

Red Deer County



RED DEER COUNTY
CLUBROOT MANAGEMENT GUIDELINES
(CMG)
FOR INDUSTRY AND CONSTRUCTION

RED DEER COUNTY Ver.1

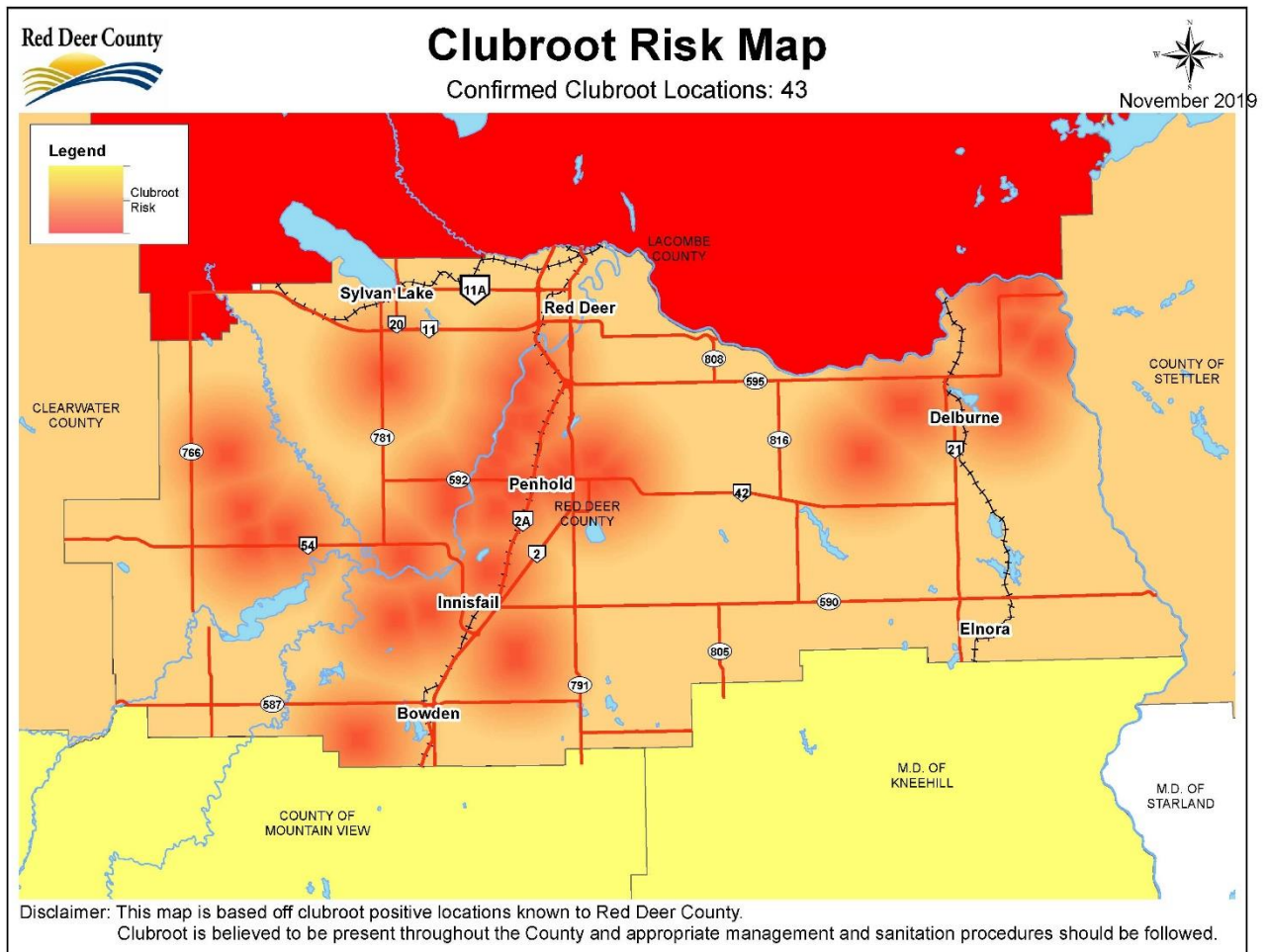
December 2019

1. Introduction

The following are Clubroot Management Guidelines (CMG) compiled by Red Deer County for the purposes of mitigating the potential spread of Clubroot. These are guidelines only and do not guarantee against the spread of Clubroot, but they may aid in preventing it. The following guidelines apply equally to Red Deer County Staff (Operations & Construction) as well as 3rd party industry (O&G, Utilities, Surveyors, and Engineers etc).

Clubroot is a soil-borne disease that affects canola, mustard, and other cruciferous plants in the brassica family. Topsoil contaminated with Clubroot spores may be transported between fields by equipment, vehicles or by personnel. Symptoms of infection will vary depending on the growth stage of the plant. Clubroot causes the formation of a “club” or “gall” within the roots of the plant. The best available way to prevent the spread of Clubroot disease is through the thorough cleaning of vehicles, equipment and personnel so that potentially infected topsoil is not carried from one land parcel to the next.

As of November 2019, there are 43 confirmed Clubroot infestations in Red Deer County:



2. Vehicle and Personnel Guidelines

The following general requirements should be implemented for all areas and activities when accessing agricultural lands or handling topsoil:

- All vehicles, including trucks, all-terrain vehicles (ATV's), and equipment that are undertaking topsoil handling or may come into contact with topsoil, must arrive to site in clean condition free of topsoil and vegetative debris. Inspect all vehicles and equipment when it arrives on site to ensure it is clean and free of soil and debris.
- Avoid using common field approaches to enter fields whenever possible. This is the most common place to find Clubroot in any field due to the high volume of equipment and vehicle traffic.
- Minimize vehicle, equipment and personnel contact with agricultural topsoil.
- Postpone work if topsoil is wet or if there are high winds or other environmental conditions that may increase the risk of soil transfer.
- Minimize tracking topsoil onto County road surfaces. If it cannot be avoided, roads should be washed regularly.
- Topsoil transfer between land parcel boundaries is prohibited.
- When walking on cultivated agricultural land, personnel should ensure that they are wearing the plastic disposable boots, or disinfect footwear with bleach solution. Booties are to be worn in one field only and disposed of after use.
- If a vehicle does have large clumps of mud on it, leave the mud where you acquired it. (e.g. knock off any mud before exiting the field or farm site.
- Periodically disinfect brooms and shovels used in cleaning and when moving to a new area. A tool bath or soak for 20 minutes in disinfectant is required.
- Wooden rig matting is not recommended as it is difficult to clean/sanitize between parcels.

As equipment crosses property lines, it will likely require cleaning. Individual landowners will determine what cleaning action is required. Please see Risk Level Cleaning Protocol below.

3. Risk Level and Minimum Cleaning Protocol

Risk Level	Description	Action
Low Risk	Clubroot not suspected in the area	Requires mechanical cleaning before entering and upon exit (remove soil with a broom or shovel)
Moderate Risk	Clubroot in the area, but not confirmed on the location	Requires mechanical removal and a high pressure wash with water or steam
High Risk	Clubroot has been confirmed on the location	Mechanical removal, high pressure wash and disinfecting (with 2% Bleach Solution or Virkon)

Example of a Recommended Clubroot Management Plan

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1.0 Introduction

The following is a Clubroot Management Plan (CMP) developed for the purposes of mitigating the potential spread of Clubroot.

To reduce any risk associated with the transfer of Clubroot, this CMP was developed to outline the mitigation measures that should be followed on the Project. This CMP meets the requirements and best practices set out in the following documents:

- *Alberta Clubroot Management Plan* issued by the Government of Alberta; and,
- *Clubroot Disease Management: Best Management Practices* issued by the Canadian Association of Petroleum Producers.

This CMP provides the cleaning protocols and documentation that will be adhered to for the duration of the Project, and mitigations to address concerns associated with agricultural compliance.

2.0 Roles and Responsibilities

It will be the responsibility of any personnel travelling on and/or disturbing topsoil, whether by foot, truck or equipment, to ensure that they adhere to the proper cleaning protocol as dictated by this CMP. Ensure that Clubroot testing is completed and to provide the results of the testing prior to construction. Also, ensure that the CMP is communicated and distributed to necessary personnel for review and use, ensure that the objectives and requirements of the CMP are communicated clearly to all Project personnel and that if any updates have been made to the CMP, that those changes will also be communicated in a timely manner.

3.0 Clubroot Management Plan Protocols

3.1. General Best Practices

The following general best practices have been adopted from the Clubroot Management Plan:

Topsoil testing for Clubroot infestation has been conducted along proposed work fronts and associated field access points prior to construction to assist with risk identification. The results of the soil analysis should be communicated to the landowner. All parties involved must understand the status of land to effectively reduce the spread of diseases and pests;

- All vehicles, including trucks, all-terrain vehicles (ATVs), and equipment that are undertaking topsoil handling or may come into contact with topsoil, must arrive to site in clean condition free of topsoil and vegetative debris;
- Main field access point will be avoided during surveys, where possible;
- Field access and equipment staging locations will be suitably prepared (i.e. strip topsoil);
- Working in wet conditions will be avoided, where possible;
- Topsoil transfer across land ownership boundaries is prohibited;

- Soil erosion will be minimized by appropriate practices and mitigation;
- Periodic disinfection of brooms and shovels used in cleaning; and,
- Avoid the use of hay or straw for erosion control and reclamation work.

3.2 Risk Classification Protocol

Once Clubroot testing is completed, each land parcel will be designated a risk level to reflect the potential or presence of Clubroot. The risk classifications and criteria are outlined in Table 3.2-1.

Table 3.2-1 Risk Classification	
Low Risk	<ul style="list-style-type: none"> • Work on paved or graveled roadways or on stripped soil or barrier placed between equipment and topsoil; or, • Non-cultivated land; or, • Soil analysis indicates absence of Clubroot AND not located adjacent to known Clubroot areas; or, • Unknown Clubroot infection status, AND located in a LOW risk zone (Cumulative Clubroot Infestations in Alberta Map, Alberta Agriculture and Forestry)
Medium Risk	<ul style="list-style-type: none"> • Cultivated land AND soil analysis indicates absence of Clubroot AND located adjacent to known Clubroot areas; or, • Unknown Clubroot infection status AND located in MEDIUM risk zone.
High Risk	<ul style="list-style-type: none"> • Cultivated land AND soil analysis indicates presence of Clubroot; or, • Unknown Clubroot infection status AND located in a HIGH risk zone.

Three levels of cleaning have been defined in Table 3.2-2 and outline the requirements associated with each level of cleaning.

Table 3.2-2 Cleaning Level Descriptions		
Level 1 Cleaning	Rough Cleaning	Scrape or knock off dirt from equipment, vehicles or footwear using shovels, brooms, hand scrapers, wire brushes, <i>etc.</i> This should remove 90% to 95% of the topsoil and crop debris.
Level 2 Cleaning	High-Pressure Wash	This will include a Level 1 Cleaning PLUS the removal of remaining soil from equipment using a pressure washer, steam, or compressed air on all areas where soil accumulates. Air will only be used when the use of water is not feasible.
Level 3 Cleaning	High-Pressure Wash, App of Disinfectant	This will include a Level 2 Cleaning PLUS the misting of clean surfaces with a disinfectant (2% active ingredient bleach solution). The surface should remain moist with the bleach solution for a minimum of 15 minutes.

3.3 Cleaning Determination Protocol

Three levels of cleaning have been defined in Table 3.2-2. The level of cleaning is dependent upon the direction of travel and the risk of spreading Clubroot. Cleaning is required anytime any personnel, trucks, or equipment enters or exits a land parcel and have been in contact with topsoil. To determine the level of cleaning required, the direction of travel must be considered. On large projects with multiple risk ratings, signage should be installed illustrating the risk on each parcel, indicating which sanitization protocol is required. The cleaning level determination protocol is presented in Figure 1.

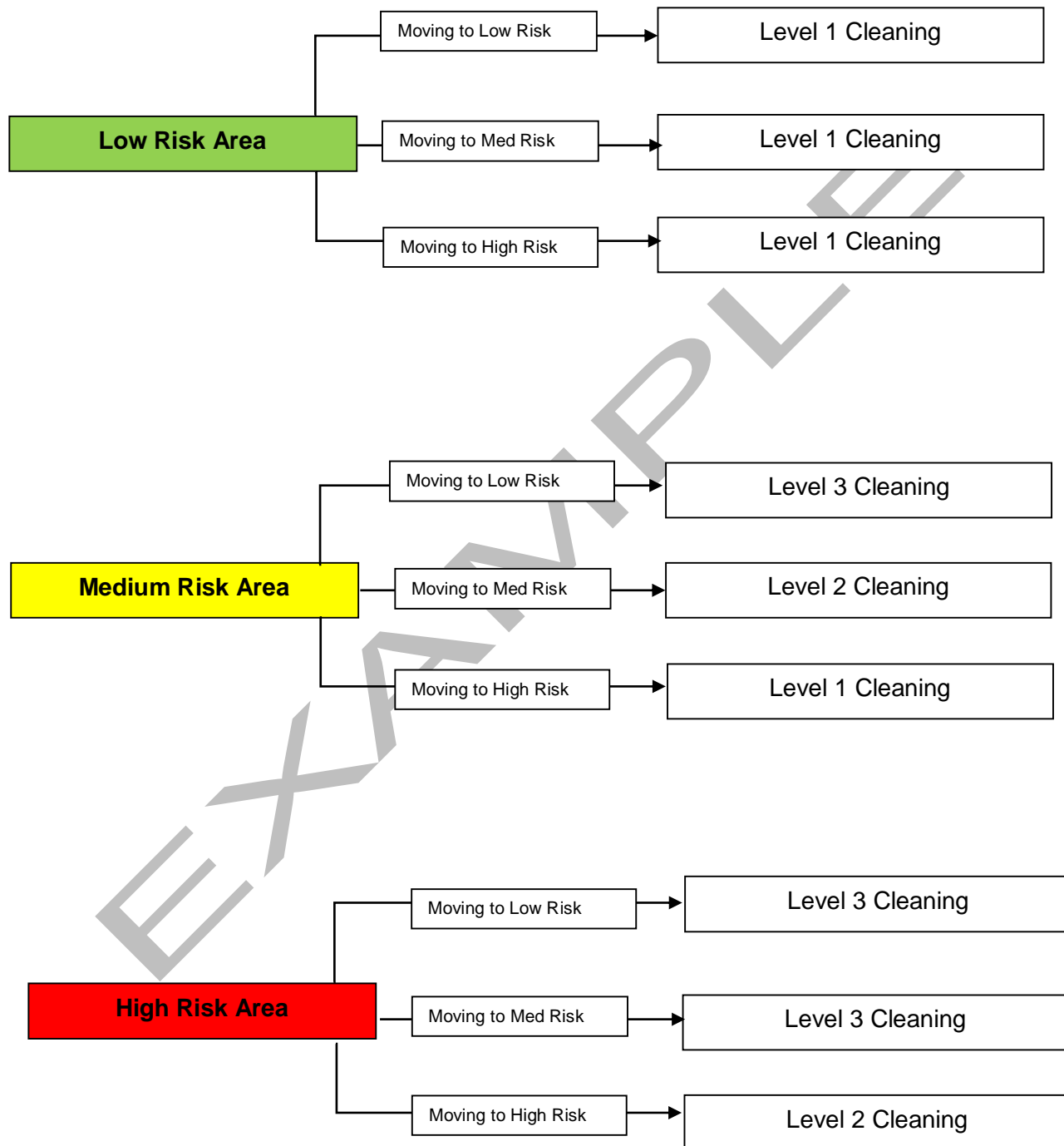


Figure 1. Cleaning Determination Protocol

3.4 Cleaning Procedures and Documentation

Cleaning and documentation are the key elements of this CMP and completion of these elements is mandatory for any personnel, equipment and vehicles on the right-of-way (RoW) that will have any contact with topsoil or will be involved in topsoil disturbance.

Once all topsoil has been stripped from the RoW, no further cleanings will be required for personnel, equipment or vehicles that are operating solely on subsoil. If any topsoil contact occurs, the cleaning and documentation procedures must be followed.

3.4.1 Equipment and Vehicles

3.4.2. Initial Cleaning

Before any equipment can start operating on the Project, an initial cleaning inspection will be completed offsite along with written and photographic documentation. All equipment will be cleaned to a level 3 standard, regardless if work locations are located in Clubroot-infested lands or not. All equipment will arrive to site free of any debris, soil or vegetative matter and will be bleached prior to any work commencing. A written record and photographs of the initial equipment cleanings will be updated and maintained and will be available upon request.

3.4.3. Cleaning Procedure

When entering a land parcel:

1. Operator must ensure that the equipment or vehicle was cleaned appropriately prior to entering land parcel.
2. Operator must check and be aware of the risk classification of the land parcel that they are entering to ensure that an appropriate cleaning is completed when exiting the land parcel (as part of the Cleaning Determination Protocol in Figure 1).
3. Operator must ensure that the equipment or vehicle carries the appropriate cleaning tools (scrapers, brooms, etc) before entering the land parcel and/or ensure that upon exiting the parcel that a wash station is available to complete a level 2 and/or 3 wash.
4. Operator is to ensure that a copy of the initial cleaning log and any cleaning records are stored within the equipment or vehicle before entering the land parcel.

When exiting a land parcel:

1. The operator shall ensure that the equipment or vehicle has been cleaned to the level described in Table 3.1-1 (Cleaning Level Descriptions).
2. If only a level 1 clean is required, the operator shall use the appropriate tools (i.e. brushes, brooms, scrapers, shovels, etc.) to complete a mechanical clean of the equipment or vehicle. All debris, soil and vegetative matter shall be removed prior to exiting the parcel.
3. If a level 2 or 3 cleaning is required, the operator shall ensure that the equipment is

appropriately cleaned and/or bleached at an approved wash station prior to exiting the land parcel.

4. If a level 3 cleaning has been completed, the equipment or vehicle is required to wait 15 minutes after bleach application to ensure proper disinfection.
5. Documentation is ALWAYS required when exiting a land parcel to ensure that the appropriate level of cleaning was completed and all records will be retained.

3.4.4. Required Documentation

A cleaning record log book will be kept within every piece of equipment and vehicle for the duration of the Project. All equipment and vehicles must be able to produce a copy of any cleaning records that have been completed since the equipment/vehicle started work on the Project. The cleaning record log book will include a form with two carbon copies outlining the level of cleaning completed for each piece of equipment. A sample copy of the form is provided in Appendix A.

If a Level 1 Cleaning is required:

- A cleaning record must be filled out by the operator – no additional signatures are needed;
- Copy 1 of the record will be kept in the equipment or vehicle for the duration of the Project;
- Copy 2 and 3 will get handed into the foreman before the end of each working day;
- The crew foreman will hand in all cleaning records to the Project Manager or Coordinator at the beginning/end of each day;
- Provide the office administrator with Copies 2 and 3 at the end of each week;
- Retain Copy 2 for record keeping and provide Copy 3 to the Project Manager or Coordinator on a weekly basis.

If a Level 2 Cleaning is required:

- A cleaning record must be filled out by the operator at the wash station;
- The Level 2 cleaning must be inspected by and signed off by the Foreman, on the inspection and on the cleaning record;
- A *MINIMUM* of two photographs shall be taken during the inspection and retained for record-keeping;
- Copy 1 of the record will be kept in the equipment or vehicle for the duration of the Project;
- Provide the office administrator with Copies 2 and 3 at the end of each week;
- Retain Copy 2 for record keeping and provide Copy 3 to the Project Manager or Coordinator on a weekly basis.

For a Level 3 Cleaning:

- A cleaning record must be filled out by the operator at the wash station;
- The Level 3 cleaning must be inspected by and signed off by the Foreman, on the inspection

and on the cleaning record;

- A *MINIMUM* of two photographs shall be taken during the inspection and retained for record- keeping;
- Copy 1 of the record will be kept in the equipment or vehicle for the duration of the Project;
- Provide the office administrator with Copies 2 and 3 at the end of each week;
- Retain Copy 2 for record keeping and provide Copy 3 to the Project Manager or Coordinator on a weekly basis.

3.5 Personal Equipment

The same risk classifications and levels of cleaning will be required for personal footwear and tools.

3.5.1. Cleaning Procedure

When entering a land parcel:

1. Personnel are to ensure they are aware of the risk classification associated with that particular land parcel.
2. Personnel are to ensure that all personal footwear and equipment was cleaned appropriately prior to entering a land parcel.
3. Personnel are to ensure they carry the appropriate tools to clean their equipment (brushes, bottles of bleach, etc).
4. No documentation is required.

When exiting a land parcel:

1. Personnel are to determine the level of cleaning as per the "Cleaning Determination Protocol".
2. Personnel are to complete the level of cleaning as mandated by the above-mentioned protocol.
3. No further documentation is required.

3.5.2. Documentation

No documentation will be required for the cleaning of personal equipment.

4.0 Wash Stations

Wash stations will be set up along the RoW at designated locations as decided upon by construction staff. Washwater will be removed from wash stations using a straight-vac or hydro-vac and disposed of at an approved off-site location.

Appendix A: Cleaning Record Form

Cleaning Record for Equipment/Vehicles			
Date		Time	
Project		Unit Number	
KP		Equipment Identified or Vehicle License Plate	
Legal Land Description			
Direction of Travel (circle applicable risk level and level of cleaning)			
Leaving:	HIGH RISK	MEDIUM RISK	LOW RISK
Entering:	HIGH RISK	MEDIUM RISK	LOW RISK
Level of Cleaning Required	Level 1	Level 2	Level 3
Description of Equipment/Vehicle			
Operator Name (to be filled out by the operator of the equipment or vehicle):		Operator Signature:	
Required Signatures for Level 2 and 3 Cleanings			
Name:		Signature:	
Name:		Signature:	