Table 11.2 Sub-Class 4: Mitigation for Reducing Impacts of Trails, Parks and Recreation Grounds

Activity	Potential Impacts	Mitigation Measures
Pre-Planning		
General activities	Runoff / sedimentation; Soil contamination	Prepare an Emergency Response Plan for the worst case, i.e., heavy rainfall and runoff events, high winds, spills, fires, etc.
		2. In the event of emergency operations (as defined in Section 11.11 of the MCSR), call Emergency Services and/or Parks Canada at the phone numbers indicated on Attachment 2.
		3. Ensure all activities are conducted at least 30 m from waterbodies.
	Wind and water erosion	 Prepare a satisfactory Sediment and Erosion Control Plan covering all construction and restoration periods.
l		 Acquire necessary sediment control equipment (i.e., straw bales, landscaping fabric, sediment fences, etc.) and install prior to construction.
		Extra planning should be used for areas with silty deposits and sloped areas with sandy deposits.
	Compaction of soils	Identify soils susceptible to compaction (fine textured and organic soils).
		8. In sensitive areas, use equipment of low bearing weight, low PSI tires, or tracked vehicles, especially in sensitive sites.
		 Building material storage must be contained in one area and clearly flagged to prevent soil compaction and reduce area of disturbance.
	Habitat loss and fragmentation; or encroachment on wildlife movement corridor	 Identify wildlife habitat that may be impacted by activities and avoid sensitive areas.
		11. Identify and avoid wetlands.
		 Ensure only necessary vegetation is removed and delineate areas to be avoided with biodegradeable flagging tape and/or temporary fences.
	Sensory disturbance and mortality of wildlife	When working adjacent to natural areas:
		13. According to the wildlife that may be present, schedule high noise level activities and other intrusive construction activities to avoid critical life stages (breeding, nesting, rearing, migration). Consult with Parks Canada to discuss any localized wildlife concerns.
		14. Confine "noise" activities to hours set out in Attachment 2.
		15. Consider posting wildlife signs to reduce vehicle speeds and increase driver awareness near construction areas were wildlife mortality has or is likely to occur.
		 Educate workers to not harass or attract wildlife, keep the site free of food scraps, and dispose of garbage in bear proof containers.
	Disturbance of archaeological	 Determine there are archaeological sites in the area (see attached maps).
	resources	18. Consult with Parks Canada if sites are identified.

Activity	Potential Impacts	Mitigation Measures
		 If potential archaeological sites may be subject to ground disturbance, adapt activities to avoid them.
		20. Educate workers to stop work immediately and to notify site supervisor upon finding any archaeological artefacts. Contact Parks Canada immediately.
	Public safety	21. Use appropriate signage for closed trails, parks and Recreation Grounds (e.g., signage for trail detours during construction/maintenance).
		22. Call utility line companies to identify infrastructure locations
	Reduced aesthetics (noise and visual)	23. Evaluate the site layout, access routes and construction activities to minimize their visual impact.
		24. Plan work schedule to confine "noise" activities to hours set out in Attachment 2 and, if possible, periods of low visitation.
Construction of Tr	rails, Parks and Recreat	ion Grounds
Clearing of	Runoff /	25. Minimize vegetation cover removal and grubbing.
vegetation;	sedimentation	26. Initiate replanting of disturbed areas immediately after construction is completed.
		27. Halt construction activity on exposed soil during events of high rainfall intensity and runoff and refer to the Sediment and Erosion Control Plan. Periodically inspect and repair erosion control structures.
	Compaction	28. Restrict vehicles to access routes.
		29. Select appropriate equipment, especially in erosion/slump prone areas (as identified on mapping). In sensitive areas, for example: wide tracked equipment, rubber tired vehicles and low bearing pressure weight equipment can be used.
	Reduced aesthetics	30. Transport stockpiled material offsite immediately or stockpile cleared vegetation in an area out of view from public until it can be disposed of appropriately.
Preparing base, grading,	Runoff / sedimentation (through intermittent	Particularly areas with slope class of 5 (5-15%) or greater and sites close to water:
trail/playfield surfacing and installation of		31. Cover stockpiles with polyethylene sheeting, tarps, or vegetative cover.
fixtures	drainage pathways including storm	32. Minimize vegetation cover removal.
Trades	sewer systems)	33. Filter or settle out sediment before the water enters any drainage pathway; including stormwater systems.
		34. Control overland flow up and down gradient of exposed areas by use of diversion ditches, bales, vegetative filter strips, and/or sediment traps.
	Wind and water erosion	All Ecosites, in steeply sloped areas, and sloped areas with sandy loam/loamy sand soils for water erosion.
		35. Protect exposed soils with coarse granular materials, mulches, or straw.
		36. Cover fills or stockpiles with polyethylene sheeting, tarps, or vegetative cover.
		37. Line steep ditches with filter fabric, rock or polyethylene lining to prevent channel erosion.

Activity	Potential Impacts	Mitigation Measures	
Establishing turf; Landscaping	Contamination from fertilizers and herbicides	38. Accurately assess the need for chemicals. Must have an approved current integrated pest management plan.39. Minimize use of fast-release fertilizers.40. Do not use herbicides in areas where residue may enter a waterbody.	
		41. Do not over water.	
	Attracting wildlife and causing increased potential for interaction between wildlife and people	42. Plant Parks-approved grass seed and native non-palatable species (see Attachment 2) of trees and shrubs, to discourage wildlife.	ge
	Water erosion	43. Initiate replanting of disturbed areas as soon as possible aft construction is completed.	ter
Fence installation	Barrier to wildlife movement	44. Evaluate the need for all fences.	
		45. Construct fences and orient in such a manner to reduce impacts on wildlife movement (see attached maps if appropriate). Consult with Parks staff to determine appropriate fence designs and locations.	
Modification, Mainte	enance and Repair of	Trails, Parks and Recreation Grounds	
Resurfacing	Runoff / sedimentation (through intermittent drainage pathways including storm sewer systems)	Particularly areas with slope class of 5 (5-15%) or greater and sites close to water. 46. Cover stockpiles with polyethylene sheeting, tarps, or vegetative cover. 47. Minimize vegetation cover removal. 48. If necessary, use bales, vegetative filter strips, and/or sediment traps to control any sedimentation along the trail being resurfaced.	
	Wind and water erosion	49. Protect exposed soils with coarse granular materials, mulch or straw.50. Use mulch or aggregate to prevent soft areas from turning	ies,
		into large depressions51. Cover fills or stockpiles of surfacing materials with polyethylene sheeting or tarps.	
Maintaining facilities (including irrigation)	Runoff / sedimentation (through intermittent drainage pathways including storm sewer systems)	 52. Minimize the time that the excavation remains open during irrigation repairs. If deemed necessary, use site-specific erosion control methods, including bales, vegetative filter strips, and/or sediment traps. 53. Do not schedule work during wet weather 	,
Vegetation management (including	Contamination from fertilizers and herbicides	54. Accurately assess the need for chemicals. An approved current integrated pest management plan must be in place.55. Minimize use of fast-release fertilizers.	
herbicide use in parks and Recreation Grounds)		56. Do not use fertilizers and herbicides in areas where residue run-off may enter a waterbody or drainage pathway.57. Do not over water.	or or

Activity	Potential Impacts	Mitigat	ion Measures
	Damage to		Do not go off-road or trail to remove trees.
	adjacent vegetation, loss of native vegetation	59.	Chip dead or dangerous trees, stockpile and use for tree beds. Buck remainder of trees to be used as firewood. Dispose of diseased vegetation by burning. A burning permit is required.
Winter plowing and sanding	Runoff / sedimentation	60.	Ensure that sand spreading mechanisms are properly tuned to minimize the use of sand on trails.
	(through intermittent drainage pathways including storm sewer systems)	61.	Train staff in proper use of plowing machinery so adjacent vegetation is not damaged.
Decommissioning an	nd Abandonment of T	rails, Par	ks and Recreation Grounds
Reclamation or restoration	Contamination from accidental	62.	Accurately assess the need for chemicals. An approved current integrated pest management plan must be in place.
Testoration	spills	63.	Prepare an appropriate Spill Response Plan. In the event of emergency operations (as defined in Section 11.11 of the MCSR), call Emergency Services and/or Parks Canada at the phone numbers indicated on Attachment 2. All spills must be reported to Parks Canada.
		64.	Minimize use of fast-release fertilizers.
		65.	Do not use herbicides in areas where residue may enter a waterbody.
		66.	Do not over water.
	Erosion (water)	67.	Initiate replanting of disturbed areas within 48 hours after construction is completed.
		68.	For every tree removed, plant two native trees.
General Activities			
Waste management (general)	Visual impacts (including viewscapes)	69.	Collect all waste, store appropriately and dispose trade waste at designated facilities.
	Contamination of soil and water from accidental spill or improper disposal	70.	Prepare an appropriate Spill Response Plan. In the event of emergency operations (as defined in Section 11.11 of the MCSR), call Emergency Services and/or Parks Canada at the phone numbers indicated on Attachment 2. All spills must be reported to Parks Canada.
		71.	If any hazardous waste is uncovered during excavation/construction, it must be investigated, source identified, properly removed and disposed to an approved landfill.
		72.	Dispose of contaminated soil at provincially certified disposal sites outside of the park. Written proof of disposal must be provided to Parks Canada. No treatment of contaminated soils (e.g., bioremediation) is allowed in the park.
		73.	No rock, silt, cement, grout, asphalt, petroleum product, lumber, vegetation, domestic waste, or any deleterious substance shall be placed or allowed to disperse into any stream, river, pond, storm or sanitary sewer, or other water course. Excess material will not be disposed of on or adjacent to the site.

Activity	Potential Impacts	Mitigation Measures
		74. All construction sites will be equipped with containers suitable for the secure, temporary storage of hazardous wastes. Hazardous wastes will be separated by type. Storage and handling of hazardous waste must be in accordance with applicable regulations and codes.
		75. All construction sites will be equipped with containers suitable for the secure, temporary storage of hazardous wastes. Hazardous wastes will be separated by type. Follow all applicable regulations and codes for the management and handling of hazardous wastes.
		76. If any hazardous waste is uncovered during excavation/construction it must be investigated, source identified, properly removed and disposed to an approved landfill.
Equipment operation and	Decrease in ambient air quality	77. Ensure all equipment is properly tuned, in good operating order, and fitted with standard air emission control devices.
maintenance	due to emissions	78. Minimize idling of engines at all times.
	Dust production	79. Wet down dry and dusty roads.
		80. Do not use oil-based dust suppressants.
		81. Reduce speeds.
		82. Ensure fine materials being stored or transported are covered with tarps or equivalent material.
	Soil and water contamination from accidental spills.	83. Prepare an appropriate Spill Response Plan. In the event of emergency operations (as defined in Section 11.11 of the MCSR), call Emergency Services and/or Parks Canada at the phone numbers indicated on Attachment 2. All spills must be
		reported to Parks Canada. 84. Avoid work in high risk areas, particularly in areas of high water table, steeply sloped sites or in close proximity to streams.
		85. Spill contingency plans, equipment and supplies (to clean up 110% of the site's largest possible fuel/chemical spill) will be present on-site at all times and employees trained in their use.
		86. Ensure all construction equipment is free of leaks from oil, fuel or hydraulic fuels.
		87. The crossing of any waterbody (including wetlands) by construction equipment, or the use of such equipment within waterbodies is strictly prohibited unless prior approval has been confirmed.
		88. Designate refuelling areas at least 100 m away from any water body. Stationary fuel storage sites will be bermed with an impermeable liner or other appropriate secondary containment to contain 125% of the anticipated fuel quantity. Any contaminated rainwater will be moved out of the park.
		89. Refuelling activities should not be conducted where run-off could carry contaminants into drainage pathways (including storm sewers).
		90. Dispose of contaminated materials at provincially certified disposal sites outside of the park. No treatment of

Activity	Potential Impacts	Mitigation Measures
		contaminated soils (e.g., bioremediation) is allowed in the park. All applicable documentation demonstrating proper disposal must be provided to Parks Canada.
	Compaction of soils	91. Restrict vehicular travel and other equipment operation to the construction site and approved access routes.
		92. Vehicle parking will be restricted to specialized areas on the construction site.
		93. Minimize or halt construction traffic during wet conditions when the soil shows signs of ponding or rutting.
		94. In sensitive areas, use equipment which minimizes surface disturbance including low ground pressure tracks/tires, blade shoes and brush rake attachments.
	Damage to	Undeveloped areas adjacent to development site:
	adjacent vegetation	95. Careful machine operation is required to ensure that damage to surrounding vegetation does not occur.
		96. Excavated material must not be permitted to bury plant material that is to be retained. Snow fences may be used to prevent excavated material entering the surrounding forest.
	Weed invasion	97. All construction equipment from outside the park will be steam cleaned prior to arrival to minimize the risk of introducing weeds.
		98. Construction equipment from outside the park will not be washed while in the park.
	Sensory	All undeveloped areas and areas bordering natural habitat:
	disturbance to wildlife	99. Use existing roadways, pathways and previously disturbed areas for site access and travel within the site.
		100.Educate workers not to enter wildlife corridors.
		101.Confine "noise" activities to hours set out in Attachment 2 and, if possible, to periods of low visitation.
	Increased traffic levels	102. Time activities to minimize vehicle conflicts on access roads.
	Public Safety	103.If equipment infringes on driving lane, flag persons are required.
		104.All roadway signage must be in accordance with provincial standards. Signs must be bilingual or symbolic.
		105. The proponent is responsible for site security at all times.
	Aesthetics	106. All heavy equipmen6t operating on paved surfaces should be equipped with street pads. Damage to paved surfaces will be restored to original conditions.