

A photograph of a modern, multi-story glass-walled building. The building has a prominent corner and is surrounded by a paved walkway, green lawn, and trees. The sky is clear and blue. A semi-transparent blue banner is overlaid on the left side of the image, containing the text 'Statement of Qualifications' in white.

Statement of Qualifications



Introduction

Land Science[®], a division of REGENESIS[®], develops vapor intrusion (VI) mitigation solutions that protect people and invigorate renewal of contaminated properties. We leverage our industry expertise to assist clients in developing site-specific solutions that are technically sound and cost-effective.

As experts in the field of contaminant VI mitigation, Land Science works with leading engineering firms, environmental consultants, building owners, and real estate developers to offer safe and effective contaminant VI mitigation solutions in the redevelopment of brownfield sites.

As risk standards and other compliance issues associated with contaminant VI continually evolve, engineered controls like those offered by Land Science provide a practical, cost-effective solution to eliminate risks. Recent advances in contaminant VI mitigation developed by Land Science have assisted developers, engineering firms, regulators, and land owners by providing technically sound solutions effectively mitigating these issues.

“Land Science has consistently provided timely, effective remediation product solutions... we recommended a floor sealing system for VI, and the owner selected the Retro-Coat system. At that site, indoor air contaminant concentrations were either eliminated or significantly reduced.”

- Bruce Savage, Director of Environmental Science



Land Science teams with leading E&C firms, regulators, contractors, and end users to successfully implement advanced vapor intrusion mitigation systems

Leadership

As a wholly-owned division of REGENESIS, a recognized leader in the environmental industry, Land Science has been at the forefront of VI mitigation. With combined experience in VI mitigation and environmental remediation encompassing more than 26,000 projects worldwide in over 27 countries, Land Science has a unique advantage over other vapor intrusion solution providers.

In addition to its own research and science-based product development, Land Science benefits from its close association with REGENESIS by aligning teams and managing a broad range of VI mitigation issues. These products and solutions include patented vapor mitigation and environmental remediation technologies supported by the highest levels of scientific research.

Land Science Leads the Environmental Remediation Industry in:



Vapor mitigation technologies

Land Science has installed vapor mitigation technologies at over 800 project sites across the United States, totaling over 38,000,000 square feet. Our core technologies, each supported by the highest levels of scientific research, include the TerraShield®, Nitra-Seal®, and MonoShield® composite sub-slab VI barriers for new construction, Retro-Coat® concrete VI coating for existing buildings (retro-fit), and TerraVent™, a low profile, passive, sub-slab vapor venting system.



Quality assurance of vapor mitigation systems

Only contractors that we certify are allowed to install our technologies. This allows us to have oversight on the quality of the installation. Our technologies are guaranteed to be installed properly because we will require the owner to hire a 3rd party certified inspector, i.e. the specifying engineer, or a manufacturer's representative.



World's leading vapor barrier system warranty

Land Science offers industry leading warranty options for its vapor barriers, including material and system warranties with durations from a 1-30 year material warranty and up to a 30 year system warranty.



Federal and state regulatory approval

Land Science has worked with state and federal regulators to obtain regulatory approval of our technologies throughout North America.



World Class Clients

Environmental consultants, engineers, and real estate professionals trust Land Science to produce results knowing our expertise and industry knowledge has been proven time and again at the job site. Our world class clients include leaders in the food, banking, government, and housing industries.



Land Science: A World Class Team

Detailed resumes available upon request.



Nick Mjolsness - West Region Manager

Nick Mjolsness is the West Region Manager of the Land Science division of REGENESIS, Inc. Nick's role includes providing technical support in the design and installation of Land Science vapor mitigation systems, and educating the environmental community on advancements in vapor intrusion barrier technology, implementation, and quality control by making presentations to environmental firms, regulatory agencies and developers.



Ryan Miller - East Region Manager

Ryan Miller is the East Region Manager of the Land Science division of REGENESIS, Inc., and is based in northern New Jersey. Ryan's role includes providing technical support in the design and installation of Land Science vapor mitigation systems, and educating the environmental community on the advancements in vapor intrusion barrier technology, implementation, and quality control by making presentations to environmental firms, regulatory agencies, and developers.



Jordan Knight - Central Region Manager

Jordan Knight is the Central Region Manager of the Land Science division of REGENESIS, Inc., and is based in Atlanta, Georgia. Jordan's role includes providing technical support in the design and installation of Land Science vapor mitigation systems, and educating the environmental community on advancements in vapor intrusion barrier technology, implementation, and quality control by making presentations to environmental firms, regulatory agencies and developers.



Kim Bradley - West District Technical Manager

Kim Bradley is the Inside Sales Manager of the Land Science Division of REGENESIS, Inc. Kim's role includes providing technical and project support for consultant and developer clients of the Land Science sales management team addressing VI sites across North America. Kim also initiates community outreach and education on VI barrier solutions, emerging regulations, and industry best-practices by moderating presentations to property owners, developers, architects, environmental firms, and general contractors.



Hieu Nguyen - Senior Research Engineer

Hieu Nguyen is the Senior Research Engineer of the Land Science division of REGENESIS, Inc. In his role, Nguyen oversees product development and implementation at construction sites and provides technical support to regional and district managers as well as Land Science clients. Hieu offers over 14 years of experience supporting Brownfield redevelopment project designs, specifications and installations across United States, Canada and Australia.



Rick Gillespie - Vice President, North America

Mr. Gillespie serves as Senior Vice President North America for REGENESIS and Land Science. In his role, Mr. Gillespie directs a team of technical sales consultants and engineers across North America providing industry-leading support to REGENESIS and Land Science customers. He has over 20 years of experience in the environmental remediation industry.



Scott Wilson - Chief Executive Officer

Mr. Wilson is a widely published expert with 30 years of experience in environmental remediation. He is a recognized thought leader in the commercialization of environmental technologies with a proven track record spanning three decades. He has overseen the design and implementation of more than 100 innovative full-scale remediation projects employing advanced technologies.

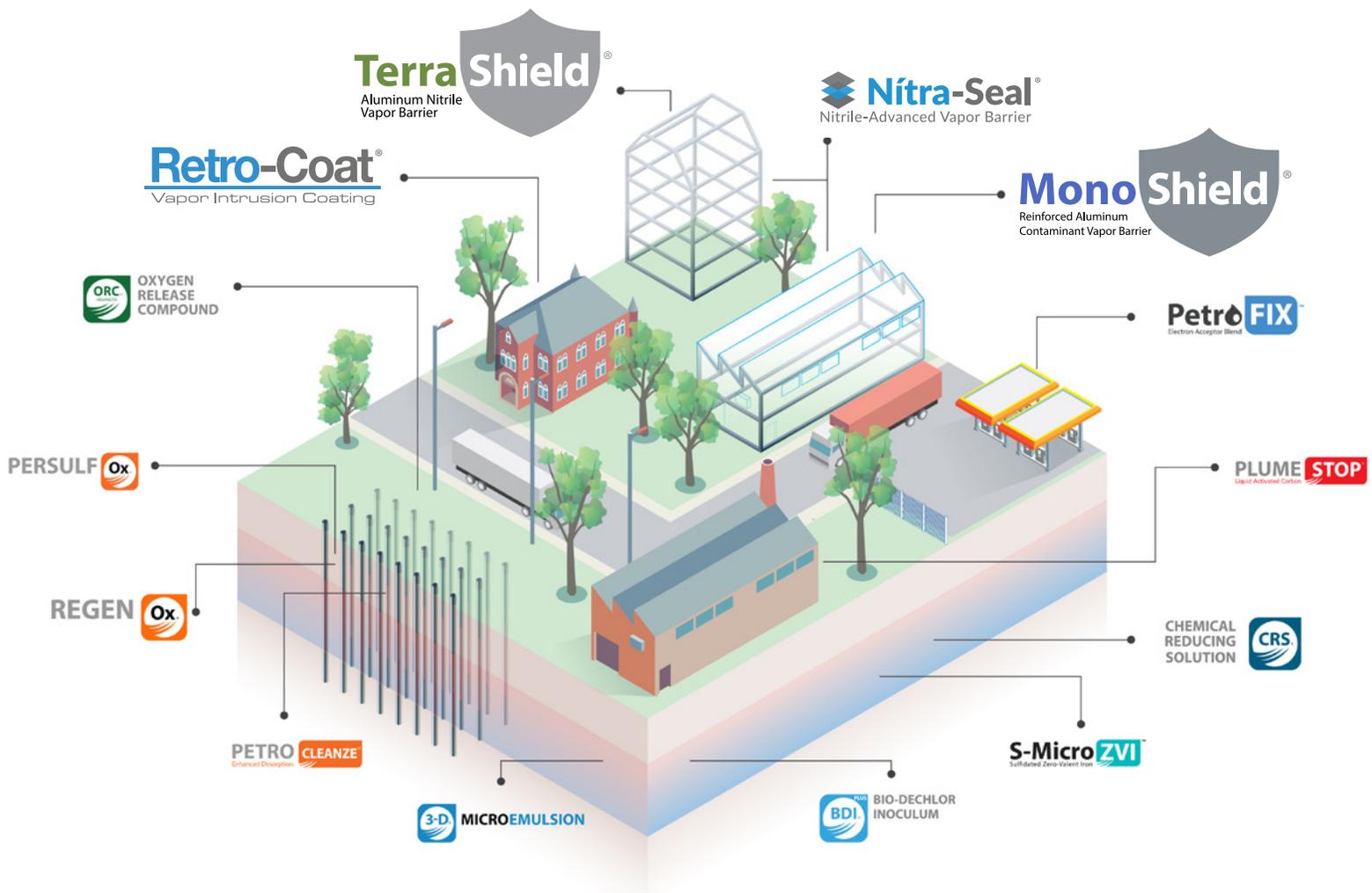


Land Science[®]
a division of REGENESIS[®]

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landsciencetech.com





Our Solutions

Innovative, Cutting-Edge Approaches
To Vapor Intrusion Mitigation

Overview

TerraShield[®] is a significant step forward for VI barriers. Employing an innovative dual-metallized film technology, TerraShield provides superior chemical resistance over any existing vapor barrier currently on the market. It is the ideal vapor mitigation solution for residential, industrial, and commercial developments with volatile contaminant impacts that represent significant health hazards and economic liabilities.

Technology

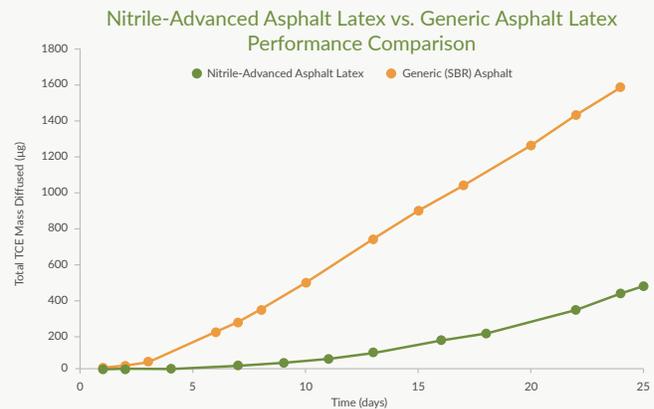
A Multi-Layer Base with Innovative Metallized Film Technology

The Land Science research and development team of scientists have invested years in developing the TerraShield vapor barrier system and advancing the materials commonly used in composite spray-applied barriers. The base layer of the system now provides over 100x greater chemical resistance versus a traditional HDPE sheet good, due to the innovative combination of aluminum metallized film and polyethylene.

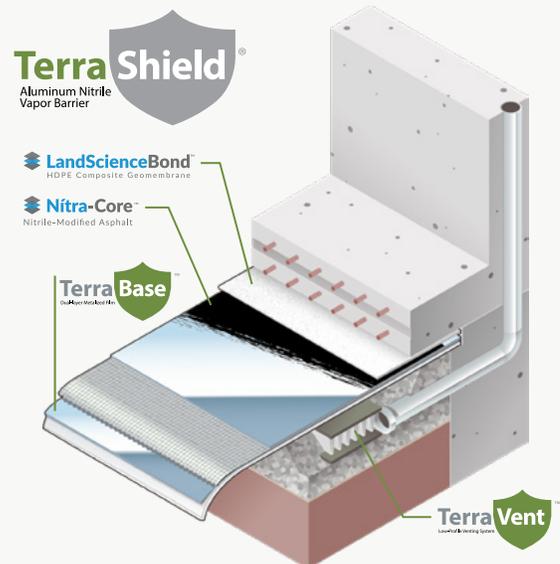
Nitrile-Advanced Asphalt Latex Technology

Land Science researchers have developed a breakthrough technology which incorporates nitrile, a material known for enhanced resistivity to contaminant permeation, into the spray applied core formulation. The resulting nitrile-advanced asphalt latex core component offers an improvement of up to 10x in chemical resistivity compared to generic asphalt-latex spray applied barriers.¹

1. U.S. and international patents pending.



TCE diffusion rates in Nitrile-Advanced Asphalt Latex barrier systems vs those utilizing Generic (SBR) Asphalt.



Nitrile-Advanced Asphalt Latex Compared to Generic SBR Asphalt Latex

Nitrile-Advanced Asphalt Latex

- ✓ Lab-proven to provide 10x higher chemical resistance
- ✓ Easier and faster to apply
- ✓ Equipment requires only soap and water to clean

Generic SBR Asphalt Latex

- ✗ Higher permeability increases risk of contaminant sorption
- ✗ Longer, slower application time
- ✗ Equipment requires petroleum-based solvents to clean

Overview

Nitra-Seal® is an update and improvement on current vapor barrier systems. Originally, passive vapor barrier systems were waterproofing systems adapted for use as contaminant vapor barriers. An acknowledged weakness in these systems is in the penetration and perimeter termination locations, where spray-applied core material composed of Styrene-Butadiene (SBR)-modified asphalt is used. While excellent at repelling water, aggressive chemicals such as petroleum solvents and chlorinated VOCs, will permeate into the SBR-modified asphalt at a relatively high rate particularly in sensitive areas of the building construction such as barrier seams, slab penetrations, and perimeters. Nitra-Seal offers a substantial upgrade as it employs a more chemically resistant nitrile latex instead of the more susceptible SBR material.

Nitra-Seal has been lab-tested and proven to be highly effective against VOCs like chlorinated solvents and petroleum contaminants, and methane. The Nitra-Core component of this system is laboratory tested to be up to 10x more effective than typical spray-applied SBR modified asphalt material.

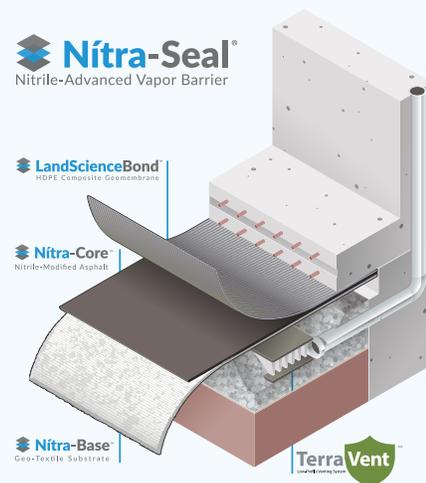
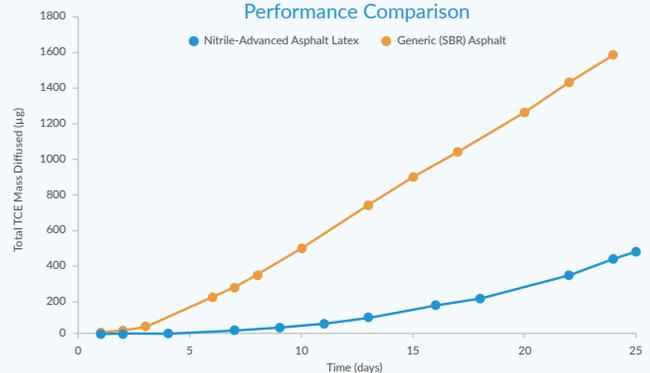
Technology

A Multi-Layer Base with Innovative Nitrile-Advanced Asphalt Latex Technology

Nitra-Seal is an update/improvement on current vapor barrier systems, providing a more chemically resistant spray-applied core material.¹ Nitra-Seal is a triple-layer system. The Nitra-Base layer (bottom) and the Land Science Bond layer (top) are composed of a HDPE material bonded to a geo-textile on the out-facing side. HDPE is known for chemical resistance, high tensile strength, excellent stress-crack resistance and highly reliable subsurface containment. The geo-textile, which is physically bonded to the chemical resistant layer, accomplishes two goals; it allows the Land Science Bond layer to adhere to the slab, and provides friction course between the Nitra-Base layer and the soil. The Nitra-Core layer is composed of a unique, nitrile-advanced asphalt latex which also provides additional protection against vapor transmission. Nitrile has been proven to offer exceptional chemical resistance in a wide range of applications. This layer creates a highly-effective seal around slab penetrations and eliminates the need for mechanical fastening at termination points.

1. U.S. and international patents pending.

Nitrile-Advanced Asphalt Latex vs. Generic Asphalt Latex Performance Comparison



Nitrile-Advanced Asphalt Latex Compared to Generic SBR Asphalt Latex

Nitrile-Advanced Asphalt Latex

- ✓ Lab-proven to provide 10x higher chemical resistance
- ✓ Easier and faster to apply
- ✓ Equipment requires only soap and water to clean

Generic SBR Asphalt Latex

- ✗ Higher permeability increases risk of contaminant sorption
- ✗ Longer, slower application time
- ✗ Equipment requires petroleum-based solvents to clean

Overview

MonoShield[®] is a chemically resistant and easy-to-apply barrier specifically designed as a preemptive solution for VI at brownfield redevelopment sites. It is backed by unparalleled design support, robust warranty options, and a network of certified applicators who can ensure quality installation.

Nitrile-Advanced Asphalt Latex Seams vs. Taped Seams



Example of Nitrile-Advanced Asphalt Latex Seams

MonoShield applications utilize a spray-applied nitrile-advanced asphalt latex to seal seams and penetrations, eliminating bottlenecks in performance and installation time.



Example of Taped Seams

Traditional vapor barrier installations require taped seams which contributes to long construction times and uncertainty in performance.

Technology

Innovative Metallized Film Technology

Composed of an innovative metallized film that sets the standard for preventing diffusion and permeation of chemical vapors and a nitrile-advanced asphalt latex that ensures a seal far more effective and easier to apply than tape-based or heat-welded systems, MonoShield offers the best of both worlds, providing developers with a viable long-term solution for reducing liability and protecting human health at a competitive cost.

Nitrile-Advanced Asphalt Latex Technology

Land Science researchers have developed a breakthrough technology which incorporates nitrile, a material known for enhanced resistivity to contaminant permeation, into the spray applied core formulation. The resulting spray-applied core component offers an improvement of up to 10x in chemical resistivity compared to generic asphalt-latex spray applied barriers.¹

1. U.S. and international patents pending.



“Without Land Science’s Retro-Coat vapor barriers, our redevelopment of a downtown Traverse City, Michigan Brownfield Site into upscale residential townhomes would have been impossible.”

*- Mike Wills, Project Manager
Uptown Development TC, LLC*

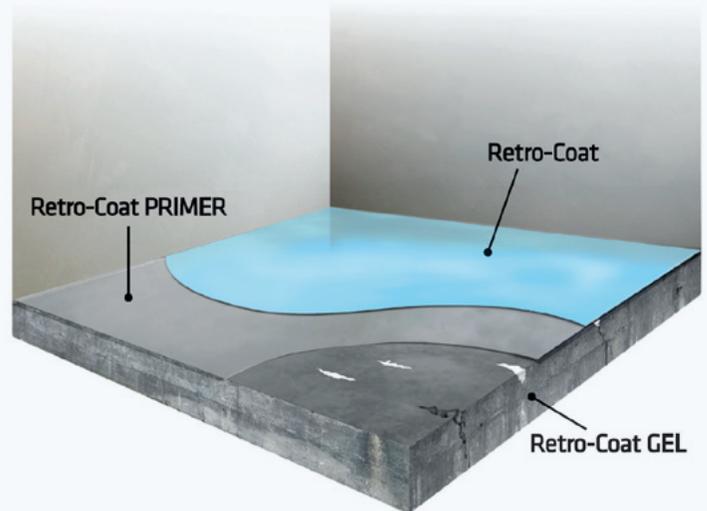


Overview

The Retro-Coat® Vapor Intrusion Coating System is a chemically resistant coating technology which protects existing structures from the threat of contaminant vapor intrusion. Retro-Coat is installed on top of existing concrete and provides a durable, finished surface eliminating the need for additional concrete protection.

The Retro-Coat system has been subjected to rigorous testing procedures to prove its ability to combat the most aggressive chemical vapors. The system is rated for industrial use suitable for foot and forklift traffic and can be designed to allow vehicular traffic. Retro-Coat coating technology was specifically developed for vapor intrusion protection.

Retro-Coat®
Vapor Intrusion Coating



Available in a Variety of Finishes



Retro-Coat comes in a standard gray color and finishes to a high-gloss, easy to clean surface. Additional colors and finishes are available. Speak with a Land Science representative today to learn more.



Quality Assurance Programs



“Project implementation has been seamless. The services group has been able to keep things moving ahead of schedule. Looking forward to the results and positive impact to the community.”



Certified Network for Quality Assurance

To ensure the installation of our world-leading vapor barriers is performed correctly and will result in the best possible performance, Land Science has established a network of certified applicators and inspectors for our technologies. Only a certified applicator can install Land Science’s vapor mitigation systems. These certified contractors ensure only the highest quality work goes into the installation of your vapor mitigation system.

Certified Applicator Network

Land Science trains and certifies contractors to install TerraShield, Nitra-Seal, and MonoShield composite sub-slab vapor intrusion barriers for new construction, Retro-Coat concrete VI coating for existing buildings (retro-fit), and TerraVent, a low profile, passive, sub-slab vapor venting system. The Installation can be performed by any one of many certified installers throughout the country.

To find a certified applicator in your area, contact your regional Land Science representative or visit our website at landsciencetech.com/applicators

Certified Inspector Network

Land Science trains and certifies inspectors for the TerraShield, Nitra-Seal, and MonoShield composite sub-slab vapor barriers, the Retro-Coat Vapor Intrusion Coating System, as well as the TerraVent sub-slab vapor venting system. The inspection of can be performed by any one of many certified inspectors throughout the country.

To find a certified inspector in your area, contact your regional Land Science representative or visit our website at landsciencetech.com/inspectors

“Land Science is an excellent company that cares about our issues and projects. It is comforting to know that the people at Land Science are always available with the support and guidance we need!”

*– Justin Allen, Staff Environmental Scientist,
Carlin Environmental Consulting, Inc.*



The World's Leading Vapor Barrier System Warranty

Building owner and project teams can rest assured when choosing Land Science for contaminant vapor barrier and water proofing systems, as we only offer no-nonsense, transparent, best-of-class warranties. Because our products are installed by our expert Land Science Certified Applicator network, we can warranty not only the materials (Material Warranty) but also the installed system performance (Material & Labor Warranty). For specifics of available warranty programs contact your Land Science representative.

Material Warranty

Warrants the integrity of the material (*TerraShield, Nitra-Seal, MonoShield, and Retro-Coat*)

OR

System Warranty*

Warrants the integrity of the material and the workmanship of the certified installer.

*Provided on a site-specific basis and requested prior to installation.



Industrial, Commercial and Residential Solutions

Effectively Mitigating Vapor Intrusion
Across a Variety of Site Types



Chlorinated Solvent Risk Abated Making Way for Future Storage Facility

A Full-Service Moving, Packing and Storage Facility is Constructed with the Highest Level of Vapor Intrusion Protection Available

Site Details

Site Type

Commercial Storage

Contaminants of Concern

Chlorinated Solvents

Mitigation Approach

TerraShield®

Highlights



Future Tenants Protected From Chlorinated Solvents



Land Science Offers Site-Specific Design Support

38,000
Square Feet

38,000 Square Feet Installed

Project Summary

The project site is a modern, climate-controlled self-storage facility that includes all-in-one moving, packing, and storage services for its customers. The building was developed on a former industrial brownfield at the site of a former factory. As part of Maryland's Voluntary Cleanup Program, the environmental consultant completed a Phase II investigation, finding elevated chlorinated solvent contaminants in the soil gas. The Maryland Department of Environment required the installation of a vapor mitigation system over a portion of the building. However, in working with the consultant, it was ultimately determined that a vapor barrier spanning the entire building footprint would be necessary to protect the future building tenants fully. Based on chlorinated solvent concentrations, TerraShield® was specified to provide the highest level of chemical resistance and long-term barrier performance available on the market. The project required active venting and a site-specific design, leveraging Land Science's vapor barrier design expertise. Additionally, the TerraShield vapor mitigation system included an extended material warranty to provide the project stakeholders added assurance that building occupants would be protected long into the future.

Results

The use of TerraShield ensures that chlorinated solvent vapors will be safely mitigated. Following the installation of the TerraShield vapor barrier system, the new modern storage and moving services facility meets safety and environmental regulatory requirements ensuring a safe environment for future building occupants.



New Jersey Warehouse Protected from Former Industrial Contaminants

Site-Specific Vapor Mitigation System Leads to Substantial Cost and Time Savings

Site Details

Site Type

Industrial

Contaminants of Concern

Petroleum Hydrocarbons
Chlorinated Solvents
Methane

Mitigation Approach

MonoShield®

Highlights



Former Industrial Property Redeveloped in New Jersey



Substantial Cost and Time Savings Realized

150,000
Square Feet

150,000 Square Feet Installed

Project Summary

The building occupies a former industrial property in northern New Jersey, which has been developed into a large, nearly four-acre warehouse. Various contaminants, including chlorinated solvents and petroleum hydrocarbons, were historically used on-site, resulting in the presence of soil gas vapors and the potential for vapor intrusion. To mitigate this risk, the MonoShield® vapor barrier and a passive venting system were installed.

The original vapor mitigation design called for a traditional HDPE liner with a geotextile fabric to be installed below the liner. Land Science was able to save significant time and money by suggesting the use of the MonoShield vapor barrier. The MonoShield system uses a spray-applied nitrile-advanced asphalt latex to seal the vapor barrier seams and penetrations, thus saving substantial time over traditional welding of HDPE liners. In addition, the MonoShield vapor barrier includes a geotextile fabric thermally bonded to the underside of the barrier, eliminating the need for the additional geotextile layer.

This site-specific design not only saved on the overall system cost, but it also sped up of the vapor barrier installation time which ensured the project was completed on time, meeting the growing demand for warehouse space in northern New Jersey.

Results

Land Science and a Land Science certified applicator developed a site-specific vapor mitigation system design that saved time and money while ensuring the solution was protective of future building occupants. The installation of the MonoShield vapor barrier system allows a safe environment for workers.

Nitra-Seal Applied at Major Office Complex in Midtown Atlanta

Future Office Workers of a Global Transportation Company will be Protected from Vapor Intrusion

Site Details

Site Type

Commercial Office Campus

Contaminants of Concern

Chlorinated Solvents
Petroleum Hydrocarbons

Mitigation Approach

Nitra-Seal[®]

Highlights



Land Science Provided Project Oversight to Ensure All Specifications Were Met

2,000,000
Square Foot Campus

2,000,000 Square Foot Campus

Project Summary

The site is earmarked for approximately two million square feet of office space in Midtown Atlanta and consists of two office towers, twelve covered parking levels, and more than 250,000 square feet of multi-use space. The office campus is the future home of a global transportation company who chose this site for its prime location in an up-and-coming area of Atlanta. In considering long-term liability, the forward-thinking property developer and environmental consultant opted for the Nitra-Seal[®] vapor barrier system to provide reliable, lasting protection against the intrusion of soil gas vapors containing chlorinated solvent and petroleum hydrocarbons. Given the project's scope, the team requested Land Science's oversight to report to the general contractor and property owner on the vapor mitigation system's installation status while ensuring compliance with Land Science specifications. The installation was successful, meeting manufacturer specifications and on-time completion.

Results

Following the installation of the Nitra-Seal vapor barrier system, the new office campus satisfies the goal of providing lasting protection against vapor intrusion, and ensures a safe working environment for future office workers. The installation met the Land Science specifications and was completed on time, allowing the development to move forward.

Pre-emptive Vapor Mitigation Protects Students from Potential Exposure

Retro-Coat Vapor Barrier System Installed in a Southern California Public High School

Site Details

Site Type

Institutional

Contaminants of Concern

Pesticides

Mitigation Approach

Retro-Coat[®]

Highlights



Due to onsite pesticide use, a vapor intrusion mitigation system was necessary to protect students and staff

14,000
Square Feet Installed

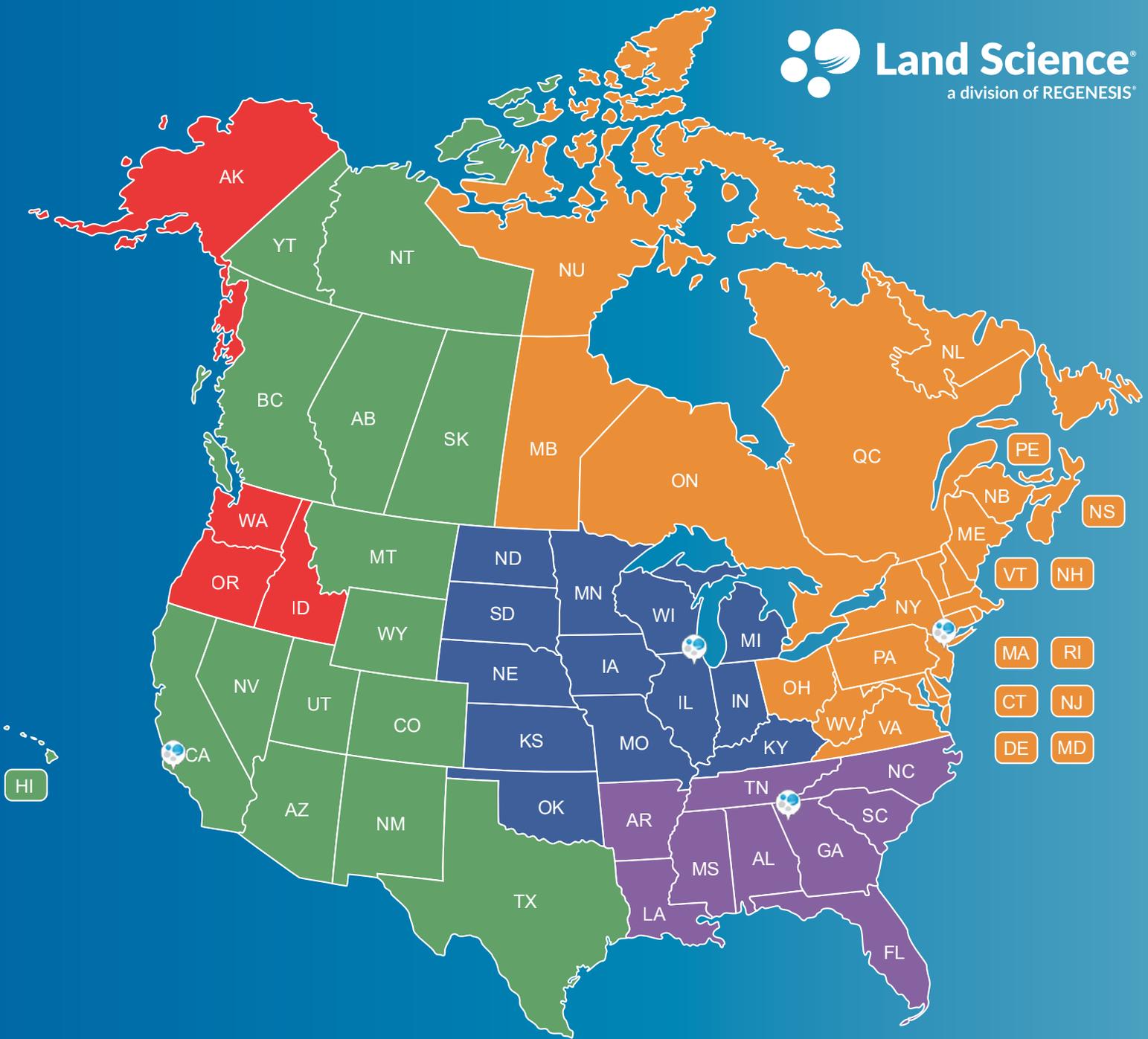
Retro-Coat was applied throughout the library building on campus

Project Summary

Former operations at a public high school in Southern California noted the previous use of pesticides at the site. Due to prior pesticide use, contamination was monitored. In efforts to protect students and staff against potentially harmful vapor intrusion as a result of historic releases, a vapor intrusion barrier system was proposed as the most appropriate remedial approach. Retro-Coat[®], a vapor intrusion coating system offered by Land Science, was installed in the 14,000 square foot library located on the school campus.

Results

The Retro-Coat installation was successfully applied to mitigate any potential vapor intrusion. There are several buildings in the complex, this particular application happened in the library building. With the success of the application, the school district is now considering applying Retro-Coat at other properties in the district to mitigate any potential vapor intrusion caused by historic releases.



We're Ready to Help You Find the Right Solution for Your Site

Global Headquarters

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Get Started Today

To receive a custom vapor intrusion solution, please call 949.481.8118 or e-mail info@landsciencetech.com. One of our Technical Solutions Managers will review your project details and provide you with a customized vapor intrusion solution designed to achieve your goals.



Are You Planning a Vapor Intrusion Mitigation Project? Contact us today for a free estimate.

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