

THE CITY OF EDMONTON
DESIGN-BUILD AGREEMENT
CAPITAL LINE SOUTH LRT EXTENSION

Schedule 10
Environmental Performance Requirements

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SCHEDULE 10

ENVIRONMENTAL PERFORMANCE REQUIREMENTS

1. ENVIRONMENTAL OBLIGATIONS – GENERAL

- (a) Except as expressly set out in this Agreement, the requirements and obligations set out in this Schedule shall apply to all aspects of the Project, the Project Work, the Infrastructure and the Lands and to all activities of Design-Builder and all Design-Builder Persons under this Agreement, and shall apply throughout the Term.
- (b) Design-Builder shall, and shall cause all Design-Builder Persons to, comply with, observe, satisfy and perform (collectively, “**Design-Builder’s Environmental Obligations**”):
- (i) all requirements and obligations set out in this Schedule, including the requirements and obligations described in the Environmental Management Mandate; and
 - (ii) all other environmental requirements and obligations arising under or as a result of this Agreement, Applicable Law, the Environmental Permits and Project Approvals;
- except only those environmental obligations specifically identified in this Agreement as being the obligation of the City (the “**City’s Environmental Obligations**”).
- (c) Subject to Section 15.5 [*Soils Available for Reuse*], if this Agreement and any Applicable Law contain more than one requirement that is applicable to Design-Builder’s Environmental Obligations, then the more stringent of the requirements shall prevail.
- (d) Design-Builder shall be responsible for any failure by a Design-Builder Person to comply with any of Design-Builder’s Environmental Obligations.
- (e) Without limiting Section 1(b) above, Design-Builder shall, as part of Design-Builder’s Environmental Obligations, be responsible, at its own cost and risk, for designing and performing all environmental mitigation, replacement, in-lieu payments and offset measures required as a result of or arising out of the performance of the Project Work, except only the City’s Environmental Obligations.
- (f) For certainty, and other than as expressly set out in Section 15.2(a)(i)(3) below, Design-Builder’s responsibility and entitlements as such relates to Contamination, Excess Soil, Unusable Soil and Hazardous Substances are fully and completely set out in this Schedule.
- (g) Design-Builder agrees that the City shall own all credits, offsets, allowances, certificates, units, and all other rights or benefits of any kind or nature whatsoever resulting from or relating to the actual or assumed reduction, displacement or offset of GHGs, carbon emissions and any other similar environmental credits, allowances, entitlements, rights or benefits arising from or associated with the Project and the Project Work (collectively, the “**GHG and Environmental Benefits**”). Design-Builder hereby transfers and assigns all GHG and Environmental Benefits to the City and waives for itself and for and on behalf of each Design-Builder Person any and all right, title and interest in and to any GHG and Environmental Benefits.

2. ENVIRONMENTAL MANAGEMENT MANDATE

- (a) Section 2 [*Environmental Management Mandate*] sets out the environmental management mandate for the Project (the “**Environmental Management Mandate**”).
- (b) The Project Work will be undertaken within the boundaries of, and in proximity to, the Blackmud Creek River Valley, as shown in Figure 1 of Appendix 10A (the “**Sensitive Area**”).

The Sensitive Area is highly valued by the City and the citizens of Edmonton for the biophysical resources and socio-economic amenities the Sensitive Area supports and provides.

- (c) Design-Builder shall not disturb or cross the Blackmud Creek High Water Mark within the Lands or perform any Project Work that could disturb or cross these boundaries, unless Design-Builder first obtains all necessary approvals or authorizations to disturb the bed and shore of such water body. Design-Builder shall provide copies of all correspondence and queries related to the need for such approvals or authorizations to the City. Design-Builder shall ensure that if it applies for any approval or authorization, Design-Builder shall, concurrently with submitting the applicable approval or application package, provide the complete package with all supporting information to the City and shall provide to the City copies of all correspondence and queries relating to such application.
- (d) Design-Builder shall ensure that all aspects of the Project and the Project Work and that all activities of Design-Builder and all Design-Builder Persons under this Agreement are carried out:
 - (i) in a manner that minimizes, with respect to the Sensitive Areas and areas adjacent to the Sensitive Areas, to the maximum extent feasible, adverse impacts to such areas and to the biophysical resources and socio-economic amenities in such areas. For the purposes of this Section 2(d)(i), “biophysical resources” includes those resources defined as “Valued Ecosystem Components” in the Environmental Impact Assessment completed for this Project;
 - (ii) in a manner that minimizes, with respect to all other areas of the Lands, to the extent reasonable, adverse impacts to such areas and adjacent areas and to the environment and environmental resources within such areas; and
 - (iii) in accordance with Environmental Best Management Practices.
- (e) Design-Builder shall not do nor permit to be done anything which is inconsistent with Environmental Best Management Practices.

3. CITY OF EDMONTON ENVIRONMENTAL REQUIREMENTS

- (a) Without limiting Design-Builder’s obligation to comply with Applicable Law, Design-Builder shall ensure that all aspects of the Project, the Project Work and the Infrastructure and that all activities of Design-Builder and all Design-Builder Persons under this Agreement comply in all respects with:
 - (i) the following City bylaws and directives, as each may be amended, supplemented or replaced from time to time, which are available on the City’s website:

- (1) *North Saskatchewan River Valley Area Redevelopment Plan Bylaw, 7188 (“Bylaw 7188”);*
 - (2) *Community Standards Bylaw, 14600;*
 - (3) *Drainage Bylaw, 18093;*
 - (4) *EPCOR Drainage Services and Wastewater Treatment Bylaw, 19627;*
 - (5) *Parkland Bylaw, 2202;*
 - (6) *Public Tree Bylaw, 18825;*
 - (7) *Vehicle Idle Control Directive, A1477;*
 - (8) *Waste Services Bylaw, 18590;*
 - (9) any other City bylaw identified in this Schedule; and
 - (10) any other City bylaw relating in whole or in part to the protection of the Environment, whether introduced before or after the Effective Date;
- (ii) the following City policies, guidelines, plans or strategies, as each may be amended, supplemented or replaced from time to time, which are available on the City’s website:
- (1) ENVISO;
 - (2) *Natural Area Systems Policy (C531);*
 - (3) *Environmental Policy (C512);*
 - (4) *Corporate Tree Management Policy (C456B);*
 - (5) *Development Setbacks from River Valley/Ravine Crests Policy (C542);*
 - (6) *Urban Traffic Noise Policy (C506A);*
 - (7) “Edmonton’s Community Energy Transition Strategy and Action Plan” (April 29, 2021);
 - (8) *Green Building Policy (C567);*
 - (9) “City of Edmonton Wildlife Passage Engineering Design Guidelines” (June 2010);
 - (10) “Environmental Construction Operations (ECO) Plan Framework: Instructions for Preparing ECO Plans for Alberta Transportation, City of Calgary and City of Edmonton Construction Projects” (July 6, 2020)(the “**ECO Plan Framework**”);
 - (11) *Sustainable Procurement Policy (C556);*

- (12) "City of Edmonton Erosion and Sedimentation Control Guidelines" (January 2005) and "Erosion and Sedimentation Control Field Manual" (January 2005);
 - (13) *Integrated Pest Management Policy* (C501A); and
 - (14) *Snow and Ice Control Policy* (C409J).
- (b) In cases where an Applicable Law is directed at the City or activities conducted by the City, then, for the purposes of this Agreement, Design-Builder shall, and shall cause all Design-Builder Persons to, conduct the relevant Project Work in the same manner as the City would be required to conduct its own work in order to comply with Applicable Law.
 - (c) Design-Builder acknowledges that ENVISO is subject to internal and external audits. Design-Builder shall, and shall cause all Design-Builder Persons to review and comply with all requirements set out in the ENVISO contractor's environmental responsibility package. Design-Builder shall review all ENVISO bulletins and monitoring forms to identify those applicable to the Project and the Project Work, and Design-Builder shall ensure compliance with such bulletins and monitoring forms throughout the Term.

4. ENVIRONMENTAL ASSESSMENT REQUIREMENTS

- (a) Without limiting Design-Builder's obligation to comply with Bylaw 7188 and all associated requirements as identified within the Environmental Impact Assessment, Design-Builder shall file a request for review pursuant to Bylaw 7188 for any proposed:
 - (i) modification to Lands or facilities; and
 - (ii) Construction on or disturbance of Lands,

which are outside the boundaries of the Lands shown in Figure 1 of Appendix 10A but which are within the boundaries of the area subject to Bylaw 7188. Design-Builder shall comply with all requirements established pursuant to such request for review.
- (b) Without limiting Design-Builder's obligation to comply with the City's *Environmental Policy* (C512) and *Natural Area Systems Policy* (C531), Design-Builder shall file an application for an environmental review pursuant to such policies for any proposed:
 - (i) modification to Lands or facilities; and
 - (ii) Construction on or disturbance of Lands,

that requires encroachment into the Sensitive Area. Design-Builder shall comply with all requirements established pursuant to such environmental review.

5. ENVIRONMENTAL PERMITTING REQUIREMENTS

- (a) Requirements for obtaining Environmental Permits are described in Schedule 28 [*Project Approvals and Utility Matters*] Part 1 [*Project Approvals*].

6. RESPONSIBILITY FOR FURTHER ENVIRONMENTAL STUDIES

- (a) In addition to the specific plans, studies and reports referred to in this Schedule, Design-Builder shall conduct all studies required to comply with Applicable Law, to obtain, comply with and maintain all Environmental Permits and to otherwise ensure and to

demonstrate that the Project, the Project Work and the Infrastructure and that all activities of Design-Builder and all Design-Builder Persons under this Agreement comply with Design-Builder's Environmental Obligations, including the Environmental Management Mandate.

7. ENVIRONMENTAL MANAGEMENT PERSONNEL

- (a) Design-Builder shall cause all of Design-Builder's Environmental Obligations, including all environmental monitoring and the development of all environmental mitigation measures and plans, to be performed by personnel with directly relevant and appropriate experience, training and expertise to complete such work in a way that ensures that the Environmental Management Mandate is achieved. Without limiting the generality of the foregoing, this requirement shall apply to all environmental managers, environmental monitors and environmental specialists and all environmental Subcontractors engaged for specific environmental management, protection or monitoring tasks.
- (b) Design-Builder shall retain an Environmental Manager that meets the requirements for such position as set out in Appendix 26A [*Key Individuals Specific Mandatory Requirements*] of Schedule 26 [*Representatives and Key Individuals*].
- (c) Design-Builder shall appoint one or more Environmental Monitors and shall ensure that the Environmental Monitors have the responsibility and authority for:
 - (i) developing and implementing all environmental monitoring and inspection programs as required under Section 13 [*Environmental Compliance Monitoring And Inspection Programs*];
 - (ii) implementing the environmental auditing program as required under Section 13 [*Environmental Compliance Monitoring And Inspection Programs*];
 - (iii) ensuring that the results of all monitoring, inspection and audits are reported as required under Applicable Law and to the City as required under this Agreement; and
 - (iv) stopping any or all of the Project Work if any environmental monitoring, inspection or audit indicates that the Project Work does not comply with any of Design-Builder's Environmental Obligations.
- (d) Each Environmental Monitor shall have the following minimum qualifications:
 - (i) registered or eligible to be registered in a related professional association in Alberta (e.g. Alberta Society of Professional Biologists, Alberta Institute of Agrologists, Eco Canada), or certified as a Certified Professional in Erosion and Sediment Control by the Erosion and Sediment Control Association of Canada; and
 - (ii) two years' experience in construction monitoring and environmental compliance.
- (e) Design-Builder shall have available at all times during the Construction Period a multi-disciplinary team of qualified environmental specialists, including those specialists specifically identified in this Schedule, sufficient to ensure Design-Builder's compliance with Design-Builder's Environmental Obligations. Without limiting the generality of the foregoing, and in addition to the Environmental Manager and the Environmental Monitor(s), Design-Builder shall also engage qualified environmental specialists to address certain aspects of Design-Builder's Environmental Obligations, including:

- (i) a wildlife biologist;
- (ii) a fisheries biologist;
- (iii) an agrologist with specialization in soil science;
- (iv) a Certified Professional in Erosion and Sediment Control (CPESC);
- (v) a Contamination specialist;
- (vi) a Canadian Registered Safety Professional or Certified Industrial Hygienist; and
- (vii) a Forest Reclamation/Restoration Specialist.

8. ENVIRONMENTAL MANAGEMENT SYSTEM

8.1 Environmental Management System

- (a) Design-Builder shall develop, implement, update, monitor and comply with an Environmental Management System that:
 - (i) complies with the requirements of the ISO 14001 standard for environmental management systems and contains detailed documented information addressing all elements of the ISO 14001 standard;
 - (ii) covers all aspects of the Project and the Project Work, including all Design and Construction activities, products and services related to the Project and the Project Work, and all stages of the Project and the Project Work;
 - (iii) sets out policies, procedures, standards, methods and measures Design-Builder will implement to ensure compliance with Applicable Law, the Environmental Permits, and Design-Builder's Environmental Obligations, including the Environmental Management Mandate; and
 - (iv) contains all the Environmental Plans required by this Schedule, including those Environmental Plans identified in Section 9.1 [*Environmental Plans*].
- (b) Design-Builder shall not commence any Project Work that involves any physical disturbance of the Lands until the EMS and all Environmental Plans applicable to such Project Work have been submitted to, and Accepted by, the City. Notwithstanding the foregoing, Design-Builder shall be permitted to conduct site investigations and testing that requires physical disturbance of the Lands prior to the EMS being Accepted by the City, provided that prior to undertaking such site investigations and testing, Design-Builder submits to the City a specific environmental protection plan for such work describing in detail:
 - (i) the description of the proposed work;
 - (ii) the location of the proposed work, including showing the proposed work on a drawing; and
 - (iii) the specific environmental protection measures to be implemented for that site, commensurate with the activity proposed;

and which complies with the requirements of Section 9.1(b) below, and which is Accepted by the City. Design-Builder recognizes and agrees that the City, in its review of such environmental protection plan pursuant to the Review Procedure, may impose certain conditions on such work to address drilling in Sensitive Areas, and to address the potential for high volumes of drilling to generate dust, noise and other annoyances for businesses and neighbours in the vicinity of the proposed work.

8.2 Compliance with Environmental Management System

- (a) Design-Builder shall implement, update, monitor and comply with, and shall cause all Design-Builder Persons to comply with, the Accepted EMS, and any subsequent amendments to the EMS, which have been Accepted by the City.

8.3 Review and Amendment of Environmental Management System

- (a) Design-Builder shall promptly amend the EMS from time to time during the Construction Period as required to ensure that the EMS, at all times:
 - (i) is appropriate for the status and stage of the Project Work;
 - (ii) is in compliance with the requirements of Section 8.1(a) above;
 - (iii) is in compliance with:
 - (1) any amendments to the ISO 14001 standard for environmental management systems, or any new ISO standard for environmental management systems that replaces the ISO 14001 standard;
 - (2) any amended or new Applicable Law or Environmental Permits; and
 - (3) any new policies or standards implemented by the City with respect to environmental protection; and
 - (iv) addresses breaches of Design-Builder's Environmental Obligations in such a manner so as to minimize the risk of future breaches of Design-Builder's Environmental Obligations.
- (b) In addition to the requirements of Section 8.3(a) above, Design-Builder shall submit to the City an updated EMS on each anniversary of the Effective Date. Design-Builder shall revise and resubmit to the City the EMS as required in order to achieve an Accepted EMS within 45 days of the initial submittal.

9. ENVIRONMENTAL PLANS - GENERAL

9.1 Environmental Plans

- (a) Design-Builder shall, as part of the EMS, prepare and submit to the City environmental plans which address all environmental aspects, risks, objectives, targets, issues and specifications identified in this Schedule and which are otherwise required by Good Industry Practice or Regulatory Approvals (each, an "**Environmental Plan**") to ensure that the Project, the Project Work and the Infrastructure and all activities of Design-Builder and all Design-Builder Persons under this Agreement comply with Design-Builder's Environmental Obligations, including the Environmental Management Mandate. Without limiting the generality of the foregoing, Design-Builder shall prepare and submit the following Environmental Plans:

- (i) the ECO Plan, in accordance with Section 10 [*Environmental Construction Operations Plan*] and Section 15.7(e) below;
 - (ii) the ESC Plan and site-specific erosion and sedimentation control plans, in accordance with Section 11 [*Erosion and Sedimentation Control Plan*];
 - (iii) the Integrated Pest Management Plan, in accordance with Section 12 [*Integrated Pest Management Plan*];
 - (iv) the Contamination Management Plan, in accordance with Section 15.1 [*Contamination Management Plan*];
 - (v) the Hazardous Substances and Waste Management Plan, in accordance with Section 15.7 [*Hazardous Substances and Waste*];
 - (vi) the Bat Mitigation Plan, as required in accordance with Section 16.2 [*Restricted Activities for Bat Mitigation Measures*];
 - (vii) the Dust Control Plan, in accordance with Section 17 [*Site Clearing, Demolition and Dust Control*]; and
 - (viii) the Naturalization Plan, in accordance with Section 20 [*Naturalization Areas*].
- (b) Each Environmental Plan shall:
- (i) be in compliance with Good Industry Practice;
 - (ii) describe the potential environmental effects associated with the aspects of the Project, the Project Work and the Infrastructure and the activities of Design-Builder and all Design-Builder Persons under this Agreement that are the subject of the Environmental Plan;
 - (iii) clearly document all measures that shall be implemented and all actions that shall be taken to mitigate such potential environmental effects;
 - (iv) contain a detailed environmental monitoring and inspection program in accordance with the requirements of Section 13 [*Environmental Compliance Monitoring and Inspection Programs*]; and
 - (v) contain policies, procedures, measures and monitoring requirements sufficient to ensure that the Project, the Project Work, the Infrastructure and the Lands and all activities of Design-Builder and all Design-Builder Persons under this Agreement comply with:
 - (1) Applicable Law and the Environmental Permits;
 - (2) Design-Builder's Environmental Obligations, including the Environmental Management Mandate; and
 - (3) the specific objectives and requirements specified in this Schedule for each Environmental Plan.

9.2 Compliance with Environmental Plans

- (a) Design-Builder shall not commence any Project Work which is the subject of an Environmental Plan until the applicable Environmental Plan has been submitted to, and Accepted by, the City.
- (b) Design-Builder shall implement, maintain, monitor and comply with, and shall cause all Design-Builder Persons to comply with, each of the Accepted Environmental Plans, and any subsequent amendments to the Environmental Plans, which have been Accepted by the City.

9.3 Review and Amendment of Environmental Plans

- (a) Design-Builder shall regularly review and amend each of the Environmental Plans as required to ensure that each Environmental Plan, at all times:
 - (i) addresses new environmental aspects, changes in Design condition or footprint, risks, objectives, targets, issues and specifications that arise during the Project and the Project Work;
 - (ii) is in compliance with the requirements of Section 9.1 [*Environmental Plans*]; and
 - (iii) addresses breaches of Design-Builder's Environmental Obligations in such a manner so as to minimize the risk of future breaches of Design-Builder's Environmental Obligations.
- (b) In addition to the requirements of Section 9.3(a) above, Design-Builder shall submit to the City updates for each Environmental Plan on each anniversary of the Effective Date. Design-Builder shall revise and resubmit to the City any applicable Environmental Plans as required in order to achieve Accepted Environmental Plans within 45 days of the initial submittal.
- (c) Without limiting Section 9.3(a) above, Design-Builder shall ensure that all Environmental Plans are reviewed at the Design-Builder ISO 14001 EMS annual management review.
- (d) Prior to commencing any Project Work not covered by an Accepted Environmental Plan and prior to commencing any Project Work that is affected by a proposed amendment to an Accepted Environmental Plan, Design-Builder shall submit to the City a new Environmental Plan or the proposed amendments covering such Project Work, as the case may be.

10. ENVIRONMENTAL CONSTRUCTION OPERATIONS PLAN

- (a) Design-Builder shall develop an environmental construction operations plan (the "**ECO Plan**") that applies to all aspects of the Project and the Project Work and that is prepared in accordance with and complies with the requirements of the ECO Plan Framework and the requirements of this Schedule, including Section 9 [*Environmental Plans – General*], and shall:
 - (i) contain measures, procedures and plans to address the following specific Project aspects, issues, activities and site sensitivities:
 - (1) vegetation clearing, establishment and management (including weed control);

- (2) topsoil salvage and handling procedures, planned stockpiling locations, and topsoil replacement strategies;
 - (3) equipment cleaning as a means of weed control in all exposed soil areas;
 - (4) wildlife identification, conflict and movement management strategies;
 - (5) potential impacts and mitigations to water bodies and aquatic resources;
 - (6) fire response procedures for natural areas and fire hazard abatement measures to minimize fire risk in natural areas;
 - (7) laydown activities near sensitive slopes at Blackmud Creek River Valley. Laydown area shall not extend beyond manicured areas and slopes shall not be altered;
 - (8) removal, abandonment, relocation and installation of Utility Infrastructure, to be undertaken by Design-Builder, including:
 - A. procedures for pipeline abandonment, relocation, removals and installations;
 - B. procedures for sewer and water abandonments, relocations and removals; and
 - C. procedures for removal, relocation and installation of telecommunications and electrical cables, panels, conduits and other similar installations,

applicable to all Project-related Utility Infrastructure removals, abandonments, relocations and installations occurring within and outside the boundaries of the Lands;
 - (9) water management, including surface water run-off management, groundwater management, wastewater management, Stormwater Management, and dewatering procedures and protocols;
 - (10) procedures for snow and ice removal, storage and disposal; and
 - (11) upkeep and maintenance of all laydown areas, and components thereof, throughout the Construction Period.
- (b) Without limiting Section 9.3 *[Review and Amendment of Environmental Plans]*, Design-Builder shall regularly review and amend the ECO Plan to address new Project Work activities, Construction areas and laydown areas.

11. EROSION AND SEDIMENTATION CONTROL PLAN

- (a) Design-Builder shall develop an erosion and sedimentation control plan (the “**ESC Plan**”) that applies to all aspects of the Project and the Project Work and that is prepared in accordance with and complies with the requirements of the City’s “Erosion and Sedimentation Control Guidelines” (January 2005), available on the City’s website, and the requirements of this Schedule, including Section 9 *[Environmental Plans – General]*, and shall:

- (i) contain erosion and sedimentation control requirements specific to the Project layout, measures and procedures that apply throughout the Lands; and
 - (ii) contain a detailed description of all equipment and materials required for implementation of the ESC Plan.
- (b) Design-Builder shall also develop site-specific erosion and sedimentation control plans for the Blackmud Creek River Valley.
 - (c) The ESC Plan and all site-specific erosion and sedimentation control plans shall be developed, signed and stamped by a Certified Professional in Erosion and Sediment Control (CPESC). Design-Builder shall implement, update, maintain and monitor such plans.
 - (d) Immediately upon commencement of any vegetation clearing, Design-Builder shall implement erosion and sedimentation control measures that comply with the Accepted ESC Plans.
 - (e) In cases where vegetation clearing on slopes occurs more than two days in advance of earthworks or other activity, Design-Builder shall only remove vegetation to ground level and shall leave root networks intact until earthworks begin and erosion and sediment control measures are in place. For the purposes of this Section 11(e), “earthworks” means excavation, soil stripping, levelling, or fill placement that occurs on a continuous basis to prepare a site for Construction activities.
 - (f) All municipal catch basins receiving water from within the Lands shall be hoarded or otherwise protected from sediment deposition until all disturbed surfaces within the catchment support stabilizing vegetation or another permanent surface treatment.
 - (g) For clarity, all planned ESC measures to be employed must also be shown on the relevant detailed Design packages for review and Acceptance by the City. The review and Acceptance of permanent ESC measures in detailed Design packages supersedes any permanent ESC measures contained in any Accepted ESC Plans.

12. INTEGRATED PEST MANAGEMENT PLAN

- (a) Design-Builder shall develop an integrated pest management plan (the “**Integrated Pest Management Plan**”) that applies to all aspects of the Project and the Project Work and that is prepared in accordance with and complies with the requirements of this Schedule, including Section 9 [*Environmental Plans – General*]. The Integrated Pest Management Plan shall:
 - (i) address pest management throughout the Construction Period;
 - (ii) provide a description of the overall approach to pest management;
 - (iii) address:
 - (1) measures for ensuring that Design-Builder complies with the requirements described in Section 19.3 [*Weed and Exotic Species Management*] and the other provisions of this Schedule referred to therein;
 - (2) measures for reducing the need for and use of chemical control measures;

- (3) protocols for the use of chemical control near water bodies;
 - (4) specific sensitivities present within the Lands and areas immediately adjacent to the Lands that might be impacted by pest management, such as water bodies, natural areas, residential areas, and specific procedures to be implemented in areas where such sensitivities are present;
 - (5) monitoring and inspection methods, timing and action levels;
 - (6) measures for public notification in advance of chemical treatment;
 - (7) management, control and preventative measures; and
 - (8) protocols for updates to the Integrated Pest Management Plan to reflect conditions noted during interim inspections undertaken at the times specified in the Integrated Pest Management Plan; and
- (iv) comply with the “Environmental Code of Practice for Pesticides” issued by AEP, as amended from time to time.
- (b) The term “pest” includes anything that is defined as a “pest” in the City’s *Integrated Pest Management Policy* (C501), or that has been designated as a “pest” under the *Agricultural Pests Act* (Alberta) where that designation applies to lands within the city of Edmonton.
- (c) Design-Builder shall ensure that the measures contained within the Integrated Pest Management Plan are sufficient to ensure compliance with the requirements of the *Weed Control Act* (Alberta) and the *Agricultural Pests Act* (Alberta).

13. ENVIRONMENTAL COMPLIANCE MONITORING AND INSPECTION PROGRAMS

- (a) Design-Builder shall ensure that the EMS and all Environmental Plans include detailed environmental monitoring and inspection programs that are sufficient to verify, at reasonable intervals (taking into account the sensitivity and complexity of the particular area and/or issue and applicable requirements under Applicable Law and the Environmental Permits), Design-Builder’s and all Design-Builder Person’s compliance with all of Design-Builder’s Environmental Obligations, including compliance with the EMS and all Environmental Plans. Such monitoring and inspection programs shall include:
- (i) the scope of the monitoring and inspection program, including the scope of site inspections to be conducted by the Environmental Monitor;
 - (ii) the frequency of the monitoring and inspection program;
 - (iii) a listing of applicable performance requirement criteria, including requirements under Applicable Law, the Environmental Permits and the Environmental Plans;
 - (iv) methodologies for monitoring, measurement, analysis and evaluation, including identification of all laboratories that will be used for testing purposes, all of which laboratories shall have all certifications and qualifications required under Applicable Law and by the Province of Alberta, as amended from time to time;
 - (v) reporting procedures;

- (vi) responsibilities and requirements for conducting inspections, monitoring programs, reporting results and follow-up actions; and
 - (vii) procedures for addressing any breach of Design-Builder's Environmental Obligations, including any additional monitoring that will be undertaken following any such breach to mitigate the risk of a further breach of Design-Builder's Environmental Obligations.
- (b) Each Monday until the end of the Construction Period, Design-Builder shall submit to the City a report:
- (i) describing the results of all monitoring and inspections completed during the immediately preceding seven day period ending on Sunday;
 - (ii) attaching photographs, copies of all raw field monitoring sheets and raw data, test results and analysis received during such seven day period; and
 - (iii) describing any breaches of, or failures to comply with, any of Design-Builder's Environmental Obligations, including any Environmental Plan, and describing the measures taken by Design-Builder to address such breach or failure to comply, including any amendments made or to be made by Design-Builder to the EMS or any Environmental Plan to prevent a recurrence of such breach or failure to comply.
- (c) Design-Builder shall implement a system to effectively track progress in resolving any breach or failure to comply with any of Design-Builder's Environmental Obligations and opportunities for improvements.
- (d) Without limiting the generality of Section 13(b) above, Design-Builder shall, within 24 hours:
- (i) after Design-Builder or a Design-Builder Person becoming aware of any breach of, or failure to comply with, any Applicable Law or any Environmental Permit by Design-Builder or any Design-Builder Person; or
 - (ii) after receipt of any charge, order, investigation or notice of violation or non-compliance issued against Design-Builder or any Design-Builder Person under any Applicable Law or any Environmental Permit; or
 - (iii) after Design-Builder or a Design-Builder Person becoming aware of any notice, claim, action or other proceeding by any Person or Governmental Authority against Design-Builder or any Design-Builder Person alleging any liability under any Applicable Law;
- verbally notify the City describing the breach or failure to comply, or the charge, order, investigation or notice of violation or non-compliance, or the notice, claim, action or other proceeding and the measures taken by Design-Builder to address the situation. Design-Builder shall submit to the City a written report containing such information and any additional relevant information within 72 hours after providing the verbal notification.
- (e) Where any breach or failure to comply with an Applicable Law or Environmental Permit requires a written report to any Governmental Authority, Design-Builder shall be responsible for completing and filing that report, provided that:

- (i) prior to filing such report, Design-Builder shall submit to the City a copy of the proposed report within 72 hours after the breach or failure to comply; and
- (ii) Design-Builder shall not submit the report to the Governmental Authority before the earlier of:
 - (1) the date on which the City has Accepted the report, provided that in this case, the time for the City's review under Schedule 2 [*Submittal Review Procedure*] will be 72 hours; and
 - (2) the last date for filing the report with the Governmental Authority under Applicable Law.

14. EMS AUDITS

14.1 Internal EMS Audits

- (a) Design-Builder shall undertake internal audits of all elements of the EMS in accordance with ISO 19011: Guidelines for Auditing Management Systems until the end of the Construction Period, with the first such audit to be completed no later than 120 days after the Effective Date and continuing thereafter at six-month intervals.
- (b) Design-Builder shall ensure that all internal EMS auditors have the following minimum qualifications:
 - (i) experience in auditing complex linear transportation projects with Design and Construction activities completed by the contractor; and
 - (ii) familiarity with federal, provincial and municipal compliance obligations of the Project.
- (c) Design-Builder shall ensure that the audit process follows the ISO 19011: Guidelines for Auditing Management Systems, as amended or substituted from time to time.
- (d) Without limiting any other requirements of Section 14.1 [*Internal EMS Audits*], Design-Builder shall ensure:
 - (i) that the audit assesses whether:
 - (1) all input requirements have been adhered to;
 - (2) the EMS is implemented and in compliance with all requirements of this Schedule; and
 - (3) Design-Builder and all Design-Builder Persons have complied with the EMS; and
 - (ii) that the audit report documents any failures to comply with any of the foregoing.
- (e) Design-Builder shall ensure that an audit report is prepared for all internal EMS audits and that the Environmental Manager signs each audit report to acknowledge the audit findings. Design-Builder shall submit to the City each internal EMS audit report, with the Environmental Manager's signature on the report, within 7 days after completion of the audit.

- (f) Without limiting or otherwise affecting the provisions of Schedule 9 *[Quality Management]* with respect to Nonconformities, and in addition to the requirements of Schedule 9 *[Quality Management]*, Design-Builder shall:
 - (i) using its best efforts, complete all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the internal EMS auditor within 30 days after the completion of the audit; and
 - (ii) submit evidence, including auditor acceptance, of the completion of all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the internal EMS auditor within 45 days after completion of the audit.

14.2 External EMS Audits

- (a) Design-Builder shall undertake external EMS compliance audits in accordance with ISO 19011: Guidelines for Auditing Management Systems. Design-Builder shall ensure that a full external EMS audit is completed each year until the end of the Construction Period. Design-Builder shall ensure that external EMS audits are scheduled no earlier than 45 days after the completion of an internal audit.
- (b) Design-Builder shall ensure that all external EMS auditors are:
 - (i) certified by an accredited auditors' registration body;
 - (ii) not employees of Design-Builder, a Design-Builder Person, an entity that has a material contract with Design-Builder or any Design-Builder Person, or an entity that is affiliated with, or related to, any such entity;
 - (iii) qualified to conduct an audit of the full scope of the EMS;
 - (iv) experienced in auditing similar type of projects; and
 - (v) familiar with the federal, provincial and municipal compliance obligations of the Project.
- (c) Design-Builder shall ensure that the audit process follows ISO 19011: Guidelines for Auditing Management Systems, as amended or substituted from time to time.
- (d) Without limiting any other requirements of this Section 14.2 *[External EMS Audits]*, Design-Builder shall ensure:
 - (i) that the audit assesses whether:
 - (1) all input requirements have been adhered to;
 - (2) the EMS is implemented in compliance with all requirements of this Schedule; and
 - (3) Design-Builder and all Design-Builder Persons have complied with the EMS; and
 - (ii) that the audit report documents any failures to comply with any of the foregoing.

- (e) Design-Builder shall ensure that an audit report is prepared for all external EMS audits and that the Environmental Manager signs each audit report to acknowledge the audit findings. Design-Builder shall submit to the City each external EMS audit report, with the Environmental Manager's signature on the report, within seven days after completion of the audit.
- (f) Without limiting or otherwise affecting the provisions of Schedule 9 *[Quality Management]* with respect to Nonconformities, and in addition to the requirements of Schedule 9 *[Quality Management]*, Design-Builder shall:
 - (i) using its best efforts, complete all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the external EMS auditor within 30 days after the completion of the audit; and
 - (ii) submit evidence, including auditor acceptance, of the completion of all Corrective Actions and Preventive Actions in respect of all Nonconformities and Deficiencies and opportunities for improvements which are identified by the external EMS auditor within 45 days after completion of the audit.

15. CONTAMINATION, HAZARDOUS SUBSTANCES AND WASTE

15.1 Contamination Management Plan

- (a) Design-Builder shall, prior to commencing any ground disturbance activity, submit to the City a contamination management plan (the "**Contamination Management Plan**"), which shall:
 - (i) outline the strategy, including any planned testing, Design-Builder will implement to address identified Contamination at Known Contaminated Locations as well as potential encounters with unknown Contamination;
 - (ii) include mitigation measures for any water encountered within an excavation or which enters an excavation (such as stormwater) at a Known Contaminated Location or unknown contaminated site and the protection Design-Builder will implement to prevent erosion of excavations;
 - (iii) include the procedures, measures, methods and actions Design-Builder shall implement to comply with the requirements of this Schedule;
 - (iv) include the parameters Design-Builder will test for and the location from which samples will be collected in the event of an encounter with unknown Contamination;
 - (v) identify records that will be provided to the City for any testing for Contamination;
 - (vi) identify the location(s) from which and the frequency that boundary samples will be collected at the limits of excavations at a Known Contaminated Location or when unknown Contamination is encountered and it is determined that excavation of such material is required;
 - (vii) identify the strategy Design-Builder will implement to mitigate impacts to the Construction Schedule as a result of encountering Contamination;

- (viii) for Known Contaminated Locations where the Contamination consists of petroleum hydrocarbons, detail the installation of an oil resistant geomembrane along the boundary of the relevant excavation; and
 - (ix) meet the requirements of the Beneficial Reuse and Soil Management Strategy.
- (b) Design-Builder shall cause a professional meeting the requirements set out in Section 15.3(c) below to prepare and sign the Contamination Management Plan.
- (c) Notwithstanding Section 15.1(a) above, Design-Builder shall be permitted to conduct site investigations and testing that requires ground disturbance activity prior to the Contamination Management Plan being Accepted by the City, provided that as part of the environmental protection plan described in Section 8.1(b) above Design-Builder includes a specific Contamination Management Plan for such work that complies with the requirements of Sections 15.1(a)(i) through to and including Section 15.1(a)(viii) above.

15.2 Responsibility for Contamination

- (a) The Design-Builder shall be responsible for:
- (i) Contamination on, in or under, the Lands as set out below:
 - (1) Design-Builder is solely responsible for soil containing Contamination up to 15,000 m³, including all costs, schedule and other impacts;
 - (2) managing volumes of soil containing Contamination greater than 15,000 m³ at a unit rate of [REDACTED]. The unit rate is full compensation to the Design-Builder for all costs and schedule impacts associated with managing this Contamination. The volume of soil containing Contamination will be calculated from evidence of weight provided by the disposal facility and agreed upon densities for the soil containing Contamination, or as otherwise agreed by the City;
 - (3) managing volumes of soil containing Contamination greater than 50,000 m³, shall be considered a Relief Event in accordance with Section 10 [*Relief Events and Limited Relief Events*] of the Agreement;
 - (4) that is caused by the Design-Builder or any Design-Builder Person at the Design-Builder's sole cost;
 - (ii) maximizing beneficial reuse as per Section 15.5 [*Soils Available for Reuse*];
 - (iii) making commercially reasonable efforts to not disturb Contamination and only excavate Contamination necessary to carry out the Project Work; and
 - (iv) handling Contamination in a manner that does not adversely impact the environment or exacerbate existing Contamination.
- (b) The City shall be responsible for Contamination on, in or under, the Lands the responsibility for which is expressly allocated to the City pursuant to Section 15 [*Contamination, Hazardous Substances and Waste*].

15.3 Testing for and Disposal of Contamination

- (a) The City has undertaken sampling relating to deicing compounds, electrical conductivity (EC) and sodium adsorption ratio (SAR), pH, and selenium. The Design-Builder shall utilize existing information for beneficial reuse decisions.
- (b) Notwithstanding anything to the contrary in this Agreement, under no circumstances will Design-Builder be entitled to be reimbursed for the cost of any testing of soils or groundwater for deicing compounds, EC, SAR, pH, and selenium.
- (c) Any testing and disposal of Contamination undertaken by the Design-Builder shall be:
 - (i) composite samples from every 50 m³ of Contaminated materials, and such samples shall be sent to a CALA accredited laboratory to be analyzed for only the potential contaminants of concern. Each sample shall be comprised of a minimum of four spatially discrete samples. Discrete samples will not be accepted to define Contamination; and
 - (ii) directed, monitored and documented by professionals who:
 - (1) are members in good standing of one of the following professional regulatory organizations: Alberta Institute of Agrologists (AIA), Association of the Chemical Profession of Alberta (ACPA), Association of Professional Engineers and Geoscientists of Alberta (APEGA), Association of Science and Engineering Technology Professionals of Alberta (ASET);
 - (2) have a minimum of five years relevant experience in remediation based on the “Competencies for Reclamation and Remediation Advisory Committee’s Recommendations Report” (AENV 2006); and
 - (3) are covered under the professional liability (errors and omissions) insurance described in Appendix 17A [*Insurance Requirements*] of Schedule 17 [*Insurance and Performance Security Requirements*].

15.4 Known Contaminated Locations

- (a) The City has identified Contamination at the locations within the Lands generally shown in Figures 2A-D of Appendix 10A (the “**Known Contaminated Locations**”) and as described in the Beneficial Reuse and Soil Management Strategy.
- (b) Design-Builder shall be fully responsible for all management, excavation, removal and abatement of all Contamination identified by the City at the Known Contaminated Locations, but only to the extent of the Project Work undertaken within the Known Contaminated Locations, and shall be fully responsible for obtaining any required backfill. Design-Builder shall dispose of all excavated Contamination at licensed disposal facilities. Design-Builder shall be fully responsible for all costs and risks associated with or arising out of the foregoing obligations, subject to Section 15.2 [*Responsibility for Contamination*].
- (c) If Design-Builder excavates Contamination at a Known Contaminated Location, then it shall do so only to the extent required to complete the Project Work.

15.5 Soils Available for Reuse

- (a) It is known that there are soil impacts associated with the use of deicing compounds applied to Roadways, impacting soils EC and SAR values. In addition there are known exceedances of pH and selenium. Soils impacted by deicing compounds, EC, SAR, pH, and selenium soil values that are outside of acceptable ranges defined with the Alberta Tier 1 Guideline for commercial land use, fine-grained soil criteria, except such soils which contain Contamination (the “**Soils Available for Reuse**”) shall be reused by Design-Builder within the Lands to the extent possible to minimize backfill sourcing from off-Lands sources. Soils Available for Reuse must not be removed from the Lands unless consented to by the City. The City will obtain all required approvals or permissions associated with such reuse and will direct Design-Builder as necessary to ensure compliance with such approvals or permissions. It is the responsibility of the Design-Builder to integrate the requirements of the Beneficial Reuse and Soil Management Strategy into the management of Soils Available for Reuse.
- (b) If, after Design-Builder has reused as much of the Soils Available for Reuse as possible in accordance with Section 15.5(a) above, Design-Builder has an excess amount of such soils (the “**Excess Soil**”) or if such soils cannot be used by Design-Builder, including due to such soils being geotechnically unsuitable for reuse (the “**Unusable Soil**”), the Excess Soil and/or Unusable Soil shall be disposed of at licensed disposal facility. Design-Builder shall be fully responsible for all costs and risks associated with or arising out of the foregoing obligations, subject to Section 15.2 [*Responsibility for Contamination*].
- (c) The Design-Builder must develop and implement a plan to mix and amend excess topsoil at the Llew Lawrence OMF so that the topsoil pH is within the applicable Alberta Tier 1 Guidelines range of 6.0 to 8.5. The Design-Builder is responsible for removing excess topsoil that does not contain Contamination and that are not Soils Available for Reuse, at the Design-Builder’s sole expense.

15.6 Unknown Contamination

- (a) Upon the discovery of any Contamination not readily apparent in the Disclosed Data (including Contamination suspected through visual and olfactory observation), Design-Builder shall provide the City with verbal notice within 24 hours and written notice within 72 hours (after such discovery or suspicion) and shall comply, and ensure compliance by all Design-Builder Persons, with Schedule 10 [*Environmental Performance Requirements*].
- (b) Except to the extent required to prevent or mitigate an Emergency, Design-Builder shall not undertake any significant work pursuant to Section 15.6(a) above in respect of Contamination for which the City is responsible pursuant to Section 15.2(b) above until the City Representative has been given a reasonable opportunity to review the nature and extent of the Contamination and has instructed Design-Builder to proceed with such work.
- (c) If Design-Builder excavates soil pursuant to Section 15.6 [*Unknown Contamination*], then it shall do so only to the extent required to complete the Project Work.

15.7 Hazardous Substances and Waste

- (a) The City shall be responsible for Hazardous Substances and Releases of Hazardous Substances on, in or under, or migrating to or from, the Lands, except for any such Hazardous Substances and Releases of Hazardous Substances the responsibility for

which is expressly allocated to Design-Builder pursuant to Section 15 [*Contamination, Hazardous Substances and Waste*].

- (b) Design-Builder is fully responsible for the following Hazardous Substances and Releases of Hazardous Substances and all costs and risks associated with or arising out of the following:
 - (i) Hazardous Substances in Existing Infrastructure that could have been ascertained by Design-Builder or a Design-Builder Person by the exercise of Standard Due Diligence prior to the Financial Bid Response Deadline;
 - (ii) any Hazardous Substance brought onto or created on the Lands by Design-Builder or any Design-Builder Person, including any such Hazardous Substance that is incorporated into the Infrastructure or component thereof;
 - (iii) any Release of a Hazardous Substance caused by Design-Builder or a Design-Builder Person;
 - (iv) any Release of a Hazardous Substance caused directly or indirectly by any other Person to the extent the Release of that Hazardous Substance resulted directly or indirectly from a breach by Design-Builder or a Design-Builder Person of any of Design-Builder's obligations under this Agreement or a failure by Design-Builder or a Design-Builder Person to comply with any of Design-Builder's obligations under this Agreement; and
 - (v) any aggravation, exacerbation, migration of known, previously identified, discovered during Construction, or other increase in the area or costs of dealing with any Hazardous Substance to the extent caused directly or indirectly by the Legal Fault of Design-Builder or a Design-Builder Person.
- (c) Design-Builder shall remove all Hazardous Substances from all Existing Infrastructure and any Infrastructure to the extent that Design-Builder demolishes, abandons, removes or relocates such Existing Infrastructure or Infrastructure during any Project Work. Design-Builder shall remove all such Hazardous Substances from the Lands and shall dispose of all such Hazardous Substances at provincially licensed facilities. If Design-Builder demolishes, abandons, removes or relocates Existing Infrastructure, then it shall do so only to the extent required to complete the Project Work.
- (d) For the activities described in Section 15.7(c) above, Design-Builder shall develop a Hazardous Substances and Waste Management Plan which shall include:
 - (i) strategies and procedures for identifying, removing, handling, managing and disposing of Hazardous Substances in any Infrastructure and Existing Infrastructure prior to and during any Project Work that will involve the disturbance or any other dealing with any Hazardous Substances, including any Deconstruction Work or other demolition, removal, relocation, abandonment or rehabilitation forming part of the Project Work, which strategy shall include procedures for conducting a Hazardous Substance survey prior to commencement of any such work. Such surveys shall be conducted by a Canadian Registered Safety Professional or a Certified Industrial Hygienist who has a minimum of five years' experience in Hazardous Substance recognition and assessment;
 - (ii) hauling procedures for Hazardous Substances and proposed disposal locations for Hazardous Substances, including procedures to ensure that all hauling

- contractors and disposal locations have all required licenses and permits and tracking procedures to document the volume of Hazardous Substances sent for disposal and confirmation that all Hazardous Substances arrive at the specified disposal location; and
- (iii) measures to prevent public exposure to Hazardous Substances, which shall include fencing, where fencing is appropriate based on the nature, location and risk associated with the Hazardous Substance.
- (e) Design-Builder shall, as part of the ECO Plan, address the following items related to Design-Builder's use of Hazardous Substances and generation of Hazardous Substances and waste during all aspects of Project Work:
- (i) use of biodegradable hydraulic fluid for any Project Work that occurs within 6 m of a water body;
- (ii) all fuel tanks, including waste fuel and waste oil, and related piping meet the requirements of the National Fire Code Alberta Edition, as amended from time to time, have automatic shut off valves and are placed on non-porous material that is maintained to ensure that the material remains non-porous for the period during which the tank remains in place;
- (iii) oil-water separators are installed at locations as required to ensure that there is no discharge of oil to sewers, storm sewers or other watercourse;
- (iv) no underground storage tanks are installed by Design-Builder on the Lands and no fuel, including waste fuel and waste oil, storage occurs in Blackmud Creek River Valley, and within 100 m of the Blackmud Creek River Valley boundary;
- (v) fuels and other Hazardous Substances are stored:
- (1) in a manner that will prevent discharge into any watercourse or water body and that will prevent any other discharge that is prohibited by Applicable Law or Project Approval; and
- (2) in protected, flat areas that have secondary containment and are a minimum of 100 m from any watercourse or water body;
- (vi) re-fueling shall not occur within 30 m of a watercourse or a water body except where there is no other feasible alternative. For those cases where there is no other feasible alternative and refueling must therefore occur within 30 m of a watercourse or a water body, the Hazardous Substances and Waste Management Plan shall describe how refuelling will occur in that circumstance and must include measures Design-Builder shall implement to minimize environmental risks;
- (vii) all equipment shall be fitted with standard emission control devices appropriate to the equipment and in compliance with Applicable Law;
- (viii) in addition to any restrictions in Schedule 5 [*D&C Performance Requirements*] on the use of Hazardous Substances, Design-Builder shall ensure that all Infrastructure does not contain any Hazardous Substances that may leach into the surrounding environment;

- (ix) equipment maintenance and repairs that may result in a discharge of any oil or other fluid shall not be undertaken in park lands or Sensitive Areas except where there is no other feasible alternative. For those cases where there is no other feasible alternative, the Hazardous Substances and Waste Management Plan shall include procedures that shall be followed and mitigation measures that shall be implemented to minimize environmental risks;
- (x) 90% (by weight) of all waste that is generated by Design-Builder or a Design-Builder Person during the Project Work is diverted from landfill, provided that the following materials will be excluded from the definition of “waste” solely for the purposes of this Section 15.7(e)(x):
 - (1) all soils (excluding topsoil that is not contaminated); and
 - (2) any Hazardous Substance removed during the Deconstruction Work where there is no alternative other than to send the Hazardous Substance for disposal at a landfill or other authorized disposal facility.

Design-Builder shall keep:

- (1) records, including weigh bills, of all such waste generated in each year of the Construction Period;
- (2) records, including weigh bills, of where all such waste is disposed of or diverted to during each year of the Construction Period; and
- (3) records of material that is excluded from the definition of “waste” as set out above, including records as required to demonstrate that the material complies with all requirements for the exclusion.

Design-Builder shall, within 30 days after each anniversary of the Effective Date, submit to the City a report containing sufficient supporting data to demonstrate compliance with this Section 15.7(e)(x) during the immediate preceding year. Design-Builder shall revise and resubmit to the City such report as required in order to achieve an Accepted report within 30 days of the initial submittal; and

- (xi) potential spills of Hazardous Substances are captured and contained. For this purpose, Design-Builder shall, as part of the ECO Plan, develop a spill containment strategy that identifies, describes, quantifies and estimates the likelihood of occurrence of spills that have the potential to occur during Construction and that describes the measures Design-Builder shall implement in the Stormwater Management System and other locations where spills may occur to mitigate the risk of spills occurring and to contain and manage any spills that do occur.
- (f) During the removal of Hazardous Substances from any Infrastructure or Existing Infrastructure, Design-Builder shall complete inspections to confirm that Hazardous Substances are being handled in accordance with the Hazardous Substances and Waste Management Plan and the requirements of this Schedule. Following the completion of any removal of Hazardous Substances from any Infrastructure or Existing Infrastructure, and prior to the final demolition, removal, relocation or abandonment of the Infrastructure or Existing Infrastructure, Design-Builder shall ensure that such Infrastructure and Existing Infrastructure is inspected to confirm that all Hazardous Substances have been removed. Prior to the commencement of demolition, removal, relocation or abandonment of a piece of Infrastructure or Existing Infrastructure, Design-Builder shall ensure that a

document signed by a Professional Engineer or Professional Geologist has been issued and submitted to the City, which states that Hazardous Substances have been removed from the Infrastructure or Existing Infrastructure. Design-Builder shall retain inspection and other records with respect to Hazardous Substances in accordance with the Accepted Hazardous Substances and Waste Management Plan and shall forward copies of those records to the City upon request.

- (g) Design-Builder shall ensure that:
 - (i) no waste or Hazardous Substance is buried except with the prior approval of the City; and
 - (ii) no waste, Hazardous Substance, volatile material, mineral spirits, oil or paint thinner is disposed of in any water body, or storm or sanitary sewer.
- (h) Where any spill or other Release of a Hazardous Substance occurs anywhere on the Lands, whether caused by Design-Builder, a Design-Builder Person or any other Person, Design-Builder shall provide verbal notification to the City within 24 hours after Design-Builder or a Design-Builder Person becomes aware of the spill or other Release describing the spill or other Release and the measures taken by Design-Builder to address the spill or other Release. Design-Builder shall submit to the City a written report containing such information and any additional relevant information within 72 hours after providing the initial notice.
- (i) Where any such spill or other Release for which Design-Builder is responsible requires a written report to any Governmental Authority, Design-Builder shall be responsible for completing and filing that report, provided that:
 - (i) prior to filing such report, Design-Builder shall submit to the City, a copy of the proposed report within 72 hours after the spill or other Release; and
 - (ii) Design-Builder shall not submit the report to the Governmental Authority before the earlier of:
 - (1) the date on which the City has Accepted the report, provided that in this case, the time for the City's review under Schedule 2 [*Submittal Review Procedure*] is 72 hours; and
 - (2) the last date for filing the report with the Governmental Authority under Applicable Law.
- (j) In the case of a spill or other Release of a Hazardous Substance for which Design-Builder is responsible as described in Section 15.7(b) above, Design-Builder shall promptly take all steps required to:
 - (i) clean-up the spill or Release;
 - (ii) repair all resulting damage to the Environment; and
 - (iii) remediate any impact resulting from the spill or other Release such that any sample of material remaining *in-situ* at the location of the spill or Release and any location to which the spill or Release has migrated meets the Alberta Tier 1 Guidelines in soil and groundwater. Design-Builder shall comply with the requirements of Section 15.4 [*Known Contamination*] with respect to remediation

under this Section 15.7(j). For the purposes of this 15.7(j), such location(s) of the spill or Release shall be deemed to be a Known Contaminated Location.

- (k) If:
 - (i) Design-Builder encounters Hazardous Substances for which the City is responsible pursuant to Section 15.7(a) above, Design-Builder shall immediately inform the City Representative and shall comply, and ensure compliance by all Design-Builder Persons, with this Schedule in respect thereof at the City's cost pursuant to Section 15.7(n) below; or
 - (ii) there is a spill or other Release of a Hazardous Substance for which Design-Builder is not responsible, Design-Builder shall notify the City as required under Section 15.7(j) above and shall take such measures as are required for immediate containment and control of such spill or other Release and provide such assistance as may reasonably be required by any third party who is taking such measures. Notwithstanding anything to the contrary contained in the Agreement or in this Schedule 10 [*Environmental Performance Requirements*], to the extent that Design-Builder takes such measures and provides such assistance, Design-Builder shall be entitled to a Change with respect thereto pursuant to and in accordance with Schedule 13 [*Changes*]. Design-Builder shall not undertake any other work with respect to such spill or other Release of a Hazardous Substance for which Design-Builder is not responsible, other than those measures required for immediate containment and control of the spill or other Release, unless the City has instructed Design-Builder to proceed with such additional work.
- (l) Except to the extent required to prevent or mitigate an Emergency, Design-Builder shall not undertake any significant work pursuant to Section 15.7(k) above until the City Representative has been given a reasonable opportunity to review the nature and extent of the Hazardous Substances or spill or other Release of a Hazardous Substance for which Design-Builder is not responsible, as applicable, and has instructed Design-Builder to proceed with such work.
- (m) In the event that the City wishes Design-Builder to perform actions in respect of any Hazardous Substances or spill or other Release of a Hazardous Substance for which Design-Builder is not responsible which are in addition to any work required pursuant to Section 15.7(k) above, then the City shall issue an instruction to Design-Builder specifying what action the City requires Design-Builder to take and Design-Builder shall promptly and diligently comply with all such instructions at the City's cost pursuant to Section 15.7(n) below.
- (n) If Sections 15.7(k) or 15.7(m) above require Design-Builder to perform any alteration, addition, demolition, extension or variation in the Project Work as a result of Hazardous Substances for which the City is responsible pursuant to Section 15.7(a) above or as a result of any instructions given by the City pursuant to Section 15.7(m) above and which would not otherwise be required under this Agreement, then any such alteration, addition, demolition, extension or variation shall, subject to and in accordance with Section 10 [*Relief Events and Limited Relief Events*] of the Agreement, be treated as a Relief Event.
- (o) Prior to the end of the Construction Period, Design-Builder shall remove from the Lands:
 - (i) all Hazardous Substances described in this Section 15.7 [*Hazardous Substances and Waste*] for which Design-Builder is responsible that are not required for the on-going operation of the Infrastructure as identified by the City; and

- (ii) all waste.

15.8 Limited Relief

- (a) The provisions of Section 15 [*Contamination, Hazardous Substances and Waste*] limit Design-Builder's rights under Section 10 [*Relief Events and Limited Relief Events*] of the Agreement. The allocation of costs and any entitlement to Direct Losses or for schedule relief, or both, in respect of the work contemplated by Section 15 [*Contamination, Hazardous Substances and Waste*] is exclusively set out in Section 15 [*Contamination, Hazardous Substances and Waste*].

16. TEMPORAL RESTRICTIONS ON CONSTRUCTION

16.1 Restricted Periods for Vegetation Clearing

- (a) Design-Builder shall not undertake any vegetation clearing of any kind, including clearing or removal of planted trees or previously stockpiled log decks, during the period 15 April to 30 August, inclusive, in each year, unless, prior to commencing vegetation clearing, Design-Builder:
 - (i) causes a nest sweep to be completed for the area to be cleared by an avian wildlife biologist, qualified to be the named permittee on an Alberta Environment and Parks Research Permit and Collection License, and having two seasons of forest nest sweep experience in western Canada;
 - (ii) submits to the City a written assurance from the avian wildlife biologist confirming that active nests on or near the Lands to be cleared will not be directly or indirectly affected by the proposed vegetation clearing; and
 - (iii) submits to the City a written assurance from the avian wildlife biologist confirming that no other breeding wildlife taxa covered by the *Migratory Birds Convention Act* (Canada), the *Wildlife Act* (Alberta) or the *Species at Risk Act* (Canada) will be adversely affected by the proposed vegetation clearing.

For certainty, Section 2.2 [*No Implementation Prior to Acceptance*] of Schedule 2 [*Submittal Review Procedure*] does not apply to these Submittals.

- (b) During the period 15 February to 15 April, inclusive, in each year, Design-Builder shall not undertake any vegetation clearing involving mature trees or removal of any other mature trees anywhere on the Lands, unless, prior to commencing such vegetation clearing:
 - (i) an avian wildlife biologist with the qualifications described in Section 16.1(a)(i) above has confirmed in writing that the trees do not have the potential to support bird of prey nests, and Design-Builder has submitted to the City such letter or other writing from the biologist; or
 - (ii) a nest sweep for active bird of prey nests has been conducted by an avian wildlife biologist with the qualifications described in Section 16.1(a)(i) above and Design-Builder has submitted to the City a written assurance from the biologist confirming that active nests on or near the Lands to be cleared will not be directly or indirectly affected by the proposed vegetation clearing. Any such nest sweep shall be undertaken no earlier than four days prior to the proposed vegetation clearing.

For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to the Submittal described in this Section 16.1(b).

- (c) All nest sweep results shall be valid for a period of two to seven days following the sweep, with the specific period to be determined by the avian wildlife biologist based on the nature of the vegetation and the bird species potentially present in that vegetation. If clearing or demolition is delayed beyond the period for which the nest sweep is valid, then Design-Builder shall cause a new nest sweep for the area to be cleared or which is subject to demolition to be undertaken and further written assurance submitted to the City as described in Sections 16.1(a) or 16.2(b) above, as applicable.
- (d) If nests are identified in the nest sweeps described in Section 16.1 *[Restricted Periods for Vegetation Clearing]*, Design-Builder shall implement suitable spatial and temporal buffers that are adequate to protect the nest. Design-Builder shall ensure that no clearing occurs within those buffers. The duration and spatial extent of such buffers shall be determined by an avian wildlife biologist with appropriate qualifications and, if required, in consultation with the Canadian Wildlife Service. Design-Builder shall submit to the City confirmation of such consultation together with a description of the resulting buffers within 48 hours of concluding such consultations. For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.
- (e) If, at any time during the performance of the Project Work, other breeding wildlife or other species protected under Applicable Law are found in or near Construction areas, Design-Builder shall implement suitable spatial and temporal buffers or alternative protective measures that are adequate to protect such wildlife or other species. Design-Builder shall ensure that no Construction activity occurs within those buffers and, if alternative protective measures are implemented, that those measures are complied with. The duration and spatial extent of such buffers, or the implementation of alternative protective measures, shall be determined by a wildlife biologist with appropriate qualifications in consultation with AEP and, if the species is subject to federal legislation or regulation, in consultation with the Canadian Wildlife Service. Design-Builder shall submit to the City confirmation of such consultation together with a description of the resulting buffers or alternative protective measures, or both, within three Business Days of concluding such consultations. For certainty, Section 2.2 *[No Implementation Prior to Acceptance]* of Schedule 2 *[Submittal Review Procedure]* does not apply to this Submittal.

16.2 Restricted Activities for Bat Mitigation Measures

- (a) At Blackmud Creek River Valley, to protect potential resident bat species, Design-Builder shall not undertake the Construction or vegetation clearing in the area shown in Figure 1 of Appendix 10A during the period 01 May to 30 September, inclusive, in each year, unless, prior to commencing such Construction or clearing, Design-Builder:
 - (i) causes a bat maternity roost survey to be conducted by a wildlife biologist qualified to be the named permittee on an Alberta Environment and Parks Research Permit and Collection License, using Good Industry Practice, including appropriate survey timing;
 - (ii) submits to the City a written assurance from the wildlife biologist confirming that active maternity roosts on or near the affected Lands will not be directly or indirectly affected by the proposed demolition or clearing activities; and

- (iii) submits to the City a written assurance from the wildlife biologist confirming that no other breeding wildlife taxa covered by the *Migratory Birds Convention Act* (Canada), the *Wildlife Act* (Alberta) or the *Species at Risk Act* (Canada) will be adversely affected by the proposed demolition or clearing.

For certainty, Section 2.2 [No Implementation Prior to Acceptance] of Schedule 2 [Submittal Review Procedure] does not apply to these Submittals.

- (b) If bat maternity roosts are found, Design-Builder shall:
 - (i) consult with AEP and Environment and Climate Change Canada regarding appropriate protection measures, and shall provide to the City copies of all correspondence with these agencies, including the resulting agency recommendations, promptly after receipt of such correspondence from the agencies; and
 - (ii) cause the biologist to prepare a Bat Mitigation Plan that addresses:
 - (1) the correspondence with such government agencies; and
 - (2) if the City has not installed artificial bat houses/maternity chambers at Blackmud Creek River Valley, the installation of chambers/houses suitable for use as maternity bat roosts, in numbers commensurate with the bat maternity roost survey results, at appropriate locations. The Bat Mitigation Plan shall require that such structures be installed within two months of the onset of the next breeding season;

and Design-Builder shall submit to the City the Bat Mitigation Plan at least 60 days prior to proceeding with implementation of any mitigation activities other than postponing clearing or demolition activities.

17. SITE CLEARING, DEMOLITION AND DUST CONTROL

- (a) Design-Builder shall develop a Dust Control Plan that applies to all aspects of the Project and the Project Work. The Dust Control Plan shall contain measures and procedures to control dust that apply throughout the Lands and shall contain a detailed description of all equipment and materials required for implementation of the Dust Control Plan. The Dust Control Plan shall describe measures to minimize dust, including:
 - (i) watering;
 - (ii) utilizing wind fences;
 - (iii) installing vehicle tire and equipment track washing or granular beds designed to remove mud from vehicle tires and equipment tracks at key Site exits as identified in the Dust Control Plan;
 - (iv) removing mud clods from roadways within four hours to prevent sediment release into street catch basins and watercourses; and
 - (v) ensuring that any additives used in water for dust control do not contain chemicals with the potential to adversely affect any surface water quality or to otherwise cause harm to the environment.

- (b) Design-Builder shall, and shall cause all Design-Builder Persons to, conduct all vegetation clearing in a manner that ensures there is no damage to, or other adverse impact on, any trees at the margins of, or adjacent to, the cleared areas.
- (c) In addition to the requirements in Section 1-8.4 [*Project Cleanliness*] of Schedule 5 [*D&C Performance Requirements*], Design-Builder shall ensure that all waste, cleared vegetation and demolition debris is removed from:
 - (i) all Lands within Blackmud Creed River Valley within 48 hours after the waste, cleared vegetation or demolition debris is created; and
 - (ii) all other Lands within seven days after the waste, cleared vegetation or demolition debris is created.
- (d) Except for materials required for habitat enhancement in accordance with Schedule 5 [*D&C Performance Requirements*] Part 2 [*Sustainable Urban Integration and Landscape Architecture*], Design-Builder shall dispose of all waste, cleared vegetation and demolition debris that is removed from the Lands in accordance with Applicable Law.
- (e) Notwithstanding Section 17(d) above, Design-Builder shall not burn, and shall not permit the burning of, any waste, cleared vegetation or demolition debris on the Lands.

18. SOIL SALVAGE, STOCKPILES AND IMPORTED FILL

18.1 Soil Salvage

- (a) Design-Builder shall complete a topsoil assessment of the Lands to provide further detail regarding appropriate stripping depths and a basis for topsoil storage and replacement calculations.
- (b) Stripping, grading, and replacement of topsoil shall be scheduled during dry conditions to the extent practicable.
- (c) Soil shall be stripped to colour change or as directed by the Environmental Monitors. Topsoil and subsoil shall be excavated, salvaged, and stockpiled in a manner that prevents contamination of one material with the other. The materials shall be stockpiled separately in a safe, stable, and accessible location, a minimum distance of 30 m from waterbodies, wetlands, and stormwater facilities, and 4 m from the Roadway. A minimum distance of 3 m is required between stockpiles of different material types.
- (d) The Design-Builder shall
 - (i) minimize topsoil stripping as much as possible by stripping only areas where Construction activities occur and salvage as much suitable upper subsoil as required for use and redistribution during Construction of embankments and reclamation of disturbed areas;
 - (ii) replace salvaged topsoil and subsoil horizons in the reverse order of which they were salvage and excavated;
 - (iii) strip and store topsoil separate from underlying subsoil (B and/or C horizons) to limit soil admixing potential in areas where soil salvage occurs;
 - (iv) limit heavy equipment use and transport of soil materials on moderately fine and fine (i.e., clay loam to clay) textured soils during wet conditions;

- (v) restrict equipment and material laydown areas to existing cleared surfaces or hard (paved) surfaces where possible; and
- (vi) stabilize and protect stockpiles from wind and water erosion with hydroseeding and tackifier where salvaged soils will be stored for a period of greater than 30 days.

18.2 Imported Fill

- (a) Design-Builder shall ensure that all imported fill material complies with the following:
 - (i) Schedule 5 [*D&C Performance Requirements*] Part 3 [*Civil*];
 - (ii) Alberta Tier 1 Guidelines for the applicable land use. In cases where two adjacent properties of two different land use categories are identified, the guidelines for the more sensitive land use shall apply to all land of the other property that is within 30 m of the boundary of the property with the more sensitive land use; and
 - (iii) EC and SAR values which are equivalent or better than the existing condition of the land where the imported fill will be used.
- (b) Design-Builder shall submit a sample from every 2000 m³ of imported fill material to a CALA accredited laboratory to be analyzed for the chemical parameters specified in Section 18.2(a)(ii) above.
- (c) Design-Builder shall not place any imported fill material onto the Lands until Design-Builder has submitted to the City the analytical results received from the laboratory described in Section 18.2(b) above, and such test results have been Accepted.
- (d) Design-Builder shall develop a visual inspection plan for imported fill material as part of the soil management plan required pursuant to Schedule 4 [*Design and Construction Protocols*]. This visual inspection plan shall:
 - (i) detail parameters by which fill shall be deemed acceptable for use, which parameters shall be sufficient to ensure that the fill meets the requirements specified in this Schedule; and
 - (ii) require that there is a written record of the visual inspection conducted on every load of soil to be deposited onto the Lands.
- (e) Design-Builder shall inspect every load of soil coming onto the Lands in accordance with the visual inspection plan.

19. VEGETATION

19.1 General

- (a) Except in respect of:
 - (i) the Naturalization Areas in which Design-Builder shall undertake the work described in Section 20 [*Naturalization Areas*],

Design-Builder shall, following the completion of Construction activities in each area of the Lands, revegetate the area in accordance with the specifications and requirements of Section 2-9 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*].

- (b) Design-Builder shall ensure that snow, soil and other materials are not pushed into, or stored in, naturally vegetated areas.

19.2 Rare Plants

- (a) If any Rare Plant is encountered within the Lands, Design-Builder shall prepare and submit to the City a report containing the identity and location of the Rare Plant within two days after identifying the Rare Plant. Design-Builder shall include in such report a description of how Design-Builder proposes to handle the Rare Plant to ensure there is no net loss of that species in the city of Edmonton. Any proposed replanting or replacement planting on the Lands must be Accepted by the City prior to the replanting or replacement planting. Within seven days after the date of receipt of the City's Acceptance to such replanting or replacement planting, Design-Builder shall submit to the City evidence demonstrating that Design-Builder has taken the steps as Accepted by the City.

19.3 Weed and Exotic Species Management

- (a) For the purposes of this Schedule:
 - (i) "weeds" are those species listed as noxious or prohibited noxious in the *Weed Control Act* (Alberta); and
 - (ii) "exotic species" are plant species that are non-native to Alberta based on the most up-to-date ACIMS data. For the purposes of this Project, Manitoba Maple (*Acer negundo*) is also considered an exotic species.
- (b) Design-Builder shall monitor and manage weeds and exotic species on the Lands from the Effective Date until the end of the Construction Period to the extent necessary to:
 - (i) ensure compliance with the *Weed Control Act* (Alberta);
 - (ii) ensure compliance with Applicable Law;
 - (iii) exclude exotic species;
 - (iv) control weeds in stockpiles in accordance with the Integrated Pest Management Plan;
 - (v) ensure that the long-term viability and integrity of plant communities both within and immediately outside and adjacent to the Lands are not compromised; and
 - (vi) ensure compliance with Section 20.4 [*Weeds and Exotic Species in Naturalization Areas*].
- (c) Design-Builder shall prepare maintenance logs and other records to demonstrate compliance with the requirements of Section 19.3(b) above and Section 20.4 [*Weeds and Exotic Species in Naturalization Areas*]. Design-Builder shall provide copies of such logs and records to the City upon request.

20. NATURALIZATION AREAS

20.1 General Requirements

- (a) Design-Builder shall complete Naturalization of the Naturalization Areas in accordance with the requirements of the Schedule 5 *[D&C Performance Requirements]* Part 2 *[Sustainable Urban Integration and Landscape Architecture]* and the provisions of this Schedule. Where the specifications in this Schedule for Naturalization of the Naturalization Areas conflict with Schedule 5 *[D&C Performance Requirements]* Part 2 *[Sustainable Urban Integration and Landscape Architecture]*, the provisions of this Schedule shall prevail.
- (b) The “**Naturalization Areas**” are as follows:
 - (i) Naturalization Area NA-1: a parcel situated along the upper slope position west of new Infrastructure in Blackmud Creek River Valley.
 - (ii) Naturalization Area NA-2: a parcel situated along the midslope positions west of the new Infrastructure in Blackmud Creek River Valley.
 - (iii) Naturalization Area NA-3: a parcel situated on the southwest bank of Blackmud Creek and is a transitional area to the undisturbed natural forest.

See Figure 3 of Appendix 10A for the locations and indicative extent of the Naturalization Areas.

20.2 Naturalization Objectives

- (a) Design-Builder shall undertake Naturalization of the Naturalization Areas to establish the following communities:
 - (i) at Naturalization Area NA-1: a mix of native grassland and native shrubs comprising species that are tolerant of the local microclimate. Limited transition buffers of manicured grass are permitted immediately adjacent to existing manicured areas. Shrubs are spread evenly throughout and provide 30% of total plant cover at the Landscape Final Completion Date. Shrubs and grasses shall be native species with a proven capacity to successfully compete against invasive exotic species of shrubs.
 - (ii) at Naturalization Area NA-2: a native shrub-grassland community, where shrubs comprise 70% of total vegetation cover at the Landscape Final Completion Date. Shrubs shall be native species with a proven capacity to successfully compete against invasive exotic species of shrubs.
 - (iii) at Naturalization Area NA-3: a native tree-shrub community where trees comprise at least 40% cover of the total Naturalization Area, shrubs provide at least 30% cover of the Naturalization Area and native grasses, forbs and natural and functional organic matter comprise at least 30% of the ground cover at the Landscape Final Completion Date. Shrubs, grasses and forbs shall be native species that have a proven capacity to successfully compete against invasive exotic species.
- (b) With respect to all Naturalization Areas, Design-Builder shall:

- (i) make the boundaries of such Naturalization Areas irregular so that the shape of the area appears natural; and
 - (ii) feather such Naturalization Areas into the adjacent natural or reclaimed forested areas.
- (c) Design-Builder shall Design and Construct grading in the Naturalization Areas to smoothly transition and tie-in the Naturalization Areas to the surrounding Lands and other lands, provided that no grading shall extend beyond the boundaries of the Lands, and to ensure Positive Drainage of all areas without adversely affecting adjacent lands, whether inside or outside the boundary of the Lands. For NA-1, overall final grades shall be similar in elevation and aesthetic to the pre-disturbance condition.

20.3 Naturalization Plan

- (a) Design-Builder shall prepare the Naturalization Plan, which shall include:
- (i) adequate measures to ensure that the Naturalization objectives specified in Section 20.2 [*Naturalization Objectives*] and Section 2-9 [*Landscape Architecture*] of Schedule 5 [*D&C Performance Requirements*] are achieved;
 - (ii) a list of proposed plant species to be planted, seeded or otherwise installed at each Naturalization Area, listed by scientific and common names;
 - (iii) the size of plant material at the time of installation;
 - (iv) the growing condition of the plant material, such as potted, bare-root, cutting;
 - (v) a description of the minimum and maximum plant spacing and density;
 - (vi) a description of the seed mixes, using common and scientific species names and including proportions by species;
 - (vii) plans for shrub and tree plantings showing the location of each plant by species, which plans shall comply with Section 20.3(a)(x) below;
 - (viii) a detailed description of maintenance strategies and practices for the Naturalization Areas, which shall focus on ecologically sound practices, to be implemented immediately upon completion of reclamation activities and to continue to the Landscape Final Completion Date, including:
 - (1) integrated pest management;
 - (2) use of organic or environmentally-friendly weed control products and methods that produce vigorous and healthy plant material; and
 - (3) the frequency of maintenance inspections which shall be sufficient to ensure all requirements of Section 20 [*Naturalization Areas*] are complied with and that the Vegetation Handback Requirements are met;
 - (4) a requirement that where plant performance results are not satisfactory, soils shall be tested to identify soil remediation requirements and Design-Builder shall undertake any soil replacement, replenishment or other remediation as required to ensure plant performance achieves the

requirements of Section 20 [*Naturalization Areas*] and the Vegetation Handback Requirements; and

- (5) recommended long-term maintenance strategies and practices to be implemented by the City following Landscape Final Completion Date and continuing to the anticipated community maturity date and which are designed to ensure long-term naturalization success;
- (ix) requirements that the following protocols be adhered to:
- (1) only native species of wild provenance shall be seeded, planted or otherwise installed in the Naturalization Areas. Native cultivars are acceptable for grasses only;
 - (2) a minimum of 12 species shall be incorporated into the seed mixes and planting palettes developed for each Naturalization Area, with up to half represented in the seed mix, at least three species shall be shrubs, at least one shrub shall be a species that achieves at least 2.0 m in height at maturity, and at least two species shall be trees;
 - (3) a minimum of 50% of trees shall have a maximum caliper of 50 mm;
 - (4) the maximum height for coniferous trees shall be 2.0 m and the minimum height shall be 1.0 m, and there shall be an equal distribution of tree ages and an equal number of trees at the minimum and maximum heights;
 - (5) the minimum size for shrubs shall be #1 pot size as per CNLA standards;
 - (6) the use of mulch is permitted in the Naturalization Areas directly after planting but mulch shall be limited to one application;
 - (7) shrub and tree plantings shall be irregularly spaced, and groupings, if used, shall have irregular, ill-defined boundaries. Plantings are meant to appear natural, not horticultural;
 - (8) Naturalization of lands at Blackmud Creek River Valley including Naturalization Areas NA-1, NA-2 and NA-3, as shown in Figure 3 of Appendix 10A, shall include removing all topsoils and all subsoils to the extent necessary to remove all subsurface propagules, including roots, underlying that area, and that all soil excavation plans are consistent with slope stabilization requirements set out in Section 4-3.8 [*Geotechnical*] of Schedule 5 [*D&C Performance Requirements*] or an alternative measure proposed and submitted to the City;
 - (9) soil specifications for perennial and shrub planting bed soil shall be as set out in the landscaping requirements in Schedule 5 [*D&C Performance Requirements*] and shall be applied in the Naturalization Areas;
 - (10) mowing of the Naturalization Areas shall only be permitted during the first two growing seasons following planting, shall be limited to twice per season, shall be timed to occur before invasive species seed set and shall not occur after 15 September;

- (11) coniferous trees shall be setback a minimum of 2 m from the edge of mature tree canopy to pedestrian areas and paths;
 - (12) Naturalization plantings shall consist of species that are drought tolerant and appropriate to site conditions. Naturalized areas shall serve to anchor and stabilize soil in such a way that controls erosion and that prevents introduction of sediments into watercourses or the municipal stormwater system; and
 - (13) temporary erosion and sedimentation control measures appropriate to each Naturalization Area and the Naturalization work; and
- (x) a drawing for each Naturalization Area, at a scale of 1:1000, and that otherwise complies with the specifications for landscape drawings in Schedule 5 *[D&C Performance Requirements]* Part 2 *[Sustainable Urban Integration and Landscape Architecture]*, which shows the following:
- (1) soils to be placed in all areas of the Naturalization Areas, soil types, soil stockpile locations and any notes regarding soil handling protocols and restrictions;
 - (2) the planting plan for the Naturalization Areas, including densities and layout (if applicable);
 - (3) erosion and sediment control measures, indicating those measures that will be in place during Construction, including conduct of the Naturalization work, and those measures that will be in place at the Landscape Final Completion Date;
 - (4) tree, shrub and forb palettes, using both scientific and common species names, seed mixes (showing both common and scientific names and proportions for each species), and a description of how and where plant material will be sourced, and where it will be grown or propagated (if applicable); and
 - (5) the drawings shall be submitted as an integral part of the Naturalization Plan submission.
- (b) Design-Builder shall cause a Forest Reclamation/Restoration Specialist supported by a team that includes an AALA certified landscape architect to prepare the Naturalization Plan.
 - (c) Design-Builder shall submit to the City the Naturalization Plan no less than 120 days prior to commencement of any Naturalization work.
 - (d) Notwithstanding anything to the contrary in Section 20 *[Naturalization Areas]*, or elsewhere in this Agreement, Design-Builder shall not use, nor permit to be used, in any Naturalization Area any soils that are sourced from areas that have supported invasive, non-native plant species.

20.4 Weeds and Exotic Species in Naturalization Areas

- (a) All Naturalization Areas shall be maintained in accordance with the *Weed Control Act* (Alberta) and Applicable Law and shall be kept free of exotic species, with weed and exotic species control activities occurring a minimum of 10 times per growing season.

20.5 Other Matters

- (a) Design-Builder shall install fencing around the Naturalization Areas in accordance with the requirements of Section 22 [*Fencing Requirements*].
- (b) For each Naturalization Area, Design-Builder shall provide a written notice to the City not less than 90 days prior to the date on which Design-Builder expects to initiate planting/installing any materials in the Naturalization Area.

21. WILDLIFE

21.1 General

- (a) Design-Builder shall ensure that material adverse impacts on wildlife and wildlife habitat located outside the Lands caused by the Project, the Project Work or any activities of Design-Builder or any Design-Builder Person under this Agreement are minimized to the extent reasonably feasible by employing Environmental Best Management Practices.
- (b) Design-Builder shall ensure that lighting installed at Blackmud Creek LRT Bridge, shall be designed and located so as to prevent trespass lighting into the Blackmud Creek River Valley.
- (c) In consultation with a wildlife biologist, the Design-Builder will ensure that suitable lighting beneath the extended bridge structure will not be prohibitive to wildlife and avian movement.
- (d) Design-Builder will include plantings to support bird use around the Blackmud Creek LRT Bridge.
- (e) Design-Builder shall:
 - (i) provide wildlife proof garbage disposal containers on the Lands during Construction for all food scraps, lunchroom waste and other waste that might attract wildlife;
 - (ii) not permit the feeding of wildlife, including birds and small mammals;
 - (iii) ensure that all persons engaged in the Project Work are educated about the potential for wildlife/worker conflict and the appropriate procedures to follow to avoid and manage such conflicts; and
 - (iv) develop, implement, comply with, and ensure that all Design-Builder Persons comply with procedures for addressing wildlife moving onto the Lands. Such procedures shall be sufficient to avoid worker/wildlife conflicts. Where such conflicts occur, Design-Builder shall assess the incident and implement correct procedures to minimize the risk of future conflicts.

21.2 Construction Period Wildlife Accommodation in Vicinity of Blackmud Creek River Valley

- (a) During Construction on or about Blackmud Creek River Valley, Design-Builder shall:
 - (i) comply with the construction beneficial management practices described in the City's "Wildlife Passage Engineering Design Guidelines" (June 2010); and

- (ii) provide wildlife movement corridors in the vicinity of Blackmud Creek River Valley sufficient to permit wildlife to move through the Lands on both slopes during the period one hour prior to sunset and one hour after sunrise. Such corridors shall provide for small, medium and large-bodied terrestrial wildlife movement as described in the City's "Wildlife Passage Engineering Design Guidelines" (June 2010) during all months of the year. Such corridors shall reflect the input of a wildlife biologist with appropriate qualifications.
- (b) Design-Builder shall ensure that all fencing installed in Blackmud Creek River Valley accommodates wildlife movement to the maximum extent feasible while complying with the requirements of this Agreement with respect to tree protection, adjacent natural area protection and public safety.

21.3 Permanent Accommodation of Wildlife Movement

- (a) Design-Builder shall ensure that all landscaping, reclamation work and Naturalization in or about Blackmud Creek River Valley complies with the City's "Wildlife Passage Engineering Design Guidelines" (June 2010), and Design-Builder shall accordingly demonstrate to the City that Design-Builder has made suitable and effective provision for wildlife movement through those areas.
- (b) With respect to Blackmud Creek River Valley, Design-Builder shall:
 - (i) install one Wildlife Crossing Bench on each abutment slope of the Blackmud Creek River Valley, each to be placed roughly mid-slope on the abutment slope and each having a minimum height clearance of 3.1 m (height) and a width of 1.5 m, as measured from top of headslope to the face of the retaining wall;
 - (ii) provide effective small animal security cover features;
 - (iii) ensure that the Design of all wildlife crossing structures is integrated with the Naturalization Areas, so that the crossing structures are considered an integral feature during the development of the Naturalization Areas; and
 - (iv) refer to Schedule 5 *[D&C Performance Requirements]* Part 4 *[Transportation Structures and Building Structures]* for additional Design requirements.

22. FENCING REQUIREMENTS

- (a) Immediately upon occupation of the areas shown in Figure 1 of Appendix 10A, at Blackmud Creek River Valley, Design-Builder shall install temporary fencing marking the limits of the Lands where that boundary is within 5 m of areas vegetated with trees and shrubs in accordance with Section 1-8.3 *[Temporary Barriers and Enclosures]* of Schedule 5 *[D&C Performance Requirements]* to restrict incidental access and afford protection to the adjacent vegetated areas. These fence locations shall be adjusted as required to reflect any vegetation clearing. Temporary fencing shall be removed before Construction Completion.
- (b) Design-Builder shall install fencing that fully encloses each Naturalization Area, and which shall:
 - (i) be compatible in visual appearance, including with respect to colour, material and texture, with the aesthetics of the Naturalization Areas, and Constructed of a material that minimizes the visual impact of the fencing;

- (ii) be of sufficient height to discourage public access to the Naturalization Areas, but not so tall that the fence does not comply with Section 22(b)(i) above;
 - (iii) not preclude wildlife movement through Blackmud Creek River Valley; and
 - (iv) comply with the requirements set out in Section 1-8 [*Project Identification, Access, and Miscellaneous Requirements*] of Schedule 5 [*D&C Performance Requirements*].
- (c) Design-Builder shall install such fencing not later than 14 days after completion of seeding and planting in each Naturalization Area. Prior to commencing installation of any fencing around any Naturalization Area, Design-Builder shall submit to the City a plan that shows the proposed fencing location, material, and height.
 - (d) Design-Builder shall maintain the fencing around each Naturalization Area in good repair and condition until the date on which Design-Builder's liability to maintain the Naturalization Area, as applicable, ends in accordance with Section 24 [*Establishment of Naturalization Areas*].
 - (e) Immediately upon occupation of Llew Lawrence OMF, Design-Builder shall install temporary fencing marking the limits of such Lands in accordance with Section 1-8.3 [*Temporary Barriers and Enclosures*] of Schedule 5 [*D&C Performance Requirements*] to restrict incidental access and afford protection to the adjacent lands. Temporary fencing shall be removed before Construction Completion.
 - (f) Any chain-link fence installed on the Lands must have 9 gauge wire, before any plastic coating.

23. HISTORICAL RESOURCES

- (a) Design-Builder shall comply with the *Historical Resources Act* (Alberta) and all conditions of any Clearance Letter issued for the Project, a copy of the Clearance Letter is included in the Disclosed Data.
- (b) Design-Builder shall promptly advise the City, and provide to the City a copy of:
 - (i) any notice or report filed under any Clearance Letter for the Project; and
 - (ii) any communication received by Design-Builder from the Province of Alberta pursuant to any Clearance Letter.

24. ESTABLISHMENT OF NATURALIZATION AREAS

- (a) Design-Builder shall ensure that all Project Work specified in this Schedule in respect of each Naturalization Area is complete in accordance with the requirements specified herein, by not later than the Construction Completion Date.
- (b) Design-Builder shall maintain, water, repair, weed, reseed, replant, reinstall, and conduct other work in accordance with the requirements of this Schedule, the Accepted Naturalization Plan and as otherwise required, to ensure that at the Landscape Final Completion Date each Naturalization Area meets the requirements for that area described below (collectively, the "**Vegetation Handback Requirements**"):
 - (i) for each Naturalization Area:

- (1) the area is clean and free of debris and refuse;
- (2) the area has a natural, vigorous aesthetic. The assessment of whether an area has a natural aesthetic will be made with reference to the requirements in Sections 20.2 *[Naturalization Objectives]* and 20.4 *[Weeds and Exotic Species in Naturalization Areas]*;
- (3) all plant material required to be planted in the area as described in the Accepted Naturalization Plan has been planted and is in good horticultural condition, free from disease and damage;
- (4) all Naturalization objectives specified in Section 20.2 *[Naturalization Objectives]* have been achieved in the Naturalization Area;
- (5) the area has at least 100% of the total tree and shrub density specified for the area in the Naturalization Plan;
- (6) for Naturalization Areas NA-1, NA-2, and NA-3 each area has a ground vegetation stratum, with a minimum of 90% organic ground cover, consisting of at least 40% grass cover and there are no bare patches greater than 0.5 m²;
- (7) the community composition and cover is as set out in Section 20.2 *[Naturalization Objectives]*;
- (8) the area meets all applicable requirements set out in Schedule 5 *[D&C Performance Requirements]* Part 2 *[Sustainable Urban Integration and Landscape Architecture]* for the Naturalization Area (to the extent of any conflict between the requirements of this Section 24(b)(i)(8) and Section 24(b)(i)(4) above, the requirements of Section 24(b)(i)(4) shall prevail); and
- (9) all required fencing remains in place and in the condition specified in Section 22 *[Fencing Requirements]*.

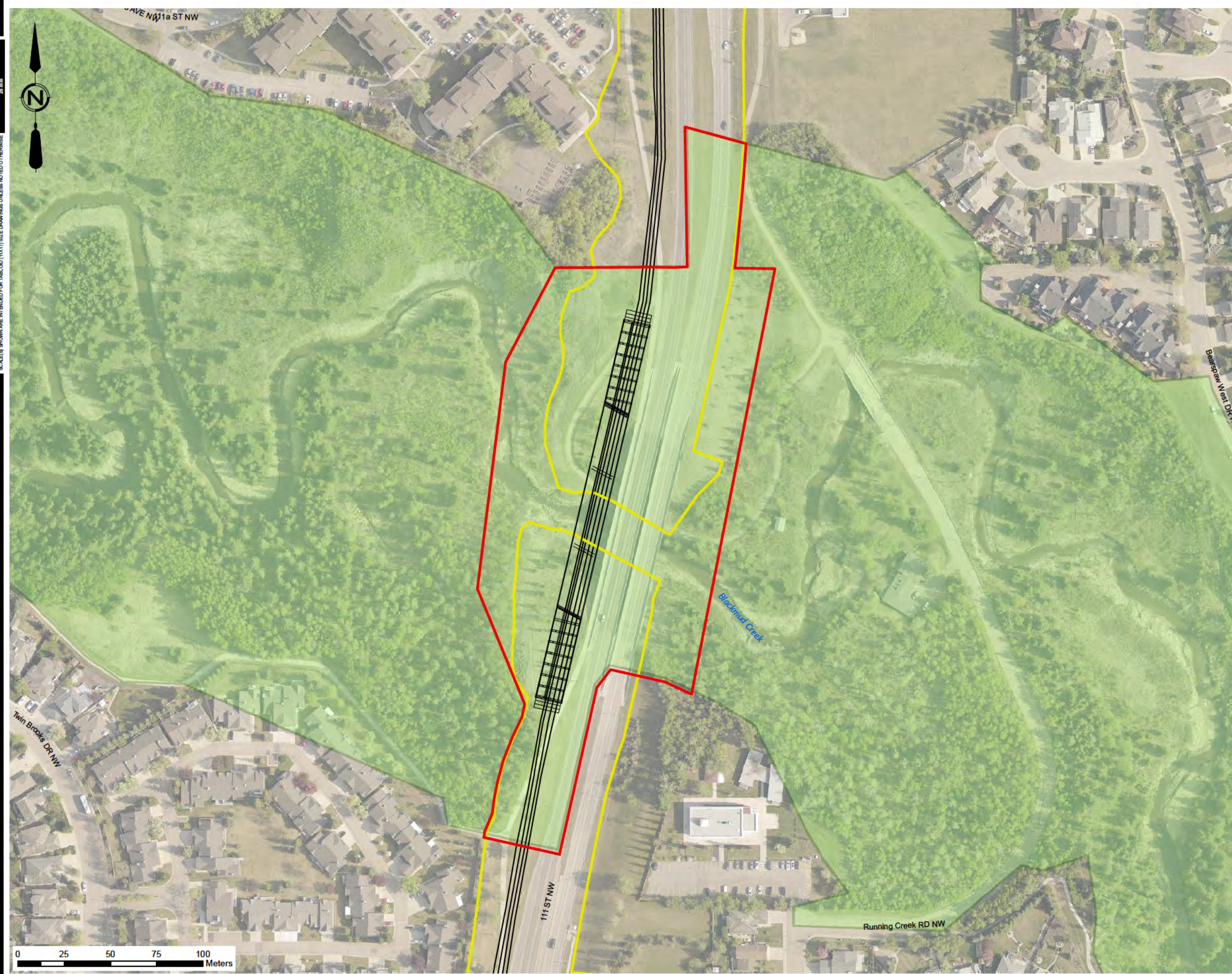
25. NON-PERFORMANCE EVENTS

25.1 Non-Performance Events

- (a) Failure by Design-Builder to comply with the obligations set forth in this Schedule may constitute Non-Performance Events and may result in adjustments to the Payments, as more particularly provided in Schedule 16 *[Payment Mechanism]*.

**APPENDIX 10A
FIGURES**

(see attached)

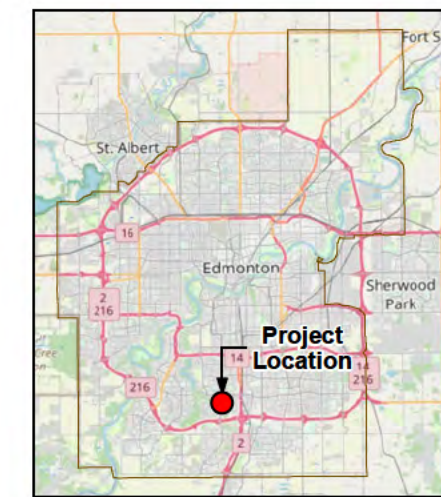


Legend:

- Project Area
- North Saskatchewan River (NSR) Valley & Ravine System Protection Overlay
- Limit of Construction
- Blackmud Creek LRT Bridge

Project Footprint:

- Limit of Construction
- Blackmud Creek LRT Bridge



**SCHEDULE 10 APPENDIX A,
FIGURE 1**

CAPITAL LINE SOUTH EXTENSION
PRELIMINARY SOIL ASSESSMENT

BLACKMUD CREEK PROJECT FOOTPRINT
AND DISTURBANCE LIMITS

AE PROJECT No.	2022-3365
SCALE	1:2,000
APPROVED DATE	2023MAR09
REV DESCRIPTION	ISSUED FOR CONTRACT

SAVE DATE: 2/15/2023 10:26:18 AM SAVED BY: [Name]
 DRAWING PATH: C:\2022-3365_CapitalLineSouthExtension\Schedule10_AppendixA\Fig1_ProjFootprintDisturbanceLimit.mxd
 DATA SOURCE: © OpenStreetMap (an OpenStreetMap contributor), CC-BY-SA

SCALE: (8) SHOWN ARE INTENDED FOR TABLAD (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE
 IF NOT 28 mm (1.1) INCH SCALE

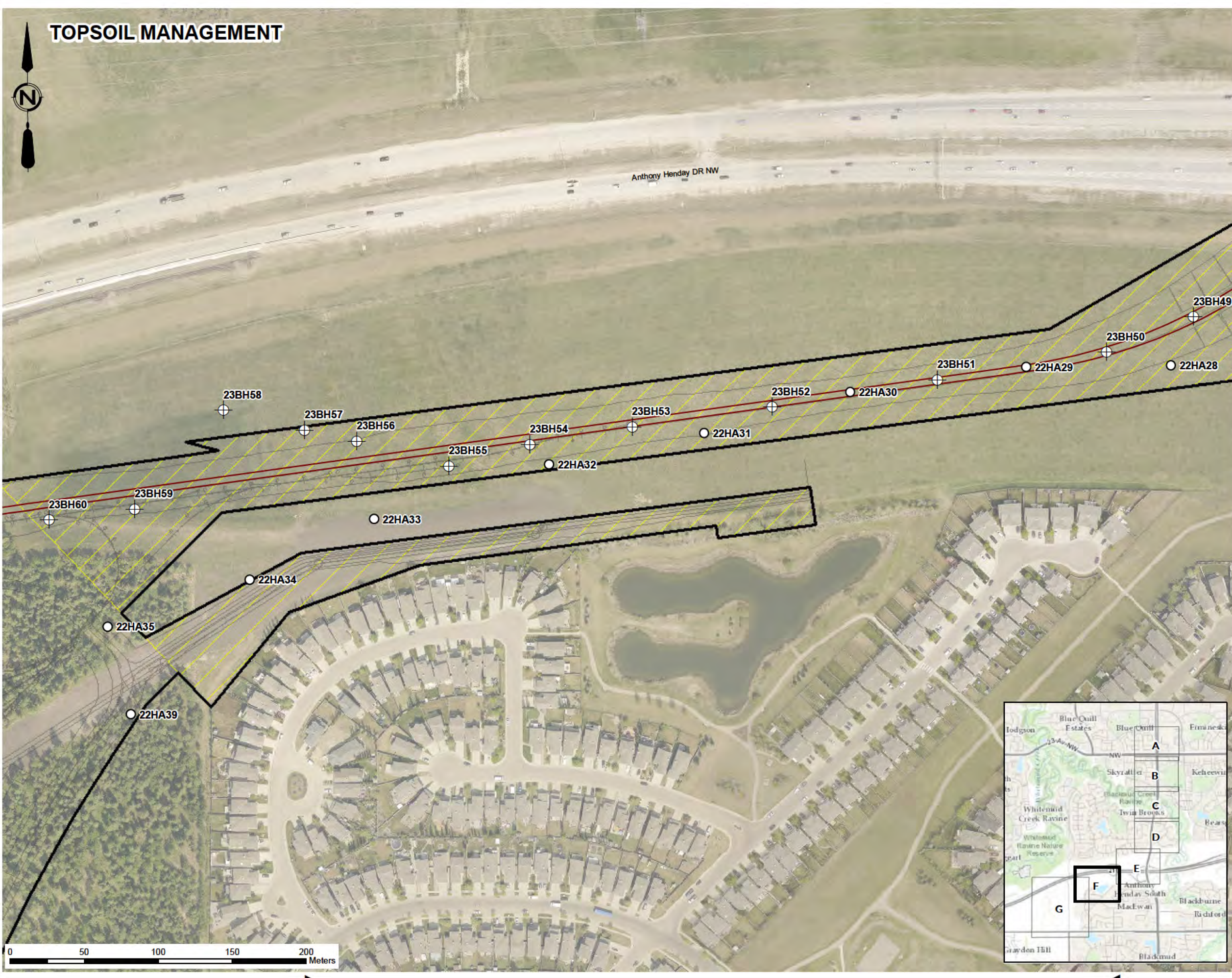
TOPSOIL MANAGEMENT



IF NOT 20 mm ASBEST SCALE

SCALES SHOWN ARE INTENDED FOR TILED (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE

SAVE DATE 7/26/2023 9:44:19 AM SAVED BY
DRAWING PATH D:\0222-3365_CapitalLineSouthExtension\TopsoilManagementPlan.mxd
DATA SOURCE Erri HERE, HERE, InRoads, Increment P Corp., GBCO, USGS, FAO, NPS, NRCAN, GeBC base, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Legend:

- Hand Auger Soil Sample Location
- ⊕ Borehole
- Proposed Track
- Salinity-Impacted: All Stripped Topsoil to be Disposed
- Transportation Utility Corridor (TUC)
- Project Limits

Notes

1. Topsoil is defined as black, organic-rich soils or equivalent to a maximum depth of 0.3 meters below ground surface for the purpose of this management plan.
2. Soil stripped from areas outside of shaded areas within Project limits may be reused in the place originally removed from. If topsoil is removed adjacent to roads, within medians, or cannot be re-used in the location it was stripped from, it must be properly disposed of at a waste management facility.
3. Topsoil removal is only considered for softscape areas. For soils under hardscape, follow subsoil management plans.



**SCHEDULE 10 APPENDIX A
FIGURE 2F**

CAPITAL LINE SOUTH EXTENSION

TOPSOIL MANAGEMENT

AE PROJECT No.	2022-3365
SCALE	1:2,500
APPROVED	
DATE	2023JUL28
REV	
DESCRIPTION	ISSUED FOR CONTRACT





- Legend:**
- Limit of Construction
 - Blackmud Creek LRT Bridge
 - North Saskatchewan River (NSR) Valley & Ravine System Protection Overlay
- Closure Naturalization Areas**
- NA-1
 - NA-2
 - NA-3



SCHEDULE 10 APPENDIX A,
FIGURE 3

CAPITAL LINE SOUTH EXTENSION
PRELIMINARY SOIL ASSESSMENT

CLOSURE NATURALIZATION AREAS

AE PROJECT No.	2022-3365
SCALE	1:2,000
APPROVED DATE	2023FEB15
REV DESCRIPTION	ISSUED FOR CONTRACT

SAVE DATE: 2/15/2023 9:38:50AM SAVED BY: [Name]
 DRAWING PATH: C:\2022-3365_CapitalLineSouth\Extensions\Schedule10_AppendixA\Fig3_ClosureNaturalizationAreas.mxd
 DATA SOURCE: © OpenStreetMap (an) contributors, CC-BY-SA

SCALE: (8) SHOWN ARE INTENDED FOR TABLAD (11X17) SIZE DRAWINGS UNLESS NOTED OTHERWISE
 IF NOT 20 mm (0.8 INCH) SCALES