



State of Oregon
Department of
Environmental
Quality

FINAL Directive

Title:	Process to Evaluate the Reduced Scope, Extension or Ending of a DEQ Solid Waste Closure Permit for Post-Closure Care	FORM C
Original Author:	Lee Huckins	Pages: 4
Approval Date:	March 14, 2014	
Approval:	<i>[Signature]</i>	

Scope:

This directive provides clarification to DEQ staff on how to evaluate when post-closure care under a solid waste landfill closure permit can be reduced in scope, terminated or extended by the use of a flowchart process.

Purpose/Need:

Rule criteria lack specificity that the flowcharts in this directive provide. This directive clarifies how to use criteria identified in rule.

Legal Authority:

The rules for municipal solid waste landfills can be found in Oregon Administrative Rules: "OAR 340-094-0100 (4) The Department shall terminate closure permits for municipal solid waste landfills not later than 30 years after the site is closed unless the Department finds there is a need to protect against a significant hazard or risk to public health or safety or the environment."

"340-094-0100(5) Any time after a municipal solid waste landfill is closed, the permit holder may apply for a termination of the permit, a release from one or more of the permit requirements or termination of any applicable permit fee. Before the Department grants a termination or release under this section, the permittee must demonstrate and the Department must find that human health and the environment will be protected and there is no longer a need for:

- (a) Active supervision of the site;
- (b) Maintenance of the site; or
- (c) Maintenance or operation of any system or facility on the site."

The rules for non-municipal solid waste landfills can be found in Oregon Administrative Rules:

"OAR 340-095-0050(4) The Department shall terminate closure permits for non-municipal land disposal sites not later than 30 years after the site is closed unless the Department finds there is a need to protect against a significant hazard or risk to public health or safety or the environment.

OAR 340-095-0050(5) Any time after a non-municipal land disposal site is closed, the permit holder may apply for a termination of the permit, a release from one or more of the permit requirements or termination of any applicable permit fee. Before the Department grants a termination or release under this section, the permittee must demonstrate and the Department must find that human health and the environment will be protected and there is no longer a need for:

- (a) Active supervision of the site;
- (b) Maintenance of the site; or
- (c) Maintenance or operation of any system or facility on the site."

These rules identify when DEQ may terminate a solid waste landfill closure permit. DEQ will continue to require a solid waste landfill closure permit if DEQ finds there is a need to protect against a significant hazard or risk to public health or safety or the environment. These rules also authorize DEQ to terminate the solid waste landfill closure permit if human health and the environment can be protected without active supervision, maintenance or operation of any system or facility at a site.

Discussion:

DEQ issues a solid waste landfill closure permit with requirements that address closure and post-closure care of the landfill. Post-closure care begins after a landfill closes. Generally, a landfill owner must continue post-closure maintenance for 30 years as required by Federal and State standards and rules. As an EPA approved state, DEQ can terminate a solid waste landfill closure permit sooner than 30 years if the permittee can demonstrate that a reduced period of permitted post-closure care is sufficient to protect human health and the environment. DEQ may also determine that a solid waste landfill closure permit is needed longer than 30 years after landfill closure if post-closure care is needed to protect human health and the environment. DEQ has terminated solid waste landfill closure permits earlier than 30 years and DEQ has also determined that some closed landfills need solid waste landfill closure permits beyond 30 years because their landfill systems need leachate management and monitoring, landfill gas management and monitoring, groundwater monitoring or cap/cover maintenance to protect human health and the environment.

This document summarizes the use of a flowchart process to evaluate when a solid waste landfill closure permit can be reduced in scope, terminated or extended.

Directive:

When DEQ receives a request to terminate a solid waste landfill closure permit or when DEQ is evaluating whether to renew a solid waste landfill closure permit, DEQ will use these flowcharts to determine if any of the landfill systems continue to be needed or can be shut down. In the event that a landfill does not have a system such as a landfill gas collection or monitoring system or a groundwater monitoring system, DEQ staff will first evaluate if there are any potential risks at the site that would warrant additional environmental investigation being done at the site prior to evaluating whether the permit can be terminated. For example, if a landfill does not have a landfill gas collection and monitoring system or a groundwater monitoring system, DEQ staff will consult with their manager to determine if there is a need to evaluate any potential impacts to surface or groundwater or from landfill gas due to the landfill. If DEQ determines there are no potential risks from the landfill, then staff will proceed with the evaluation using the flowcharts. DEQ will also determine whether the amount of financial assurance needed may be lowered when a landfill system is no longer needed.

DEQ will determine that a landfill has been sufficiently managed to protect human health and the environment when all of the landfill systems are no longer needed and can be shut down. At that point, a facility would be considered “functionally stable” and DEQ could terminate the solid waste landfill closure permit.

DEQ developed flowcharts to use to evaluate post-closure care relying on existing Oregon state rules; guidance from the 2006 ITRC Technical/Regulatory Guideline – Evaluating, Optimizing or Ending Post-Closure Care at MSW Landfills; research regarding approaches to evaluating post-closure care being used in Washington, California, and other states; and review of EPA’s and ASTSWMO’s current efforts to develop guidance and/or white papers.

When DEQ receives a request to terminate a solid waste landfill closure permit or when DEQ is evaluating whether to renew a solid waste landfill closure permit, DEQ will use these flow charts to determine if any one of the landfill systems needs to continue or can be shut down. DEQ will also evaluate whether financial assurance can be reduced or needs to continue. The amount of financial assurance needed may be lowered, if a system can be shut down or DEQ may determine that the landfill owner should plan to continue financial assurance for landfill systems throughout the post-closure care period including beyond the regular 30 year post-closure care period.

The attached flowcharts show the systematic process for evaluating post-closure care. The first chart, the Landfill Post-Closure Care Evaluation Map, provides an overview of the entire evaluation. Each subsequent

flowchart provides the structure of a specific landfill system(s). DEQ staff will evaluate a site by using these flowcharts in the following sequence:

- 1) Landfill Post-Closure Care Evaluation Map;
- 2) Financial Assurance;
- 3) Leachate Collection and Leak Detection Systems;
- 3) Landfill Gas Detection and Control Systems;
- 4) Groundwater Monitoring Systems; and
- 5) Cap and Cover Systems.

For example, beginning with the second flowchart, staff would evaluate the leachate collection and leak detection system. Each flowchart is designed to answer the question "Is this landfill system needed to protect human health or the environment or can the system be shut down?" If the leachate collection or leak detection system can be shut down, then the landfill gas system would be evaluated next and so on. If a system is no longer needed, DEQ will determine if financial assurance can be reduced because that system is no longer needed or must continue because the system is needed. Each system would be evaluated in the order as presented on the map.

Following the above sequence is an important factor in determining whether or not the landfill is functionally stable. Leachate and landfill gas can contaminate groundwater; therefore, DEQ staff cannot move to the groundwater monitoring flowchart if the leachate or landfill gas system needs to continue operation. If a landfill needs to continue operating a leachate collection or leak detection system, DEQ staff will end the termination evaluation, continue requiring the solid waste landfill closure permit and require the facility to continue post-closure operation of the leachate system. The landfill will also need to continue any landfill gas collection and monitoring and groundwater monitoring systems while maintaining and inspecting the cap and cover system. Once the leachate collection and leak detection system is no longer needed, DEQ would then proceed to evaluate remaining systems to determine if they continue to be needed. DEQ may allow a system to be temporarily shut down while other landfill systems are continued.

The final system to be evaluated is the cap and cover. The landfill cap and cover system is the most important system for a closed landfill as the cap and cover system assists in minimizing generation of leachate, provides landfill gas control and prevents groundwater contamination by inhibiting precipitation from entering the waste disposed in the landfill. If the cap and cover system is stable and no further maintenance of this system is required, and all other systems are not needed, DEQ may terminate the solid waste landfill closure permit.

After all systems are no longer needed and shut down, DEQ will begin the process of terminating the solid waste landfill closure permit. If DEQ authorizes the termination of the solid waste landfill closure permit, any remaining financial assurance funds would be disbursed to the permittee/owner according to the DEQ approved financial assurance plan. DEQ would also note that the deed notice is in place and the landfill is identified in the environmental cleanup site inventory as a place where waste was disposed. Even after a solid waste landfill closure permit is terminated, the owner of the property remains liable for any cleanup that may be needed at the property in the future. A landfill owner must continue to ensure that waste is not disturbed and the site is maintained in a way to protect human health and the environment.

Implementation:

When DEQ receives a request to terminate a solid waste landfill closure permit or when DEQ is evaluating whether to renew a solid waste landfill closure permit, DEQ will evaluate the landfill by progressing through these flowcharts to determine if any of the landfill systems identified in the flowcharts can be shut down because there is no longer a need for active supervision or maintenance of the system. The amount of financial assurance needed may be lowered if a system can be shut down or continued if post-closure care needs to continue.

DEQ will determine that a landfill has been sufficiently managed to protect human health and the environment when there is no longer a need for active supervision or maintenance of all of the above systems. At that point, a facility would be considered to be “functionally stable” and DEQ would begin the process to terminate the solid waste landfill closure permit. That process would include ending the requirement for financial assurance, permit termination and any end use planning being considered for the site.

Review Schedule:

The periodic review schedule will apply.

Contact Person:

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Disclaimer:

This document is intended solely as guidance for DEQ employees. It does not constitute rulemaking by the Environmental Quality Commission and may not be relied upon to create an enforceable right or benefit, substantive or procedural, enforceable at law or in equity, by any person. With managerial approval, DEQ employees may deviate from this document. DEQ anticipates revising this document from time to time as conditions warrant.

Program Directive

Process to Evaluate the Reduced Scope,
Extension or Ending of a DEQ Solid Waste
Closure Permit for Post-Closure Care

Post Closure Care Evaluation Map

Financial Assurance Requirements

Leachate Collection and Leak Detection Systems

Landfill Gas Detection and Control Systems

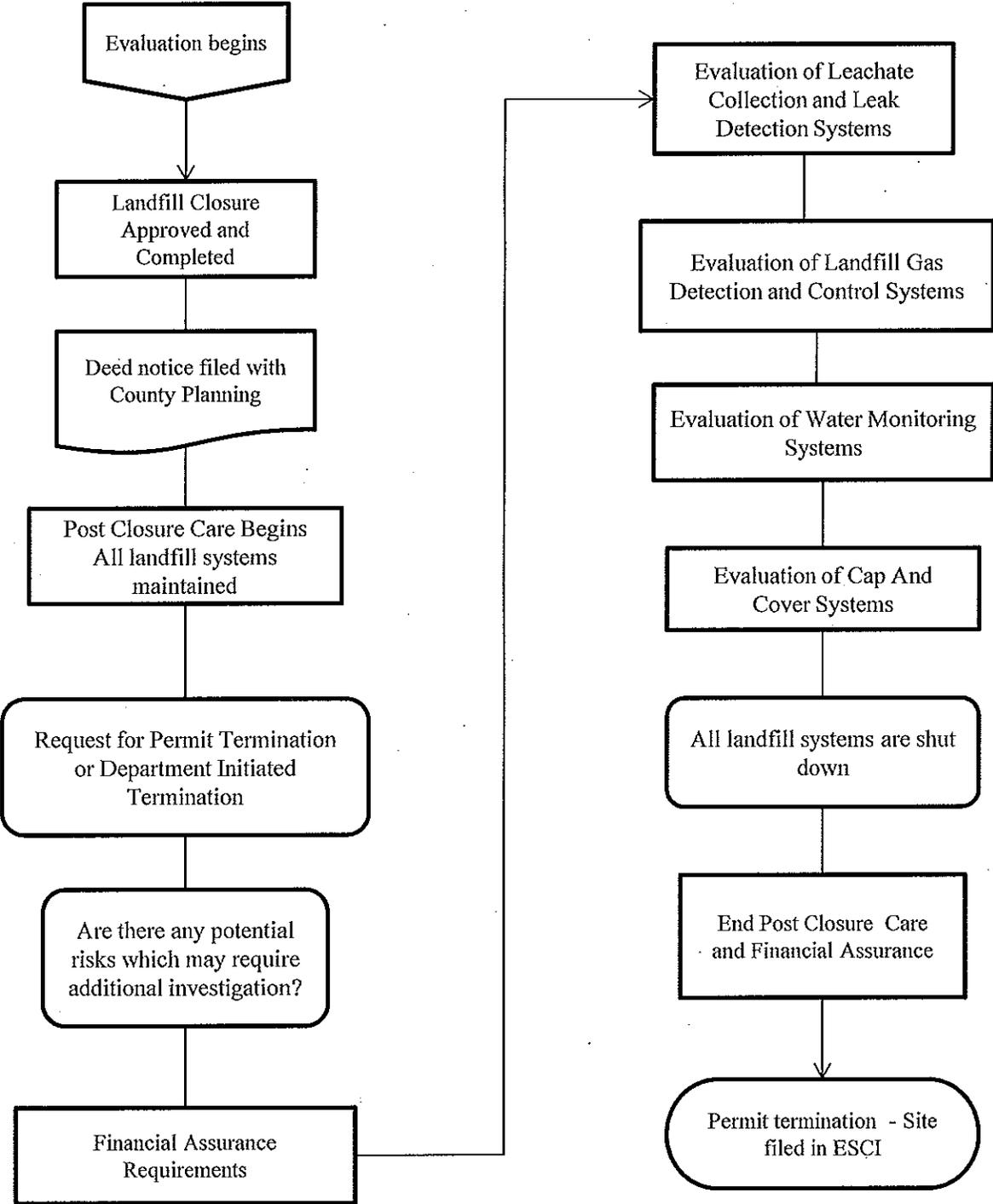
Water Monitoring Systems

Cap and Cover Systems

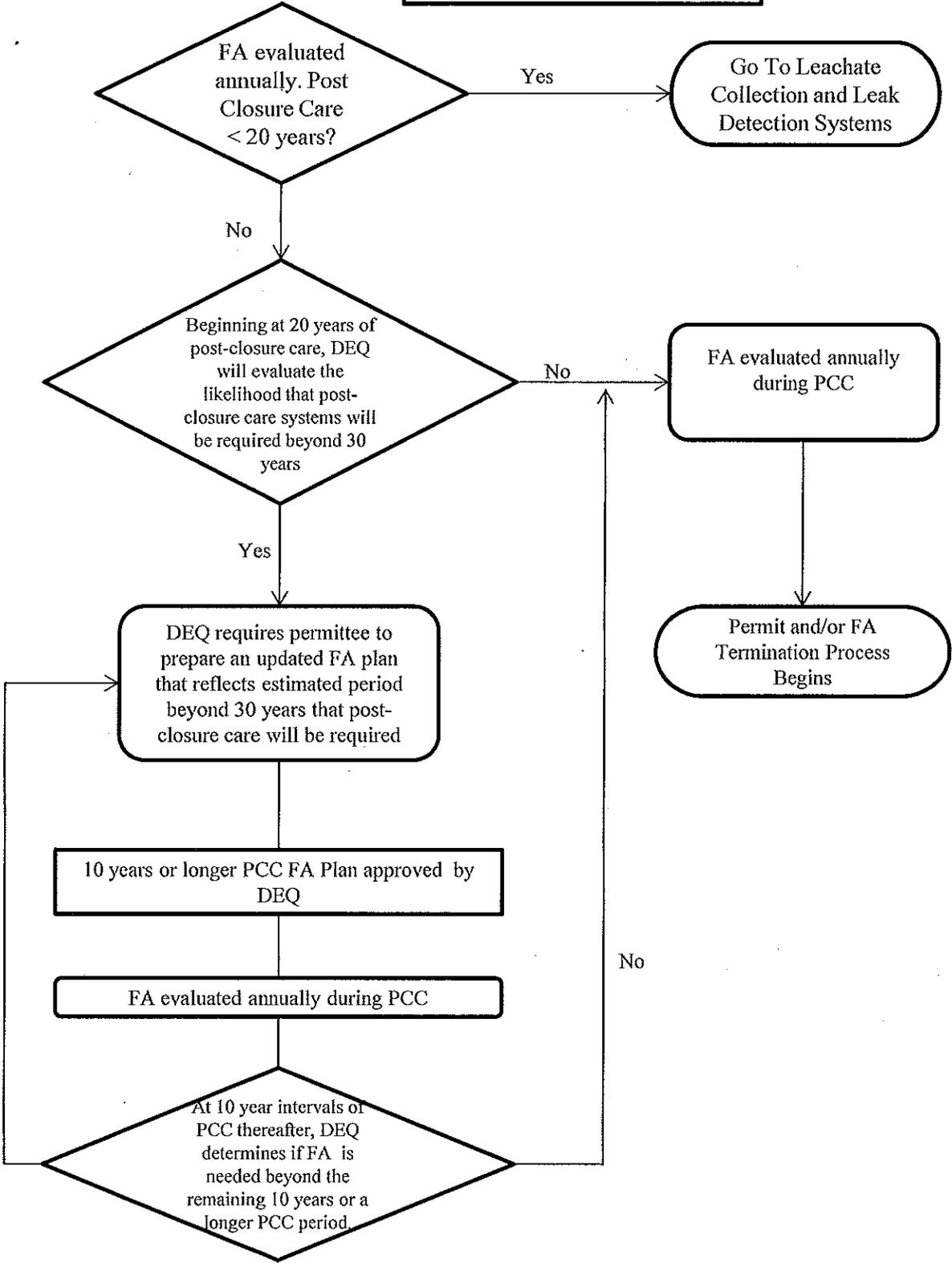
DISCLAIMER

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Post Closure Care Evaluation Map



Financial Assurance Requirements



FA evaluated annually. Post Closure Care < 20 years?

Yes

Go To Leachate Collection and Leak Detection Systems

No

Beginning at 20 years of post-closure care, DEQ will evaluate the likelihood that post-closure care systems will be required beyond 30 years

No

FA evaluated annually during PCC

Yes

DEQ requires permittee to prepare an updated FA plan that reflects estimated period beyond 30 years that post-closure care will be required

10 years or longer PCC FA Plan approved by DEQ

FA evaluated annually during PCC

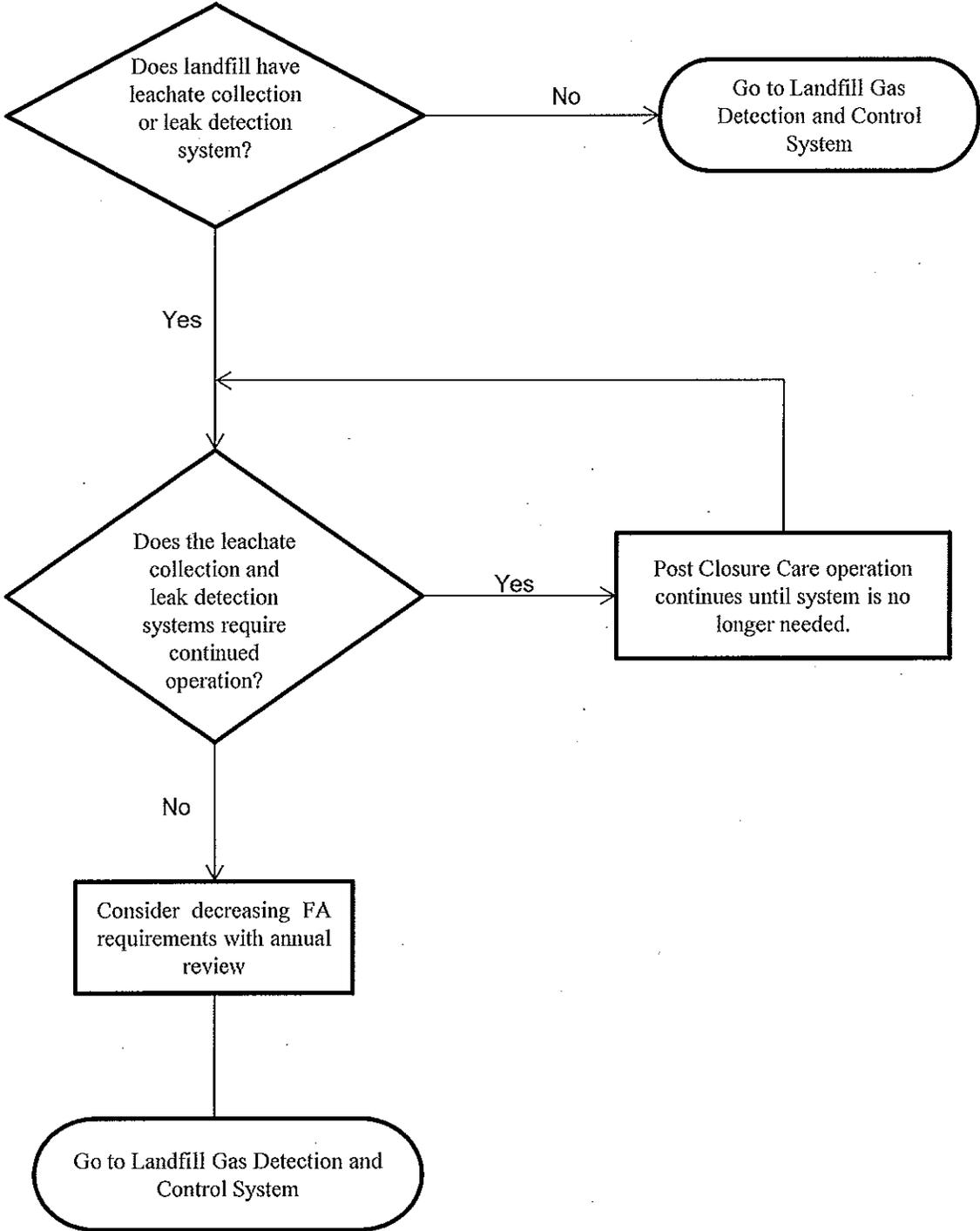
At 10 year intervals of PCC thereafter, DEQ determines if FA is needed beyond the remaining 10 years or a longer PCC period.

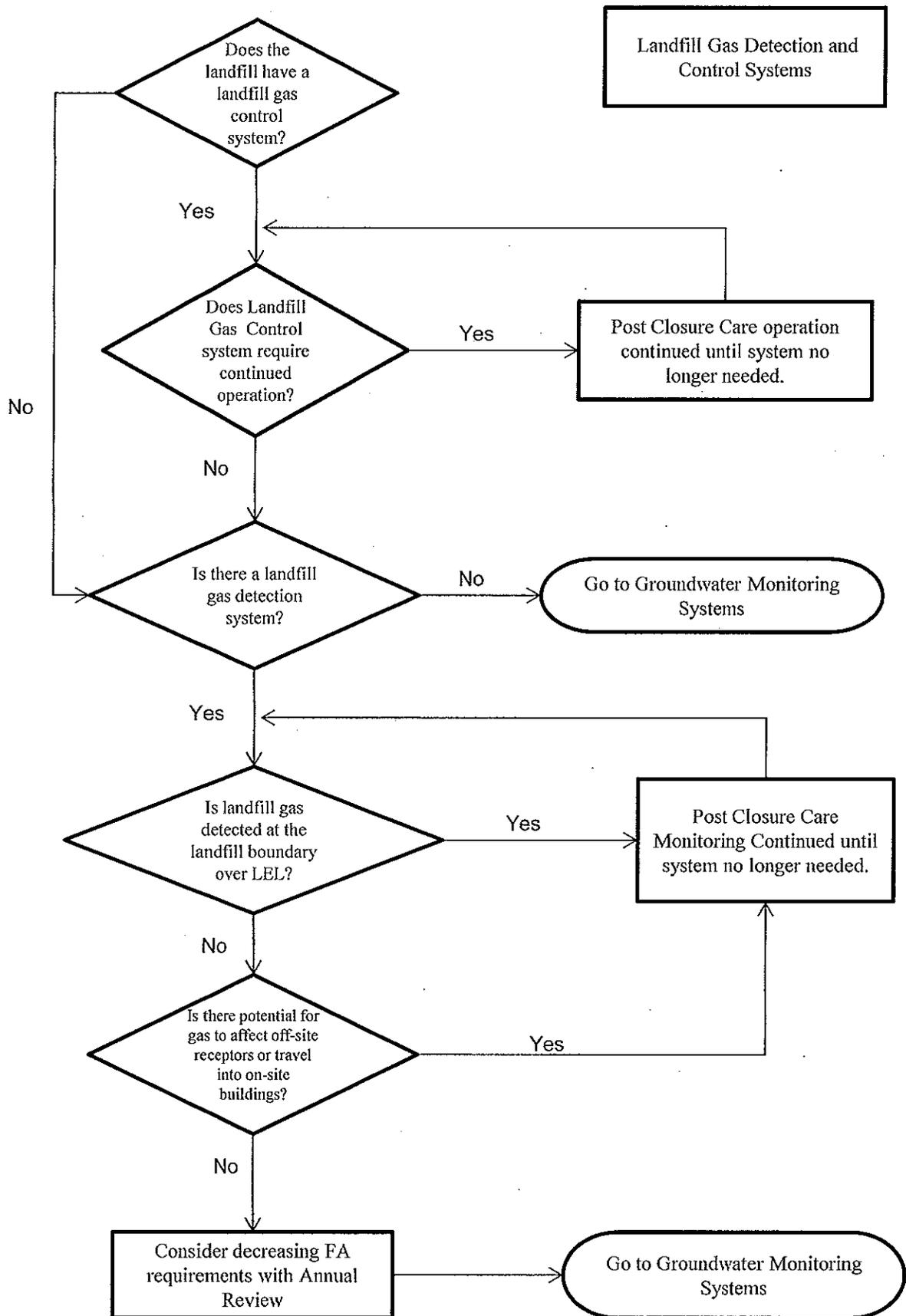
Yes

No

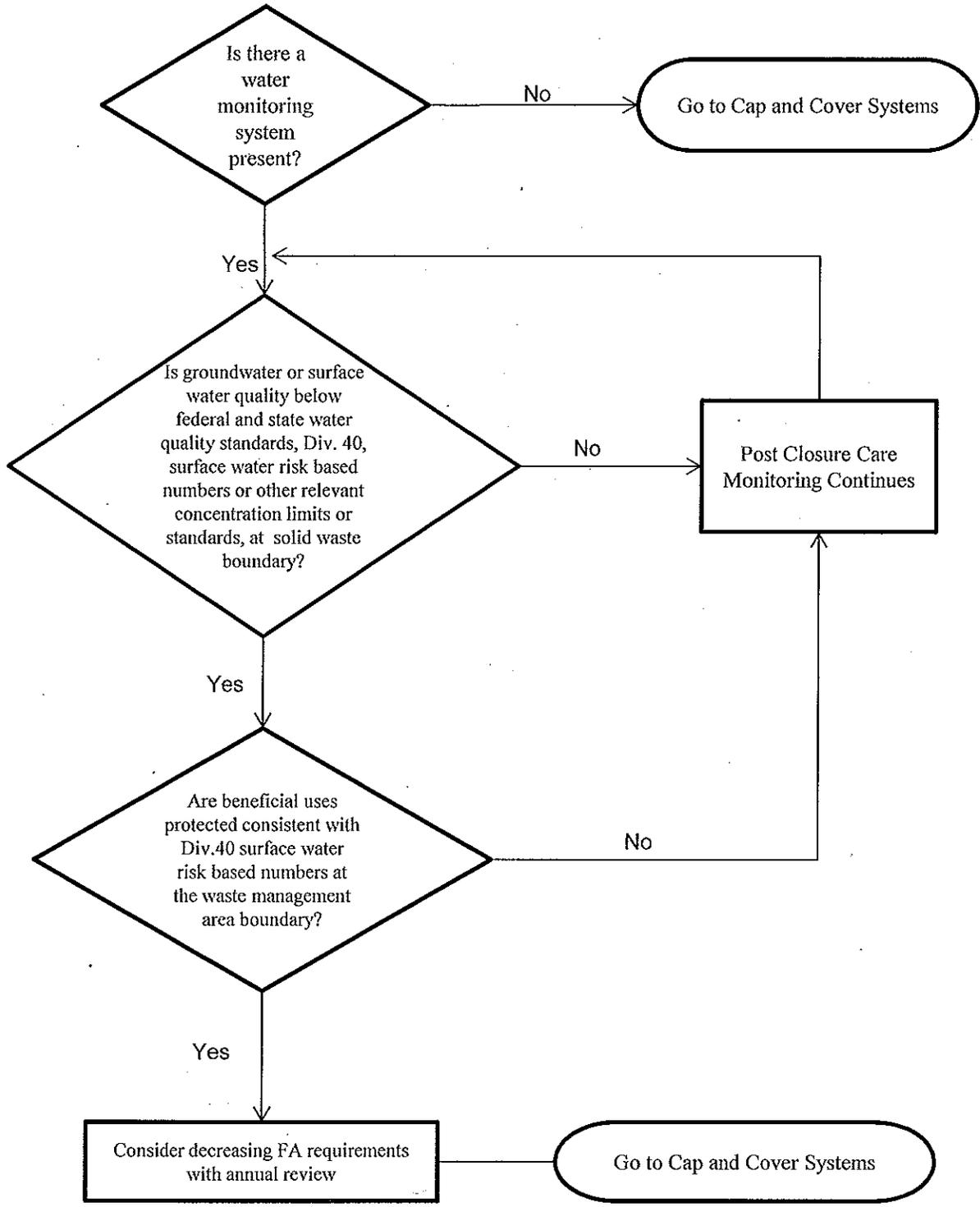
Permit and/or FA Termination Process Begins

Leachate Collection and Leak Detection Systems





Water Monitoring Systems



Cap and Cover Systems

