



Vapour Intrusion: A Legal and Technical Analysis of Risk Mitigation for Existing Buildings

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Building owners, managers and their environmental professionals need to consider the risks associated with vapour intrusion (VI) due to subsurface contamination. While the industry has adopted several guidance documents related to the mitigation of the VI pathway, addressing VI in existing buildings remains technically and legally complex. Owners must evaluate both the technical performance of the VI mitigation system, their impacts on current or future tenants, and the associated legal risks and liabilities.

The first part of this presentation will set out the environmental legal considerations that building owners need to consider – regardless of whether they are the source of the subsurface contamination or not. Topics will include legislative requirements, health and safety standards, corporate governance best practices. This portion of the presentation will conclude with a brief review of cases where VI has led to environmental legal liabilities.

The second part of the presentation will build on the legal foundation and focus on to the technical aspects of VI risk management for existing buildings. Technical considerations for the implementing retrofit VI mitigation systems will be discussed, including how to investigate existing buildings, understanding sub-slab permeability, and evaluate the impact of building construction and operation. Additionally, we will discuss assessing performance of a mitigation system and addressing the effects of background interior sources on indoor air quality. Example site information will be used to highlight each issue and practical solutions will be provided.

Anand Srivastava

Anand Srivastava, B.Sc. (Hons.), J.D., is a Partner at Willms & Shier Environmental Lawyers LLP. Anand's practice focuses on environmental legal advice and environmental litigation. With prior education and experience in environmental toxicology, he assists clients to facilitate practical solutions to complex environmental legal issues. He works with a wide variety of clients on issues relating to environmental regulatory compliance with federal, provincial and municipal laws, contaminated sites, environmental due diligence, and exposure to environmental risks and liabilities. Anand is called to the Bar in Alberta and Ontario.

Paul Nicholson

Paul Nicholson is an engineer and senior member of Geosyntec's vapour intrusion practice. He has 20 years of experience in vapour intrusion assessment, mitigation design and construction. Paul's current focus is on the design and optimization of cost-effective sub-slab mitigations systems based on over a decade of research in this area. Paul Nicholson is an engineer and senior member of Geosyntec's vapour intrusion practice. He has 20 years of experience in vapour intrusion assessment, mitigation design and construction. Paul's current focus is on the design and optimization of cost-effective sub-slab mitigations systems based on over a decade of research in this area.

Meggen Janes

Meggen Janes, P.Eng., M.Sc. is a Principal at Geosyntec with over 28 years of experience in environmental consulting. Meggen is also the Executive Director of the Canadian Brownfield Network, an organization that seeks to encourage the revitalization of brownfield lands. Meggen specializes in environmental consulting, Phase One/Two environmental site assessment (ESA), risk assessment (RA), risk management engineering and remediation projects. She works on behalf of municipalities to develop contaminated land policy, brownfield grant program renewal, evaluate city-wide background soil concentrations and for Ontario regulators she reviews risk management plans. Meggen has completed feasibility studies, design and operational oversight for soil reuse and soil management sites and has overseen programs with cumulative total of 2M m³ of excavated soil. As a Professional Engineer in Ontario since 1996, Meggen has been recognized as a QPESA and QPRA. Meggen is a Director on the Board of the Ontario Society of Professional Engineers.