary of Environmental Regulatory Approvals

All typically relevant federal, provincial and municipal environmental legislation, bylaws and policies were reviewed for their application to this project. Bylaw 7188 is the only environmental assessment trigger for this project. Several other municipal permits may be required. The absence of watercourses in the project area means that federal and provincial environmental approvals/permits are not required. However, as is often the case, several provincial and federal statutes prohibiting harm to prescribed resources are still relevant to project construction. Finally, while not an environmental approval per se, Alberta's *Historical Resources Act* does apply to project construction on both City and EPCOR lands and historical resources are covered in this EIA. Table 2.1 presents a summary of environmental legislation and bylaws identified as applicable to this project.

Table 2.1. Summary of Applicable Legislation and Bylaws

Legislation or Policy	Regulatory Agency	Authorization/ Approval/Permit?	Approval Timeline or Potential Schedule Impact
Bylaws Requiring Approvals - Municipal			
North Saskatchewan River Valley Area Redevelopment Plan **(Bylaw 7188)**	City Planning	EIA and SLS required. EIA and SLS must be approved by City Council.	Anticipated Approval in late 2021 or early 2022.
Corporate Tree Management Policy **(C456)**	Natural Areas Operations	Proponent to collaborate with City Forestry regarding unavoidable impact to City owned trees and shrubs in the project area, valuation of and compensation for affected trees/shrubs and protection of nearby trees.	City Forestry must be contacted once the site is staked in order to determine if tree work is needed (i.e., pruning, removal, remediation). Tree Protection Plan required pursuant to the City's *Corporate Tree Management Policy* and the *City of Edmonton Tree Preservation Guidelines*.
City of Edmonton (Bylaw 18100) - EPCOR Drainage Services Bylaw	EPCOR	Permit to discharge into storm sewer system may be required.	Proponent responsibility.
City of Edmonton Parkland **(Bylaw 2202)**	City of Edmonton	Permit required to stage construction within City Park	Proponent responsibility.
Acts Influencing Construction Methods - Provincial			
Wildlife Act	Alberta Environment and Parks	No permit required; however, the Act prohibits disturbance to prescribed breeding wildlife such as northern flying squirrels and owls. Nest sweeps may be required to remain compliant.	Proponent responsibility. Vegetation clearing or pruning and other nearby activities in direct proximity to trees between 15 February and 20 August may require nest sweeps; findings have potential to delay construction activities.
Historical Resources Act	Alberta Culture, Multiculturalism and Status of Women (ACMSW)	All projects with potential to disturb historical, archaeological and paleontological resources require Approval.	Approval received in July 2021.
Acts Influencing Construction Methods - Federal			
Migratory Birds Convention Act	Environment and Climate Change Canada	No permit required; however, violation of the Act may result in penalties. Nest sweeps may be required to remain compliant.	Proponent responsibility. Vegetation pruning and initiating construction activities between 15 February and 20 August may require a nest sweep; findings have potential to delay construction activities.

2.4 Environmental Site Assessment

Owing to the limited area affected and limited scope of work proposed, City of Edmonton Environmental Planning has indicated that they will not require a Phase I ESA for the stairway installation. Environmental Planning would, however, like to be informed if any contamination or debris/garbage is encountered during excavation or post-driving during stairway construction.

3.0 ENVIRONMENTAL CONTEXT

Valued Ecosystem Components (VECs) covered by this EIA include:

- Environmental Sensitivities
- Geology/Geomorphology and Soils
- Vegetation
- Wildlife, and
- Historical Resources

The VEC 'Surface Water Management' which includes surface water, groundwater and fish habitat was not required for this EIA, per the project-specific Terms of Reference (Appendix B).

3.1 Overview of Study Area and Adjacent Lands

The EIA study area was defined at two scales: local and expanded. Delineation of the Local Study Area (LSA) considered the footprint of the proposed stairway and tie-ins, the property line shared by Gold Bar Park and the GBWWTP, the anticipated construction footprint including construction access, and a commensurately small buffer surrounding that footprint (Figure 1, Appendix A). Key to this delineation is the fact that tree removal is not anticipated to be required and construction access is anticipated to be from the GBWWTP. The LSA measures approximately 35 m x 25 m. The Expanded Study Area (ExSA) was delineated to assess wildlife habitat, movement and ecological connectivity and is described in Section 3.5.2.

The LSA is situated within a relatively narrow and forested portion of Gold Bar Park, in proximity to the GBWWTP, an SUP, several informal trails through the forest (used for trail biking), a park maintenance yard and the main park access road. The LSA is located 290 m, as the crow flies, from the North Saskatchewan River, and fully separated from the river by the GBWWTP.

3.2 Environmental Sensitivities

3.2.1 Original (2016) Mapping

Figure 3 (Appendix A) shows the result of the City of Edmonton environmental sensitivities analysis and classification mapping (Solstice 2016) in the project vicinity, with the LSA overlaid. In general, the area along the SUP south of the GBWWTP was mapped as 'moderate', 'high' and 'very high value'. Areas mapped as 'moderate value' were located closer to the GBWWTP and Gold Bar Park Road. Within the LSA, lands to the south of the GBWWTP fence line were mapped as 'high value' while lands to the north of that were mapped as 'moderate value'. A wider patch of natural vegetation located to the west of the LSA was mapped as 'very high value'. The City considers lands mapped as having 'high', 'very high', and 'extremely high value' to be lands suitable for protection or conservation. Lands mapped as having 'moderate' or 'low value' are suitable for restoration.

3.2.2 Refined Mapping

Refined environmental sensitivities mapping was not completed for this project. The City's environmental sensitivities data is considered to be a landscape level assessment. Given the small size of the LSA, refined mapping would not result in a meaningful data advancement.

3.3 Geology/Geomorphology and Soils

3.3.1 Methods

Site-specific geotechnical work was not undertaken for this project. On 22 July 2021, Shawn McArthur of Engineering Services attended the City's EIA scoping meeting and deemed a geotechnical report unnecessary for this project based on his knowledge of the site, the project description, and the short and shallow slope that was present. On that basis, EPCOR did not retain a geotechnical specialist for the stairway project. For this EIA, regional geology was described using Alberta bedrock and surficial geology maps; soils were described by referencing the Alberta Soil Information Viewer (Government of Alberta 2016).

3.3.2 Description

Bedrock geology within the City of Edmonton is of the Horseshoe Canyon Formation (Prior et al. 2013). This bedrock consists of pale grey, fine to very fine grained, feldspathic sandstone interbedded with siltstone, bentonitic mudstone, carbonaceous mudstone, concretionary sideritic layers, and laterally continuous coal seams (Prior et al. 2013). Surficial geology within Edmonton consists of glaciolacustrine deposits, which are sediments deposited in or along the margins of glacial lakes. (Fenton et al. 2013). The Alberta Soil Information Viewer (Government of Alberta 2016) maps the City of Edmonton under the soil series Miscellaneous Disturbed Land. Existing information sources did not include LSA- or Gold Bar Park-specific information.

3.4 Vegetation

3.4.1 Methods

Vegetation within the LSA was characterized by undertaking the following tasks:

- Desktop preliminary plant community classification and delineations using high resolution remote imagery and following the *Urban Ecological Field Guide for the City of Edmonton, Alberta, Canada* (City of Edmonton 2015).
- A search of the Alberta Conservation Information Management System (ACIMS) (AEP 2021a) for all records of special status plant species within the project area, on 03 August 2021. The search area consisted of legal section 12-53-24-W4M, in which the LSA is located.
- Site reconnaissance of the LSA on 05 August 2021 to photograph and confirm mapped vegetation communities.
- Rare plant survey on 05 August 2021 of the LSA, consisting of a meandering survey of all accessible lands (areas located on GBWWTP property were viewed from the

fence) within the LSA. A full species inventory from that survey is available in Appendix C.

Species nomenclature follows the ACIMS' *List of all Vascular Plant Elements recorded for Alberta in the ACIMS Database - March 2018* (AEP 2018).

3.4.2 Description

The following plant communities were mapped within the LSA (Figure 4, Appendix A).

- Deciduous Mixedwood Mixed Shrubs (DLM.1)
- Manicured (M)

3.4.2.1 Deciduous Mixedwood Mixed Shrubs (DLM.1)

The plant community located in the LSA and outside the GBWWTP property was typical of a deciduous mixedwood mixed shrub forest in Edmonton's NSRV. The forest canopy was a mature overstorey typically 10-20 m in height, dominated by trembling aspen (*Populus tremuloides*) with lesser amounts of white spruce (*Picea glauca*), Manitoba maple (*Acer negundo*), ash (*Fraxinus sp.*) and pine (*Pinus sp.*). The understorey comprised a dense shrub layer of red-osier dogwood (*Cornus stolonifera*), prickly rose (*Rosa acicularis*), and buckbrush (*Symphoricarpos occidentalis*) with lesser amounts of beaked hazelnut (*Corylus cornuta*) and choke cherry (*Prunus virginiana*) (Plate 3.1.). The herbaceous layer was sparse, owing to the dense shrub layer. However, in more open areas (e.g., along the informal dirt path access to the pedestrian gate), the herbaceous layer was dominated by the exotic smooth brome (*Bromus inermis*), with other exotic species such as quackgrass (*Elymus repens*), common dandelion (*Taraxacum officinale*), common plantain (*Plantago major*) and alsike clover (*Trifolium hybridum*) also present. Herbaceous native species included Kentucky bluegrass (*Poa pratensis*) and wild vetch (*Vicia americana*). A prohibited noxious weed species, common buckthorn (*Rhamnus catharticus*), was found in this community, mostly along forest edges adjacent the SUP and dirt trail leading to the pedestrian gate. Two noxious weed species, creeping thistle (*Cirsium arvense*) and perennial sow-thistle (*Sonchus arvensis*), were also found in this community, mostly along forest edges.

Plate 3.1. Deciduous Mixedwood Mixed Shrubs community with mature overstorey and dense shrub layer (05 August 2021).

3.4.2.2 Manicured (M)

Manicured areas are those subject to regular mowing or maintenance and or supporting open space trees and shrubs. They are generally characterized by grassy areas and planted trees, as well as areas where original cover has been maintained but severely thinned. The portion of the LSA within GBWWTP property (north of the fence) comprised a manicured community (Plate 3.2). The turf was mainly Kentucky bluegrass, with smooth brome also present. Open space trees included white spruce, hybrid poplar (*Populus X*) and apple trees (*Malus sp.*). All open space trees were mature.

Plate 3.2. Manicured community on GBWWTP property, showing mown turf and open space trees (05 August 2021).

3.4.2.3 Special Status Species

City of Edmonton considers plant species found in Edmonton having an ACIMS provincial conservation rank of S1, S2 or S3 to be rare species. S1 species are known from five or fewer locations in the province. S2 species are known from 6-20 occurrences, and S3 species are known from 21-100 occurrences in the province. A search of ACIMS on 03 August 2021 returned no records of special status vascular plant species within the LSA. No special status vascular plant species were observed during the 05 August 2021 rare plant survey.

3.4.2.4 Weeds

The Alberta *Weed Control Act* defines two categories of weeds: noxious and prohibited noxious. Noxious weeds are generally those that are currently widespread in the province and are considered difficult to eradicate. Provincial legislation requires these species be controlled. Prohibited noxious weeds are those noxious weeds that are currently uncommon or absent in the province but have potential to invade and damage natural and cultivated systems. Alberta law requires that prohibited noxious weeds be destroyed where they are found.

Prohibited Noxious Weeds

One prohibited noxious weed species, common buckthorn, was found within the LSA. Common buckthorn is widespread throughout Edmonton's river valley. Seeds of common buckthorn germinate readily in disturbed soils. Common buckthorn can be controlled using

herbicides, burning, hand pulling and flooding (Alberta Invasive Species Council 2014a); however, as with many invasive species, control is difficult and may require a multi-year effort. Common buckthorn was found scattered throughout the LSA particularly along the forest edge adjacent the SUP and the informal dirt path leading toward the GBWWTP.

Noxious Weeds

Two noxious weeds were observed within the LSA - creeping thistle and perennial sow-thistle. Both species were scattered throughout the LSA with higher concentrations found along the informal dirt path leading toward the GBWWTP and the SUP.

3.5 Wildlife

3.5.1 Methods

Wildlife resources in the LSA and ExSA were characterized by undertaking the following tasks:

- A walk through the LSA on 05 August 2021 looking for the presence of wildlife trees.
- Documenting all incidental wildlife and wildlife sign observations in the LSA during all site visits.
- Characterizing LSA and adjacent lands available habitat type, condition and quality through field observations and examination of City of Edmonton vegetation datasets and maps.
- Searching Fish and Wildlife Management Information System (FWMIS) for all wildlife records for lands within a one km radius centered on the bridge. FWMIS was accessed on 03 August 2021 (AEP 2021).
- Searching eBird for verified species observation records.
- Developing a list of potential wildlife species present in the LSA by considering all of the above and our knowledge of Edmonton wildlife communities and occurrences (Appendix D).
- Qualitatively assessing wildlife movement corridors/ecological connectivity in the ExSA.

Common species names are used throughout the text; scientific names are provided in Appendix D. Wildlife nomenclature in this report follows the American Ornithological Society's 2020 Checklist (birds), the Government of Alberta's 2015 Wild Species Status List (mammals, amphibians, reptiles) and Alberta eBat (bats).

3.5.2 Description

3.5.2.1 Available Wildlife Habitat/Potential Wildlife Community

The majority of the LSA supports deciduous forest, as described in section 3.4.2, with a well-developed shrubby understory that is interrupted at the existing bare-earth, foot path and SUP. The LSA is bisected by the GBWWTP fence and the LSA portion on the GBWWTP is manicured grounds. The forested component of the LSA is mid- to high-

quality urban-forest foraging, breeding and resting habitat. An important feature is the mature trees, some of which are moribund and leaning. No wildlife trees were observed. The LSA is small and can support only a commensurately small wildlife community. The LSA comprises a minor portion of a larger, linear forest habitat patch that has greater habitat value and a greater carrying capacity. And scaling up even further, that linear patch is one habitat component of the still larger river valley Gold Bar Park (Figure 4, Appendix A). The forest habitat in the LSA, in combination with the adjacent forest, is expected to be consistently used by commonly occurring urban-tolerant birds and small mammal species, such as blue jays, black-capped chickadees, American Robin, downy woodpeckers, yellow warbler, red squirrel, deer mice, voles and shrews and to be commonly visited by other resident species such as porcupine and striped skunk, as they move within and through the park. The LSA and adjacent lands likely also host some less-common bird species as they move through Edmonton's river valley during migration. For example, eBird records include sightings of a varied thrush and American redstart in 2020, near the GBWWTP. An indicative list of a larger suite of species that can reasonably be expected to frequently or infrequently use the LSA as part of the larger forested strip south of the GBWWTP, is found in Appendix D. The list reflects the absence of surface water/aquatic habitat in the LSA and does not consider birds typically found in forested riverbanks, such as osprey and peregrine falcon, given the separation of the LSA from the river. The list includes some likely bird migrants, indicative of the migrating community, but certainly not all potential species that may pass through the park in any one year. The appended wildlife list includes one reptile, 56 bird and 24 mammal species, including mammals that are transient in the river valley.

While a few species on the list are of conservation concern, none of those species would find critical habitat, such as hibernacula, or even preferred habitat, in the LSA or adjacent lands. The FWMIS search did not return any records of special status species within 1 km of the project area.

FWMIS sensitive species range records indicate that the expanded study area falls within the province's coarsely mapped sharp-tailed grouse (*Tympanuchus phasianellus*) survey area and the bald eagle (*Haliaeetus leucocephalus*) range (AEP 2021b). Sharp-tailed grouse are not expected to occur within the study area because suitable grassland/shrubland habitat is not present. Suitable bald eagle perching and hunting habitat is present in the NSRV and ExSA, but the LSA is not preferred eagle habitat.

No wildlife species were observed within the LSA during our site inspections.

3.5.2.2 Wildlife Movement/Ecological Connectivity

The province maps the NSRV and ravine system in the City of Edmonton as a Key Wildlife Biodiversity Zone (KWBZ) (AEP 2021b). Designation of the NSR as a KWBZ is consistent with the City of Edmonton's identification of the river valley as a regional biological corridor within the City's ecological network (City of Edmonton 1990 and 2007) and recent identification as a key component of City Plan's green and blue network (City of Edmonton 2020). All of these designations recognize the importance of the river valley as a major wildlife movement corridor that also has high value habitat, particularly in

undisturbed or undeveloped areas. Gold Bar Park is an integrated and important component of that corridor. Therefore, the City EIA Terms of Reference required examination of wildlife movement and ecological connectivity. This was considered at the scale of the ExSA, which is shown in Figure 5. This figure illustrates the LSA's river valley context and the local ecological corridor present in Gold Bar Park. While all park lands are permeable to wildlife, particularly at night when people are absent, the forested patches indicated in Figure 5 are assumed to be the highest quality corridors, particularly for birds, as they provide additional security cover and foraging/resting habitat in the park. For wildlife movement, there is an important tributary ravine/river valley confluence at the east end of the ExSA. At the west end of the ExSA, the fenced and largely developed GBWWTP property is a much less permeable landscape feature. However, the forest corridor splits here and runs to the immediate north and south of the GBWWTP. The forested patch to the south of the plant, where the project is located, has several trails that are well used by people, including cyclists; sensitive species may therefore be hesitant to use this corridor during daylight hours.

3.6 Historical Resources

3.6.1 Methods

Circle CRM Group Inc. (Circle CRM) (2021) researched known Historical Resources at the project site to ensure compliance with the *Historical Resources Act* (HRA). They then submitted an application for approval to Alberta Culture, Multiculturalism and the Status of Women (ACMSW) on 26 July 2021.

3.6.2 Description

Circle CRM (2021) determined that the proposed project crosses lands assigned a Historical Resources Value (HRV) of 5 (high potential to contain a historic resource) for archaeology owing to the proximity of one known historic resource site located on the opposite bank of the NSR. The project area is also located in a High Palaeontological Resource Sensitivity Zone (HRV 5). Given these conditions, despite the small scale of the proposed project, Circle CRM determined that HRA approval *would be required* prior to proceeding with any construction activities that include ground excavation; however, the application cover letter noted that the project is situated entirely on sloping terrain, and has been partially disturbed in relation to the water treatment plant (existing gate and sidewalk). As such, Circle was of the opinion that the project had limited potential to have significant impact to significant historic resources and recommended that *Historical Resources Act* Approval be issued.

HRA approval was granted for the proposed project by ACMSW on 04 August 2021 (Appendix E).

4.0 THE PROJECT

4.1 Project Need and Description

EPCOR currently receives site visitors through an existing pedestrian gate located near the centre of the south property fence. Visitors approach the gate by way of the Gold Bar Park SUP that parallels the southern fence line of the GBWWTP in combination with the bare-earth trail connecting the SUP to the gate (Plate 1.2). EPCOR is looking to improve this pedestrian visitor access to increase visitor safety. The existing path is a sloped bare-earth trail that is poorly suited to four-season use (Plates 1.1 & 1.2). It becomes muddy during wet periods and can accumulate ice during the winter season. The south access gate is used by visiting EPCOR employees, tour groups and RiverWatch elementary student tours. It receives significant use. For example, in 2018 the gate was used to accommodate 35 general tours (involving 643 people), and 4,342 visiting students; in 2019, there were 43 general tours (702 people), and 4,040 students (P. Antonakis, *pers. comm.*). Tours did not operate in 2020 due to COVID-19 restrictions.

EPCOR is proposing to replace the bare-earth path with a wooden stairway (Figure 4, Appendix A). The stairway would be located in the alignment of the existing path (Plate 4.1). The stairway design, provided in Appendix F, is compliant with City of Edmonton *Wood Stairs and Support Structure Standards* (2018). The stairway will be 3 m wide with a 3 m long wooden landing at the top of slope. Some site grading will be required to install the stairway. A gravel pad (~1 m long by 3 m wide) will connect the top of stairway to the existing SUP; a short 1.5 m wide concrete sidewalk will tie the stair bottom to the existing GBWWTP sidewalk that begins at the gate entrance. The existing security gate will be upgraded to a double gate with card reader and security camera (also shown in Appendix F). Very limited and selective tree removal will likely be required to accommodate the stairway, proposed tie-ins or upgraded security gate (EPCOR 2021). Minimal understorey vegetation removal will also be required.

Plate 4.1. Site of proposed stairway shown in orange; minimal vegetation removal is anticipated (05 August 2021).

4.2 Landscaping

Once construction is complete, excavations will be backfilled and areas near the stairway impacted by construction will be re-vegetated in accordance with applicable City of Edmonton design standards (EPCOR 2021).

4.3 Construction Schedule

Pending approvals from the City of Edmonton, construction of this project will start in spring 2022 and will be completed in 2022 (EPCOR 2021).

4.4 Construction Laydown Area and Access

Construction laydown areas will be located within the existing fence line of the GBWWTP (EPCOR 2021). Construction access will be through the existing security gate and via the park SUP. Limited trail closures are anticipated as a result of the proposed project.

4.5 Project Phases and Associated Key Activities

Key project phases include:

- Grubbing of the site;
- Rough grading;
- Structural pile installations;
- Stair construction;
- Access gate improvements; and
- Landscaping

4.6 Alternatives Considered

The existing pedestrian access gate was selected for its central location within the GBWWTP. The gate allows entry to the plant site at a location close to office spaces, meeting rooms, and gathering spaces where tour groups can be provided an orientation and receive personal protective equipment. Alternative locations along the south fence line and in proximity to the east and west gates were considered but rejected for the following summary reasons: longer distances from offices and meeting rooms where visitors gather; all other locations would require installation of a new pedestrian access, including a gate and a dedicated walkway through the plant; visitors would be forced to walk through much more of the treatment plant site, parallel to the treatment process infrastructure, construction areas and areas supporting higher vehicular traffic volumes, including trucks.

Ultimately, the proposed location represents the safest means of providing pedestrian, public access to GBWWTP. Although this is a private site, EPCOR aims to be a good neighbour, which to that end, includes hosting the public and educating people, including school children, about operations through provision of tours and on-site activities. These activities require safe access, which cannot be achieved to the same degree in other

locations. EPCOR offers several arguments supporting the proposed stairway location on public land, summarized by category below.

Public Tours

Community education plays a key role in connecting Edmontonians to their neighbourhoods and the City of Edmonton promotes outreach, education, and partnerships to coordinate the conservation of the North Saskatchewan River Valley and Ravine System. Education and awareness is also an important part of EPCOR's role in monitoring and protecting the North Saskatchewan River, and the operation of our water and wastewater treatment facilities.

Tours of the Gold Bar Wastewater Treatment Plant enable the public to learn more about water treatment and the value of water. In addition to accommodating groups from accredited post-secondary institutions that have a focus on wastewater/environmental education, our partnership with RiverWatch helps students explore the North Saskatchewan River. We have a longstanding partnership with RiverWatch to support student learning. Over the past 18 years, more than 50,000 students have toured through our Gold Bar plant as part of the RiverWatch program. In the summer of 2018, Gold Bar was part of RiverWatch's new River Ambassador Program, which brought community members to our plant as part of an on-water learning experience.

On a 90-minute walking tour of the Gold Bar Wastewater Treatment Plant, participants learn about:

- Gold Bar's innovative infrastructure
- The different processes involved in wastewater treatment and how water is safely returned to the North Saskatchewan River
- What keeps Gold Bar at the forefront of wastewater treatment technology in North America

In 2018 the gate was used to accommodate 35 general tours (involving 643 people), and 4,342 visiting students; in 2019, there were 43 general tours (702 people), and 4,040 students. (Tours have not been held in 2020 or 2021 due to COVID, but we expect to resume tours this year). Developing safe and reliable public access to the plant is important to the continued success of the public tours.

Safe Public Access

The City of Edmonton prioritizes public spaces that are accessible, safe, and easy to navigate and explore in all seasons. To ensure the safety of the public and our EPCOR employees, the proposed staircase improves safety and access for pedestrian visitors to the site.

Visitors currently approach the plant gate using a Gold Bar Park SUP and then the access gate by way of a connecting informal, bare-earth path, which deteriorates rapidly in sub-optimal conditions, such as rain. In response to significant use, EPCOR is proposing to upgrade that entrance by installing a new, wider gate and replacing the bare-earth path with a wooden stairway situated in the existing pathway alignment. The wooden staircase would contribute to preventing slips, trips and falls by adding physical safety improvements such

as better traction in all types of weather, a stable, hard surface to walk on, and handrails to improve safety and balance.

Optimal Location for Safe Pedestrian Access

The GBWWTP currently has three other entrances, all designed only for vehicles: a main vehicular entrance gate on the west boundary at 50 Street, a secondary vehicular entrance further north on 50 Street for deliveries, and visitors and contractors driving into the site, and an exit gate at the east boundary. The vehicular accesses are considered unsuitable for pedestrian access from a safety and internal pedestrian circulation perspective. For example, entrance at either end would require visitors, including school groups, to walk through a large portion of the site, parallel to treatment process infrastructure, construction areas and areas supporting higher vehicular traffic volumes including trucks, to arrive at the meeting/orientation rooms, and all of this *before* safety briefings that take place in a dedicated space. In addition, the main gate along 50 Street has been closed for the past three years due to active construction on site; access via the northern gate along 50 Street has recently been reduced due to single lane vehicular traffic construction at a congested area just past the gate and is expected be have limited access for the next year and a half; and the east gate was previously impacted by construction in the area for completion of the Sanitary Grit building south west, and is currently adjacent to a civil construction and site grading project to the north. There are numerous other projects both planned and ongoing through the GBWWTP that have potential to impact safe access routes for visitors and tour groups entering from the 3 main vehicular access gates. The existing south pedestrian gate provides a safe, short access route to meeting spaces and personal protective equipment (PPE) storage that is typically free of construction activities.

The existing pedestrian access gate was selected for its central location within the GBWWTP. The gate allows entry to the plant site in proximity to office spaces, meeting rooms, and gathering spaces where tour groups can be provided an orientation and receive PPE. Alternative locations along the south fence line and in proximity to the east and west gates were considered but rejected for the following reasons: longer distances from offices and meeting rooms where visitors gather; all other locations would require installation of a new pedestrian access, including a gate and a dedicated walkway through the plant; visitors would be forced to walk through a larger area of the treatment plant site, including parallel to the treatment process infrastructure, construction areas and areas supporting higher vehicular traffic volumes, including trucks; the selected location will use an existing gate and internal walkway; finally, the selected location capitalizes on an existing clearing, locations further east would likely require comparatively more vegetation clearing.

Public Benefit

To increase the utility of the proposed stairway leading to the plant, EPCOR has committed to installing an interpretive sign on the fence near the new access gate. Adding signage or interactive features in this area can educate people about the services the wastewater treatment plant provides. Some options for the signage could draw inspiration from local history, honour Indigenous perspectives of water and the connections that many Nations have had to this site, and/or recognize the importance of water for all beings.

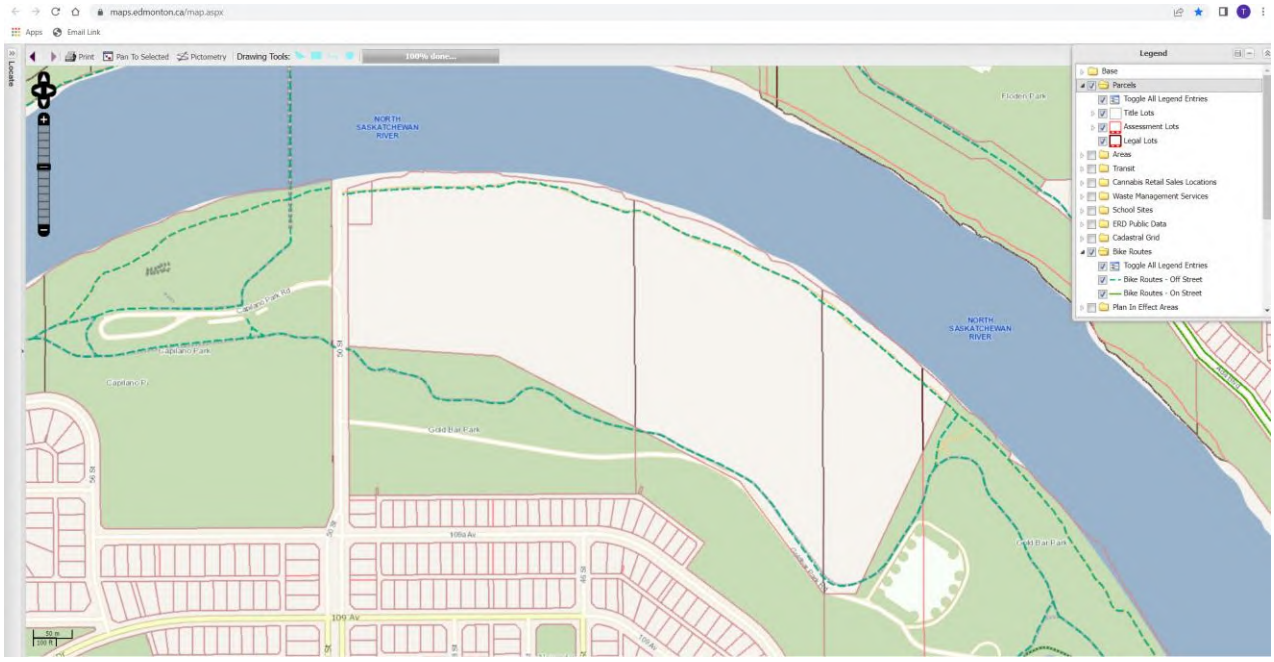
The sign would be similar to the signs currently posted on the property fence further to the east and would be visible from the top of the stairs, inviting people to descend the stairs to learn more about GBWWTP.

In addition, with the connection to the SUP, the stairway would be available to the public for use in fitness training. The nine (9) step stairway, constructed to meet the City standard for rise and run, would be suitable for those wishing to engage in an entry-level stair workout. The stairway represents an addition to the City's inventory of river valley stairs used by the public for fitness purposes.

EPCOR understands that some form of ownership/maintenance agreement between EPCOR and the City will be required and has identified such an agreement as a future task to be addressed once the stairway EIA and SLS are approved by Council.

History of Shared Property Use

The GBWWTP is surrounded by Gold Bar Park and there is a long history of cooperation between park managers, treatment plant managers and the public, aimed at enhancing co-existence of the two very different land uses. EPCOR continues to seek opportunities for improvements that increase public safety and reduce land use conflicts. To this end, and as an example past cooperation, two of the Gold Bar Park SUPS meander into and through undeveloped lands within the EPCOR GBWWTP property limits, as shown in Plates 4.2 and 4.3. In addition, a short segment of the Gold Bar Park access road also crosses into the GBWWTP property. The request to install a wooden stairway on park property to improve visitor pedestrian access to the plant can be viewed as an extension of this well-established cooperation with respect to cross boundary path placement.



**Assessment Lots= property boundary*

Plate 4.2. Map showing an SUP (dashed green line) entering EPCOR property (Source: City of Edmonton SLIM Maps 2022)

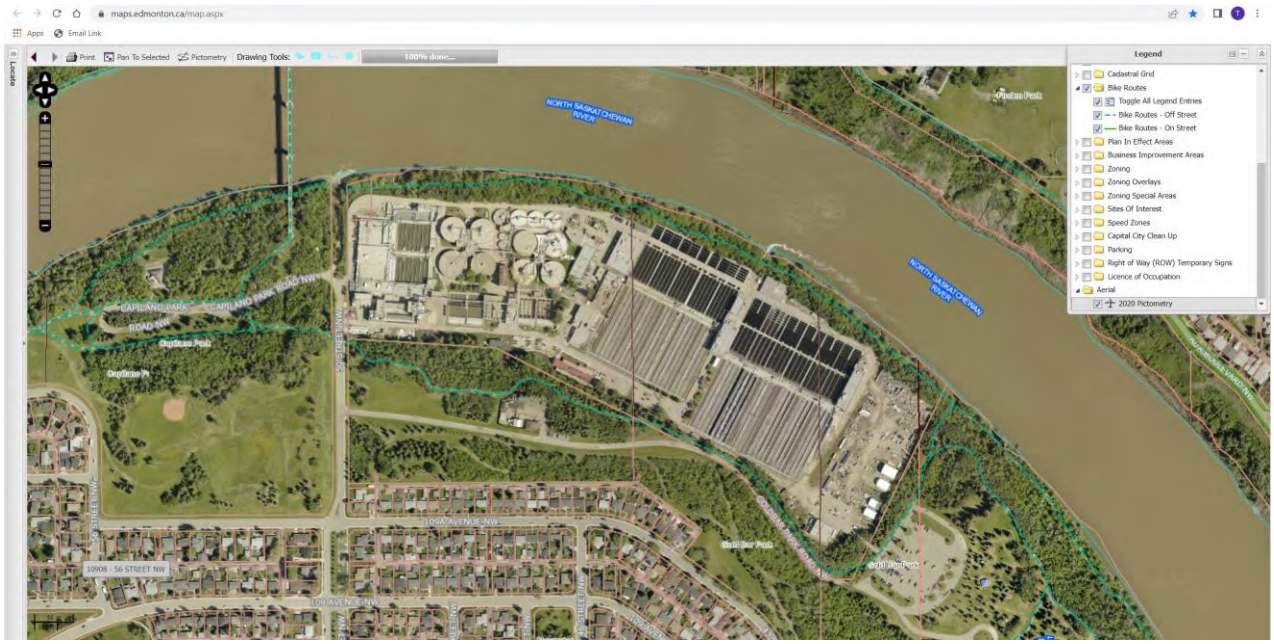


Plate 4.3. Aerial imagery showing an SUP (dashed green line) entering EPCOR property (Source: City of Edmonton SLIM Maps 2022)

5.0 PROJECT IMPACTS AND MITIGATION MEASURES

5.1 Assessing Impacts

5.1.1 Potential Impact Identification and Analysis

Based on the environmental context described in Section 3, the following Valued Ecosystem Components (VECs) were identified for impact assessment: vegetation and environmental sensitivity, wildlife and historical resources. We excluded geology/geomorphology and soils because all earthworks will be very small in area and shallow. For each VEC, potential impacts to be examined were identified by overlaying the project drawings on mapped resources, reviewing project activities, conferring with multidisciplinary project team members, reviewing project reports and applying our professional experience with impact assessment and construction performance auditing in other, similar, projects. This process resulted in identification of specific potential impacts that warranted assessment.

In addition, we separately examined the potential for the following select project incidents to occur and impact natural resources:

- Release of sediment or hazardous/deleterious substances into the environment.

5.1.2 Impact Characterization

Identified impacts were characterized according to guidance received from the EIA Terms of Reference (Table 5.1). Potential impacts were characterized with respect to nature (positive or negative, direct or indirect), magnitude (negligible, minor, or major), duration and timing (temporary, permanent or seasonal), geographic extent and likelihood. These criteria were defined as shown in Table 5.1:

Table 5.1: Impact Descriptor Definitions.

Nature of Impact	
Positive Impact	An interaction that enhances the quality or abundance of physical features, natural or historical resources.
Negative Impact	An interaction that diminishes the abundance or quality of physical features, natural resources or historical resources.
Direct	An interaction that results in the loss or reduction of a resource/feature.
Indirect	An interaction that results in off-site impacts, such as sedimentation off-site.
Magnitude	
Negligible Impact	An interaction that is determined to have essentially no effect on the resource. (Such impacts are not characterized with respect to direction duration or confidence.)

Minor Impact	An interaction that has a noticeable effect but does not eliminate a local or regional population, physical feature or affect it beyond a defined critical threshold (where that exists).
Major Impact	An interaction that affects a local or regional population, resource, or physical features beyond a defined critical threshold (where that exists) or beyond the normal limits of natural perturbation.
Duration and Timing	
Temporary Impact	A change that does not persist indefinitely.
Permanent Impact	A change that persists indefinitely.
Seasonal Impact	A change that will terminate or diminish significantly after one season.
Geographic Extent	Extent of area affected. Quantify where feasible.
Likelihood	What is the probability that the impact will occur? Is it likely or unlikely?

When applying these descriptors, we considered the project described in Section 4. No additional mitigation measures were applied at the time of potential impact characterization.

5.1.3 Mitigation Development and Residual Impact Assessment

Mitigation measures were developed for all identified negative impacts. Any impact anticipated to remain following mitigation implementation was termed a residual impact. As with potential impacts, residual impacts were characterized with respect to nature, magnitude, duration and timing, geographic extent and likelihood.

5.2 Impact Assessment Results and Mitigation Measures

5.2.1 Vegetation and Environmental Sensitivity

The following potential impacts to vegetation were identified as meriting examination:

- Loss or alteration of native plant communities of high value
- Incidental tree damage
- Increase in invasive species or weeds

5.2.1.1 Loss or Alteration of Native Plant Communities

Impacts

The proposed stairway will be constructed within an opening in the deciduous mixedwood mixed shrub community, which is mapped by the City as of high value. Select tree removal is anticipated to construct the new stairway. Currently, the specific trees to be removed have not been identified; however, if required, tree removal is expected to be limited to those in close proximity to the proposed stairway location. Based on field observations, removal trees could include trembling aspen and a few white spruce trees that are at the edges of the existing path clearing. A very small area of understorey vegetation (i.e., shrubs, herbaceous vegetation) removal will also be required to install the proposed stairway and provide for construction working area. Permanent understorey vegetation impacts are anticipated to be limited to the area under the proposed stairway and the area where a new sidewalk will be installed. All temporarily disturbed areas will be reclaimed with seed and plantings. Plantings will include trees to replace trees that are removed, wherever space permits. Note: if replacement trees cannot be installed on site, compensation will be made in accordance with City of Edmonton *Corporate Tree Management Policy C456* (see mitigation section below). Given the very small area of permanent vegetation impacts, and the relatively low quality of vegetation present in the stairway location, the loss of this native plant community is rated as a negative, direct, minor, temporary, local and likely impact.

Mitigation and Residual Impacts

Efforts will be made to limit tree and understorey vegetation removal to the minimum necessary. Tree pruning will also be minimized. In accordance with the City of Edmonton *Corporate Tree Management Policy C456*, City of Edmonton Forestry will assess all trees and shrubs on city-owned (public) lands in the project area prior to construction, discuss tree removal needs with EPCOR and arrange for compensation per the City policy, as required. With the very small area involved, the landscaping planned and EPCOR's compliance with the *Corporate Tree Management Policy*, the residual impact to vegetation will be reduced to negligible.

5.2.1.2 Incidental Tree Damage

Impacts

Construction will take place within a native forest putting trees adjacent to the project disturbance limits at risk of limb, trunk and root damage during construction. In the absence of mitigation, the potential for such tree loss or damage is rated as a negative, indirect, minor, permanent, local and likely impact.

Mitigation and Residual Impacts

EPCOR's contractor will be required to prepare a Tree Protection Plan pursuant to the City's *Corporate Tree Management Policy* and the *City of Edmonton Tree Preservation Guidelines*. That plan will include measures to physically protect individual open space trees within 5 m of the project area within the manicured community on GBWWTP grounds and natural tree stands within 10 m of the project area. The plan will be reviewed

by City Forestry to ensure protection measures are sufficient and City Forestry will likely meet with the contractor on site to discuss protection measures. The contractor will be required to monitor the effectiveness of their protection program and record any incidental damage. To reduce potential for impact on native plant communities during proposed construction, equipment storage, maintenance and refueling at the stairway site will be prohibited, restricted to the laydown area only. With these measures in place the likelihood of tree damage will be significantly reduced and the residual impact is expected to be negligible.

5.2.1.3 Increase in Invasive Species or Weeds

Impacts

Surface disturbance from construction could create ideal conditions for noxious and prohibited noxious weed species present nearby to spread onto the newly disturbed work site soils. In addition, construction equipment could carry in seed and rhizomes of new weed species, which then establish and potentially spread further into the river valley. In the absence of mitigation, the spread of weedy species the work site will likely occur. This is considered to be a negative, direct, minor, local, permanent, and likely impact.

Mitigation and Residual Impacts

Preventing weed establishment during and post construction is the most effective and economical approach to weed management. Precautions such as cleaning equipment before moving into the project area will reduce the potential for transfer and spread of weedy species. In addition, cleared areas will be revegetated with topsoil and an appropriate City-approved seed mix applied as soon as possible following construction. Some level of weed control will be required during the warranty period (Contractor) until desired vegetation becomes established. With proper implementation of these measures, the residual impact will be reduced to negligible.

5.2.2 Wildlife and Wildlife Habitat

The following potential impacts to wildlife and wildlife habitat were identified as warranting examination:

- Breeding wildlife mortality
- Barriers to wildlife movement

5.2.2.1 Breeding Wildlife Mortality

Impacts

The need for a small amount of understory removal and for construction work to occur immediately adjacent to forest creates some, albeit low, potential for vegetation clearing, tree pruning and general construction activity to affect wildlife, particularly from the perspective of legislation compliance. Many species of wildlife are protected by federal and provincial law. The *Migratory Birds Convention Act*, 1994 protects migratory birds (as populations and individuals), their nests and eggs anywhere they are found in Canada. The

Wildlife Act (Alberta) provides for the protection and conservation of wild animals in Alberta and prohibits the wilful molesting, disturbing or destroying of a house, nest or den of prescribed wildlife. Clearing of vegetation during the wildlife breeding season has potential to destroy nests/dens and to disturb or kill wildlife because otherwise mobile adults remain close to nest sites, and young are either restricted to nests, dependent on nests or not yet mobile enough to avoid sudden disturbance.

To protect nests and nesting birds, Environment and Climate Change Canada (ECCC) recommends avoiding vegetation clearing during the period when there is a high probability of nesting activity (i.e., high risk period). In this region (nesting zone B4), ECCC identifies the high probability period (approximately 95%) as 20 April to 20 August.

The provincial government concurs with this recommendation for migratory birds and other species. There is some potential for migratory bird species to nest in/near the project area. Therefore, in the absence of appropriate measures (e.g., temporal clearing restrictions or effective nest sweeps), vegetation clearing and construction start-up have potential to result in disturbance of active nests or nesting individuals. Wildlife mortality represents contravention of the law and is typically viewed as a negative, direct, major, permanent, local impact. In this case, considering the setting, this potential impact is possible but unlikely. The *Wildlife Act* also protects nesting owls, which, in the Edmonton region, may begin nesting as early as mid-February and may remain on nests into the ECCC-defined high probability period. Considering the vegetation and the small area, owls are unlikely to nest in the LSA. The potential for construction to affect wildlife protected by legislation is rated as a negative, indirect, minor, temporary, local and unlikely impact.

Mitigation and Residual Impacts

In this region, wildlife mortality resulting from vegetation disturbance (including tree pruning and work very close to trees supporting nests) is generally best avoided by scheduling work outside the period 20 April to 20 August. In this case, considering the setting and the low probability of wildlife breeding in the LSA, if construction cannot be scheduled outside of the breeding period, impacts to wildlife can be avoided by having a qualified biologist undertake a nest sweep in the LSA a few days before the scheduled work, followed by appropriate buffering of any nests found, until the nest is no longer active. In the unlikely event that a protected species is found breeding within a few metres of the project area, work may have to be rescheduled. With these measures in place, wildlife mortality should be avoided, and the residual impact would be negligible.

5.2.2.1 Wildlife Movement

Impacts

The introduction of a stairway into a narrow, linear forest patch does, in theory, have some potential to adversely affect wildlife movement through that patch. However, if well-designed, stairways can also be quite permeable to small and medium terrestrial species, allowing them to move under the stairs, using them for cover, and, depending on design, length and topography, can also be easily circumvented by larger terrestrial species by moving along forest edges. For this EIA, Small and Medium Terrestrial, and Ground

Dwelling Birds were identified as the relevant Ecological Design Groups (EDGs). In this case, aerial species are not an issue given the abundant local tree canopy and narrow stairway width. The proposed wooden stairway will be perpendicular to the orientation of the forest patch north of the SUP, but will allow for maintenance of a level area, approximately 4 m wide, adjacent to the GBWWTP fence line. With the designed open stairway and the variable clearance of 30 – 90 cm between the final ground elevation and the bottom-most stairway component (see drawing in Appendix F), members of the Small Terrestrial, Medium Terrestrial and Ground-Dwelling Birds EDGs are well accommodated. The flat area near the fence and the SUP are also available crossings to some species, such as fox, coyote and grouse, particularly for crepuscular or nocturnal movements when fewer people are in the area. Considering the local setting in a narrow forest patch near the GBWWTP, the intensive use of Gold Bar Park, and the prevalence of disturbance-tolerant species, the anticipated impact of the stairway on wildlife movement is rated as negligible.

Mitigation and Residual Impacts

Mitigation beyond the proposed design is not required to maintain wildlife movement in the area. The proposed stairway is permeable to the Small Terrestrial, Medium Terrestrial and Ground Dwelling Birds EDG species that might currently move through the forest patch north of the SUP. The infrequently present larger animals can manoeuvre around the stairs. The residual impact on wildlife movement is rated as negligible.

5.2.3 Historical Resources

Impacts

The project received *Historical Resources Act* Approval from ACMSW on 04 August 2021, which indicated that no further studies are required, and the project is not anticipated to affect known historical resources. As with any project involving excavation, there is some potential for this project to intersect with undiscovered resources in the area. However, the potential for adverse impacts to undiscovered resources is reduced to an acceptable level by the Province's approval. In addition, approval is conditional on cessation of work and reporting to the Province in the event of chance discoveries (Appendix E). The potential for the project to adversely affect historical or archaeological resources is, therefore, rated as negligible.

Mitigation and Residual Impacts

In accordance with ACMSW Standard Requirements under the "Historical Resources Act: Reporting the Discovery of Historic Resources" all work will be immediately suspended and ACMSW contacted should potential historical/archaeological resources be discovered during construction. Appropriate follow-up measures would then be implemented. The residual impact to historical resources is rated as negligible.

5.2.4 Project Incidents

5.2.4.1 Release of Sediment or Hazardous/Deleterious Substances

Impacts

Owing to the need to regrade and the presence of mechanized equipment, exposed soils, fuels, lubricants, etc., are anticipated on site. Erosion risk in this location is present but low, given the short slope the stairway will be installed on. Hazardous materials spills/releases can occur during refueling, or as a result of equipment failure (e.g., leaking hose), accidents, or improper storage/containment at sites. Incidental, small spills typically occur at most construction sites. Small spills, if uncontrolled, can spread over larger areas. In this case, even localized spills could contaminate soils and nearby plant communities.

As with most projects, in the absence of best practices, there is potential for releases to result in a negative, direct, minor, permanent, local impact on local resources such as plants and soils.

Mitigation and Residual Impacts

The contractor will be required to comply with City of Edmonton's Enviso system. It may be that an ECO Plan is not required for this small, very local project with a lack of environmental regulatory triggers, but a simple Erosion and Sediment Control plan and a spill/release plan should be required of the Contractor. Implementation of suitable plans should reduce the impact to negligible.

5.3 Cumulative Effects

The cumulative effects assessment focused on the LSA and lands immediately adjacent, in the park. The assessment considered past projects, known projects and publicly announced future projects.

5.3.1 Past Projects

Based on aerial photograph analysis, the development footprint in the LSA and immediate vicinity has remained essentially the same since at least 2002. Several maintenance projects have likely taken place within the GBWWTP facility that are not noticeable on aerial imagery.

5.3.2 Present Projects

The GBWWTP is currently installing an ambient air quality monitoring station to the north of Gold Bar Park Road approximately 60 m east of 50 Street in a turfed area, as required by Alberta Environment and Parks. The monitoring station will allow EPCOR to continuously monitor emissions from site and use the data measured to make future changes at site, as needed, to reduce odours in the area (EPCOR 2021).

Construction to add a second floor to the existing GBWWTP Centre of Excellence building, located within the GBWWTP fence line, was anticipated to start in the summer of 2021. The expansion is required to accommodate the additional space for operations

staff hygiene facilities. This project will also include renovations in the basement of the Centre of Excellence and modifications to the current control room (EPCOR 2021).

EPCOR is also completing several maintenance activities within the GBWWTP including diversion structure rehabilitation, installation of two additional Enhanced Primary Treatment scrubbers and the renewable natural gas project (EPCOR 2021).

The City of Edmonton is currently renewing the SUPs within Gold Bar Park. Construction completion is anticipated for fall 2021. The SUP component in and near the LSA was repaved in 2021 and sod installed on the trail verges.

5.3.3 Future Planned Projects

There are no known future projects in the LSA and vicinity.

5.3.4 Conclusion

This project will not act as a catalyst for additional future development in this area. It is intended to bring the existing south plant access up to a safer standard to serve existing visitor volumes. The proposed project, therefore, has no potential to add to the cumulative impact of past projects, nor contribute to cumulative impacts of present or future projects.

6.0 ENVIRONMENTAL MONITORING

This EIA identifies two monitoring commitments for the EPCOR applicable to the construction phase:

- Monitor implementation of the Erosion and Sediment Control Plan to be undertaken by a Certified Professional in Erosion and Sediment Control (CPESC) or equivalent, e.g., a supervising owner's engineer.
- Monitor implementation and efficacy of the Contractor's Tree Protection Plan.

7.0 PUBLIC CONSULTATION

EPCOR invited members of the public to take part in a virtual open house pertaining to future development and ongoing operations at the GBWWTP, including the proposed south access stairway (EPCOR 2020). The focus of the open house was to provide an update to the community and gather input and feedback. Engagement sessions were held remotely over Zoom, on the 21st, 22nd and 23rd of September 2020. Invitations to the virtual open house were sent via mail, web content and email, with a focus on citizens living nearby the GBWWTP (EPCOR 2020).

Overall, stakeholders were neutral to positive towards the proposed south access stairway (EPCOR 2020). Two main concerns during the open house sessions: 1) concern that there will be conflict between cyclists using the SUP and pedestrians using the stairway; and (2) concerns over accessibility of the new stairway. EPCOR has been working with the City to ensure that project design mitigates the potential for interactions between pedestrians and cyclists where the proposed stairway intersects with the existing SUP. The City plans to install signage to the east and west of the proposed stairway. EPCOR will not be able to incorporate accessible design measures. Those with accessibility concerns can use an alternate entrance to access the site (EPCOR 2020).

Information about the proposed south access stairway was also posted on EPCOR's website, where readers could provide feedback via online surveys (EPCOR 2020). The project was also discussed with the Gold Bar Community Liaison Committee.

A notice about the proposed stairway project was also published in the June 2021 *Gold Bar Wastewater Treatment Plant Community Update* newsletter.

8.0 CONCLUSIONS

8.1 Impact and Sensitivities

This EIA has shown that with the described mitigation measures applied, all potential environmental impacts related to the construction phase of the proposed stairway project can be mitigated such that adverse residual impacts are reduced to negligible. We are of the opinion that the proposed project does not require additional modifications or measures to avoid environmental impacts.

EPCOR shall consult with City Open Spaces group and ensure that City guidelines are followed if SUP closures are required. If the City requires signage, it should be clearly posted indicating a project contact person and prime contractor, and shall include project information, construction duration and phone number for inquiries. Detour routes should be clearly identified. Signage shall be removed within two weeks of construction completion.

8.2 EIA Limitations

This EIA was founded on the appended design information and the high-level construction methodology described in Section 4.

8.3 Summary of Key Mitigation and Monitoring Measures

The following summarizes mitigation measures identified by this EIA:

- EPCOR must ensure that the construction contractor adheres to all the mitigation measures listed in Section 5.2.1 and distilled here to address vegetation impacts and ensure compliance with the *Corporate Tree Management Policy*:
    - Prepare a Tree Protection Plan
    - Minimize tree and shrub removal
    - Revegetate exposed soils promptly
    - Discourage weed establishment
    - Ensure Contractor implements weed control and monitoring during the warranty period.

- EPCOR must ensure that they, as proponent, and the retained contractor adhere to all mitigation measures listed in section 5.2.2 to mitigate potential wildlife impacts and ensure compliance with all Provincial and Federal legislation pertaining to wildlife. Note that vegetation clearing timing or nest sweeps is a critical issue.

- EPCOR must ensure that the construction contractor adheres to all mitigation measures listed in section 5.2.3. to mitigate potential historical (archaeological and palaeontological) impacts and ensure compliance with the *Historical Resources Act*.

- EPCOR must ensure that the construction contractor adheres to Enviso practices must determine if an ECO Plan will be required of the contractor and, at a minimum, ask for an ESC Plan and Spill/Release Response Plan

- Monitor implementation of the construction Erosion and Sediment Control Plan.

- Monitor implementation and efficacy of the Contractor's Tree Protection Plan.

EPCOR commits to complying with all City advisements and conditions as outlined in the 01 May 2022 sign-off letter from Administration (Appendix G).

9.0 REFERENCES

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9.2 Personal Communications

P. Antonakis, P.Eng., MBA, Project Manager, Gold Bar Waste Water Treatment Plant, EPCOR Water Services Inc., Edmonton, Alberta.

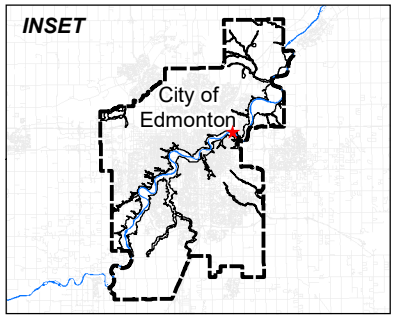
Appendix A: Figures

Figure 1. Project Area Location

Gold Bar Wastewater Treatment Plant South Access Stairway

Legend

- Local Study Area
- Bylaw 7188 Boundary (COE 2008)



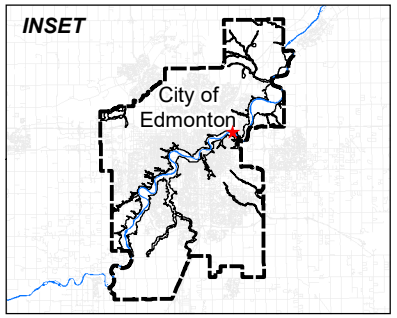
Map Date: 16 September 2021
Imagery Mosaic: May-July 2020 (COE)

SPENCER ENVIRONMENTAL MANAGEMENT SERVICES LTD.

Figure 2.
Land Use and Zoning
Gold Bar Wastewater Treatment Plant South Access Stairway

Legend

- Local Study Area
- Bylaw 7188 Boundary (COE 2008)
- Proposed Stairway*
- Zoning (COE 2020)



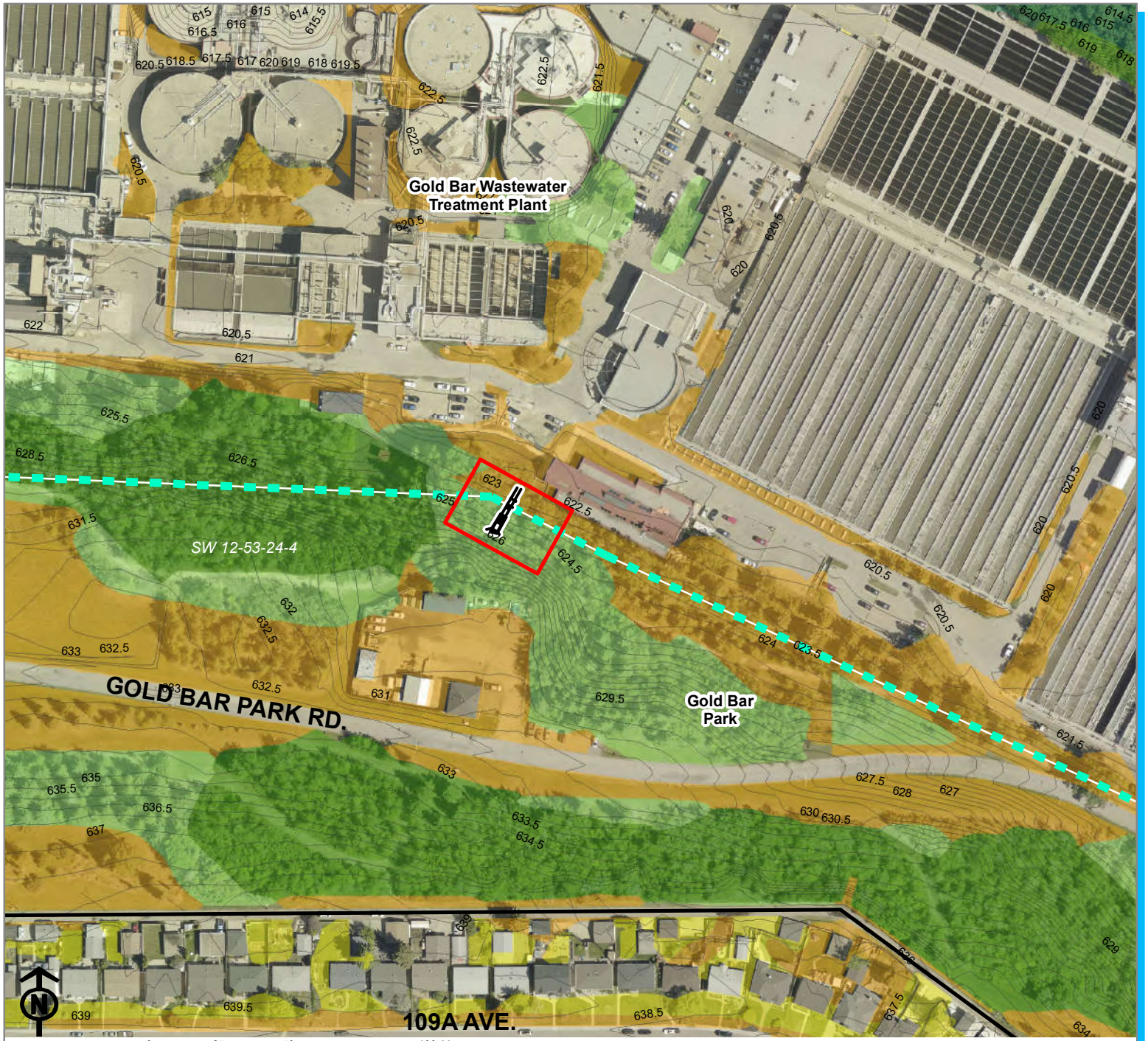
Map Date: 16 September 2021
Imagery Mosaic: May-July 2020 (COE)

SPENCER ENVIRONMENTAL MANAGEMENT SERVICES LTD.

*ISL Engineering and Land Services Ltd (2021).

Figure 3. Environmental Sensitivities – Original (2016)

Gold Bar Wastewater Treatment Plant South Access Stairway

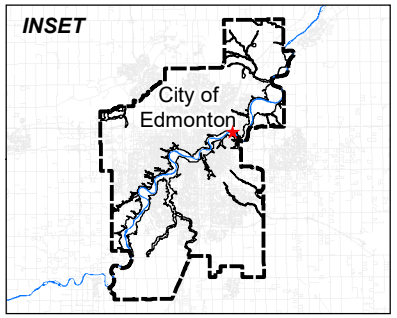


Legend

- Local Study Area
- Bylaw 7188 Boundary (COE 2008)
- Proposed Stairway*
- Existing Fenceline* (approx.)
- Contours (COE 2018)

Environmental Sensitivity**

- Extremely High Value
- Very High Value
- High Value
- Moderate Value
- Low Value

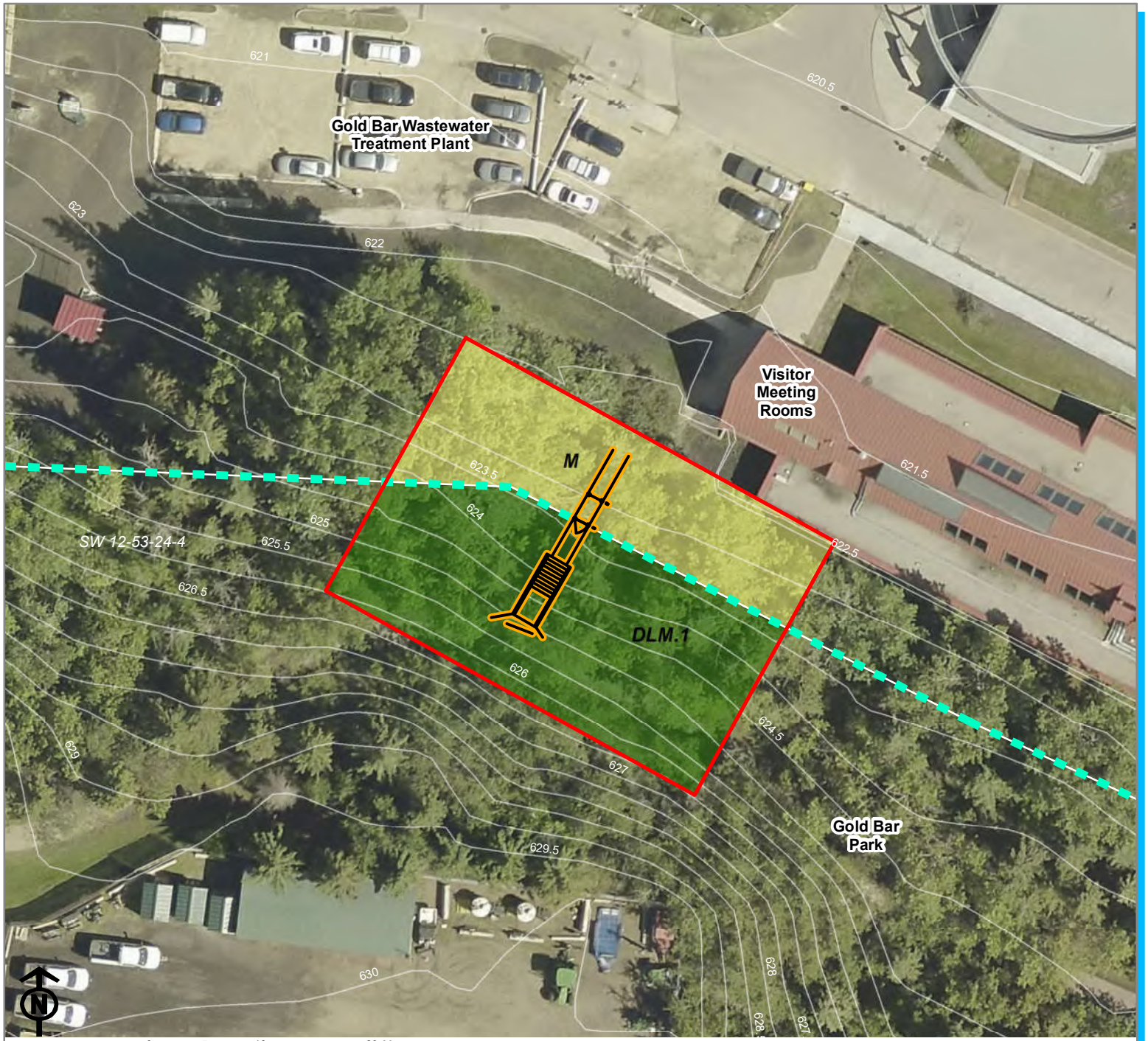


Map Date: 16 September 2021
Imagery Mosaic: May-July 2020 (COE)

SPENCER ENVIRONMENTAL MANAGEMENT SERVICES LTD.

*ISL Engineering and Land Services Ltd (2021).
**City of Edmonton Environmental Sensitivity Project (Solstice Canada, 2016).

Figure 4.
Plant Communities
Gold Bar Wastewater Treatment Plant South Access Stairway



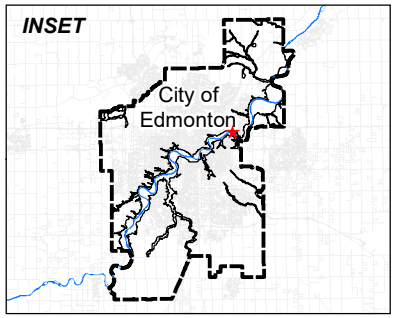
Legend

- Local Study Area
- Bylaw 7188 Boundary (COE 2008)
- Proposed Stairway*
- Existing Fenceline* (approx.)
- Contours (COE 2018)

Plant Communities (2021)**

- Deciduous Mixedwood Mixed Shrubs (DLM.1)
- Manicured (M)

Aerial view does not accurately portray stairway interaction with vegetation.



Map Date: 19 October 2021
Imagery Mosaic: May-July 2020 (COE)

SPENCER ENVIRONMENTAL MANAGEMENT SERVICES LTD.

*ISL Engineering and Land Services Ltd (2021).
**Plant community classification follows the Urban Ecological Field Guide for the City of Edmonton, Alberta, Canada (City of Edmonton 2015).
***Tree canopy obscures much of the manicured nature of the GBWTP grounds.

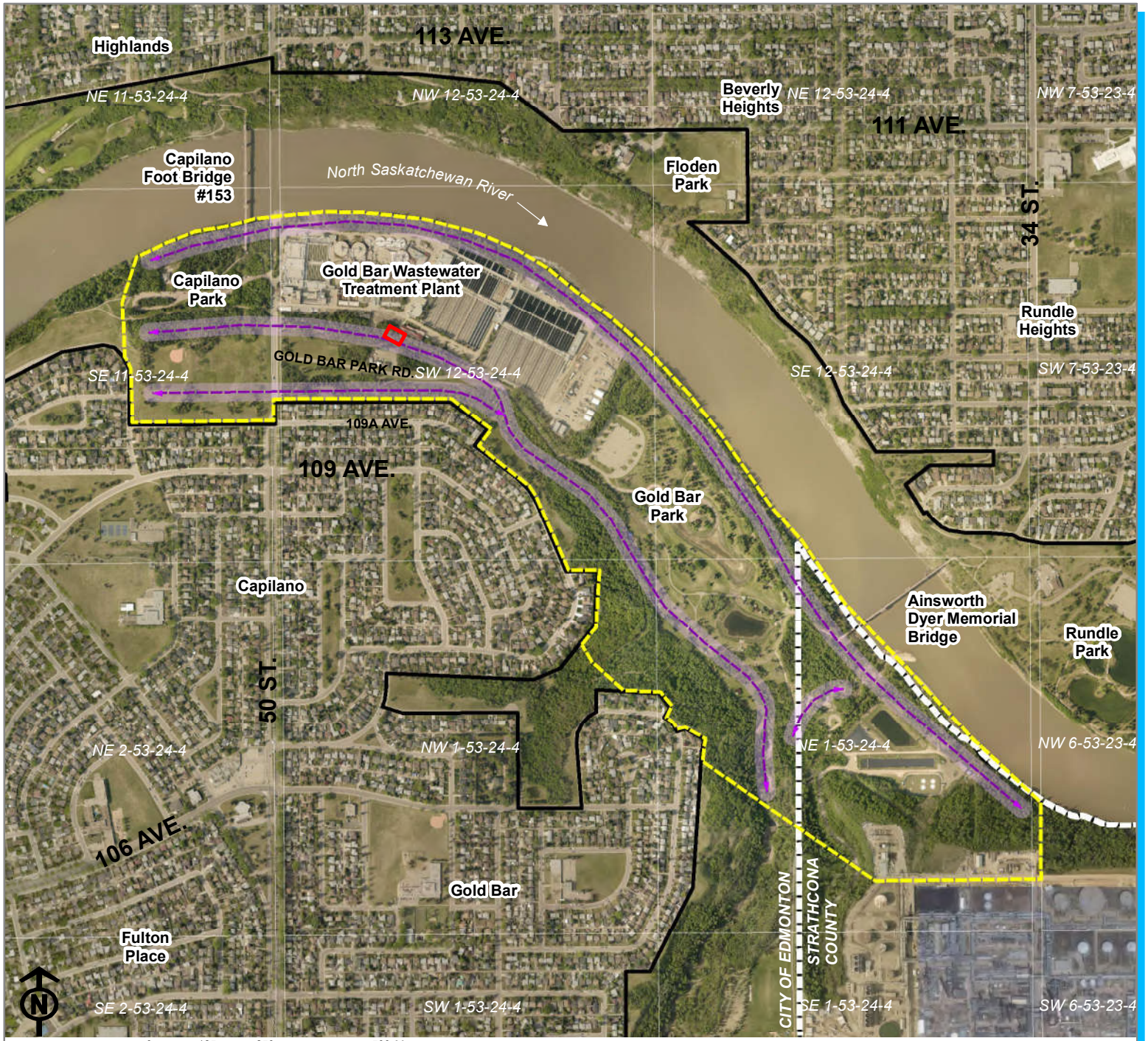
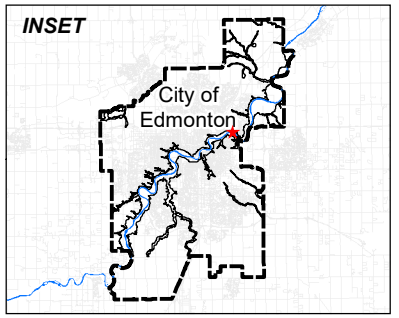


Figure 5.
Ecological Connectivity
Gold Bar Wastewater Treatment Plant South Access Stairway

Legend
- Local Study Area
- Wildlife Movement Study Area
- Bylaw 7188 Boundary (COE 2008)
- Wildlife Corridor



Imagery: ESRI Online (Date Not Known)
Imagery Mosaic: May-July 2020 (COE)

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Appendix B: Bylaw 7188 ToR

North Saskatchewan River Valley Area Redevelopment Plan

A Guide to Completing Environmental Impact Assessments

Table of Contents

Introduction

The North Saskatchewan River Valley Area Redevelopment Plan, Bylaw 7188, protects, preserves, and enhances the North Saskatchewan River Valley and Ravine System as Edmonton's greatest asset and mitigates the impacts of development upon the natural functions and character of the river valley and ravine system.

The following guide has been developed to outline the process and content required for completing environmental impact assessments under Section 3.3.3 of the North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188). The aim is to provide a consistent approach to assessing impacts, to increase efficiency in report preparation and review, and to improve communication between the agencies and individuals involved.

This Guide is general in nature applying to a range of projects including park master plans, park and facility development projects and utility and infrastructure projects. Proponents are advised that under Section 3.5.3 of the the North Saskatchewan River Valley Area Redevelopment Plan a site location study in addition to an environmental impact assessment that details costs, and social, environmental and institutional constraints which make a River Valley location essential must be prepared for City Council approval. The terms of reference and reporting requirements for the Site Location Study are included as Appendix A (Guide to undertaking a Site Location Study). The environmental impact assessment and site location study should be undertaken prior to Council committing funds for capital expenditure related to any project.

Environmental Impact Assessment Guide

These guidelines provide a general framework in completing an environmental impact assessment in accordance with the requirements outlined in the North Saskatchewan River Valley Area Redevelopment Plan. Emphasis is placed on early consultation with the City of Edmonton and other review agencies (e.g. Province of Alberta). This helps to improve communication, identify issues and constraints at an early stage, avoid costly delays, and make efficient use of time and resources. On-going dialogue and reporting is expected throughout the process.

Prior to commencing work on the environmental impact screening assessment report a pre-consultation, scoping and project review with the Parks and Biodiversity Section of Sustainable Development is strongly advised to:

- Screen proposed projects to determine the type of environmental review required and
- Identify preliminary ecological constraints and other issues requiring assessment.

A pre-consultation meeting for an environmental impact screening assessment will include staff from the City's Parks and Biodiversity section of the Sustainable Development Department, other review agency staff where appropriate, and the applicant. If the applicant has already retained a consultant to complete the environmental report, then the consultant should be included in this meeting. The preliminary scope of the environmental report will depend on the following:

- The scale of the nature of the proposed development or site alteration;
- The character of the natural environment and its associated ecological functions;
- The site's setting within the landscape and/or watershed; and,
- The availability of previous studies and information.

Some specific study requirements for the environmental report, such as breeding bird surveys or field investigations of potential species at risk and their habitats, may be identified and agreed upon during pre-consultation, based upon the known natural features and ecological functions that could be affected by the proposed project.

Once the preliminary scope of the environmental impact assessment has been determined, the assessor (report writer) can proceed to gather information from available background sources and/or original field studies, confirm the scope of the report with the City, conduct the impact assessment and report on the study findings.

Specifications for field investigations are provided in Section Two. In general, however, applicants and their consultants should be aware that at least one site visit is required for every

environmental impact assessment report regardless of scope. An environmental impact assessment without direct, personal observations of the site will be considered incomplete. Site visit(s) will occur during the growing season rather than in the winter, when snow cover and normal seasonal dormancy severely limit potential observations. Multiple site visits may be required to provide an adequate understanding of the existing conditions at the site; in these cases, winter site visits may be acceptable for the purpose of investigating seasonal wildlife or locating certain nests more easily seen when the trees are bare of leaves.

The initial site visit for the environmental impact assessment should occur prior to any clearing of natural vegetation, or intrusive site investigations (e.g. installation of test wells or boreholes). If, during this initial site visit, any potential areas of constraints are identified where intrusive surveys could result in negative impacts on significant natural features or ecological functions, recommendations to avoid or minimise these impacts will be required.

Ongoing dialogue between applicants, their consultants and City staff is expected during the completion of the environmental impact assessment. Concerns or questions may be raised with staff at any time. Recommended points of contact with City staff include:

- Following the background information review and field study, to confirm the scope of the environmental impact assessment and discuss any environmental constraints identified; and,
- During the impact assessment, to discuss potential impacts, options for mitigation, and possible monitoring requirements.

In some cases, it may be beneficial to hold such discussions at the site, with other agency staff included where appropriate.

Once the environmental impact assessment report is complete it is submitted to the Parks and Biodiversity Section of the City of Edmonton’s Sustainable Development Department. Electronic submission (PDF) of reports is sufficient to facilitate the review process. Applicants should be aware that the environmental impact assessment report, along with other supporting materials, may be posted on the City’s website as part of the public consultation process.

Once the report is submitted, Parks and Biodiversity will coordinate a review of the report and supporting information. A number of civic departments, as well as external agencies may be part of the review depending on the context and potential impacts of the proposed project. A minimum three weeks is required to complete the review and prepare comments to be forwarded to the proponent. Based on the results of the review, an environmental impact assessment may be accepted as written, or it may require revision to address comments and concerns raised by the reviewers or changes to the proposed project arising during the application review process. The resolution of comments or concerns may be achieved through discussions or meetings, or may in some cases require additional research or field investigations, with subsequent revision to the report. Open, ongoing communications between

the assessor and the City during the preparation of the environmental impact assessment should significantly reduce the likelihood of substantial revisions being required.

Section One: The Property

At the outset of the process, existing legislation, plans and studies should be reviewed as a means of understanding the legislative restrictions, land-use history, and ecological landscape of the area in question. Recent and historic air photos for the project area and its surrounding environment should be reviewed and included in the report.

Basic information on the property to be referenced in the environmental report include:

- Land ownership;
- Location of the property (municipal address and legal address);
- Current zoning;
- Description of existing and historic land uses and reference to current and historic air photos;
- Summary of federal, provincial and municipal regulatory requirements that apply to the project area.

In cases where a master plan project is being undertaken, or where a project encompasses multiple properties the Property Description will identify the entire project area.

In some cases a Phase I Environmental Site Assessment, or other applicable environmental assessment may be required. Requirements for Environmental Site Assessments are generally determined through pre-consultation prior to commencing work on the environmental report. If required, approval of the Environmental Site Assessment shall precede environmental approval as per the North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188).

Section Two: Environmental Context

The description of the subject site and its environmental context provides the basis for the assessment of impacts to follow. This description should consider the lands adjacent to the site, not just the site itself. The level of detail required will vary based on the scale and complexity of the project. It is recognised that lack of access to adjacent lands may result in less detailed information. The environmental report should include an introductory overview that establishes the environmental setting for the proposed project relative to any known significant natural features on or adjacent to the site, followed by more detailed discussions of the various environmental components as outlined below. An environmental sensitivities map that clearly illustrates the key features associated with the site will be required to accompany the environmental report. The use of photographs to illustrate and accompany the environmental report is encouraged.

If the area in question has been assessed through a previous project/report please reference the project/report and include the relevant information as an appendix.

Depending on the location of the site, City staff may be able to provide background information and/or mapping resources.

2.1. Surface Water Management (Not required)

Water features connect and contribute to the significance of natural system features and functions. While a detailed description of surface water, groundwater and fish habitat may not be required for all environmental reports, the following information must be identified:

- Runoff characteristics. Runoff characteristics are relevant to identify locations where the buildup of moisture could potentially cause concern over a long period of time;
- Depth of the water table. The depth of water table is an indicator of areas that are developable/undevelopable.

2.2. Geology/Geomorphology and Soils (Desktop and Site Specific Geotechnical Investigation)

While a brief description of the physical characteristics of the site is always relevant, detailed information on soils and geology may not be required for all environmental reports. The need for this information will be determined through pre-consultation meetings with staff from Parks and Biodiversity and other city departments as required.

For all projects the geomorphological boundary and relevant geomorphological features must be included to highlight the location of steep slopes, floodplains, hills, ravine channels and any other relevant features.

The presence of modifying factors will influence the potential for slope movement and should be considered as part of project development. Modifying factors include:

- Presence of slope failure (active/inactive/recurrent);
- Evidence of river erosion;
- Potential for high water table;
- Previous mining activity;
- Presence of slip-off slope

Where modifying factors are present additional studies may be required in order to adequately inform the assessment of geotechnical risk, potential impacts from erosion, sedimentation and changes in local hydrogeology. Site-specific studies conducted in support of development proposals (e.g. hydrogeological and terrain analyses, geotechnical studies and/or slope stability analyses) should be referenced, when available.

Genetic Class of materials should be included in the site's description as it relates to soil classification. This description should include a brief description of soils on the site and surrounding area and shall include information on the following:

- Potential run-off: Involves the analysis of the slope and the infiltration capacity of the soil unit. Soil that has low or moderate-low runoff characteristics may pose a constraint.
- Erosion potential: Involves the analysis of the slope along with the infiltration capacity and erodibility rating of the soil unit.
- Follow up with Engineering Services Requirements outlined for this project for consideration to this project.

If additional site-specific information is required, this background data should be supplemented with further soil characterization resulting from Ecological Land Classification field studies or other investigations (e.g. geotechnical studies). Where relevant, shallow and poorly drained soils should be indicated.

2.3. Vegetation (Site Specific and Desktop Based)

The report should include a description of the area’s vegetation, in order to assess habitat and biodiversity value, develop mitigation/management strategies, and

strengthen the post-development ecological network. The need for specific field surveys may be identified during pre-consultation. The environmental report will include:

- Identification of vegetation community types present using classifications consistent with those in use by Alberta Environment and Sustainable Resource Development (e.g. Primary Land and Vegetation Inventory). If an alternative classification system is used to provide supplementary information, please reference and describe the system as required.
- Description of native plant diversity (e.g. number of species, evenness, etc.).
- List of rare or unique species or communities. This includes those species that are listed as:
    - Threatened or Endangered under the provincial Wildlife Act
    - Sensitive, May be At Risk under the General Status of Alberta Wild Species
    - S1, S2 or S3 by the Alberta Conservation Information Management System (ACIMS).

  Unique species are those that may not be listed as rare but are considered to be ecologically underrepresented in the Edmonton area.
- Description of the presence and distribution of invasive, non-native species or noxious/prohibited weed species.

2.4. Wildlife (Site Specific and Desktop Based)

As with vegetation cover, a thorough review of available background information on wildlife is expected as part of the environmental review. Incidental observations will be the minimum standard required for fieldwork. The need for specific field studies of taxonomic groups (e.g. breeding bird surveys, etc.) may be identified during pre-consultation. The environmental report will include:

- Lists of species observed, reported or expected to occur on or adjacent to the site, presented in tabular format (as an appendix) with notes on the species' relative abundance at the site, its residency status (i.e. is it present year-round, seasonally or only periodically; does it live on the property, forage there or use it as part of a movement corridor) and the evidence supporting its inclusion on the list (e.g., sighting, tracks previously reported);
- Description and mapping of any "wildlife trees" (i.e. tree with visible nests, or large trees with cavities) or other features that could provide nesting or den sites;
- An assessment of the site's suitability for any significant species (including species at risk - ANHIC, FWMIS, database research results on the potential presence of listed species at risk, species of special status or rare communities).

- An assessment of whether or not any significant wildlife habitat is present on or adjacent to the site. (This will inform the crossing required for the specific wildlife and relevant mitigation measures for implementation)

2.5. Historical Resources (Provincial Requirement)

The identification of historical/archeological sites within the River Valley and Ravine System does not indicate the existence of an environmental hazard. However, it does provide the location of potential areas to be preserved when future development/redevelopment is being proposed.

In accordance with Section 37(2) of the *Alberta Historical Resources Act*, the Minister of Alberta Culture and Tourism may require that any proposed activity that is likely to threaten the integrity of a historic resource be preceded by a Historic Resources Impact Assessment. In determining whether a Historic Resources Impact Assessment is required the proponent should submit a Historic Resources Application to Alberta Culture.

Historic Resource Impact Assessments and related mitigative strategies are paid for by the person or company (proponent) undertaking or proposing to undertake the project or activity. Professional private-sec

tor archaeologists, paleontologists, historians and traditional use consultants perform the required work.

For additional information visit the Historic Resource Impact Assessments website for the Government of Alberta.

2.6. Environmental Sensitivities Map (Desktop Analysis)

The environmental sensitivities map illustrating the areas environmental sensitivities and identified development constraints will support the descriptive overview for the subject site. The map will include a key map to show the subject site's location in relation to the surrounding major roads and other landmarks. The use of recent aerial photography as a base for the natural environment is strongly encouraged. The map will:

- Illustrate the property boundary or project area included in the scope of the assessment;
- Be drawn to scale, with standard mapping elements such as a scale bar, north arrow, date and legend;

- Identify all of the aquatic, terrestrial, and geomorphological features, natural ecosystems and vegetation communities on the site as referenced in the descriptive report and identified in Sections 2.1 - 2.5 of this report;
- Identify all of the terrestrial and aquatic natural features, natural ecosystems and vegetation communities in the surrounding area that might be affected by the proposed development or site alteration;
- Include topographic information (i.e. elevation contours) at a level of detail sufficient to show general slope trends and specific topographic features.
- Outline potential development constraints and opportunities for protection, conservation, and restoration/stewardship in accordance with Best Practices as outlined in Table One and based on the City of Edmonton’s Environmental Sensitivity Mapping database.

Section Three: The Project

In order to assess the environmental impacts of the proposed project on the identified natural features and functions on and adjacent to the site, a clear understanding of the project is required. Environmental sensitivities should be identified prior to beginning concept design, to the extent possible, to ensure the project is designed to avoid existing environmentally sensitive areas.

The project description must include information about all phases of the project, including site preparation, construction, landscaping and intended use of the property once the construction work is completed, and (in some cases) decommissioning, if this information is available. Any related off-site works by the proponent should also be included in the project description and impact assessment. This section of the report should also describe how any environmental constraints identified in Section 2 have been incorporated into the project. Consideration for project alternatives justifying why a location within the boundaries of the North Saskatchewan River Valley Area Redevelopment Plan shall be submitted as part of a Site Location Study (Appendix One).

The level of detail should reflect the size and complexity of the development or site alteration. The description must be accompanied by one or more graphic representations of the project.

3.1. Concept Plans and Drawings (Wildlife Crossing Required)

The use of actual concept plans, development plans, site plans or other figures to illustrate and support the project description is required. At a minimum, the environmental report must include one or more plans showing the proposed development, park master plan or site alteration as an overlay applied to the environmental sensitivities map. The following information should be included in the plan(s), to the extent possible:

- Location of all existing and proposed lot lines, building envelopes and structures, fences, driveways, parking areas, roads, trails and pathways and any other park amenities;
- Services, including stormwater management facilities and drainage systems, public infrastructure and utilities;
- Design features ensuring wildlife crossing (Ref: City of Edmonton Wildlife Passage Engineering Design Guideline https://www.edmonton.ca/city_government/documents/WPEDG_FINAL_Aug_2010.pdf)
- Potential excavation and handling of soil materials (Phase I ESA- To be determined if applicable)

- Erosion and sediment control measures;
- Grading limits and post grading contours; and,
- Natural features and areas of vegetation that will be removed.

Where vegetation impacts are anticipated including construction or project activity within five meters of a City-owned tree a Tree Protection Plan shall be required. The Tree Protection Plan will outline how project work will be accomplished while protecting public trees. Urban Foresters with the City of Edmonton can provide assistance in drafting the necessary tree protection plans.

It is recognized that this level of detail will not be available nor appropriate for all projects and that additional information may still be in development. The results of the environmental review will (and should) inform and be incorporated into the final plans for the project.

Section Four: Project Impacts and Mitigation Measures

Once an understanding of both the existing environment and the proposed project has been established, the identification and assessment of impacts can begin. Assessing impacts and recommending appropriate mitigation measures is the most difficult and important task of the environmental impact assessment. In some cases Provincial and Federal approvals may be required in addition to City approval as part of Bylaw 7188. This section should also highlight any relevant Provincial and Federal approval requirements.

It is important to provide a clear assessment methodology that will lead to specific recommendations. Tools should be employed that will provide demonstrable rationale for recommending specific mitigation measures. Examples include but are not limited to matrix evaluation, checklist evaluation, ecological land classification and valued ecosystem components. Assessment methodology should include the following:

- Approach to the assessment;
- Scoping the assessment;
- Spatial and temporal extents;
- Assessment of effects;
- Determining the significance of effects; and
- Cumulative effects Assessment: A description of potential positive and negative environmental, social, economic and cultural impacts of the proposed activity, including cumulative, regional, temporal and spatial considerations.

4.1. Assessing Impacts

This section further describes the project, the associated impacts and related mitigation. Details on the interactions between the specific project components identified and elements of the environment where there is a potential to result in an impact (positive or negative) should be identified.

The proponent will classify the potential environmental effects into negative impacts and positive environmental effects, and characterise them using standard criteria such as:

- Nature of Impact: Is it direct, such as the loss of a feature, or indirect, such as an increase in downstream sedimentation?
- Magnitude: What is the severity of the impact, especially as compared with available benchmarks or targets?
- Geographic extent: How large an area will be affected?

- Duration and timing: Is the impact temporary or permanent? Is it seasonal?
- Likelihood: What is the probability that the impact will occur?
- Potential for cumulative impacts: What is the potential for interacting impacts as a result of previous or future development or site alteration?

4.2. Identifying Cumulative Impacts

Cumulative impacts are compound environmental effects that may result due to multiple or successive development or site alteration activities (e.g. implementation of a park master plan which includes multiple elements). Cumulative impacts may affect natural features or their ecological functions, water quality or quantity, sensitive surface or groundwater features, and their related hydrologic functions. They are an important consideration in any environmental review.

Potential cumulative impacts are estimated by considering project effects within an expanded geographic area as well as a longer timeframe. For example, a cumulative impacts analysis should consider a reasonable and ecologically relevant area within which the proposed developed is located. Development in the recent past and probable development activities in the future should be described, and if relevant, mapped.

4.3. Mitigation Measures

Mitigation measures must be identified for each potential negative impact, to eliminate or reduce the impact to the extent possible. Preferred mitigation measures avoid or minimise impacts, and may be supported by compensatory measures such as site rehabilitation or restoration.

Avoiding or eliminating impacts through design (or redesign where necessary) is the preferred approach, and should always be considered as a first step. Designing around the feature is the only option when significant wetlands or significant habitat for endangered and threatened species occur within a proposed project’s boundaries. Recommendations for the preservation of natural features within or adjacent to the project area must be accompanied by recommendations regarding appropriate setback distance(s) and any buffer required to protect the feature and its ecological functions from impact.

Minimising impacts to the extent possible is expected when avoidance is not feasible. Examples include the establishment of strict limits on the extent of vegetation clearing, or the use of specific timing windows for construction to reduce impacts on wildlife by avoiding sensitive life stages such as breeding seasons or hibernation. The supporting rationale for these measures is to be included in the environmental report.

Compensation may be required in circumstances where impacts cannot be avoided or minimised. This includes consideration for the City of Edmonton's Corporate Tree Management Policy (C456A). Restoration and enhancement may also be recommended in the absence of such legal requirements, to support the long-term conservation of the City's natural systems.

In proposing mitigation measures, the environmental report should refer to recent science and/or guidelines, where necessary, to demonstrate that the measures will be sufficient to minimise impacts or replace lost habitat. The environmental report will include the following:

- A full description of proposed mitigation measures, including recommendations for timing windows or other specifications for implementation, for all potential negative impacts;
- For each negative impact, an indication of whether there will be any residual impact following implementation of the recommended mitigation measure(s);
- A description of proposed restoration or enhancement plans to compensate for impacts that cannot be avoided or minimised (It includes revegetation plan, also consider revegetation in the proximity of the project area in consultation with Urban Forestry with appropriate tree and shrub species);
- Maps and/or drawings (if relevant) depicting the location, extent, and design details of proposed mitigation measures.

Section Five: Environmental Monitoring

Where impacts have been avoided or minimised through the environmental review process, monitoring may not be needed. In cases where negative impacts have not been eliminated, or where innovative solutions are being used, monitoring may be required to measure impacts over time. The environmental report must identify any monitoring needs associated with the project, and should provide recommendations regarding the design and implementation of the required monitoring program. Consultation with City staff will be required to establish the scope of all monitoring programs, and to ensure that recommendations are feasible and appropriate.

Monitoring will usually be site-specific and may be required during the pre-construction, construction, and/or post-construction periods. The environmental report should:

- Clearly differentiate between monitoring recommendations aimed at ensuring effectiveness of mitigation, and any monitoring required for legal compliance (e.g. to meet conditions of a Certificate of Approval);
- Specify the appropriate stage(s), schedule and duration for the monitoring program;
- Propose appropriate thresholds or benchmarks for monitoring purposes;
- Identify who will be responsible for monitoring, and the reporting structure required to ensure that results are acted upon as needed; and,
- Outline contingency plans if an impact is detected or if the proposed thresholds are not met.

Section Six: Public Consultation

Open and transparent public involvement is required for all projects. The proponent should demonstrate that the affected public and other stakeholders have been given the opportunity to become involved in reviewing the project, and should indicate how the proponent has considered or addressed any resultant questions and concerns. The opportunity for public involvement benefits citizens most when they take an active role at an early stage in the process, and clearly articulate their specific questions or concerns.

Information on public consultation should include:

- A completed Public Involvement Plan;
- A summary of consultation sessions including a summary of the information collected; and
- A statement as to how public feedback has been incorporated into the project.

Section Seven: Conclusions and Supporting Information

The environmental report must include a concise summary that addresses major points and highlights any issues of concern. Limitations of the study should be clearly identified (e.g. assumptions, timing, context).

This section must include a conclusion based on the results of the impact analysis. The assessor's professional opinion must be stated, responding to the following questions:

- Provided that the recommended mitigation measures are implemented as planned, will there be any residual negative impacts on natural features or ecological functions as a result of the proposed project?
- What is the significance of any such residual negative impacts to ecological function(s)?
- Can the proposed project be accepted as planned, or should it be (further) revised to prevent, eliminate or reduce impacts? If so, what specific changes are recommended to the proposal?

If the environmental report concludes that the project will have a residual negative impact on one or more of the values or functions of the triggering feature(s), then a recommendation to proceed with the project must be accompanied by a rationale for proceeding that is based upon the provisions of the existing City of Edmonton statutory plans, policies etc. Projects with residual negative impacts to significant natural features or ecological functions may not be supported.

Supporting Information

Supporting information may include:

- Literature cited;
- A list of people contacted during the study, along with their title and agency affiliation, where applicable, and the subject(s) on which they were consulted;
- Species lists;
- Geotechnical reports;
- Groundwater monitored data, GW connectivity including flow lines and GW/SW interaction or modeling results following new structure
- Public Involvement Plan;
- Previous studies or reports that may apply to the subject site.

- **Other City Approval and Requirements (Parkland Access Permit, Development Permit, Lease Agreement with Citizen Services & City Operation for safe operation and maintenance of the stair in the City Limit.**

Appendix One: Guide to undertaking a *Site Location Study*

Pursuant to the North Saskatchewan River Valley Area Redevelopment Plan, all proposals for the development of a major facility that is publicly owned or is developed on public lands shall be subject to a Site Location Study detailing costs, and social, environmental and institutional constraints which make a River Valley location essential. The following identifies the information and reporting requirements for completing a Site Location Study.

The Site Location Study and related Environmental Impact Assessment shall require approval by City Council.

Project Name:

The Project Name should be the same as that referenced in the Environmental Impact Assessment.

Project Description:

Describe the project including location and surrounding context. This information can be copied directly from the accompanying Environmental Impact Assessment report. Where relevant, please include supporting maps.

Project Scope:

Identify what is included as part of this project. The Site Location Study should only reference project components that meet the definition of a Major Facility as defined in the North Saskatchewan River Valley Area Redevelopment Plan:

A MAJOR FACILITY is defined as any permanent or temporary development or use which is included in the Zoning Bylaw (12800) under the following use class definition:

- Basic service
- Community, educational, recreational, cultural services
- Natural resource development

Where relevant please include supporting plans and drawings which illustrate project components included as part of the Site Location Study.

A discussion of construction methodology or mitigation measures identified in the Environmental Impact Assessment is not required as part of the Site Location Study.

Location Analysis and Justification

The following questions must be addressed:

1. What other locations were considered for this project including other river valley and non river valley locations?
2. Could the proposed project reasonably function at a location outside of the North Saskatchewan River Valley Area Redevelopment Plan boundary?
3. Is the project dependent on either the river valley and ravine location or the users of the park system?

Please describe any relevant Bylaws/Plans/Policies which support the project's location within the North Saskatchewan River Valley Area Redevelopment Plan boundary.

Opportunities and Constraints Analysis

The Site Location Study must identify potential constraints that relate to the project that make a river valley location essential. Do the constraints (financial, social, environmental, institutional) limit the feasibility of locating the project outside of the river valley?

If the project includes multiple *'Major Facility'* components, each component must be assessed separately to address the following questions:

1. What are the financial constraints which limit the feasibility of locating the project outside of the river valley?
    - Financial constraints
2. What are the social constraints which limit the feasibility of locating the project outside of the river valley?
    - Social constraints refer to the social behaviours and attributes that influence the sustainability of a proposed project within the City of Edmonton.
3. What are the environmental constraints which limit the feasibility of locating the project outside of the river valley?
    - Environmental constraints are defined as
4. What are the institutional constraints which limit the feasibility of locating the project outside of the river valley?
    - Institutional constraints are defined as

Conclusion

Appendix C: Vegetation Inventory

Goldbar Wastewater Treatment Plant South Access Staircase Plant Species Inventory (05 August 2021)

Species*				Plant Community**	
Scientific Name	**Common Name**	**Origin**	**ACIMS Rank*** **	**Deciduous Mixedwood Mixed Shrubs (DLM.1)**	**Manicured (M)**
Acer negundo	Manitoba maple	Native	SU	O	
Bromus inermis	smooth brome	Exotic	SNA	A	F
Cirsium arvense	creeping thistle	Noxious	SNA	O	
Cornus stolonifera	red-osier dogwood	Native	S5	O	
Corylus cornuta	beaked hazelnut	Native	S5	R	
Elymus repens	quackgrass	Exotic	SNA	O	
Fraxinus sp.	ash	Exotic	SNA	O	
Malus sp.	apple	Exotic	SNA	R	O
Picea glauca	white spruce	Native	S5	F	O
Pinus sp.	pine	Exotic	SNA	O	
Plantago major	common plantain	Exotic	SNA	O	
Poa pratensis	Kentucky bluegrass	Native	S5	O	D
Populus X	hybrid poplar	Exotic	SNA		O
Populus tremuloides	aspen	Native	S5	A	
Prunus virginiana	choke cherry	Native	S5	R	
Rhamnus catharticus	common buckthorn	Prohibited Noxious	SNA	O	
Rosa acicularis	prickly rose	Native	S5	F	
Sonchus arvensis	perennial sow-thistle	Noxious	SNA	O	
Symphoricarpos occidentalis	buckbrush	Native	S5	F	
Taraxacum officinale	common dandelion	Exotic	SNA	O	
Trifolium hybridum	alsike clover	Exotic	SNA	O	
Trifolium repens	white clover	Exotic	SNA	R	
Vicia americana	wild vetch	Native	S5	O	

*Scientific nomenclature, common names and rank follow ACIMS (2018)

**Species abundance abbreviations per location are as follows: D=dominant, A=abundant, F=frequent, O=occasional, R=rare

***ACIMS Rank definitions are as follows: S5=Secure, S4=Apparently Secure, S3=Known from 100 or fewer occurrences in the province, S2=Known from 20 or fewer occurrences in the province, S1= Known from 5 or fewer occurrences in the province.

Appendix D: Wildlife List

GBWTP South Access Stairway Wildlife List (September 2021)

Common Name	Scientific Name*	Species Group	Provincial Status (General Status of AB Wild Species 2015)	Wildlife Act Designation and New Species Assessed by ESCC (see Comments)	COSEWIC Designation	SARA Designation	Likelihood of Occurance**	Potential Habitat Use
Common Garter Snake	*Thamnophis sirtalis*	Reptile	Sensitive		MP Candidate (SSC)		Low	Foraging, dispersal
Ruffed Grouse	*Bonasa umbellus*	Bird	Secure					
Rock Pigeon	*Columba livia*	Bird	Exotic/Alien					
Ruby-throated Hummingbird	*Archilochus colubris*	Bird	Secure					
Bald Eagle	*Haliaeetus leucocephalus*	Bird	Sensitive		Not at Risk		Low	Roosting
Sharp-shinned Hawk	*Accipiter striatus*	Bird	Secure		Not at Risk			
Cooper's Hawk	*Accipiter cooperii*	Bird	Secure		Not at Risk			
Northern Goshawk	*Accipiter gentilis atricapillus*	Bird	Sensitive		Not at Risk		Low	Foraging
Broad-winged Hawk	*Buteo platypterus*	Bird	Sensitive				Low	Foraging
Swainson's Hawk	*Buteo swainsoni*	Bird	Secure					
Red-tailed Hawk	*Buteo jamaicensis*	Bird	Secure		Not at Risk			
Great Horned Owl	*Bubo virginianus*	Bird	Secure					
Yellow-bellied Sapsucker	*Sphyrapicus varius*	Bird	Secure					
Downy Woodpecker	*Dryobates pubescens*	Bird	Secure					
Hairy Woodpecker	*Dryobates villosus*	Bird	Secure					
Northern Flicker	*Colaptes auratus*	Bird	Secure					
Pileated Woodpecker	*Colaptes pileatus*	Bird	Sensitive				Low	Foraging
Merlin	*Falco columbarius*	Bird	Secure		Not at Risk			
Warbling Vireo	*Vireo gilvus*	Bird	Secure					
Philadelphia Vireo	*Vireo philadelphicus*	Bird	Secure					
Red-eyed Vireo	*Vireo olivaceus*	Bird	Secure					
Blue Jay	*Cyanocitta cristata*	Bird	Secure					
Black-billed Magpie	*Pica hudsonia*	Bird	Secure					
American Crow	*Corvus brachyrhynchos*	Bird	Secure					
Common Raven	*Corvus corax*	Bird	Secure					
Black-capped Chickadee	*Poecile atricapillus*	Bird	Secure					
Red-breasted Nuthatch	*Sitta canadensis*	Bird	Secure					
White-breasted Nuthatch	*Sitta carolinensis*	Bird	Secure					
House Wren	*Troglodytes aedon*	Bird	Secure					
American Robin	*Turdus migratorius*	Bird	Secure					
Varied Thrush	*Ixoreus naevius*	Bird	Secure					
Gray Catbird	*Dumetella carolinensis*	Bird	Secure					
European Starling	*Sturnus vulgaris*	Bird	Exotic/Alien					
Bohemian Waxwing	*Bombycilla garrulus*	Bird	Secure					
Cedar Waxwing	*Bombycilla cedrorum*	Bird	Secure					
House Sparrow	*Passer domesticus*	Bird	Exotic/Alien					
House Finch	*Haemorhous mexicanus*	Bird	Secure					
Common Redpoll	*Acanthis flammea*	Bird	Secure					

Common Name	Scientific Name*	Species Group	Provincial Status (General Status of AB Wild Species 2015)	Wildlife Act Designation and New Species Assessed by ESCC (see Comments)	COSEWIC Designation	SARA Designation	Likelihood of Occurance**	Potential Habitat Use
Hoary Redpoll	*Acanthis hornemanni*	Bird	Secure					
Pine Siskin	*Spinus pinus*	Bird	Secure					
American Goldfinch	*Spinus tristis*	Bird	Secure					
Evening Grosbeak	*Coccothraustes vespertinus*	Bird	Secure		Special Concern	No Schedule/no status	Low	Migrating
American Tree Sparrow	*Spizelloides arborea*	Bird	Secure					
Chipping Sparrow	*Spizella passerina*	Bird	Secure					
Clay-colored Sparrow	*Spizella pallida*	Bird	Secure					
Song Sparrow	*Melospiza melodia*	Bird	Secure					
White-throated Sparrow	*Zonotrichia albicollis*	Bird	Secure					
Dark-eyed Junco	*Junco hyemalis*	Bird	Secure					
Brown-headed Cowbird	*Molothrus ater*	Bird	Secure					
Baltimore Oriole	*Icterus galbula*	Bird	Sensitive				Low	Breeding, foraging
Yellow Warbler	*Setophaga petechia*	Bird	Secure					
Yellow-rumped Warbler	*Setophaga coronata*	Bird	Secure					
Black-and-white Warbler	*Mniotilta varia*	Bird	Secure					
American Redstart	*Setophaga ruticilla*	Bird	Secure					
Ovenbird	*Seiurus aurocapilla*	Bird	Secure					
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Bird	Secure					
Snowshoe Hare	*Lepus americanus*	Mammal	Secure					
White-tailed Jack Rabbit	*Lepus townsendii*	Mammal	Secure					
Least Chipmunk	*Neotamias minimus*	Mammal	Secure					
Red Squirrel	*Tamiasciurus hudsonicus*	Mammal	Secure					
Northern Flying Squirrel	*Glaucomys sabrinus*	Mammal	Secure					
Northern Pocket Gopher	*Thomomys talpoides*	Mammal	Secure					
Deer Mouse	*Peromyscus maniculatus*	Mammal	Secure					
Southern Red-backed Vole	*Myodes gapperi*	Mammal	Secure					
Common Porcupine	*Erethizon dorsatum*	Mammal	Secure					
Masked Shrew	*Sorex cinereus*	Mammal	Secure					
Dusky Shrew	*Sorex monticolus*	Mammal	Secure					
Little Brown Myotis	*Myotis lucifugus*	Mammal	May Be At Risk		Endangered	Schedule 1 (Endangered)	Low	Foraging
Northern Bat	*Myotis septentrionalis*	Mammal	May Be At Risk	Data Deficient	Endangered	Schedule 1 (Endangered)	Low	Foraging
Silver-haired Bat	*Lasionycteris noctivagans*	Mammal	Sensitive		HP Candidate (SSC)		Low	Foraging
Big Brown Bat	*Eptesicus fuscus*	Mammal	Secure					
Hoary Bat	*Aeorestes cinereus*	Mammal	Secure		HP Candidate (SSC)			
Coyote	*Canis latrans*	Mammal	Secure					
Red Fox	*Vulpes vulpes*	Mammal	Secure					
Least Weasel	*Mustela nivalis*	Mammal	Secure					
Striped Skunk	*Mephitis mephitis*	Mammal	Secure					
Mountain Lion/Cougar	*Puma concolor*	Mammal	Secure					

Common Name	Scientific Name*	Species Group	Provincial Status (General Status of AB Wild Species 2015)	Wildlife Act Designation and New Species Assessed by ESCC (see Comments)	COSEWIC Designation	SARA Designation	Likelihood of Occurance**	Potential Habitat Use
Moose	*Alces alces*	Mammal	Secure					
Mule Deer	*Odocoileus hemionus*	Mammal	Secure					
White-tailed Deer	*Odocoileus virginianus*	Mammal	Secure					

*Scientific names are based on the Cornell Lab of Ornithology's 2018 Clements Checklist (birds) and the Government of Alberta's 2015 Wild Species Status List (mammals, amphibians, reptiles).

** Likelihood of occurance was only noted for special status species.

Appendix E: *Historical Resources Act* Approval

Alberta

HRA Number: 4710-21-0026-001
August 04, 2021

Historical Resources Act Approval

Proponent: Epcor Utilities Inc.
10977 50 Street NW, Edmonton, AB T6A 2E9
Contact: Paul Antonakis

Agent: Circle CRM Group Inc.
Contact: Margarita de Guzman

Project Name: **Gold Bar Waste Water Treatment Plant Pedestrian Access Upgrade South Gate**

Project Components: Other - Access trail and stairs

Application Purpose: Requesting HRA Approval / Requirements

Historical Resources Act approval is granted for the activities described in this application and its attached plan(s)/sketch(es) subject to Section 31, "a person who discovers an historic resource in the course of making an excavation for a purpose other than for the purpose of seeking historic resources shall forthwith notify the Minister of the discovery." The chance discovery of historical resources is to be reported to the contacts identified within Standard Requirements under the *Historical Resources Act*: Reporting the Discovery of Historic Resources.

Rebecca Traquair
Regulatory Approvals Coordinator
Alberta Culture and Status of Women

Lands Affected: All New Lands

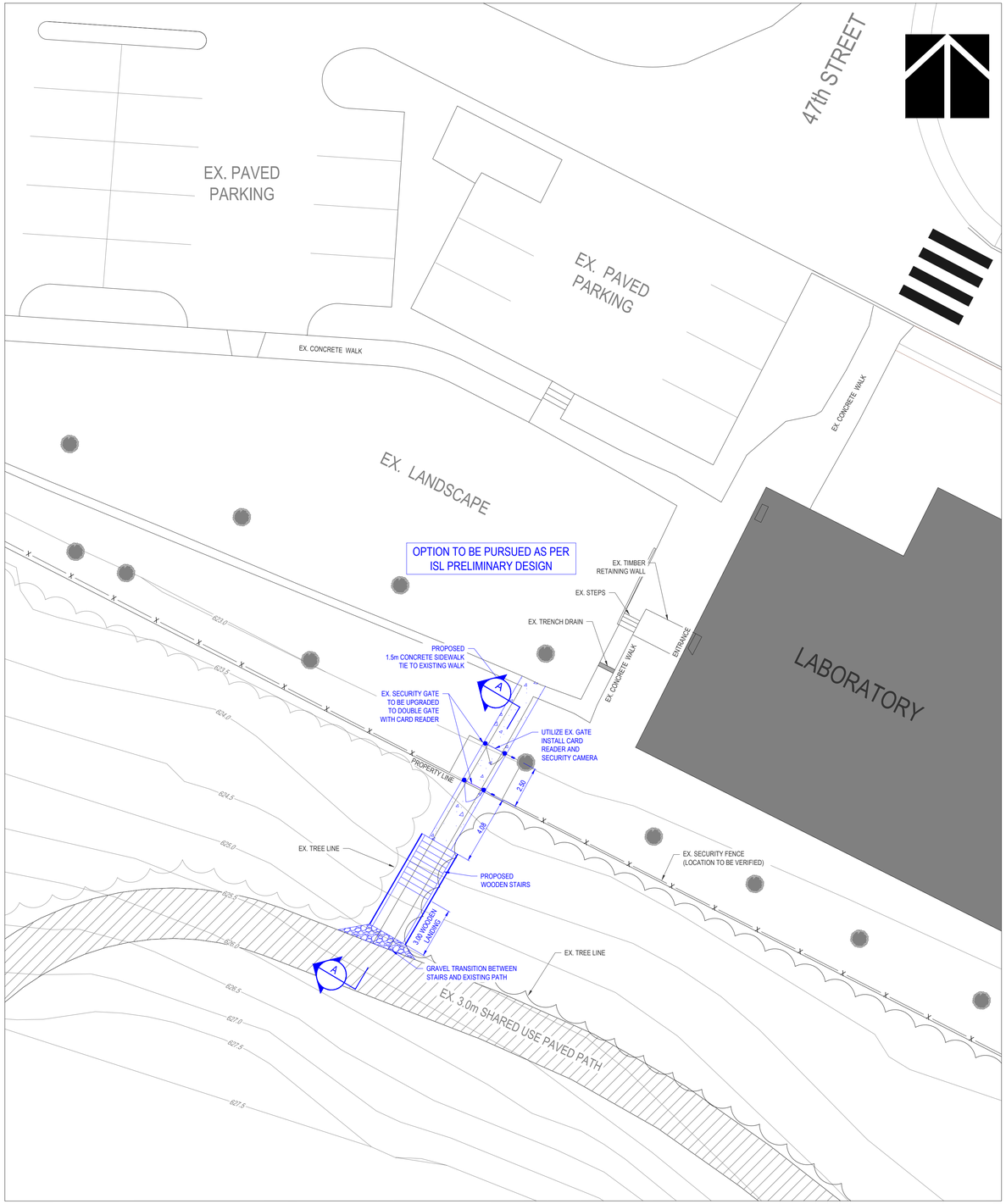
Proposed Development Area:

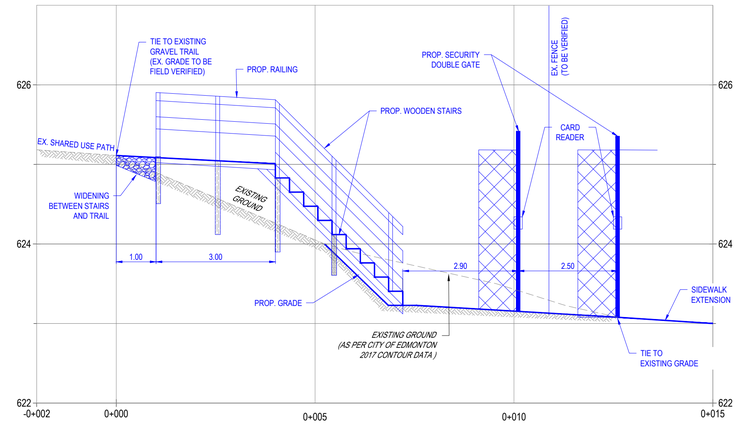
MER	RGE	TWP	SEC	LSD List
4	24	53	12	5

Documents Attached:

Document Name	Document Type
Project Plan	Illustrative Material

Appendix F: Design Drawing (ISL 2019)



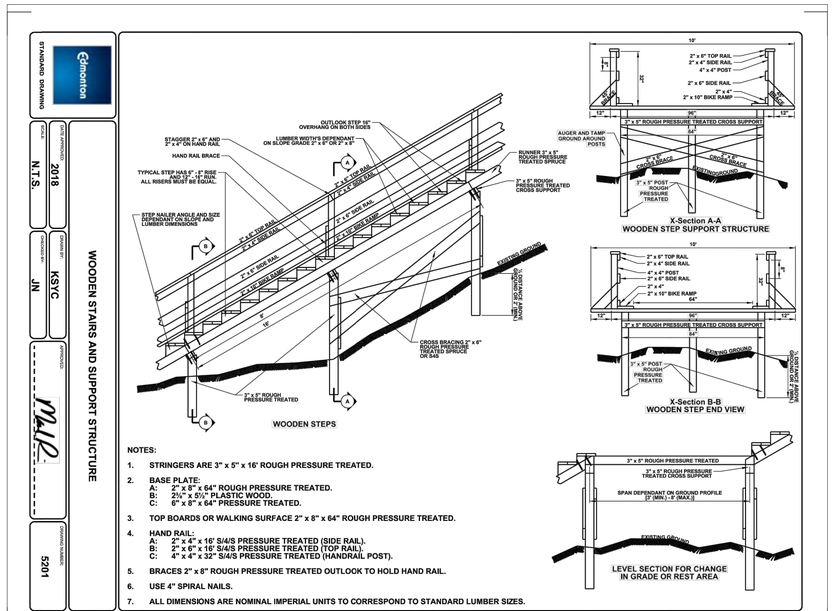


1 CROSS-SECTION A-A
SECTION H-1:75; V-1:37.5

NOTE:

1. CONTOURS SHOWN AS PER CITY OF EDMONTON 2017 RECORD.
2. FENCE ALIGNMENT TO BE VERIFIED.

NOTE: THIS DRAWING IS HALF SCALE WHEN PRINTED TO 11" x 17" FORMAT



2 WOODEN STAIRS
DETAIL N.T.S.

No.	DESCRIPTION	BY	DATE
	REVISIONS		
6			
5			
4			
3			
2	ISSUED FOR COST ESTIMATION	JH	20.FEB.21
1	ISSUED FOR DISCUSSION	JH	19.NOV.26

ISL

EPCOR UTILITIES INC.

GOLD BAR
WASTEWATER TREATMENT PLANT
ULTIMATE PEDESTRIAN SYSTEM

PEDESTRIAN ACCESS UPGRADE
SOUTH GATE

Drawn: JH
Designed: JS
Design Checked: DH Date: 19.NOV.26
Discipline Review: DH Date: 19.NOV.26

Drawing No.
15587
AP
05

HORZ 1:150 0 3 6m
Scale

Sheet No.
5

Appendix G: Administration EIA and SLS Sign-Off Letter

URBAN PLANNING AND ECONOMY
PLANNING AND ENVIRONMENT SERVICES

City of Edmonton
7th Floor, 10111 - 104 Avenue NW
Edmonton, AB T5J 0J4

Email: sdrivervalleybylaw@edmonton.ca

May 05, 2022 Reference No. 417860574-001

To: Lynn Maslen, Spencer Environmental Management Services Ltd.

From: Achyut Adhikari, Planning and Environment Services

Subject: AA21-70 Gold Bar WasteWater Treatment Plant (GBWWTP) South Access Stairway EIA and SLS- Sign off

---

We have completed review of the Gold Bar WasteWater Treatment Plant (GBWWTP) South Access Stairway Project Environmental Impact Assessment (EIA) and Site Location Study (SLS) reports. This letter is a sign off that the Administration has no further concerns with the proposed development under the North Saskatchewan River Valley Area Redevelopment Plan (NSRV ARP).

Please note the proposed development meets the definition of a major facility, and as such, City Council must approve the EIA and SLS, and must deem the proposed location in the River Valley as essential, to ensure the policy requirements of the NSRV ARP are satisfied. In addition, the following advisements and conditions apply to the project:

Comments from EPCOR Drainage
No concerns, outside of the concerns identified by WASS.

Comments from EPCOR Water and Sewer
The stairway is proposed to be built on top of a shallow sanitary main, just north of the shared-use trail. Detailed plans for the location of the piles will need to be reviewed and approved prior to construction. Plans are to be submitted to wass.drainage@epcor.com for review.

Our records indicate that no water services exist within the area of the proposal directly off EPCOR mains.
Note: There is a shallow 200mm sanitary main beneath the proposed stairway just north of the shared use trail.
The owner/developer must conform to the requirements of the City of Edmonton Erosion and Sedimentation Control Guidelines and Field Manual. If you have any questions about this reply, please contact this office at 780-496-5444, or e- mail us at wass.drainage@epcor.com.

Comments from Urban Growth and Open Space Strategy (Urban Planning and Environment):
We have reviewed the Gold Bar WasteWater Treatment Plant (GBWWTP) South Access Stairway Project. In general, the EIA report identified major environmental impacts and appropriate approaches for mitigation measures. The project team should ensure all the EIA outlined mitigation measures are communicated to the contractor for the implementation and follow up if necessary.

The project team should provide a detailed restoration and landscaping plan once the details on tree removal are identified for the completion of the overall project.

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Edmonton, AB T5J 0J4

Email: sdrivervalleybylaw@edmonton.ca

We would recommend avoiding large spruce trees for removal and explore options for retention if possible.

The project should implement best construction practices to avoid invasive spread during construction considering the sensitive natural environment within the close proximity of the project area. Also, the project should consider options to avoid conflict with wildlife habitat during the construction period.

Comments from Environmental Planning- Planning Coordination (Urban Planning and Environment)
I have reviewed the EIA and SLS study prepared for the Goldbar WWTP stair replacement. The reports adequately address any issues, and there are no comments or concerns for the project from Environmental Planning.

Comments from Infrastructure Planning & Design (Engineering Services):
It is understood that Shawn McArthur from our geotechnical group is familiar with the site and based on his knowledge of the site he has determined that further geotechnical assessment is not required for this project. I would therefore have no further questions or comments on this circulation.

Comments from Community and Recreation Facilities (River Valley Parks and Facilities):
No comments

Comments from Civic Events and Festivals
No comments

Comments from Partnership and Event Attraction Strategy:
No comment

Comments from Parks and Roads Services (Urban Forestry)
Urban Forestry has no concerns with the project proposal and any impact to inventoried trees in the area. Please adhere to the conditions set out by Natural Areas Operations as it pertains to natural trees within the adjacent stands.

Comments from Parks and Roads Services (Natural Areas Operations)

Please ensure the landscape/restoration plans are circulated and reviewed by naturalareaoperations@edmonton.ca prior to approval.

An approved Tree Preservation Plan will be required prior to construction which must be included in the application for a Tree Permit, as per the Public Tree Bylaw 18825. Please note that any grading for the staircase will impact the adjacent vegetation and this should be taken into consideration.

Any public communication for the project should include details on the tree removals required and restoration.

General Conditions for vegetation removal:

- Upon approval of the plan, a site meeting with Natural Areas will be required to review construction plans and tree protection. This meeting will need to be scheduled a minimum of four weeks in advance of the construction start date. This is to review access points,

City of Edmonton
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Edmonton, AB T5J 0J4

Email: sdrivervalleybylaw@edmonton.ca

placement of all permanent or temporary construction material required for this project, and to determine tree protection requirements for construction within 5 meters of any City tree or 10 meters from a natural stand. For any vegetation removal, please ensure the area has been clearly staked. Note the laydown area fencing must be installed outside the dripline of any adjacent trees.

- Please be advised that all costs associated with pruning, removal, tree damage, or replacement shall be covered by the Proponent as per the Corporate Tree Management Policy. Natural Areas will schedule and carry out all required tree work involved with this project. Please contact naturalareaoperations@edmonton.ca to arrange this meeting.
- Any soil damage or compaction compromising the tree's root system within the parkland space shall be corrected by and at a cost to the Proponent. Please be advised that all costs associated with soil remediation, watering, and tree protection shall be covered by the Proponent as per the Corporate Tree Management Policy.
- Please note that the removal of vegetation has the opportunity to impact birds and bird habitat. Protection of migratory and non-migratory birds is legislated federally and provincially and enforceable regardless of whether or not individual environmental reviews conducted in accordance with the River Valley Bylaw include discussions of these topics. The onus is on the individual or company conducting habitat disturbance or construction activities to ensure that due diligence has been exercised to avoid harm to migratory and non-migratory birds. Individuals or companies that do not avoid harm to most wildlife species risk prosecution under the *Wildlife Act* and, in some cases, the *Species at Risk Act*. In the case of migratory birds, prosecution under the *Migratory Birds Convention Act* is also possible.

Comments from Parks and Roads Services (Parkland Management)

- EPCOR is required to obtain a Parkland Access Permit, please advise EPCOR to reach out to prsparklandmanagement@edmonton.ca to request this permit. Please note Parkland Management requires a minimum of 4 weeks prior to start of access to complete the permit requirements.

Comments from Parks and Roads Services (Land Development):

When designing the Landscape for this project:

1. Please supply a detailed landscape design to scale. Shrub and tree symbols shall be shown at mature spread with no overlap on the landscape drawing. Service levels and ease of maintenance must be considered in all landscape design for this project.
2. Please incorporate naturalized plantings in lieu of mass ornamental planting in all landscaped areas. Naturalization is supported by the City of Edmonton as a means to provide more sustainable landscapes, to enhance biodiversity, and to provide educational opportunities. We encourage naturalized planting that meets construction standards and that is sustainable. Note: Please consider our current service levels when designing shrub beds. Designs incorporating monocot grassess, and daylilies are encouraged.
3. Please ensure that the vegetation used is native to the Central Parkland Ecoregion to help ensure survival.
4. All plant and tree material design and selection must be reviewed and approved by Open Space Operations and Urban Forestry.
5. Please define all mow and no mow areas. Please ensure all turf transitions from mow to non mow naturalized area planting or vegetation are staged in height where possible.

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Edmonton, AB T5J 0J4

Email: sdrivervalleybylaw@edmonton.ca

6. Please consider that vehicles and equipment accessing the paths may be heavy for maintenance program purposes (i.e. water trucks, bucket trucks, etc). This infrastructure should be built to accommodate this type of heavier maintenance vehicle or equipment.
7. Please consider that any granular road, trail or path may not be cleared in the winter. If maintenance is required the surface must be a hard surface.
8. Please follow the City of Edmonton Design and Construction Standards Volume 5 - Landscaping (2021).

General Conditions:

1. All mitigation measures and commitments outlined by City reviewers must be incorporated into the construction work plan.
2. The proponent is responsible for seeking approval for any other regulatory permits from provincial and federal agencies.
3. Please contact the Neighborhood Resource Coordinator Erin Flaherty (780-288-8673) in the area to ensure appropriate community notification.
4. For potential impacts to City parks and facilities:
    a. Hard surface access/haul routes are preferred.
    b. Please ensure restoration of the site occurs and meets existing site conditions. All damages to parkland must be restored to City of Edmonton Construction Standards and City Operations' satisfaction.
    c. Noxious weeds shall be managed and controlled as required within any fenced area and should be the responsibility of the contractor/department during construction.
    d. Signage must be posted indicating a project contact person and phone number for inquiries.
5. All trail closures shall adhere to the City's Trail Closure Procedures. All trail closure activities must be approved through River Valley Operations prior to construction and closure of trails. Please contact **Braeden Holmstrom** (Team Leader, River Valley & Horticulture) at **587-986-2841or braeden.holmstrom@edmonton.ca** to obtain the necessary trail closure approvals. This shall be done a minimum of two weeks in advance of planned construction.
6. Please attach this letter for any further City of Edmonton approvals.

Should you have any questions or concerns, please contact me by e-mail or by phone at 780-442-0695.

Regards,

Achyut Adhikari