

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 2
FORM S-3/A

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

(Exact name of registrant as specified in charter)

DELAWARE

*(State or other jurisdiction of
incorporation or organization)*

58-1954497

(I.R.S. Employer Identification No.)

**8302 Dunwoody Place, #250
Atlanta, Georgia 30350
(770) 587-9898**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive office)

**DR. LOUIS F. CENTOFANTI
Chairman of the Board
Perma-Fix Environmental Services, Inc.
8302 Dunwoody Place, #250
Atlanta, Georgia 30350
(770) 587-9898**

(Address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

**Irwin H. Steinhorn, Esquire
Conner & Winters, LLP
One Leadership Square, Suite 1700
211 North Robinson
Oklahoma City, Oklahoma 73102
(405) 272-5711**

Approximate date of commencement of proposed sale to the public: **From time to time after this Registration Statement becomes effective.**

If the only securities being registered on this form are being offered pursuant to a dividend or interest reinvestment plans, please check the following box: "

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box: **X**

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: "

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering: "

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. "

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. "

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer " Accelerated filer ☒
Non-accelerated filer " (Do not check if a smaller reporting company) Smaller reporting company "

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Number of Shares to be Registered	Proposed Maximum Offering Price Per Share ⁽¹⁾	Proposed Maximum Aggregate Offering Price ⁽²⁾	Amount of Registration Fee
Common Stock, \$0.01 par value	5,000,000	\$ 1.94	\$ 9,700,000	\$ 381.22 ⁽³⁾
Rights attached to above shares of Common Stock under Rights Agreement ⁽³⁾	5,000,000	\$ 0.00	\$ 0.00	\$ 0.00

- (1) The proposed maximum aggregate offering price, estimated solely for the purpose of calculating the registration fee, has been computed pursuant to Rule 457(c) of the Securities Act of 1933 and is based on the average of the high and low prices of Perma-Fix Environmental Services, Inc.'s common stock, \$0.001 par value, on April 1, 2009, as reported by The Nasdaq Capital Markets.
- (2) Each share of common stock has a Right attached to it pursuant to the Registrant's Rights Agreement, dated May 2, 2008 (as more fully described beginning on page 13 of the prospectus). These Rights are also being registered in this registration statement.
- (3) Previously paid

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell securities, and is not soliciting an offer to buy securities in any state where the offer or sale is not permitted.

Subject to Completion: Dated May 26, 2009



PROSPECTUS

**5,000,000 Shares
and the Rights attached to the shares**

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

Common Stock

Perma-Fix Environmental Services, Inc. may offer shares of its common stock from time to time. Each share of common stock includes an attached Right under our Rights Agreement, dated May 2, 2008. We will specify in an accompanying prospectus supplement the terms of any offering. Our common stock is traded on the NASDAQ Capital Markets under the symbol "PESI". On May 20, 2009, the closing price of our common stock as reported on the NASDAQ Capital Markets was \$2.36.

You should read this prospectus, any prospectus supplement and the documents incorporated by reference in this prospectus or any prospectus supplement carefully before you invest. **This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement.**

Investing in our common stock involves a high degree of risk. You should carefully consider the Risk Factors beginning on page 2 of this prospectus before you make an investment decision.

The common stock offered by this prospectus may be offered in amounts, at prices and at terms determined at the time of the offering and may be sold directly by us to investors, through agents designated from time to time or to or through underwriters or dealers. We will set forth the names of any underwriters or agents in the accompanying prospectus supplement. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution." The net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2009.

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Unless the context otherwise requires, references in this prospectus to “Perma-Fix,” “the company,” “we,” “our,” and “us” refer to Perma-Fix Environmental Services, Inc. and its consolidated subsidiaries.

No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this prospectus and any accompanying prospectus supplement in connection with the offering described herein and therein, and, if given or made, such information or representations must not be relied upon as having been authorized by us. Neither this prospectus nor any prospectus supplement shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. Neither the delivery of this prospectus or any prospectus supplement nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference herein or in any prospectus supplement is correct as of any date subsequent to the date hereof or of such prospectus supplement.

SUMMARY

The following summary is qualified in its entirety by the more detailed information included in this prospectus or incorporated by reference in this prospectus. You should carefully consider the information set forth in this entire prospectus, including the “Risk Factors” section, the applicable prospectus supplement for such securities and the other documents we refer to or that we incorporate by reference.

This prospectus is part of a Registration Statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a “shelf” registration process. Under this shelf registration process, we may, from time to time, sell up to an aggregate of 5,000,000 shares of our common stock in one or more offerings. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement, including the risk factors, together with additional information described below under the heading s “Where You Can Find More Information” and “Incorporation by Reference.”

Perma-Fix

Perma-Fix Environmental Services, Inc. is an environmental and technology know-how company. We are engaged through our subsidiaries, in:

Nuclear Waste Management Services (“Nuclear Segment”), which include:

- Treatment, storage, processing and disposal of mixed waste (which is waste that contains both low-level radioactive and hazardous waste) including on and off-site waste remediation and processing;
- Nuclear, low-level radioactive, and mixed waste treatment, processing and disposal; and
- Research and development of innovative ways to process low-level radioactive and mixed waste.

These services are primarily conducted through four of our subsidiaries:

- Perma-Fix Northwest Richland, Inc. located in Richland, Washington, adjacent to the U.S. Department of Energy’s Hanford, Washington, facility;
- Perma-Fix of Florida, Inc., located in Gainesville, Florida;
- Diversified Scientific Services, Inc., located in Kingston, Tennessee; and
- East Tennessee Materials and Energy Corporation, located in Oak Ridge, Tennessee.

Industrial Waste Management Services (“Industrial Segment”), which include:

- treatment storage, processing and disposal of hazardous and non-hazardous waste, and
- wastewater management services, including the collection, treatment, processing and disposal of hazardous and non-hazardous wastewater.

These services are conducted through our subsidiaries:

- Perma-Fix of Fort Lauderdale, Inc., located in Ft. Lauderdale, Florida;
- Perma-Fix of South Georgia, Inc., located in Valdosta, Georgia; and
- Perma-Fix of Orlando, Inc., located in Orlando, Florida.

Consulting Engineering Services (“Engineering Segment”), which provide solutions to industrial and government customers for broad-scope environmental issues including:

- Air, water, and hazardous waste permitting;
- air, soil, and water sampling;
- compliance reporting;
- emission reduction strategies; and
- compliance auditing.

The Engineering Segment also provides various compliance and training activities, as well as engineering and compliance support needed by our other segments. These services are primarily conducted through our subsidiary, Schreiber, Yonley & Associates, Inc., located in Ellisville, Missouri.

Our goal is to continue focus on the efficient operation of our existing facilities within our Nuclear, Industrial, and Engineering Segments, evaluate strategic acquisitions primarily within the Nuclear Segments, and to continue the research and development of innovative technologies to treat nuclear waste, mixed waste, and industrial waste. We continue to place greater attention and resources on our nuclear business.

We service research institutions, commercial companies, public utilities, and governmental agencies nationwide. The distribution channels for services are through direct sales to customers or via intermediaries.

We were incorporated in the State of Delaware in December 1990. Our executive offices are located at 8302 Dunwoody Place, #250, Atlanta, Georgia 30350, and our telephone number is (770) 587-9898. Our website is located at www.perma-fix.com. The information contained in our website is not incorporated by reference in this prospectus.

THE COMMON STOCK WE MAY OFFER

We may offer up to an aggregate of 5,000,000 shares of common stock in one or more offerings. A prospectus supplement, which we will provide to you each time we offer securities, will describe the specific amounts, prices and terms of these securities. Each share of common stock includes an attached Right, as described beginning on page 13 of this prospectus.

We may sell the common stock to or through underwriters, dealers or agents or directly to purchasers. We and our agents reserve the sole right to accept and to reject in whole or in part any proposed purchase of securities. Each prospectus supplement will set forth the names of any underwriters, dealers or agents involved in the sale of the common stock described in that prospectus supplement and any applicable fee, commission or discount arrangements with them.

Common stock holders are entitled to receive dividends declared by our board of directors out of funds legally available for the payment of dividends, subject to rights, if any, of preferred stock holders. However, we have never paid a dividend, and we do not anticipate paying a dividend in the foreseeable future. Our current secured credit facility prohibits us from paying cash dividends on our common stock. Each holder of common stock is entitled to one vote per share. The holders of common stock have no preemptive rights or cumulative voting rights. A prospectus supplement will describe the specific amounts, prices and terms of any common stock to be issued.

RISK FACTORS

An investment in our securities involves a high degree of risk. You should carefully consider the risks described below before making an investment decision, as well as the risks and other information included and incorporated by reference in the applicable prospectus supplement when determining whether or not to purchase the securities offered under this prospectus and the applicable prospectus supplement. You should also refer to the other information in this prospectus incorporated by reference into this prospectus and the additional information in the other reports we file with the Securities and Exchange Commission (“SEC”).

If any of the following risks actually occur, our business, results of operations and financial condition could suffer. In that event, the trading price of our common stock could decline, and you may lose all or part of your investment in our common stock. The risks discussed below also include forward-looking statements and our actual results may differ substantially from those discussed in these forward-looking statements.

Risks Relating to our Operations

Our insurer that provides our financial assurance that we are required have in order to operate our permitted treatment, storage and disposal facility has experienced financial difficulties.

It has been publicly reported that American International Group, Inc. ("AIG"), has experienced significant financial difficulties and is continuing to experience significant financial difficulties. A subsidiary of AIG provides our finite risk insurance policies which provide financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure. We are required to provide and to maintain financial assurance that guarantees to the state that in the event of closure of our permitted facilities will be closed in accordance with the regulations. The policies provide a maximum of \$35,000,000 of financial assurance coverage of which the coverage amount totals \$32,515,000 at December 31, 2008. In March 2009, the policies were increased to provide a maximum of \$39,000,000 of financial assurance coverage of which the coverage amounts totals \$37,936,000. This additional increase was the result of additional financial assurance coverage requirement for our DSSI subsidiary to commercially store and dispose of PCB wastes under a permit issued by the EPA on November 26, 2008. The AIG subsidiary also provides other operating insurance policies for the Company and our subsidiaries. In the event of a failure of AIG, this could materially impact our operations and our permits which we are required to have in order to operate our treatment, storage, and disposal facilities.

If we cannot maintain adequate insurance coverage, we will be unable to continue certain operations.

Our business exposes us to various risks, including claims for causing damage to property and injuries to persons that may involve allegations of negligence or professional errors or omissions in the performance of our services. Such claims could be substantial. We believe that our insurance coverage is presently adequate and similar to, or greater than, the coverage maintained by other companies in the industry of our size. If we are unable to obtain adequate or required insurance coverage in the future, or if our insurance is not available at affordable rates, we would violate our permit conditions and other requirements of the environmental laws, rules, and regulations under which we operate. Such violations would render us unable to continue certain of our operations. These events would have a material adverse effect on our financial condition.

The inability to maintain existing government contracts or win new government contracts over an extended period could have a material adverse effect on our operations and adversely affect our future revenues.

A material amount of our Nuclear Segment's revenues are generated through various U.S. government contracts or subcontracts involving the U.S. government. Our revenues from governmental contracts and subcontracts relating to governmental facilities within our Nuclear Segment were approximately \$43,464,000 and \$30,000,000, representing 57.6% and 46.5%, respectively, of our consolidated operating revenues from continuing operations for 2008 and 2007. Most of our government contracts or our subcontracts granted under government contracts are awarded through a regulated competitive bidding process. Some government contracts are awarded to multiple competitors, which increase overall competition and pricing pressure and may require us to make sustained post-award efforts to realize revenues under these government contracts. All contracts with, or subcontracts involving, the federal government are terminable, or subject to renegotiation, by the applicable governmental agency on 30 days notice, at the option of the governmental agency. If we fail to maintain or replace these relationships, or if a material contract is terminated or renegotiated in a manner that is materially adverse to us, our revenues and future operations could be materially adversely affected.

Failure of our Nuclear Segment to be profitable could have a material adverse effect.

Our Nuclear Segment has historically been profitable. With the divestitures of certain facilities within our Industrial Segment and the acquisition of our Perma-Fix Northwest Richland, Inc. (“PFNWR”) within our Nuclear Segment in June 2007, the Nuclear Segment represents the Company’s largest revenue segment. The Company’s main objectives are to increase focus on the efficient operation of our existing facilities within our Nuclear Segment and to further evaluate strategic acquisitions within the Nuclear Segment. If our Nuclear Segment fails to continue to be profitable in the future, this could have a material adverse effect on the Company’s results of operations, liquidity and our potential growth.

Our existing and future customers may reduce or halt their spending on nuclear services with outside vendors, including us.

A variety of factors may cause our existing or future customers (including the federal government) to reduce or halt their spending on nuclear services from outside vendors, including us. These factors include, but are not limited to:

- accidents, terrorism, natural disasters or other incidents occurring at nuclear facilities or involving shipments of nuclear materials;
- failure of the federal government to approve necessary budgets, or to reduce the amount of the budget necessary, to fund remediation of U.S. Department of Energy (“DOE”) and U.S. Department of Defense (“DOD”) sites;
- civic opposition to or changes in government policies regarding nuclear operations; or
- a reduction in demand for nuclear generating capacity.

These events could result in or cause the federal government to terminate or cancel its existing contracts involving us to treat, store or dispose of contaminated waste at one or more of the federal sites since all contracts with, or subcontracts involving, the federal government are terminable upon or subject to renegotiation at the option of the government on 30 days notice. These events also could adversely affect us to the extent that they result in the reduction or elimination of contractual requirements, lower demand for nuclear services, burdensome regulation, disruptions of shipments or production, increased operational costs or difficulties or increased liability for actual or threatened property damage or personal injury.

Economic downturns (i.e. the current economic recession) and/or reductions in government funding could have a material negative impact on our businesses.

Demand for our services has been, and we expect that demand will continue to be, subject to significant fluctuations due to a variety of factors beyond our control, including the current economic recession and conditions, inability of the federal government to adopt its budget or reductions in the budget for spending to remediate federal sites due to numerous reasons, including, without limitation, the substantial deficits that the federal government has and is continuing to incur. During economic downturns, such as the current economic recession, and large budget deficits that the federal government and many states are experiencing, the ability of private and government entities to spend on nuclear services may decline significantly. Although the recently adopted economic stimulus package provides for substantial funds to remediate federal nuclear sites, we cannot be certain that economic or political conditions will be generally favorable or that there will not be significant fluctuations adversely affecting our industry as a whole. In addition, our operations depend, in large part, upon governmental funding, particularly funding levels at the DOE. Significant reductions in the level of governmental funding (for example, the annual budget of the DOE) or specifically mandated levels for different programs that are important to our business could have a material adverse impact on our business, financial position, results of operations and cash flows.

The loss of one or a few customers could have an adverse effect on us.

One or a few governmental customers or governmental related customers have in the past, and may in the future, account for a significant portion of our revenue in any one year or over a period of several consecutive years. Because customers generally contract with us for specific projects, we may lose these significant customers from year to year as their projects with us are completed. Our inability to replace the business with other projects could have an adverse effect on our business and results of operations.

As a government contractor, we are subject to extensive government regulation, and our failure to comply with applicable regulations could subject us to penalties that may restrict our ability to conduct our business.

Our governmental contracts, which are primarily with the DOE or subcontracts relating to DOE sites, are a significant part of our business. Allowable costs under U.S. government contracts are subject to audit by the U.S. government. If these audits result in determinations that costs claimed as reimbursable are not allowed costs or were not allocated in accordance with applicable regulations, we could be required to reimburse the U.S. government for amounts previously received.

Governmental contracts or subcontracts involving governmental facilities are often subject to specific procurement regulations, contract provisions and a variety of other requirements relating to the formation, administration, performance and accounting of these contracts. Many of these contracts include express or implied certifications of compliance with applicable regulations and contractual provisions. If we fail to comply with any regulations, requirements or statutes, our existing governmental contracts or subcontracts involving governmental facilities could be terminated or we could be suspended from government contracting or subcontracting. If one or more of our governmental contracts or subcontracts are terminated for any reason, or if we are suspended or debarred from government work, we could suffer a significant reduction in expected revenues and profits. Furthermore, as a result of our governmental contracts or subcontracts involving governmental facilities, claims for civil or criminal fraud may be brought by the government or violations of these regulations, requirements or statutes.

Loss of certain key personnel could have a material adverse effect on us.

Our success depends on the contributions of our key management, environmental and engineering personnel, especially Dr. Louis F. Centofanti, Chairman, President, and Chief Executive Officer. The loss of Dr. Centofanti could have a material adverse effect on our operations, revenues, prospects, and our ability to raise additional funds. Our future success depends on our ability to retain and expand our staff of qualified personnel, including environmental specialists and technicians, sales personnel, and engineers. Without qualified personnel, we may incur delays in rendering our services or be unable to render certain services. We cannot be certain that we will be successful in our efforts to attract and retain qualified personnel as their availability is limited due to the demand for hazardous waste management services and the highly competitive nature of the hazardous waste management industry. We do not maintain key person insurance on any of our employees, officers, or directors.

Changes in environmental regulations and enforcement policies could subject us to additional liability and adversely affect our ability to continue certain operations.

We cannot predict the extent to which our operations may be affected by future governmental enforcement policies as applied to existing laws, by changes to current environmental laws and regulations, or by the enactment of new environmental laws and regulations. Any predictions regarding possible liability under such laws are complicated further by current environmental laws which provide that we could be liable, jointly and severally, for certain activities of third parties over whom we have limited or no control.

The refusal to accept our waste for disposal by, or a closure of, the end disposal site that our Nuclear Segment utilizes to dispose of its waste could subject us to significant risk and limit our operations.

Our Nuclear Segment has limited options available for disposal of its waste. If this disposal site ceases to accept waste or closes for any reason or refuses to accept the waste of our Nuclear Segment, for any reason, we could have nowhere to dispose of our nuclear waste or have significantly increased costs from disposal alternatives. With nowhere to dispose of our nuclear waste, we would be subject to significant risk from the implications of storing the waste on our site, and we would have to limit our operations to accept only waste that we can dispose of.

Our businesses subject us to substantial potential environmental liability.

Our business of rendering services in connection with management of waste, including certain types of hazardous waste, low-level radioactive waste, and mixed waste (waste containing both hazardous and low-level radioactive waste), subjects us to risks of liability for damages. Such liability could involve, without limitation:

- claims for clean-up costs, personal injury or damage to the environment in cases in which we are held responsible for the release of hazardous or radioactive materials; and

- claims of employees, customers, or third parties for personal injury or property damage occurring in the course of our operations; and
- claims alleging negligence or professional errors or omissions in the planning or performance of our services.

Our operations are subject to numerous environmental laws and regulations. We have in the past, and could in the future, be subject to substantial fines, penalties, and sanctions for violations of environmental laws and substantial expenditures as a responsible party for the cost of remediating any property which may be contaminated by hazardous substances generated by us and disposed at such property, or transported by us to a site selected by us, including properties we own or lease.

As our operations expand, we may be subject to increased litigation, which could have a negative impact on our future financial results.

Our operations are highly regulated and we are subject to numerous laws and regulations regarding procedures for waste treatment, storage, recycling, transportation, and disposal activities, all of which may provide the basis for litigation against us. In recent years, the waste treatment industry has experienced a significant increase in so-called “toxic-tort” litigation as those injured by contamination seek to recover for personal injuries or property damage. We believe that, as our operations and activities expand, there will be a similar increase in the potential for litigation alleging that we have violated environmental laws or regulations or are responsible for contamination or pollution caused by our normal operations, negligence or other misconduct, or for accidents, which occur in the course of our business activities. Such litigation, if significant and not adequately insured against, could adversely affect our financial condition and our ability to fund our operations. Protracted litigation would likely cause us to spend significant amounts of our time, effort, and money. This could prevent our management from focusing on our operations and expansion.

Our operations are subject to seasonal factors, which cause our revenues to fluctuate.

We have historically experienced reduced revenues and losses during the first and fourth quarters of our fiscal years due to a seasonal slowdown in operations from poor weather conditions, overall reduced activities during these periods resulting from holiday periods, and finalization of government budgets during the fourth quarter of each year. During our second and third fiscal quarters there has historically been an increase in revenues and operating profits. If we do not continue to have increased revenues and profitability during the second and third fiscal quarters, this will have a material adverse effect on our results of operations and liquidity.

If environmental regulation or enforcement is relaxed, the demand for our services will decrease.

The demand for our services is substantially dependent upon the public's concern with, and the continuation and proliferation of, the laws and regulations governing the treatment, storage, recycling, and disposal of hazardous, non-hazardous, and low-level radioactive waste. A decrease in the level of public concern, the repeal or modification of these laws, or any significant relaxation of regulations relating to the treatment, storage, recycling, and disposal of hazardous waste and low-level radioactive waste would significantly reduce the demand for our services and could have a material adverse effect on our operations and financial condition. We are not aware of any current federal or state government or agency efforts in which a moratorium or limitation has been, or will be, placed upon the creation of new hazardous or radioactive waste regulations that would have a material adverse effect on us; however, no assurance can be made that such a moratorium or limitation will not be implemented in the future.

We and our customers operate in a politically sensitive environment, and the public perception of nuclear power and radioactive materials can affect our customers and us.

We and our customers operate in a politically sensitive environment. Opposition by third parties to particular projects can limit the handling and disposal of radioactive materials. Adverse public reaction to developments in the disposal of radioactive materials, including any high profile incident involving the discharge of radioactive materials, could directly affect our customers and indirectly affect our business. Adverse public reaction also could lead to increased regulation or outright prohibition, limitations on the activities of our customers, more onerous operating requirements or other conditions that could have a material adverse impact on our customers’ and our business.

We may not be successful in winning new business mandates from our government and commercial customers.

We must be successful in winning mandates from our government and commercial customers to replace revenues from projects that are nearing completion and to increase our revenues. Our business and operating results can be adversely affected by the size and timing of a single material contract.

The elimination or any modification of the Price-Anderson Acts indemnification authority could have adverse consequences for our business.

The Atomic Energy Act of 1954, as amended, or the AEA, comprehensively regulates the manufacture, use, and storage of radioactive materials. The Price-Anderson Act supports the nuclear services industry by offering broad indemnification to DOE contractors for liabilities arising out of nuclear incidents at DOE nuclear facilities. That indemnification protects DOE prime contractor, but also similar companies that work under contract or subcontract for a DOE prime contract or transporting radioactive material to or from a site. The indemnification authority of the DOE under the Price-Anderson Act was extended through 2025 by the Energy Policy Act of 2005.

The Price-Anderson Act's indemnification provisions generally do not apply to our processing of radioactive waste at governmental facilities, and do not apply to liabilities that we might incur while performing services as a contractor for the DOE and the nuclear energy industry. If an incident or evacuation is not covered under Price-Anderson Act indemnification, we could be held liable for damages, regardless of fault, which could have an adverse effect on our results of operations and financial condition. If such indemnification authority is not applicable in the future, our business could be adversely affected if the owners and operators of new facilities fail to retain our services in the absence of commercial adequate insurance and indemnification.

We are engaged in highly competitive businesses and typically must bid against other competitors to obtain major contracts.

We are engaged in highly competitive business in which most of our government contracts and some of our commercial contracts are awarded through competitive bidding processes. We compete with national and regional firms with nuclear services practices, as well as small or local contractors. Some of our competitors have greater financial and other resources than we do, which can give them a competitive advantage. In addition, even if we are qualified to work on a new government contract, we might not be awarded the contract because of existing government policies designed to protect certain types of businesses and underrepresented minority contractors. Competition also places downward pressure on our contract prices and profit margins. Intense competition is expected to continue for nuclear service contracts. If we are unable to meet these competitive challenges, we could lose market share and experience an overall reduction in our profits.

Our failure to maintain our safety record could have an adverse effect on our business.

Our safety record is critical to our reputation. In addition, many of our government and commercial customers require that we maintain certain specified safety record guidelines to be eligible to bid for contracts with these customers. Furthermore, contract terms may provide for automatic termination in the event that our safety record fails to adhere to agreed-upon guidelines during performance of the contract. As a result, our failure to maintain our safety record could have a material adverse effect on our business, financial condition and results of operations.

We continue to have material weaknesses in our Internal Control over Financial Reporting ("ICFR").

During our evaluation of our ICFR, we noted that the monitoring of invoicing process controls and the corresponding transportation and disposal process controls at our Industrial Segment subsidiaries were ineffective and were not being applied consistently. In addition, we noted that the monitoring of quote to invoicing control was ineffective at certain of our Nuclear Segment subsidiaries. These deficiencies resulted in material weaknesses to our ICFR, and could result in sales being priced and invoiced at amounts which were not approved by the customer, or the appropriate level of management, and recognition of revenue in incorrect financial reporting period. These deficiencies have resulted in our disclosure that our ICFR was ineffective as of the end of 2008 and 2007. Although these material weaknesses did not result in a material adjustment to our quarterly or annual financial statements, if we are unable to remediate these material weaknesses, there is a reasonable possibility that a misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

We may be unable to utilize loss carryforwards in the future.

We have approximately \$26,589,000 in net operating loss carryforwards which will expire from 2009 to 2028 if not used against future federal income tax liabilities. Our net loss carryforwards are subject to various limitations. Our ability to use the net loss carryforwards depends on whether we are able to generate sufficient income in the future years. Further, our net loss carryforwards have not been audited or approved by the Internal Revenue Service.

Risks Relating to our Intellectual Property

If we cannot maintain our governmental permits or cannot obtain required permits, we may not be able to continue or expand our operations.

We are a waste management company. Our business is subject to extensive, evolving, and increasingly stringent federal, state, and local environmental laws and regulations. Such federal, state, and local environmental laws and regulations govern our activities regarding the treatment, storage, recycling, disposal, and transportation of hazardous and non-hazardous waste and low-level radioactive waste. We must obtain and maintain permits or licenses to conduct these activities in compliance with such laws and regulations. Failure to obtain and maintain the required permits or licenses would have a material adverse effect on our operations and financial condition. If any of our facilities are unable to maintain currently held permits or licenses or obtain any additional permits or licenses which may be required to conduct its operations, we may not be able to continue those operations at these facilities, which could have a material adverse effect on us.

We believe our proprietary technology is important to us.

We believe that it is important that we maintain our proprietary technologies. There can be no assurance that the steps taken by us to protect our proprietary technologies will be adequate to prevent misappropriation of these technologies by third parties. Misappropriation of our proprietary technology could have an adverse effect on our operations and financial condition. Changes to current environmental laws and regulations also could limit the use of our proprietary technology.

Risks Relating to our Financial Position and Need for Financing

Breach of financial covenants in existing credit facility could result in a default, triggering repayment of outstanding debt under the credit facility.

Our credit facility with our bank contains financial covenants. A breach of any of these covenants could result in a default under our credit facility triggering our lender to immediately require the repayment of all outstanding debt under our credit facility and terminate all commitments to extend further credit. In the past, none of our covenants have been restrictive to our operations. If we fail to meet our loan covenants in the future and our lender does not waive the non-compliance or revise our covenant so that we are in compliance, our lender could accelerate the repayment of borrowings under our credit facility. In the event that our lender accelerates the payment of our borrowing, we may not have sufficient liquidity to repay our debt under our credit facility and other indebtedness.

Our amount of debt and floating rates of interest could adversely affect our operations.

At December 31, 2008, our aggregate consolidated debt was approximately \$16,203,000. If our floating rates of interest experienced an upward increase of 1%, our debt service would increase by approximately \$162,000 annually. Our secured revolving credit facility (the "Credit Facility") provides for an aggregate commitment of \$25,000,000, consisting of an \$18,000,000 revolving line of credit and a term loan of \$7,000,000. The maximum we can borrow under the revolving part of the Credit Facility is based on a percentage of the amount of our eligible receivables outstanding at any one time. As of December 31, 2008, we had borrowings under the revolving part of our Credit Facility of \$6,500,000 and borrowing availability of up to an additional \$5,400,000 based on our outstanding eligible receivables. A lack of operating results could have material adverse consequences on our ability to operate our business. Our ability to make principal and interest payments, or to refinance indebtedness, will depend on both our and our subsidiaries' future operating performance and cash flow. Prevailing economic conditions, interest rate levels, and financial, competitive, business, and other factors affect us. Many of these factors are beyond our control.

Risks Relating to an Investment in our Common Stock

Issuance of substantial amounts of our common stock could depress our stock price.

Any sales of substantial amounts of our Common Stock in the public market could cause an adverse effect on the market price of our Common Stock and could impair our ability to raise capital through the sale of additional equity securities. The issuance of our Common Stock will result in the dilution in the percentage membership interest of our stockholders and the dilution in ownership value. As of March 31, 2009, we had 53,985,119 shares of Common Stock outstanding.

In addition, as of March 31, 2009, we had outstanding options to purchase 3,558,347 shares of common stock at exercise prices from \$1.22 to \$2.98 per share. Further, we have adopted a preferred share rights plan, and if such is triggered, could result in the issuance of a substantial amount of our common stock. The existence of this quantity of rights to purchase our common stock could result in a significant dilution in the percentage ownership interest of our stockholders and the dilution in ownership value. Future sales of the shares issuable could also depress the market price of our common stock.

We do not intend to pay dividends on our common stock in the foreseeable future.

Since our inception, we have not paid cash dividends on our common stock, and we do not anticipate paying any cash dividends in the foreseeable future. Our Credit Facility prohibits us from paying cash dividends on our common stock.

The price of our common stock may fluctuate significantly, which may make it difficult for you to resell our common stock when you want or at prices you find attractive.

The price of our common stock on the Nasdaq Capital Markets constantly changes. We expect that the market price of our common stock will continue to fluctuate. This may make it difficult for you to resell the common stock when you want or at prices you find attractive.

Future issuance or potential issuance of our common stock could adversely affect the price of our common stock, our ability to raise funds in new stock offerings and dilute your percentage interest in our common stock.

Future sales of substantial amounts of our common stock in the public market, or the perception that such sales could occur, could adversely affect prevailing trading prices of our common stock, and impair our ability to raise capital through future offerings of equity. No prediction can be made as to the effect, if any, that future issuances or sales of shares of common stock or the availability of shares of common stock for future issuance, will have on the trading price of our common stock. Such future issuances could also significantly reduce the percentage ownership and dilute the ownership value of our existing common stockholders.

Delaware law, certain of our charter provisions, our stock option plans and outstanding warrants and our preferred stock may inhibit a change of control under circumstances that could give you an opportunity to realize a premium over prevailing market prices.

We are a Delaware corporation governed, in part, by the provisions of Section 203 of the General Corporation Law of Delaware, an anti-takeover law. In general, Section 203 prohibits a Delaware public corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. As a result of Section 203, potential acquirers may be discouraged from attempting to effect acquisition transactions with us, thereby possibly depriving our security holders of certain opportunities to sell, or otherwise dispose of, such securities at above-market prices pursuant to such transactions. Further, certain of our option plans provide for the immediate acceleration of, and removal of restrictions from, options and other awards under such plans upon a “change of control” (as defined in the respective plans). Such provisions may also have the result of discouraging acquisition of us.

We have authorized and unissued 17,456,534 (which include outstanding options to purchase 3,558,347 shares of our Common Stock) shares of Common Stock and 2,000,000 shares of Preferred Stock as of March 31, 2009 (which includes 600,000 shares of our Preferred Stock reserved for issuance under our preferred share rights plan). These unissued shares could be used by our management to make it more difficult, and thereby discourage an attempt to acquire control of us.

Our Preferred Share Rights Plan may adversely affect our stockholders.

In May 2008, we adopted a preferred share rights plan (the “Rights Plan”), designed to ensure that all of our stockholders receive fair and equal treatment in the event of a proposed takeover or abusive tender offer. However, the Rights Plan may also have the effect of deterring, delaying, or preventing a change in control that might otherwise be in the best interests of our stockholders.

In general, under the terms of the Rights Plan, subject to certain limited exceptions, if a person or group acquires 20% or more of our common stock or a tender offer or exchange offer for 20% or more of our common stock is announced or commenced, our other stockholders may receive upon exercise of the rights (the “Rights”) issued under the Rights Plan the number of shares of our common stock or of one-one hundredths of a share of our Series A Junior Participating Preferred Stock, par value \$.001 per share, having a value equal to two times the purchase price of the Right. In addition, if we are acquired in a merger or other business combination transaction in which we are not the survivor or more than 50% of our assets or earning power is sold or transferred, then each holder of a Right (other than the acquirer) will thereafter have the right to receive, upon exercise, common stock of the acquiring company having a value equal to two times the purchase price of the Right. The purchase price of each Right is \$13, subject to adjustment.

The Rights will cause substantial dilution to a person or group that attempts to acquire us on terms not approved by our board of directors. The Rights may be redeemed by us at \$0.001 per Right at any time before any person or group acquires 20% or more of our outstanding common stock. The rights should not interfere with any merger or other business combination approved by our board of directors. The Rights expire on May 2, 2018.

Resale of shares offered by this prospectus could adversely affect the market price of our common stock and our ability to raise additional equity capital.

The sale, or availability for sale, of common stock in the public market pursuant to this prospectus may adversely affect the prevailing market price of our common stock and may impair our ability to raise additional capital by selling equity or equity-related securities. This prospectus includes 5,000,000 shares that will be available for resale (assuming the issuance from time to time of all of the common stock included in this offering). The resale of a substantial number of shares of our common stock in the public market pursuant to this offering, and afterwards, could adversely affect the market price for our common stock and make it more difficult for you to sell our shares at times and prices that you feel are appropriate.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements contained within this prospectus and the documents incorporated into this prospectus by reference may be deemed “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the “Private Securities Litigation Reform Act of 1995”). All statements in this prospectus and the documents incorporated into this prospectus by reference other than a statement of historical fact are forward-looking statements that are subject to known and unknown risks, uncertainties and other factors, which could cause actual results and performance of the Company to differ materially from such statements. The words “believe,” “expect,” “anticipate,” “intend,” “will,” “may,” and similar expressions identify forward-looking statements. Forward-looking statements include, without limitation, the statements listed under “Special Note Regarding Forward-Looking Statements” in our 2008 Form 10-K, all of which are incorporated by reference herein, as well as those forward-looking statements identified in our other SEC filings incorporated by reference in this prospectus.

While we believe the expectations reflected in such forward-looking statements are reasonable, we can give no assurance such expectations will prove to be correct. There are a variety of factors which could cause future outcomes to differ materially from those described in this report, including, but not limited to:

- general economic conditions;
- material reduction in revenues;
- inability to collect in a timely manner a material amount of receivables;
- increased competitive pressures;
- the ability to maintain and obtain required permits and approvals to conduct operations;
- the ability to develop new and existing technologies in the conduct of operations;
- ability to retain or renew certain required permits;
- discovery of additional contamination or expanded contamination at any of the sites or facilities leased or owned by us or our subsidiaries which would result in a material increase in remediation expenditures;
- changes in federal, state and local laws and regulations, especially environmental laws and regulations, or in interpretation of such;
- potential increases in equipment, maintenance, operating or labor costs;
- management retention and development;
- financial valuation of intangible assets is substantially more/less than expected;
- the requirement to use internally generated funds for purposes not presently anticipated;
- the inability to maintain the listing of our Common Stock on the NASDAQ;
- terminations of contracts with federal agencies or subcontracts involving federal agencies, or reduction in amount of waste delivered to us under these contracts or subcontracts;
- disposal expense accrual could prove to be inadequate in the event the waste requires retreatment; and
- other factors described under “Risk Factors” in this prospectus and in the other documents we have filed with the SEC and that are incorporated herein by reference, including the factors described under “Business,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and elsewhere in our annual report on Form 10-K for the fiscal year ended December 31, 2008 and that may be discussed from time to time in other reports filed with the SEC subsequent to the registration statement of which this prospectus is a part.

Any forward-looking statement speaks only as to the date on which that statement is made. We undertake no obligation to update publicly any forward-looking statement, whether as a result of new information, future events or otherwise.

USE OF PROCEEDS

Unless otherwise indicated in the prospectus supplement, we intend to use the net proceeds from the sale of the securities offered by this prospectus for general corporate purposes and working capital requirements, which may include the repayment of indebtedness. Under the terms of our existing Credit Facility, we may also use a portion of the net proceeds to fund possible investments in and acquisitions of complimentary businesses, partnerships, minority investments, products or technologies with the consent of our Credit Facility lender. Currently, there are no commitments or agreements regarding such acquisitions or investments that are material. Pending their ultimate use, we intend to invest the net proceeds in money market funds, commercial paper and governmental and non-governmental debt securities with maturities of up to three years. The terms of our existing Credit Facility require us to maintain such investments with our Credit Facility lender or its affiliates, which investments serve as additional collateral under the Credit Facility.

PLAN OF DISTRIBUTION

We may sell the securities:

- through one or more underwriters or dealers,
- directly to purchasers,
- through agents, or
- through a combination of any of these methods of sale.

We may distribute the securities:

- from time to time in one or more transactions at a fixed price or prices, which may be changed from time to time,
- at market prices prevailing at the times of sale,
- at prices related to such prevailing market prices, or
- at negotiated prices.

We will describe the method of distribution of the securities in the applicable prospectus supplement.

We may determine the price or other terms of the securities offered under this prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the obligations of the underwriter, dealer or agent in the applicable prospectus supplement.

If underwriters are used in the sale, they will acquire the common stock for their own account and may resell the stock from time to time in one or more transactions at a fixed public offering price. The obligations of the underwriters to purchase the common stock will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the common stock to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Underwriters, dealers or agents may receive compensation in the form of discounts, concessions or commissions from us or our purchasers (as their agents in connection with the sale of securities). These underwriters, dealers or agents may be considered to be underwriters under the Securities Act. As a result, discounts, commissions, or profits on resale received by the underwriters, dealers or agents may be treated as underwriting discounts and commissions. Each prospectus supplement will identify any such underwriter, dealer or agent, and describe any compensation received by them from us. Any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

Underwriters, dealers and agents may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution with respect to payments made by the underwriters, dealers or agents, under agreements between us and the underwriters, dealers and agents.

We may grant underwriters who participate in the distribution of securities an option to purchase additional securities to cover over-allotments, if any, in connection with the distribution.

Underwriters or agents and their associates may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

In connection with the offering of our common stock, certain persons participating in such offering may engage in transactions that stabilize, maintain or otherwise affect the market price, including over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the common stock in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the common stock originally sold by the dealer is purchased in a covering transaction to cover short positions. Those activities may cause the price of the common stock to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

Any underwriters who are qualified market makers on the NASDAQ Capital Markets may engage in passive market making transactions in the common stock on the NASDAQ Capital Global Markets in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

To the extent required, this prospectus may be amended and supplemented from time to time to describe a specific plan of distribution.

DESCRIPTION OF COMMON STOCK

Our certificate of incorporation authorizes us to issue up to 75,000,000 shares of common stock, \$0.001 par value. As of April 3, 2009, there were 54,019,324 shares of our common stock issued and outstanding.

The holders of shares of our common stock are entitled to one vote per share on all matters to be voted on by stockholders. Common stock holders are entitled to receive dividends declared by the board of directors out of funds legally available for the payment of dividends, subject to the rights, if any, of preferred stock holders. However, we have never paid a dividend and we do not anticipate paying a dividend in the foreseeable future. Our current secured credit facility prohibits us from paying cash dividends on our common stock. Upon any liquidation, dissolution or winding up of our business, the holders of common stock are entitled to share equally in all assets available for distribution after payment of all liabilities and provision for liquidation preference of shares of preferred stock then outstanding. The holders of common stock have no preemptive rights and no rights to convert their common stock into any other securities. There are no redemption or sinking fund provisions applicable to our common stock. All outstanding shares of common stock are fully paid and nonassessable.

Each share of our common stock includes an attached Right arising under and subject to the terms described in, the Rights Agreement, dated May 2, 2008 between us and Continental Stock Transfer & Trust Company, as rights agent. The terms of such Rights are summarized in "Rights Attaching to Our Common Stock" below.

The transfer agent and registrar for the common stock is Continental Stock Transfer & Trust Company 17 Battery Place, Floor 8, New York, New York 10004-1123.

RIGHTS ATTACHING TO OUR COMMON STOCK

On May 2, 2008, our Board of Directors declared a dividend distribution of one Right for each outstanding share of our common stock to our stockholders of record on May 12, 2008 (the "Record Date"). The Rights Agreement (as defined below) also contemplates the issuance of one Right for each share of common stock which is issued by the Company between the Record Date and the Distribution Date (or earlier redemption or termination of the Rights). The Rights are subject to the terms and conditions of the Rights Agreement, a copy of which is attached as Exhibit 4.1 to the Current Report on Form 8-K filed with the SEC on May 8, 2008. A copy of the Rights Agreement is also available upon written request to us. Because the following is a summary, the description below of the Rights and the Rights Agreement necessarily omits certain terms, exceptions, or qualifications to the statements made therein. You are advised to review the entire Rights Agreement prior to making any investment decision.

Each Right entitles the registered holder to purchase from us one one-hundredth of a share of our Series A Junior Participating Preferred Stock, par value \$.001 per share (the “Preferred Shares”) at a purchase price of \$13.00 per one-one hundredth of a Preferred Share (the “Purchase Price”), subject to adjustment.

Until the earlier to occur of (a) 10 days following a public announcement that a person or group of affiliated or associated persons (an “Acquiring Person”) have acquired beneficial ownership of 20% or more of our outstanding common stock (except pursuant to a Permitted Offer, as defined below, or persons excluded from being an Acquiring Person under the Rights Agreement) or (b) 10 business days (or such later date as may be determined by action of the Board of Directors prior to such time as any person becomes an Acquiring Person) following the commencement of, or announcement of an intention (which intention to commence remains in effect for 5 business days after such announcement) to make a tender offer or exchange offer, the consummation of which would result in a person or group becoming an Acquiring Person of 20% or more of our common stock (the earlier of such dates being called the “Distribution Date”), the Rights will be evidenced with respect to any of the common stock certificates outstanding and no separate Rights Certificates will be distributed.

Excluded from being an Acquiring Person under the Rights Agreement are the following (collectively, the “Excluded Persons”):

- the Company;
- any of our subsidiaries;
- any employee benefit plan of us or our subsidiaries;
- any entity holding common stock for or pursuant to the employee benefit plan of us or our subsidiaries;
- any Person who becomes the beneficial owner of 20% or more of the common stock solely as a result of the acquisition of common stock by us, unless such Person shall, after such share purchases by us, become the beneficial owner of additional shares of common stock constituting 1% or more of the then outstanding shares of common stock; and
- any person whom our Board of Directors determines in good-faith has acquired 20% or more of the common stock inadvertently and such person divests, within 10 business days after such determination, a sufficient number of shares of common stock to no longer beneficially own 20% of the common stock.

The Rights Agreement provides that, until the Distribution Date (or earlier redemption or expiration of the Rights):

- the Rights will be transferred with and only with our common stock;
- new common stock certificates issued after the Record Date, upon transfer or new issuance of common stock by us will contain a notation incorporating the Rights Agreement by reference; and
- the surrender for transfer of any certificates for common stock, even without such notation (or a copy of a summary of rights) being attached thereto, will also constitute the transfer of Rights associated with the common stock represented by such certificate.

As soon as practicable following the Distribution Date, separate certificates evidencing the Rights (“Right Certificates”) will be mailed to the holders of record of the common stock as of the close of business on the Distribution Date and such separate Right Certificates alone will evidence the Rights.

The Rights are not exercisable until the Distribution Date. The Rights will expire on May 2, 2018 (the “Final Expiration Date”), unless the Final Expiration Date is extended or unless the Rights are earlier redeemed by us, in each case, as described below.

In the event that any person becomes an Acquiring Person (except pursuant to a tender or exchange offer which is for all outstanding shares of common stock at a price and on terms which a majority of certain members of the Board of Directors determines to be adequate and in our best interests, our stockholders and other relevant constituencies, other than the Acquiring Person, its affiliates and associates (a “Permitted Offer”)), each holder of a Right (except Rights which have been voided as set forth below) will thereafter have the right (the “Flip-In Rights”) to receive upon exercise the number of shares of common stock or of one-one hundredths of a share of Preferred Shares (or, in certain circumstances, other of our securities) having a value (on the date such person became an Acquiring Person) equal to two times the Purchase Price of the Right.

In the event that at any time (a) we are acquired in a merger or other business combination transaction in which we are not the survivor, (b) a merger or other business combination with us in which we are the survivor and, in connection with such transaction, all or part of the shares of common stock shall be changed for stock or other securities of any other person (or us) or (c) more than 50% of our assets or earning power is sold or transferred, then each holder of a Right (except Rights which have been voided as set forth below) shall thereafter have the right (the “Flip-Over Right”) to receive, upon exercise, common stock of the acquiring company having a value equal to two times the Purchase Price of the Right. The Flip-Over Right is not applicable to transactions described in (a) and (b) of this paragraph if (i) such transaction is consummated with a person who acquired common stock pursuant to a Permitted Offer; (ii) the price per share of common stock offered in such transaction is not less than the price per share of common stock paid to all holders of common stock purchased pursuant to the Permitted Offer, and (iii) the form of consideration offered in such transaction is the same as the form of consideration paid pursuant to the Permitted Offer.

The Purchase Price payable, and the number of Preferred Shares, common stock or other securities or property issuable, upon exercise of the Rights are subject to adjustment from time to time to prevent dilution:

- in the event of a stock dividend on, or a subdivision, combination or reclassification of, the Preferred Shares;
- upon the grant to holders of the Preferred Shares of certain rights or warrants to subscribed for or purchase Preferred Shares at a price, or securities convertible into Preferred Shares with a conversion price, less than the then current market price of the Preferred Shares; or
- upon the distribution to holders of the Preferred Shares of evidences of indebtedness or assets (excluding regular periodic cash dividends paid out of earnings or retained earnings or dividends payable in Preferred Shares) or of subscription rights or warrants (other than those referred to above).

The number of outstanding Rights and the number of one one-hundredths of a Preferred Share issuable upon exercise of each Right are also subject to adjustment in the event of a stock split of the common stock or a stock dividend on the common stock payable in common stock or subdivisions, consolidations or combinations of the common stock occurring, in any such case, prior to the Distribution Date.

Any Rights that are beneficially owned by (a) any Acquiring Person (or any affiliate or associate of such Acquiring Person), (b) a transferee of an Acquiring Person (or any affiliate or associate thereof) who becomes a transferee after the Acquiring Person becomes such, or (c) under certain conditions, a transferee of any Acquiring Person (or any affiliate or associate thereof) who becomes a transferee prior to or concurrently with the Acquiring Person becoming such, shall be null and void and no holder of such Rights shall thereafter have rights to exercise such Rights.

At any time after a person becomes an Acquiring Person and prior to the acquisition by such Person (or affiliate or associate of an Acquiring Person) of 50% or more of the outstanding common stock, our Board of Directors may exchange the Rights (other than Rights owned by such Acquiring Person which have become void), in whole or in part, at an exchange ratio of one share of common stock, or one-one hundredth of a Preferred Share (or of a share of a class or series of the our preferred stock having equivalent rights, preferences and privileges), per Right (subject to adjustment). Upon our Board of Directors ordering the exchange, the right to exercise the Right shall terminate and the only right thereafter shall be to receive the shares in accordance with the exchange.

With certain exceptions, no adjustment in the Purchase Price will be required until cumulative adjustments require an adjustment of at least 1% in such Purchase Price. No fractional Preferred Shares will be issued (other than fractions which are integral multiples of one one-hundredth of a Preferred Share, which may, at the election of the Company, be evidenced by depositary receipts) and in lieu thereof, an adjustment in cash will be made based on the market price of the Preferred Shares on the last trading day prior to the date of exercise.

At any time prior to the earlier of the Distribution Date or Final Expiration Date, our Board of Directors may redeem the Rights in whole, but not in part, at a price of \$0.001 per Right (the “Redemption Price”), adjusted to reflect any stock split, stock dividend or similar transaction, and payable, at our option, either in cash, shares of common stock, or any other form of consideration deemed appropriate by our Board. The redemption of the rights may be made effective at such time, on such basis and with such conditions as the Board of Directors in its sole discretion may establish. Immediately upon any redemption of the Rights, the right to exercise the Rights will terminate and the only right of the holder of Rights will be to receive the Redemption Price.

The terms of the Rights Agreement and the Rights may be amended by us without the consent of the holders of the Rights, in order to cure any ambiguity, to correct or supplement any provision contained therein which may be defective or inconsistent with any other provisions contained therein, or to make any other changes or amendments to the provisions contained therein which the Company may deem necessary or desirable, except that from and after such time as any person becomes an Acquiring Person no such amendment may adversely affect the interests of the holders of the Rights (other than the Acquiring Person or any affiliate or associate of the Acquiring Person). No amendment to the Rights Agreement or the Rights shall be made which changes the redemption price or the number of Preferred Shares or shares of common stock for which a Right is exercisable or exchangeable.

Until a Right is exercised, the holder thereof, as such, will have no rights as a stockholder of the Company, including, without limitation, the right to vote or to receive dividends.

This summary description of the Rights does not purport to be complete and is qualified in its entirety by reference to the Rights Agreement.

LEGAL OPINION

Conner & Winters, LLP, Oklahoma City, Oklahoma will opine as to the validity of the issuance of the securities offered by this prospectus.

EXPERTS

The consolidated financial statements and financial statement schedules as of December 31, 2008 and 2007 and for each of the three years in the period ended December 31, 2008, and management’s assessment of the effectiveness of internal control over financial reporting as of December 31, 2008, incorporated by reference in this Registration Statement have been so incorporated in reliance on the reports of BDO Seidman, LLP, an independent registered public accounting firm (the report on the effectiveness of internal control over financial reporting expresses an adverse opinion on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2008), incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements and other information with the Securities and Exchange Commission, in accordance with the Securities Exchange Act of 1934, or Exchange Act. You may read and copy any materials that we file with the Securities and Exchange Commission at the following address:

Public Reference Room
100 F Street, N.E.
Washington, D.C. 20549
1-800-SEC-0330

Please call the SEC at 1-800-SEC-0330 for further information about the public reference rooms. Our reports, proxy statements and other information filed with the SEC are available to the public over the Internet at the SEC’s World Wide Web site at <http://www.sec.gov>. Our SEC file number for filings made under the Exchange Act is 001-11596.

INCORPORATION BY REFERENCE

The SEC allows us to “incorporate by reference” the information contained in documents that we file with the SEC, which means that we can disclose important information to you by referring you to those other documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. Therefore, before you decide to invest in a particular offering under this shelf-registration, you should always check for reports we may have filed with the SEC after the date of this prospectus.

We incorporate by reference the documents listed below:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2008, filed March 31, 2009;
- Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2009, filed May 11, 2009;
- Current Reports on Form 8-K filed with the Securities and Exchange Commission on March 2, 2009, March 11, 2009, March 30, 2009, April 8, 2009, and May 7, 2009 (two reports);
- The description of our Series A Junior Participating Preferred Stock, par value \$.001 per share, that is contained in the Form 8-A Registration Statement, filed on May 13, 2008, as amended October 2, 2008, including any amendments or reports filed for the purpose of updating such description.
- The description of the common stock of the Registrant that is contained in the Registration Statement on Form 8-A filed pursuant to Section 12 of the Exchange Act that became effective on October 30, 1992, including any amendments or reports filed for the purpose of updating such description.

Also incorporated by reference into this prospectus are all documents that we may file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and before we stop offering the securities described in this prospectus. These documents include periodic reports, such as annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, as well as proxy statements. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed to constitute a part of this prospectus, except as so modified or superseded.

We will provide to each person who so requests, including any beneficial owner to whom a prospectus is delivered, a copy of these filings excluding exhibits except to the extent such exhibits are specifically incorporated by reference. You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Perma-Fix Environmental Services, Inc.
Attention: Chief Financial Officer
8302 Dunwoody Place, #250
Atlanta, Georgia 30350
(770) 587-9898

You should rely only on the information incorporated by reference or provided in this prospectus or any prospectus supplement. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume the information in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front of those documents.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The aggregate estimated (other than the registration fee) expenses to be paid by the Registrant in connection with this offering are as follows:

SEC Registration Fee	\$ 381
Legal Fees (Including Blue Sky)	\$ 55,000
Accounting Fees and Expenses	\$ 10,000
Printing	\$ 2,500
Miscellaneous	\$ 500
 Total:	 <u>\$ 68,381</u>

The foregoing expenses, except for the registration fee, are estimated pursuant to Item 511 of Regulation S-K.

Item 15. Indemnification of Officers and Directors

Section 145 of the Delaware Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against amounts paid and expenses incurred in connection with an action or proceeding to which he is or is threatened to be made a party by reason of such position, if such person shall have acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal proceeding, if such person had no reasonable cause to believe his conduct was unlawful; provided that, no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that, despite the adjudication of liability but in view of all the circumstance of the case, such person is fairly and reasonably entitled to indemnification.

Article EIGHTH of our Restated Certificate of Incorporation, as amended, provides as follows with respect to the indemnification of our officers and directors:

All persons who the Corporation is empowered to indemnify pursuant to the provisions of Section 145 of the General Corporation Law of the State of Delaware (or any similar provision or provisions of applicable law at the time in effect), shall be indemnified by the Corporation to the full extent permitted thereby. The foregoing right of indemnification shall not be deemed to be exclusive of any other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors, or otherwise. No repeal or amendment of this Article EIGHTH shall adversely affect any rights of any person pursuant to this Article EIGHTH which existed at the time of such repeal or amendment with respect to acts or omissions occurring prior to such repeal or amendment.

Our Restated Certificate of Incorporation, as amended, provides that no director shall be personally liable to us or its stockholders for any monetary damages for breaches of fiduciary duty as a director, provided that this provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to us or our stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (iii) under Section 174 of the General Corporation Law of the State of Delaware; or (iv) for any transaction from which the director derived an improper personal benefit.

The indemnification discussed in this Item 15 is not exclusive of any other rights the party seeking indemnification may possess. We carry officer and director liability insurance with respect to certain matters, including matters arising under the Securities Act of 1933, as amended.

Item 16. Exhibits.

See the Exhibit Index attached to this registration statement and incorporated herein by reference.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

- (i) To include any prospectus required by section 10(a)(3) of the Securities Act;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the registration statement is on Form S-3 or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Sections 13 or 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

- (i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

- (ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer, or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Atlanta, State of Georgia, on the 26th day of May 2009.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

By: /s/ Dr. Louis Centofanti

Dr. Louis F. Centofanti
Chairman of the Board
Chief Executive Officer

Pursuant to the requirements of the Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Dr. Louis F. Centofanti</u> Dr. Louis F. Centofanti	Chairman of the Board of Directors, President, and Chief Executive Officer(Principal Executive Officer)	May 26, 2009
<u>/s/ Ben Naccarato</u> Ben Naccarato	Chief Financial Officer (Principal Financial and Accounting Officer)	May 26, 2009
<u>/s/ *</u> Jon Colin	Director	May 26, 2009
<u>/s/ *</u> Jack Lahav	Director	May 26, 2009
<u>/s/ *</u> Joe R. Reeder	Director	May 26, 2009
<u>/s/ *</u> Larry Shelton	Director	May 26, 2009
<u>/s/ *</u> Dr. Charles E. Young	Director	May 26, 2009
<u>/s/ *</u> Robert L. Ferguson	Director	May 26, 2009
<u>/s/ *</u> Mark A. Zwecker	Director	May 26, 2009

*By /s/ Dr. Louis Centofanti
Dr. Louis F. Centofanti, Attorney in Fact

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
REGISTRATION STATEMENT ON FORM S-3

EXHIBIT INDEX

<u>Exhibit No.</u>	Description
3(i)	Restated Certificate of Incorporation, as amended, is incorporated by reference to Exhibit 3.1(i) to the Registrant's Form 10-K for the year ended December 31, 2008.
3(ii)	Bylaws of Perma-Fix Environmental Services, Inc., as amended on October 30, 2007, is incorporated by reference to Exhibit 3(ii) to the Registrant's Form 10-Q for the quarter ended September 30, 2007.
4.1	Specimen Common Stock Certificate as incorporated by reference from Exhibit 4.3 to the Company's Registration Statement, No. 33-51874.
4.2	Loan and Security Agreement by and between the Company, subsidiaries of the Company as signatories thereto, and PNC Bank, National Association, dated December 22, 2000, as incorporated by reference from Exhibit 99.1 to the Company's Form 8-K dated December 22, 2000.
4.3	First Amendment to Loan Agreement and Consent, dated January 30, 2001, between the Company and PNC Bank, National Association as incorporated by reference from Exhibit 99.7 to the Company's Form 8-K dated January 31, 2001.
4.4	Amendment No. 1 to Revolving Credit, Term Loan and Security Agreement, dated as of June 10, 2002, between the Company and PNC Bank is incorporated by reference from Exhibit 4.3 to the Company's Form 10-Q for the quarter ended September 30, 2002.
4.5	Amendment No. 2 to Revolving Credit, Term Loan and Security Agreement, dated as of May 23, 2003, between the Company and PNC Bank, as incorporated by reference from Exhibit 4.4 to the Company's Form 10-Q for the quarter ended June 30, 2003, and filed on August 14, 2003.
4.6	Amendment No. 3 to Revolving Credit, Term Loan, and Security Agreement, dated as of October 31, 2003, between the Company and PNC Bank, as incorporated by reference from Exhibit 4.5 to the Company's Form 10-Q for the quarter ended September 30, 2003, and filed on November 10, 2003.
4.7	Amendment No. 4 to Revolving Credit, Term Loan, and Security Agreement, dated as of March 25, 2005, between the Registrant and PNC Bank as incorporated by reference from Exhibit 4.12 to the Registrant's Form 10-K for the year ended December 31, 2004.
4.8	Letter from PNC Bank regarding intent to waive technical default on the Loan and Security Agreement with PNC Bank due to resignation of Chief Financial Officer.
4.9	Amendment No. 5 to Revolving Credit, Term Loan, and Security Agreement, dated as of June 12, 2007, between the Registrant and PNC Bank as incorporated by reference from Exhibit 4.1 to the Registrant's Form 10-Q for the quarter ended June 30, 2007.
4.9	Amendment No. 6 to Revolving Credit, Term Loan, and Security Agreement, dated as of June 29, 2005, between the Registrant and PNC Bank, which is incorporated by reference from Exhibit 4.1 to the Company's Form 8-K, filed June 30, 2005.
4.11	Amendment No. 7 to Revolving Credit, Term Loan, and Security Agreement, dated as of July 18, 2007, between the Registrant and PNC Bank as incorporated by reference from Exhibit 4.2 to the Registrant's Form 10-Q for the quarter ended June 30, 2007.
4.12	Amendment No. 8 to Revolving Credit, Term Loan, and Security Agreement, dated as of November 2, 2007, between the Registrant and PNC Bank as incorporated by reference from Exhibit 4.1 to the Registrant's Form 10-Q for the quarter ended September 30, 2007.

- 4.13 Amendment No. 9 to Revolving Credit, Term Loan, and Security Agreement, dated as of December 18, 2007, between the Registrant and PNC Bank, as incorporated by reference from Exhibit 4.14 to the Registrant's Form 10-K for the year ended December 31, 2007.
- 4.14 Amendment No. 10 to Revolving Credit, Term Loan, and Security Agreement, dated as of March 26, 2008, between the Registrant and PNC Bank, as incorporated by reference from Exhibit 4.15 to the Registrant's Form 10-K for the year ended December 31, 2007.
- 4.15 Amendment No. 11 to Revolving Credit, Term Loan, and Security Agreement, dated as of July 25, 2008, between the Registrant and PNC Bank, as incorporated by reference from Exhibit 4.1 to the Registrant's Form 10-Q for the quarter ended June 30, 2008 filed on August 11, 2008.
- 4.16 Amendment No. 12 to Revolving Credit, Term Loan, and Security Agreement, dated as of July 25, 2008, between the Registrant and PNC Bank, as incorporated by reference from Exhibit 4.2 to the Registrant's Form 10-Q for the quarter ended June 30, 2008 filed on August 11, 2008.
- 4.17 Amendment No. 13 to Revolving Credit, Term Loan, and Security Agreement, dated as of March 5, 2009, between the Registrant and PNC Bank, as incorporated by reference from Exhibit 99.1 to the Registrant's Form 8-K filed on March 11, 2009.
- 4.18 Rights Agreement dated as of May 2, 2008 between the Registrant and Continental Stock Transfer & Trust Registrant, as Rights Agent, as incorporated by reference from Exhibit 4.1 to the Registrant's Form 8-K filed on May 8, 2008.
- 4.19 Letter Agreement dated September 29, 2008, between the Registrant and Continental Stock Transfer & Trust Company, as incorporated by reference from Exhibit 4.3 to the Company's Form 8-A/A filed on October 2, 2008.
- 4.20 Loan and Securities Purchase Agreement, dated May 8th, 2009 between William N. Lampson, Diehl Rettig, and the Registrant, is incorporated by reference to Exhibit 4.1 to the Registrant's Form 10-Q for the quarter ended March 31, 2009, filed on May 11, 2009.
- 4.21 Promissory Note dated May 8, 2009 issued by the Registrant. in favor of William Lampson and Diehl Rettig is incorporated by reference to Exhibit 4.2 to the Registrant's Form 10-Q for the quarter ended March 31, 2009, filed on May 11, 2009.
- 4.22 Common Stock Purchase Warrant, dated May 8, 2009, issued to William N. Lampson is incorporated by reference to Exhibit 4.3 to the Registrant's Form 10-Q for the quarter ended March 31, 2009, filed on May 11, 2009.
- 4.23 Common Stock Purchase Warrant, dated May 8, 2009, issued to Diehl Rettig is incorporated by reference to Exhibit 4.4 to the Registrant's Form 10-Q for the quarter ended March 31, 2009, filed on May 11, 2009.
- 5.1 Opinion of Conner & Winters, LLP.
- 23.1 Consent of BDO Seidman, LLP
- 23.2 Consent of Conner & Winters (included in Exhibit 5.1 to this registration statement)
- 24.1 Power of Attorney (included on page II-4 to this registration statement).*

* Previously Filed.

CONNER & WINTERS

ATTORNEYS AND COUNSELORS AT LAW

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405.272.5711 Phone
405.232.2695 Fax
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May 26, 2009

Perma-Fix Environmental Services, Inc.
8302 Dunwoody Place, #250
Atlanta, Georgia 30350

Re: Perma-Fix Environmental Services, Inc.; Amendment No. 2 to Registration Statement on Form S-3 covering
5,000,000 Shares of Common Stock and the Rights attached thereto;
Our File No. 7034.2

Ladies and Gentlemen:

At the request of Perma-Fix Environmental Services, Inc. (the "Company"), we have examined the Amendment No. 2 to Form S-3 Registration Statement (the "Registration Statement") to be filed by the Company with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Act"), in connection with the registration of up to 5,000,000 shares of the Company's common stock, par value \$.001 per share (the "Shares") and the Rights attached to such Shares pursuant to the Company's Rights Agreement, dated May 2, 2008, between the Company and Continental Stock Transfer & Trust Company, as Rights Agent (the "Rights Plan"). The Shares are to be offered and sold in the manner set forth in the Registration Statement, the Prospectus contained therein (the "Prospectus") and any related supplement to the Prospectus (the "Prospectus Supplement"). This opinion is provided pursuant to the requirements of Item 16 of Form S-3 and Item 601(b)(5) of Regulation S-K promulgated under the Act.

We have examined such instruments, corporate records, certificates of officers, other documents and questions of law, as we have considered necessary or appropriate for the purposes of this opinion, including, without limitation, the Rights Plan. In such examination, we have assumed (a) the authenticity of original documents and the genuineness of all signatures, (b) the conformity to the originals of all documents submitted to us as copies and (c) the truth, accuracy and completeness of the information, representations and warranties contained in the records, documents instruments and certificates we have reviewed.

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Conner & Winters, LLP



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On the basis of such examination, review, and assumptions, we are of the opinion that (a) the Shares, when issued and sold in the manner described in the Registration Statement, the Prospectus and the Prospectus Supplement, will be validly issued, fully paid, and nonassessable shares of common stock of the Company, and (b) the Rights attached to the Shares, when issued pursuant to the terms of the Rights Plan, will be validly issued.

We hereby consent to the filing of this opinion as an exhibit to the above-referenced Registration Statement and to the use of our name wherever it appears in the Registration Statement, the Prospectus, the Prospectus Supplement and in any amendment or supplement thereto. In giving such consent, we do not believe that we are “experts” within the meaning of such term as used in the Act or the rules and regulations of the Securities and Exchange Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

Very truly yours,

/s/ Conner & Winters, LLP

CONNER & WINTERS, LLP

Consent of Independent Registered Public Accounting Firm

Perma-Fix Environmental Services, Inc.
Atlanta, Georgia

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our reports dated March 30, 2009, relating to the consolidated financial statements, the effectiveness of Perma-Fix Environmental Services, Inc. and subsidiaries' internal control over financial reporting and schedules of Perma-Fix Environmental Services, Inc. and subsidiaries appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2008. Our report on the effectiveness of internal control over financial reporting expresses an adverse opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2008.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO Seidman, LLP

Atlanta, Georgia
May 22, 2009

CONNER & WINTERS

ATTORNEYS AND COUNSELORS AT LAW

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May 26, 2009

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549-7010
Attention: Jay Ingram
Legal Branch Chief

Re: *Perma-Fix Environmental Services, Inc.; Registration Statement
on Form S-3, File No. 333-158472; Our File No. 07034-0085*

Ladies and Gentlemen:

On behalf of Perma-Fix Environmental Services, Inc. ("Perma-Fix"), the following are responses to the comments of the Staff of the Securities and Exchange Commission (the "SEC") with respect to Perma-Fix's Registration Statement on Form S-3, SEC File No. 333-158472 (the "Registration Statement"). The SEC comments were delivered to Dr. Louis F. Centofanti, Chairman, President, and Chief Executive Officer of Perma-Fix, by letter dated April 28, 2009 (the "Comment Letter"). Please note that with the filing of this letter, Perma-Fix filed with the SEC Perma-Fix's Amendment No. 2 to the Registration Statement (the "Amendment").

The SEC's comments and Perma-Fix's responses thereto are set forth below, numbered as such comments are numbered in the Comment Letter. Capitalized terms used herein have the meanings assigned to them in the Amendment. Page numbers referenced in responses indicate the pages of the Amendment.

Amendment No. 2 is filed together with a supplementally provided marked version of Amendment No. 2 to illustrate the changes from the Registration Statement as originally filed on April 7, 2009 to Amendment No. 2. The only changes from Amendment No. 1, which was filed on May 22, 2009, to Amendment No. 2, are the date of the filing and the execution dates on the signature page. There are no substantive changes from Amendment No. 1 to Amendment No. 2.

General

1. We note disclosure on page 10 that Perma-Fix adopted a preferred share rights plan in May 2008. Perma-Fix is required to register the offer and sale of rights issued under an existing shareholder rights plan when it files a new registration under the Securities Act for the common stock to which the rights relate. See Question 116.16 in the Securities Act Forms section of the division of Corporation Finance's "Compliance and Disclosure Interpretations" that are available on the Commission's website at <http://www.sec.gov>. Please revise.

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Response: As requested, the Registration Statement has been revised to include the Rights that will attach to the 5,000,000 shares of common stock included in the offering pursuant to the terms of the Perma-Fix's Rights Agreement, dated May 2, 2008. Accordingly, the Rights are included under the calculation of registration fee on the Form S-3 cover page, the cover of the Prospectus, and are described beginning on page 13 of the Prospectus under the heading "Rights Attaching to Our Common Stock."

2. *Have counsel provide an opinion on the preferred share rights that are required to be covered by the registration statement. See Item 601(b)(5) of Regulation S-K.*

Response: As requested, the opinion of Conner & Winters, LLP, attached as Exhibit 5.1 to the Amendment, includes the opinion on Perma-Fix's preferred share rights required under Item 601(b)(5) of Regulation S-K.

Registration Statement Facing Page

3. *Rule 416 of Regulation C under the Securities Act is inapplicable to this offering. Please revise footnote (1) to the calculation of registration fee table.*

Response: The calculation of registration fee table has been revised as requested.

Risk Factors, page 2

4. *We note the statements "The risks and uncertainties described below are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us or that we currently consider immaterial also may impair our business operations." Since Perma-Fix is required to disclose all risks factors that it believes are material at this time, please delete the statements.*

Response: The statements identified in comment 4 have been deleted as requested.

Available Information, page 14

5. *The address of the Commission's Public Reference Room is 100 F Street, N.E., Washington, DC 20549 and not 450 Fifth Street, N.W., Washington, DC 20549. Please revise.*

Response: The address has been corrected as requested.

6. *Please include your Commission file number for filings made under the Exchange Act.*

Response: The last sentence of the second paragraph under “Where You Can Find More Information” on page 16, states that “Our SEC file number for filings made under the Exchange Act is 001-11596.”

We appreciate your attention to this matter. If you have any questions or comments, please do not hesitate to contact Irwin H. Steinhorn of this office or the undersigned at (405) 272-5711.

Very truly yours,

/s/ Mark H. Bennett

Mark H. Bennett
For the Firm

MHB:dr

Enclosures

cc: Dr. Louis F. Centofanti
Edward M. Kelly, Senior Counsel (Securities and Exchange Commission)
