



Featured Technical Topic Summary **FGI Monthly Members Meeting** **Friday, September 5, 2025**



TOPIC: Best Practices for Temporary and Final Covers and Closures

Each month Tim Stark introduces a new technical topic for discussion and possible action. This month's topic is: "**Best Practices for Temporary and Final Covers and Closures**". This topic generated significant discussion with the main "take-aways" listed below:

Best Practices for Temporary Covers and Closures

Defining Temporary vs. Long-Term Covers

- Temporary covers typically last 1–5 years, while long-term covers may extend 5–20+ years.
- Application timeframe should be defined based on material type, site conditions, and project goals.

Common Applications

- Short-term uses: Agricultural grain covers, rain-shed covers, landfill interim covers.
- Rain-shed covers: Use thin-mil geomembranes to prevent precipitation infiltration and erosion; typical lifespan is 1–5 years.
- Landfill interim covers: Used for odor control and leachate prevention until permanent caps are installed.

Material Considerations

- Woven coated polyethylene (WCPE) and string-reinforced materials are common for temporary use.
- WCPE is typically used for 2–3 applications, with UV warranties of around 2 years.
- Thinner materials may pose challenges for field welding (e.g., wedge or hot air methods).

Design and Performance

- Temporary covers help reduce site remediation costs and prevent wind-blown debris.
- Anchorage systems are critical - alternatives to trenching include steel rods, sandbags, surface weights, and wind defender systems.
- Define project needs clearly: application type, duration, welding requirements, and ballasting strategy.

Additional Applications

- Landfill gas collection
- Gas cutoff barriers
- Mining and soil remediation
- Dredging operations

Expert Insights

- Ron MacKenzie: WCPE is not suitable for long-term containment.
- Neil Nowak: Emphasized secure anchoring and proper ballasting.
- Brad DeArment: Supplies covers for landfill gas collection (positive/negative air systems).
- Brian Fraser: Flexible geomembranes are widely used in environmental remediation and brownfield soil covers.
- Pat Elliot: Shared valuable visuals of temporary and permanent cover applications and challenges.



Best Practices for Final Covers and Closures

Material Selection by Timeframe

- 1–5 years: 12–20 mil WCPE / String Reinforced
- 5–15 years: 30–40 mil RPP, PVC EIA, RPE, LLDPE
- 20+ years: 40–60 mil HDPE, LLDPE, CSPE (UV-stabilized)

Design Considerations

- Covers must be engineered for:
 - Slope stability
 - Interface friction
 - Anchorage and ballasting
 - UV resistance
 - Multiaxial stress
 - Rainwater management, erosion, and sediment control

Material Exposure

- Exposed vs. backfilled: Backfilled covers allow for broader polymer selection.

System Integration

- Geocomposite drainage systems are often installed beneath covers to manage water flow and protect liner integrity.

Action Item

- FGI should consider developing a technical paper on flexible geomembrane selection for both temporary and permanent soil covers, caps, and closures.
- FGI should plan a future webinar on temporary and permanent covers using flexible geomembranes