

Landfills - the Remediation Industry's Dirty Little Secret: Potential Liabilities during Design, Construction and Operation

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With increasing requirements from regulators for reclamation of our historical practices, the remediation industry has seen a tremendous increase in the number of sites requiring attention. Despite technical advances made in remediation over the past several decades, landfill disposal remains one of the most frequently used remediation methods in western Canada. It is often used as the major or only component to a remediation project. The excavation and disposal of "highly impacted" sources combined with in-place treatment or natural attenuation of impacts is considered to be a cost effective treatment method. This puts a great deal of reliance on the competency of the landfill to receive the wastes and provide protection against adverse effects caused to the environment from the wastes disposed.

While many waste generators employ some form of audit process prior to sending waste to third party facilities, there is significant risk that problems occurring during landfill design, construction and operation may go unnoticed until they cannot practically be repaired. This paper discusses potential problems that can occur during landfill design, construction and operation and their implications for waste containment and owner liability.

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Dean Wall is an environmental engineer with over 18 years of landfill experience. He has worked on over one hundred landfill projects involving a broad range of municipal and industrial sites across Canada, and internationally. Dean's landfill experience includes mining and smelter wastes, oil and gas industry wastes, pulp and paper mill wastes, sawmill wastes, power generation wastes, radioactive wastes, and municipal solid wastes. During these projects, Dean has been responsible for detailed design work for drawings, preparation of specifications, development of cost estimates, administration of contracts, and providing construction supervision and quality assurance. He has audited numerous operating facilities and has prepared many landfill operations plans.

Ian MacLeod, P.Eng.

Ian MacLeod is a civil engineer who specializes in environmental engineering in the fields of waste management and site remediation. He has over 20 years of experience in the permitting, design and construction of waste management facilities in "greenfield" developments and expansion of existing facilities. The facilities include municipal solid waste (MSW) waste balers, balefills and landfills for MSW or industrial waste throughout Western and Northern Canada. His duties include managing a team of design engineers and completing portions of the design work for drawings, specifications and cost estimates for these projects. He also oversees facility construction to ensure that the project is completed in accordance with regulatory requirements and tender documents.