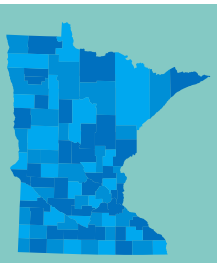
Construction and demolition

April 2025

Construction and demolition debris landfill draft rule summary

MINNESOTA POLLUTION CONTROL AGENCY



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Introduction

The Minnesota Pollution Control Agency (MPCA), herein referred to as the agency, through proposed Construction and Demolition Debris (C&D) Landfill rulemaking, plans to amend existing Minnesota Rules governing permits and solid waste landfills (chapters 7001 and 7035).

The goal is to update these rules by incorporating lessons learned about the potential for groundwater impacts of unlined C&D landfills. Agency monitoring has found pollutants in groundwater around unlined C&D landfills at levels which exceed standards to protect human health and the environment. Major rule concepts were developed using a variety of sources including information from other states in our region, a Rule Advisory Panel, the 2019 Report on Groundwater Impacts, the Sustainable Building Group, stakeholder information sessions during summer 2024, and Minnesota statutes and rules.

About this document

This draft rule summary document provides an overview of key components under consideration for these new rules. The main purpose of this document is to inform C&D waste management planning grant awardees as they draft workplans this spring. The agency intended to publish draft rule text to support this planning work but has experienced delays. The agency still intends to publish draft rule language in conjunction with a second request for comment period in summer of 2025. This document is also being made available to key stakeholders and the public about proposed regulatory updates that affect landfill design, operation, monitoring, and closure requirements. These updates are consistent with modern landfill design and largely consistent with Minnesota Rules governing mixed municipal solid waste (MSW) landfills. Please note the concepts outlined here are preliminary and subject to further refinement. The timing of the administrative rule process milestones within this document are tentative and also subject to change.

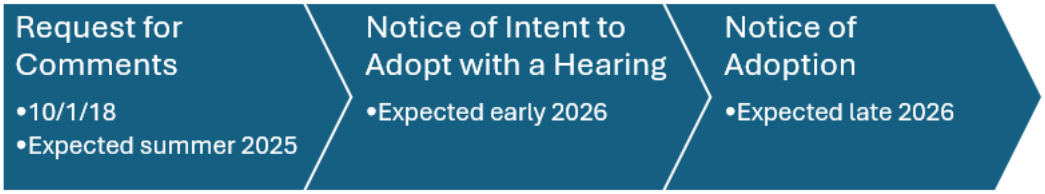
Stakeholder input is essential in shaping rules that balance environmental protection with the practical needs of public and private waste management industries. We encourage all interested parties to review this document and participate in upcoming engagement opportunities to provide feedback and ensure that the final regulations effectively address evolving challenges in C&D debris management.

Contents

Timeline of proposed changes

The agency is still working on rule development and will publish a second Request for Comments with draft rule language this summer. All comments will be considered as we determine necessary changes to the language. Once the agency has finalized draft rule language and drafted the statement of need and reasonableness supporting the proposed changes, we will proceed to publishing a notice of intent to adopt the rules with a hearing (expected in early 2026).

Public comment will be open before, during, and after the hearing before rules are finalized based on an administrative law judge's findings. Generally, rules become effective five working days after a notice of final adoption appears in the State Register (promulgation), currently expected in late 2026.



Overview of proposed changes

The proposed draft rules governing facilities which dispose of construction or demolition debris in or on the land will create a distinction between existing unlined C&D landfills currently in operation and new lined C&D landfills to be permitted and operated after draft rules become effective. Beginning at rule effective date, existing unlined C&D landfills that remain open will have the option to transition to closure following three separate final cover design options based on the time they remain open, not to exceed eight years.

After the rule effective date, these facilities will have 12 months to draft and submit a transition schedule that identifies a time frame to either close entirely or close all unlined disposal areas and transition to managing C&D debris in another acceptable manner. Examples of these include waste reduction, recycling, and reuse options; transfer of waste; or constructing a new lined C&D disposal facility consistent with new rules.

Existing facilities will have the option to remain operating under rules largely consistent with existing Minn. R. 7035.2825 for up to two, five, or eight years from rule effective date, depending on the type of cover system selected as described below.

- Facilities closing within two years may use a basic soil cover system (same as currently required under Minn. R. 7035.2825, subp. 11).
- Facilities closing beyond two years but within five years must use an enhanced soil cover system which rejects at least 95% of precipitation; or
- Facilities closing beyond five years but within eight years must use an impermeable synthetic cover system which rejects 98.5% of precipitation.

Financial assurance, if not already established, will not be required for during the transition period for existing unlined facilities that remain open after rule effective date.

Proposed Minnesota Rule chapter 7035.2830 (replacing 7035.2825) draft rule concept description

Summary of part 7035.2830, subpart 1. Scope

This rule establishes that landowners, owners, and operators of facilities that dispose of construction or demolition debris, as well as certain industrial solid waste, in or on the land are subject to proposed Rule Part 7035.2830, except those provisions which only apply to existing unlined construction and demolition debris disposal facilities. It does not apply to industrial solid waste disposal or mixed municipal solid waste facilities covered under separate regulations (7035.1590 to 7035.1900 and 7035.2815, respectively).

Summary of part 7035.2830, subpart 2. Applicability and transition

This rule applies to all existing unlined construction and demolition debris land disposal facilities, or other unlined solid waste disposal facilities that accept such debris and remain open beyond the rule's effective date. Facility owners and operators must follow a transition process that includes submitting a schedule and closure plan, maintaining and covering the site properly, and closing all unlined disposal areas according to specified requirements.

Key provisions

- Closure process:
  - A facility is considered closed when it ceases waste acceptance, installs final cover, meets closure plan requirements, submits a certification report, and receives commissioner approval.
  - All unlined disposal cells must be closed within eight years of rule effective date using one of three specified cover systems.
- Transition schedule:
  - Owners must submit a transition schedule within 12 months of rule effective date, detailing whether they will plan to close the facility entirely, convert to a lined facility, or manage debris in another manner.
- Updated closure plan:
  - Must be submitted within 12 months of rule effective date and include revised closure, postclosure, contingency action, sampling and analysis, and emergency response plans, as needed.
  - If not approved, operators must work with the commissioner to revise the plan.
- Operational and maintenance requirements:
  - Existing facilities will be allowed to follow requirements largely consistent with existing Minn. R. 7035.2825.
  - Facilities must be developed in phases to achieve final fill elevations as rapidly as possible, maintain proper grading, and ensure adequate waste compaction.
  - Regular groundwater and/or surface water sampling and analysis are required, if not already occurring.
- Cover and final closure requirements:
  - Waste must be covered at least monthly.
  - Facilities must close and install a final cover system within two, five, or eight years from rule effective date, depending on the type of cover system used as described below.

        - Facilities closing within two years of effective date may use a basic soil cover system (same as currently required under 7035.2825, subp. 11).
        - Facilities closing within five years of effective date must use an enhanced soil (rejects 95% of precipitation based on the EPA HELP model calculation). Enhanced soil covers consist of twelve inches of low permeability soil, twelve inches of drainage material, thirty inches of rooting zone soils, and six inches of topsoil
        - Facilities closing after five years but no longer than eight years must use an impermeable synthetic cover (rejects 98.5% of precipitation based on the EPA HELP model calculation).
    - Additional evaluations and compliance:
        - Hydrogeologic evaluations, water monitoring systems, and sampling and analysis plans must be completed within 24 months if they have not already been completed.
        - An existing unlined facility may apply for horizontal expansion during the transition period if it can justify that additional capacity is necessary based on existing or projected waste volume data (consistent with the requirements in Minn. R. 7001.3425) and comply with slope and cover system requirements of this subpart.

Summary of part 7035.2830, subpart 3. Acceptable wastes

This rule outlines the types of waste allowed for disposal in construction and demolition debris landfills.

1. Permitted waste types:
    - Construction debris
    - Demolition debris
    - Industrial solid waste, if managed according to an approved Industrial Solid Waste Management Plan.

Summary of part 7035.2830, subpart 4. Location requirements

This rule establishes siting criteria for construction and demolition debris landfills to minimize environmental risks. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 2.

1. Site suitability criteria:
    - The facility must be located in an area where:
        - The topography, geology, and groundwater conditions allow for environmentally protective landfill operation.
        - Groundwater flow and subsurface conditions are understood to facilitate tracking of pollutant movement.
        - A monitoring system can be effectively implemented.
        - Any potential pollutant release can be contained, and corrective actions can be taken.
2. Restrictions on high-risk areas:
    - Facilities cannot be placed in areas where hydrologic or topographic conditions may:
        - Allow rapid pollutant migration.
        - Compromise facility integrity.
        - Make monitoring unreliable.
    - If such conditions exist, an engineered secondary containment system is required, which may include:
        - A second liner with a collection system.

- An operational groundwater containment and treatment system.
- An equivalent containment method approved by the commissioner.

3. Prohibited locations:
   - Areas with karst features (sinkholes, caves) that could compromise leachate management.
   - Areas with unstable soil or bedrock that may lead to system failures.
   - Near airports:
     - Within 10,000 feet of a turbojet runway.
     - Within 5,000 feet of a piston aircraft runway, unless FAA approval is obtained.

Summary of part 7035.2830, subpart 5. Hydrogeologic evaluation

This rule requires the owner or operator of a facility to conduct a hydrogeologic evaluation to assess subsurface conditions and groundwater movement, allow for development of an environmental monitoring system, and to ensure environmental protection. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 3.

The evaluation must be included in permit applications and updated as needed.

Key provisions

1. **Investigation scope** – The evaluation must define hydrogeologic conditions beneath and around the waste fill area, including unsaturated and saturated zones, to allow monitoring of potential contaminant releases and migration.
2. **Evaluation of existing data** – Previously collected and reliable data should be compiled and evaluated.
3. **Investigation work plan** – A detailed work plan must be submitted and approved before conducting the evaluation. If necessary, additional work plans may be required during different stages of investigation.
4. **Data collection and analysis** – The owner/operator must gather extensive geological and hydrological data, according to the approved investigation work plan.
5. **Reporting** – A comprehensive report must be submitted, including boring logs, geological descriptions, groundwater conditions, flow systems, and potential impacts of contaminant migration. If models are used, their assumptions and reliability must be documented.
6. **Monitoring system** – A groundwater monitoring system must be designed based on the hydrogeologic findings, installed correctly, and maintained to ensure compliance with environmental standards.
7. **Water quality monitoring** – Data must be collected and analyzed to track water quality trends and identify any exceedances of groundwater and surface water quality standards.

Summary of part 7035.2830, subpart 6. Groundwater performance standards

This rule establishes groundwater performance standards for facilities to demonstrate compliance with environmental standards. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 4.

Key provisions

- Compliance boundaries:
  - Facilities must set compliance boundaries around waste and leachate systems, considering hydrogeologic factors and feasibility of monitoring.

    - A lower compliance boundary must be established if pollutants could migrate to deeper aquifers.
    - Surface water compliance boundaries are required if groundwater pollutants may affect surface water.
- Groundwater quality standards:
    - Pollutant levels in groundwater cannot exceed intervention limits at compliance boundaries.
    - If limits are exceeded, operators must notify regulators, resample, assess causes, and implement corrective actions.
    - Alternative limits may apply if background groundwater quality is naturally higher than the set standard.
- Corrective actions and contingency plans:
    - Exceeding limits triggers mandatory response actions, including notification, monitoring, and mitigation.
    - Operators must address substantial leachate releases or combined pollutant toxicity risks, even if individual limits are not exceeded.

Summary of part 7035.2830, subpart 7. General design requirements

This rule establishes design requirements for construction and demolition debris land disposal facilities to ensure environmental protection and operational efficiency. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 5.

Key provisions

- Engineering report:
    - Owners or operators must submit an engineering report detailing site preparation, including excavation, drainage, leachate and gas management, road access, fencing, and special design features. The requirement to install gas management systems will be contingent of the type of waste accepted.
- Phased development:
    - Facilities must be developed in phases with individual cells designed to minimize moisture infiltration and maintain stability.
    - Cells must reach final waste elevations quickly and be closed per an approved closure plan.
- Setback requirements:
    - New fill areas must be at least 200 feet from property lines unless otherwise approved by the commissioner.
- Surface water management:
    - Surface water must be diverted away from the site and operating areas.
    - A drainage control system, including changes in the site topography, ditches, berms, sedimentation ponds, culverts, energy breaks, and erosion control measures, must take into consideration the expected final contours for the site, the drainage pattern of the surrounding area, two percent minimum slopes, and account for the area's hundred-year, 24-hour rainfall event.
    - Sediment settling ponds are required if runoff could carry excessive sediment off-site, with monitoring for potential water quality impacts.

- Final contours and slope stability:
  - Final slopes must range between 3% and 25%, unless site-specific conditions justify alternative contours.
  - Final slopes greater than 160 feet long must include diversion drainageways.
- Required facility systems:
  - Facility systems must include:
    - A liner system.
    - A cover system.
    - A leachate collection and treatment system.
    - A groundwater monitoring system.
    - A gas monitoring and collection system (unless deemed unnecessary).

Summary of part 7035.2830, subpart. 8. Cover systems

This rule establishes cover system requirements for construction and demolition debris land disposal facilities to ensure environmental protection, stability, and proper closure. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 6. New facilities and existing unlined facilities that have reached the end of their transition period will be required to follow the intermittent, intermediate, and final cover items in this subpart.

Key provisions

- General cover system design:
  - The cover system must minimize precipitation infiltration, control gas movement, prevent erosion, reduce wind-blown litter, maintain slope stability, and discourage burrowing animals.
- Types of cover systems:
  - Facilities must implement three types of covers: intermittent, intermediate, and final covers.
- Intermittent cover:
  - Applied weekly to exposed waste.
  - Must completely cover the waste with at least six inches of soil or similar material.
- Intermediate cover:
  - Required when an area will remain inactive for 30 days or more.
  - Must be at least 12 inches thick and graded to prevent water ponding.
- Final cover system:
  - Grading and Slope: Must prevent ponding with slopes between 3% and 25%.
  - Precipitation Control: Must retain or reject 90% of precipitation based on the EPA HELP model calculation.
  - Layer Composition:
    1. Barrier Layer: At least 24 inches thick with low permeability. A synthetic membrane (30-mil thick) may be used as an alternative.
    2. Drainage Layer: At least 12 inches thick or, alternatively, a geonet encased in geotextiles.
    3. Top Layer: At least 18 inches thick, with six inches of topsoil to support vegetation.
  - Erosion and Drainage Control: Facilities must incorporate ditches, pipes, and collection areas to prevent erosion and sediment runoff.

- Vegetative Growth: Topsoil must support shallow-rooted perennial grasses without penetrating the drainage layer.

Summary of part 7035.2830, subpart 9. Liner requirements

This rule establishes liner requirements for construction and demolition debris land disposal facilities. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 7. New facilities and existing unlined facilities that have reached the end of their transition period will be required to follow this subpart.

Key provisions

- Liner installation timeline:
  - All new construction and demolition land disposal facilities must have a liner installed.
- Separation from existing fill:
  - The liner must be separated from unlined fill areas using low permeability material to prevent water movement between unlined and lined fill areas.
- Performance criteria:
  - The liner system, along with the cover system, must achieve 98.5% efficiency in collecting or rejecting precipitation to minimize leachate release to soil and groundwater.
  - The liner must be compatible with waste and leachate and remain intact throughout the facility's operating life and postclosure period.
- Liner system components:
  - Smooth, stable subgrade: Protective material must be placed over the existing subgrade.
  - Barrier liner: Designed to contain leachate.
  - Drainage layer: Placed above the barrier liner to channel leachate and protect the liner from damage.
- Material and thickness requirements:
  - To achieve performance criteria, facilities may utilize one or a combination of the liner systems listed below:
    - Natural soil barrier liner: At least 4 feet thick with a permeability no greater than 1 x 10^{-7} cm/sec.
    - Synthetic membrane liner:
    - 60-mil thick (unreinforced) or 30-mil thick (reinforced).
    - Must meet ASTM (D7176-22) or GRI (GM-13 or GM-17) specifications.
    - Combination liner: Synthetic membrane over a 2-foot-thick natural soil barrier liner with a permeability no greater than 1 x 10^{-7} cm/sec.
    - Bentonite geocomposite liners (BGC):
      - Can replace 1 foot of compacted clay liner if it achieves equivalent hydraulic performance.
      - Must be composed of sodium bentonite enclosed in a protective fabric, geotextile, or membrane.
      - Cannot be installed during precipitation events and must be covered immediately.
      - Must follow manufacturer specifications and commissioner-approved quality control plans.
  - Drainage layer: At least 12 inches thick with a minimum permeability of 1 x 10^{-3} cm/sec.
- Slope and compaction:

    - Base liner slope: Between 2% and 10%.
    - Side slopes: No steeper than 50%.
    - Barrier layer compaction: Done in no greater than 8-inch lifts.
- Leachate collection:
    - The liner must be designed to collect at least 95% of precipitation that falls on the fill area.
    - The efficiency calculation must account for liner thickness, liner slope, saturated hydraulic conductivity of liner and drainage layer, drainage layer thickness, permeability of the liner and drainage layer, porosity of the drainage layer, flow distances to collection pipes, and amount of leachate to be generated and collected based on annual infiltration and groundwater inflow.
- Alternative liner designs:
    - Alternatives may be approved by the commissioner based on the ability of the proposed liner system to control leachate migration, meet performance standards, and protect human health and the environment.
- Engineering report requirements:
    - The liner design must be detailed in the engineering report, including:
        - Source and quantity of suitable soils.
        - Potential failure risks (e.g., punctures, freezing, erosion, chemical exposure).
        - Material composition and durability.
        - Design calculations and assumptions used in choosing the particular design proposed for the facility.
- Installation and protection:
    - The facility must implement commissioner-approved methods to protect the liner from damage during operations.
    - Liner installation must follow subpart 15 construction specifications.

Summary of part 7035.2830, subpart 10. Cover and liner materials evaluation

This rule establishes testing and evaluation requirements for materials used in cover and liner systems at construction and demolition debris land disposal facilities. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 8.

Key provisions

- Soil material evaluation:
    - Owners/operators must test soils used for cover and liner systems based on 15 physical and chemical properties, following ASTM and other industry standards.
    - Tests include particle size distribution, percent fines, Atterberg limits, specific gravity, soil description, soil classification, water content, compaction, consolidation, permeability, mineralogy, unconfined compression, triaxial compression, cation exchange capacity, and nutrient content, pH, and percent organic matter for topsoil.
- Flexible membrane evaluation:
    - Membrane liners and covers must be tested for leak resistance using at least one of six ASTM standard methods.
- Alternative testing methods:
    - Alternative test methods may be used if they meet or exceed the stringency of the referenced standards, subject to written approval by the commissioner.

Summary of part 7035.2830, subpart 11. Leachate detection, collection, and treatment system

This rule establishes requirements for leachate management at new construction and demolition debris land disposal facilities. It mandates a leachate detection, collection, and treatment system to be implemented to monitor, collect, and properly treat leachate. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 9. New facilities and existing unlined facilities that have reached the end of their transition period will be required to follow this subpart.

Key provisions

- Detection system:
  - Installed at the lowest elevation and throughout the fill area.
  - Must use collection lysimeters and standpipes to monitor, detect, and determine leachate movement through the liner.
- Collection system:
  - Must have a clean-out system capable of cleaning the entire collection system for maintenance.
  - Sized based on water balance calculations considering precipitation, runoff, and leachate generation.
  - The owner or operator must derive the leachate generation rate by calculating the amount of water that percolates through the cover each month using actual data from an average weather year and a year when the precipitation exceeds the average precipitation by at least 20 percent.
  - Pipes must be chemically and biologically resistant, capable of handling expected loads, and placed in lined trenches with protective filter material.
  - Leachate height above the liner must not exceed one foot, and flow distance along the drainage layer must not exceed 100 feet.
  - Carbonate content in the collection layer must not exceed 5% by weight.
  - Must allow for collection of leachate samples for chemical analysis.
- Treatment and disposal system:
  - Leachate must be transported to a holding area or treatment system before disposal.
  - All external leachate piping must be double-walled or have secondary containment to prevent leaks.
  - Treatment and disposal must comply with state water quality regulations.

Summary of part 7035.2830, subpart 12. Water monitoring systems

This rule outlines the requirements for designing, installing, and maintaining water monitoring systems at construction and demolition debris land disposal facilities. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 10.

Key provisions

1. **General requirements** – The system must effectively detect and monitor water quality, differentiate facility impacts from background conditions, and ensure compliance with groundwater performance standards.
2. **Design considerations** – The system's adequacy must be demonstrated based on potential leachate sources, hydrogeologic conditions, and proximity to water supply wells or surface waters.

3. **Monitoring point placement** – Points must be located upgradient and downgradient from the facility to detect pollutant releases early and track contamination extent. Additional points may be required if pollution is detected.
4. **Construction standards** – Monitoring wells must be designed to prevent vertical pollutant movement, use approved drilling materials, and maintain structural integrity over time.
5. **Approval and compliance** – Any construction, modification, or sealing of monitoring wells requires prior approval from the commissioner and compliance with Minnesota Department of Health rules.
6. **Recordkeeping and reporting** – Detailed construction, maintenance, and monitoring records must be submitted to the commissioner, including soil logs, well construction details, and sampling results.
7. **Surface water monitoring** – Additional requirements apply to any monitoring stations in rivers or streams, with specific placement and documentation requirements.
8. **Inspection and repairs** – Regular inspections are required, with prompt repairs to any damaged monitoring points. Any changes to well elevation must be documented and reported.

Summary of part 7035.2830, subpart 13. Gas-monitoring and collection management system

This rule establishes requirements for gas monitoring and collection management at construction and demolition debris land disposal facilities that are contingent of accepting industrial solid waste capable of generating methane or other decomposition gases. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 11.

Key provisions

- **System requirement:** Facilities must design and install a gas-monitoring and collection system to prevent gas migration beyond the site or gas accumulation in structures. The necessity of a gas collection system is determined by the commissioner based on waste characteristics.
- **Gas concentration limits:** Explosive gas levels must not exceed the lower explosion limit at the property boundary or 25% of this limit in or around site structures.
- **Monitoring requirements:** Gas monitoring must include detecting gas buildup in facility structures and at the property boundary. Monitoring protocols must be specified in permits and closure documents.
- **Probe placement:** Gas monitoring probes must be strategically placed between disposal areas and property boundaries based on site conditions.
- **Gas venting:** Landfills must include gas vents to release pressure and prevent damage to the cover system.
- **Collection system design:** If gas is detected, collection systems must extend to the water table or an impermeable soil layer and be positioned adjacent to the waste area. The system's size must align with waste volume and type of waste to be received at the site.
- **Program monitoring and reporting:** Facilities must conduct a gas monitoring program, including regular sampling and analysis to account for variations due to climate and waste conditions. Quarterly methane monitoring is required, and results must be included in an annual report.

Summary of part 7035.2830, subpart 14. Sampling and analysis

This rule establishes requirements for environmental monitoring at construction and demolition debris land disposal facilities. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 14.

Key provisions

- **Monitoring scope:** Facilities must monitor groundwater quality and, when required, surface water quality, methane gas, and leachate.
- **Commissioner oversight:** The commissioner determines facility-specific monitoring requirements based on site conditions, waste composition, and water resource characteristics.
- **Initial and background monitoring:** New monitoring points require baseline water quality testing before waste disposal begins. Monitoring points must initially be sampled at least three times per year.
- **Training and documentation:** Sampling must be performed by trained personnel following an approved sampling and analysis plan, which must be kept current and reviewed annually.
- **Analytical standards:** Water quality analyses must follow accredited methods where available, ensuring precision, accuracy, and reliability.
- **Quality assurance:** Field and laboratory quality control measures, including sample handling procedures and chain-of-custody protocols, are required to validate results.
- **Reporting obligations:** Monitoring results must be submitted to the commissioner on specified dates, with annual summaries analyzing trends, compliance, and potential environmental impacts.

Summary of part 7035.2830, subpart 15. Construction requirements

This rule establishes construction requirements for major design features of waste management facilities, including liners, covers, monitoring systems, leachate collection, and frost protection. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 12 and 7035.2885, Subpart 14. New facilities and existing unlined facilities that have reached the end of their transition period will be required to follow this subpart.

Key provisions

- **Construction compliance:** Facilities must be built according to approved plans, with prior notification to the commissioner before construction begins.
- **Inspection and documentation:** A construction inspector must document all procedures with records, photographs, and test results to ensure compliance.
- **Benchmarks and testing:** A permanent benchmark must be installed, and tests such as compaction, permeability, and moisture density must be conducted on liners and covers.
- **Slope and erosion control:** Cover slopes must meet minimum (3%) and maximum (25%) gradients, with an erosion limit of five tons per acre per year.
- **Liner and membrane installation:** Liners must be properly joined as phases are added. Membranes must be installed under dry conditions, with seams tested for strength and air leaks.
- **Leak detection and frost protection:** Electrical leak location testing is required per ASTM standards. Frost protection plans are mandatory.
- **Leachate collection:** Pipes must undergo deformation testing, with a maximum allowable deflection of five percent. Pipes exiting lined areas must have antiseep collars.
- **Quality assurance:** A detailed quality control program must incorporate testing frequency, inspection procedures, and documentation.
- **Construction oversight:** A qualified inspector must be present during liner and final cover construction.

Summary of part 7035.2830, subpart 16. Operation and maintenance requirements

This rule establishes operational and maintenance standards for construction and demolition debris land disposal facilities. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 13. Existing unlined facilities will not be required to follow the majority of this subpart.

Key provisions

- **Certified operator requirement:** Facilities must be managed by a certified operator, who must be present whenever waste is accepted.
- **Waste handling and covering:** Waste must be compacted in layers of two feet or less and covered per approved cover system guidelines. Areas must reach final grade as soon as possible.
- **Drainage and erosion control:** The facility must be sloped to manage surface water runoff, and erosion control measures must be maintained.
- **Fill area and grading:** Fill phases must follow approved plans, with internal slope limits (max 3:1), grade stakes, and a minimum 200-foot buffer from the property line unless otherwise approved. Cover material must be maintained on site.
- **Resource recovery and storage:** Storage and resource recovery areas must be designated and managed to prevent interference with disposal operations. Waste tires must be limited unless a special permit is obtained.
- **Inspections and monitoring:** Facilities must conduct regular inspections for erosion, vegetation growth, rodents, vandalism, and system malfunctions. Leachate and gas monitoring, as well as groundwater sampling, must be performed according to approved plans.
- **Leachate management:** Leachate must be collected, analyzed, and properly managed, with the system cleaned annually. The volume collected must be recorded.
- **Vegetation control and site maintenance:** Areas with final or intermediate cover must be mowed routinely, and corrective actions must be taken for any noncompliance issues.
- **Wet weather operations:** Facilities must have protocols to protect liners and covers from saturation and damage.
- **Annual survey and reporting:** A registered surveyor or engineer must survey the fill area annually, updating plans to reflect completed and active areas, fill capacity, and site changes.
- **Frost protection:** All lined areas must have at least six feet of solid waste in place on the liner by December 31 of each year. No disposal may take place on uncovered areas after December 31 without approval by the commissioner based on results of liner integrity testing as required in Subp. 15.
- **Closure and postclosure costs:** All expenses related to closure, postclosure care, and corrective actions must be documented in the operating record.

Summary of part 7035.2830, subpart 17. Contingency action

This rule outlines the actions to be taken by the owner or operator in response to emergencies, environmental releases, or unexpected situations at construction and demolition debris land disposal facilities. This subpart is largely consistent with Minn. R. 7035.2815, Subpart 15. New facilities and existing unlined facilities that have reached the end of their transition period will be required to follow this subpart.

Key provisions

- **Emergency actions:** The owner or operator must take immediate actions to repair site features and control or treat polluted groundwater, surface water, and hazardous gases, as necessary. These actions should align with the facility's contingency action plan.
- **Contingency action plan:** The plan, developed under part 7035.2615, must cover repairs for key site components such as clogged collection systems, monitoring wells, cover systems, and liners or holding areas.
- **Unanticipated situations:** If the contingency plan does not fully address the required efforts to protect human health and the environment, the owner or operator must take additional actions to bring the facility into compliance with regulatory standards.

Summary of part 7035.2830, subpart 18. Closure and postclosure care

This rule establishes the requirements for closing and maintaining a construction and demolition debris land disposal facility after it has reached its final waste elevation.

Key provisions

- Closure timing and certification:
  - Closure of each phase or cell must begin according to the approved construction sequence plan after reaching final waste elevations.
  - A closure certification report must be submitted to the commissioner, confirming that closure complies with parts 7035.2625 to 7035.2635.
  - After final closure, the facility must enter postclosure care for the time frames specified below.
- Closure of inactive areas:
  - If an area has been inactive (no waste placed) for more than two years, closure must be completed within 180 days.
- Final cover and contours:
  - If the facility closes before the final cover contours have been reached, a revised closure plan must be submitted, and the final contours must have a slope between 3% and 25%.
- Postclosure care requirements:
  - After closure, the owner or operator must:
    - Follow an approved postclosure care plan that includes monitoring and maintaining cover integrity.
    - Ensure access is restricted.
    - Repair any damages caused by settling, erosion, or other events affecting the cover system.
    - Maintain and monitor gas, groundwater, and leachate systems.
    - Submit annual reports on site conditions and corrective actions taken.
- Postclosure reevaluation:
  - The commissioner may modify the closure document and postclosure care plan based on monitoring results, and corrective actions may be required if monitoring indicates non-compliance.
- Termination of postclosure care:

- The postclosure care period lasts a minimum of 30 years but may be reduced to 20 years with commissioner approval, contingent on monitoring results and an environmental covenant.
- Before ending postclosure care, the facility must submit a custodial care plan outlining future maintenance activities.

Summary of part 7035.2830, subpart 19. Financial assurance

This rule sets forth the financial assurance requirements for the closure, postclosure care, and contingency actions of construction and demolition debris land disposal facilities. New facilities and existing unlined facilities that have reached the end of their transition period will be required to follow this subpart.

Key provisions

- Compliance timeline for existing facilities:
  - Facilities in operation must demonstrate compliance within 180 days of transitioning to a lined facility by submitting documentation of compliance to the commissioner.
- Establishing financial assurance:
  - The owner or operator must establish financial assurance for closure, postclosure care, and contingency action as required by parts 7035.2705 to 7035.2805. This may include using standardized financial assurance mechanisms or proposing non-standardized mechanisms for approval by the commissioner.
- Maintenance of financial assurance:
  - Financial assurance must be maintained as long as the facility poses a potential environmental risk to human health, wildlife, or the environment, as determined by the commissioner.
- Change in ownership or control:
  - If there is a change in the owner or operator, a permit modification must be requested. The previous owner/operator remains responsible for financial assurance until the new owner/operator demonstrates compliance.
- Third-party cost estimates:
  - Annual updates to third-party cost estimates for closure, postclosure care, and contingency actions must be submitted, as required by part 7035.2585.
- Trust fund mechanism:
  - If a trust fund is used as a financial assurance mechanism, the monthly payment calculation must be based on either a ten-year period or the facility's operating life, whichever is shorter.
- Annual updates:
  - Financial assurance mechanisms must be updated annually and submitted with the annual report required by part 7035.2585.

Summary of part 7035.2830, subparts 20 and 21. Custodial care requirements and use of property

This rule sets forth the requirements for the use of property during custodial care for a construction and demolition debris land disposal facility. The landowner must conduct custodial care in perpetuity according to the custodial care plan or an environmental covenant and easement. This applies to all new and existing facilities operating after rule effective date.

Key provisions

- Prohibited uses during custodial care:
  - The landowner must not allow any use of the property that would disturb, damage, or degrade the integrity of the final covers, liners, or any containment system components.
- Permitted uses:
  - The landowner may allow uses of the property that are:
    - Necessary for the proposed use of the property, as long as they do not violate the standards outlined in proposed Minn. R. 7035.2830, Subpart 6 and Minn. R. 7035.2565.
    - Necessary to remedy a violation of these standards.
  - Any proposed uses must be approved by the commissioner.

Impacts to Minnesota Rule parts within chapter 7001

- Minn R. 7001.3050: This rule revision eliminates the demolition debris land disposal permit-by-rule.
- Minn R. 7001.3111: This rule revision eliminates the exemption of C&D facilities from the additional general siting requirements.
- Minn R. 7001.3200: This rule revision requires C&D facilities to conduct a Preliminary Site Evaluation Report following the requirements of proposed Minn. R. 7035.2830.
- Minn R. 7001.3275: This rule revision requires all C&D facilities to conduct a Detailed Site Evaluation Report, including a hydrogeologic evaluation, following the requirements of proposed Minn. R. 7035.2830.
- Minn R. 7001.3425: This rule revision updates the requirements for final application information for construction and demolition land disposal facilities, and is largely consistent with Minn. R. 7001.3475. This rule revision also includes a requirement for phase development and construction sequence plans which identifies the sequential construction, filling, and closure of each landfill cell and phase, and the order in which major design features will be implemented.

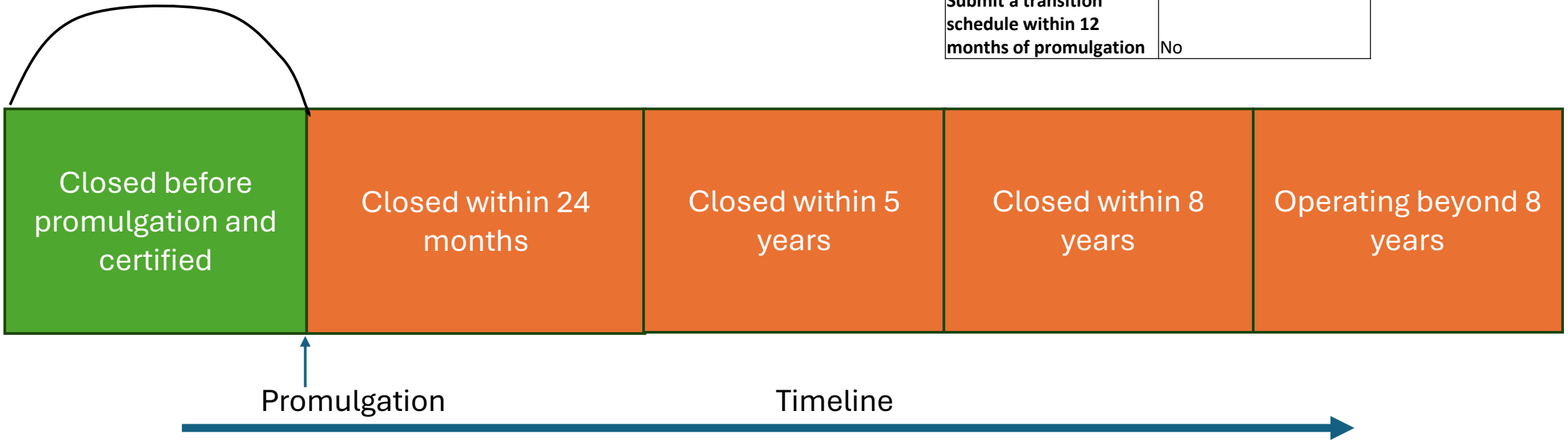
Impacts to Minnesota Rule parts within chapter 7035

- Minn. R. 7035.0300: This rule revision adds or modifies definitions such as phase, custodial care, custodial care status, construction debris, and industrial solid waste for clarification.
- Minn. R. 7035.0605: This rule is a new part to accommodate standard engineering references.
- Minn. R. 7035.2585: This rule revision adds the reporting requirement from the proposed part 7035.2830.
- Minn. R. 7035.2625: This rule was modified to delete reference to 7035.2825 and include a reference to the proposed part 7035.2830.
- Minn. R. 7035.2645: This rule revision adds the postclosure care plan activities from the proposed part 7035.2830.
- Minn. R. 7035.2665: This rule revision clarifies that newly permitted construction and demolition landfill facilities under the proposed Part 7035.2830 are subject to financial assurance requirements.

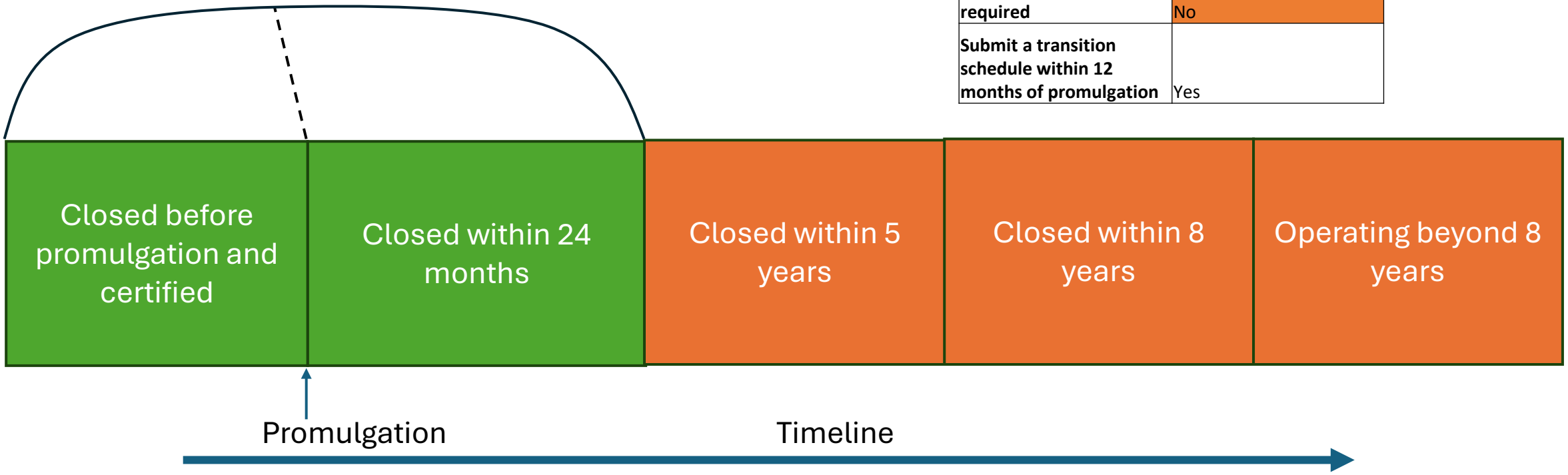
Appendix:
C&D Existing Unlined Landfill Transition Options

Landfill Transition Options	A	B	C	D	E	Optional Horizontal Expansion F
Closure Timing	Before promulgation	Within 24 months of promulgation	Within 5 years of promulgation	Within 8 years of promulgation	8 years or more after promulgation	Varies
Liner	Unlined	Unlined	Unlined	Unlined	Lined	Lined if operating beyond 8 years
Minimum cover requirement	Minimum 2-foot soil cover	Minimum 2-foot soil cover	Enhanced soil cover over area not certified closed by promulgation	Synthetic cover over area not certified closed by promulgation	Synthetic cover over area not certified closed by promulgation	Cover dependent on closure timing – see options B through D
Custodial Care Plan required	No	Yes	Yes	Yes	Yes	Yes
Financial Assurance required	No	No	No	No	Yes	Yes, if operating beyond 8 years
Transition schedule within 12 months of promulgation	No	Yes	Yes	Yes	Yes, if existing at rule promulgation	N/A

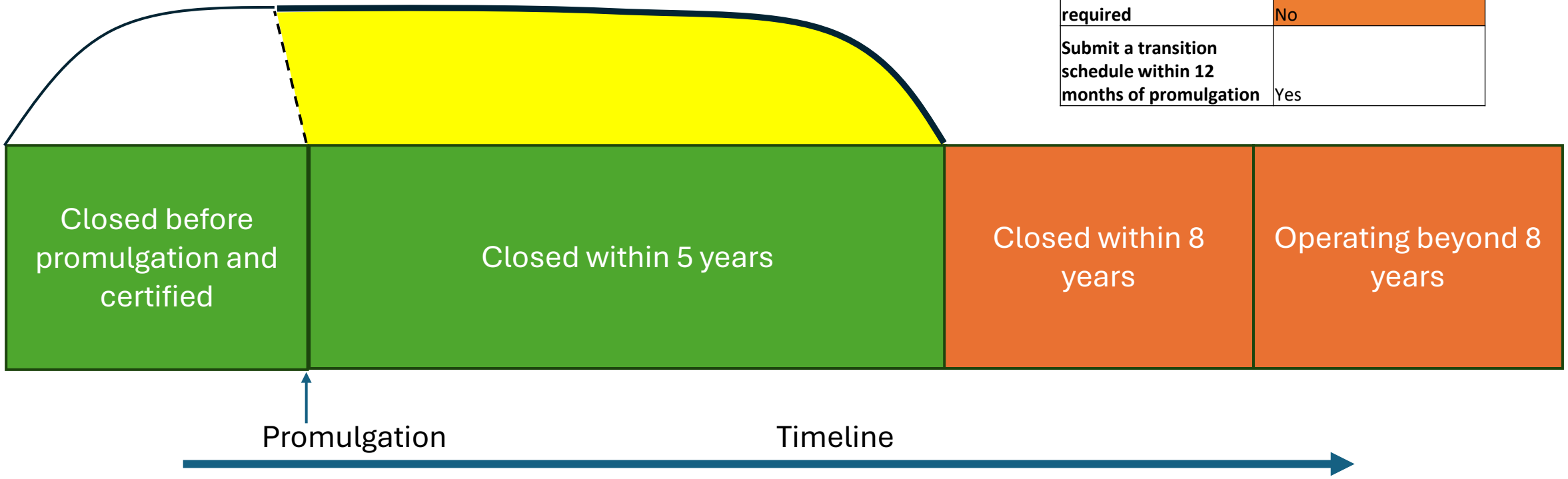
Landfill Transition Options	A
Closure Timing	Before promulgation
Liner	Unlined
Minimum cover requirement	Minimum 2-foot soil cover
Custodial Care Plan required	No
Financial Assurance required	No
Submit a transition schedule within 12 months of promulgation	No



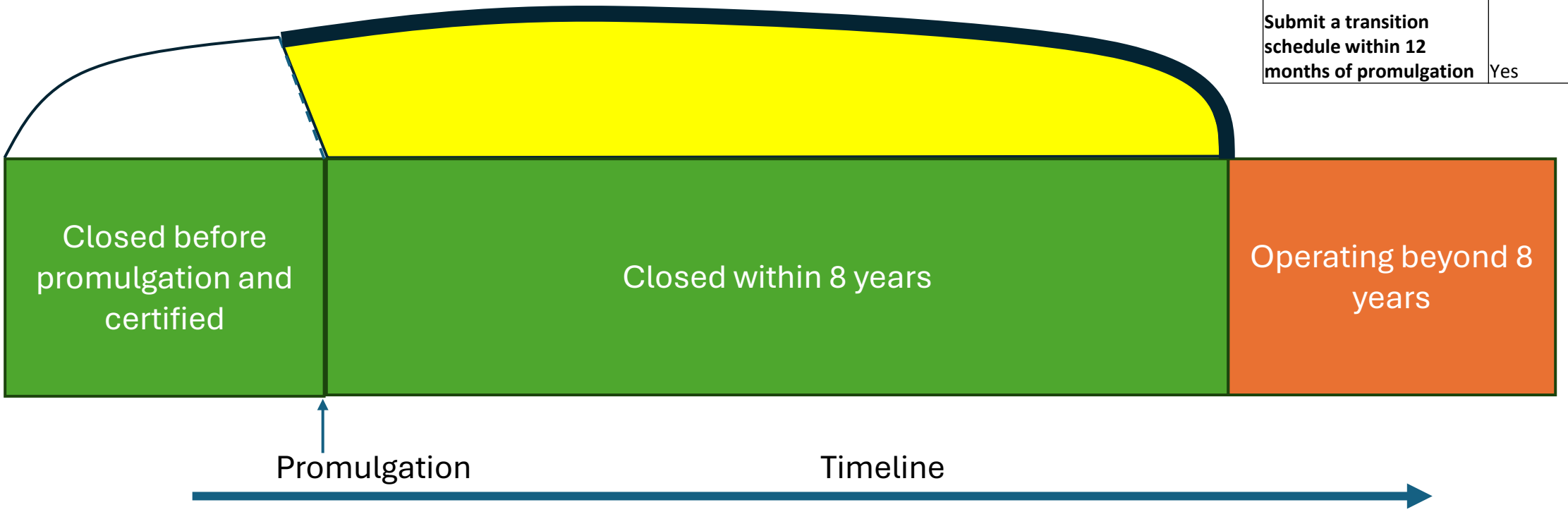
Landfill Transition Options	B
Closure Timing	Within 24 months of promulgation
Liner	Unlined
Minimum cover requirement	Minimum 2-foot soil cover
Custodial Care Plan required	Yes
Financial Assurance required	No
Submit a transition schedule within 12 months of promulgation	Yes



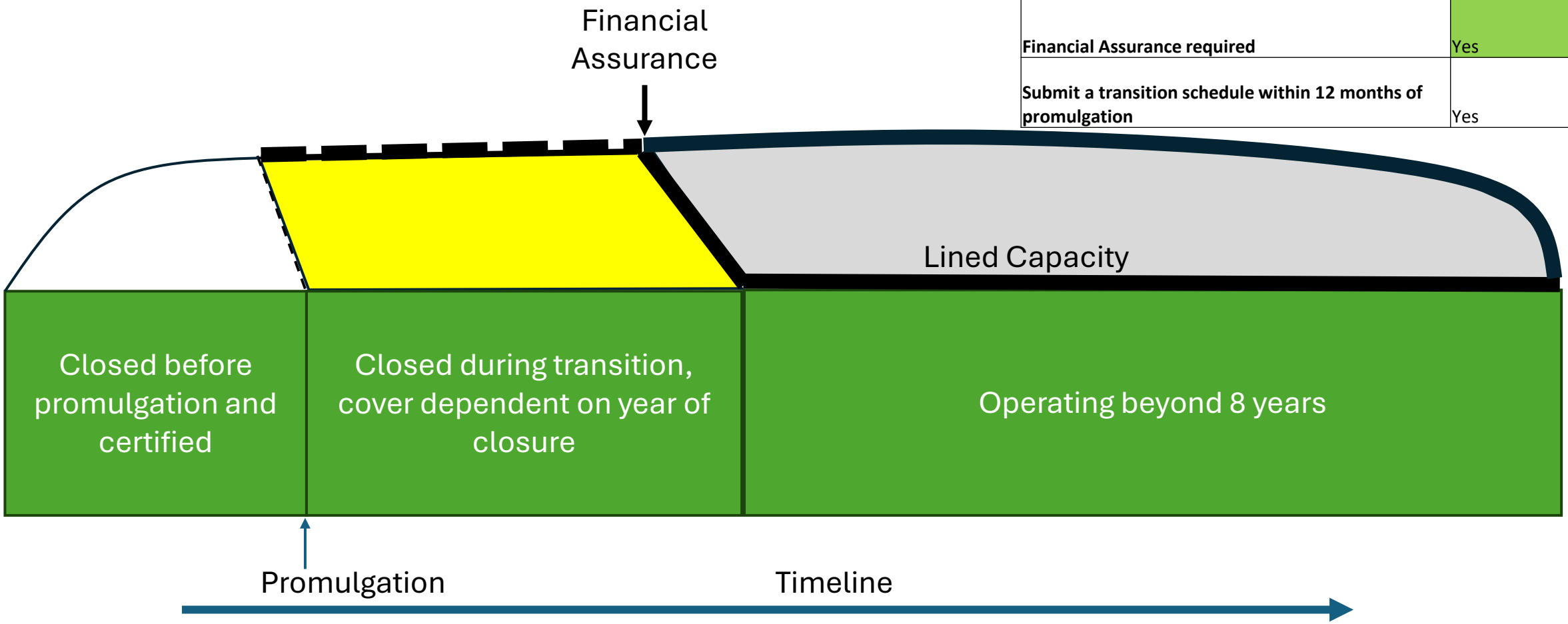
Landfill Transition Options	C
Closure Timing	Within 5 years of promulgation
Liner	Unlined
Minimum cover requirement	Enhanced soil cover over area not certified closed by promulgation
Custodial Care Plan required	Yes
Financial Assurance required	No
Submit a transition schedule within 12 months of promulgation	Yes



Landfill Transition Options	D
Closure Timing	Within 8 years of promulgation
Liner	Unlined
Minimum cover requirement	Synthetic cover over area not certified closed by promulgation
Custodial Care Plan required	Yes
Financial Assurance required	No
Submit a transition schedule within 12 months of promulgation	Yes



Landfill Transition Options	E
Closure Timing	8 years or more after promulgation
Liner	Lined
Minimum cover requirement	Synthetic cover over lined. Unlined area cover determined by closure timing.
Custodial Care Plan required	Yes
Financial Assurance required	Yes
Submit a transition schedule within 12 months of promulgation	Yes



Possible Unlined Horizontal Expansion

Landfill Transition Options	F
Closure Timing	Varies
Liner	Unlined
Minimum cover requirement	Cover dependent on closure timing – see options B through D
Custodial Care Plan required	Yes
Financial Assurance required	No
Submit a transition schedule within 12 months of promulgation	Yes

Cover Type Dependent on Closure Timing