

State-of-the-Industry Report: Environmental Trends, Issues, Challenges and Opportunities

BY MARTIN C. DAKS AND
SAMANTHA J. HENRY
CONTRIBUTING EDITORS

FROM LICENSED SITE REMEDIATION Professionals (LSRPs) to brownfield redevelopment to environmental lab testing to sonic drilling to recycling to hazardous materials disposal to site remediation to solar energy, there is no shortage of topics that impact New Jersey's business community. In the following report, *COMMERCE* covers these and more, and presents a look at the trends, challenges and opportunities currently being presented by the environmental business industry.



Alpha Analytical
By Ralph Kocsis, Vice
President, Sales, Mid-
Atlantic Region

The LSRP program and its technical guidance have provided the framework to more fully investigate sites for both soil and ground water concerns, as well as the more challenging assessment of ecological resources, such as streams, ponds, rivers, vegetation and wildlife. Analyzing and reporting data for samples from these more complex matrices requires specialized handling and processing to generate quality data that the LSRP can rely on to appropriately determine the course of action to protect and preserve our natural resources. The Alpha Mansfield Laboratory has more than 30 years of experience providing analytical support for ecological evaluation programs rang-

New Jersey experts discuss the Garden State's growing environmental "watch" list.

ing from basic stream surveys to complex NPL sites with multiple responsible parties. Most recently, Alpha has expanded its online data tools to include NJDEP ecological screening criteria for soil, sediment and surface water. This Web-based tool was designed to support the environmental consultants in their implementation of these investigations.



**Bayshore Family
of Companies**
By Valerie Montecalvo,
President and CEO

Bayshore Single Stream Solutions (BS3) is the newest addition to the Bayshore Family of Companies and began operations in June of 2015. BS3 operates a 1,000 TPD Class A recycling facility for the acceptance and processing of curbside commodities. The facility is approved to accept aluminum cans; glass bottles and jars; steel and tin cans, plastic, milk, water, soda and laundry bottles; newspaper; corrugated cardboard; textiles and mixed paper (magazines, office paper, junk mail), as well as #3 to #7 plastics. BS3 is also explicitly approved to accept co-mingled, single-stream curbside material. New Jersey has had mandatory recycling in place since 1987, and state-of-the-art processing facilities are critical to prepare curbside material for marketing and remanufacturing of materials into new products. With our new facility we feel we are

significantly advancing New Jersey's aggressive recycling goals and promoting sustainable materials management.

While New Jersey continues to be a national leader in recycling, the next frontier is clearly food waste recycling. Today, about 25 percent of what remains as "waste" in the household garbage is food. Legislation that imposes limited bans on food waste disposal has been passed recently in the nearby states of Connecticut, Vermont, Massachusetts and Rhode Island. New York City also has ban legislation in place.

In New Jersey, proposed legislation was recently introduced by Senator Bob Smith as S-771 and by Assemblyman Tim Eustace as A-2417. An exciting legislative debate is anticipated later this year. Bayshore is included in the Middlesex County Solid Waste Plan to develop a 500-ton per day food waste recycling facility. The adoption of limited ban legislation would greatly increase the feasibility of such a project and lead New Jersey toward achievement of its longstanding recycling goals.



BRS, Inc.
By Leah Yasenchak, Ph.D.,
AICPIPP, CEC/DIEDP, Co-
Owner

Climate change is real and has serious ramifications. Over the last several decades, there has been a 70 percent increase in the frequency

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and intensity of storm events in the northeast, more so than anywhere else in the country. Given the dual coastline makeup of our state, there is a need for local governments to advance green infrastructure and other flood resiliency projects. BRS has been able to help many communities find additional funding and advance projects that are protective of life and property. With the economic upturn in New Jersey, there is more funding available for local governments to consider how land use patterns impact our ability to weather the storm. It's an exciting time for BRS to proactively assist municipal and county level governments in planning for and implementing green infrastructure and flood resiliency projects. Not only are such projects good for the environment, but they will also safeguard people and property when the next storm comes.



Borbas Surveying and Mapping, LLC

By J. Peter Borbas, PLS, PP, Owner and President

We see more data being shared and delivered in digital formats that are compatible with consultant and government systems for reviewing and managing data. An example of this is the new electronic wetland application submission provision at the NJDEP. Surveyors historically submitted paper maps by mail, but we are now submitting digital computer mapping. This kind of mapping proves spatially accurate for our clients' CAD projects, as well as when it's put into the NJDEP's geographic information system.

At Borbas, we continue to add new technology to our tool box. Static and mobile laser scanners, as well as digital remote sensors from underwater, at the ground surface and from the air are all connected to GPS. We have invested in "supercomputers" with powerful software that enables us to process large remote sensing, digital point cloud data sets. These tools allow us to remove personnel from dangerous situations.

For example, we can use a camera or other sensor on a drone or UAV, as well

as a manned plane, to capture digital data of roofs and contaminated excavations. We are capturing more data in a shorter amount of time. We have seen that the large data sets have greatly benefited our clients. They no longer have to make repeated field visits to pick up something that was forgotten or that was not in the original request. We also provide our clients with sensors that allow them to upload the data to our Web site for processing at our end. This enables our clients to capture important data when we are not at their site. Our new data is telling a more complete and accurate story than our old vector-lined paper maps. This new technology not only makes our clients look more attractive to their own clients, but saves them time and money.

Our clients have seen the benefits of the new technology and are having us work on more complex projects—and not just here in New Jersey, but from Boston to Los Angeles. We are sharing our GIS compatible digital data sets with our solar design and development teams. Civil, environmental, electrical, and structural engineers, as well as the sales and marketing team members, are finding more value in our data and services daily. We can travel to a site and bring back data for all of the team members. We can even capture geospatial data inside of electrical rooms.



Brilliant Environmental Services, LLC

By Philip I. Brilliant, CHMM, LSRP, Owner and Principal Environmental Scientist

On Jan. 4, 2016, the New Jersey Site Remediation Licensing Board Rules went final, so now every LSRP has a clear direction of the "do's and don'ts" of the program, a roadmap that we did not have before. I would not expect many changes to the way we do business, however it should provide more structure and guidance to the program. I think we are going to see two continued environmental hot topics, which have been discussed before. We should see the issuance of draft rules on the Unregulated Heating Oil Tanks that are specific to homeowner tanks and remediation on these properties. These rules may provide more guidance to contractors, more confusion to homeowners, but hopefully relief and a streamlined process.

Second, the NJDEP should propose or at least open discussion on remediation standards for ground water quality standards. This will be a very hot topic, with industry, environmental organizations and LSRPs going head to head. Brilliant Environmental Services offers Multi-Phase Recovery services, also known as Enhanced Fluid Recovery, which



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allows for mobile remediation of free and dissolved product—petroleum floating on the ground water or high concentrations of petroleum in the ground water—without the capital cost of a treatment system or on-site construction.



Many historic sites that required remedial investigations to be completed by May 7, 2014, now have a deadline of May 7, 2019, to be completed with remedial action. To reach this goal, some enhanced remediation is required and Brilliant has the equipment and personnel to assist.



Clean Earth
By Chris Dods,
President and CEO

Sustainable solutions for wastes are not only top-of-mind among our customers, but at most times, a requirement. This goal of sustainability is trending across all markets, including energy, industrial, commercial and consumer commodities. Now more than ever, waste generators are seeking true, sustainable solutions that not only address an environmental issue, but also provide a sound, cost-effective solution that preserves our environment.

For 25 years, our mission at Clean Earth has been to provide these sustainable solutions that our customers seek. Our long-standing history of recycling non-renewable resources and some hazardous and non-hazardous wastes right here in New Jersey, has allowed our company to grow and provide cutting-edge technologies that are expanding into several markets and different industries.

Clean Earth has expanded our RCRA Part B Hazardous Waste Facilities for nationwide hazardous and non-hazardous waste disposal and recycling services with cutting-edge technology customized for our customers. Our hazardous waste facilities provide full-service disposal, recycling and environmental services to the commercial, industrial and government markets, managing hazardous and non-hazardous waste from off-site generators. In addition to the typical hazardous waste, Clean Earth now provides a custom engineered, state-of-the-art recycling option for

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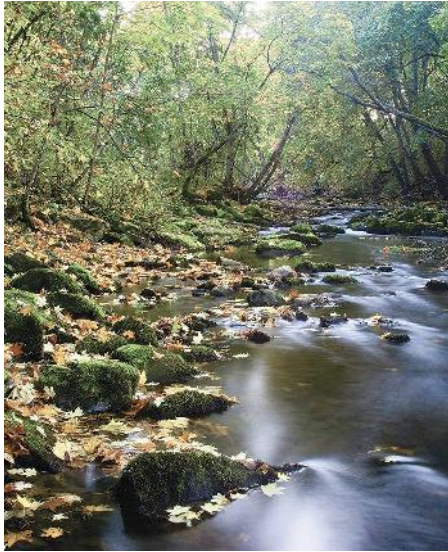
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aerosol cans with the ability to process and recycle 2,000 aerosol cans per hour. In 2015, Clean Earth recycled nearly 5 million pounds of aerosol can waste.

Our innovative recycling methods are stepping up to the environmental challenges of disposing of consumer commodities. By thinking of these waste



streams not only as an environmental responsibility, but also as a potential resource, we are able to achieve our environmental sustainability goals while offsetting the cost of processing the material.

We are happy to announce that Clean Earth of North Jersey has received the approval from the NJDEP to construct a new tank farm that will provide 15,000-gallon capacity of hazardous waste liquid. The new tanks will be used for fuel blending. The materials will be shipped to cement kiln plants for use as supplemental fuel in the production of cement.



Connell Foley LLP

*By Agnes Antonian, Esq.,
Chair, Environmental Law
Group*

With the current New Jersey legislative session underway for just a handful of weeks, there have already been 30 energy and environ-

mental bills released from committee. From coastal development to clean energy, New Jersey businesses will need to keep an eye towards new regulations that will impact their operations. One such regulatory trend already posing a significant challenge is a growing focus by the USEPA on the cleanup of large CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act of 1980, or Superfund] mega-sites. This involves NJDEP oversight and interplay as it relates to onsite cleanups, and the delineation of such cleanups into federally regulated sites, including water bodies where sediment cleanup is necessitated. For states such as New Jersey, which has a long history of industry and commerce, this trend will be a critical issue for businesses, which are being forced to fund the costly investigation and remediation of contamination discharged over the course of a century or more, and that cannot be accurately traced to its sources.

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Dewberry

By Ileana S. Ivanciu, Ph.D., P.G., VP, National Environmental Services Leader

We are focusing on advancing two strategies from other parts of the country here in New Jersey. The first strategy is using nature-based solutions to address storm water issues in our cities. In July 2015, the NJDEP issued permits to combined sewer operators requiring them to develop and implement plans to control sewer overflows into our waterways. We are working with New York City and Philadelphia to implement common sense, green storm water infrastructure that captures rainwater where it falls. We are eager to bring our insights to New Jersey's cityscapes from the bold programs underway in these neighboring cities.

The second national strategy that we are talking about every day in Dewberry's New Jersey offices is stream-

lining the environmental review process for transportation projects. Good transportation systems fuel strong economies. Our responsibility as consultants is to get people on to new and improved roads and rails more quickly. In December 2015, the federal government enacted the Fixing America's Surface Transportation (FAST) Act, providing



long-term funding certainty for transportation. Among the FAST Act's key elements are tools to speed the permitting process while still protecting environmental and historic resources. When New Jersey is ready to invest in surface transportation, we will be ready to leverage the power of these new tools to get projects built and in use more quickly.



Environmental Remediation and Financial Services LLC

By Mark G. Vigneri, President and CEO

Clients are increasingly more sophisticated in their knowledge of environmental remediation options, and their approach has evolved to include more specialized contract terms.

Over the past several years, ERFS, outside of developing in-situ or subsurface technologies, has added new treatment technologies for metals and PCBs [Polychlorinated biphenyls, contami-

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nants that were used in electrical, heat transfer and other commercial applications]; excavation and demolition services; and expert services for RCRA case support [Resource Conservation and Recovery Act, the public law that creates the framework for the proper management of hazardous and non-hazardous solid waste]. As a remediation company, ERF provides the most direct and least costly path to closure.



EWMA

*By Don Richardson, P.G.,
President*

An important deadline is looming for many businesses located on contaminated sites where the nature and extent of all contaminated media has not been fully defined, and the remedial investigation has not been completed. Assembly Bill No. 4543, which Governor Christie signed into law in 2014, granted an extension of up to two years for the completion of remedi-

al investigations, postponing the deadline to May 7, 2016.

The NJDEP has advised that Remedial Investigation Reports and all other required forms must also be completed and submitted by this deadline. Those affected by this decision should be aware that repercussions for failing to meet the deadline include substantial fines, and being subject to direct oversight by the NJDEP, which may obligate the responsible party to advance significant funds as collateral for required remediation work. Also, businesses that are pulled into NJDEP direct oversight will not be able to utilize the more favorable LSRP program.

The biggest trend I see facing our developer clients is finding and securing properties for redevelopment. The real estate market in New Jersey often struggles to support the incremental costs necessary to perform site cleanups, especially since the sites possessing the highest intrinsic real estate value have either already been redeveloped or cleanup

costs far exceed the tolerable level to return a reasonable profit after development. In addition, too much of the site inventory is in the possession of local governments that don't have the resources to investigate the environmental issues and attract market investment.



Greenbaum, Rowe, Smith & Davis LLP

*By Daniel Flynn, Esq.,
Counsel, Environmental
Department*

There are two new developments of note dealing with the management of hazardous waste in New Jersey. The first impacts the high-profile pharmaceutical sector. The USEPA has proposed an amendment to its hazardous waste regulations that would change the way that waste pharmaceuticals are managed. It would ease the regulatory burden for retail pharmacies, hospitals and medical offices when they have to dispose of expired, damaged or recalled

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pharmaceuticals. Rather than imposing the same rules that apply to industrial manufacturers, the new regulations, if adopted, would allow such waste pharmaceuticals to be returned to the manufacturer or other centralized locations for the proper processing and disposition of the wastes. The proposed regulation would also protect New Jersey's waterways by prohibiting the disposal of waste pharmaceuticals down the drain.

Another proposed amendment to the hazardous waste regulations attempts to ease some of the difficulties experienced by "big box" retail chains in complying with regulations designed for industrial manufacturing situations. For example, materials such as fertilizers or pesticides are products when on the shelf, but become hazardous waste instantly the moment they are damaged in the store, or are returned by the customer and a decision is made to dispose of them rather than put them back up for sale. The penalties received by some retail chains nationwide have ranged in

the tens of millions of dollars. The proposed amendments do not go as far as requested by retailers in recent years, but should provide some relief if finalized, and in any case will implement changes that the regulated community, including the retail sector, will have to evaluate and to which it will have to adjust. Once the amendment becomes final, the USEPA is also expected to issue a formal guidance document that will provide some additional relief.



JM Sorge, Inc.

*By Peter Sorge, LSRP,
Senior Manager and Vice
President*

The Millennial generation and empty nesters are moving back to New Jersey cities, spurring brownfield redevelopment in urban areas. An example is the Town of Harrison's South Waterfront, which at one time was referred to as the "beehive" of industry and is now being redeveloped with

mixed uses, including residential and retail space. But as a result of historic fill and historic industrial activities, low-level contamination is present throughout large areas of the urban core of New Jersey. Currently each site where this type of contamination is identified is required to conduct a soil and ground water investigation. An emerging topic of discussion is how to streamline the approach to addressing this ubiquitous low-level contamination; possibly on a multi-site or regional basis. All environmental problems are unique when you consider the technical, business and regulatory aspects. JMS provides value by developing strategic, cost-effective solutions tailored to address each of these facets within every project we engage in.

One new tool that the NJDEP is using for enforcement (of the Site Remediation Reform Act), in cases that have consistently remained out of compliance, is issuing "tickets," similar to traffic tickets. As of the end of 2015, 31 tickets were issued at 24 sites.

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McCarter & English, LLP
By Lanny Kurzweil, Esq.,
Partner, Environment &
Energy Practice

When it comes to brown-field redevelopment, New Jersey has a redevelopment grant program that is not well-funded. New York State recently amended its program, and it has been very vibrant and successful. I think business here in New Jersey would welcome a more vibrant redevelopment program that uses enhanced tax credits, historic preservation credits, and the like, to incentivize the developer to come in and jump-start the redevelopment and repurposing of these fallow environmentally impacted sites. Many of them are in urban areas, whether it's Newark, Jersey City, Paterson or Camden. This redevelopment would benefit the local community, as well as create jobs. We also have a good group of LSRPs in New Jersey who understand ethical obligations as they move sites to closure. We

would like to see that be continued. The NJDEP has been cooperative in this regard, as well.



New Jersey Innovation Institute (NJII)
By Colette Santasieri, Ph.D.,
Director, Policy and
Planning Innovation
for Civil Infrastructure
and Environment

A major environmental focus in New Jersey today revolves around making our communities more resilient to the negative effects of climate change and storms. One opportunity for meeting that challenge is to plan and build with our natural environment through the use of green infrastructure in order to protect against flooding, reduce heat island effects, manage storm water, improve water quality and much more. Many communities around the world and in New Jersey are learning that by working with, rather than against

nature, not only can things like storm water be managed effectively, but the costs of doing so may be lower than more traditional hard engineering solutions. What is particularly exciting is the prospect of converting brownfield sites with green infrastructure techniques to not only make the community more resilient, but also transform a potentially contaminated and underutilized property into a community asset.



Norris McLaughlin & Marcus, P.A.
By Edd Hogan, Esq.,
Co-Chair, Environmental
Law Group

I think the big developments in the next few years will be from the private sector, as peer review of LSRP activity becomes more important in litigation concerning contaminated property, especially in New Jersey. This will be driven largely by the increased focus on redeveloping urban areas as Millennials

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move back into cities. Because of the land shortage in urban areas, we'll probably see an increase in remediation of contaminated sites that were previously passed over. But this is also likely to lead to a rise in litigation as parties who buy property based on an LSRP's response action outcome (RAO), or assessment, will later ask if the environmental sampling and judgments were done in a proper manner. As sites get flipped, re-conveyed, and redeveloped, questions



may get raised, and the RAO may be subject to lawsuits. There will be a role for peer review, and a marketplace in expert review will arise serving people pursuing and defending claims. The LSRP initiative was fully implemented in 2012, so it's still too soon to see a surge in this kind of litigation and demand for peer review. But it is starting, and we're likely to see it surge down the road.



Pfister Energy
By Wayne Pfisterer,
President

As we continue to build more renewable energy capacity today, we are effectively decreasing any need for new coal fire power plants, which contribute to pollution and greenhouse gas emissions in our state and our country. At Pfister, we've recently entered into a partnership with Charge Point to install and maintain electric vehicle charging stations. We see this as being more and

more prevalent for employers and retail shops in 2016. Battery backup systems are becoming more efficient and cost-effective. We see strong opportunities to add battery solutions to existing solar projects. For anyone seeking some energy independence, battery solutions are a solid method for power backup. There continue to be strong incentives both on the state and federal levels that allow renewables and energy efficiency measures to be extremely cost-effective for clients, more so now than ever before. This is great for businesses like ours, which need these programs in order to grow and thrive.



Renova Environmental Services
By Paulo Heyman,
President and Founder

New Jersey continues to be a leader in environmental regulations that are protective of human health and the environment, and also has among

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the highest number of contaminated sites in the country. Over the next few years, the contaminated sediments market will be at the forefront, since effective and safe remediation of sites in New Jersey watersheds is now possible due to advancements in remediation technology. Renova continues to adapt to the changing marketplace and environment. Resiliency, green infrastructure and sustainability are especially pertinent in the post-Sandy era.



Sadat Associates, Inc.
By Marwan M. Sadat,
Ph.D., P.E., CEO

The NJDEP is encouraging solar companies to target landfills for their solar arrays, and Sadat Associates Inc. (SAI) is seeing the benefit of this trend. We have one active project now to redevelop a landfill/brownfield site in Pennsauken into a solar facility, and are working with several other solar developers, some

from out of state, who are interested in tapping into New Jersey's solar market. SAI was the first consulting firm in the state to design closure and to redevelop a former Elizabeth landfill into a thriving commercial center: The Outlets at Jersey Gardens. We have also successfully assisted two of our long-term landfill clients in designing and installing solar collection facilities on their sites. SAI can provide all of the required geotechnical, environmental and civil engineering services required for projects like these, as well as the environmental science efforts needed for local, state and, when necessary, federal approvals.



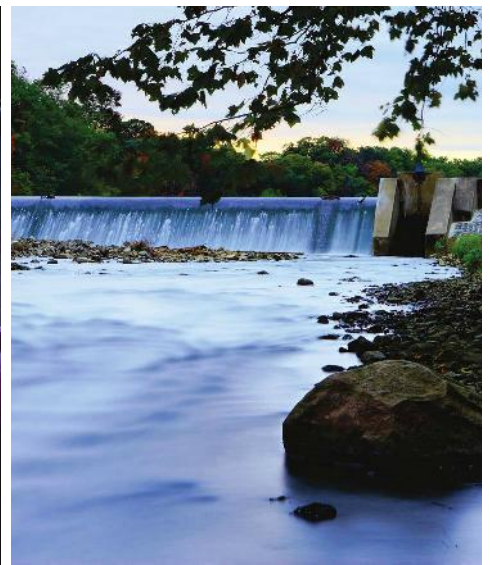
Summit Drilling Co., Inc.
By Tory Donnelly,
President and COO

Sonic drilling is outstanding in its ability to provide continuous, undisturbed core samples through any geological formation—even the most-difficult-to-drill terrain with

boulders for environmental soil sampling or monitoring well installation. This highly efficient environmental drilling method results in overall project cost savings for Summit Drilling customers due to a reduction in time personnel are required to be in the field. In addition, sonic drilling generates considerably less drill spoils than auger, mud or air rotary methods, saving additional project resources. Sonic has become the preferred technology for most of our clients.

In regards to injection, there has definitely been an uptick. The sites in New Jersey are mainly in a remedial phase, so injection is another cost-effective way to treat impacted soils in ground water. It's also approved by the NJDEP, so we use our direct push technology to inject all different products into the soil and ground. We've also been doing thermal point installation, a new remedial approach that the NJDEP has been approving more and more. Regarding future trends, particularly for sonic,

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I believe companies will invest in buying larger equipment to go to any depths needed.



TTI Environmental, Inc.

By William P. Dolan, Esq., CEO, Principal

TTI is witnessing an increase with building pre-demolition service requests throughout the state. Through New Jersey's Blue Acres Demolition Program, private industry is improving assets and building infrastructure, and redevelopment agencies are refurbishing their inventory. Hazardous materials inspections are required to identify, quantify and budget for hazardous material abatement/management. Asbestos, lead-based paint, mold and PCBs are identified for the purposes of waste stream classification and worker safety. TTI provides certified personnel to conduct these comprehensive inspections.

TTI has also seen an increase in requests for new equipment fabrication or vendor surveillance inspections over the past few years. Our Inspections Division is contracted by various large industrial, petrochemical and pharmaceutical corporations to assign one of our inspectors to represent them as a third-party inspector, overseeing the fabrication of various equipment on order (storage tanks, pressure vessels, heat exchangers, reactors, etc.) and being built at the vendor facilities worldwide.

Our inspector will review equipment specifications, perform dimensional checks, verify that the specified materials are being used, as well as oversee that all appropriate testing and inspections are being performed and following accepted procedures. These new equipment fabrication inspections ensure that our clients receive a properly constructed piece of equipment built to their specifications, guaranteeing service longevity, worker safety and, in many cases, protecting the environment.



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Turn-Key Environmental Services, Inc.

By Bob Greco, CEO

Turn-Key focuses on lab packs—managing containerized hazardous and non-hazardous materials—bulk drum waste management and transportation of all packaged waste. We are A-901 licensed by the State of New Jersey, which is a requirement by the NJDEP. Our customer base consists of all levels of educational institutions: colleges, universities, high schools—along with manufacturers, consultants, and research and development facilities. Essentially, anyone who has chemical waste that requires proper management and disposal can be a Turn-Key customer. Regarding trends, it is everyone's desire to utilize the best available technology when it comes to waste management. Recycling, beneficial reuse and waste-to-energy are always the primary options considered when approaching our cus-

tomers. Reducing our customers' liability is also a key factor when discussing their waste disposal options. Our industry continues to improve in the area of chemical waste disposal.

Presented Courtesy of the LSRPA

Streamlining Remedial Action Permitting: Fostering Timely Cleanup/Redevelopment



Steven T. Senior



Jaan M. Haus



By Steven T. Senior, Esq., and Jaan M. Haus, Esq., Riker Danzig Scherer Hyland and Perretti LLP

In the nearly seven years since the adoption of the Site Remediation Reform Act (SRRA), the Licensed Site Remediation Professional (LSRP) program has garnered significant praise from regulators, the business community, developers and

municipalities for its ability to stimulate and advance the cleanup and redevelopment of contaminated brownfield sites.

LSRPs have helped to break the log-jam of sites that have been stuck in the bureaucracy of the New Jersey Department of Environmental Protection (NJDEP) for years. One aspect of the LSRP program that remains an obstacle to the timely completion of the cleanup of contaminated sites is remedial action permitting, which continues to be administered by the NJDEP.

Streamlining the development and issuance of Remedial Action Permits (RAPs) would further benefit and accelerate brownfield cleanup and redevelopment.

The SRRA and its implementing regulations require a person responsible for conducting a remediation to obtain a RAP when using engineering and/or institutional controls to remediate a brownfield site. For instance, soil contamination may be allowed to remain onsite if a physical barrier or cap (i.e., an

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Helping LSRPs help New Jersey

The Licensed Site Remediation Professionals Association is a non-profit organization supporting professionals involved in environmental remediation in New Jersey



What's New at the LSRPA?

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engineering control) is installed to protect humans and the environment and a Deed Notice is recorded to give notice of the contamination beneath. Likewise, if groundwater contamination remains, an institutional control in the form of a Classification Exception Area (CEA) is established and the contamination may be remediated over a period of years. These controls are typical at brownfield sites, protective of public health and the environment and often reduce the cost and time to complete remediation. Notably, before the remediation is complete and a Response Action Outcome (RAO) can be issued by an LSRP, a RAP must be obtained from the NJDEP.

Unlike nearly all other aspects of the LSRP program in which an LSRP oversees and approves the cleanup and the NJDEP inspects and audits the work, in the current RAP program the NJDEP issues the permit and directly reviews and approves the remediation work. This agency review comes at the very end of the remedial process and has the potential to require backtracking in the remediation, delays to the completion of the cleanup and redevelopment, as well as added cost. According to the NJDEP's latest metrics report, the current turnaround time for the NJDEP to review and issue a RAP is 193 days.

These delays can be attributed to a number of factors. Lack of agency resources for permit review is an issue,

but a more concerning reason is that the NJDEP has used the permitting process as an opportunity to review and evaluate the efficacy of the underlying remediation. The NJDEP's review of RAPs has included everything from addressing minor administrative matters to close technical review and critique of ground water monitoring plans.

As a result of this review, the RAP process has the effect of delaying the remediation and redevelopment of sites and infringing on LSRPs' use of professional judgment to determine what investigation and remedial actions are necessary. Significantly, the NJDEP's scrutiny after the remediation plan has been implemented leads to a delay in the closure of cases, affecting property sales, redevelopment, leasing and other business transactions.

To address this program concern and bottleneck, the NJDEP should change the way in which it administers the RAP program. Although the SRRA authorizes the NJDEP to establish the manner in which RAPs should be prepared, reviewed or issued. One solution is to allow LSRPs greater flexibility to develop the substantive remedial requirements of the RAP. LSRPs are charged with developing the data and selecting the remediation plans; the LSRP also is well situated to prepare the details of the RAP.

The NJDEP could "inspect and review" these RAPs, but would avoid a more comprehensive review of the remediation unless the inspection suggests it is required. Administratively, the RAP could be issued by the NJDEP as a general permit or permit-by-rule with the LSRPs to provide the substantive details.

This approach would reduce the turnaround time for issuing RAPs, resulting in timelier cleanup and redevelopment. It also is more consistent with the SRRA's paradigm of LSRP oversight and use of professional judgment. This would have the added benefit of freeing up the NJDEP's scarce resources to address higher priorities in the site remediation program, such as sites where sensitive receptors are present (e.g., schools, childcare centers or residences).

Recently, in light of the delays in its issuance of RAPs, the NJDEP has recognized the need to review its RAP permitting process. A more permanent fix as outlined above is surely needed. ■

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SOLAR ENERGY



"Solar energy is a growing source of clean power and good jobs in New Jersey," says PSEG Chairman, President and CEO Ralph Izzo.

Photo by Carmen Galasso/Courtesy of PSEG

New PSE&G Landfill Solar Farm in Service

PSEG's L&D Solar Farm is interconnected to the grid and supplying solar power to PSE&G electric customers. The 12.93 megawatt-dc solar farm is PSE&G's largest to date and one of the largest landfill solar farms in the United States. It is comprised of 41,720 solar panels that cover 53 acres of landfill space spanning the towns of Eastampton, Lumberton and Mount Holly. The L&D Solar Farm will generate enough electricity to power 2,000 average-size New Jersey homes annually.

Waste Management of New Jersey, Inc. owns the L&D Landfill and PSE&G owns and operates the solar farm as part of its Solar 4 All® Program. The engineering, procurement and construction contractor for the L&D Solar Farm is juwi, one of the world's largest renewable energy companies.

The L&D Solar Farm is the 28th grid-connected centralized Solar 4 All project and the eighth built on a landfill or brownfield site. The Solar 4 All program has now utilized 170 acres of landfill and brownfield space by installing more than 150,000 solar panels, capable of generating 45 megawatt-dc of solar power, which is enough to power about 7,500 homes annually.

Since 2009, PSE&G has invested more than \$500 million on the Solar 4 All program, a 125 MW-dc community solar program that utilizes rooftops, parking lots, utility poles landfills and brownfields for large-scale, grid-connected solar projects. There are currently 114 megawatts-dc of the 125 MW-dc total in service. ■