8.0 SKI CLUB INFRASTRUCTURE RELOCATION

8.1 Context

The extension of the Project Area in this location, as shown in Figure 2.1d, totals approximately 362 m^2. The proposed work for this project component is part of the mitigation for impacts to Edmonton Ski Club facilities associated with widening the Connors Road corridor. The proposed extension of lands is required to mitigate effects on the T-Bar run, specifically to accommodate re-grading fora new T-bar landing area. The proposed work involves removal of existing ski club infrastructure (by the club), re-grading the extended parcel (by Project Co.) and reinstallation of equipment (by the club) on those lands. Lands within this parcel will only be used for purposes of mitigating ski club impacts and not for general construction purposes.

Plate 8.1. Sloping terrain of existing T-bar run to be re-graded. (Jan. 2015).

8.2 Assessment Methods

VECs selected for this assessment were based on the limited range of activities required in support of the ski club infrastructure relocation and the very small area affected (Table 8.1).

The study area for this assessment is shown in Figure 2.1d. For habitat connectivity the study area was expanded to consider the south valley wall. Field investigations for this component were limited to reconnaissance-level site inspections in September of 2014 and on 05 January 2015.

Table 8.1. Justification for the selection of VECs – Ski club infrastructure relocation

Valued Environmental Components	Potential for Additional or Unique Issues[1]	Relative Abundance or Status	Public Concern	Professional Concern	Economic Importance	Regulatory Concern	Relevant Legislation/Bylaw/Policy
Valued Ecosystem Components							
Geomorphology/ Geotechnical Stability	**Yes**			✓		✓	• Bylaw 7188
Soils	**Yes**			✓		✓	• Bylaw 7188 • Drainage Bylaw 16200
Hydrology Surface Water/ Groundwater	**No**						
Fish and Fish Habitat	**No**						
Vegetation, Wildlife and Habitat Connectivity	**Yes**		✓	✓		✓	• Bylaw 7188 • Alberta *Weed Control Act* • Federal *Species at Risk Act* • Federal *Migratory Birds Convention Act* • Alberta *Wildlife Act*
Valued Socio-economic Components							
Land Disposition and Land Use Zoning	**No**						
Residential Land Use	**No**						
Recreational Land Use	**Yes**		✓	✓		✓	• Bylaw 7188
Utilities	**No**						
Worker and Public Safety	**No**						
Visual Resources	**Yes**		✓	✓		✓	• Bylaw 7188
Valued Historic Components							
Historical Resources	**No**						

[1] In instances where it was determined that no potential existed for additional or unique issues to arise, no further consideration to that VEC was given

8.3 Key Issues

Key issues were identified by: 1) examining the project component location, known conditions and potential project activities; 2) considering concerns raised by the public and city services departments; and 3) applying professional judgement. Following are the key issues identified in association with ski club infrastructure relocation:

- **Will re-grading activities adversely affect slope stability?**
- **Will the operation of the Edmonton Ski Club be adversely affected?**
- **Will the installation/new location of ski lift infrastructure affect visual resources in the local area?**

8.4 Existing Conditions

8.4.1 *Geomorphology/Geotechnical Stability and Soils*

Slope Stability

Lands required to accommodate the ski run re-grading and infrastructure relocation are situated along sloping terrain immediately west of Cloverdale Hill Road, slightly north of Connors Road (Plate 8.2). Thurber Engineering's (2012) appraisal of geotechnical conditions along Connors Road determined that it is possible that existing fills associated with the grading of the ski hill slopes were placed in a somewhat uncontrolled manner. Slope instability associated with the loading of these fills and any underlying disturbed colluvium is a concern. This was also noted in the 2013 EISA.

Soils

These lands fall outside the boundaries of lands used for the former Cloverdale Incinerator landfill activities and are not identified as contaminated. These lands were, however, subject to past minor fill and grading (Thurber Engineering 2012) and are landscaped to turf and planted trees, thus the soils are not native. Thurber Engineering (2012) indicates that the stratigraphic profile of the local area is expected to consist of man-made fills, colluvium materials, native lacustrine and glacial deposits overlaying bedrock. Fills in the local area range from 0.8 m to 4.6 m in depth and consist of silty clay with pockets of organic matter and wood in some places (Thurber Engineering 2012).

Plate 8.2. Southeastern portion of lands required for ski club infrastructure relocation, looking west from Cloverdale Hill Road. Mature planted spruce on right are within the original Project Area. Deciduous stand of native vegetation shown on right is situated outside of the Project Area and will be undisturbed (Jan. 2015).

8.4.2 *Vegetation, Wildlife Habitat and Connectivity*

Lands involved in this project component consist entirely of manicured lawn and are not high quality wildlife habitat. Mature planted spruce are situated immediately south of the existing T-bar terminus and a linear stand of native vegetation is situated immediately north of the project component, both are outside of the lands to be disturbed (Plate 8.3). The 2013 EISA identified this locale as part of the larger Mill Creek-to-Cloverdale Ravine wildlife movement corridor. Existing infrastructure and ski club activity likely already compromise wildlife movement to some degree but wildlife are likely drawn to the cover offered by the adjacent linear tree stand and the area is thought to be most often used at night. The cover would be particularly useful to wildlife attempting to cross Cloverdale Hill Road. Available wildlife movement data specific to this locality are limited to preliminary coyote movement data from the University of Alberta urban coyote project (Murray and Cassidy St. Clair, unpublished data); and wildlife collision data from City of Edmonton Animal Care and Control Centre (2011). These data show movement through Gallagher Park and Cloverdale Ravine, but not preferentially at the corner occupied by this project component.

8.4.3 *Recreational Land Use*

Lands required for this project component form part of the existing lease held by the Edmonton Ski Club. These lands are situated on sloping terrain, near the top of the club's T-bar run. These project component lands are also part of Gallagher Park, which is not permanently fenced at the bounding roads and the lands are therefore currently accessible for other uses and to pedestrians in summer. These lands fall outside of the lands utilized for the annual Edmonton Folk Music Festival. No other recreational activities are facilitated on these lands.

8.4.4 *Visual Resources*

This project component area is dominated by manicured lawn; the small parcel is screened by planted spruce at the corner of Connors and Cloverdale Road and a linear natural tree stand descending the hill. Nearby residents along Strathern Drive, to the immediate east and residences along 95 Avenue, to the south have views of this area. Motorists along Connors Road and Cloverdale Hill Road also have views of this area. The existing T-bar terminus is clearly visible from Connors Road, dominating views at the crest of the hill (Plate 8.4)

Plate 8.4. The existing T-bar terminus is clearly visible from Connors Road, dominating views at the crest of the hill, looking northwest (Jan. 2015).

8.5 Potential Impacts and Mitigation Measures

8.5.1 *Soils*

No unique impacts to soil resources associated with the ski infrastructure relocation component were identified as part of this analysis. Project-wide mitigation measures designed to minimize erosion, topsoil/subsoil mixing, compaction, contamination or other degradation to soil resources will be applied to any activities within this project component area and currently form part of the Project Agreement.

8.5.2 *Impacts to Slope Stability*

Impacts and Mitigation Measures

Soils and subsoils/fill in these lands will be removed by Project Co to approximately 1 m depth to adjust the run's landing area. All Project Co re-grading activities associated with this component will be subject to the broader contractual obligations of the Valley Line LRT project that recognize the sensitivity of slope stability in this area. These contractual obligations include the requirement for Project Co to prepare a geotechnical report demonstrating the slope stability measures needed to attain the required improvements to the slope stability factor of safety. As such, detailed site-specific geotechnical investigation(s) and assessment(s) will be undertaken in support of any re-grading activities.. Adhering to such requirements will ensure that potential impacts of ski run re-grading to slope stability are negligible.

Funded by the City, the Edmonton Ski Club will be responsible for installation of all existing or new structures within this area, including subsurface foundations or pilings. Once the desired infrastructure (existing or replacement) has been identified and new locations have been finalized, the club must ensure that all geotechnical concerns have been addressed. This may require a new geotechnical study for review by the City's Transportation Services. Any geotechnical study by the club would require completion of an Initial Project Review (IPR) pursuant to Bylaw 7188. If infrastructure relocation were ultimately planned for lands downslope of the parcel covered in this EISA update, a more comprehensive IPR may be required. Geotechnical work and IPRs required for reinstallation will be funded by LRT D and C as part of the mitigation for impacts to ski club operations.

8.5.3 *Vegetation, Wildlife Habitat and Connectivity*

8.5.3.1 Loss of Manicured Vegetation

Impacts and Mitigation Measures

Work associated with the ski club facilities grading and relocation will include the disturbance of manicured lawn, covering approximately 362 m^2. Contractual obligations of the Valley Line LRT project contain clauses to ensure that no disturbance to adjacent trees situated just outside the Lands occurs. Impacts to vegetation are, therefore, rated as negligible. Post-construction, all lands disturbed as part of construction activities will be returned to their pre-disturbance vegetation, ensuring that impacts remain negligible.

The re-grading work and greater LRT project is expected to temporarily affect wildlife use of the area because of fencing requirements and general activity levels and the Project Agreement includes mitigation measures. After the work is done, the newly located infrastructure is not expected to alter current movement patterns as post-construction conditions are not seen to be substantially different and there will be no associated loss of vegetation cover.

8.5.4 *Recreational Land Use*

8.5.4.1 Disruption of Edmonton Ski Club Operations

Impacts and Mitigation Measures

The proposed ski run re-grading and the associated equipment relocation will ensure that T-Bar run at the Edmonton Ski Club remains functional. Contractual obligations for the work include a restriction of Project Co activities to just the required re-grading. These obligations also include specifications for final slopes, areas, elevations and gradients for the new landing area. The work has been defined by extensive consultation with the ski club executive. All construction activities associated with this project component will be undertaken during months when the Edmonton Ski Club is non-operational and provide time for the club to re-install equipment before the ski season begins. Based on these considerations, impacts to the operation of the ski club are considered to be negligible.

8.5.5 *Visual Resources*

This project component and the relocation of the T-bar terminus and operator shack, as discussed in the 2013 EISA, will result in the shifting of equipment a short distance to the northeast of its existing location. As equipment is currently very visible, this change is not anticipated to have an adverse impact on viewscapes. Equipment may be less visible to motorists, however, but all relocated infrastructure will be visible from trains as they passes through the area. From the east, the relocated equipment may be better screened by existing vegetation. This changed view is rated as a negligible impact for pedestrians, motorists and local residents.

8.6 Summary Assessment

8.6.1 *Summary of Residual Impacts*

This assessment identified no residual impacts or outstanding issues. However, LRT D and C will continue to work with the ski club to ensure that all details of infrastructure relocation and run adjustments are addressed. Should the club be asked to prepare an IPR for subsurface structure components, LRT D and C are willing to collaborate.

8.6.2 *Monitoring Requirements*

No monitoring requirements unique to this project component will be required. Monitoring requirements specific to broader erosion and sediment control, slope stability and general construction activities are defined through the general Project Agreement.

8.6.3 *Resolution of Key Environmental Issues*

Following are brief answers to the questions initially posed for this project component.

Will re-grading activities adversely affect slope stability?
No. While some slope re-grading will be done, as for the work in the larger adjacent area, Project Co will be required to undertake site-specific geotechnical work prior to re-grading activities must be preceded by and demonstrate that suitable slope stability measures will be implemented to attain the required improvements to the slope stability factor of safety.

Will the operation of the Edmonton Ski Club be adversely affected?
No. Regarding, relocation of ski club infrastructure and any other associated equipment will ensure that this run remains functional. Detailed re-grading specifications have been developed to ensure a functional landing area. All construction activities associated with this project component will be undertaken during periods when the Edmonton Ski Club is non-operational.

Will the installation of new ski life infrastructure affect visual resources in the local area?
Somewhat, as the elements visible may change; however, overall, negligible changes to in the quality of views are anticipated.