

Engineering Realities for Sustainable Protection

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The *Real* Obstacle to Site Completion:

**Credible Post-Remediation Sustainable Protection
at Contaminated Sites with Residual Waste**



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Engineering Realities for Sustainable Protection

Design for

- Long-term system durability & integrity
- Monitoring that provides warning prior to failure
- Maintenance and intervention
- Consistency with technical understanding of failure modes and processes that result in unacceptable risk



Engineering Realities for Sustainable Protection

Current limitations

- Little design or performance experience for periods longer than 100 years.
- Monitoring designed to detect, not prevent, failure.
- Performance assessments and waste acceptance criteria have overly simplifying assumptions that neglect key processes (or assume complete failure), such that realistic understanding of failure modes, rates and processes is not obtained.

