

1.0 GENERAL

1.1 SURFICIAL AQUATIC RESOURCES

.1 Physical:

- .1 Unless otherwise provided for in the Contract Documents, do not divert, alter, or disrupt water flows in rivers, streams, and other surface bodies of water.
- .2 Conform to the Environmental Management Plan as specified in Section 01390 - Environmental Management.
- .3 Prevent bark, slash, wood chips, sawdust, ashes, organic debris, topsoil, fuel and lubricants, or other substances harmful to aquatic life from entering a river, stream, or other surface bodies of water.
- .4 Do not perform construction operations within the wetted perimeter of a river, stream, and other surface bodies of water unless such work is part of the Permanent Work or Temporary Work.
- .5 Do not deepen by excavation or place fill material on the river or stream bed or other surface bodies of water unless such work is part of the Permanent Work or Temporary Work.
- .6 Manage construction operations to limit equipment crossings of rivers and streams and prevent turbidity and siltation during crossings. Install temporary culverts or bridge structures where frequent crossings are required.
- .7 Use Construction Equipment with bio-friendly hydraulic fluids, free from external oil and grease when operating in, or within the wetted perimeter, of a river, stream, and other surface bodies of water.
- .8 Use clean granular fill with less than [5%] [10%] fines passing the 80µm sieve size when exposed to a river or stream for Temporary Work such as cofferdams, causeways, and access ramps. Fine-grained soils may be used, provided only clean granular fill is exposed to the body of water at any time during construction and restoration operations.
- .9 Remove Temporary Work, including culverts and bridges, and reclaim river and stream banks and beds, and other disturbed areas, prior to attaining Substantial Performance of the Work unless specified otherwise.
- .10 Silt Fence Management:
 - .1 Be responsible for, and maintain the fabric in silt fences until the date of Warranty Performance of the Work.
 - .2 Inspect the fabric, posts, and pins, in the silt fencing at intervals appropriate to weather events. Based on inspections, maintain the fencing to perform for the purpose intended.

- .3 Remove silt accumulations and dispose of silt on Site, at locations acceptable to the Minister.
 - .4 Removal and disposal of silt materials collected at silt fabric fencing will be authorized by Change Order and valued in accordance with Section 00725 – General Conditions, clause 8.3 - Valuation of Changes in the Work.
 - .5 Unless otherwise specified in the Contract Documents, or otherwise requested by the Minister, remove temporary silt fencing within 30 days after the date of Warranty Performance of the Work.
- .2 Biological:
- .1 Protect fish and fish habitat in rivers, streams, and other surface bodies of water located within the Site in accordance with the Contract Documents and Regulatory Requirements.
 - .2 Construction operations in the [river] [stream] [lake] is prohibited between the dates of [] and [] of any year.

1.2 [GROUND WATER RESOURCES]

- .1 Physical:
- .1 Do not change ground water levels in wells located on adjacent lands.
 - .2 Biological:
- .2 Do not change ground water quality in adjacent landowner wells.

1.3 TERRESTRIAL RESOURCES

- .1 Wildlife:
- .1 Maintain setback distances between construction operations and the habitat of each of the designated wildlife species and during the critical dates specified below. The Minister may identify additional habitat sites and wildlife species during the Contract Time. Additional work required to protect additional habitat sites and wildlife species will be authorized by Change Order and valued in accordance with Section 00725 – General Conditions, clause 8.3 - Valuation of Changes in the Work.

Species/Period	Critical Dates	Setback Distance
[.1 Mule Deer		
- winter period	January 1 - February 28	100 m
- natal period	May 15 - June 30	100 m
.2 Great Blue Heron		
- nesting period	April 1 - June 30	100 m
.3 Prairie Falcon		
- nesting period	February 1 - June 30	400 m
.4 Burrowing Owl		
- nesting period	March 1 - June 30	100 m]

- .2 Do not allow pets on the Site.
- .3 Do not allow firearms, hunting, or shooting on the Site.
- .4 Prevent livestock from entering the Site by:
 - .1 installing new fences specified in the Contract Documents; and
 - .2 installing temporary fences as necessary.
- .5 Do not harass wildlife.
- .2 Vegetation:
 - .1 Remove or control existing and new adverse vegetation that affects adjacent landowners and their croplands, construction operations, or the function of the Permanent Work.
 - .2 Do not import any materials to the Site that are contaminated with weed seeds. Clean dirty construction and reclamation equipment to prevent importing weed seeds.
 - .3 Notify the Minister prior to commencing adverse vegetation control measures.
 - .4 Be responsible for damage to crops, both on and off the Site, resulting from the Contractor's use of herbicides, or other adverse vegetation control measures.
 - .5 Maintain records of the types and amounts of herbicides purchased, delivered, stored, mixed, and used, and the means of disposal of all excess. Maintain the records current and accurate, and make them available for review by the Minister.
 - .6 Comply with standards and practices of the Industrial Vegetation Management Association of Alberta.
 - .7 []

.3 Vegetation and Weed Control:

- .1 Remove or control existing and new adverse vegetation that affects adjacent landowners and their croplands, construction operations, or the function of the Permanent Work.
- .2 Do not import any materials to the Site that are contaminated with weed seeds. Clean dirty construction and reclamation equipment to prevent importing weed seeds.
- .3 Notify the Minister prior to commencing adverse vegetation control measures.
- .4 Be responsible for damage to crops, both on and off the Site, resulting from the Contractor's use of herbicides, or other adverse vegetation control measures.
- .5 Maintain records of the types and amounts of herbicides purchased, delivered, stored, mixed, and used, and the means of disposal of all excess. Maintain the records current and accurate, and make them available for review by the Minister.
- .6 Monitor the site for early detection of weed growth during the growing season.
- .7 Control weeds once by mechanical equipment before they go to seed, but not before [].

OR

.4 Vegetation and Weed Control:

- .1 Remove or control existing and new adverse vegetation that affects adjacent landowners and their croplands, construction operations, or the function of the Permanent Work.
- .2 Do not import any materials to the Site that are contaminated with weed seeds. Clean dirty construction and reclamation equipment to prevent importing weed seeds.
- .3 Notify the Minister prior to commencing adverse vegetation control measures.
- .4 Be responsible for damage to crops, both on and off the Site, resulting from the Contractor's use of herbicides, or other adverse vegetation control measures.
- .5 Maintain records of the types and amounts of herbicides purchased, delivered, stored, mixed, and used, and the means of disposal of all excess. Maintain the records current and accurate, and make them available for review by the Minister.
- .6 Comply with the standards and practices of the Industrial Vegetation Management Association of Alberta.

- .7 Retain a Professional Agrologist to conduct:
 - .1 a pre-disturbance weed assessment on the Site, [[of disturbed areas and areas immediately adjacent to the disturbed areas] [including all easement and borrow land]] [], and prepare a written report outlining the assessment. Submit the report within 50 days after the commencement date of the Contract.
 - .2 a post-disturbance weed assessment on the Site, [[of disturbed areas and areas immediately adjacent to the disturbed areas] [including all easement and borrow land]] [], at a time mutually determined between the Minister and the Contractor. After assessment, prepare a written report of new weeds, and make recommendations concerning weed control. Submit the Agrologist's report to the Minister within a time required by the Minister.
- .8 Employ a herbicide applicator licenced by Alberta Environment to select and apply herbicides in accordance with recommendations made by the Agrologist.
- .9 Monitor the Site for early detection of weed growth during the growing season.
- .10 The term mechanical equipment in this section means equipment used for mowing, discing, harrowing, rod weeding, or other equipment as determined by the Agrologist, in consultation with the Contractor.
- .11 Control weeds by mechanical equipment before they go to seed, and apply herbicides in accordance with recommendations made by the Agrologist.
- .12 Meet all the requirements of the Contract Documents for herbicide application, including mixture, method, and application rates.
- .13 One application of the herbicide mixture is required by the Contract; to be applied in accordance with recommendations made by the Agrologist.
- .14 Prevent importing weed seeds, and remove existing weeds, listed as "Restricted" or "Noxious" under the Weed Control Act. Consult Alberta Agriculture, Food and Rural Development or Municipal Agricultural Field-men for more information on weed regulations and control.
- .15 Prevent importing weed seeds, and remove existing weeds, listed as "Nuisance" weeds, where such weeds interfere with the growth of the specified seed. Such weeds to be determined by the Agrologist.
- .16 Supply of herbicide mixture combination will be authorized by Change Order and valued in accordance with Section 00725 – General Conditions, clause 8.3 - Valuation of Changes in the Work

- .17 During the calendar year following the year of initial herbicide application, reapply herbicide mixture combination over the defective locations as determined by the Agrologist. Defective locations are areas that show more than 20% weed population in any 100 square meters of the Site, including all easement and borrow land and areas adjacent to the Site. Provide accurate records to the Minister of the defective locations treated and the types and amounts of the herbicide mixture combination used.
 - .18 The Minister will conduct a weed inspection during the month of May of the calendar year following the year of initial seeding. Complete any required re-application of herbicide prior to June 15 of that year. This date will be extended if, in the opinion of the Minister, the weather conditions prior to June 15 are not suitable for reseeding Work.
 - .19 Correct areas outside the specified areas that show chemical damage.
 - .20 For re-application of herbicide meet all the requirements of the initial herbicide application, including mixture combination, method, and application rates, as applicable.
- .5 Waste Management:
- .1 Remove construction waste, including demolition waste, from the Site unless otherwise specified. Dispose of such waste at the waste disposal facility identified in the Environmental Management Plan.
 - .2 Do not burn, bury, or otherwise discharge construction or demolition waste on the Site unless specified otherwise.
 - .3 When practical, minimize the amount of waste generated from construction operations and demolitions by salvaging materials for recycling. Salvage and segregate metal, plastic, paper, cardboard, and glass and transfer them to the nearest appropriate collection facility.
- .6 Hazardous Materials:
- .1 Transport hazardous materials to and from the Site in accordance with Regulatory Requirements.
 - .2 Use and store hazardous materials in accordance with Regulatory Requirements.
 - .3 Remove spilled hazardous materials, including hazardous liquid wastes, in accordance with Regulatory Requirements, and reclaim land and other property. Report spills to Alberta Environment and the Minister.
 - .4 Dispose of hazardous waste materials, including hazardous liquid wastes, in accordance with Regulatory Requirements.
- .7 Handling of Construction Equipment Fuels and Lubricants:
- .1 Employ persons qualified to handle Construction Equipment fuels and lubricants.
 - .2 Carry the following protection materials in all fuel and service vehicles:

- .1 10 kg of suitable sorbant material.
- .2 30 m² of 6 mil polyethylene.
- .3 A shovel.
- .4 An empty fuel barrel with the lid removed.
- .3 Prevent handling and fuelling operations from contaminating the ground, surface water, and ground water. Use containment berms and an impermeable base course or other system to contain spilled fuel.
- .4 Clearly mark and barricade fuel storage areas and non-portable transfer lines. Use markers that are visible under all weather conditions.
- .5 Store waste Construction Equipment lubricants in a tank or closed container, and dispose of off-Site in accordance with the Regulatory Requirements.

1.4 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

- .1 Protect known heritage resources specified in the Contract Documents with the specified fencing and marking devices.
- .2 Protect new heritage resources found during the Contract Time. Flag an area of [15 m] beyond the edge, and surrounding, a new found heritage resource, and report the finding immediately to the Minister.
- .3 Additional work required to protect new found heritage resources will be authorized by Change Order and valued in accordance with Section 00725 – General Conditions, clause 8.3 - Valuation of Changes in the Work.

1.5 SOCIO-ECONOMIC

- .1 Air Pollution:
 - .1 Prevent the discharge of atmospheric contaminants from construction operations in accordance with Regulatory Requirements.
 - .2 Do not operate equipment, including Construction Equipment, that shows excessive emissions of exhaust gases until corrective repairs or adjustments are made.
 - .3 Control dust on the Site, and prevent dust from the Site from damaging crops, orchards, cultivated fields, and dwellings, or causing a nuisance to persons. Be responsible for damages from dust caused by construction operations.
 - .4 []
- .2 Noise:
 - .1 Do not exceed noise levels of [] decibels in the daytime and [] decibels at night, [on weekdays and weekends]. At the Contractor's option, provide noise barriers to maintain acceptable noise levels outside the barriers.

.2 Perform blasting, drilling, jackhammering, pile driving, and other operations producing high-intensity impact noise between the hours of []pm and []am on [weekdays and weekends except Sundays and Statutory Holidays]. Adhere to other work restrictions specified in the Contract Documents.

.3 Light:

.1 Direct all stationary floodlights to shine downward at an angle less than horizontal. Provide shielding for all floodlights and do not direct at residences.

.4 [Others]:

2.0 PRODUCTS - NOT USED

3.0 EXECUTION - NOT USED

END OF SECTION