Ministry of Environment and Climate Change Strategy

October 7, 2016

DRAFT FINAL POLICY underlying proposed revisions to the Agricultural Waste Control Regulation

Agricultural Environmental Management Strategy
Purpose of the regulation: To describe environmentally protective practices for agricultural operations and agricultural activities so that all materials produced and used are stored and used in a manner that effectively controls emissions, soil erosion, leachate, contaminated runoff and escape of solids throughout the year.

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
General		
No direct discharges will be allowed (*e.g., from pads, pipes or spreading equipment)* of manure, effluent, solids or other materials into watercourses or groundwater.	This would not generally apply to manure deposited directly by animals in grazing areas.	Non-regulatory guidance to include BMP's, e.g., take protective measures to minimize trampling and erosion along the banks, and encourage animals to not linger [loiter] in watercourses.
Definitions will be in the regulation.	See separate Proposed Definitions document.	
Risk-based Approach		
Each agricultural operation needs to assess the environmental risks for their agricultural operation and activities.	Intent is that high risk conditions and activities specific to the operation or site are identified and need to be considered.	Non-regulatory guidance could include a template developed to help identify high risk areas, and any high risk conditions or high risk activities – this could be kept/used as the record.
Each agricultural operation would refer to a "High Risk Schedule" to see if they need to follow more stringent requirements for a higher level of protection.	High risk areas defined - e.g., high rainfall (600 mm or more); all highly vulnerable aquifers and moderately vulnerable aquifers that are drinking water sources; sensitive receiving environment, e.g., high P loading and sensitivity; The proposed "High Risk Schedule to be attached to the regulation would identify the specific high risk areas based on the definition; e.g., with i) a list describing names or locations of aquifers, and/or ii) a provincial map showing aquifers, and their classifications; and iii) a map and/or a list of sensitive receiving environments for specific sensitivities, such as phosphorus loading, e.g., established water quality objectives[1].	

[1] **Note re: sensitive receiving environments or area** - the *Water Sustainability Act* (WSA) enables identifying certain areas where Water Quality Objectives (WQO) may be established; e.g., an area where phosphorus (P) has been identified as a Water Quality Objective would be considered as a high risk area.

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
Requirements specific to the applicable topic (e.g., storage, or land applications, etc.) for managing high risk conditions or activities will be in the topic specific section.		
Records		
Records may be requested.	This appiles to all sections, where appropriate.	
If no records are available, the Director may require that records start being kept.		
Distribution of Manure and Agricultural Byproducts		
Liquid and solid manure and agricultural byproducts being transported not allowed to escape, leak or spill into watercourses or groundwater.	(e.g., between fields, or across properties, including through above-ground and under ground piping)	
Manure and agricultural byproducts produced on an agricultural operation may be distributed to other agricultural operations for use on those agricultural operations.		
Records may be requested or required, e.g., where a nutrient application plan is required.	Any imported nutrients need to be included in calculation of agronomic rate.	**Non-regulatory** guidance: for due diligence – records for manure or agricultural byproducts imported or exported should be kept, e.g., date of transfer, quantity transferred, name of person supplying/ receiving manure or agricultural byproducts, nutrient analysis of manure or agricultural byproducts transferred;
Storage - General		
Manure, agricultural products, agricultural byproducts, agricultural wastes and biomass allowed to be stored on an agricultural operation only if they are produced or used for agricultural purposes on that agricultural operation (note exception below).		
Liquid manure may be stored temporarily at another agricultural operation in a permanent liquid manure storage structure, without requirement for use at the storage location.	There is no intent that storage needs to be all on-site - can include a combination of permanent storage, temporary field storage, on-site or off-site, or off-site distribution to other agricultural operations. The Land Owner where the "central storage" is located is responsible for following environmentally protective storage requirements.	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
Solid manure, agricultural byproducts, agricultural wastes and biomass would be allowed to be stored in a permanent storage location or structure, or as temporary field storage.		
Liquids would be allowed to be stored only in a permanent storage structure.		
Manure and soiled bedding from fur-bearing animals is allowed to be stored under their outdoor pens.	Intent is not to restrict to only under-pen storage, manure and soiled bedding from fur-bearing animals can be stored as per other general storage requirements for manure.	
Under-pen storage of manure and soiled bedding from fur-bearing animals should not overflow or leak.	Intent is that under-pen storage needs to meet environmentally protective requirements.	
Effective measures need to be taken to • control/ prevent splash-outs from under-pen storage that will lead to run-off of manure or nutrients; and • divert clean rain water from entering under-pen storage.		
An agricultural operation needs to have sufficient storage capacity for manure and other nutrient sources until able to be used as a fertilizer or soil conditioner, or distributed off-farm.		Non-regulatory Guidance: Recommended storage capacity will continue to be in the EFP Reference Guide.
Solids or particulate matter, air contaminants, effluent, leachate and contaminated runoff from storage need to be prevented from • entering a watercourse, • leaching into groundwater, or • going off the property.	The intention is not 'zero tolerance' – e.g., there needs to be visible runoff, or visible signs of leachate or contaminated runoff. Applies to all types of storage.	
Storage needs to be managed to • minimize unacceptable odours that result in air contaminants, and • deter attraction and access by wildlife, domestic pets and other vectors.	No intent to regulate normal odours – out of scope. The expectation is that these practices or BMP's will be used or followed.	Non-regulatory guidance would include BMPs that will minimize or reduce the unacceptable odours resulting from improper practices or activities.
Corrective Actions		
Based on a concern or complaint, or a continuing problem, a director may require corrective actions.		
Permanent Storage		
Permanent storage structures should not leak or overflow.	Includes structures built with concrete, steel, or wood, and earthen pits, and	Non-regulatory guidance: Permanent storages for solids: runoff management is

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	concrete pads.	also important. Pages 9-42 to 9-52 in the EFP Reference Guide provide guidance for managing runoff and leachate.
All new or expanding earthen liquid manure storage should be designed by a qualified professional (QP).	- 'new' means as of the coming into force of the proposed revised regulation. This includes earthen storage pits. - current threshold for expansion is 10% or more capacity; - use current definition of a QP;	Non-regulatory guidance will be developed or updated for what is expected for design, to ensure long-term structural integrity, and sufficient capacity, etc.; e.g., need to consider soil type, minimum thickness of low permeable soil below base of pit, or need for a liner (need to specify a certain thickness?), minimum vertical distance above the seasonal high water table (groundwater), rainfall amount, etc.
Permanent liquid storage structures need to be built according to the QP design.		
Minimum setbacks		
A permanent storage structure needs to be setback a minimum of: • 30 m from a source of water for domestic purposes, • 15 m from the top of a watercourse bank, or a high water mark (if no discernible bank), and • 4.5 m from the property line.	No change from current minimum setbacks from water. Minimum property line setback is new - 4.5 m is same as in current Minister's Bylaw Guidelines.	
Existing permanent storage structures that do not meet the minimum property line setback and do not leak or overflow, will not need to meet the minimum property line setback until storage is expanded or replaced.	– current threshold for expansion is an increase of 10% or more;	
Corrective Actions		
If a permanent storage structure, or under outdoor pen storage, overflows or leaks, corrective actions need to be taken to stop the overflow or leak and resolve the problem prior to resuming use.	e.g., Corrective actions could include: Immediate options: - stop adding manure/material to structure; - remove some material to another storage structure – temporarily or ongoing; - collect and contain any material, leachate or contaminated runoff, from the overflow or that has leaked out to prevent discharge into watercourses, or off the property; - fix leak; Longer term options: - obtain additional ongoing storage	

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	capacity; - need a QP design and built to the design.	
High Risk Areas		
Over a highly vulnerable aquifer, or over a moderately vulnerable aquifer that is a drinking water source, all new or expanding permanent liquid manure storage structures need to be designed by a qualified professional (QP) to ensure the aquifer is protected, to have at a minimum: • an appropriate protective base layer; • an appropriate minimum vertical distance to seasonal high water table.	- vulnerable aquifers list/map will include recharge areas;	QP would determine based on soil type, etc.
Monitoring wells for new earthen storage structures may be required if there is a concern.	To ensure leakage is detected.	
Temporary Field Storage of Agricultural By-products	Wood residue storage in separate section.	
Duration		
Solid manure, composting or composted materials and other agricultural byproducts allowed to be stored as temporary field storage for no longer than 7 consecutive months.	e.g., amount that will be applied on that field over the coming growing season; The intent is that there be no temporary field storage in a single location for more than one winter (or non-growing season).	
	Short-term temporary field storage, e.g., less than 2 weeks, will not necessarily need specific requirements unless causing a problem.	
A temporary field-stored pile needs to be used up by the end of each growing season.	Intent is a new pile each year at beginning of non-growing season, when starting a storage pile; if not totally used, collect unused portion and combine with new pile started in different location of the field for the next season.	
Location		
Temporary field storage should not be located • on areas having standing water, • on water-saturated soils, or • on a low-lying area in a field prone to weather-related seasonal flooding.	High risk for leaching and runoff.	

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Temporary field storage should not be stored in the same location on the field from year to year over a 3-year period.		
Minimum setbacks		
Temporary field storage site needs to be setback a minimum of • 30 m from a 'drinking water source', • 30 m from the top a watercourse bank, or a high water mark (if no discernible bank), and • 4.5 m from property lines.	No change from current minimum setbacks from water. Minimum property line setback is newly proposed. 4.5 m is same as in current Minister's Bylaw Guidelines	
If temporarily piled in-field for less than 2 weeks, the following minimum setbacks will be required: • 30 m from a 'drinking water source', • 15 m from the top a watercourse bank, or a high water mark (if no discernible bank), and • 4.5 m from property lines.		
Leachate from the temporary field stored piles needs to be collected and contained.		
Precipitation (storm or rain water) flowing along the surface needs to be diverted from entering the temporary field stored piles.		
Berms or other works must be constructed around a temporary storage if necessary to prevent the escape of leachate or contaminated runoff into watercourses, or beyond the property boundary.		
High Risk Areas		
Temporary field storage needs to be covered, • In areas with high annual rainfall (600 mm or more) during the rainy season, • during high or intense rainfall, or stormy conditions if required to prevent leachate or contaminated runoff from going beyond the property line or into a watercourse, and • during strong, diverting winds if required to prevent the transport particulate or solid matter beyond the property line or into a watercourse.	Non-regulatory guidance to assist in determining high risk conditions would include: e.g., checking the weather forecast, venting index, wind speed, precipitation, etc.; and site-specific conditions, such as degree of slope of field towards a watercourse, using berms to divert or prevent runoff, etc.; Propose to define 'diverting winds' as wind speed in excess of e.g., 20 - 25 kph?	
Temporary field storage needs to be on a protective base, • over a highly vulnerable aquifer, or	e.g., layer of clay,a synthetic (impermeable) liner, e.g., a tarpaulin, etc.	

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• over a moderately vulnerable aquifer that is a drinking water source.		
Agricultural Composting		
Allowable Compost Materials		
The following materials may be composted in a composting structure, or on an outdoor composting site (e.g., in windrows), on an agricultural operation:	- 'structure' and 'windrow composting' will be defined in the regulation.	
• Manure and agricultural byproducts produced on the agricultural operation, • Clean wood residue • Non-agricultural waste*	Non-agricultural yard waste – may include grass clippings, leaves, prunings or trimmings under 7 cm diameter.	
If any of the above materials are imported onto an agricultural operation for composting, all of the resulting compost end product must be used on the same agricultural operation.	See Mortalities section for requirements for composting mortalities	
If compost product is distributed off-site (e.g., sold, given away) and the terms compost or "composted" are used to describe the product, then quality requirements from the Organic Matter Recycling Regulation will apply.	The terms"compost" or "composted" implies a certain level of treatment and quality (e.g., with respect to pathogen destruction, time and temperature requirements, etc.). If these terms are used when distributing the product off-site, then OMRR quality requirements apply (e.g., pathogen limits, etc.).	
Agricultural Composting Process		
No specific process required, e.g., no minimum temperature or time regimen proposed.	However, if problems arise, Director may require better management practices.	**Non-regulatory guidance:** Recommend following good production practices; e.g., keep aerobic (turning, minimum pile size, moisture, etc.).
Minimum setbacks		
A composting structure needs to be setback a minimum of: • 30 m from a source of water for domestic purposes, • 15 m from the top of a watercourse bank, or a high water mark (if no discernible bank), and • 4.5 m from the property line.	same as building setbacks	
The perimeters of an outdoor composting pile or curing pile (e.g., windrows) need to be setback a minimum of • 30 m from a source of water for		

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domestic purposes, the top of a watercourse bank, or a high water mark (if no discernible bank), and • 4.5 meters from property lines.		
Location		
An outdoor composting site should not be located • on areas having standing water, • on water saturated soils, and • on a low-lying area in a field that is prone to seasonal flooding.		
Leachate and contaminated runoff from a composting structure, or an outdoor composting site, need to be prevented from • entering a watercourse, • leaching into groundwater, or • going off the property.		
Composting and curing activities need to be managed to: • minimize unacceptable odours that result in air contaminants, • prevent escape of solid particles from composting and curing materials from entering a watercourse or going off the property, and • deter attraction and access by wildlife, domestic pets and other vectors.		
Leachate needs to be collected and contained, and precipitation (storm or rain water) flowing along the surface needs to be diverted from entering the composting and curing piles.		
High Risk Areas		
An outdoor composting site and a composting structure need to be on a protective base, • over a highly vulnerable aquifer, or • a moderately vulnerable aquifer that is a drinking water source.		
Composting and curing piles need to be covered, or under cover, • in areas with high annual rainfall (600 mm or more) during the rainy season, • during high or intense rainfall, or stormy conditions if required to prevent		

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
leachate or contaminated runoff going beyond the property line or into a watercourse, and • during strong, diverting winds if required to prevent the transport of solid or particulate matter beyond the property line or into a watercourse.		
Leachate needs to be collected and contained, and storm or rain water flowing along the surface needs to be diverted from entering the composting or curing piles.		
Nutrient Management	This section details the proposed policy on management of nutrients, including application rates. Where "nutrient application plan" is mentioned, it is broader than application rates, and needs to address the "4 R's of nutrient management" — the "Right Source, Right Rate, Right Time and Right Place".	
General		
Manure, agricultural byproducts, and other nutrient sources must only be applied as a fertilizer or soil conditioner.	See separate Proposed Definitions document.	
All nutrients need to be applied based on agronomic rates and crop requirements.	Nitrogen and Phosphorus are the main nutrients of interest. The outcomes we are aiming for are: ➢ Minimize nutrient losses into the environment. ➢ No excessive nitrogen left in the soil, especially below the root zone; and no excessive phosphorus accumulation in soil. Note: excessive defined further on in the document.	
Manure or composted manure may only be applied to bare soils in the fall, if nutrients will be taken up by crop and will not be at risk to leach into groundwater, or runoff into watercourses.		**Non-regulatory guidance** will include: BMP's for utilization as fertilizer versus soil conditioner; a need for more explicit guidance on the use of manure (as a fertilizer) for soil amendments in the fall on a bare soil, e.g. define BMPs, create extension materials that explain the latest knowledge from the research. The EFP Reference Guide discusses soil conditioners vs. fertilizers, the C/N ratio

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		guideline, and provides common classifications of materials into the soil conditioner and fertilizer categories.
All nutrient sources need to be accounted for in calculating the application rate.	i.e., all sources that are to be applied (manure, composted material, commercial fertilizers/conditioners), as well as soil residual levels, etc.	
Records may be requested.		
If no records are available, the Director may require that records start being kept.		
Environmental Risk Indicators Proposed policy for operations growing crops on outdoor field soils is to use soils tests (e.g., PHNT, Soil Test P), and susceptibility of the receiving environment as environmental risk indicators.	See Nitrogen and Phosphorus Environmental Risk Matrix	
Soil and nutrient source tests need to be current and representative.	- may need to define 'current' and 'representative';	**Non-regulatory guidance**: will outline appropriate field/crop specific soil tests, frequency, soil sampling techniques, etc.
For certain types of operations, such as cranberry operations or container nurseries, where a field-based soil test (e.g., PHNT) is not appropriate, proposed policy is that these operations may be requested to demonstrate that nutrient application rate does not exceed crop nutrient requirements.		
Nitrogen applications – non-high risk areas		
The application of nitrogen should not exceed the agronomic nitrogen rate.	As per proposed definitions: **agronomic nitrogen rate** means: the application rate at which the available nitrogen from all nutrient sources meets the nitrogen production recommendation for the crop being grown in the year of application.	Guidance to include most appropriate tests to use for calculating agronomic rates.
Environmental Risk Indicator For Nitrogen/nitrates - is a Post-Harvest Nitrate Test (PHNT) for outdoor field-based crops.	**Rationale:** - need to know how much is left in the soil (after crop harvested) that is at risk to leach down or runoff; If applied at an agronomic rate, there is enough for the crop, and should not leave excessive amount in the soil. PHNT is also used as a performance measure to assess how well agronomic	**Non-regulatory guidance** to include: how often PHNT needed, timing of sampling, techniques, etc.

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	application rate is being met.	
The Director may request or require tests to be taken or records to be kept.	Timing of taking a sample for the PHNT, and other tests, is important. e.g., in wet, high rainfall areas, need to take the sample before the heavy rains; have guidance for how soon after harvest, before rains, etc., and how to take soil samples for PHNT. However, if not seeing improvement, then need ability to request or order changes.	
The proposed policy is to use a Risk Matrix with PHNT thresholds and risk of leaching for what actions are required at what level.	See Environmental Risk Matrix for Nitrate	
If the PHNT is 150 kg N/ha or greater for the 0 - 60 cm soil depth, a nutrient application plan needs to be prepared by a QP for the following growing season.	A PHNT of 100 – 200 kg Nitrate-N/ha is considered high; and a PHNT of greater than 200 is considered very high.	Non-regulatory Guidance should include how to take samples, how many per size of field, how to combine, etc. The Ministry of Agriculture's "Understanding Different Soil Test Methods" factsheet provides a starting point to determine the 0-60 cm depth equivalency. The factsheet/protocol needs to be reviewed. AGRI is updating its Guidance (NMP Tools Project). Guidelines also include methods that growers can follow to optimize their nitrogen management practices over time, based partly on feedback from applicable plant and soil (PHNT) assessments.
The nutrient application plan needs to be designed to meet an agronomic nitrogen balance of 0 for all fields, and to minimize the risks of N losses to the environment.		
If a nutrient application plan is required, a producer must be able to demonstrate compliance with the plan and reasonable actions to decrease annual PHNT*, and minimize losses.	*Actions could include a change or changes in their nitrogen management regime, (e.g. could be timing or placement, or any of the factors that affect soil N). The regulation will not specify, how it must be done and will provide flexibility as long as performance standards are met.	
Records need to be kept that demonstrate the plan has been implemented.	The policy here is that records can be requested, should a particular concern arise. This is consistent to what was discussed during working group meetings.	
The Director may request that soils samples be taken, using a specific methodology, and that records need to be kept.	The Director may request that a QP be hired to do the sampling.	
Where there are concerns about nitrate	e.g., suggestion for cranberries, similar to	

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leaching into groundwater, or N discharge to surface waters for agricultural operations where a PHNT is not appropriate, or for other non-field-based crops, the Director may request or require records to show responsible N management and N application rates.	other fruit crops, was to assess if N rate decisions were based on best practices (e.g., evaluations of vine growth and leaf tissue N).	
Nitrogen Applications - High Risk Areas		
High risk areas, with respect to nitrogen application rates, primarily refer to land that is above highly vulnerable aquifers, and aquifers with moderate vulnerability that are used as a drinking water source.	We need to consider land that serves as a significant source of groundwater recharge – will check into whether provincial mapping has aquifer recharge boundaries info;	
The application of nitrogen from all nutrient sources should not exceed the agronomic nitrogen rate.	i.e., can apply less than but not more than;	
A lower PHNT threshold is proposed for an environmental risk indicator in a high risk area. If the PHNT is **100 kg N/ha or greater, a** nutrient application plan must be prepared by a QP.	See Environmental Risk Matrix for N Difference between being in high risk area and not being in high risk area: • A lower PHNT threshold as described above, • For the Nutrient Application Plans, an explicit requirement for sampling and laboratory analyses, crop production recommendations and crop yield records, signed off by a QP, instead of the option to use book values, which would be allowed initially for NAPs in non-high risk areas, unless otherwise specified by the Director.	**Non-regulatory Guidance:** Sampling and Laboratory Analyses: AGRI's Guidance Materials (needs some review and updating but provides a good starting point for guidance): • Nutrient Management Reference Guide, 2010 • Manure Sampling and Analysis for Nutrient Management • Forage Crop Sampling for Nutrient Management • Berries Production Guide
The nutrient application plan must be designed to meet an agronomic nitrogen balance of 0, for all fields, **and** to minimize the risks of N losses to the environment**.**		
If a nutrient application plan is required, a producer must be able to demonstrate compliance with the plan, and actions to decrease annual PHNT and minimize losses to the environment.	The policy is that records can be requested, should a particular concern arise – based on concern, complaint or during an inspection.	
Records need to be kept that demonstrate the plan has been implemented.	e.g., the nutrient application plan, how it is meeting the requirements, with the calculations for application rate, soils test results, values used for crop requirements , manure nutrient levels, etc.	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
The Director may request that soil samples be taken (by a QP), using a specific methodology and that records of each PHNT sampling event need to be kept.		
Phosphorus applications	Non-high risk areas	
With respect to Phosphorus, application rates are to be based on crop P requirements.	Crop P requirements = crop P production recommendations As previously mentioned, the objective of these requirements is to avoid or reduce instances of excessive accumulation of P in soils. Calculations for the crop P removal balance would use most appropriate tests.	**Non-regulatory guidance** to include: How to calculate appropriate rate, conversion tables, etc. e.g., to convert to "Kelowna-equivalent values," use the Soil test P and K converter tool.
Environmental Risk Indicator For Phosphorus – is the Soil Test for Phosphorus (soil test P); two factors need to be considered: 1) how much is left in the soil that might be at risk to enter watercourses through erosion or runoff; and 2) susceptibility of receiving environment.	**Rationale:** - need to know how much is left in the soil after crop harvested that is a high risk to runoff; Soil test P below refers to Kelowna-extractable phosphorus of a 0-15 cm soil sample that is representative of the field, on an oven-dry basis. Extraction methods other than Kelowna (Gough 1991) may be used as long as the results are converted to their 'Kelowna-equivalent' values. - based on outdoor field-based crops	Soil test P. - The Ministry of Agriculture can develop a Soil Sampling and Analysis protocol (based on current materials); QPs may use exceptions to this protocol with justification - Ministry of Agriculture's Soil Test P and K Converter tool would be used, along with supporting guidance to express soil test P levels on a Kelowna-equivalent basis (0-15 cm).
The proposed policy is to use a Risk Matrix with Soils Test P thresholds and the risk of adverse impact to the receiving environment for what actions are required at what level.	A Soils Test P of 100 mg/kg of dry soil is considered very high. However, risk of adverse impact to the receiving environment is needs to be equally considered.	
If soil test P is 300 mg/kg of dry soil or greater, for any field, a nutrient application plan needs to be prepared by a QP for the following growing season.	See Environmental Risk Matrix for P In Non High Risk Areas for P, if soil test P is below the threshold and risk of adverse impact to the receiving environment is low, then the application rate would be based on crop N requirements for manure applications up to a high soil test P level.	
The nutrient application plan needs to be designed to reduce Soil P levels over time and to minimize the risks of P losses to the environment**.**	The onus would be on the producer to demonstrate that soil test P is lower than the threshold for Non-High Risk P areas.	
Crop P removal balance needs to be neutral or negative to decrease soil test P over time.	See *Definitions* of crop P removal balance for more detail on its components.	
Crop P removal balances may be estimated without manure or soil testing, unless manure treatment technologies are used, in which case manure testing will be required.	Crop P removal balance may be positive one year but negative in subsequent year(s), e.g. corn-alfalfa-alfalfa rotation with no nutrients applied to alfalfa. Crop P removal	**Non-regulatory guidance** will include: information required to estimate, such as i) crop type and yield, ii) acres receiving nutrients, and

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	balances should be interpreted as multi-year in duration.	iii) P fertilizer application rates and formulations, and iv) 'manure' application rates and types (or animal numbers by livestock class may be provided instead with % of manure applied to each field).
The QP-prepared plan needs to be followed.		
Records need to be kept that demonstrate the plan has been implemented.	Records may be requested, should a particular concern arise. This is consistent to what was discussed during Working Group meetings. e.g., current soils test results, values used for crop requirements, manure & other nutrient source levels, calculations for application rate, etc.	
The Director may request that the producer hire a QP to do the sampling.	For waterbodies found to be vulnerable to P loading, but not in a High Risk Area for P, the Director may require that requirements for High Risk Areas for P apply.	
Phosphorus Applications – in High Risk Areas	High risk areas, with respect to phosphorus application, primarily refer to land that is within sensitive watersheds that have been idenfitied as having water quality issues – e.g., high phosphorus loading, water quality objective set; High risk area = already a high P loading therefore, higher risk;	
If soil test P is 100 mg/kg of dry soil or greater, for any field, and the risk of adverse impact to the receiving environment is high, a nutrient application plan needs to be prepared by a QP.	In High Risk Areas for P, more aggressive action to reduce P risks is warranted compared to Non-High Risk Areas for P, in the form of: - a lower soil test P threshold - the total P content of nutrient sources must be tested rather than estimated using book values, - soil tests may need to be taken more frequently than in Non-High Risk Areas for P	
The nutrient application plan needs to be designed to reduce Soil P levels over time and to minimize the risks of P losses to the environment.		
Therefore, crop P removal balance needs to be neutral or negative to decrease soil test P over time.	P values of nutrient sources that are land-applied must be based on a laboratory analysis of a representative sample.	
The QP-prepared plan needs to be followed.		
Records need to be kept that demonstrate the plan has been implemented.	Records may be requested, should a particular concern arise.	

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If a nutrient application plan is required, a producer needs to be able to demonstrate compliance with the plan.	Records can demonstrate that the plan has been followed.	
The Director may request that a QP be hired to do the sampling.		
Land Applications		
General		
No direct discharges allowed of manure, agricultural byproducts, other nutrient sources, soil conditioners or effluent into watercourses or into the groundwater.		
Manure, agricultural byproducts, and other nutrient sources may should only be applied only as a fertilizer or soil conditioner.		
Land application of composted material would not be allowed if the composted material contains • bones with visible signs of flesh, • flesh or tissue • more than 1% foreign matter by dry weight, or • any sharp foreign matter in a size or shape that could cause injury.	Large, intact bones or other visibly distinguishable animal parts should not be spread on fields.	Non-regulatory guidance could include BMP's – for screening, removing bones, etc., to go back into composting pile, or a need for longer composting period; Guidance will also include direction on utilizing SRM compost.
Effective controls need to be in place during land applications, to minimize the risk of solids and particulate matter, leachate, contaminated runoff and drift from sprayed materials from entering watercourses, or going off the property.		Non-regulatory guidance would include: e.g., consideration of field slope and direction, weather, wind conditions in choosing BMP's that will be effective, such as berms, diversion ditches, setbacks, vegetative buffers, adjusting manure gun spray direction, etc.
Setbacks		
Land applications of manure and other nutrient sources need to be setback at least 1.5 meters from the top of a watercourse bank, or a high water mark (if no discernible bank); i.e., must not be immediately adjacent to the top of the bank.	Setback is to minimize risk of runoff.	Non-regulatory guidance would include BMPs such as – considering slope of field towards watercourse, having a buffer, vegetative strip, or berm, etc.; i.e., recommended setbacks from watercourses would increase to reflect the risks of manure or contaminated runoff.
The Director may require a minimum setback, if land applications result in manure, leachate, or contaminated runoff problems.		
High Risk Areas and Conditions		
Prohibited Applications		

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No applications of manure, other nutrient sources or soil conditioners allowed from November 1 to February 1: i) in an area of the Province that receives a total average precipitation of 600 mm or more during the months of October 1 to April 1 inclusive, including the Lower Fraser Valley, and Vancouver Island, ii) on frozen or snow-covered ground, areas having standing water, or water-saturated soils, and iii) during strong or diverting winds, stormy conditions, or short-term intense or high rainfall.	High risk of runoff. This addresses the 'right time' concept of the 4R's of nutrient management. This addresses the 'right place' and the 'right time' concepts of the 4R's of nutrient management.	
Restricted Applications	(shoulder season)	
Nutrient applications will only be allowed in October, February and March, if • nutrients are needed and will be available for the crop, and • an application risk assessment is prepared for each field that indicates low risk for runoff. Records of a risk assessment will need to be kept and may be requested.	Note this addresses the 'right place' and the 'right time' concepts of the 4R's of nutrient management.	**Non-regulatory** guidance would include BMP's, AGRI Manure Spreading Advisories, 'rules of thumb', factors to be considered in the "risk assessment", etc.; The Manure Spreading Advisories and an application risk assessment (e.g., such as the Application Risk Management (ARM) tool pilot project) would provide guidance to assess the soil, crop, and weather conditions for field-specific decisions about nutrient applications.
Wood Residue - General		
Wood residue from clean, untreated wood processing waste and biomass will only be allowed to be brought on for use, or stored for later use, for agricultural purposes on an agricultural operation.		
Storage and use of clean wood residue needs to be managed to prevent solid or particulate matter, dust, and leachate or contaminated runoff from storage from • entering a watercourse, • leaching into groundwater, or • going off the property.	Leachate generated from saturated wood residue piles is toxic.	Non-regulatory guidance would include BMPs for recommended minimum setbacks for long term outdoor storage of wood residue piles; e.g., longer than 2 weeks, minimum 30 m from a drinking water source and 15 m from a watercourse; for less than 2 weeks, 15 m recommended if possible, minimum 5 m from a watercourse.
Any leachate needs to be collected and contained.		
Precipitation (storm or rain water) flowing along the surface needs to be diverted from entering the temporary field-stored wood residue piles.		

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
Prohibited Types of Wood Residue		
Wood residue from wood products or byproducts not originating on the agricultural operation, that have been • treated with glue, paint, preservatives, or other chemicals, or • coated with paints, varnish, oils or other finishing materials, or are from • salt-laden wood, or • demolition or construction, would not be allowed to be stored or used on an agricultural operation.	- use definitions in OBSCR for wood waste from demolition and construction;	
Use of Wood Residue		
Allowable Uses		
Allowable uses of clean wood residue include: • as a plant mulch, growing media, or horticultural bedding, • as a soil conditioner or ground cover, • as a component for composting with manure and other agricultural byproducts, • as livestock bedding and in areas where livestock, poultry or farmed game are confined or exercised, • for on-farm access ways, and • as fuel for wood-fired boilers.	e.g., B & B tree nursery beds	
Prohibited Uses		
Wood residue would not be allowed to be used: • for berm construction, • as fill, • as an envelope for tile drains, • to level a site, or • to create access through a draw, swale, wetland or watercourse.	Wood residue [wood waste] is not inert - concentrated leachate from wood residue can be toxic to aquatic life and negatively impact the environment and human health. The toxic resins (and other constituents) are at risk to be leached out when a pile is wet, or becomes saturated. These uses are a high risk for the concentrated leachate to form.	
No direct discharges allowed of wood residue into watercourses or into the groundwater.		
Minimum setbacks		
Wood residue used as mulches, plant bedding, or for road access ways need to be setback from the top of a watercourse bank, or a high watermark (if no discernible bank)		Non-regulatory guidance would include BMPs for recommended minimum setbacks (e.g., 1 meter between watercourse bank or property line and plant row or end of row).

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
i.e., should not be placed at, immediately adjacent to or beside these.		
The Director may require a minimum setback, if wood residue applications result in escape of solid or particulate matter, leachate or contaminated runoff.		
Wood residue applied as a solid layer of 30 cm deep or more on the ground surface needs to be setback a minimum of: • 30 meters from a source of water for domestic purposes, and • 15 meters from the top of a watercourse bank, or a high water mark (if no discernible bank).	e.g., when wood residue in a layer of 30 cm or more deep on top of the ground/soil, such as for riding rings, in paddocks, or for B&B tree nursery beds.	Non-regulatory guidance would include BMPs for recommended maximum depths and amounts for different uses; – see Table.
The minimum 30 m setback would not apply if wood residue is immediately tilled into soil during application as a soil conditioner.	e.g., developing/renovating berry fields? Other examples?	
Corrective Actions	Need corrective actions where a problem arises – or when using excess (e.g., as fill), BMP's for recommended thickness;	
Based on a concern, complaint, or a continuing problem, a Director may require corrective actions in an advisory, warning or order.	e.g., the director would consider recommended maximum quantities or depths in guidance as a benchmark for higher risk;	Non-regulatory guidance would include the Table of recommended maximum depths and amounts for different uses;
High Risk Areas and Conditions		
Temporary field-stored wood residue piles need to be on a protective base, i) over a highly vulnerable aquifer, or ii) a moderately vulnerable aquifer that is a drinking water source.		
If leachate, solids or particulate matter is escaping from temporary field-stored wood residue piles and entering surface waters or going off the property, immediate action needs to be taken to stop the leachate, solids or particulate matter entering surface waters, and contain the leachate, solids or particulate matter, and ensure no further runoff or escape.	High risk conditions include: a) areas with high annual rainfall (600 mm or more) during the rainy season, or b) during high or intense rainfall, or stormy conditions (that could result in leachate or contaminated runoff going beyond the property line or into a watercourse), and c) during strong, diverting winds (that could transport particulate or solid matter beyond the property line or into a watercourse).	
Mortality Management		
Normal mortalities of livestock, poultry or	Disposal of "mass carcasses" is not within	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
farmed game may continue to be disposed of on an agricultural operation by burial, incineration, or composting, if the mortalities are disposed of on the agricultural operation where they died.	the scope of the current or proposed revised regulation and requires specific separate authorization. Excluding mass carcass burial by limiting the density in burial pits, over a given area	
Solid and semi-solid slaughter wastes may be disposed of on an agriculture operation only if the solid and semi-solid slaughter wastes are • from a small on-site slaughter operation on that same agriculture operation that slaughters less than 5 tonnes of live weight killed (LWK) red meat per year or less than 1.5 tonnes of poultry LWK per year, or • from animals raised on that same agriculture operation (but slaughtered off-site).	- as per the exemption in the Slaughter Code - use definition of solid and semi-solid slaughter waste as in Slaughter Code;	
Disposal of mortalities needs be managed to: • minimize unacceptable odours that result in air contaminants, • prevent escape of solids, and leachate from entering a watercourse or going off the property, and • deter attraction and access by wildlife, domestic pets and other vectors.		
Storage of mortalities and/or solid and semi-solid slaughter wastes		
If stored prior to disposal, • solid or semi-solid slaughter wastes need to be stored only in a covered container that does not leak or overflow, and • mortalities and solid or semi-solid slaughter wastes need to be managed to a) minimize risk of unacceptable odours that result in air contaminants, and b) deter access, and reduce the risk of attracting wildlife, domestic pets or other vectors.		Non-regulatory guidance: - use BMP's e.g., recommendation that mortalities and slaughter wastes should be disposed of within 48 hours.
Disposal by Burial		
Normal mortalities and/or small quantities of slaughter waste will continue to be allowed to be disposed of by burial, with the following parameters:		Diagrams will be in guidance.
• A maximum of 2,500 kg per burial pit;	Based on AU's – this is approximately 4-5 beef cows, 3-4 dairy cows, etc. If, due to	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
	emergency conditions, these maximum weight limits cannot be complied with, separate specific authorization will be required.	
• not located i) over coarse, sandy soils, e.g., soil with a saturated hydraulic conductivity greater than 1 x 10^{-4} cm/s) ii) in areas having standing water, iii) in water-saturated soils, iv) in a low-lying area in a field that is prone to flooding, or v) within the 200-year flood plain.		
• a minimum vertical distance of 1.5 m below the pit from the base of the pit to the seasonal high water table;		
• a minimum setback of i) 60 m between burial pits that have been closed for less than 10 years; ii) 30 metres from the perimeters of the pit to a source of water used for domestic purposes, the top of a watercourse bank, or a high water mark (if no discernible bank); and iii) 4.5 m from a property line.		
• each deposit of mortalities/slaughter waste must be covered immediately with 0.6 m of soil;		
• when burial pit is being closed, it needs to be covered with a minimum of 1 m of compacted and mounded soil to prevent/minimize precipitation percolating into pit, and vector attraction.		
High Risk Areas		
i) In areas of the province with high annual precipitation of 600 mm or more, and ii) over highly vulnerable aquifers, or medium vulnerable aquifers that are drinking water sources, burial of mortalities and solid and semi-solid slaughter wastes only allowed, with the following parameters:		
• a maximum of 1, 000 kg of waste per burial pit;		

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
• not allowed to be located over coarse, sandy soils (e.g., soil with a saturated hydraulic conductivity greater than 1 x 10 -4 cm/s); • in areas having standing water, • in water-saturated soils, • in a low-lying area in a field that is prone to flooding, or • within the 200-year flood plain.		
• a minimum vertical distance of 2 m of from the bottom of each pit to seasonal high water table;		
• a minimum setback of i) 60 m setback between pits that have been closed for less than 10 years; ii) 30 m from the perimeters of pit to a source of water used for domestic purposes, the top of a watercourse bank, a high water mark (if no discernible bank) and a property line;		
• each deposit of mortalities/slaughter waste must be covered immediately with 0.6 m of soil;		
• when burial pit is being closed, it needs to be covered with a minimum of 1 m of compacted and mounded soil to prevent/minimize precipitation percolating into pit, and vector attraction.		
Burial records that may be requested or required include site criteria, geographical location of pits, and quantity buried.	If concerns or chronic problems, records may be requested during an inspection, or required in an order.	
Disposal by Incineration		
Operation of an incinerator needs to follow manufacturer-based standard operating procedures.	Manufacturer needs to supply SOP.	
Emissions from Incineration		
Particulate Matter		
Mortality incinerators need to meet the following maximum allowable emission standards for total particulate matter:	Policy is continuous improvement — move to cleaner technology and lower emissions in future revisions, as improved technology becomes available.	
Existing mortality incinerators:	Agricultural operator needs to obtain	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
-180 mg per m^3 (O_2 reference level of 11% and 25° C.); New and Replacement mortality incinerators: a) Less than 400 lbs chamber capacity - 175 mg per m^3 (O_2 reference level of 11% and 25° C and 101 kPa.). b) 400 lbs chamber capacity or greater - 155 mg per m^3 (O_2 reference level of 11% and 25° C and 101 kPa.).	Manufacturer-supplied certificate stating the equipment's emission design standard for particulate matter. Ag. operator to keep certificate on file.	
Opacity		
Existing mortality incinerators: - 20% opacity at any point in time during incinerator operation New and Replacement mortality incinerators: a) less than 400 lbs chamber capacity: – 20% opacity at any point in time during incinerator operation b) 400 lbs chamber capacity or greater: - 10% opacity after incinerator has reached operating temperature	The proposed maximum standards for total particulates and opacity should be achievable with good operating procedures. - good management can achieve 10% opacity; - is opacity measurement training needed?	Non-regulatory guidance to include BMP's for good management. - need a quick assessment method;
Setbacks		
Minimum setbacks for an incinerator: • 30 m from a domestic water source, • 15 m from the top of the bank of a watercourse, or a high water mark (if no discernible bank), • 7.5 m from a property line.	Based on dispersion modelling done for point of impact, recommendation is that setbacks should be – minimum 15 m from property line, and minimum 30 m from adjacent/neighbouring residence.	
Incineration records that may be requested may include forecast, weather conditions before and during operation, venting index, start-up period, total burn time, volumes and type of mortalitiy incinerated, and amount of smoke produced (e.g., opacity assessments).	If concerns or chronic problems, records may be requested, or required in a warning or an order.	
Corrective Actions		
Based on a concern, or compliance issue, various actions may be required in an advisory, or order.	e.g., Director may require replacing equipment (obtaining a secondary burner, or newer technology), testing, training, etc.	
Disposal by Composting		
Mortalities and solid and semi-solid slaughter wastes* may be disposed of by composting if the compost end product is applied on the agricultural operation and not distributed off-site.	*Solid and semi-solid slaughter wastes from on-site small slaughter operation as allowed under exemption (max. 5/1.5 tonnes LWK). If mortality compost is desired to distributed off farm, OMRR needs to be followed.	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
Composting and curing piles need to be maintained in an aerobic state, i.e., turning, static aeration, etc., that ensures all parts of carcass, or solid and semi-solid slaughter wastes are completely degraded.		Non-regulatory guidance: Use BMP's, turning, temperature, moisture, retain in curing piles after composting, etc.
Composting mortalities and slaughter waste needs to meet the same environmentally protective requirements as agricultural composting.	e.g., minimum setbacks, location, leachate, contaminated runoff, solids and odour management, deter attraction and access of wildlife, and High Risk protective measures.	
If more than 5,000 kgs of carcasses are composted at one time, a Director needs to be notified and may require that a separate authorization be obtained.	The intent is to exclude mass carcass events, and require notification and the option for a separate authorization (the need for separate authorization would be the Director's discretion based on the circumstances).	
Land application of composted mortalities and/or slaughter wastes		
Land application of composted material would not be allowed if the composted material contains • bones with visible signs of flesh, • flesh or tissue • more than 1% foreign matter by dry weight, or • any sharp foreign matter in a size or shape that could cause injury.	Composted mortalities should not be land applied if the composted material contains identifiable body parts of the slaughtered animals, or other foreign material.	Non-regulatory guidance – use BMP's e.g., take out large or intact bone pieces
No specific proposed requirements for SRM compost.	Policy is to be consistent with CFIA requirements and policies with respect to SRM compost and explain the associated risks. Records may need to be kept for location and quantity of SRM compost applied.	Guidance: Recommend following CFIA requirements and policies that SRM compost not be spread on crops for human consumption or animal feed, and domestic ruminants not be allowed to graze for 6 years on SRM compost applied land.
Livestock areas		
Confined livestock areas		
No direct access to watercourses allowed in a confined livestock area.	Differences in definitions for watercourse and stream (in WSA) need to be understood; Propose to use 'watercourse' term – and define stream as one type of watercourse;	
Confined livestock areas need to have effective controls in place for runoff management and groundwater protection.		**Non-regulatory** guidance would include BMPs, e.g., how to manage runoff, what should be in a decommissioning plan, etc.;
Piles or accumulation of manure/feed/ bedding needs to be actively managed to prevent escape solids or particulate matter,	Discussion re: excessive dust – a need to define? – maybe in guidance;	**Non-regulatory** guidance would include BMPs, e.g., managing excess manure (which is the amount of manure over a

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
leachate and contaminated runoff from • entering a watercourse, • going off the property, or • leaching into groundwater.		recommended manure 'pack' depth) should be removed regularly, minimizing wind erosion of solids or particulate matter; collecting and containing leachate and diverting clean rain water away, etc.;
Leachate from the confined livestock area needs to be collected and contained.		**Non-Regulatory g**uidance would include BMPs, such as • remove accumulated snow and manure buildup from pens prior to spring thaw, • pen management and catch basins and sediment ponds to capture leachate and contaminated runoff (QP designed?), • berms, drainage ditches to divert clean runoff away from confined livestock areas.
Precipitation water flowing along the surface needs to be diverted from entering the confined livestock area.		
Feedlots - General	Proposing to have a section referring to feedlot-specific requirements	
A confined livestock area, such as a feedlot, where an intact protective layer (e.g., gleyed layer, black interface layer) develops needs to be managed so the protective layer is maintained.	Definition of a feedlot? – a type of confined livestock area, e.g., cattle, horse, sheep, etc. that have high animal densities, … - duration and animal density are factors Need to ensure that paddocks, corrals, exercise areas are not a feedlot; ask HCBC what their definitions are for these?	**Non-Regulatory** guidance would include BMPs, for development and maintenance of protective base layer, e.g., manure and bedding overlying soils must be kept moist to maintain gleyed soil layers; avoid aggressive pen cleaning so as to keep the gleyed layer or 'black interface layer' intact.
Prior to a feedlot no longer being used, a decommissioning plan needs to be prepared and implemented.	Expectation is that appropriate good practices be implemented to clean up/out accumulated manure to utilize effectively, in a timely manner, and to minimize risks of runoff into surface waters and leaching into groundwater.	**Non-Regulatory** guidance would include BMP's, e.g., planting salt tolerant cover crops in unused yards to reduce leaching when the gleyed layer breaks down.
Minimum Setbacks - Feedlots		
The perimeters of a confined livestock area, with 10 or more animal units, need to be setback a minimum of 30 metres from: • any source of water used for domestic purposes, • the top of a watercourse bank, or • a high water mark (where no discernible bank).	See definition of animal unit in definitions document (note, proposed change from agricultural unit in current regulation)	
The perimeters of a confined livestock area, with less than 10 animal units, need to be setback a minimum of: • 30 meters any source of water used for	For example, exercise areas or riding rings, where there is no feeding and a vegetative buffer would not need a setback from property line.	

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
domestic purposes, and • 5 meters from the top of a watercourse bank, or a high water mark (where no discernible bank).		
Corrective Actions		
Corrective actions based on an identified concern –will be included in regulation to allow the Director to require corrective actions.	e.g., if excess manure not removed, may receive a warning or order to remove the excess; or may be seen as a "storage area" and required to meet 'permanent storage requirements'.	Director would look at what guidance has for BMP's –
High Risk Areas – Feedlots		
Over a highly vulnerable aquifer, or over a moderately vulnerable aquifer that is a drinking water source, a new feedlot with 10 or more animal units and without a roof covering needs to have	High risk for leaching into groundwater	
• an intact gleyed layer, plus an impermeable protective layer (e.g., soil with a $1x10^{-7}$ cm/s or lower hydraulic conductivity, or synthetic liner) and		
• a minimum vertical distance of 1.2 m from bottom of protective layer to seasonal high water table.		Non-regulatory guidance would include BMPs, with recommended thicknesses for the gleyed layer and the low permeability soil. Could use a diagram to show an example of the layers that make up the protective layer thicknesses
Corrective Actions		
Based on a concern, or compliance issue, various actions may be required in an advisory, or order.	e.g., protective base layer needs to be maintained to ensure no leaks; e.g., may require installation of monitoring wells, etc.;	
Seasonal Feeding Areas		
Livestock, poultry or farmed game in a seasonal feeding area may have direct access to watercourses.	Provisions harmonized with other legislation and applicable regulations, such as the new provincial *Water Sustainability Act*, and the current *Forest and Range Practices Act*, the *Range Act* and the *Land Act* for Crown land. Uncontrolled access to surface water should be avoided.	**Non-regulatory guidance**: on BMP's for 'controlled' access;

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
Effective controls need to be in place to: • minimize trampling and erosion of soil into a watercourse, and • minimize the risk of manure, leachate and contaminated runoff from entering watercourses.		**Non-regulatory** guidance will include: - good range management practices[2], with respect to environmentally protective practices in riparian areas, are expected to be followed.
Feeding Locations		
During the whole time that animals are present, feeding locations for on-ground feeding and mobile bins in a seasonal feeding area should a) not be located in an area that is flooded, or prone to weather-related seasonal flooding, and b) be distributed throughout the area to ensure that manure from the feeding of livestock, poultry or farmed game does not accumulate or pile up, and is spread evenly in the area.	The intent is that livestock should be encouraged to not stay or linger in an area that is or will be flooded – as this leads to accumulation or piles of manure that is high risk for runoff to become contaminated.	**Non-regulatory** guidance would include BMPs: e.g., Relocate bedding areas and watering points within the site at least weekly; Keep feed, bedding, mineral blocks, etc., and the water supply well separated from each other to reduce manure build-up at any one location of these animal concentration points.
Minimum Setbacks		
On-ground feeding locations, and mobile feeding bins need to be setback a minimum of 30 metres from • any source of water for domestic purposes, • the top of a watercourse bank, or a high water mark (if no discernible bank).		
Corrective Actions		
The Director may request or require corrective actions. e.g., Manure that accumulates, or becomes piled around feeding / bedding / watering areas needs to be spread evenly over, or removed from the seasonal feeding area.	Based on identified concerns – e.g., If feeding locations are left in same place, manure will accumulate and there is a higher risk for leachate or contaminated runoff from the manure that accumulates around the bin to run off into a watercourse.	
Grazing areas		
Livestock, poultry or farmed game feeding within a grazing area may have direct access to watercourses.		**Non-regulatory** guidance would include BMPs: e.g., proper, developed access that minimizes negative impacts
Effective controls need to be in place to:		**Non-regulatory** guidance would include

[2] See, for example, Ministry of Forests, Lands and Natural Resource Operations publication: Best Management Practices on Crown Range in Community Watersheds.

Proposed policy underlying proposed requirements	Explanations/Comments	Guidance materials
• minimize trampling and erosion of soil into a watercourse, and • minimize the risk of manure, leachate and contaminated runoff from entering watercourses.	Good range management practices – with respect to environmentally protective practices in riparian areas – are expected to be followed.	BMPs: e.g., for encouraging livestock to not linger; checking and moving animals as needed;
Livestock need to be moved out of an area, or encouraged to move away from an area, that is flooded, or prone to weather-related seasonal flooding.	Livestock should not linger in an area that is or will be flooded – a high risk for contaminated runoff from accumulated manure to flow into watercourses.	**Non-regulatory** guidance would include BMPs: e.g., if watercourse access becomes eroded, prevent access until repaired;
Temporary Holding Areas		
Livestock, poultry or farmed game are allowed to be held in a temporary holding area for no longer than 72 hours at one time.		
Livestock, poultry or farmed game held in a temporary holding area may have direct access to a watercourse.		
Effective controls need to be in place to: • minimize trampling and erosion of soil into a watercourse, and • minimize the risk of manure, leachate and contaminated runoff from entering watercourses.		

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