



2024 Annual Report



PermaFix[®]
environmental services



To Our Valued Shareholders,

2024 was a year of transition for Perma-Fix Environmental Services. While we encountered a number of external challenges—including delayed project starts, disruptions in federal procurement cycles caused by the Continuing Resolution, and broader macroeconomic uncertainty—we also made strategic progress across our core growth initiatives, setting the stage for anticipated improved performance beginning in the second half of 2025.

Despite these headwinds, including temporary softness in Services Segment activity, we maintained operational discipline during the first quarter of 2025, delivered year-over-year improvement in gross margins, and expanded our waste treatment backlog to over \$10 million—an increase of approximately 30% from year-end 2024. Importantly, we began to see a positive inflection in waste receipts late in the first quarter, which should translate into greater project visibility, increased waste processing volumes, and improved operational efficiency across our Treatment operations.

Throughout 2024, we made targeted investments that impacted near-term financial results but are expected to enhance our long-term growth profile. These included preparations to receive new waste streams, additional staffing and training, and operational readiness initiatives at our Perma-Fix Northwest (PFNW) and Diversified Scientific Services, Inc. (DSSI) facilities. At PFWN specifically, these activities were directly tied to our support of the U.S. Department of Energy's (DOE) Direct-Feed Low-Activity Waste (DFLAW) program at Hanford. DFLAW remains on schedule to begin hot commissioning by August 1, 2025, under DOE's legally binding milestones. Once fully operational, this initiative could double the waste receipts currently received at all our treatment facilities combined.

We also advanced our PFAS (Per- and Polyfluoroalkyl Substances) program across multiple dimensions. During the year, we completed key upgrades to our Gen 1.0 commercial-scale Perma-FAS system, including integration of chemical recycling capabilities that have already improved per-gallon economics. In Q1 2025, we received our first commercial waste shipments from a Federal Government client and continue to see growing interest. Our Gen 2.0 system remains on track for Q4 2025 deployment and is expected to increase capacity. With regulatory momentum building across multiple U.S. states and growing recognition of the need for true destruction technologies, we believe PFAS treatment will be an important long-term growth driver.

In our Services Segment, Q1 2025 revenue declined modestly due to delays in early-phase federal project procurement. However, gross margins improved substantially versus Q1 2024, reflecting the impact of proactive cost management and a more disciplined approach to resource alignment. Bidding activity remains strong across both federal and commercial channels, with increasing project visibility and multiple larger awards expected later in the year.

We continue to pursue significant opportunities, including our participation in the DOE's West Valley Demonstration Project—where initial operations are expected to begin in Q3 2025. Additional pursuits across DOE and the U.S. Department of Defense (DOD) programs are also ongoing.

Internationally, we continue to expand our presence through strategic partnerships and project development efforts. Notably, our joint venture at the Joint Research Centre (JRC) facility in Ispra, Italy—awarded in 2023—is progressing toward final permitting, with commercial waste treatment operations targeted for late 2026. These efforts reflect our broader strategy to diversify revenue streams and extend the reach of our treatment technologies.

From a financial standpoint, revenue for full-year 2024 was \$59.1 million, down from \$89.7 million in 2023, reflecting the completion of several large-scale projects and delays in federal awards. While this impacted earnings, our balance sheet remains strong, with \$25.7 million in cash as of March 31, 2025. This liquidity provides the flexibility needed to support program execution in the months ahead.

Looking forward, we expect a return to revenue growth and improved results beginning in the second half of 2025, supported by five key catalysts:

- The scheduled ramp-up of DFLAW-related waste processing at Hanford;
- Commercial expansion of our PFAS destruction platform, including Gen 2.0 deployment;
- Execution of major DOE and DOD projects, including the West Valley Demonstration Project;
- A more stable federal procurement environment; and
- Expansion of international waste treatment capabilities beginning in 2026.

While 2024 presented its share of challenges, we believe that the investments and groundwork laid over the past year have positioned Perma-Fix for a renewed trajectory of growth and value creation. We remain committed to solving some of the most complex environmental issues through innovation, technical excellence, and operational discipline.

On behalf of our Board of Directors and the entire Perma-Fix team, I thank you for your continued trust and support. We look forward to sharing our progress with you over the coming quarters.

Sincerely,


Mark Duff
President and Chief Executive Officer

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2024
or
☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15 (d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ____ to ____

Commission File No. 1-11596

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
(Exact name of registrant as specified in its charter)

Delaware
State or other jurisdiction
of incorporation or organization

58-1954497
(IRS Employer Identification Number)

8302 Dunwoody Place, #250, Atlanta, GA
(Address of principal executive offices)

30350
(Zip Code)

(770) 587-9898
(Registrant's telephone number)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$.001 Par Value	PESI	The Nasdaq Capital Market

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

☐ Yes ☒ No

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

☐ Yes ☒ No

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files).

☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐ Accelerated Filer ☐ Non-accelerated Filer ☒ Smaller reporting company ☒ Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial standards provided pursuant to Section 13(a) of the Exchange Act ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). ☐ Yes ☒ No

The aggregate market value of the Registrant's voting and non-voting common equity held by nonaffiliates of the Registrant computed by reference to the closing sale price of such stock as reported by NASDAQ as of the last business day of the most recently completed second fiscal quarter (June 30, 2024), was approximately \$147,466,898). For the purposes of this calculation, all directors and executive officers of the Registrant (as indicated in

Item 12) have been deemed to be affiliates. Such determination should not be deemed an admission that such directors and executive officers, are, in fact, affiliates of the Registrant. The Company's Common Stock is listed on the Nasdaq Capital Market.

As of March 10, 2025, there were 18,428,393 shares of the registrant's Common Stock, \$.001 par value, outstanding.

Documents incorporated by reference: None

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

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PART I

ITEM 1. BUSINESS

Company Overview and Principal Products and Services

Perma-Fix Environmental Services, Inc. (the Company, which may be referred to as we, us, or our), a Delaware corporation incorporated in December 1990, is an environmental and environmental technology know-how company.

The principal element of our business strategy consists of upgrading our facilities within our Treatment Segment to increase efficiency and modernize and expand treatment capabilities to meet the changing markets associated with the waste management industry. Within our Services Segment, we are attempting to increase competitive procurement effectiveness and broaden the market penetration within both the commercial and government sectors. We continue to increase our focus on expansion into both commercial and international markets (see “Foreign Revenue and Initiatives” below for further discussion of our international initiatives to supplement government spending in the United States of America (“USA”), from which a significant portion of our revenue is derived). This includes new services, new customers and increased market share in our current markets.

We were disappointed with our 2024 financial results, which were negatively impacted by a number of unexpected events and factors. These events and factors included among other things,

- Continuing Resolution (“CR”) impacts primarily in the first half of 2024, that directly resulted in delays in project starts for existing services backlogs along with delays in procurement cycles for pipeline projects;
- poor weather conditions, including two hurricanes, which resulted in delays in waste shipments and project mobilization activities by certain customers and power outages and plant shutdowns at certain of our treatment facilities;
- temporary outages at certain of our facilities for equipment replacement and repairs, program enhancement and testing to support permit expansion and broader market penetration, which contributed to revenue production delays;
- accelerated investments in R&D of our new technology to treat PFAS (Per- and polyfluoroalkyl substances), which required significant management and operation support, thereby also limiting resources needed for revenue production; and
- completion of two large projects in the fourth quarter of 2023 in the Services Segment that were not replaced by new projects of similar value.

Although we are disappointed with our 2024 financial results, we believe our base business is positioned for improvement and we expect that our results of operations should improve in 2025. We continue to advance a number of initiatives that are discussed within this report. Some of these initiatives have been realized, with additional initiatives expected to be more fully realized in 2025. In December 2024, BWXT Technologies, Inc (“BWXT”) announced that the U.S. Department of Energy (“DOE”) had awarded BWXT and its team, of which we are a member, the contract for the cleanup operations at the West Valley Development Project in West Valley, NY. As disclosed by BWXT, the contract has a 10-year ordering period with a maximum value of up to \$3 billion that can be performed for up to 15 years. The scope attributable to us has not yet been defined and is subject to certain approvals. The West Valley Project is anticipated to begin transition in the first quarter of 2025 and realize full operations 120 days from initiation. Also, as previously disclosed, in December 2023 we and our Italian team partner were awarded a multi-year contract for the treatment of radioactive waste from the Joint Research Center in Ispra, Italy (see “Foreign Revenue and Initiatives” below for a discussion of this contract and further international initiatives).

Our continuing initiatives include, among other things, positioning ourselves for further large and mid-size procurements within the DOE and U.S. Department of Defense (“DOD”) and waste treatment in support of DOE’s Hanford closure strategy, continued investments in our facilities and capabilities to allow for broader waste treatment (including PFAS) (see “New Processing Technology” below for a discussion of our PFAS

technology), and continued expansion of our waste treatment offerings within the international and commercial markets.

Although we expect our financial results to improve in 2025, uncertainties exist regarding how future federal government budget and program and policy decisions will unfold, which include the spending priorities of the new Administration and Congress, passage of the 2025 fiscal year U.S. government budget and potential for enactment of additional continuing resolutions to keep government departments and agencies in operations. A significant amount of our revenues are generated indirectly as subcontractors for others who are contractors to federal government authorities, which include the DOE and DOD, or directly as the prime contractor to federal government authorities. The full impact of these uncertainties could negatively impact our financial results by impairing our ability to perform work on existing contracts, delaying or cancelling procurement actions by government entities, and/or cause other disruptions or delays, including payment delays.

Segment Information

We have two reporting segments:

TREATMENT SEGMENT reporting includes:

- nuclear, low-level radioactive, mixed (waste containing both hazardous and low-level radioactive waste), hazardous and non-hazardous waste treatment, processing and disposal services primarily through four uniquely licensed (Nuclear Regulatory Commission or state equivalent) and permitted (U.S. Environmental Protection Agency (“EPA”) or state equivalent) treatment and storage facilities as follow: Perma-Fix of Florida, Inc. (“PFF”), Diversified Scientific Services, Inc., (“DSSI”), Perma-Fix Northwest Richland, Inc. (“PFNWR”) and Oak Ridge Environmental Waste Operations Center (“EWOC”); and
- R&D activities to identify, develop and implement innovative waste-processing techniques for problematic waste streams.

For 2024, the Treatment Segment accounted for \$34,953,000, or 59.1%, of total revenue, as compared to \$43,477,000, or 48.5%, of total revenue for 2023.

SERVICES SEGMENT, which includes:

- Technical services, which include:
 - o professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
 - o health physics services including health physicists, radiological engineers, nuclear engineers and health physics technicians support to government and private radioactive materials licensees;
 - o integrated Occupational Safety and Health services including industrial hygiene (“IH”) assessments; hazardous materials surveys, e.g., exposure monitoring; lead and asbestos management/abatement oversight; indoor air quality evaluations; health risk and exposure assessments; health & safety plan/program development, compliance auditing and training services; and Occupational Safety and Health Administration (“OSHA”) citation assistance;
 - o global technical services providing consulting, engineering (civil, nuclear, mechanical, chemical, radiological and environmental), project management, waste management, environmental, and decontamination and decommissioning (“D&D”) field, technical, and management personnel and services to commercial and government customers; and
 - o waste management services to commercial and governmental customers.
- Nuclear services, which include:
 - o D&D of government and commercial facilities impacted with radioactive material and hazardous constituents including engineering, technology applications, specialty services, logistics, transportation, processing and disposal; and
 - o license termination support of radioactive material licensed and federal facilities over the entire cycle of the termination process: project management, planning, characterization,

- waste stream identification and delineation, remediation/demolition, final status survey, compliance demonstration, reporting, transportation, disposal and emergency response.
- A company-owned equipment calibration and maintenance laboratory that services, maintains, calibrates, and sources (i.e., rental) health physics, IH and customized nuclear, environmental, and occupational safety and health (“NEOSH”) instrumentation.

For 2024, the Services Segment accounted for \$24,164,000, or 40.9%, of total revenue, as compared to \$46,258,000, or 51.5%, of total revenue for 2023.

Our Treatment and Services Segments provide services primarily to research institutions, commercial companies, public utilities, and governmental entities, including the DOE and DOD. However, we continue to increase our focus on expansion into international markets. The distribution channels for our services are through direct sales to customers or via intermediaries.

Our corporate office is located at 8302 Dunwoody Place, Suite 250, Atlanta, Georgia 30350.

Foreign Revenue and Initiatives

We continue to increase our focus on expansion into international markets. In 2024, we were awarded contracts in support of waste treatment services from Mexico and Canada totaling approximately \$6,000,000 (US\$). These contracts require specific permits that can include a six to nine-month approval period. As such, receipts of these waste shipments are expected in 2025. We expect additional opportunities forthcoming in Germany in support of existing commercial clients as well as providing support to Germany’s power utility decommissioning program.

As previously disclosed, in December 2023, we and our partner, Campoverde Srl, each owning 50% of the partnership, in connection with an Italian project, were awarded a multi-year contract valued up to approximately EUR 50 million by the European Commission (the “Contracting Authority”) for the treatment of radioactive waste from the Joint Research Center in Ispra, Italy. Revenue generated and to be generated by us from this contract has been and will be limited to project management support through 2025. The scope of work in the initial phases of this contract is being performed predominantly by our partner. We expect to generate an increase in revenue under this contract starting in 2026 when the waste treatment phases begin. The Contracting Authority may terminate the contract under certain conditions as set forth in the contract.

Our consolidated revenue for 2024 and 2023 included approximately \$2,452,000, or 4.1%, and \$2,066,000, or 2.3%, respectively, from foreign customers.

New Processing Technology

During 2024, we completed the fabrication, installation, commissioning and startup of our first full scale commercial Perma-FAS system (“System”) for PFAS destruction, located at our Perma-Fix Florida, Inc. facility. PFAS, commonly known as “forever chemicals,” is the acronym for Perfluoroalkyl and Polyfluoroalkyl Substances, a diverse group of thousands of humanmade chemical pollutants that have the potential to persist in both the environment and the human body. An increasing number of studies have documented adverse health risks that are associated with PFAS exposure, including increased risks of some cancers, reduced immune function, and developmental delays in children. Commercial destruction of PFAS offers a promising new source of revenue for us, as it complements our core waste remediation technologies, and we have filed patent applications relating to our System technology for PFAS destruction. With the successful startup of our pilot System, we have already processed commercial quantities of PFAS-containing waste materials. There are limited current treatment options for these materials, and we expect that our process will exceed any of these other current methods. Some of the sizable markets for PFAS include AFFF (aqueous film-forming foam) firefighting foams, both expired concentrate and flushing liquids, contaminated liquids from PFAS systems, and other water-based separation products from a variety of industrial systems. We have already secured and are treating approximately 6,000 gallons of AFFF liquids to support ongoing operations, demonstration, and further testing of our System. We believe that we will receive an additional 20,000 gallons in the coming months.

Our strategy for our System includes continued treatment of PFAS liquids over the coming months and targeting engineering refinements to support larger-scale Systems. With significant upgrades to our prototype currently in the design phase, we anticipate deployment of the second generation unit in the third quarter of 2025 at one of our other existing treatment facilities. By the third quarter of 2025, we expect to advance this technology into pilot-scale applications for soil, biosolids, and filter media, broadening the reach of our System’s PFAS destruction capabilities.

Seasonal Factors of our Business

Our operations are generally subject to seasonal factors. See “Risk Factors – Risks Related to our Business and Operations – Our operations are subject to seasonal factors, which causes our revenues to fluctuate” for a discussion of our seasonal factors.

Permits and Licenses

Waste management service companies are 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, processing, disposal and transportation of hazardous, non-hazardous and radioactive wastes, and require us to obtain and maintain permits, licenses and/or approvals in order to conduct our waste activities. We are dependent on our permits and licenses discussed below in order to operate our businesses. Failure to obtain and maintain our permits or approvals would have a material adverse effect on us, our operations, and financial condition. The permits and licenses have terms ranging from one to ten years, and provide that we maintain a reasonable level of compliance, and renew with minimal effort and cost. We believe that these permit and license requirements represent a potential barrier to entry for possible competitors.

PFF, located in Gainesville, Florida, operates its hazardous, mixed and low-level radioactive waste activities under a Resource Conservation and Recovery Act (“RCRA”) Part B permit, Toxic Substances Control Act (“TSCA”) authorization, Restricted RX Drug Distributor-Destruction license, biomedical, and a radioactive materials license issued by the State of Florida. Co-regulated TSCA Polychlorinated Biphenyl (“PCB”) wastes are also managed for PCB under EPA Approval.

DSSI, located in Kingston, Tennessee, conducts mixed and low-level radioactive waste storage and treatment activities under RCRA Part B permits and a radioactive materials license issued by the State of Tennessee Department of Environment and Conservation, Division of radiological health. Co-regulated TSCA PCB wastes are also managed for PCB destruction under EPA Approval.

PFNWR, located in Richland, Washington, operates a low-level radioactive waste processing facility as well as a mixed waste processing facility. Radioactive material processing is authorized under radioactive materials licenses issued by the State of Washington and mixed waste processing is additionally authorized under a RCRA Part B permit. Co-regulated TSCA PCB wastes are also managed for PCB under EPA Approval.

EWOC, located in Oak Ridge, Tennessee, operates a low-level radioactive waste material processing facility. Radioactive material processing is authorized under radioactive material licenses issued by the State of Tennessee Department of Environmental and Conservation, Division of Radiological Health.

The combination of RCRA Part B hazardous waste permits, TSCA authorizations, and radioactive material licenses held by us and our subsidiaries comprising our Treatment Segment are very difficult to obtain for a single facility and make this Segment unique.

We believe that the permitting and licensing requirements, and the cost to obtain such permits, are barriers to the entry of hazardous waste and radioactive and mixed waste activities as presently operated by our waste treatment subsidiaries. If the permit requirements for hazardous waste treatment, storage, and disposal (“TSD”) activities and/or the licensing requirements for the handling of low-level radioactive matters are eliminated or if such licenses or permits were made less rigorous to obtain, we believe we would face greater competition in this segment.

Number of Employees

As of December 31, 2024, we employed approximately 305 employees, of whom 293 are full-time employees and 12 are part-time/temporary employees.

As previously disclosed, the Company entered into a Project Labor Agreement (“PLA”), dated June 21, 2023, with UA Plumbers & Steamfitters Local 598. The goal of this partnership is to supply our PFNWR facility with the organized labor force needed to take on the challenges of providing a supplement treatment alternative to include concrete-like grout for Hanford's Low Activity Tank Waste if and when the DOE grants a contract to PFNWR to treat the Low Activity Tank Waste. We believe that this supplemental capability would support DOE's glassifying process provided by the Hanford Vitrification Plant for safe transport and disposal off-site of the Low Activity Tank Waste.

Dependence Upon a Single or Few Customers

Our Treatment and Services Segments have significant relationships with federal government authorities. A significant amount of our revenues from our Treatment and Services Segments are generated indirectly as subcontractors for others who are contractors to federal government authorities, particularly the DOE and DOD, or directly as the prime contractor to federal government authorities. The contracts that we are a party to with others as subcontractors to federal government or directly with the federal government generally provide that the government may terminate the contract at any time for convenience at the government's option. Our inability to continue under existing contracts that we have with federal government authorities (directly or indirectly as a subcontractor) or significant reductions in the level of federal governmental funding in any given year could have a material adverse impact on our operations and financial condition.

We performed services relating to waste generated by federal government clients, either indirectly for others as a subcontractor to federal government entities or directly as a prime contractor to federal government entities, representing approximately \$40,550,000 or 68.6% of our total revenue during 2024, as compared to \$68,595,000 or 76.4% of our total revenue during 2023.

Our revenues are project/event based where the completion of one contract with a specific customer may be replaced by another contract with a different customer from year to year.

Competitive Conditions

The Treatment Segment's largest competitor is EnergySolutions which operates numerous treatment facilities and two treatment/disposal facilities for low level radioactive waste. Waste Control Specialists is also a competitor in the treatment/disposal market of low-level radioactive waste. These two competitors also provide us with options for disposal of our treated nuclear waste. The Treatment Segment treats and disposes of DOE generated waste largely at DOE owned sites. Our Treatment Segment currently solicits business primarily on a North American basis with both government and commercial clients; however, we continue to focus on emerging international markets for additional work.

Our Services Segment is engaged in highly competitive businesses in which a number of our government contracts and some of our commercial contracts are awarded through competitive bidding processes. The extent of such competition varies according to the industries and markets in which our customers operate as well as the geographic areas in which we operate. The degree and type of competition we face is also often influenced by the project specification being bid on and the different specialty skill sets of each bidder for which our Services Segment competes, especially projects subject to the governmental bid process. We also have the ability to directly bid on prime federal government small business procurements (small business set asides). Based on past experience, we believe that large businesses are more willing to team with small businesses in order to be part of these often-substantial procurements. There are a number of qualified small businesses in our market that will provide intense competition that may challenge our ability to maintain strong growth rates and acceptable profit margins. For international business there are additional competitors, many from within the country the work is to be performed, making winning work in foreign countries more challenging. If our Services Segment is unable to meet these competitive challenges, it could lose market share and experience an overall reduction in its profits.

Certain Environmental Expenditures and Potential Environmental Liabilities

Environmental Liabilities

We have three remediation projects, that are currently in progress relating to our Perma-Fix of Dayton, Inc. (“PFD”), Perma-Fix of Memphis, Inc. (“PFM”), and Perma-Fix South Georgia, Inc. (“PFSG”) subsidiaries, which are all included within our discontinued operations. These remediation projects principally entail the removal/remediation of contaminated soil and, in most cases, the remediation of surrounding ground water. These remediation activities are closely reviewed and monitored by the applicable state regulators.

As of December 31, 2024, we had total accrued environmental remediation liabilities of \$767,000, a decrease of \$78,000 from the December 31, 2023, balance of \$845,000. The decrease represents payments for our PFSG remediation project. As of December 31, 2024, \$1,000 of the total accrued environmental liabilities was recorded as current.

The nature of our business exposes us to significant cost to comply with governmental environmental laws, rules and regulations and risk of liability for damages. Such potential liability could involve, for example, claims for cleanup costs, personal injury or damage to the environment in cases where we are held responsible for the release of hazardous materials; 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. In addition, we could be deemed a potentially responsible party (“PRP”) for the costs of required cleanup of properties, which may be contaminated by hazardous substances generated or transported by us to a site we selected, including properties owned or leased by us. We could also be subject to fines and civil penalties in connection with violations of regulatory requirements.

R&D

Innovation and technical know-how by our operations is very important to the success of our business. Our goal is to discover, develop and bring to market innovative ways to process waste that address unmet environmental needs. We conduct research internally, and also through collaborations with other third parties. The majority of our research activities are performed as we receive new and unique waste to treat. Our competitors also devote resources to R&D and many such competitors have greater resources at their disposal than we do. R&D totaled \$1,172,000 and \$561,000 for 2024 and 2023, respectively. The increase in our R&D expenses was attributable primarily to R&D in connection with developing our new technology in treating PFAS (See “New Processing Technology” above for a discussion of this new technology).

Governmental Regulation

Environmental companies, such as us, and their customers are subject to extensive and evolving environmental laws and regulations by a number of federal, state and local environmental, safety and health agencies, the principal of which being the EPA. These laws and regulations largely contribute to the demand for our services. Although our customers remain responsible by law for their environmental problems, we must also comply with the requirements of those laws applicable to our services. We cannot predict the extent to which our operations may be affected by future enforcement policies as applied to existing laws or by the enactment of new environmental laws and regulations. Moreover, any predictions regarding possible liability are further complicated by the fact that under current environmental laws we could be jointly and severally liable for certain activities of third parties over whom we have little or no control. Although we believe that we are currently in substantial compliance with applicable laws and regulations, we could be subject to fines, penalties or other liabilities or could be adversely affected by existing or subsequently enacted laws or regulations. The principal environmental laws affecting our customers and us are briefly discussed below.

The Resource Conservation and Recovery Act of 1976, as amended (“RCRA”)

RCRA and its associated regulations establish a strict and comprehensive permitting and regulatory program applicable to companies, such as us, that treat, store or dispose of hazardous waste. The EPA has promulgated regulations under RCRA for new and existing treatment, storage and disposal facilities including incinerators, storage and treatment tanks, storage containers, storage and treatment surface impoundments, waste piles and landfills. Every facility that treats, stores or disposes of hazardous waste must obtain a RCRA permit or must obtain interim status from the EPA, or a state agency, which has been authorized by the EPA to administer its program, and must comply with certain operating, financial responsibility and closure requirements.

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (“CERCLA,” also referred to as the “Superfund Act”)

CERCLA governs the cleanup of sites at which hazardous substances are located or at which hazardous substances have been released or are threatened to be released into the environment. CERCLA authorizes the EPA to compel responsible parties to clean up sites and provides for punitive damages for noncompliance. CERCLA imposes joint and several liabilities for the costs of clean up and damages to natural resources.

Health and Safety Regulations

The operation of our environmental activities is subject to the requirements of the OSHA and comparable state laws. Regulations promulgated under OSHA by the Department of Labor require employers of persons in the transportation and environmental industries, including independent contractors, to implement hazard communications, work practices and personnel protection programs in order to protect employees from equipment safety hazards and exposure to hazardous chemicals.

Atomic Energy Act

The Atomic Energy Act of 1954 governs the safe handling and use of Source, Special Nuclear and Byproduct materials in the U.S. and its territories. This act authorized the Atomic Energy Commission (now the Nuclear Regulatory Commission “USNRC”) to enter into “Agreements with states to carry out those regulatory functions in those respective states except for Nuclear Power Plants and federal facilities like the VA hospitals and the DOE operations.” The State of Florida Department of Health (with USNRC oversight), Office of Radiation Control, regulates the licensing and radiological program of the PFF facility; the State of Tennessee (with USNRC oversight), Tennessee Division of Radiological Health, regulates licensing and the radiological program of the DSSI facility and the EWOC facility; and the State of Washington (with USNRC oversight) Department of Health, regulates licensing and the radiological operations of the PFNWR facility.

Other Laws

Our activities are subject to other federal environmental protection and similar laws, including, without limitation, the Clean Water Act, the Clean Air Act, the Hazardous Materials Transportation Act and the TSCA. Many states have also adopted laws for the protection of the environment which may affect us, including laws governing the generation, handling, transportation and disposition of hazardous substances and laws governing the investigation and cleanup of, and liability for, contaminated sites. Some of these state provisions are broader and more stringent than existing federal law and regulations. Our failure to conform our services to the requirements of any of these other applicable federal or state laws could subject us to substantial liabilities which could have a material adverse effect on us, our operations and financial condition. In addition to various federal, state and local environmental regulations, our hazardous waste transportation activities are regulated by the U.S. Department of Transportation, the Interstate Commerce Commission and transportation regulatory bodies in the states in which we operate. We cannot predict the extent to which we may be affected by any law or rule that may be enacted or enforced in the future, or any new or different interpretations of existing laws or rules.

ITEM 1A. RISK FACTORS

The following are certain risk factors that could affect our business, financial performance, and results of operations. These risk factors should be considered in connection with evaluating the forward-looking statements contained in this Form 10-K, as the forward-looking statements are based on current expectations, and actual results and conditions could differ materially from the current expectations. Investing in our securities involves a high degree of risk, and before making an investment decision, you should carefully consider these risk factors as well as other information we include or incorporate by reference in the other reports we file with the Securities and Exchange Commission (the “Commission”).

Risks Relating to our Business and Operations

The failure of Congress to approve appropriations bills in a timely manner for the federal government agencies and departments we support, or the failure of the Administration and Congress to reach an agreement on fiscal issues, could delay and reduce spending, cause us to lose revenue and profit, and affect our cash flow.

On an annual basis, Congress is required to approve appropriations bills that govern spending by each of the federal government agencies and departments we support. When Congress is, or Congress and the Administration are, unable to agree on budget priorities or specifics, and thus unable to pass annual appropriations bills on a timely basis, Congress typically enacts a continuing resolution (“CR”). CRs generally allow federal government agencies and departments to operate at spending levels based on the previous fiscal year. When agencies and departments operate on the basis of a CR, funding we expect to receive from clients for work we are already performing and for new initiatives may be delayed or canceled. Congress and the Administration have from time to time failed to agree on a CR, resulting in temporary shutdowns of non-essential federal government functions and our work on such functions. Failures by Congress and the Administration to enact appropriations bills in a timely manner can force federal government agencies and departments to shut down or to cancel, change, or delay the implementation of existing or new initiatives. Such events may result in the loss of revenue and profit, or the deferral of revenue and profit to later periods. There is also the possibility that Congress will fail to raise the U.S. debt ceiling when necessary which, in addition to resulting in federal government shutdowns, could significantly impact the U.S. and global economy, affecting the discretionary spending decisions of our non-governmental clients and affecting the capital markets and our access to sources of liquidity on terms that are acceptable to us. The delayed funding or shutdown of many parts of the federal government, including agencies, departments, programs, and projects we support, could have a substantial negative effect on our revenue, profit, and cash flows.

Budget compromises that may be needed for future fiscal years may continue to be extraordinarily difficult given the complicated grassroots political environment, a closely divided Congress, an increasing federal deficit and debt load, and a challenged economy.

The budgets of many of our state and local government clients are also subject to similar divisions, risks, and uncertainties as are inherent in the federal budget process.

Government regulation, policy and program decisions under the new Administration could impact our business, affecting our profitability and future growth.

A material amount of our revenues is derived from various federal government contracts or subcontracts. Considerable uncertainties exist regarding how future federal budget and program decisions under the new Administration will unfold. Program and policy decisions that have been implemented or may be implemented could negatively impact our business. These programs and policies include, among other things, a scaled down government workforce. These programs and policies and the transition of employees from the government agencies with which we do business could create delays in waste receipts from federal government clients, project, procurements, and contract awards. Additionally, trade tensions or restrictions on trade, including the tariffs that have been imposed, have resulted and could further result in retaliation by imposing tariffs by other countries. The imposition of these tariffs by the U.S. and other countries could result in disruption in supply chains, increased costs on products that we utilize in our business operations, reduce profitability on waste that we treat for international clients and increased cybersecurity threats, among other things. Shift in decreased priorities in government funding for remediation projects by the new administration may also negatively impact our results of operations and financial conditions.

Failure to maintain our financial assurance coverage that we are required to have in order to operate our permitted treatment, storage and disposal facilities could have a material adverse effect on us.

We maintain finite risk insurance policies and bonding mechanisms which provide financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure of those facilities. We are required to provide and to maintain financial assurance that guarantees to the state that in the event of closure, our permitted facilities will be closed in accordance with the regulations. Although we have not had a problem as of the date of this report in maintaining our financial assurance coverage, in the event that we are unable to obtain or maintain our financial assurance coverage for any reason, 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. 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 federal 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 Treatment and Services Segments' revenues are generated through various federal government contracts or subcontracts. Most of our federal government contracts or our subcontracts granted under federal government contracts are awarded through a regulated competitive bidding process. Some federal 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. Contracts with, or subcontracts involving, federal government are generally terminable for convenience at any time at the option of the governmental agency. From time to time, we have experienced difficulty in obtaining new federal contracts or subcontracts. 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.

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

A variety of factors may cause our existing or future customers to reduce, delay or halt their spending on hazardous waste and nuclear services from outside vendors, including us. These factors include, but are not limited to, the following. We have experienced certain of the below factors from time to time:

- accidents, terrorism, natural disasters or other incidents occurring at nuclear facilities or involving shipments of nuclear materials;
- failure of government to approve necessary budgets, or to reduce the amount of the budget necessary, to fund remediation sites, including DOE and DOD sites;
- government shut-downs or government Continuing Resolutions;
- civic opposition to or changes in government policies regarding nuclear operations;
- a reduction in demand for nuclear generating capacity;
- failure to perform under existing contracts, directly or indirectly, with the government;
- COVID pandemic; or
- poor weather conditions.

These events could result in or cause government clients to terminate or cancel existing contracts involving us to treat, store or dispose of contaminated waste and/or to perform remediation projects, at one or more of government sites. 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, reductions in federal government funding or other events beyond our control 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, without limitation, economic conditions, 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, domestic political environment, and competing demands for federal funds that can pressure various areas. During economic downturns, large budget deficits that the federal government and many states are experiencing, and other events beyond our control, including, but not limited to the impact from public health events (such as COVID-19 or other unforeseen public health event), the ability of private and government entities to spend on waste

services, including nuclear services, may decline significantly. Our operations depend, in large part, upon 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 flow.

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, and have in the past lost, these significant customers from year to year as their projects with us are completed. Our inability to replace the business with other similar significant projects could have an adverse effect on our business and results of operations.

We are a holding company and depend, in large part, on receiving funds from our subsidiaries to fund our indebtedness.

Because we are a holding company and operations are conducted through our subsidiaries, our ability to meet our obligations depends, in large part, on the operating performance and cash flows of our subsidiaries.

Our Treatment Segment has limited end disposal sites to utilize to dispose of its waste which could significantly impact our results of operations.

Our Treatment Segment has limited options available for disposal of our nuclear waste. Currently, there are only four commercial disposal sites for our low-level radioactive waste and six commercial disposal sites for our very low-level activity waste we receive from non-governmental sites, allowing us to take advantage of the pricing competition between these sites. If one or more of these commercial disposal sites ceases to accept waste or closes for any reason or refuses to accept the waste of our Treatment Segment, for any reason, we would have limited remaining site to dispose of our nuclear waste. With limited end disposal site to dispose of our waste, we could be subject to significantly increased costs which could negatively impact our results of operations.

Direct and indirect macroeconomic impacts resulting from natural disasters, public health events and/or world conflicts in various regions could continue to and may in the future negatively impact our business and results of operations.

Public health threats and outbreaks such as COVID-19 and natural disasters such as hurricanes and severe weather conditions have previously negatively impacted our results of operations. The direct impacts of these such events resulted in delayed waste shipments and temporary shut-down of projects by certain of our customers, and delays in procurement, contract awards and planning on behalf of our government clients which negatively impacted our revenue. Residual and lingering macroeconomic effects from these such events could again in the future impact supply chain, workforce availability, and/or increased costs which could have a downward effect on our business, financial condition and results of operations. Additionally, world conflicts occurring in various regions may lead to similar macroeconomic effects which could have a downward effect on our business, financial conditions and results of operations. We may attempt to increase our sales prices in order to maintain satisfactory margin; however, competitive pressures in our industry may have the effect of inhibiting our ability to reflect these increased costs in the prices of our services that we provide to our customers and therefore reduce our profitability.

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 could have a material adverse effect on our results of operations and liquidity.

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, regional firms and some international firms with nuclear and/or hazardous waste 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 under-represented minority contractors. Although we believe we have the ability to certify and bid government contract as a small business, there are a number of qualified small businesses in our market that will provide intense competition. For international business, which we continue to focus on, there are additional competitors, many from within the country the work is to be performed, making winning work in foreign countries more challenging. Competition places downward pressure on our contract prices and profit margins. From time to time, we have not been awarded a contract due to one or more of the above competitive conditions. If we are unable to meet these competitive challenges, resulting in our ability to be awarded contracts, we could lose market share and experience an overall reduction in our profits.

We bear the risk of cost overruns in fixed-price contracts. We may experience reduced profits or, in some cases, losses under these contracts if costs increase above our estimates.

Our revenues may be earned under contracts that are fixed-price or maximum price in nature. A number of contracts in our Services Segment are and have in past, been fixed-price or maximum price contracts. Fixed-price contracts expose us to a number of risks not inherent in cost-reimbursable contracts. Under fixed price and guaranteed maximum-price contracts, contract prices are established in part on cost and scheduling estimates which are based on a number of assumptions, including assumptions about future economic conditions, prices and availability of labor, equipment and materials, and other exigencies. If these estimates prove inaccurate, or if circumstances change such as unanticipated technical problems, difficulties in obtaining permits or approvals, changes in laws or labor conditions, supply chain interruptions, weather delays, cost of raw materials, our suppliers' or subcontractors' inability to perform, and/or other events beyond our control, such as the impact of public health events, cost overruns may occur and we could experience reduced profits or, in some cases, a loss for that project. Errors or ambiguities as to contract specifications can also lead to cost-overruns.

Adequate bonding is necessary for us to win certain types of new work and support facility closure requirements.

We are often required to provide performance bonds to customers under certain of our contracts, primarily within our Services Segment. These surety instruments indemnify the customer if we fail to perform our obligations under the contract. If a bond is required for a particular project and we are unable to obtain it due to insufficient liquidity or other reasons, we may not be able to pursue that project. In addition, we provide bonds to support financial assurance in the event of facility closure pursuant to state requirements. We currently have a bonding facility but, the issuance of bonds under that facility is at the surety's sole discretion. Moreover, due to events that affect the insurance and bonding markets generally, bonding may be more difficult to obtain in the future or may only be available at significant additional cost. There can be no assurance that bonds will continue to be available to us on reasonable terms. Our inability to obtain adequate bonding and, as a result, to bid on new work could have a material adverse effect on our business, financial condition and results of operations.

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 nuclear services and 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.

Risks Related to Laws and Regulations

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 or subcontracts relating to DOE and DOD sites are a significant part of our business. Allowable costs under U.S. government contracts are subject to audit by the U.S. government. Although we believe that we have complied with applicable environmental regulations, 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.

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 environmental 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.

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;
- 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.

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

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 (“PAA”) 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 contractors, 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 PAA was extended through 2025 by the Energy Policy Act of 2005.

Under certain conditions, the PAA's indemnification provisions may not apply to our processing of radioactive waste at governmental facilities and may 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 PAA 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.

Risks Relating to our Financial Performance and Position and Need for Financing

If any of our permits, other intangible assets, and tangible assets becomes impaired, we may be required to record significant charges to earnings.

Under accounting principles generally accepted in the United States (“U.S. GAAP”), we review our intangible and tangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Our permits are tested for impairment at least annually. Factors that may be considered a change in circumstances, indicating that the carrying value of our permit, other intangible assets, and tangible assets may not be recoverable, include a decline in stock price and market capitalization, reduced future cash flow estimates, and slower growth rates in our industry. We may be required, in the future, to record impairment charges in our financial statements, in which any impairment of our permit, other intangible assets and tangible assets is determined. Such impairment charges could negatively impact our results of operations.

Breach of any of the covenants in our credit facility could result in a default, triggering repayment of outstanding debt under the credit facility and the termination of our 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. We were not required to perform testing of our fixed charge coverage ratio (“FCCR”) in each of the quarters in 2024 but otherwise met all of our other financial covenant requirements. In the past, we have failed to meet our minimum FCCR requirement in certain instances and in each case, our lender has either waived these instances of non-compliance or provided certain amendments to our FCCR requirements which enabled us to meet our quarterly FCCR requirements. Also, our lender has in the past waived our FCCR testing requirement in certain quarters. If we fail to meet any of our financial covenants going forward, including the minimum quarterly FCCR requirement, and our lender does not waive the non-compliance or revise our covenant requirement so that we are in compliance, our lender could accelerate the payment of our borrowings under our credit facility and terminate our credit facility. In such event, we may not have sufficient liquidity to repay our debt under our credit facility and other indebtedness and/or operate our business.

Inability to maintain the required liquidity under our loan agreement with our lender could adversely affect our operations.

We are required to maintain a certain level of Liquidity (defined as borrowing availability under the revolving credit plus cash in our money market deposit account (“MMDA”) maintained with our lender) under our credit facility. The maximum we can borrow under the revolving part of our credit facility is based on a percentage of the amount of our eligible receivables outstanding at any one time reduced by outstanding standby letters of credit and any borrowing reduction that our lender has or may impose from time to time. As of December 31, 2024, we had no borrowing under the revolving part of our credit facility and our Liquidity, as defined under our credit facility was approximately \$33,905,000, which included approximately \$28,898,000 cash in our MMDA account primarily from the sales of our Common Stock completed in May 2024 and December 2024. These sales were consummated at a negotiated price. A lack of positive operating results could have material adverse consequences on our ability to operate our business. Our ability to make principal and interest payments, to refinance indebtedness, and borrow under our credit facility 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.

If our financial and operating activities are limited, it could adversely affect our ability to incur additional debt to fund future needs.

We could, among other things, be:

- required to dedicate a substantial portion of our cash flow to the payment of principal and interest, thereby reducing the funds available for operations and future business opportunities;
- make it more difficult for us to satisfy our obligations;
- limit our ability to borrow additional money if needed for other purposes, including working capital, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes, on satisfactory terms or at all;

- limit our ability to adjust to changing economic, business and competitive conditions;
- place us at a competitive disadvantage with competitors who may have less indebtedness or greater access to financing;
- make us more vulnerable to an increase in interest rates, a downturn in our operating performance or a decline in general economic conditions; and
- make us more susceptible to changes in credit ratings, which could impact our ability to obtain financing in the future and increase the cost of such financing.

Any of the foregoing could adversely impact our operating results, financial condition, and liquidity. Our ability to continue our operations depends on our ability to generate profitable operations or complete equity or debt financings to increase our capital. See above risk factor for a discussion as to raising Liquidity in connection with our equity financing.

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

We have approximately \$33,470,000 and \$81,775,000 in net operating loss carryforwards for federal and state income tax purposes, respectively and expires in various amounts starting in 2024 if not used against future federal and state income tax liabilities, respectively. All of our federal net operating loss carryforwards were generated after December 31, 2017 and thus do not expire. 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. Given our recent financial performance, we fully reserved these loss carryforwards in 2024. Further, our net loss carryforwards have not been audited or approved by the Internal Revenue Service.

We sustained substantial losses in 2024 and our inability to become profitable on an annualize basis in the foreseeable future could have a material adverse effect on our operations, credit facility, liquidity and potential growth.

The Company sustained substantial losses in 2024. We believe that our results of operations should substantially improve in 2025. If, however, we fail to become profitable on an annualized basis in the foreseeable future, this could have a material adverse effect on our operations, credit facility, liquidity and potential growth.

Risks Relating to our Common Stock

Issuance of substantial amounts of our common stock, par value \$0.001 per share (the “Common Stock”) could depress our stock price or dilute the percentage ownership of our Common Stockholders.

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 equity interest of our stockholders and the dilution in ownership value. During 2024, we raised capital through the sales of our Common Stock in May 2024 (2,051,282 shares) and December 2024 (2,530,000 shares). As of December 31, 2024, we had 18,377,237 shares of Common Stock outstanding. In addition, as of December 31, 2024, we had outstanding options to purchase 1,000,900 shares of our Common Stock at exercise prices ranging from \$3.15 to \$10.20 per share and warrants to purchase 188,038 shares of our Common Stock at exercise prices of \$11.50 and \$12.19 per share. 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 without prior approval from our lender.

The price of our Common Stock may fluctuate significantly, which may make it difficult for our stockholders to resell our Common Stock when a stockholder wants or at prices a stockholder finds attractive.

The price of our Common Stock on the Nasdaq Capital Market constantly fluctuates. We expect that the market price of our Common Stock will continue to fluctuate. This may make it difficult for our stockholders

to resell the Common Stock when a stockholder wants or at prices a stockholder finds attractive.

General Risk Factors

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. 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 have in the past lost certain key personnel. 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.

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

We must be successful in winning mandates from our government, commercial and international customers to replace revenues from projects that we have completed or that are nearing completion and to increase our revenues. We bid on numerous projects, and a number of the projects we bid on, we are not successful in obtaining. Our business and operating results can be adversely affected by the size and timing of a single material contract.

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

Our safety record is critical to our reputation. We have from time to time, experienced incidents which impacted certain safety records. 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.

Systems failures, interruptions or breaches of security and other cybersecurity risks could have an adverse effect on our financial condition and results of operations.

We are subject to certain operational risks to our information systems. Because of efforts on the part of computer hackers and cyberterrorists to breach data security of companies, we face risk associated with potential failures to adequately protect critical corporate, customer and employee data. As part of our business, we develop and retain confidential data about us and our customers, including the U.S. government. We also rely on the services of a variety of vendors to meet our data processing and communications needs.

Despite our implemented security measures and established policies, we cannot be certain that all of our systems are entirely free from vulnerability to attack or other technological difficulties or failures or failures on the part of our employees to follow our established security measures and policies. Information security risks have increased significantly. Our technologies, systems, and networks may become the target of cyber-attacks, computer viruses, malicious code, or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of our or our customers' confidential, proprietary and other information and the disruption of our business operations. A security breach could adversely impact our customer relationships, reputation and operations, result in violations of applicable privacy and other laws and/or financial loss to us or to our customers or to our employees, and similar litigation exposure. While we maintain a system of internal controls and procedures, any breach, attack, or failure as discussed above could have a material adverse impact on our business, financial condition, and results of operations or liquidity.

There is also an increasing attention on the importance of cybersecurity relating to infrastructure. This creates the potential for future developments in regulations relating to cybersecurity that may adversely impact us, our customers and how we offer our services to our customers.

Climate change could negatively impact the Company's operations and financial condition.

Climate change may present both immediate and long-term risks to the Company and our customers and these risks may increase over time. Climate risks can arise from both physical risks (those risks related to the physical effects of climate change) and transition risks (risks related to governmental regulatory requirements, legal technology, market and reputational changes from a transition to a low carbon economy). Climate change could have a material, adverse effect on environmental companies like ours that are involved in the treatment, disposal and other services related to hazardous waste, radioactive waste and/or mixed (waste that contain both hazardous and radioactive) waste by changing or restricting how we perform our services or what services we can perform or taking action that materially increases our costs to do business in order to regulate or reduce climate change.

Failure to obtain intellectual property protection for our proprietary technologies could negatively affect us.

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

Failure to maintain effective internal control over financial reporting or failure to remediate a material weakness in internal control over financial reporting could have a material adverse effect on our business, operating results, and stock price.

Maintaining effective internal control over financial reporting is necessary for us to produce reliable financial reports and is important in helping to prevent financial fraud. If we are unable to maintain adequate internal controls, our business and operating results could be harmed. We are required to satisfy the requirements of Section 404 of Sarbanes Oxley and the related rules of the Commission, which require, among other things, management to assess annually the effectiveness of our internal control over financial reporting.

In the period ended September 30, 2024, we identified a material weakness related to the precision level required to properly evaluate the need for a valuation allowance on our U.S. deferred tax assets. This material weakness resulted in an income tax valuation adjustment recorded during the quarter. The necessary level of precision was not applied when evaluating the need for a valuation allowance. The error was corrected by us in our condensed consolidated financial statements as of September 30, 2024, and for the three and nine months ended September 30, 2024. The material weakness noted did not result in a material misstatement in our previously issued financial statements, nor in the financial statements included in our Quarterly Report on Form 10-Q for the period ended September 30, 2024. We have remediated this material weakness as of December 31, 2024 (see "Item 9A. – Controls and Procedures" for a discussion of the remediation of this material weakness).

If we are unable to maintain adequate internal control over financial reporting or remediate any material weakness identified, there is a reasonable possibility that a misstatement of our annual or interim financial statements will not be prevented or detected in a timely manner. If we cannot produce reliable financial reports, investors could lose confidence in our reported financial information, the market price of our Common Stock could decline significantly, and our business, financial condition, and reputation could be harmed.

Delaware law, certain of our charter provisions, our stock option plans, 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 by the Delaware General Corporation 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.

As of December 31, 2024, out of 30,000,000 shares of our Common Stock authorized, we had 18,377,237 shares of Common Stock outstanding and 7,642 shares of treasury stock. In addition, as of December 31, 2024, we had outstanding options to purchase 1,000,900 shares of our Common Stock at exercise prices ranging from \$3.15 to \$10.20 per share and warrants to purchase 188,038 shares of our Common Stock at exercise prices of \$11.50 and \$12.19 per share. Assuming the issuance of the Common Stock underlying such options and warrant, as of December 31, 2024, we had available for future issuance 10,426,183 shares of authorized and unissued Common Stock, and 2,000,000 shares of our preferred stock. All of our authorized preferred stock is available for issuance. Future sales of authorized and unissued shares could be used by our management to make it more difficult for, and thereby discourage, an attempt to acquire control of us.

ITEM 1B. UNRESOLVED STAFF COMMENTS

Not Applicable.

ITEM 1C. CYBERSECURITY

Cybersecurity Risk Management and Strategy

The Company recognizes the importance of identifying, assessing, and managing risks associated with cybersecurity threats. The Company’s cybersecurity program utilizes components of the National Institute of Standards and Technology (“NIST”) Cybersecurity Framework. Key components of our cybersecurity program include governance, risk management, access and authentication controls, change management, audit and assessment, awareness and training, contingency planning, recovery, media handling, incident response, personnel and physical security, and communication integrity.

Our program is embedded into Information Technology (“IT”) and Information System (“IS”) operations across the business with a focus on awareness, transparency, minimizing business impacts, and reducing enterprise risk, including strategic, compliance, legal and financial risk. The Company has policies and procedures in place to ensure compliance with its cybersecurity program and cybersecurity controls. Our program relies on a philosophy of continuous improvement by using periodic self-assessments, 3rd party assessments, and customer/agency audits to determine cyber control presence, applicability, and effectiveness. Our program is customized with additional controls that address financial systems risk, nuclear quality assurance, Sarbanes Oxley, European Union cyber and data protection requirements, and supply chain risks.

Our risk management process addresses confidentiality, availability, and integrity and includes evaluating information systems specific threats, vulnerabilities, likelihood, and potential impact. Impact thresholds, which are reviewed and approved by the Board of Directors (the “Board”) and senior management, are used to define incident escalation paths from IT operations to management, the Audit Committee and the Board. This process is used to identify, manage, and communicate material risks to the business. Additional cyber incident reporting requirements are in place to comply with customers and regulatory agency requirements.

Automated threat and vulnerability management systems are in place and updated per industry standards and best practices. Our IT team further manages risk by evaluating external providers of threat, vulnerability, and risk mitigation information. This information is used to proactively implement new methods or controls for reducing risk associated with a particular emerging threat or vulnerability.

The Company’s cybersecurity program is managed by the Vice President (“VP”) of Information Systems, who has been employed by the Company for 21 years and has over 36 years of total experience in information systems. The VP of Information Systems has an extensive career in software development and infrastructure management including working with Fortune 500 companies in his prior positions. The VP of information Systems is a participant in the overall Company strategic process and has aligned the program to best service the strategic objectives of the business.

Cybersecurity Governance

The Company's Audit Committee has oversight responsibility for risks and incidents relating to cybersecurity threats. Our senior management is responsible for the day-to-day management of the material risks we face. Our VP Of Information System is scheduled to report to the CFO on a weekly basis and the Audit Committee on a quarterly basis on cybersecurity matters to include updates on cybersecurity threat management, strategy processes, system updates and cybersecurity risks activities, including but not limited to any recent cybersecurity incidents and related responses. Our Board is also engaged in discussion with senior management and the Audit Committee on at least a quarterly basis to discuss any updates to our cybersecurity risk management and strategy program. Each member of our Board has a working knowledge and/or experience with cybersecurity, IT strategy and IT risk assessment.

In the past two years, the Company does not believe that it has experienced any material cybersecurity incidents, nor any material costs related to immaterial cyber incidents. Although we have a comprehensive process for the prevention of material cybersecurity incidents as discussed, we cannot provide assurance that our results of operations and financial condition and business strategy will not be materially impacted from cybersecurity risks in the future. For more information on our cybersecurity related risk and potential effects on the Company of a material cybersecurity breach, see under "General Risk Factors" in "Item 1A. Risk Factors"

ITEM 2. PROPERTIES

Our principal executive office is in Atlanta, Georgia. Our Business Center is located in Oak Ridge, Tennessee. Our Treatment Segment facilities are located in Gainesville, Florida; Kingston, Tennessee; Richland, Washington; and Oak Ridge, Tennessee. All of the properties where these facilities operate on are pledged to our senior lender as collateral for our credit facility with the exception of the property at Oak Ridge, Tennessee, which is held as collateral by another bank. Our Services Segment maintains offices, which are all leased properties. We maintain properties in Valdosta, Georgia and Memphis, Tennessee, which are all non-operational and are included within our discontinued operations.

The Company currently leases properties in the following locations for operations and administrative functions within our Treatment and Services Segments, including our corporate office and Business Center:

Location	Square Footage (SF)/	Expiration of Lease
	Acreage (AC)	
Oak Ridge, TN (Business Center)	16,319 SF	April 30, 2026
Oak Ridge, TN (Services)	5,000 SF	September 30, 2026
Blaydon On Tyne, England (Services)	1,000 SF	April 30, 2026
New Brighton, PA (Services)	3,558 SF	June 30, 2026
Newport, KY (Services)	1,566 SF	Monthly
Atlanta, GA (Corporate)	6,499 SF	November 30, 2027

We believe that the above facilities currently provide adequate capacity for our operations and that additional facilities are readily available in the regions in which we operate, which could support and supplement our existing facilities.

ITEM 3. LEGAL PROCEEDINGS

See "Part II – Item 8 - Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Note 13 – Commitments and Contingencies – Legal Matters" for a discussion of our legal proceedings. Additionally, see "Note 18 – Subsequent Events – Shareholder Demand Letter" for a discussion of a request for the removal of a certain provision within the Company's Amended and Restated Bylaws.

ITEM 4. MINE SAFETY DISCLOSURE

Not Applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our Common Stock is traded on the Nasdaq Capital Market ("Nasdaq") under the symbol "PESI." The following table sets forth the high and low market trade prices quoted for the Common Stock during the periods shown. The source of such quotations and information is the NASDAQ online trading history reports.

		2024		2023	
		Low	High	Low	High
Common Stock	1st Quarter	\$ 7.50	\$ 12.00	\$ 3.56	\$ 12.00
	2nd Quarter	8.89	14.17	7.52	12.60
	3rd Quarter	8.06	13.00	8.73	13.87
	4th Quarter	10.31	16.25	6.50	10.72

At March 10, 2025, there were approximately 115 stockholders of record of our Common Stock. The actual number of our stockholders is greater than this number since beneficial owners are owners of shares that are held in "street name" by banks, brokers, and other nominees.

Since our inception, we have not paid any cash dividends on our Common Stock and have no dividend policy. Our Loan Agreement dated May 8, 2020, as amended, prohibits us from paying any cash dividends on our Common Stock without prior approval from our lender. We do not anticipate paying cash dividends on our outstanding Common Stock in the foreseeable future.

No sales of unregistered securities occurred during 2024 except the following:

During the first quarter of 2024, the Company issued 30,000 shares of its Common Stock resulting from the exercise of a warrant for the purchase of up to 30,000 shares of the Company's Common Stock at an exercise price of \$3.51 per share, resulting in proceeds received by the Company of approximately \$105,000. See "Warrant" in "Note 6 - Capital Stock, Stock Plans, Warrants, and Stock Based Compensation" in "Part II, Item 8, Financial Statements and Supplementary Data" for further discussion of this warrant exercise.

There were no purchases made by us or on behalf of us or any of our affiliated members of shares of our Common Stock during 2024.

See "Note 6 - Capital Stock, Stock Plans, Warrants, and Stock Based Compensation" in Part II, Item 8, "Financial Statements and Supplementary Data" and "Equity Compensation Plans" in Part III, Item 12, "Security Ownership of Certain Beneficial Owners and Management and Related Stockholders Matter" for securities authorized for issuance under equity compensation plans which are incorporated herein by reference.

ITEM 6. [Reserved]

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Certain statements contained within Item 1 – "Business" and this "Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A") may be deemed "forward-looking statements" within the meaning of Section 27A of the Act, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the "Private Securities Litigation Reform Act of 1995"). See "Special Note regarding Forward-Looking Statements" contained in this report.

Management's discussion and analysis is based, among other things, on our audited consolidated financial statements and includes our accounts and the accounts of our wholly-owned subsidiaries.

The following discussion and analysis should be read in conjunction with our consolidated financial statements and the notes thereto included in Item 8 of this report.

Overview

We were disappointed with our 2024 financial results, which were negatively impacted by a number of unexpected events and factors. These events and factors included among other things,

- Continuing Resolution (“CR”) impacts primarily in the first half of 2024 that directly resulted in delays in project starts for existing services backlogs along with delays in procurement cycles for pipeline projects;
- poor weather conditions, including two hurricanes, which resulted in delays in waste shipments and project mobilization activities by certain customers and power outages and plant shutdowns at certain of our treatment facilities;
- temporary outages at certain of our facilities for equipment replacement and repairs, program enhancement and testing to support permit expansion and broader market penetration which contributed to revenue production delays;
- accelerated investments in R&D of our new technology to treat PFAS which required significant management and operation support, thereby also limiting resources needed for revenue production; and
- completion of two large projects primarily in the fourth quarter of 2023 in the Services Segment that were not replaced by new projects of similar value. These two projects generated an aggregate of approximately \$35,273,000 in revenue in 2023.

As a result of the aforementioned events and factors, overall revenue decreased by \$30,618,000 or 34.1% to \$59,117,000 for the twelve-months ended December 31, 2024, from \$89,735,000 for the corresponding period of 2023. Treatment Segment revenue decreased by \$8,524,000 to \$34,953,000 or 19.6% from \$43,477,000, and Services Segment revenue decreased by \$22,094,000 or 47.8% to \$24,164,000 from \$46,258,000. Total gross profit for the twelve-months ended December 31, 2024, decreased \$16,367,000 or 100.0% due to decreased revenue generated in both segments. Selling, general and administrative (“SG&A”) expenses decreased \$484,000 or 3.2% for the twelve-months ended December 31, 2024, as compared to the corresponding period of 2023.

During 2024, we provided a full valuation allowance against our deferred tax assets (see a discussion of this valuation allowance and the impact to our financial statements in “Results of Operations – Income Taxes” below).

In 2024, we completed two public equity raises and sold an aggregate 4,581,282 shares of our Common Stock. See “Liquidity and Capital Resources - Financing Activities” within this MD&A for discussions of these equity raises that occurred in May 2024 and December 2024.

Although we are disappointed with our 2024 financial results, we believe our base business is positioned for improvement and that our results of operations should improve in 2025. We continue to advance a number of initiatives which are discussed within this report on Form 10-K. Some of these initiatives have been realized, with additional initiatives that are expected to be more fully realized in 2025. In December 2024, BWXT Technologies, Inc (“BWXT”) announced that the DOE had awarded BWXT and its team, which we are a member of, the contract for the cleanup operations at the West Valley Development Project in West Valley, NY. As disclosed by BWXT, the contract has a 10-year ordering period with a maximum value of up to \$3 billion that can be performed for up to 15 years. The scope attributable to us has not yet been defined and is subject to certain approvals. The West Valley Project is anticipated to begin transition in the first quarter of 2025 and realize full operations in 120 days from initiation. As previously disclosed, in December 2023, we and our partner, Campoverde Srl, each owning 50% of the partnership, were awarded a multi-year contract for the treatment of radioactive waste from the Joint Research Center in Ispra, Italy. Revenue generated and to be generated by us from this contract has been and will be limited to project management support through 2025. The scope of work in the initial phases of this contract is being performed predominantly by our partner. We expect to generate an increase in revenue under this contract starting in 2026 when the waste treatment

phases begin.

Our continuing initiatives include, among other things, positioning ourselves for further large and mid-size procurements within the DOE and DOD and waste treatment in support of DOE's Hanford closure strategy, continued investments in our facilities and capabilities to allow for broader waste treatment (including PFAS) (see "Known Trends and Uncertainties - New Processing Technology" within this MD&A for a discussion of our PFAS technology), and continued expansion of our waste treatment offerings within the international and commercial markets (see "Part I, Item 1 – Business – Foreign Revenue and Initiatives" for a discussion of our foreign revenue and initiatives).

See "Known Trends and Uncertainties – Federal Funding" within this MD&A for a discussion of factors that could impact our results of operations in 2025.

Business Environment

Our Treatment and Services Segments' business continues to be heavily dependent on services that we provide to federal governmental clients, primarily as subcontractors for others who are contractors to government entities or directly as the prime contractor. We believe demand for our services will continue to be subject to fluctuations due to a variety of factors beyond our control, including, without limitation, current economic and political conditions, the manner in which the applicable government authority will be required to spend funding to remediate various sites and potential future federal budget issues. In addition, our governmental contracts and subcontracts relating to activities at federal governmental sites in the United States are generally subject to termination for convenience at any time at the government's option. Significant reductions in the level of governmental funding 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.

Results of Operations

The reporting of financial results and pertinent discussions are tailored to our two reportable segments: The Treatment Segment and Services Segment.

Summary - Years Ended December 31, 2024 and 2023

Below are the results of continuing operations for years ended December 31, 2024, and 2023 (amounts in thousands):

<u>(Consolidated)</u>	<u>2024</u>	<u>%</u>	<u>2023</u>	<u>%</u>
Net revenues	\$ 59,117	100.0	\$ 89,735	100.0
Cost of goods sold	59,115	100.0	73,366	81.8
Gross profit	2	—	16,369	18.2
Selling, general and administrative	14,491	24.5	14,975	16.7
Research and development	1,172	2.0	561	.6
Loss on disposal of property and equipment	21	—	77	.1
(Loss) income from operations	(15,682)	(26.5)	756	.8
Interest income	921	1.5	606	.7
Interest expense	(473)	(.8)	(323)	(.4)
Interest expense – financing fees	(66)	(.1)	(93)	(.1)
Other income (expense)	166	.3	(11)	—
(Loss) income from continuing operations before taxes	(15,134)	(25.6)	935	1.0
Income tax expense	4,435	7.5	17	—
(Loss) income from continuing operations	<u>\$ (19,569)</u>	<u>(33.1)</u>	<u>\$ 918</u>	<u>1.0</u>

Revenue

Consolidated revenues decreased \$30,618,000 for the year ended December 31, 2024, compared to the year ended December 31, 2023, as follows:

(In thousands)	2024	% Revenue	2023	% Revenue	Change	% Change
<u>Treatment</u>						
Government waste	\$ 22,098	37.4	\$ 29,506	32.9	\$ (7,408)	(25.1)
Hazardous/non-hazardous ⁽¹⁾	4,995	8.4	6,260	7.0	(1,265)	(20.2)
Other nuclear waste	7,860	13.3	7,711	8.6	149	1.9
Total	<u>34,953</u>	<u>59.1</u>	<u>43,477</u>	<u>48.5</u>	<u>(8,524)</u>	<u>(19.6)</u>
<u>Services</u>						
Nuclear	20,353	34.4	43,121	48.0	(22,768)	(52.8)
Technical	3,811	6.5	3,137	3.5	674	21.5
Total	<u>24,164</u>	<u>40.9</u>	<u>46,258</u>	<u>51.5</u>	<u>(22,094)</u>	<u>(47.8)</u>
Total	<u>\$ 59,117</u>	<u>100.0</u>	<u>\$ 89,735</u>	<u>100.0</u>	<u>\$ (30,618)</u>	<u>(34.1)</u>

¹⁾ Includes wastes generated by government clients of \$2,898,000 and \$2,943,000 for the twelve months ended December 31, 2024, and 2023, respectively.

Treatment Segment revenue decreased by \$8,524,000 or 19.6% for the twelve-months ended December 31, 2024, over the same period in 2023. The overall decrease in revenue was primarily due to lower waste volume attributed from the factors as discussed in the “Overview” section above. Overall lower averaged price from waste mix within the Treatment Segment also contributed to the revenue decrease. Services Segment revenue decreased by approximately \$22,094,000 or 47.8%. The decrease in revenue in the Services Segment was due to the reasons as discussed in the “Overview” above. Additionally, our Services Segment revenues are project based; as such, the scope, duration, and completion of each project vary.

Cost of Goods Sold

Cost of goods sold decreased \$14,251,000 for the year ended December 31, 2024, as compared to the year ended December 31, 2023, as follows:

(In thousands)	2024	% Revenue	2023	% Revenue	Change
Treatment	\$ 36,063	103.2	\$ 36,601	84.2	\$ (538)
Services	23,052	95.4	36,765	79.5	\$ (13,713)
Total	<u>\$ 59,115</u>	<u>100.0</u>	<u>\$ 73,366</u>	<u>81.8</u>	<u>\$ (14,251)</u>

Cost of goods sold for the Treatment Segment decreased by approximately \$538,000 or 1.5%. Treatment Segment’s variable costs decreased by approximately \$1,467,000 primarily due to overall lower transportation, disposal, lab and bonus/incentive costs. Treatment Segment’s overall fixed costs increased by approximately \$929,000 resulting from the following: salaries and payroll related expenses were higher by \$1,717,000 due to higher headcount; regulatory costs were higher by approximately \$101,000; depreciation expenses were lower by approximately \$626,000 due to fully depreciated AROs that occurred in the third quarter of 2023 in connection with our EWOC facility; maintenance costs were lower by approximately \$123,000; general expenses were lower by \$111,000 in various categories; and travel expenses were lower by approximately \$29,000. Services Segment cost of goods sold decreased \$13,713,000 or 37.3% primarily due to lower revenue. The decrease in cost of goods sold was primarily due to overall lower salaries/payroll related, outside services, and travel costs totaling approximately \$13,565,000; lower depreciation expenses of approximately \$220,000; lower general expenses of \$49,000 in various categories; and higher material and supplies expenses of approximately \$121,000. Included within cost of goods sold is depreciation and amortization expense of \$1,637,000 and \$2,484,000 for the twelve months ended December 31, 2024, and 2023, respectively.

Gross Profit

Gross profit for the year ended December 31, 2024, was \$16,367,000 lower than 2023 as follows:

(In thousands)	2024	% Revenue	2023	% Revenue	Change
Treatment	\$ (1,110)	(3.2)	\$ 6,876	15.8	\$ (7,986)
Services	1,112	4.6	9,493	20.5	\$ (8,381)
Total	<u>\$ 2</u>	0.0	<u>\$ 16,369</u>	18.2	<u>\$ (16,367)</u>

Treatment Segment gross profit decreased by \$7,986,000 or approximately 116.1% and gross margin decreased to (3.2)% from 15.8% primarily due to lower revenue from lower waste volume, overall lower averaged price from waste mix and the impact of our fixed cost structure. Services Segment gross profit decreased by \$8,381,000 or 88.3% primarily due to decreased revenue as discussed in the “Overview” above. The decrease in gross margin from 20.5% to 4.6% was attributed to overall lower margin projects as the two large projects completed in late 2023 were higher margin projects. Our overall Services Segment gross margin is impacted by our current projects which are competitively bid on and will therefore have varying margin structures.

SG&A

SG&A expenses decreased \$484,000 for the year ended December 31, 2024, as compared to the corresponding period for 2023 as follows:

(In thousands)	2024	% Revenue	2023	% Revenue	Change
Administrative	\$ 6,896	—	\$ 7,230	—	\$ (334)
Treatment	4,290	12.3	4,249	9.8	41
Services	3,305	13.7	3,496	7.6	(191)
Total	<u>\$ 14,491</u>	24.5	<u>\$ 14,975</u>	16.7	<u>\$ (484)</u>

Administrative SG&A expenses were lower primarily due to lower incentive expenses of approximately \$540,000, which was offset by overall higher expenses of \$206,000 in various categories. Administrative SG&A expenses in 2023 included incentives earned in connection with the Company’s management incentive plans (“MIPs”) and other employees’ bonus plans. Such incentives were not earned in 2024. Treatment Segment SG&A expenses were higher primarily due to higher salaries and payroll related expenses of approximately \$420,000 which were offset by overall lower travel, outside services and general expenses totaling approximately \$379,000. The decrease in Services Segment SG&A was primarily due to lower outside services expenses of approximately \$102,000 from fewer consulting and legal matters and lower salaries and payroll related expenses of approximately \$249,000. The overall lower SG&A expenses were offset by higher credit loss expenses of approximately \$160,000 as a certain account receivable was determined to be uncertain as to collectability as of December 31, 2024. Included in SG&A expenses is depreciation and amortization expense of \$126,000 and \$84,000 for the twelve months ended December 31, 2024 and 2023, respectively.

R&D

R&D expenses increased by \$611,000 for the twelve-months ended December 31, 2024, as compared to the corresponding period of 2023 primarily due to expenses incurred in connection with our new PFAS technology.

Interest Income

Interest income increased by approximately \$315,000 for the twelve-months ended December 31, 2024, as compared to the corresponding period of 2023. The increase was primarily due to higher interest income earned from our finite risk sinking fund from higher interest rates that took effect starting in March 2023. Additionally, the increase in interest income resulted from more funds that we maintained in our money market deposit accounts from the two equity raises that were complete in May 2024 and December 2024. The overall increase in interest income from the above was reduced by interest income received in March of 2023 of approximately \$60,000 in connection with the Employee Retention Credit refund that we received.

Interest Expense

Interest expense increased by approximately \$150,000 for the twelve-months ended December 31, 2024, as compared to the corresponding period of 2023. The increase was attributed primarily to interest incurred on the \$2,500,000 term loan dated July 31, 2023, under our credit facility and the promissory note that we entered into on July 24, 2024, for the purchase of our EWOC facility. The higher interest expense was also attributed to more finance leases.

Income Taxes

We record a valuation allowance against our net deferred tax asset to the extent we determine it is more likely than not that such asset will not be realized in the future. We regularly evaluate the probability that our deferred tax assets will be realized and determines whether valuation allowances or adjustments thereto are needed. This determination involves judgement and the use of estimates and assumptions, including expectations of future taxable income and tax planning strategies. We apply judgment to consider the relative impact of negative and positive evidence, and the weight given to negative and positive evidence is commensurate with the extent to which such evidence can be objectively verified. Based on our evaluation of all available positive and negative evidence, and with greater weight placed on the objectively verifiable evidence which primarily included our three-year cumulative losses, we determined that it was more likely than not that our net U.S. deferred tax asset will not be realized. As a result, in 2024, we provided a full valuation allowance against our U.S. federal and state deferred tax assets and recorded an income tax expense in the amount of approximately \$8,194,000. We continue to maintain a valuation allowance against foreign tax attributes that may not be realized.

We had income tax expenses of \$4,435,000 and \$17,000 for continuing operations for the twelve-months ended December 31, 2024 and 2023, respectively. Our effective tax rates were approximately 29.3% and 1.8% for the twelve-month ended December 31, 2024 and 2023, respectively. Our effective tax rate for the twelve-months ended December 31, 2024, was impacted primarily by the income tax expense recorded in the amount of approximately \$8,194,000 as we provided for a full valuation allowance against our U.S. federal and state deferred tax assets. Our effective tax rate for the twelve-months ended December 31, 2023, was impacted by non-deductible expenses and state taxes.

Backlog

Our Treatment Segment maintains a backlog of stored waste, which represents waste that has not been processed. The backlog is principally a result of the timing and complexity of the waste being brought into the facilities and the selling price per container. As of December 31, 2024, our Treatment Segment had a backlog of approximately \$7,859,000, as compared to approximately \$8,702,000 as of December 31, 2023. Additionally, the time it takes to process waste from the time it arrives may increase due to the types and complexities of the waste we are currently receiving. We typically process our backlog during periods of low waste receipts, which historically has been in the first or fourth quarters.

Discontinued Operations and Environmental Contingencies

Our discontinued operations consist of all our subsidiaries included in our Industrial Segment which encompasses subsidiaries divested in 2011 and earlier, as well as three previously closed locations.

Our discontinued operations had no revenue for the twelve-months ended December 31, 2024 and 2023. We incurred net losses of \$410,000 (net of tax benefit of \$149,000) and \$433,000 (net of tax benefit of \$117,000) for our discontinued operations for the twelve-months ended December 31, 2024, and 2023, respectively. Net losses for both years were primarily due to costs incurred in connection with management of administrative and regulatory matters related to our remediation projects. We have three environmental remediation projects, all within our discontinued operations, which principally entail the removal/remediation of contaminated soil, and, in most cases, the remediation of surrounding ground water.

Liquidity and Capital Resources

Our cash flow requirements during the twelve-months ended December 31, 2024, were primarily financed by our Liquidity (defined as borrowing availability under the revolving credit plus cash in our MMDA maintained with our lender). Our Liquidity included net proceeds received from the sales of an aggregate 4,581,282 shares of our Common Stock pursuant to certain Securities Purchase and Underwriting Agreements

executed in May 2024 and December 2024 (see “Financing Activities” below for a discussion of these offerings, including the planned usage of the proceeds). We believe our cash flow requirements for the next twelve months will consist primarily of general working capital needs, scheduled principal payments on our debt obligations, remediation projects, R&D on our PFAS technology and capital expenditures (which include our PFAS technology) (see “Known Trends and Uncertainties – New Processing Technology” within this MD&A for a discussion of this technology). We plan to fund these requirements from our operations and Liquidity under our Credit Facility. We are continually reviewing operating costs and reviewing the possibility of further reducing operating costs and non-essential expenditures to bring them in line with revenue levels. As of December 31, 2024, we had no outstanding borrowing under our revolving credit and our Liquidity under our Credit Facility was approximately \$33,905,000. We believe that our cash flows from operations and our Liquidity should be sufficient to fund our operations for the next twelve months. Although we believe our operations should improve in 2025, if we continue to incur losses such as in 2024, this could cause a reduction in our Liquidity.

The following table reflects the cash flow activity for the year ended December 31, 2024, and the corresponding period of 2023:

(In thousands)	2024	2023
Cash (used in) provided by operating activities of continuing operations	\$ (14,146)	\$ 7,069
Cash used in operating activities of discontinued operations	(597)	(597)
Cash used in investing activities of continuing operations	(4,079)	(2,038)
Cash used in investing activities of discontinued operations	(51)	—
Cash provided by financing activities of continuing operations	40,955	1,696
Effect of exchange rate changes on cash	(1)	8
Increase in cash and finite risk sinking fund (restricted cash)	<u>\$ 22,081</u>	<u>\$ 6,138</u>

As of December 31, 2024, we were in a positive cash position with no revolving credit balance. As of December 31, 2024, we had cash on hand of approximately \$28,975,000.

Operating Activities

Cash used in operating activities of our continuing operations during 2024 consisted mostly of the significant net loss that we incurred of approximately \$19,569,000, adjusted for certain non-cash items, such as \$656,000 of stock-based compensation expense, \$1,763,000 of depreciation and amortization expense and the deferred income tax expense of \$4,448,000. The decrease in cash used in operating activities of our continuing operations from 2023 to 2024 was driven primarily from the significant net loss that we incurred. Our cash used in operating activities of our discontinued operations consisted primarily of expenses incurred in connection with management and administration of regulatory matters for the Company’s remediation projects.

We had working capital of \$28,283,000 (which included working capital of our discontinued operations) as of December 31, 2024, as compared to working capital of \$4,613,000 as of December 31, 2023. The improvement in our working capital was primarily due to the increase in our cash from the sales of our Common Stock in May 2024 and December 2024, which was offset by the significant losses incurred from our results of operations attributed to the various factors as previously discussed.

Perma-Fix Canada Inc. (“PF Canada”)

Our cash used in operating activities in 2024 included receipt of certain outstanding receivables from Canadian Nuclear Laboratories, LTD (“CNL”) as follows: During the fourth quarter of 2021, PF Canada received a Notice of Termination (“NOT”) from CNL on a Task Order Agreement (“TOA”) that PF Canada entered into with CNL in May 2019 for remediation work within Ontario, Canada (“Agreement”). The NOT was received after work under the TOA was substantially completed and work under the TOA has since been completed. CNL may terminate the TOA at any time for convenience. At year-end 2023, PF Canada had approximately \$2,389,000 in outstanding receivables due from CNL as a result of work performed under the TOA. A settlement agreement was reached between PF Canada and CNL on the payment of the

aforementioned amount by CNL, subject to certain conditions/terms precedents being met. PF Canada received a partial payment from CNL of the outstanding receivables during the first quarter of 2024. In May 2024, PF Canada received the remaining approximately \$1,612,000 in outstanding receivables from CNL. As a result of the aforementioned payments received from CNL, no outstanding receivables remain under the TOA from CNL.

Investing Activities

Cash used in investing activities of our continuing operations during 2024 consisted mostly of our purchases of property and equipment totaling approximately \$3,811,000, of which \$406,000 was financed. The remaining cash used in investing activities consisted of cash outlays made in connection with our operating permits and certain intangible assets. The increase in cash used in investing activities of our continuing operations in 2024 as compared to 2023 was primarily due to capital expenditures made in connection with our PFAS technology which included the installation of our first unit in treating PFAS. Cash used in investing activities of our discontinued operations was primarily for roof replacement at our PFSG location.

Capital Expenditures

We anticipate making capital expenditures of approximately \$2,000,000 to \$5,500,000 in 2025 to maintain operations and regulatory compliance requirements and support revenue growth. We expect our capital expenditures to be higher in 2025 based on certain strategic project initiatives which include the installation of our second generation unit for our PFAS technology. We plan to fund our capital expenditures for 2025 from cash from operations, Liquidity under our Credit Facility and/or financing. The initiation and timing of our capital expenditures are subject to a number of factors which include, among other things, cost/benefit analysis, the pace of our strategic project initiatives and improvement in our operations.

Financing Activities

Our cash provided by financing during 2024 consisted mostly of net proceeds of \$41,859,000 received from the sales of our Common Stock in May 2024 and December 2024 as discussed below and proceeds received from option and a warrant exercises totaling approximately \$292,000, partially offset by principal payments of approximately \$832,000 primarily for our Terms Loans and Capital Loan under our Credit Facility (see below for a discussion of our Credit Facility) and \$291,000 for our finance leases.

Credit Facility

We entered into a Second Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated May 8, 2020, which has since been amended from time to time, with PNC National Association (“PNC” and “lender”), acting as agent and lender (the “Loan Agreement”). The Loan Agreement provides us with the following credit facility with a maturity date of May 15, 2027 (the “Credit Facility”): (a) up to \$12,500,000 revolving credit (“revolving credit”), which borrowing capacity is subject to eligible receivables (as defined) and reduced by outstanding standby letters of credit (\$3,200,000 as of December 31, 2024) and borrowing reductions that our lender may impose from time to time (\$750,000 as of December 31, 2024); (b) a term loan (“Term Loan 1”) of approximately \$1,742,000, requiring monthly installments of \$35,547 (Term Loan 1 was paid off by us in June 2024); (c) a term loan (“Term Loan 2”) of \$2,500,000, requiring monthly installments of \$41,667; and (d) a capital expenditure loan (“Capital Loan”) of approximately \$524,000, requiring monthly installments of principal of approximately \$8,700 plus interest, that commenced on June 1, 2022.

On May 8, 2024 and November 12, 2024, we entered into amendments to our Loan Agreement with our lender which provided the following, among other things:

- removed the quarterly fixed charge coverage ratio (“FCCR”) testing requirement for the first, second and third quarters of 2024;
- reinstated the quarterly FCCR testing requirement starting in the fourth quarter of 2024 and revises the methodology to be used in calculating the FCCR as follows (with no change to the minimum 1.15:1 ratio requirement): FCCR for the fourth quarter is to be determined based on financial results for the three-months period ending December 31, 2024; FCCR for the first quarter of 2025 is to be determined based on financial results for the six-months period ending March 31, 2025; FCCR for the second quarter of 2025 is to be determined based on financial results for the nine-months period

ending June 30, 2025; and FCCR for the third quarter of 2025 and each fiscal quarter thereafter is to be determined based on financial results for a trailing twelve-months period ending basis;

- requires maintenance of a minimum of \$3,000,000 in daily Liquidity starting June 30, 2024, through September 29, 2025 (which we have met to date); and
- in the event that we are able to achieve our minimum quarterly FCCR requirement utilizing our financial results based on a trailing twelve-months period starting with the quarter ended September 30, 2024 (which we did not achieve as of December 31, 2024), the maintenance of a minimum of \$3,000,000 in daily Liquidity requirement as discussed above will be removed. Any subsequent fiscal quarter testing of the FCCR will revert back to a trailing twelve-months period method.

In connection with the amendments, we paid our lender fees totaling \$37,500 which is being amortized over the remaining term of the Loan Agreement as interest expense-financing fees.

On March 11, 2025, we entered into an amendment to our Loan Agreement with our lender which provided the following, among other things:

- removes the quarterly FCCR testing requirement for the fourth quarter of 2024;
- removes the requirement that we maintain a minimum of \$3,000,000 in daily Liquidity through September 29, 2025, which was removable earlier subject to meeting certain conditions;
- removes the quarterly FCCR covenant testing requirement utilizing a twelve-month trailing basis; however, such FCCR testing requirement will be triggered on the day we fail to meet a minimum of \$5,000,000 in daily Liquidity. If triggered, we will be required to show compliance of a FCCR ratio of not less than 1.15 to 1.00 utilizing a trailing twelve-month-period ended starting with the most recently reported fiscal quarter and each fiscal quarter thereafter. The FCCR testing requirement can be removed again once we are able to achieve a minimum of \$5,000,000 in daily Liquidity for a thirty-consecutive-day period from the trigger date; and
- revises the Facility Fee (as defined) from .375% to .500%. Such fee percentage will revert back to .375% at such time that we are able to achieve a minimum 1.15 to 1.00 ratio in FCCR on a twelve-month trailing basis.

In connection with the amendment, the Company paid its lender a fee of \$12,500.

Our Credit Facility under our Loan Agreement with PNC contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by PNC, could result in a default under our Credit Facility allowing our lender to immediately require the repayment of all outstanding debt under our Credit Facility and terminate all commitments to extend further credit. We were not required to perform testing of our FCCR requirement for the first, second and third quarters of 2024 pursuant to the amendments dated May 8, 2024, and November 12, 2024, to our Loan Agreement as discussed above. We were also not required to perform testing of our FCCR requirement for the fourth quarter of 2024 pursuant to the amendment dated March 11, 2025, to our Loan Agreement, as amended, as discussed above. Otherwise, we met all of our other financial covenant requirements in each of the quarters in 2024. We expect to meet our quarterly financial covenant requirements for the next twelve months.

EWOC Note

Our financing activities for 2024 included monthly principal payments on a note that we entered into on July 24, 2024, to finance the balance of the purchase price of the property where our EWOC facility operates. Pursuant to a Purchase and Sales Agreement dated April 30, 2024, we acquired the property for a purchase price of \$425,000, paying \$63,750 in cash and financing the balance with a bank loan of \$361,250 (the "Note"). The Note, which matures on July 24, 2044 (the "Note"), provides for monthly payments of \$3,100 for the first five years commencing August 24, 2024, which payments includes interest at an annual fixed interest rate of 8.10%. Monthly payments under the Note will then be adjusted at the end of years five, ten and fifteen, with interest calculated based on the weekly average five-year US Treasury Securities Rate plus 3.0%. Under no circumstances will the variable interest rate on the Note be less than 4.0% per annum or more than (except in the case of default) the lesser of 20.5% per annum or the maximum rate allowed by applicable law. We agreed to pay the lender 3.0% of the total outstanding principal balance under the Note in the event

we pay off our obligations during the first year of the Note. The prepayment penalty rate will be reduced by 1.0% at each subsequent annual anniversary of the Note. No prepayment penalty will apply in the event we pay off the Note on the fourth anniversary of the Note or thereafter. The property was previously accounted for under our operating leases.

Sale of Common Stock (May 2024)

On May 21, 2024, we entered into a Securities Purchase Agreement (the “Securities Purchase Agreement”) with certain institutional and retail investors (the “Purchasers”), pursuant to which we sold and issued, in a registered direct public offering, an aggregate of 2,051,282 shares of the Company’s Common Stock, at a negotiated purchase price per share of \$9.75 (the “Shares”), for aggregate gross proceeds to us of approximately \$20,000,000, before deducting fees payable to the placement agents and other estimated offering expenses payable by the Company (the “Offering”). The net proceeds from the Offering was utilized to fund (i) continued R&D and business development relating to our patent-pending process for the destruction of PFAS, as well as the cost of installing at least one commercial treatment unit; (ii) ongoing facility capital expenditures and maintenance costs; and (iii) general corporate and working capital purposes. The Shares were offered and sold by the Company pursuant to the Company’s “shelf” registration statement on Form S-3 and prospectus supplement relating thereto.

Craig-Hallum Capital Group LLC (“Craig-Hallum”) and Wellington Shields & Co. LLC (“Wellington Shields”) (Wellington Shields and Craig-Hallum together are known as the “Placement Agents”) served as the exclusive placement agents in connection with the Offering. We paid the Placement Agents an aggregate cash fee of \$1,200,000, which represented 6.00% of the gross proceeds of the Offering. We also reimbursed the Placement Agents certain expenses in connection with the Offering in an aggregate amount of approximately \$80,000. As additional compensation to the Placement Agents in connection with the Offering, we also issued to the Placement Agents and two (2) of their designees, warrants (the “Placement Agents’ Warrants”) to purchase an aggregate of 61,538 shares of Common Stock (the “Warrant Shares”), an amount equal to 3.0% of the number of Shares sold in the registered direct offering. The Placement Agents’ Warrants have an exercise price per share equal to \$12.19, which is equal to approximately 125% of the price per share of the Shares sold in the Offering. Neither the Placement Agents’ Warrants nor the Warrant Shares have been registered under the Registration Statement or otherwise. The Placement Agents’ Warrants have a term of five years, are exercisable at any time and from time to time, in whole or in part, during the four and one-half (4 ½) year period commencing 180 days from the last date of closing of the Offering, which was May 24, 2024, and are exercisable via “cashless exercise” in certain circumstances. The aggregate fair value of the “Placement Agents’ Warrants” was determined to be approximately \$331,000 using the Black-Scholes pricing model with the following assumptions: 58.78% volatility, risk free interest rate of 4.53%, an expected life of five years and no dividend. The aggregate fair market value of the Placement Agent’s Warrants was recorded as an offset to gross proceeds of the Offering and an increase to additional paid-in capital.

After deducting costs incurred (which have all been paid) of approximately \$1,544,000 (exclusive of the aggregate fair market value of the Placement Agents’ Warrants as discussed above) which were recorded as a deduction to equity in connection with the Offering, net cash proceeds to us totaled approximately \$18,456,000.

Sale of Common Stock (December 2024)

On December 18, 2024, we entered into an underwriting agreement (the “Underwriting Agreement”) with Craig-Hallum Capital Group, LLC (the “Underwriter”) to which we sold and issued pursuant to the terms and conditions of the Underwriting Agreement, 2,200,000 shares of the Company’s Common Stock. The shares of Common stock were sold at a negotiated price to the public of \$10.00 per share. The Underwriting Agreement also allowed the Underwriter a 30-day over-allotment option (the “Over-Allotment Option”) to purchase up to an additional 330,000 shares of our Common Stock on the same terms and conditions, which option was exercised in its entirety on December 18, 2024. The shares were offered and sold to the public pursuant to our “universal shelf” registration statement on Form S-3 filed with the Commission on December 2, 2024, and declared effective by the Commission on December 12, 2024, and prospectus supplement relating thereto. The aggregate gross proceeds received by us from the sale of the 2,530,000 shares sold totaled \$25,300,000, before deducting fees payable to the Underwriter and other estimated offering expenses payable by us (the “Offering”). The net proceeds from the Offering is anticipated to fund (i) continued R&D and

business development relating to our patent-pending process for the destruction of PFAS, as well as the cost of installing at least one second-generation Perma-FAS commercial treatment unit; (ii) ongoing facility capital expenditures and maintenance costs; and (iii) general corporate and working capital purposes.

We paid the Underwriter a total cash fee of 7.00% of the aggregate gross proceeds in the Offering, which totaled approximately \$1,771,000. We also reimbursed the Underwriter certain expenses in connection with the Offering in an aggregate amount of approximately \$95,000. As additional compensation to the Underwriter in connection with the Offering, we also issued to the Underwriter and three (3) of their designees, warrants (the "Underwriters' Warrant's") to purchase an aggregate of 126,500 shares of Common Stock (the "Warrant Shares"), equal to 5.0% of the number of Shares sold in the offering, at an exercise price per share equal to \$11.50, which exercise price is equal to approximately 115% of the price per share of the shares sold in the Offering. The Underwriter's Warrants have a term of five years, are exercisable at any time and from time to time, in whole or in part, during the five (5) year period commencing on December 19, 2024, the closing date of the Offering, and are exercisable via "cashless exercise" in certain circumstances. The aggregate fair value of the "Underwriter's Warrants" was determined to be approximately \$695,000 using the Black-Scholes pricing model with the following assumptions: 58.51% volatility, risk free interest rate of 4.43%, an expected life of five years and no dividend. The aggregate fair market value of the Underwriter's Warrants was recorded as an offset to gross proceeds of the Offering and an increase to additional-paid-in capital.

After deducting costs incurred of approximately \$2,092,000 (exclusive of the aggregate fair market value of the Underwriter's Warrants as discussed above) which were recorded as a deduction to equity in connection with the Offering, net cash proceeds to us totaled approximately \$23,208,000. We have paid approximately \$1,897,000 of the \$2,092,000 costs incurred in connection with the Offering.

Off Balance Sheet Arrangements

From time to time, we are required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. As of December 31, 2024, the total amount of standby letters of credit outstanding was approximately \$3,200,000 and the total amount of bonds outstanding was approximately \$20,930,000. We also provide closure and post-closure requirements through a financial assurance policy for certain of our Treatment Segment facilities through American International Group, Inc. ("AIG"). As of December 31, 2024, the closure and post-closure requirements for these facilities were approximately \$23,379,000.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared based upon the selection and application of US GAAP, which may require us to make estimates, judgments and assumptions that affect amounts reported in our financial statements and accompanying notes. The accounting policies below are those we believe affect the more significant estimates and judgments used in preparation of our financial statements. Our other accounting policies are described in the accompanying notes to our consolidated financial statements of this Form 10-K (see "Item 8 – Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements – Note 2 – Summary of Significant Accounting Policies"):

Revenues. Our revenues are generated from our two reportable segments, Treatment and Services. Certain contracts within our Services Segment are generated from long-term fixed price contracts. Under fixed price contracts, the objective of the project is not attained unless all scope items within the contract are completed and all of the services promised within fixed fee contracts constitute a single performance obligation. Transaction price is determined based on fixed price outline within the contract. Revenue from fixed price contracts is recognized over time primarily using the input method. For the input method, revenue is recognized based on costs incurred on the project relative to the total estimated costs of the project.

Contracts in our Treatment Segment primarily have a single performance obligation as the promise to receive, treat and dispose of waste is not separately identifiable in the contract and, therefore, not distinct. Revenue for Treatment Segment performance obligations are generally satisfied over time using the input method. For the input method, revenue is recognized based on the costs incurred. Transaction price for Treatment Segment contracts are determined by the stated fixed rate per unit price as stipulated in the contract.

Some of our contracts have multiple performance obligations, most commonly when we provide additional services to the customer under a waste treatment contract. For contract with multiple performance obligations, the contract's transaction price is allocated to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract. Generally, we use the observable selling prices from an observable price list, but when a price list is not available, the standalone selling price is determined by the cost plus margin approach.

Within our Treatment Segment, we periodically enter into arrangements with customers for transportation of wastes to either our facility or to non-company owned disposal sites. Revenue from this arrangement is recognized at a point in time, upon the transfer of control. Control transfers when the wastes are picked up by us.

Our contracts generally do not give rise to variable consideration. However, from time to time, we may submit requests for equitable adjustments under certain of our government contracts for price or other modifications that are determined to be variable consideration. We estimate the amount of variable consideration to include in the estimated transaction price based on historical experience with government contracts, anticipated performance and management's best judgment at the time and to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. These estimates are re-assessed each reporting period as required.

Intangible Assets. Intangible assets consist primarily of the recognized value of the permits required to operate our business. We continually monitor the propriety of the carrying amount of our permits to determine whether current events and circumstances warrant adjustments to the carrying value.

Indefinite-lived intangible assets are not amortized but are reviewed for impairment annually as of October 1, or when events or changes in the business environment indicate that the carrying value may be impaired. We perform a quantitative test to determine if the fair value of the assets is less than the carrying value. The impairment loss, if any, is measured as the excess of the carrying value of the asset over its fair value. Significant judgments are inherent in these analyses and include assumptions for, among other factors, forecasted revenue, gross margin, growth rate, operating income, timing of expected future cash flows, and the determination of appropriate long-term discount rates.

Impairment testing of our permits related to our Treatment reporting unit as of October 1, 2024, and 2023 resulted in no impairment charges.

Intangible assets that have definite useful lives are amortized using the straight-line method over the estimated useful lives and are excluded from our annual intangible asset valuation review as of October 1. Intangible assets with definite useful lives are tested for impairment whenever events or changes in circumstances indicate that the asset's carrying value may not be recoverable.

Our future cash flow assumptions and conclusions with respect to asset impairments could be impacted by changes arising from (i) a sustained period of economic and industrial slowdowns (ii) inability to scale our operations and implement cost reduction efforts during reduced demand and/or (iii) a significant decline in our share price for a sustained period of time. These factors, among others, could significantly impact the impairment analysis and may result in future asset impairment charges that, if incurred, could have a material adverse effect on our financial condition and results of operations. We believe that the assumptions and estimates utilized for the reporting periods are appropriate based on the information available to management.

Accrued Closure Costs and Asset Retirement Obligations ("ARO"). Accrued closure costs represent our estimated environmental liability to clean up our facilities as required by our permits, in the event of closure. ASC 410, "Asset Retirement and Environmental Obligations" requires that the discounted fair value of a liability for an ARO be recognized in the period in which it is incurred with the associated ARO capitalized as part of the carrying cost of the asset. The recognition of an ARO requires that management make numerous estimates, assumptions and judgments regarding such factors as estimated probabilities, timing of settlements, material and service costs, current technology, laws and regulations, and credit adjusted risk-free rate to be used. We develop estimates for the cost of these activities based on our evaluation of site-specific facts and

circumstances, such as the existence of structures and other improvements that would need to be dismantled and the length of the post-closure period as determined by the applicable regulatory agency, among other things. Included in our cost estimates are our interpretation of current regulatory requirements and any proposed regulatory changes. These cost estimates may change in the future due to various circumstances including, but not limited to, permit modifications, changes in legislation or regulations, technological changes and results of environmental studies. Our cost estimates are calculated using internal sources as well as input from third-party experts. This estimate is inflated, using an inflation rate, to the expected time at which the closure will occur, and then discounted back, using a credit adjusted risk free rate, to the present value. ARO's are included within buildings as part of property and equipment and are depreciated over the estimated useful life of the property. In periods subsequent to initial measurement of the ARO, we must recognize period-to-period changes in the liability resulting from the passage of time and revisions to either the timing or the amount of the original estimate of undiscounted cash flow. Increases in the ARO liability due to passage of time impact net income as accretion expense and are included in cost of goods sold in the Consolidated Statements of Operations. Changes in the estimated future cash flows costs underlying the obligations (resulting from changes or expansion at the facilities) require adjustment to the ARO liability calculated and are capitalized and charged as depreciation expense, in accordance with our depreciation policy.

Income Taxes. The provision for income tax is determined in accordance with ASC 740, "Income Taxes." As part of the process of preparing our consolidated financial statements, we are required to estimate our income taxes in each of the jurisdictions in which we operate. We record this amount as a provision or benefit for taxes. This process involves estimating our actual current tax exposure, including assessing the risks associated with tax audits, and assessing temporary differences resulting from different treatment of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities.

We regularly review deferred tax assets by jurisdiction to assess their potential realization and establish a valuation allowance for portions of such assets that we believe will not be realized. In performing this review, we make estimates and assumptions regarding projected future taxable income, the expected timing of the reversals of existing temporary differences and the implementation of tax planning strategies. A change in these assumptions could cause an increase or decrease to the valuation allowance which could materially impact our results of operations.

Recent Accounting Pronouncements

See "Item 8 – Financial Statements and Supplementary Data" – Notes to Consolidated Financial Statements – Note 2 – Summary of Significant Accounting Policies" for the recent accounting pronouncement that was adopted in 2024 and recent accounting pronouncements that will be adopted in future periods.

Known Trends and Uncertainties

Significant Customers. Our Treatment and Services Segments have significant relationships with federal governmental authorities through contracts entered into indirectly as subcontractors for others who are contractors or directly as the prime contractor to federal government authorities. Our inability to continue under existing contracts that we have with the federal government (directly or indirectly as a subcontractor) or significant reductions in the level of governmental funding in any given year could have a material adverse impact on our operations and financial condition.

The contracts that we are a party to with others as subcontractors to the federal government or directly with the federal government generally provide that the government may terminate the contract at any time for convenience at the government's option. Our inability to continue under existing contracts that we have with the federal government authorities (directly or indirectly as a subcontractor) or significant reductions in the level of governmental funding in any given year could have a material adverse impact on our operations and financial condition. We performed services relating to waste generated by federal government clients, either directly as a prime contractor or indirectly for others as a subcontractor to federal government entities, representing approximately \$40,551,000, or 68.6%, of our total revenue during 2024, as compared to \$68,595,000 or 76.4%, of our total revenue during 2023.

Federal Funding. As discussed above, a significant portion of our revenue is generated through contracts entered into indirectly as subcontractors for others who are prime contractors or directly as the prime contractor to federal government authorities. Uncertainties exist regarding how future federal government budget and program and policy decisions will unfold, which include, the spending priorities of the new Administration and Congress, passage of the 2025 fiscal year U.S. government budget and potential for enactment of additional continuing resolutions to keep government departments and agencies in operations. The full impact of these uncertainties could negatively impact our financial results by impairing our ability to perform work on existing contracts, delaying or cancelling procurement actions by government entities, and/or cause other disruptions or delays, including payment delays.

New Processing Technology. We have completed the fabrication, installation, commissioning and startup of our first full scale commercial Perma-FAS system (“System”) for PFAS (commonly known as “forever chemicals”) destruction at our Perma-Fix Florida, Inc. facility. Our System and patent-pending technology successfully processed commercial PFAS-containing waste materials. There are limited current treatment options for these materials, and we expect that our process will exceed any of these methods. Some of the sizable markets for PFAS include AFFF (aqueous film-forming foam) firefighting foams, both expired concentrate and flushing liquids, contaminated liquids from PFAS systems, and other water-based separation products from a variety of industrial systems. We have already secured and are treating approximately 6,000 gallons of AFFF liquids to support ongoing operations, demonstration, and further testing of our System. We believe that we will receive an additional 20,000 gallons in the coming months.

Our strategy for our System includes continued treatment of PFAS liquids over the coming months and targeting engineering refinements to support larger-scale Systems. With significant upgrades to our prototype currently in the design phase, we anticipate deployment of the second-generation unit in the third quarter of 2025 at one of our other existing treatment facilities to support revenue generation in the fourth quarter of 2025. By the third quarter of 2025, we expect to advance this technology into pilot-scale applications for soil, biosolids, and filter media, broadening the reach of our System’s destruction capabilities for PFAS.

Related Party Transactions

See a discussion of our related party transactions in “Item 8 – Financial Statements and Supplementary Data – Notes to Consolidate Financial Statements – Note 15 – Related Party Transactions.”

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required under Regulation S-K for smaller reporting companies.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Forward-looking Statements

Certain statements contained within this report may be deemed "forward-looking statements" within the meaning of the "Private Securities Litigation Reform Act of 1995". All statements in this report 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," and similar expressions identify forward-looking statements. Forward-looking statements contained herein relate to, among other things,

- demand for our services;
- opportunities in Germany;
- reductions in the level of government funding in future years;
- accelerated investments;
- base business is positioned for improvement in 2025;
- results of operations improvement in 2025;
- advancement of initiatives to be further realized in 2025;
- approvals of scope attributable to the Company under the West Valley Development Project contract;

- operations of the West Valley Development Project;
- Low-Level Tank Waste and benefits of supplemental capability;
- reducing operating costs and non-essential expenditures;
- revenues relating to the West Valley Development Project;
- ability to meet loan agreement quarterly financial covenant requirements;
- additional CR impact;
- spending priorities under new Administration;
- passage of the 2025 fiscal year U.S. government budget;
- cash flow requirements;
- sufficient cash flow and Liquidity to fund operations for the next twelve months;
- receipt of international waste shipments in 2025;
- amount of capital expenditures;
- revenue under the Italian project;
- manner in which the applicable government will be required to spend funding to remediate various sites;
- successful on international bids;
- funding of operating and capital expenditures from cash from operations, Liquidity under our Credit Facility, and/or financing;
- our PFAS technology process will exceed current treatment options available;
- receipt of an additional 20,000 AFFF liquid;
- deployment of the second generation unit;
- strategy for our System;
- advancement of our PFAS technology;
- funding of remediation expenditures for sites from funds generated internally;
- compliance with environmental regulations;
- positioning for procurements from DOE and other government agencies;
- potential effect of being a potentially responsible party (“PRP”);
- potential violations of environmental laws and attendant remediation at our facilities; and
- Quarterly financial covenant requirement for the next twelve months.

While the Company believes the expectations reflected in such forward-looking statements are reasonable, it 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 and uncertainties;
- contract bids, including international markets;
- our dependence on contracts with federal, state and local governments, agencies, and departments for the majority of our revenue;
- changes in federal government budgeting and spending priorities;
- failure by Congress or other governmental bodies to approve budgets and debt ceiling increases in a timely fashion and related reductions in government spending and/or a government shutdown;
- uncertainties relating to the new presidential administration (the “Administration”) and failure of the Administration to spend Congressionally mandated appropriations, which may result in the failure to realize the full amount of our backlog;
- failure of the Administration and Congress to agree on spending priorities, which may result in temporary shutdowns of non-essential federal functions, including our work to support such functions;
- results of routine and non-routine government audits and investigations, including the unpredictability of the actions of the newly-formed DOGE;
- inability to meet PNC covenant requirements;
- inability to collect in a timely manner a material amount of receivables;
- increased competitive pressures;
- inability to maintain and obtain required permits and approvals to conduct operations;

- inability to develop new and existing technologies in the conduct of operations;
- inability to maintain and obtain closure and operating insurance requirements;
- inability 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;
- delays at our third-party disposal site can extend collection of our receivables greater than twelve months;
- refusal of third-party disposal sites to accept our waste;
- changes in federal, state and local laws and regulations, especially environmental laws and regulations, or in interpretation of such;
- requirements to obtain permits for treatment, storage and disposal (TSD) activities or licensing requirements to handle low level radioactive materials are limited or lessened;
- management retention and development;
- financial valuation of intangible assets is substantially more/less than expected;
- the need to use internally generated funds for purposes not presently anticipated;
- inability of the Company to maintain the listing of its Common Stock on the Nasdaq;
- terminations of contracts with government agencies or subcontracts involving government agencies or reduction in amount of waste delivered to the Company under the contracts or subcontracts;
- failure of our Italian team partner to perform its requirements in connection with the Italian project;
- changes in the scope of work relating to existing contracts;
- occurrence of an event similar to COVID-19 having adverse effects on the U.S. and world economics;
- renegotiation of contracts involving government agencies;
- disposal expense accrual could prove to be inadequate in the event the waste requires re-treatment;
- inability to raise capital on commercially reasonable terms;
- inability to increase profitable revenue;
- risks resulting from expanding our service offerings and client base;
- non-acceptance of our new technology;
- adjustments to our valuation allowance;
- new governmental regulations; and
- risk factors contained in Item 1A of this report.

Our forward-looking statements are based on the beliefs and assumptions of our management and the information available to our management at the time these statements were prepared. Although we believe the expectations reflected in these statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Annual Report on Form 10-K. We undertake no obligation to update these forward-looking statements, even if our situation changes in the future.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Index to Consolidated Financial Statements

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Financial Statement Schedules

In accordance with the rules of Regulation S-X, schedules are not submitted because they are not applicable to or required by the Company.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Perma-Fix Environmental Services, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheets of Perma-Fix Environmental Services, Inc. (a Delaware corporation) and subsidiaries (the “Company”) as of December 31, 2024 and 2023, the related consolidated statements of operations, comprehensive (loss) income, stockholders’ equity, and cash flows for the years then ended, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024 and 2023, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (“PCAOB”) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical audit matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

In-Process Fixed Price Service Revenue

As described further in Note 2 to the financial statements, the Company recognizes revenue over time using an input measure of progress for certain fixed priced service arrangements. Under this method, revenue is recorded proportionally based on project costs incurred relative to the estimated total project costs. Auditing the Company’s in-process fixed price arrangements was complex given the judgment required in determining the estimated total project costs. We identified the estimated total project costs for in-process fixed price service arrangements as a critical audit matter.

The principal consideration for our determination that the estimated total project costs for in-process fixed price service arrangements at year-end is a critical audit matter is due to management's significant judgments when determining such estimated total project costs. Auditing the estimate of total project costs requires a high degree of auditor judgment and increased audit effort due to the judgement involved in management's estimation of total project costs, which impacts revenue recognition.

Our audit procedures related to the estimated total project costs for in-process fixed price service arrangements included the following, among others.

- We obtained an understanding of how management ensures the estimated total project costs of in-process fixed price service arrangements are complete and accurate at year-end.
- For a sample of in-process fixed fee arrangements, we obtained and tested the underlying assumptions used by the Company to develop the estimate of total project costs at year-end.
- When evaluating management's estimation process, we performed a retrospective review by assessing prior estimates against actual outcomes.

/s/ GRANT THORNTON LLP

We have served as the Company's auditor since 2014.

Atlanta, Georgia
March 13, 2025

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED BALANCE SHEETS
As of December 31,

(Amounts in Thousands, Except for Share and Per Share Amounts)	2024	2023
ASSETS		
Current assets:		
Cash	\$ 28,975	\$ 7,500
Accounts receivable, net of allowance for credit losses of \$202 and \$30, respectively	11,579	9,722
Unbilled receivables	4,990	8,432
Inventories	1,350	1,155
Prepaid and other assets	3,309	3,738
Current assets related to discontinued operations	20	13
Total current assets	<u>50,223</u>	<u>30,560</u>
Property and equipment:		
Buildings and land	24,717	24,311
Equipment	23,499	22,809
Vehicles	411	434
Leasehold improvements	8	8
Office furniture and equipment	1,082	1,130
Construction-in-progress	2,949	1,010
Total property and equipment	<u>52,666</u>	<u>49,702</u>
Less accumulated depreciation	<u>(31,533)</u>	<u>(30,693)</u>
Net property and equipment	21,133	19,009
Property and equipment related to discontinued operations	130	81
Operating lease right-of-use assets	1,697	1,990
Intangibles and other long term assets:		
Permits	10,531	9,905
Other intangible assets - net	393	461
Finite risk sinking fund (restricted cash)	12,680	12,074
Deferred tax assets	—	4,299
Other assets	461	370
Total assets	<u>\$ 97,248</u>	<u>\$ 78,749</u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED BALANCE SHEETS, CONTINUED
As of December 31,

(Amounts in Thousands, Except for Share and per Share Amounts)	2024	2023
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 6,373	\$ 9,582
Accrued expenses	5,111	6,560
Disposal/transportation accrual	2,271	1,198
Deferred revenue	6,711	6,815
Accrued closure costs - current	50	79
Current portion of long-term debt	550	773
Current portion of operating lease liabilities	345	380
Current portion of finance lease liabilities	285	291
Current liabilities related to discontinued operations	244	269
Total current liabilities	<u>21,940</u>	<u>25,947</u>
Accrued closure costs	8,290	8,051
Long-term debt, less current portion	1,765	1,975
Long-term operating lease liabilities, less current portion	1,427	1,670
Long-term finance lease liabilities, less current portion	491	776
Long-term liabilities related to discontinued operations	945	953
Total long-term liabilities	<u>12,918</u>	<u>13,425</u>
Total liabilities	34,858	39,372
Commitments and Contingencies (Note 13)		
Stockholders' Equity:		
Preferred Stock, \$.001 par value; 2,000,000 shares authorized, no shares issued and outstanding	—	—
Common Stock, \$.001 par value; 30,000,000 shares authorized; 18,384,879 and 13,654,201 shares issued, respectively; 18,377,237 and 13,646,559 shares outstanding, respectively	18	14
Additional paid-in capital	159,590	116,502
Accumulated deficit	(96,930)	(76,951)
Accumulated other comprehensive loss	(200)	(100)
Less Common Stock in treasury, at cost; 7,642 shares	(88)	(88)
Total stockholders' equity	<u>62,390</u>	<u>39,377</u>
Total liabilities and stockholders' equity	<u>\$ 97,248</u>	<u>\$ 78,749</u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
For the years ended December 31,

(Amounts in Thousands, Except for Per Share Amounts)	2024	2023
Net revenues	\$ 59,117	\$ 89,735
Cost of goods sold	<u>59,115</u>	<u>73,366</u>
Gross profit	2	16,369
Selling, general and administrative expenses	14,491	14,975
Research and development	1,172	561
Loss on disposal of property and equipment	<u>21</u>	<u>77</u>
(Loss) income from operations	(15,682)	756
Other income (expense):		
Interest income	921	606
Interest expense	(473)	(323)
Interest expense-financing fees	(66)	(93)
Other	<u>166</u>	<u>(11)</u>
(Loss) income from continuing operations before taxes	(15,134)	935
Income tax expense	<u>4,435</u>	<u>17</u>
(Loss) income from continuing operations, net of taxes	(19,569)	918
Loss from discontinued operations (Note 8)	<u>(410)</u>	<u>(433)</u>
Net (loss) income	<u>\$ (19,979)</u>	<u>\$ 485</u>
Net income (loss) per common share - basic and diluted:		
Continuing operations	\$ (1.30)	\$.07
Discontinued operations	<u>(.03)</u>	<u>(.03)</u>
Net income (loss) per common share	<u>\$ (1.33)</u>	<u>\$.04</u>
Weighted average number of common shares used in computing net (loss) income per share:		
Basic	15,072	13,506
Diluted	15,072	13,739

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS) INCOME
For the years ended December 31,

(Amounts in Thousands)	2024	2023
Net (loss) income	\$ <u>(19,979)</u>	\$ <u>485</u>
Other comprehensive (loss) income:		
Foreign currency translation adjustments	<u>(100)</u>	<u>65</u>
Total other comprehensive (loss) income	<u>(100)</u>	<u>65</u>
Comprehensive (loss) income	\$ <u><u>(20,079)</u></u>	\$ <u><u>550</u></u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the years ended December 31,
(Amounts in Thousands, Except for Share Amounts)

	Common Stock		Additional	Common	Accumulated Other		Total
	Shares	Amount	Paid-In	Stock Held	Comprehensive	Accumulated	Stockholders'
			Capital	In Treasury	Loss	Deficit	Equity
Balance at December 31, 2022	<u>13,332,398</u>	<u>\$ 13</u>	<u>\$ 115,209</u>	<u>\$ (88)</u>	<u>\$ (165)</u>	<u>\$ (77,436)</u>	<u>\$ 37,533</u>
Net income	—	—	—	—	—	485	485
Foreign currency translation	—	—	—	—	65	—	65
Issuance of Common Stock for services	65,854	—	477	—	—	—	477
Stock-Based Compensation	—	—	548	—	—	—	548
Issuance of Common Stock upon exercise of options	225,949	1	163	—	—	—	164
Issuance of Common Stock upon exercise of warrant	30,000	—	105	—	—	—	105
Balance at December 31, 2023	<u>13,654,201</u>	<u>\$ 14</u>	<u>\$ 116,502</u>	<u>\$ (88)</u>	<u>\$ (100)</u>	<u>\$ (76,951)</u>	<u>\$ 39,377</u>
Net income	—	—	—	—	—	(19,979)	(19,979)
Foreign currency translation	—	—	—	—	(100)	—	(100)
Issuance of Common Stock for services	46,947	—	480	—	—	—	480
Stock-Based Compensation	—	—	656	—	—	—	656
Issuance of Common Stock upon exercise of options	72,449	—	187	—	—	—	187
Issuance of Common Stock upon exercise of warrant	30,000	—	105	—	—	—	105
Sale of Common Stock, net of offering costs (Note 17)	4,581,282	4	40,634	—	—	—	40,638
Issuance of warrants from sale of Common Stock (Note 17)	—	—	1,026	—	—	—	1,026
Balance at December 31, 2024	<u>18,384,879</u>	<u>\$ 18</u>	<u>\$ 159,590</u>	<u>\$ (88)</u>	<u>\$ (200)</u>	<u>\$ (96,930)</u>	<u>\$ 62,390</u>

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the years ended December 31,

(Amounts in Thousands)	2024	2023
Cash flows from operating activities:		
Net (loss) income	\$ (19,979)	\$ 485
Less: loss on discontinued operations (Note 8)	<u>(410)</u>	<u>(433)</u>
(Loss) income from continuing operations	(19,569)	918
Adjustments to reconcile net (loss) income from continuing operations to cash (used in) provided by operating activities:		
Depreciation and amortization	1,763	2,568
Amortization of debt issuance costs	65	93
Deferred tax expense (benefit)	4,448	(66)
Provision for credit losses on accounts receivable	219	45
Loss on disposal of property and equipment	21	77
Issuance of common stock for services	480	477
Stock-based compensation	656	548
Changes in operating assets and liabilities of continuing operations:		
Accounts receivable	(2,076)	(403)
Unbilled receivables	3,442	(2,370)
Prepaid expenses, inventories and other assets	3,072	4,517
Accounts payable, accrued expenses and unearned revenue	<u>(6,667)</u>	<u>665</u>
Cash (used in) provided by continuing operations	(14,146)	7,069
Cash used in discontinued operations	<u>(597)</u>	<u>(597)</u>
Cash (used in) provided by operating activities	<u>(14,743)</u>	<u>6,472</u>
Cash flows from investing activities:		
Purchases of property and equipment (net of financed amount)	(3,405)	(1,714)
Addition to permits and other intangible assets	(675)	(324)
Proceeds from sale of property and equipment	<u>1</u>	<u>—</u>
Cash used in investing activities of continuing operations	(4,079)	(2,038)
Cash used in discontinued operations	<u>(51)</u>	<u>—</u>
Cash used in investing activities	<u>(4,130)</u>	<u>(2,038)</u>
Cash flows from financing activities:		
Borrowing on revolving credit	98,655	90,256
Repayments of revolving credit borrowings	(98,655)	(90,256)
Proceeds from long term debt (Term Loan 2)	—	2,500
Proceeds from sale of Common Stock, net of offering costs paid (Note 17)	41,859	—
Principal repayment of finance lease liabilities	(291)	(189)
Principal repayments of long term debt	(832)	(709)
Payment of debt issuance costs	(73)	(175)
Proceeds from issuance of Common Stock upon exercise of options/warrant	<u>292</u>	<u>269</u>
Cash provided by financing activities of continuing operations	<u>40,955</u>	<u>1,696</u>
Effect of exchange rate changes on cash	<u>(1)</u>	<u>8</u>
Increase in cash and finite risk sinking fund (restricted cash) (Note 2)	22,081	6,138
Cash and finite risk sinking fund (restricted cash) at beginning of period (Note 2)	<u>19,574</u>	<u>13,436</u>
Cash and finite risk sinking fund (restricted cash) at end of period (Note 2)	<u>\$ 41,655</u>	<u>\$ 19,574</u>
Supplemental disclosure:		
Interest paid	\$ 478	\$ 308
Income taxes paid	53	—
Non-cash investing and financing activities:		
Equipment purchase subject to financing	406	784

The accompanying notes are an integral part of these consolidated financial statements.

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Notes to Consolidated Financial Statements
December 31, 2024, and 2023

NOTE 1

DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Perma-Fix Environmental Services, Inc. (the Company, which may be referred to as we, us, or our), an environmental and technology know-how company, is a Delaware corporation, engaged through its subsidiaries, in two reportable segments:

TREATMENT SEGMENT, which includes:

- nuclear, low-level radioactive, mixed waste (containing both hazardous and low-level radioactive constituents), hazardous and non-hazardous waste treatment, processing and disposal services primarily through four uniquely licensed and permitted treatment and storage facilities; and
- R&D activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

SERVICES SEGMENT, which includes:

- Technical services, which include:
 - o professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
 - o integrated Occupational Safety and Health services including IH assessments; hazardous materials surveys, e.g., exposure monitoring; lead and asbestos management/abatement oversight; indoor air quality evaluations; health risk and exposure assessments; health & safety plan/program development, compliance auditing and training services; and OSHA citation assistance;
 - o global technical services providing consulting, engineering, project management, waste management, environmental, and D&D field, technical, and management personnel and services to commercial and government customers; and
 - o on-site waste management services to commercial and governmental customers.
- Nuclear services, which include:
 - o technology-based services including engineering, D&D, specialty services and construction, logistics, transportation, processing and disposal;
 - o remediation of nuclear licensed and federal facilities and the remediation cleanup of nuclear legacy sites. Such services capability includes: project investigation; radiological engineering; partial and total plant D&D; facility decontamination, dismantling, demolition, and planning; site restoration; logistics; transportation; and emergency response; and
- A company owned equipment calibration and maintenance laboratory that services, maintains, calibrates, and sources (i.e., rental) health physics, IH and customized NIOSH instrumentation.

The Company's continuing operations consist of the operations of its subsidiaries/facilities as follow: Diversified Scientific Services, Inc. ("DSSI"), Perma-Fix of Florida, Inc. ("PFF"), Perma-Fix of Northwest Richland, Inc. ("PFNWR"), Safety & Ecology Corporation ("SEC"), Perma-Fix Environmental Services UK Limited ("PF UK Limited"), Perma-Fix Canada, Inc. ("PF Canada") and Oak Ridge Environmental Waste Operations Center ("EWOC").

The Company's discontinued operations (see "Note 8 – Discontinued Operations") consist of operations of all our subsidiaries included in our Industrial Segment which encompasses subsidiaries divested in 2011 and earlier, as well as three previously closed locations.

Financial Positions and Liquidity

The Company's cash flow requirements during the twelve-months ended December 31, 2024, were primarily financed by its Liquidity (defined as borrowing availability under the revolving credit plus cash in its Money Market Deposit Account ("MMDA") maintained with its lender) under its Credit Facility. The Company's

Liquidity included net proceeds of approximately \$41,664,000 received from the sales of an aggregate 4,581,282 shares of its Common Stock pursuant to certain Securities Purchase and Underwriting Agreements executed in May 2024 and December 2024 (see “Note 17 – Sales of Common Stock” for a discussion of these offerings). The Company’s cash flow requirements for the next twelve months will consist primarily of general working capital needs, scheduled principal payments on its debt obligations, remediation projects, R&D on its PFAS technology and capital expenditures (which include its PFAS technology). The Company plans to fund these requirements from its operations and Liquidity under its Credit Facility. The Company is continually reviewing operating costs and reviewing the possibility of further reducing operating costs and non-essential expenditures to bring them in line with revenue levels. As of December 31, 2024, the Company had no outstanding borrowing under its revolving credit and Liquidity under its Credit Facility was approximately \$33,905,000. The Company believes that its cash flows from operations and Liquidity should be sufficient to fund its operations for the next twelve months. If the Company continues to incur losses, this could cause a reduction in its Liquidity.

Reclassification

Certain amounts in “Note 12 – Income taxes” for the year ended December 31, 2023, have been reclassified to conform with current presentation. The reclassification had no effect on the consolidated statements of operations, balance sheets and stockholders’ equity.

Immaterial Correction of an Error

The Company reclassified \$324,000 of cash outlay for permits and other intangible assets, which was included in “Prepaid expenses, inventories and other assets” within cash provided by operating activities to cash used in investing activities for the year ended December 31, 2023, in its consolidated statement of cash flows. This correction of an error was immaterial and had no effect on the consolidated statements of operations, balance sheets and stockholders’ equity.

NOTE 2

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation

The consolidated financial statements have been prepared in accordance with accounting standards generally accepted in the United States (“U.S. GAAP”). The Company’s consolidated financial statements include our accounts and those of our wholly-owned subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation.

Use of Estimates

The Company prepares financial statements in conformity with U.S. GAAP, which may require estimates of future cash flows and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenues and expenses during the reporting period. Due to the inherent uncertainty involved in making estimates, actual results could differ from those estimates.

Accounts Receivable

Accounts receivable are customer obligations due under normal trade terms generally requiring payment within 30 to 60 days from the invoice date based on the customer type (government, broker, or commercial). Credit is extended to customers based on an evaluation of a customer’s financial condition and, generally, collateral is not required. The carrying amount of accounts receivables is reduced by a credit loss determined in accordance with Accounting Standards Update (“ASU”) 2016-13 “Credit Losses (Topic 326) Measurement of Credit Losses on Financial Instruments.” which requires the Company to consider forward-looking information in estimating the expected loss and is developed using historical collection experience, current and future economic and market conditions that may affect customers’ ability to pay, and a review of the current status of customers’ accounts receivables. The Company does not apply a credit loss allowance to government related receivables due to our past successful experience in their collectability. The Company’s monitoring activities include routine follow-up on past due accounts and consideration of customers’ financial conditions. Once the Company has exhausted all options in the collection of a delinquent accounts receivable balance, which includes collection letters, demands for payment, collection agencies and attorneys, the

account is deemed uncollectible and subsequently written off. The write off process involves approvals from management based on required approval thresholds.

The following table sets forth the activity in the allowance for credit losses for the years ended December 31, 2024, and 2023 (in thousands):

	Year Ended December 31,	
	2024	2023
Allowance for credit losses - beginning of year	\$ 30	\$ 57
Provision charges	219	44
Write-off	(47)	(71)
Allowance for credit losses - end of year	<u>\$ 202</u>	<u>\$ 30</u>

Unbilled Receivables

Unbilled receivables are generated by differences between invoicing timing and our over-time revenue recognition methodology used for revenue recognition purposes. As major processing and contract completion phases are completed and the costs are incurred, the Company recognizes the corresponding percentage of revenue. Within our Treatment Segment, the facilities experience delays in processing invoices due to the complexity of the documentation that is required for invoicing, as well as the difference between completion of revenue recognition and agreed upon invoicing terms, which could result in unbilled receivables. The timing differences occur for several reasons which include, delays in the final processing of all wastes associated with certain work orders and delays for analytical testing that is required after the facilities have processed waste but prior to our release of waste for disposal. The tasks relating to these delays can take months to complete but are generally completed within twelve months.

Unbilled receivables within our Services Segment can result from work performed under contracts but invoice milestones, based on the executed contract, have not yet been met and/or contract claims and pending change orders, including requests for equitable adjustments (“REA”) for which work has been performed and collection of revenue is reasonably assured.

Inventories

Inventories consist of treatment chemicals and certain supplies. Additionally, the Company has replacement parts in inventory, which are deemed critical to the operating equipment and may also have extended lead times should the part fail and need to be replaced. Inventories are valued at the lower of cost or net realizable value with cost determined by the first-in, first-out method.

Disposal and Transportation Costs

The Company accrues for waste disposal based on the waste at each facility at the end of each accounting period. Current market prices for transportation and disposal costs are applied to the end of period waste inventories to estimate the transportation and disposal accruals.

Property and Equipment

Property and equipment expenditures are capitalized and depreciated using the straight-line method over the estimated useful lives of the assets for financial statement purposes, while accelerated depreciation methods are principally used for income tax purposes. Generally, asset lives range from ten to forty years for buildings (including improvements and asset retirement costs) and three to seven years for office furniture and equipment, vehicles, and decontamination and processing equipment. Leasehold improvements are capitalized and amortized over the lesser of the term of the lease or the life of the asset. Maintenance and repairs are charged directly to expense as incurred. The cost and accumulated depreciation of assets sold or retired are removed from the respective accounts, and any gain or loss from sale or retirement is recognized in the accompanying Consolidated Statements of Operations. Renewals and improvements, which extend the useful lives of the assets, are capitalized.

Certain property and equipment expenditures are financed through leases. Amortization of financed leased assets is computed using the straight-line method over the estimated useful lives of the assets. As of December 31, 2024, assets recorded under finance leases were \$1,601,000 less accumulated depreciation of \$798,000, resulting in net fixed assets under finance leases of \$803,000. As of December 31, 2023, assets recorded under

finance leases were \$1,608,000 less accumulated depreciation of \$545,000, resulting in net fixed assets under finance leases of \$1,063,000. These assets are recorded within net property and equipment on the Consolidated Balance Sheets.

Long-lived assets, such as property, plant and equipment, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of are separately presented in the balance sheet and reported at the lower of the carrying amount or fair value less costs to sell and are no longer depreciated.

Depreciation expense totaled approximately \$1,646,000 and \$2,370,000 in 2024 and 2023, respectively.

Leases

The Company accounts for leases in accordance with FASB's ASU 2016-02, "Leases (Topic 842)." At the inception of an arrangement, the Company determines if an arrangement is, or contains, a lease based on facts and circumstances present in that arrangement. Lease classifications, recognition, and measurement are then determined at the lease commencement date.

The Company's operating lease right-of-use ("ROU") assets and operating lease liabilities include primarily leases for office and warehouse spaces used to conduct our business. As of December 31, 2024, the Company's operating leases have remaining terms of approximately one to five years. The Company includes renewal options in valuing its ROU assets and liabilities when it determines that it is reasonably certain to exercise these renewal options. As most of our operating leases do not provide an implicit rate, the Company uses its incremental borrowing rate as the discount rate when determining the present value of the lease payments. The incremental borrowing rate is determined based on the Company's secured borrowing rate, lease terms and current economic environment. Some of our operating leases include both lease (rent payments) and non-lease components (maintenance costs such as cleaning and landscaping services). The Company has elected the practical expedient to account for lease component and non-lease component as a single component for all leases under ASU 2016-02. Lease expense for operating leases is recognized on a straight-line basis over the lease term.

Finance leases primarily consist of lab, processing and transport equipment used by our facilities' operations. The Company's finance leases have remaining terms of approximately one to five years. See "Property and Equipment" above for assets recorded under financed leases. Borrowing rates for our finance leases are either explicitly stated in the lease agreements or implicitly determined from available terms in the lease agreements.

The Company adopted the policy to not recognize ROU assets and liabilities for short term leases.

Intangible Assets

Intangible assets consist primarily of the recognized value of the permits required to operate our business. Indefinite-lived intangible assets are not amortized but are reviewed for impairment annually as of October 1, or when events or changes in the business environment indicate that the carrying value may be impaired. The Company performs a quantitative test to determine if the fair value of the assets is less than the carrying value. The impairment loss, if any, is measured as the excess of the carrying value of the asset over its fair value. Judgments and estimates are inherent in these analyses and include assumptions for, among other factors, forecasted revenue, gross margin, growth rate, operating income, timing of expected future cash flows, and the determination of appropriate long-term discount rates. Impairment testing of our indefinite-lived permits related to our Treatment reporting unit as of October 1, 2024, and 2023 resulted in no impairment charges.

Intangible assets that have definite useful lives are amortized using the straight-line method over the estimated useful lives and are excluded from our annual intangible asset valuation review as of October 1. Definite-

lived intangible assets are tested for impairment whenever events or changes in circumstances suggest impairment might exist.

Research and Development (“R&D”)

Operational innovation and technical know-how are very important to the success of our business. Our goal is to discover, develop, and bring to market innovative ways to process waste that address unmet environmental needs and to develop new company service offerings. The Company conducts research internally and also through collaborations with other third parties. R&D costs consist primarily of employee salaries and benefits, laboratory costs, third party fees, and other related costs associated with the development and enhancement of new potential waste treatment processes and new technology and are charged to expense when incurred in accordance with Accounting Standards Codification (“ASC”) Topic 730, “Research and Development.”

Accrued Closure Costs and Asset Retirement Obligations (“ARO”)

Accrued closure costs represent our estimated environmental liability to clean up our facilities, as required by our permits, in the event of closure. ASC 410, “Asset Retirement and Environmental Obligations” requires that the discounted fair value of a liability for an ARO be recognized in the period in which it is incurred with the associated ARO capitalized as part of the carrying cost of the asset. The recognition of an ARO requires that management make numerous estimates, assumptions and judgments regarding such factors as estimated probabilities, timing of settlements, material and service costs, current technology, laws and regulations, and credit adjusted risk-free rate to be used. This estimate is inflated, using an inflation rate, to the expected time at which the closure will occur, and then discounted back, using a credit adjusted risk free rate, to the present value. ARO’s are included within buildings as part of property and equipment and are depreciated over the estimated useful life of the property. In periods subsequent to initial measurement of the ARO, the Company must recognize period-to-period changes in the liability resulting from the passage of time and revisions to either the timing or the amount of the original estimate of undiscounted cash flows. Increases in the ARO liability due to passage of time impact net income as accretion expense, which is included in cost of goods sold. Changes in costs resulting from changes or expansion at the facilities require adjustment to the ARO liability and are capitalized and charged as depreciation expense, in accordance with the Company’s depreciation policy.

Income Taxes

Income taxes are accounted for in accordance with ASC 740, “Income Taxes.” Under ASC 740, the provision for income taxes is comprised of taxes that are currently payable and deferred taxes that relate to the temporary differences between financial reporting carrying values and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted income tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Any effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

ASC 740 requires that deferred income tax assets be reduced by a valuation allowance if it is more likely than not that some portion or all of the deferred income tax assets will not be realized. The Company regularly assesses the likelihood that the deferred tax asset will be recovered from future taxable income. The Company considers projected future taxable income and ongoing tax planning strategies, then records a valuation allowance to reduce the carrying value of the net deferred income taxes to an amount that is more likely than not to be realized.

ASC 740 sets out a consistent framework for preparers to use to determine the appropriate recognition and measurement of uncertain tax positions. ASC 740 uses a two-step approach wherein a tax benefit is recognized if a position is more-likely-than-not to be sustained. The amount of the benefit is then measured to be the highest tax benefit which is greater than 50% likely to be realized. ASC 740 also sets out disclosure requirements to enhance transparency of an entity’s tax reserves. The Company recognizes accrued interest and income tax penalties related to unrecognized tax benefits as a component of income tax expense.

The Company reassesses the validity of our conclusions regarding uncertain income tax positions on a quarterly basis to determine if facts or circumstances have arisen that might cause us to change our judgment

regarding the likelihood of a tax position's sustainability under audit.

Foreign Currency

The Company's foreign subsidiaries include PF UK Limited and PF Canada. Assets and liabilities are translated to U.S. dollars at the exchange rate in effect at the balance sheet date and revenue and expenses at the average exchange rate for the period. Foreign currency translation adjustments for these subsidiaries are accumulated as a separate component of accumulated other comprehensive income (loss) in stockholders' equity. Gains and losses resulting from foreign currency transactions, which are immaterial, are recognized in the Consolidated Statements of Operations.

Concentration Risk

The Company performed services relating to waste generated by federal government clients, either indirectly for others as a subcontractor to federal government entities or directly as a prime contractor, representing approximately \$40,550,000, or 68.6%, of our total revenue during 2024, as compared to 68,595,000 or 76.4%, of our total revenue during 2023.

Our revenues are project/event based where the completion of one contract with a specific customer may be replaced by another contract with a different customer from year to year.

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and accounts receivable. The Company maintains cash with high quality financial institutions, which may exceed Federal Deposit Insurance Corporation ("FDIC") insured amounts from time to time. The Company has not experienced any losses due to such cash concentration. Concentration of credit risk with respect to accounts receivable is limited due to the Company's large number of customers and their dispersion throughout the United States as well as with the significant amount of work that we perform for government entities.

The Company had two government related customers whose total unbilled and net outstanding receivable balances represented 14.3% and 11.5% % of the Company's total consolidated unbilled and net accounts receivable as of December 31, 2024. The Company had two government related customers whose total unbilled and net outstanding receivable balances each represented 13.2% of the Company's total consolidated unbilled and net accounts receivable as of December 31, 2023.

Revenue Recognition and Related Policies

The Company recognizes revenue in accordance with ASC 606, "Revenue from Contracts with Customers." ASC 606 provides a single, comprehensive revenue recognition model for all contracts with customers. Under ASC 606, a five-step process is utilized in order to determine revenue recognition, depicting the transfer of goods or services to a customer at an amount that reflects the consideration it expects to receive in exchange for those goods or services. Under ASC 606, a performance obligation is a promise in a contract to transfer a distinct good or service to the customer and is the unit of account. A contract transaction price is allocated to each distinct performance obligation and recognized as revenues as the performance obligation is satisfied.

Treatment Segment Revenues:

Contracts in our Treatment Segment primarily have a single performance obligation as the promise to receive, treat and dispose of waste is not separately identifiable in the contract and, therefore, not distinct. Revenue for Treatment Segment performance obligations are generally satisfied over time using the input method. For the input method, revenue is recognized based on the costs incurred. Transaction price for Treatment Segment contracts are determined by the stated fixed rate per unit price as stipulated in the contract.

Some of our contracts have multiple performance obligations, most commonly when we provide additional services to the customer under a waste treatment contract. For contract with multiple performance obligations, the contract's transaction price is allocated to each performance obligation using our best estimate of the standalone selling price of each distinct good or service in the contract. Generally, we use the observable selling prices from an observable price list, but when a price list is not available, the standalone selling price is determined by the cost plus margin approach.

The Company periodically enters into arrangements with customers for transportation of wastes to either our facility or to non-company owned disposal sites. Revenue from this arrangement is recognized at a point in time, upon the transfer of control. Control transfers when the wastes are picked up by the Company.

Services Segment Revenues:

Revenues for our Services Segment are generated from time and materials or fixed price arrangements:

The Company's primary obligation to customers in time and materials contracts relate to the provision of services to the customer at the direction of the customer. This provision of services at the request of the customer is the performance obligation, which is satisfied over time. Revenue earned from time and materials contracts is determined using the input method and is based on contractually-defined billing rates applied to services performed and materials delivered.

Under fixed price contracts, the objective of the project is not attained unless all scope items within the contract are completed and all of the services promised within fixed fee contracts constitute a single performance obligation. Transaction price is determined based on fixed price outline within the contract. Revenue from fixed price contracts is recognized over time primarily using the input method. For the input method, revenue is recognized based on costs incurred on the project relative to the total estimated costs of the project.

As discussed above for the Treatment and Services Segments, the Company's revenue is generally recognized using the input method. This method of measuring progress provides a faithful depiction of the transfer to goods and services because the costs incurred are expected to be substantially proportionate to the Company's satisfaction of the performance obligation.

Contracts with our customers within our Treatment Segment are generally short term with an original expected length of one year or less. For the Services Segment, contracts with our customers generally have original terms ranging from one year or less to approximately twenty-four months. The Company's contracts and subcontracts relating to activities at governmental sites generally allow for termination for convenience at any time at the government's option without payment of a substantial penalty.

Variable Consideration

The Company's contracts generally do not give rise to variable consideration. However, from time to time, the Company may submit requests for equitable adjustments under certain of its government contracts for price or other modifications that are determined to be variable consideration. The Company estimates the amount of variable consideration to include in the estimated transaction price based on historical experience with government contracts, anticipated performance and management's best judgment at the time and to the extent it is probable that a significant reversal of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is resolved. These estimates are re-assessed each reporting period as required.

Significant Payment Terms

Invoicing is based on schedules established in customer contracts. Payment terms vary by customers but are generally established at 30 days from invoicing.

Incremental Costs to Obtain a Contract

Costs incurred to obtain contracts with our customers are immaterial and as a result, the Company expenses (within selling, general and administration expenses ("SG&A")) incremental costs incurred in obtaining contracts with our customer as incurred.

Remaining Performance Obligations

The Company applies the practical expedient in ASC 606-10-50-14 and does not disclose information about remaining performance obligations that have original expected durations of one year or less.

Within our Services Segment, there are service contracts which provide that the Company has a right to consideration from a customer in an amount that corresponds directly with the value to the customer of our performance completed to date. For those contracts, the Company has utilized the practical expedient in ASC

606-10-55-18, which allows the Company to recognize revenue in the amount for which we have the right to invoice; accordingly, the Company does not disclose the value of remaining performance obligations for those contracts.

The Company's contracts and subcontracts relating to activities at governmental sites generally allow for termination for convenience at any time at the government's option without payment of a substantial penalty. The Company does not disclose remaining performance obligations on these contracts.

Stock-Based Compensation

Stock-based compensation granted to employees are accounted for in accordance with ASC 718, "Compensation – Stock Compensation." Stock-based payment transactions for acquiring goods and services from nonemployees are also accounted for under ASC 718. ASC 718 requires stock-based payments to employees and nonemployees, including grant of options, to be recognized in the Statement of Operations based on their fair values. The Company uses the Black-Scholes option-pricing model to determine the fair value of stock-based awards which requires subjective assumptions. Assumptions used to estimate the fair value of stock-based awards include the exercise price of the award, the expected term, the expected volatility of the Company's stock over the stock-based award's expected term, the risk-free interest rate over the award's expected term, and the expected annual dividend yield. The Company accounts for forfeitures when they occur.

Comprehensive Income (Loss)

The components of comprehensive income (loss) are net income (loss) and the effects of foreign currency translation adjustments.

Income (Loss) Per Share

Basic income (loss) per share is calculated based on the weighted-average number of outstanding common shares during the applicable period. Diluted income (loss) per share is based on the weighted-average number of outstanding common shares plus the weighted-average number of potential outstanding common shares. In periods where they are anti-dilutive, such amounts are excluded from the calculations of dilutive earnings per share. Income (loss) per share is computed separately for each period presented.

Fair Value of Financial Instruments

Certain assets and liabilities are required to be recorded at fair value on a recurring basis, while other assets and liabilities are recorded at fair value on a nonrecurring basis. Fair value is determined based on the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants. The three-tier value hierarchy, which prioritizes the inputs used in the valuation methodologies, is:

Level 1—Valuations based on quoted prices for identical assets and liabilities in active markets.

Level 2—Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

Level 3—Valuations based on unobservable inputs reflecting the Company's own assumptions, consistent with reasonably available assumptions made by other market participants.

Financial instruments include cash (Level 1), accounts receivable, accounts payable, and debt obligations (Level 3). As of December 31, 2024, and December 31, 2023, the fair value of the Company's financial instruments approximated their carrying values. The fair value of the Company's revolving credit, term loans and capital loan approximate its carrying value due to the variable interest rate.

Recently Issued Accounting Standards –Adopted

In November 2023, the FASB issued ASU 2023-07, "Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures," which expands reportable segment disclosure requirements by requiring disclosures of significant reportable segment expenses that are regularly provided to the CODM and included within each reported measure of a segment's profit or loss. The ASU also requires disclosure of the title and position of the individual identified as the CODM and an explanation of how the CODM uses the reported

measures of a segment's profit or loss in assessing segment performance and deciding how to allocate resources. Additionally, ASU 2023-07 requires all segment profit or loss and assets disclosures to be provided on an annual and interim basis. The Company adopted ASU 2023-07 during the fourth quarter of 2024. ASU 2023-07 only impacted the Company's disclosures related to segment reporting and did not have impact on the Company's consolidated financial condition or results of operations (see "Note 16 – Segment Reporting" for disclosure in connection with the adoption of ASU 2023-07).

Recently Issued Accounting Standards – Not Yet Adopted

In November 2024, the FASB issued ASU 2024-03, "Income Statement— Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40) - Disaggregation of Income Statement Expenses," which enhances the disclosures required for certain expense captions in the Company's annual and interim consolidated financial statements. ASU 2024-03 is effective prospectively or retrospectively for fiscal years beginning after December 15, 2026, and for interim periods beginning after December 15, 2027. Early adoption is permitted. The Company is currently evaluating the impact of this standard on its disclosures.

In December 2023, the FASB issued Accounting Standards Update No. 2023-09, "Income Taxes (Topic 740): Improvements to Income Tax Disclosures", which modifies the rules on income tax disclosures to require entities to disclose (1) specific categories in the rate reconciliation, (2) the income or loss from continuing operations before income tax expense or benefit (separated between domestic and foreign) and (3) income tax expense or benefit from continuing operations (separated by federal, state and foreign). ASU 2023-09 also requires entities to disclose their income tax payments to international, federal, state and local jurisdictions, among other changes. The guidance is effective for annual periods beginning after December 15, 2024. ASU 2023-09 should be applied on a prospective basis, but retrospective application is permitted. The adoption of this ASU will result in additional disclosures but will not impact the Company's consolidated financial statements.

In August 2023, the FASB issued ASU 2023-05, "Business Combinations—Joint Venture Formations (Subtopic 805-60): Recognition and Initial Measurement." ASU 2023-05 applies to the formation of a "joint venture" or a "corporate joint venture" and requires a joint venture to initially measure all contributions received upon its formation at fair value. The guidance does not impact accounting by the venturers. The new guidance is applicable to joint venture entities with a formation date on or after January 1, 2025, on a prospective basis. The Company is currently evaluating the impact of this ASU on its consolidated financial statements; however, the Company does not expect it will have a material impact on its consolidated financial statements.

NOTE 3 REVENUE

Disaggregation of Revenue

In general, the Company's business segmentation is aligned according to the nature and economic characteristics of our services and provides meaningful disaggregation of each business segment's results of operations. The following tables present further disaggregation of our revenues by different categories for our Services and Treatment Segments:

Revenue by Contract Type
(In thousands)

	Twelve Months Ended			Twelve Months Ended		
	December 31, 2024			December 31, 2023		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	\$ 34,953	\$ 19,392	\$ 54,345	\$ 43,477	\$ 41,540	\$ 85,017
Time and materials	—	4,772	4,772	—	4,718	4,718
Total	<u>\$ 34,953</u>	<u>\$ 24,164</u>	<u>\$ 59,117</u>	<u>\$ 43,477</u>	<u>\$ 46,258</u>	<u>\$ 89,735</u>

Revenue by generator
(In thousands)

	Twelve Months Ended			Twelve Months Ended		
	December 31, 2024			December 31, 2023		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	\$ 24,487	\$ 22,389	\$ 46,876	\$ 31,448	\$ 39,194	\$ 70,642
Domestic commercial	8,566	1,223	9,789	10,670	6,357	17,027
Foreign government	509	463	972	1,001	619	1,620
Foreign commercial	1,391	89	1,480	358	88	446
Total	<u>\$ 34,953</u>	<u>\$ 24,164</u>	<u>\$ 59,117</u>	<u>\$ 43,477</u>	<u>\$ 46,258</u>	<u>\$ 89,735</u>

Contract Balances

The timing of revenue recognition and billings can result in unbilled receivables (contract assets). The Company's contract liabilities consist of deferred revenues which represent advance payment from customers in advance of the completion of the Company's performance obligation. The following table represents changes in our contract asset and contract liabilities balances for the periods noted:

(In thousands)	December 31, 2024	December 31, 2023	Year-to-date Change (\$)	Year-to-date Change (%)
Contract assets				
Unbilled receivables - current	\$ 4,990	\$ 8,432	\$ (3,442)	(40.8) %
Contract liabilities				
Deferred revenue	\$ 6,711	\$ 6,815	\$ (104)	(1.5) %

The reduction in unbilled receivables from 2023 to 2024 was primarily due to invoicing in 2024 of two large Services Segment projects that were primarily completed by the end of 2023.

(In thousands)	December 31, 2023	December 31, 2022	Year-to-date Change (\$)	Year-to-date Change (%)
Contract assets				
Unbilled receivables - current	\$ 8,432	\$ 6,062	\$ 2,370	39.1 %
Contract liabilities				
Deferred revenue	\$ 6,815	\$ 4,813	\$ 2,002	41.6 %

The increase in unbilled receivables from 2022 to 2023 resulted primarily from a large Services Segment project which was completed primarily by the end of 2023 and invoiced in 2024 as discussed above.

Deferred revenue as of December 31, 2023, included a remaining prepayment of approximately \$2,031,000 by a certain customer for a waste treatment project which was completed in 2024.

During the twelve-months ended December 31, 2024, and 2023, the Company recognized revenue of \$5,887,000 and \$6,759,000, respectively, related to untreated waste that was in the Company's control as of the beginning of each respective year. Revenue recognized in each period relates to performance obligations satisfied within the respective period.

Accounts Receivable

The following table represents changes in accounts receivable, net of credit losses, for the periods noted:

(In thousands)	December 31, 2024	December 31, 2023	Year-to-date Change (\$)	Year-to-date Change (%)
Accounts Receivable (net)	\$ 11,579	\$ 9,722	\$ 1,857	19.1%
	December 31, 2023	December 31, 2022	Year-to-date Change (\$)	Year-to-date Change (%)
Accounts Receivable (net)	\$ 9,722	\$ 9,364	\$ 358	3.8%

NOTE 4 LEASES

The components of lease cost for the Company's leases were as follows (in thousands):

	Twelve Months Ended December 31,	
	2024	2023
Operating Leases:		
Lease cost	\$ 541	\$ 612
Finance Leases:		
Amortization of ROU assets	261	163
Interest on lease liability	81	33
	342	196
Short-term lease rent expense	6	2
Total lease cost	\$ 889	\$ 810

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases as of December 31, 2024, were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	4.7	3.8
Weighted average discount rate	7.7%	9.2%

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases as of December 31, 2023, were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	5.6	4.5
Weighted average discount rate	7.5%	8.7%

The following table reconciles the undiscounted cash flows for the operating and finance leases as of December 31, 2024, to the operating and finance lease liabilities recorded on the balance sheet (in thousands):

	Operating Leases		Finance Leases	
2025	\$	486	\$	345
2026		479		191
2027		447		157
2028		343		134
2029		334		102
2030 and thereafter		73		—
Total undiscounted lease payments		2,162		929
Less: Imputed interest		(390)		(153)
Present value of lease payments	\$	1,772	\$	776
Current portion of operating lease obligations	\$	345	\$	—
Long-term operating lease obligations, less current portion	\$	1,427	\$	—
Current portion of finance lease obligations	\$	—	\$	285
Long-term finance lease obligations, less current portion	\$	—	\$	491

Supplemental cash flow and other information related to our leases were as follows (in thousands):

	Twelve Months Ended December 31,	
	2024	2023
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flow from operating leases	\$ 526	\$ 582
Operating cash flow from finance leases	\$ 81	\$ 33
Financing cash flow from finance leases	\$ 291	\$ 189
ROU assets obtained in exchange for lease obligations for:		
Finance liabilities	\$ —	\$ 786
Operating liabilities	\$ 497	\$ 466
Reduction to ROU assets resulting from purchase of underlying asset:		
Operating liabilities	\$ 404	\$ —

The reduction in ROU asset resulted from the purchase by the Company in July 2024 of the property where its EWOC facility conducts its waste treatment operations. The Company previously leased this property which was included within its operating leases (see “Note 9 – Long Term Debt” for a discussion of the purchase of this property by the Company).

NOTE 5 PERMIT AND OTHER INTANGIBLE ASSETS

The following table summarizes changes in the carrying value of permits which exist in our Treatment Segment.

Permit (amount in thousands)	Treatment
Balance as of December 31, 2022	\$ 9,610
Permit in progress	295
Balance as of December 31, 2023	\$ 9,905
Permit in progress	626
Balance as of December 31, 2024	\$ 10,531

The following table summarizes information relating to the Company’s definite-lived intangible assets:

	Weighted Average Amortization Period (Years)	December 31, 2024			December 31, 2023		
		Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
Other Intangibles (amount in thousands)							
Patents	5.8	\$ 753	\$ (435)	\$ 318	\$ 710	\$ (387)	\$ 323
Software	3	666	(591)	75	667	(529)	138
Total		\$ 1,419	\$ (1,026)	\$ 393	\$ 1,377	\$ (916)	\$ 461

The intangible assets noted above were amortized on a straight-line basis over their useful lives.

The following table summarizes the expected amortization over the next five years for our definite-lived intangible assets:

Year	Amount (In thousands)
2025	\$ 56
2026	49
2027	30
2028	21
2029	18

Amortization expense recorded for definite-lived intangible assets was approximately \$117,000 and \$198,000, for the years ended December 31, 2024, and 2023, respectively.

NOTE 6**CAPITAL STOCK, STOCK PLANS, WARRANTS AND STOCK BASED COMPENSATION****Stock Option Plans**

The Company's 2003 Outside Directors Stock Plan, as amended (the "2003 Plan") provides for the grant of Non-Qualified Stock Options ("NQSOs") to member of the Company's Board of Directors (the "Board") who is not an employee of the Company or its subsidiaries ("Eligible Director"). The 2003 Plan also provides for the grant of an NQSO to purchase up to 10,000 shares of the Company's Common Stock for each Eligible Director upon each re-election to the Board, and the grant of an NQSO to purchase up to 20,000 shares of the Company's Common Stock upon initial election. NQSOs granted prior to July 20, 2021 have a vesting period of six months from the date of grant and a term of 10 years, with an exercise price equal to the closing trade price on the date prior to grant date. NQSOs granted on and after July 20, 2021 vest 25% per year, beginning on the first anniversary date of the grant and also have a term of 10 years, with an exercise price equal to the closing trade price on the date prior to grant date. Additionally, the 2003 Plan provides for the issuance to each Eligible Director a number of shares of the Company's Common Stock in lieu of 65% or 100% (based on option elected by each director) of the fee payable to the Eligible Director for services rendered as a member of the Board. The number of shares issued to each Eligible Director is determined based on 75% of the market value as defined in the plan (the Company recognizes 100% of the market value of the shares issued). As of December 31, 2024, the 2003 Plan had available for issuance 204,133 shares.

The Company's 2017 Stock Option Plan, as amended (the "2017 Plan"), authorizes the grant of options to officers and employees of the Company, including any employee who is also a member of the Board, as well as to consultants of the Company. The 2017 Plan authorizes an aggregate grant of 1,740,000 NQSOs and Incentive Stock Options ("ISOs"). Consultants of the Company can only be granted NQSOs. The term of each stock option granted under the 2017 Plan shall be fixed by the Compensation and Stock Option Committee (the "Compensation Committee"), but no stock options will be exercisable more than ten years after the grant date, or in the case of an ISO granted to a 10% stockholder, five years after the grant date. The exercise price of any ISO granted under the 2017 Plan to an individual who is not a 10% stockholder at the time of the grant shall not be less than the fair market value of the shares at the time of the grant, and the exercise price of any ISO granted to a 10% stockholder shall not be less than 110% of the fair market value at the time of grant. The exercise price of any NQSOs granted under the plan shall not be less than the fair market value of the shares at the time of grant. As of December 31, 2024, the 2017 Plan had available for issuance 684,000 shares.

Stock Options to Employees and Outside Director

On January 18, 2024, the Company granted ISOs to certain employees under the 2017 Plan, for the purchase of up to an aggregate of 45,000 shares of the Company's Common Stock. Each ISO granted is for a contractual term of six years with one-fifth vesting annually over a five-year period. The exercise price of the ISO is \$7.75 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

On July 18, 2024, the Company granted ISOs to certain employees under the 2017 Plan, for the purchase of up to an aggregate of 35,500 shares of the Company's Common Stock. Each ISO granted is for a contractual term of six years with one-fifth vesting annually over a five-year period. The exercise price of the ISO is \$10.05 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

On July 18, 2024, the Company issued a NQSO to each of the Company's seven reelected outside (non-management) directors for the purchase, under the Company's 2003 Outside Directors Stock Plan (the "2003 Plan"), of up to 10,000 shares of the Company's Common Stock. Dr. Louis Centofanti and Mark Duff, each an executive officer of the Company as well as a director, were not eligible to receive an option under the 2003 Plan. Each NQSO granted is for a contractual term of ten years with one-fourth vesting annually over a four-year period. The exercise price of each NQSO is \$10.20 per share, which was equal to the fair market

value of the Company's Common Stock on the day preceding the grant date, in accordance with the 2003 Plan.

On January 19, 2023, the Company granted ISOs to certain employees under the 2017 Plan, for the purchase of up to an aggregate 295,000 shares of the Company's Common Stock. The total ISOs granted included an ISO for each of the Company's executive officers for the purchase set forth in his respective ISO Agreement, as follows: 70,000 shares for the Chief Executive Officer ("CEO"); 40,000 shares for the Chief Financial Officer ("CFO"); 30,000 shares for the Executive Vice President ("EVP") of Strategic Initiatives; 30,000 shares for the EVP of Waste Treatment Operations; and 30,000 shares for the EVP of Nuclear and Technical Services. Each of the ISOs granted has a contractual term of six years with one-fifth yearly vesting over a five-year period. The exercise price of each ISO is \$3.95 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

On July 20, 2023, the Company issued a NQSO to each of the Company's seven reelected outside (non-management) directors under the 2003 Plan, for the purchase of up to 10,000 shares of the Company's Common Stock. The CEO and EVP of Strategic Initiatives, each an executive officer of the Company as well as a director, were not eligible to receive an option under the 2003 Plan. Each NQSO granted is for a contractual term of ten years with one-fourth vesting annually over a four-year period. The exercise price of each NQSO is \$9.81 per share, which was equal to the fair market value of the Company's Common Stock on the day preceding the grant date, in accordance with the 2003 Plan.

On October 19, 2023, the Company granted an ISO to an employee under the 2017 Plan, for the purchase of up to 5,000 shares of the Company's Common Stock. The ISO granted is for a contractual term of six years with one-fifth vesting annually over a five-year period. The exercise price of the ISO is \$9.62 per share, which was equal to the fair market value of the Company's Common Stock on the date of grant.

During 2024, the Company issued an aggregate 38,749 shares of its Common Stock from cashless exercises of options for the purchase of 64,000 shares of the Company's Common Stock ranging from \$3.15 per share to \$7.005 per share. Additionally, the Company issued 33,700 shares of its Common Stock from the cash exercises of options for the purchase of 33,700 shares of the Company's Common Stock, at exercise prices ranging from \$3.70 per share to \$7.005 per share, resulting in proceeds of approximately \$187,000. Income tax benefit associated with stock options exercised with cash during 2024 was approximately \$17,000.

During 2023, the Company issued an aggregate 185,549 shares of its Common Stock from cashless exercises of options for the purchases of 280,000 shares of the Company's Common Stock, at exercise prices ranging from \$3.60 per share to \$7.005 per share. Additionally, the Company issued 40,400 shares of its Common Stock from the cash exercise of options for the purchase of 40,400 shares of the Company's Common Stock, at exercise prices ranging from at \$2.785 per share to \$7.005 per share resulting in proceeds of approximately \$164,000. Income tax benefit associated with stock options exercised with cash during 2023 was approximately \$25,000.

The Company estimates fair value of stock options using the Black-Scholes valuation model. Assumptions used to estimate the fair value of stock options granted include the exercise price of the award, the expected term, the expected volatility of the Company's stock over the option's expected term, the risk-free interest rate over the option's expected term, and the expected annual dividend yield. The fair value of the options granted during 2024 and 2023, and the related assumptions used in the Black-Scholes option model used to value the options granted were as follows:

	Employee Stock Options Granted	
	2024	2023
Weighted-average fair value per share	\$ 4.90	2.07
Risk-free interest rate ⁽¹⁾	4.04%-4.11%	3.48%-4.98%
Expected volatility of stock ⁽²⁾	59.07%-59.10%	55.19%-58.78%
Dividend yield ⁽³⁾	None	None
Expected option life (years) ⁽⁴⁾	5.2 - 5.5	5.0 - 5.6

	Outside Director Stock Options Granted	
	2024	2023
Weighted-average fair value per share	\$ 6.87	\$ 6.46
Risk -free interest rate ⁽¹⁾	4.20%	3.85%
Expected volatility of stock ⁽²⁾	56.00%	54.31%
Dividend yield ⁽³⁾	None	None
Expected option life (years) ⁽⁴⁾	9.5	10.0

⁽¹⁾ The risk-free interest rate is based on the U.S. Treasury yield in effect at the grant date over the expected term of the option.

⁽²⁾ The expected volatility is based on historical volatility from the Company's traded Common Stock over the expected term of the option.

⁽³⁾ The Company has never paid any dividends on its Common Stock. Our Loan Agreement prohibits the Company from paying any cash dividends without prior approval from our lender.

⁽⁴⁾ The expected option life is based on historical exercises and post-vesting data.

The following table summarizes stock-based compensation recognized (within SG&A expenses) for fiscal years 2024 and 2023.

	Year Ended	
	2024	2023
Employee Stock Options	\$ 358,000	\$ 367,000
Director Stock Options	298,000	181,000
Total	<u>\$ 656,000</u>	<u>\$ 548,000</u>

Income tax benefits associated with stock-based compensation expense were approximately \$71,000 and \$45,000, respectively, for the years ended December 31, 2024, and 2023.

As December 31, 2024, the Company had approximately \$1,902,000 of total unrecognized compensation costs related to unvested options for employee and directors. The weighted average period over which the unrecognized compensation costs are expected to be recognized is approximately 3.0 years.

Summary of Stock Option Plans

The summary of the Company's total plans as of December 31, 2024, and 2023, and changes during the period then ended are presented as follows:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value ⁽⁴⁾
Options outstanding January 1, 2024	994,500	\$ 5.57		
Granted	150,500	\$ 9.43		
Exercised	(97,700)	\$ 5.16		\$ 662,524
Forfeited	(46,400)	\$ 5.93		
Options outstanding end of period ⁽¹⁾	<u>1,000,900</u>	\$ 6.18	4.7	\$ 4,894,634
Options exercisable at December 31, 2024 ⁽²⁾	<u>401,000</u>	\$ 5.62	3.9	\$ 2,183,072

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value ⁽⁴⁾
Options outstanding January 1, 2023	1,018,400	\$ 5.02		
Granted	370,000	\$ 3.15		
Exercised	(320,400)	\$ 3.72		\$ 2,335,042
Forfeited/expired	(73,500)	\$ 3.77		
Options outstanding end of period ⁽²⁾	<u>994,500</u>	\$ 5.57	5.0	\$ 2,417,081
Options exercisable at December 31, 2023 ⁽³⁾	<u>319,300</u>	\$ 5.46	4.1	\$ 766,037

⁽¹⁾ Options with exercise prices ranging from \$3.15 to \$10.20

⁽²⁾ Options with exercise prices ranging from \$3.15 to \$9.81

⁽³⁾ Options with exercise prices ranging from \$3.15 to \$7.50

⁽⁴⁾ The intrinsic value of a stock option is the amount by which the market value of the underlying stock exceeds the exercise price

The summary of the Company's nonvested options as of December 31, 2024, and changes during the period then ended are presented as follows:

	Shares	Weighted Average Grant-Date Fair Value
Non-vested options January 1, 2024	675,200	\$ 3.12
Granted	150,500	5.81
Vested	(181,800)	3.15
Forfeited	(44,000)	2.06
Non-vested options at December 31, 2024	<u>599,900</u>	\$ 3.79

Warrant

In connection with a \$2,500,000 loan that the Company received from Mr. Robert Ferguson (the "Ferguson Loan") on April 1, 2019, the Company issued a warrant to Mr. Ferguson (the "Ferguson Warrant") for the purchase of up to 60,000 shares of our Common Stock at an exercise price of \$3.51 per share. The Ferguson Loan was paid in full in December 2020. Upon Mr. Ferguson's death, the Ferguson Warrant was transferred equally to Mr. Ferguson's two heirs with each holding a Warrant for the purchase of up to 30,000 shares of the Company's Common Stock, as permitted under the Ferguson Warrant. One of the Warrant was exercised in the fourth quarter of 2023 and the remaining Warrant was exercised in the first quarter of 2024. Proceeds received by the Company was approximately \$105,000 for each of the Warrants exercised.

In connection with the Company's sales of its Common Stock in May 2024 and December 2024, the Company issued warrants to purchase an aggregate 188,038 shares of its Common Stock at exercise prices of \$11.50 and \$12.19 per share (see "Note 17 – Sales of Common Stock" for a discussion of these warrants). These warrants remained outstanding as of December 31, 2024.

Common Stock Issued for Services

The Company issued a total of 46,947 and 65,854 shares of its Common Stock in 2024 and 2023, respectively, under the Company's 2003 Plan to its outside directors as compensation for serving on its Board. As a member of the Board, each director elects to receive either 65% or 100% of the director's fee in shares of the Company's Common Stock. The number of shares received is calculated based on 75% of the fair market value of our Common Stock determined on the business day immediately preceding the date that the quarterly fee is due. The balance of each director's fee, if any, is payable in cash. The Company recorded approximately \$480,000 and \$477,000 in years ended 2024 and 2023, respectively, in compensation expense (included in SG&A expenses) for the portion of director fees earned in the Company's Common Stock.

Shares Reserved

As of December 31, 2024, the Company has reserved approximately 1,000,900 shares of its Common Stock for future issuance under all of the option arrangements.

NOTE 7

(LOSS) INCOME PER SHARE

The following table reconciles the (loss) income and average share amounts used to compute both basic and diluted (loss) income per share:

(Amounts in Thousands, Except for Per Share Amounts)	Years Ended December 31,	
	2024	2023
<u>(Loss) income per common share from continuing operations</u>		
(Loss) income from continuing operations, net of taxes	\$ (19,569)	\$ 918
Basic (loss) income per share	\$ (1.30)	\$.07
Diluted (loss) income per share	\$ (1.30)	\$.07
<u>Loss per common share from discontinued operations</u>		
Loss from discontinued operations, net of taxes	\$ (410)	\$ (433)
Basic loss per share	\$ (.03)	\$ (.03)
Diluted loss per share	\$ (.03)	\$ (.03)
<u>Net (loss) income per common share</u>		
Net (loss) income	\$ (19,979)	\$ 485
Basic (loss) income per share	\$ (1.33)	\$.04
Diluted (loss) income per share	\$ (1.33)	\$.04
Weighted average shares outstanding:		
Basic weighted average shares outstanding	15,072	13,506
Add: dilutive effect of stock options	—	215
Add: dilutive effect of warrants	—	18
Diluted weighted average shares outstanding	15,072	13,739

For year ended December 31, 2024, 983,267 weighted average shares of common stock underlying options and warrants were excluded from the computation of diluted EPS because the effect would be anti-dilutive.

For the year ended December 31, 2023, 32,658 weighted average shares of common stock underlying options were excluded from the computation of diluted EPS because the effect would be anti-dilutive.

NOTE 8

DISCONTINUED OPERATIONS

The Company's discontinued operations consist of all our subsidiaries included in our Industrial Segment which encompasses subsidiaries divested in 2011 and earlier, as well as three previously closed locations.

The Company incurred losses from discontinued operations of \$410,000 (net of tax benefit of \$149,000) and \$433,000 (net of tax benefit of \$117,000) for the years ended December 31, 2024 and 2023, respectively.

On June 1, 2024, the Company's PFSG subsidiary entered into a lease agreement with a tenant leasing a portion of the PFSG property. The lease is for a two-years term and requires monthly payment by the lessee of approximately \$8,500 for the first year and approximately \$8,755 for the second year. The lessee is responsible for all expenses relating to the permitted usage of the property, including all utilities, a portion of the annual real estate taxes and is responsible for maintaining insurance coverage, among other things.

The following table presents the major class of assets of discontinued operations as of December 31, 2024, and December 31, 2023. No assets and liabilities were held for sale at each of the periods noted.

(Amounts in Thousands)	December 31, 2024	December 31, 2023
Current assets		
Other assets	\$ 20	\$ 13
Total current assets	20	13
Long-term assets		
Property, plant and equipment, net ⁽¹⁾	130	81
Total long-term assets	130	81
Total assets	<u>\$ 150</u>	<u>\$ 94</u>
Current liabilities		
Accounts payable	\$ 90	\$ 80
Accrued expenses and other liabilities	153	128
Environmental liabilities	1	61
Total current liabilities	244	269
Long-term liabilities		
Closure liabilities	179	169
Environmental liabilities	766	784
Total long-term liabilities	945	953
Total liabilities	<u>\$ 1,189</u>	<u>\$ 1,222</u>

⁽¹⁾ net of accumulated depreciation of \$10,000 for each period presented.

Environmental Liabilities

The Company has three remediation projects, which are currently in progress relating to our PFD, PFM and PFSG subsidiaries, all within our discontinued operations. The Company divested PFD in 2008; however, the environmental liability of PFD was retained by the Company upon the divestiture of PFD. These remediation projects principally entail the removal/remediation of contaminated soil and, in most cases, the remediation of surrounding ground water. The remediation activities are closely reviewed and monitored by the applicable state regulators.

As of December 31, 2024, the Company had total accrued environmental remediation liabilities of \$767,000, a decrease of \$78,000 from the December 31, 2023 balance of \$845,000. The decrease represents payments for our PFSG remediation project. As of December 31, 2024, \$1,000 of the total accrued environmental liabilities was recorded as current.

The current and long-term accrued environmental liabilities as of December 31, 2024, are summarized as follows (in thousands).

	Current Accrual	Long-term Accrual	Total
PFD	—	\$ 60	\$ 60
PFM	—	15	15
PFSG	1	691	692
Total liability	<u>\$ 1</u>	<u>\$ 766</u>	<u>\$ 767</u>

NOTE 9

LONG - TERM DEBT

Long-term debt consists of the following as of December 31, 2024, and December 31, 2023:

(Amounts in Thousands)	December 31, 2024	December 31, 2023
Revolving Credit facility dated May 8, 2020, borrowings based upon eligible accounts receivable, subject to monthly borrowing base calculation, balance due on May 15, 2027. Effective interest rates for 2024 and 2023 were 10.5% and 9.7%, respectively ⁽¹⁾	\$ —	\$ —
Term Loan 1 dated May 8, 2020, payable in equal monthly installments of principal, balance due on May 15, 2027. Effective interest rates for 2024 and 2023 were 9.5% and 9.2%, respectively ⁽¹⁾	—	213
Term Loan 2 dated July 31, 2023, payable in equal monthly installments of principal, balance due on May 15, 2027. Effective interest rates for 2024 and 2023 were 9.3% and 9.9%, respectively ⁽¹⁾	1,834	2,333
Capital Loan dated May 4, 2021, payable in equal monthly installments of principal, balance due on May 15, 2027. Effective interest rates for 2024 and 2023 were 8.7% and 8.6%, respectively ⁽¹⁾	253	358
Debt Issuance Costs	(178) ⁽²⁾	(170) ⁽²⁾
Notes Payable up to 2044, with annual interest rates ranging from 8.10% to 10.7% ⁽³⁾	406	14
Total debt	2,315	2,748
Less current portion of long-term debt	550	773
Long-term debt	\$ 1,765	\$ 1,975

⁽¹⁾ Our revolving credit facility is collateralized by our accounts receivable, and our term loans and capital line are collateralized by our property, plant, and equipment.

⁽²⁾ Aggregate unamortized debt issuance costs in connection with the Company's Credit Facility, which consists of the revolving credit, Terms Loans and Capital Loan, as applicable.

⁽³⁾ Includes a promissory note entered into on July 24, 2024, in connection with the purchase of the Company's EWOC property. See a discussion of this note below which include a variable interest rate provision.

Revolving Credit and Term Loan Agreement

The Company entered into a Second Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated May 8, 2020, which has since been amended from time to time, with PNC National Association ("PNC" and "lender"), acting as agent and lender (the "Loan Agreement"). The Loan Agreement provides the Company with a credit facility with a maturity date of May 15, 2027 (the "Credit Facility") as follows: (a) up to \$12,500,000 revolving credit ("revolving credit"), which borrowing capacity is subject to eligible receivables (as defined) and reduced by outstanding standby letters of credit (\$3,200,000 as of December 31, 2024) and borrowing reductions that the Company's lender may impose from time to time (\$750,000 as of December 31, 2024); (b) a term loan ("Term Loan 1") of approximately \$1,742,000, requiring monthly installments of \$35,547 (Term Loan 1 was paid off by the Company in June 2024); (c) a term loan ("Term Loan 2") of \$2,500,000, requiring monthly installments of \$41,667; and (d) a capital expenditure loan ("Capital Loan") of approximately \$524,000, requiring monthly installments of principal of approximately \$8,700 plus interest that commenced on June 1, 2022.

Pursuant to the Loan Agreement, payments of annual interest rates are as follows: (i) interest due on the revolving credit is at prime (7.50% at December 31, 2024) plus 2% or Secured Overnight Finance Rate ("SOFR") (as defined in the Loan Agreement) plus 3.00% plus an SOFR Adjustment applicable for an interest period selected by the Company; (ii) interest due on each Term Loan 1 and the Capital Loan was/is at prime plus 2.50% or SOFR plus 3.50% plus an SOFR Adjustment applicable for an interest period selected by the Company; and (iii) interest due on Term Loan 2 is at prime plus 3% or SOFR plus 4.00% plus an SOFR Adjustment applicable for an interest period selected by the Company. SOFR Adjustment rates of 0.10% and 0.15% are applicable for a one-month interest period and three-month period, respectively, that may be selected by the Company.

The Company agreed to pay PNC 0.5% of the total financing under the Loan Agreement if the Company pays off its obligations to its lender after July 31, 2024, to and including July 31, 2025. No early termination fee

shall apply if the Company pays off its obligations under Loan Agreement after July 31, 2025.

On May 8, 2024, and November 12, 2024, the Company entered into amendments to its Loan Agreement with its lender which provided the following, among other things:

- removed the quarterly Fixed Charge Coverage Ratio (“FCCR”) testing requirement for the first, second and third quarters of 2024;
- reinstated the quarterly FCCR testing requirement starting in the fourth quarter of 2024, and revises the methodology to be used in calculating the FCCR as follows (with no change to the minimum 1.15:1 ratio requirement): FCCR for the fourth quarter is to be determined based on financial results for the three-months period ending December 31, 2024; FCCR for the first quarter of 2025 is to be determined based on financial results for the six-months period ending March 31, 2025; FCCR for the second quarter of 2025 is to be determined based on financial results for the nine-months period ending June 30, 2025; and FCCR for the third quarter of 2025 and each fiscal quarter thereafter is to be determined based on financial results for a trailing twelve-months period ending basis;
- requires maintenance of a minimum of \$3,000,000 in daily Liquidity (defined as borrowing availability under the revolving credit plus cash in the MMDA maintained with the Company’s lender) starting June 30, 2024, through September 29, 2025 (which we have met to date); and
- in the event the Company is able to achieve its minimum quarterly FCCR requirement utilizing its financial results based on a trailing twelve-months period starting with the quarter ended September 30, 2024 (which the Company did not achieve as of December 31, 2024), the maintenance of a minimum of \$3,000,000 in daily Liquidity requirement as discussed above will be removed. Any subsequent fiscal quarter testing of the FCCR will revert back to a trailing twelve-months period method.

In connection with the amendments, the Company paid its lender fees totaling \$37,500 which is being amortized over the remaining term of the Loan Agreement as interest expense-financing fees.

The Company’s Credit Facility under its Loan Agreement, as amended, with PNC contains certain financial covenants, along with customary representations and warranties. A breach of any of these financial covenants, unless waived by PNC, could result in a default under our Credit Facility allowing our lender to immediately require the repayment of all outstanding debt under our Credit Facility and terminate all commitments to extend further credit. The Company’s Loan Agreement, as amended, prohibits us from paying cash dividends on our Common Stock without prior approval from our lender. The Company was not required to perform testing of its FCCR requirement for the first, second and third quarters of 2024 pursuant to the amendments dated May 8, 2024, and November 12, 2024, to its Loan Agreement as discussed above. The Company was also not required to perform testing of its FCCR requirement for the fourth quarter of 2024 pursuant to the amendment dated March 11, 2025, to its Loan Agreement, as amended (See “Note 18 – Subsequent Events – Credit Facility” for a discussion of this amendment which removed the testing requirement of the FCCR for the fourth quarter of 2024, among other things). Otherwise, the Company met all of its other financial covenant requirements in each of the quarters in 2024.

As of December 31, 2024, the Company had no outstanding borrowing under its revolving credit and its Liquidity under the Credit Facility was approximately \$33,905,000.

EWOC Promissory Note

On July 24, 2024, the Company purchased the property which its EWOC facility operates on pursuant to a Purchase and Sales Agreement dated April 30, 2024, for a purchase price of \$425,000. The Company paid \$63,750 in cash and entered into a promissory note dated July 24, 2024, in an amount of \$361,250 with a bank (the “lender”) for the remaining balance of the purchase price, with a maturity date in twenty years or July 24, 2044 (the “Note”). For the first five years starting August 24, 2024, monthly payments under the Note will consist of approximately \$3,100 which include an annual fixed interest rate of 8.10%. Monthly payments under the Note will then be adjusted at the end of years five, ten and fifteen, with interest calculated based on the weekly average five-year US Treasury Securities Rate plus 3.0%. Under no circumstances will the variable interest rates on the Note be less than 4.0% per annum or more than (except in the case of default) the lesser of 20.5% per annum or the maximum rate allowed by applicable law. The Company agreed to pay the lender

3.0% of the total outstanding principal balance under the Note in the event the Company pays off its obligations during the first year of the Note. The prepayment penalty rate will be reduced by 1.0% at each subsequent annual anniversary of the Note. No prepayment penalty will apply in the event the Company pays off the Note on the fourth anniversary of the Note or thereafter. The property was previously accounted for under the Company's operating leases.

Maturities of Long-Term Debt

The following table details the amount of the maturities of long-term debt maturing in future years as of December 31, 2024 (excludes unamortized debt issuance costs of \$178,000).

Year ending December 31:

(In thousands)	2025	\$	626
	2026		620
	2027		894
	2028		18
	2029		20
	2030 and beyond		315
Total		\$	<u>2,493</u>

NOTE 10

ACCRUED EXPENSES

Accrued expenses include the following (in thousands) at December 31:

	2024	2023
Salaries and employee benefits	\$ 2,985	\$ 4,120
Accrued sales, property and other tax	270	477
Interest payable	18	23
Insurance payable	1,424	1,390
Other	414	550
Total accrued expenses	<u>\$ 5,111</u>	<u>\$ 6,560</u>

NOTE 11

ACCRUED CLOSURE COSTS AND ARO

Accrued closure costs represent our estimated environmental liability to clean up our fixed-based regulated facilities as required by our permits, in the event of closure. Changes to reported closure liabilities (current and long-term) for the years ended December 31, 2024, and 2023, were as follows:

Amounts in thousands	
Balance as of December 31, 2022	\$ <u>7,966</u>
Accretion expense	462
Spending	<u>(298)</u>
Balance as of December 31, 2023	\$ <u>8,130</u>
Accretion expense	433
Spending	<u>(223)</u>
Balance as of December 31, 2024	\$ <u>8,340</u>

As of December 31, 2024, and 2023, the current portion of the closure liabilities totaled approximately \$50,000 and \$79,000, respectively, which reflect closure liabilities for our EWOC facility. The spending made in each of the years 2024 and 2023 was primarily for our EWOC facility.

The reported closure asset or ARO, is reported as a component of "Net Property and equipment" in the

Consolidated Balance Sheets as of December 31, 2024, and 2023 with the following activity for the years ended December 31, 2024, and 2023:

Amounts in thousands	
Balance as of December 31, 2022	\$ 4,101
Amortization of closure and post-closure asset	(878)
Balance as of December 31, 2023	\$ 3,223
Amortization of closure and post-closure asset	(202)
Balance as of December 31, 2024	\$ 3,021

NOTE 12
INCOME TAXES

The components of (loss) income before income tax expense by jurisdiction for continuing operations for the years ended December 31, consisted of the following (in thousands):

	2024	2023
United States	(15,119)	622
Canada	(75)	521
United Kingdom	60	(208)
Total (loss) income before tax expense	\$ (15,134)	\$ 935

The components of current and deferred federal and state income tax expense (benefit) for continuing operations for the years ended December 31, consisted of the following (in thousands):

	2024	2023
Federal income tax (benefit) expense - current	(13)	76
Federal income tax expense (benefit) - deferred	3,897	(28)
State income tax expense - current	—	7
State income tax expense (benefit) - deferred	551	(38)
Total income tax expense	\$ 4,435	\$ 17

An overall reconciliation between the expected tax expense using the federal statutory rate of 21% for each of the years ended 2024 and 2023 and the expense for income taxes from continuing operations as reported in the accompanying Consolidated Statement of Operations is provided below (in thousands).

	2024	2023
Federal tax (benefit) expense at statutory rate	\$ (3,178)	\$ 196
State tax (benefit) expense, net of federal benefit	(582)	50
Difference in foreign rate	(2)	20
Permanent items	91	116
Change in deferred tax rates	23	51
Reserve for uncertain tax positions	30	81
Tax credits	(148)	(318)
Stock-based compensation	66	100
Provision-to-return adjustments	(36)	155
Other	(23)	—
Increase (decrease) in valuation allowance	8,194	(434)
Income tax expense	<u>\$ 4,435</u>	<u>\$ 17</u>

The global intangible low-taxed income (“GILTI”) provisions under the Tax Cuts and Jobs Act of 2017 (the “TCJA”) require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary’s tangible assets. The Company has elected to account for GILTI tax in the period in which it is incurred and therefore, has not provided any deferred tax impacts of GILTI in its consolidated financial statements for the years ended December 31, 2024 and 2023. As the Canada and United Kingdom foreign subsidiaries are in a combined loss position for 2024, no GILTI inclusion is expected for these entities for the current year.

The Company had temporary differences and net operating loss carry forwards from both our continuing and discontinued operations, which gave rise to deferred tax assets as of December 31, 2023. No deferred tax assets remained as of December 31, 2024, as the Company provided a full valuation allowance against its U.S. federal and state deferred tax assets in 2024. Table below reflects deferred tax asset balances as of December 31, 2024, and 2023 (in thousands):

Deferred tax assets:	2024	2023
Net operating losses	\$ 13,502	\$ 9,876
Environmental and closure reserves	2,306	2,332
Lease liability	422	525
Capital loss carryforward	753	780
Accrued expenses	1,189	1,186
R&D cost capitalization	1,115	905
Tax credits	318	200
Deferred tax liabilities:		
Depreciation and amortization	(2,985)	(2,995)
Indefinite lived intangible assets	(1,906)	(1,823)
Right-of-use lease asset	(404)	(510)
Prepaid expenses	(27)	(46)
	<u>14,283</u>	<u>10,430</u>
Valuation allowance	<u>(14,283)</u>	<u>(6,131)</u>
Net deferred income tax asset	<u>\$ —</u>	<u>\$ 4,299</u>

The Company records a valuation allowance against its net deferred tax asset to the extent it determines it is more likely than not that such asset will not be realized in the future. The Company regularly evaluates the probability that its deferred tax assets will be realized and determines whether valuation allowances or adjustments thereto are needed. This determination involves judgement and the use of estimates and assumptions, including expectations of future taxable income and tax planning strategies. The Company

applies judgment to consider the relative impact of negative and positive evidence, and the weight given to negative and positive evidence is commensurate with the extent to which such evidence can be objectively verified. Based on the Company's evaluation of all available positive and negative evidence, and with greater weight placed on the objectively verifiable evidence which primarily included the Company's three-year cumulative losses, the Company determined that it is more likely than not that the Company's net U.S. deferred tax asset will not be realized. As a result, in 2024, the Company provided a full valuation allowance against its U.S. federal and state deferred tax assets and recorded an income tax expense in the amount of approximately \$8,194,000. The Company continues to maintain a valuation allowance against foreign tax attributes that may not be realized.

The Company has estimated net operating loss carryforwards ("NOLs") for federal and state income tax purposes of approximately \$33,470,000 and \$81,775,000, respectively, as of December 31, 2024. These NOLs can be carried forward and applied against future taxable income, if any, and expire in various amounts starting in 2024. All of our federal NOLs were generated after December 31, 2017 and thus do not expire.

The Company accounts for uncertainties in income tax pursuant to ASC 740. A reconciliation of the beginning and ending amount of our unrecognized tax expense is summarized as follows (in thousands):

	2024	2023
Balances at beginning of year	\$ 81	\$ —
Addition related to R&D tax credit	30	81
Balances at end of the year	<u>\$ 111</u>	<u>\$ 81</u>

The Company does not include interest and penalties related to income taxes, including uncertain tax positions, within the provision for income taxes due to immateriality.

The tax years 2021 through 2023 remain open to examination by taxing authorities in the jurisdictions in which the Company operates.

The Company had \$0 and \$44,000 federal income tax payable for the years ended December 31, 2024, and 2023, respectively.

Beginning in 2022, the TCJA amended Section 174 to eliminate current-year deductibility of research and experimentation ("R&E") expenditures and software development costs (collectively, "R&E expenditures") and instead require taxpayers to charge their R&E expenditures to a capital account amortized over five years (15 years for expenditures attributable to R&E activity performed outside the United States). For each tax years 2024 and 2023, the Company has capitalized \$2,240,000 of research and development expenses. While Management believes the estimate for 2024 to be materially accurate, the Company plans to complete a formal IRC Section 174 analysis in advance of filing the tax return for the year ended December 31, 2024.

NOTE 13

COMMITMENTS AND CONTINGENCIES

Hazardous Waste

In connection with our waste management services, the Company processes hazardous, non-hazardous, low-level radioactive and mixed (containing both hazardous and low-level radioactive) waste, which we transport to our own, or other, facilities for destruction or disposal. As a result of disposing of hazardous substances, in the event any cleanup is required at the disposal site, the Company could be a potentially responsible party for the costs of the cleanup notwithstanding any absence of fault on our part.

Legal Matters

In the normal course of conducting our business, the Company may be involved in various litigation. The Company is not a party to any litigation or governmental proceeding which our management believes could result in any judgments or fines against us that would have a material adverse effect on our financial position, liquidity or results of future operations.

Tetra Tech EC, Inc. ("Tetra Tech")

During July 2020, Tetra Tech EC, Inc. ("Tetra Tech") filed a complaint in the U.S. District Court for the Northern District of California (the "Court") against CH2M Hill, Inc. ("CH2M") and four subcontractors of CH2M, including the Company ("Defendants"). The complaint alleges various claims, including a claim for negligence, negligent misrepresentation, equitable indemnification and related business claims against all Defendants related to alleged damages suffered by Tetra Tech in respect of certain draft reports prepared by Defendants at the request of the U.S. Navy as part of an investigation and review of certain whistleblower complaints about Tetra Tech's environmental restoration at the Hunter's Point Naval Shipyard in San Francisco.

CH2M was hired by the Navy in 2016 to review Tetra Tech's work. CH2M subcontracted with environmental consulting and cleanup firms Battelle Memorial Institute, Cabrera Services, Inc., SC&A, Inc. and the Company to assist with the review, according to the complaint.

The Company's insurance carrier is providing a defense on our behalf in connection with this lawsuit, subject to a \$100,000 self-insured retention and the terms and limitations contained in the insurance policy.

The majority of Tetra Tech's claims have been dismissed by the Court. Remaining claims include: (1) Intentional interference with contractual relations; and (2) inducing a breach of contract. The Company continues to believe it has no liability exposure to Tetra Tech.

Michael O'Neill

On November 25, 2024, purported shareholder Michael O'Neill filed a complaint in the Court of Chancery of the State of Delaware against the Company and all current directors of the Company, asserting individual and class action claims for alleged breach of contract and breach of fiduciary duty. The case is styled Michael O'Neill v. Perma-Fix Environmental Services, Inc., et al., C.A. No. 2024-1211-PAF.

The complaint purports to be brought by the named plaintiff individually and on behalf of all "similarly situated Perma-Fix stockholders." According to the complaint, defendants allegedly made materially false and misleading statements in its proxy statement filed with the Securities and Exchange Commission on June 8, 2023 regarding the effect of broker non-votes. In particular, the complaint alleges that defendants incorrectly stated in the proxy statement that broker non-votes would have no effect on the vote solicited to approve an amendment to the Company's 2017 Stock Option Plan to increase by 600,000 shares the number of shares of Common Stock issuable under the plan, resulting in an alleged defective approval of the plan amendment. As of the date of this Form 10-K, the Company has not issued any options under the plan relating to the additional shares included in the plan amendment.

The Company believes that the complaint is without merit. The Company and the individual defendants intend to vigorously defend against the complaint.

The Company's insurance carrier is providing a defense in connection with this lawsuit, subject to a \$1,000,000 self-insured retention and the terms and limitations contained in the insurance policy.

Insurance

The Company has a 25-year finite risk insurance policy entered into in June 2003 ("2003 Closure Policy") with AIG, which provides financial assurance to the applicable states for our permitted facilities in the event of unforeseen closure. The 2003 Closure Policy, as amended, provides for a maximum allowable coverage of \$28,177,000 which includes available capacity to allow for annual inflation and other performance and surety bond requirements. Total coverage under the 2003 Closure Policy, as amended, was \$23,379,000 as of December 31, 2024. As of December 31, 2024, and 2023, finite risk sinking funds contributed by the Company related to the 2003 Closure Policy which is included in other long term assets on the accompanying Consolidated Balance Sheets totaled \$12,680,000 and \$12,074,000, respectively, which included interest earned of \$3,209,000 and \$2,603,000 on the finite risk sinking funds as of December 31, 2024 and 2023, respectively. Interest income for the year ended 2024 and 2023 was approximately \$606,000 and \$504,000, respectively. If the Company so elects, AIG is obligated to pay the Company an amount equal to 100% of the finite risk sinking fund account balance in return for complete release of liability from both the Company and

any applicable regulatory agency using this policy as an instrument to comply with financial assurance requirements.

Letter of Credits and Bonding Requirements

From time to time, the Company is required to post standby letters of credit and various bonds to support contractual obligations to customers and other obligations, including facility closures. As of December 31, 2024, the total amount of standby letters of credit outstanding was approximately \$3,200,000 and the total amount of bonds outstanding was approximately \$20,930,000.

NOTE 14

PROFIT SHARING PLAN

The Company adopted a 401(k) Plan in 1992, which is intended to comply with Section 401 of the Internal Revenue Code and the provisions of the Employee Retirement Income Security Act of 1974. All full-time employees who have attained the age of 18 are eligible to participate in the 401(k) Plan. Eligibility is immediate upon employment but enrollment is only allowed during four quarterly open periods of January 1, April 1, July 1, and October 1. Participating employees may make annual pretax contributions to their accounts up to 100% of their compensation, up to a maximum amount as limited by law. The Company, at its discretion, may make matching contributions of 25% based on the employee's elective contributions. Company contributions vest over a period of five years. During 2024 and 2023, the Company contributed approximately \$580,000 and \$576,000 in 401(k) matching funds, respectively.

NOTE 15

RELATED PARTY TRANSACTIONS

David Centofanti serves as our Vice President of Information Systems. For such position, he received annual compensation of \$191,000 for each of the years 2024 and 2023. David Centofanti is the son of our EVP of Strategic Initiatives and a Board member.

NOTE 16

SEGMENT REPORTING

In accordance with ASC 280, "Segment Reporting", the Company defines an operating segment as a business activity:

- from which we may earn revenue and incur expenses;
- whose operating results are regularly reviewed by the CODM to make decisions about resources to be allocated to the segment and assess its performance; and
- for which discrete financial information is available.

The Company has two reporting segments, consisting of the Treatment and Services Segments, which are primarily based on a service offering approach (see "Note 1- Description of Business and Basis of Presentation" for the type of services from which each of the Company's reportable segments derives its revenue). The Company's reporting segments exclude our corporate headquarter which serves to support its two reporting segments through various functions, such as our executives, finance, treasury, human resources, accounting, and legal departments. Financial results for the corporate headquarter are not considered by the CODM in evaluating the performance of the reportable segments. Our reporting segment also excludes our discontinued operations (see "Note 8 – Discontinued Operations") which do not generate revenues.

The Company's CODM, which is its chief executive officer, evaluates the performance of the Treatment and Services segments and allocates resources (including financial or capital resources) to each reporting segment based on revenue and (loss) income from operations by comparing actual results for these metrics to budgeted and forecasted amounts for these metrics on a monthly, quarterly and year-to-date basis.

The Company's CODM does not evaluate and allocate resources for the reportable segments using assets; therefore, the Company does not disclosure assets for its reporting segments.

The table below summarizes (loss) income from operations for the Company's two reporting segments and its corporate headquarter and provides reconciliation of such financial metric to the Company's consolidated totals for the years 2024 and 2023 for our continuing operations. Significant segment expenses that are included in the measure of segment profit or losses for each reportable segment, and regularly provided to the CODM include payroll and benefit, material and supplies, disposal and transportation and subcontract expenses and are reflected separately, where applicable (in thousands).

Segment Reporting as of and for the year ended December 31, 2024

	Treatment	Services	Segments Total	(4) (5)	Corporate ⁽¹⁾	Consolidated Total
Revenue from external customers	\$ 34,953	\$ 24,164	\$ 59,117		\$ —	\$ 59,117
Cost of Goods Sold:						
Payroll and benefits expenses	16,257	9,494	25,751		—	25,751
Material and supplies expenses	4,074	—	4,074		—	4,074
Disposal expenses	5,317	—	5,317		—	5,317
Transportation expenses	1,118	—	1,118		—	1,118
Subcontract expenses	—	7,152	7,152		—	7,152
Other cost of goods sold ⁽²⁾	9,297	6,406	15,703		—	15,703
Total cost of goods sold	36,063	23,052	59,115		—	59,115
Gross (loss) profit	(1,110)	1,112	2		—	2
Selling, general and administrative expenses ("SG&A"):						
Payroll and benefits	2,858	2,413	5,271		3,296	8,567
Other SG&A ⁽³⁾	1,432	892	2,324		3,600	5,924
Total SG&A	4,290	3,305	7,595		6,896	14,491
Research and development	842	111	953		219	1,172
Loss on disposal of property and equipment	18	3	21		—	21
Loss from operations	\$ (6,260)	\$ (2,307)	\$ (8,567)		\$ (7,115)	(15,682)
Interest income						921
Interest expense						(473)
Interest expense-financing fees						(66)
Other income						166
Loss from continuing operations before taxes						(15,134)
Income tax expense						4,435
Loss from continuing operations, net of taxes						\$ (19,569)

Segment Reporting as of and for the year ended December 31, 2023

	Treatment	Services	Segments Total	Corporate ⁽¹⁾	Consolidated Total
Revenue from external customers	\$ 43,477	\$ 46,258	\$ 89,735	(4) (5) \$ —	\$ 89,735
Cost of goods sold:					
Payroll and benefit expenses	14,655	11,800	26,455	—	26,455
Material and supplies expenses	3,747	—	3,747	—	3,747
Disposal expenses	6,576	—	6,576	—	6,576
Transportation expenses	1,457	—	1,457	—	1,457
Subcontract expenses	—	15,555	15,555	—	15,555
Other cost of goods sold ⁽²⁾	10,166	9,410	19,576	—	19,576
Total cost of goods sold	36,601	36,765	73,366	—	73,366
Gross profit	6,876	9,493	16,369	—	16,369
Selling, general and administrative expenses ("SG&A"):					
Payroll and benefits	2,438	2,662	5,100	3,812	8,912
Other SG&A ⁽³⁾	1,811	834	2,645	3,418	6,063
Total SG&A	4,249	3,496	7,745	7,230	14,975
Research and development	418	38	456	105	561
Loss on disposal of property and equipment	—	77	77	—	77
Income (loss) from operations	\$ 2,209	\$ 5,882	\$ 8,091	\$ (7,335)	756
Interest income					606
Interest expense					(323)
Interest expense-financing fees					(93)
Other expense					(11)
Income from continuing operations before taxes					935
Income tax expense					17
Income from continuing operations, net of taxes					\$ 918

(1) Amounts reflect the activity for corporate headquarters not included in the segment reporting information.

(2) Other cost of goods sold for each reportable segment includes:

Treatment - lab, regulatory, maintenance, depreciation and amortization, travel, outside services and general expenses.

Services - material and supplies, disposal and transportation, lab, regulatory, maintenance, depreciation and amortization, travel, outside services and general expenses.

(3) Other SG&A for each reportable segment and Corporate includes:

Treatment-depreciation and amortization, travel, outside services, maintenance and general expenses.

Services- travel, outside services, maintenance and general expenses.

Corporate-maintenance, depreciation and amortization, travel, public company, outside services and general expenses.

(4) The Company performed services relating to waste generated by federal government clients, either directly as a prime contractor or indirectly for others as a subcontractor to federal government entities, representing approximately \$40,550,000 or 68.6% of total revenue for 2024 and \$68,595,000 or 76.4% of total revenue for 2023.

(5) The following table reflects revenue based on customer location:

	2024	2023
United States	\$ 56,665	\$ 87,669
Canada	513	1,685
Germany	734	206
Italy	77	—
Mexico	394	—
Slovenia	181	87
United Kingdom	553	88
Total	\$ 59,117	\$ 89,735

The following table presents depreciation and amortization for the years ended December 31, (in thousand):

	2024	2023
Treatment	\$ 1,484	\$ 2,112
Services	177	397
Total segment	1,661	2,509
Corporate	102	59
Total	<u>\$ 1,763</u>	<u>\$ 2,568</u>

The following table presents capital expenditures for the years ended December 31, (net of financed amount of \$406 and \$784 for 2024 and 2023, respectively (in thousand):

	2024	2023
Treatment	\$ 3,002	\$ 1,696
Services	403	10
Total segment	3,405	1,706
Corporate	—	8
Total	<u>\$ 3,405</u>	<u>\$ 1,714</u>

The following table presents long-lived assets for the Company's continuing operations for the years ended December 31, (in thousand):

	2024	2023
United States	\$ 21,133	\$ 19,009
Foreign Subsidiaries	—	—
Total	<u>\$ 21,133</u>	<u>\$ 19,009</u>

NOTE 17

SALES OF COMMON STOCK

May 2024

On May 21, 2024, the Company entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with certain institutional and retail investors (the "Purchasers"), pursuant to which the Company sold and issued, in a registered direct public offering, an aggregate of 2,051,282 shares of the Company's Common Stock, at a negotiated purchase price per share of \$9.75 (the "Shares"), for aggregate gross proceeds to the Company of approximately \$20,000,000, before deducting fees payable to the placement agents and other estimated offering expenses payable by the Company (the "Offering"). The net proceeds from the Offering was utilized to fund (i) continued R&D and business development relating to the Company's patent-pending process for the destruction of PFAS (Per- and polyfluoroalkyl substances), as well as the cost of installing at least one commercial treatment unit; (ii) ongoing facility capital expenditures and maintenance costs; and (iii) general corporate and working capital purposes. The Shares were offered and sold by the Company pursuant to the Company's "shelf" registration statement on Form S-3 and prospectus supplement relating thereto.

Craig-Hallum Capital Group LLC ("Craig-Hallum") and Wellington Shields & Co. LLC ("Wellington Shields") (Wellington Shields and Craig-Hallum together are known as the "Placement Agents") served as the exclusive placement agents in connection with the Offering. The Company paid the Placement Agents an aggregate cash fee of \$1,200,000, representing 6.00% of the gross proceeds of the Offering. The Company also reimbursed the Placement Agents certain expenses in connection with the Offering in an aggregate amount of approximately \$80,000. As additional compensation to the Placement Agents in connection with the Offering, the Company also issued to the Placement Agents and two (2) of their designees, warrants (the "Placement Agents' Warrants") to purchase an aggregate of 61,538 shares of Common Stock (the "Warrant Shares"), an amount equal to 3.0% of the number of Shares sold in the registered direct offering. The Placement Agents' Warrants have an exercise price per share equal to \$12.19, which is equal to approximately

125% of the price per share of the Shares sold in the Offering. Neither the Placement Agents' Warrants nor the Warrant Shares have been registered under the Registration Statement or otherwise. The Placement Agents' Warrants have a term of five years, are exercisable at any time and from time to time, in whole or in part, during the four and one-half (4 ½) year period commencing 180 days from the closing date of the Offering which was May 24, 2024, and are exercisable via "cashless exercise" in certain circumstances. The aggregate fair value of the "Placement Agents' Warrants" was determined to be approximately \$331,000 using the Black-Scholes pricing model with the following assumptions: 58.78% volatility, risk free interest rate of 4.53%, an expected life of five years and no dividend. The aggregate fair market value of the Placement Agent's Warrants was recorded as an offset to gross proceeds of the Offering and an increase to additional-paid-in capital.

After deducting costs incurred and paid of approximately \$1,544,000 (exclusive of the aggregate fair market value of the Placement Agents' Warrants as discussed above) which were recorded as a deduction to equity in connection with the Offering, net cash proceeds to the Company totaled approximately \$18,456,000.

December 2024

On December 18, 2024, the Company entered into an underwriting agreement (the "Underwriting Agreement") with Craig-Hallum Capital Group, LLC (the "Underwriter") to which the Company sold and issued pursuant to the terms and conditions of the Underwriting Agreement, 2,200,000 shares of the Company's Common Stock. The shares of Common stock were sold at a negotiated price to the public of \$10.00 per share. The Underwriting Agreement also allowed the Underwriter a 30-day over-allotment option (the "Over-Allotment Option") to purchase up to an additional 330,000 shares of the Company's Common Stock on the same terms and conditions, which option was exercised in its entirety on December 18, 2024. The shares were offered and sold to the public pursuant to the Company's "universal shelf" registration statement on Form S-3 filed with the Commission on December 2, 2024, and declared effective by the Commission on December 12, 2024, and prospectus supplement relating thereto. The aggregate gross proceeds received by the Company from the sale of the 2,530,000 shares sold totaled \$25,300,000, before deducting fees payable to the Underwriter and other estimated offering expenses payable by the Company (the "Offering"). The net proceeds from the Offering is anticipated to fund (i) continued R&D and business development relating to the Company's patent-pending process for the destruction of PFAS, as well as the cost of installing at least one second-generation Perma-FAS commercial treatment unit; (ii) ongoing facility capital expenditures and maintenance costs; and (iii) general corporate and working capital purposes.

The Company paid the Underwriter a total cash fee of 7.00% of the aggregate gross proceeds in the Offering, which totaled approximately \$1,771,000. The Company also reimbursed the Underwriter certain expenses in connection with the Offering in an aggregate amount of approximately \$95,000. As additional compensation to the Underwriter in connection with the Offering, the Company also issued to the Underwriter and three (3) of their designees, warrants (the "Underwriters' Warrants") to purchase an aggregate of 126,500 shares of Common Stock (the "Warrant Shares"), equal to 5.0% of the number of Shares sold in the offering, at an exercise price per share equal to \$11.50, which exercise price is equal to approximately 115% of the price per share of the shares sold in the Offering. The Underwriter's Warrants have a term of five years, are exercisable at any time and from time to time, in whole or in part, during the five (5) year period commencing on December 19, 2024, the closing date of the Offering, and are exercisable via "cashless exercise" in certain circumstances. The aggregate fair value of the "Underwriter's Warrants" was determined to be approximately \$695,000 using the Black-Scholes pricing model with the following assumptions: 58.51% volatility, risk free interest rate of 4.43%, an expected life of five years and no dividend. The aggregate fair market value of the Underwriter's Warrants was recorded as an offset to gross proceeds of the Offering and an increase to additional-paid-in capital.

After deducting costs incurred of approximately \$2,092,000 (exclusive of the aggregate fair market value of the Underwriter's Warrants as discussed above) which were recorded as a deduction to equity in connection with the Offering, net cash proceeds to the Company totaled approximately \$23,208,000. The Company has paid approximately \$1,897,000 of the \$2,092,000 costs incurred in connection with the Offering.

NOTE 18

SUBSEQUENT EVENTS

The Company evaluated subsequent events and transactions that occurred after the balance sheet date through March 13, 2025, the date that these consolidated financial statements were available to be issued. Based upon this review, the Company did not identify any subsequent events that would have required adjustment or disclosure in the consolidated financial statements other than the events described below.

Appointment of Chief Operating Officer (“COO”)

On January 23, 2025, the Company’s Board approved the appointment of Mr. Troy Eshleman as the Company’s Chief Operating Officer (“COO”) at an annual salary of \$320,000. Mr. Troy Eshleman was originally hired by the Company on January 6, 2025 as Vice President of Operations.

EVP of Hanford and International Waste Operations

On January 23, 2025, the Board appointed Mr. Richard Grondin as the Company’s EVP of Hanford and International Waste Operations, at an annual salary of \$315,267. Prior to his appointment to such office, Mr. Grondin previously served as the Company’s EVP of Waste Treatment Operations. Mr. Grondin remains a named executive officer of the Company.

Grant of Option

In connection with the Board’s appointment of Mr. Eshleman to the position of COO, the Compensation Committee recommended, and the Board approved, the grant to Mr. Eshleman of an ISO for the purchase, under the Company’s 2017 Plan, of up to 50,000 shares of the Company’s Common Stock. The ISO has a term of six years, and vests 20% per year over a five-year period commencing on the first anniversary date of grant. The exercise price of the ISO is \$10.70 per share, which is equal to the closing price as quoted on Nasdaq of the Company’s Common Stock on the date of grant.

MIPs

On January 23, 2025, the Board (with Mr. Mark Duff and Dr. Louis Centofanti abstaining) and the Compensation Committee approved individual MIP for the calendar year 2025 for each of the Company’s executive officers. Each MIP is effective January 1, 2025 and applicable for year 2025. Each MIP provides guidelines for the calculation of annual cash incentive-based compensation, subject to Compensation Committee oversight and modification. The performance compensation under each of the MIPs is based upon meeting certain of the Company’s separate target objectives during 2025. The total potential target performance compensation payable ranges from 25% to 150% of the 2025 base salary for the CEO (\$104,287 to \$625,733), 29% to 100% of the 2025 base salary for the CFO (\$95,681 to \$332,811), 29% to 100% of the 2025 base salary for the EVP of Strategic Initiatives (\$79,736 to \$277,346), 25% to 100% (\$78,817 to \$315,267) of the 2025 base salary for the EVP of Hanford and International Waste Operations, and 25% to 100% of the 2025 base salary for the COO (\$80,000 to \$320,000).

Credit Facility

On March 11, 2025, the Company entered into an amendment to its Loan Agreement with its lender which provided the following, among other things:

- removes the quarterly FCCR testing requirement for the fourth quarter of 2024;
- removes the requirement that the Company maintains a minimum of \$3,000,000 in daily Liquidity through September 29, 2025, which was removable earlier subject to meeting certain conditions;
- removes the quarterly FCCR covenant testing requirement utilizing a twelve-month trailing basis; however, such FCCR testing requirement will be triggered on the day the Company fails to meet a minimum of \$5,000,000 in daily Liquidity. If triggered, the Company will be required to show compliance of a FCCR ratio of not less than 1.15 to 1.00 utilizing a trailing twelve-month-period ended starting with the most recently reported fiscal quarter and each fiscal quarter thereafter. The FCCR testing requirement can be removed again once the Company is able to achieve a minimum of \$5,000,000 in daily Liquidity for a thirty-consecutive-day period from the trigger date; and
- revises the Facility Fee (as defined) from .375% to .500%. Such fee percentage will revert back to

.375% at such time that the Company is able to achieve a minimum 1.15 to 1.00 ratio in FCCR on a twelve-month trailing basis.

In connection with the amendment, the Company paid its lender a fee of \$12,500.

Shareholder Demand Letter

The Company's Board has received a demand letter, dated February 4, 2025 (the "Letter"), from a putative shareholder of the Company, claiming that a provision in the Company's Amended and Restated Bylaws ("Bylaws"), requiring shareholders to indemnify the Company for attorneys' fees in certain corporate proceedings in which the shareholder is not the prevailing party, must be removed. This provision of the Company's Bylaws was adopted in 2012 when the Company adopted its Amended and Restated Bylaws. The statute prohibiting certain reimbursements of attorneys' fees was adopted in 2015. The Letter demands that the Board amend its Bylaws to remove the particular provision in question. The Board has established a committee of the Board comprised of independent directors who each became a member of the Board after 2012 to review and consider the Letter.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures.

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our periodic reports filed with the Securities and Exchange Commission (the "Commission") is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Commission and that such information is accumulated and communicated to our management, including the Chief Executive Officer ("CEO") (Principal Executive Officer), and Chief Financial Officer ("CFO") (Principal Financial Officer), as appropriate to allow timely decisions regarding the required disclosure. In designing and assessing our disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their stated control objectives and are subject to certain limitations, including the exercise of judgment by individuals, the difficulty in identifying unlikely future events, and the difficulty in eliminating misconduct completely. Our management, with the participation of our CEO and CFO, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended. Based upon this assessment, our CEO and CFO have concluded that our disclosure controls and procedures were effective as of December 31, 2024.

Remediation of Previously Reported Material Weakness

As previously disclosed, in the period ended September 30, 2024, management identified a material weakness related to the precision required to properly evaluate the need for a valuation allowance on our U.S. deferred tax assets. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. This material weakness resulted in an income tax valuation adjustment recorded during third quarter. The error was corrected by management as of September 30, 2024, and for the three and nine months ended September 30, 2024. The material weakness noted did not result in a material misstatement in the Company's financial statements included in its Quarterly Report on Form 10-Q for the period ended September 30, 2024, nor in previously issued financial statements prior to the periods ended September 30, 2024.

Subsequent to the identification of this material weakness, the Company implemented a remediation plan which included enhanced management and precision level of review control activities in order to evaluate the income tax valuation allowance in subsequent reporting

periods and retaining a third-party specialist to review management's valuation allowance conclusions. As a result of our plan, we have remediated this material weakness as of December 31, 2024.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) of the Securities Exchange Act of 1934. Internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements or fraudulent acts. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. A control system, no matter how well designed, can provide only reasonable assurance with respect to financial statement preparation and presentation.

Internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit the preparation of the consolidated financial statements in accordance with generally accepted accounting principles in the United States of America, and that receipts and expenditures of the Company are being made only in accordance with appropriate authorizations of management and directors of the Company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the consolidated financial statements.

Management, with the participation of our CEO and CFO, conducted an assessment of the effectiveness of internal control over financial reporting as of December 31, 2024, based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this assessment, management and our CEO and CFO, concluded that the Company's internal control over financial reporting was effective as of December 31, 2024.

This Form 10-K does not include an attestation report of the Company's independent registered public accounting firm regarding internal control over financial reporting. Since the Company is not a large accelerated filer or an accelerated filer, management's report was not subject to attestation by the Company's independent registered public accounting firm pursuant to the rules of the Commission that permit the Company to provide only management's report in this Form 10-K.

Changes in Internal Control over Financial Reporting

Other than the implemented remediation plan described above, there have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during our most recently completed fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

- (a) None.
- (b) During the quarter ended December 31, 2024, no director or "officer" (as defined in Rule 16a-1(f)) of the Company adopted or terminated a "Rule 10b5-1 trading arrangement" or "non-Rule 10b5-1 trading arrangement," as each term is defined in Item 408(a) of Regulation S-K.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not Applicable.

PART III**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE****DIRECTORS**

The following table sets forth, as of the date of this Report, information concerning our Board of Directors (the "Board"):

<u>NAME</u>	<u>AGE</u>	<u>POSITION</u>
Lieutenant General (LTG) (ret.) Thomas P. Bostick	68	Director
Dr. Louis F. Centofanti	81	Director; Executive Vice President ("EVP") of Strategic Initiatives
Mr. Mark J. Duff	62	Director; President and Chief Executive Officer ("CEO")
Ms. Kerry C. Duggan	46	Director
Mr. Joseph T. Grumski	63	Director
The Honorable Joe R. Reeder	77	Director
Mr. Larry M. Shelton	71	Chairman of the Board
The Honorable Zach P. Wamp	67	Director
Mr. Mark A. Zwecker	74	Director

Director Information

Our directors and executive officers, their ages, the positions with us held by each of them, the periods during which they have served in such positions and a summary of their recent business experience are set forth below. Each of the biographies of the current directors listed below also contains information regarding such person's service as a director, business experience, director positions with other public companies held currently or at any time during the past five years, and the experience, qualifications, attributes and skills that our Board considered in nominating or appointing each of them to serve as one of our directors.

LTG (ret.) Thomas P. Bostick

LTG (ret.) Bostick, a director since August 2020, is currently the CEO of Bostick Global Strategies, LLC, a position he has held since July 2016. Bostick Global Strategies, LLC provides strategic advisory support in the areas of engineering, environmental sustainability, human resources, biotechnology, education, executive coaching, and Agile Project Management. In February 2021, LTG (ret.) Bostick was selected by U. S. Senator Jack Reed, Chairman of the Senate Armed Services Committee, to serve as a member of the Naming Commission consisting of eight appointed individuals, tasked with renaming Confederate-named military bases and property. In 2023, the Secretary of the Army and the Chief of Staff of the Army requested LTG (ret.) Bostick's assistance in transforming U.S. Army Recruiting Command (USAREC). LTG (ret.) Bostick worked with the U.S. Army to develop a plan which USAREC is now executing. LTG (ret.) Bostick previously served (from November 2017 to February 2020) as the COO and President of Intrexon Bioengineering, a division of Intrexon Corporation (formerly Nasdaq: XON; now Nasdaq: PGEN). Intrexon

Bioengineering addresses global challenges across food, agriculture, environmental, energy, and industrial fields by advancing biologically engineered solutions to improve sustainability and efficiency. Since October 2020, LTG (ret.) Bostick has served as a board member of CSX Corporation (Nasdaq: CSX), a publicly-held rail transportation company, and since December 2020, as a member of both the Finance Committee and the Governance Committee of CSX Corporation. Since June 2021, LTG (ret.) Bostick has served on the Board of Trustees of Fidelity Equity and High Income Funds overseeing equity funds and high yield funds sponsored by Fidelity Investments, Inc., a privately-owned investment management company. LTG (ret.) Bostick continues to serve as a board member for several other privately-held and nonprofit organizations. LTG (ret.) Bostick was named as one of 2021's Most Influential Black Corporate Directors by Savoy Magazine, a national publication that showcases and drives positive dialogue about Black culture. In 2024, the Association of Graduates selected LTG (ret.) Bostick as a Distinguished Graduate of the U.S. Military Academy at West Point.

LTG (ret.) Bostick has had a distinguished career in the U.S. military, retiring from the U.S. Army in July 2016 with the rank of Lieutenant General. Prior to his retirement, LTG (ret.) Bostick held a variety of positions within the U.S. Army, including the 53rd Chief of Engineers and Commanding General, U.S. Army Corps of Engineers (2012-2016) and Deputy Chief of Staff and Director of Human Resources, U.S. Army (2009-2012). LTG (ret.) Bostick has been awarded many military honors and decorations during his military career, including the Distinguished Service Medal, the Defense Superior Service Medal, and the Bronze Star Medal.

As a White House Fellow, one of America's most prestigious programs for leadership and public service, LTG (ret.) Bostick was a special assistant to the Secretary of Veterans Affairs.

LTG (ret.) Bostick graduated with a Bachelor of Science degree from the U.S. Military Academy at West Point and later returned to the Academy to serve as an Associate Professor of Mechanical Engineering. He holds Master's degree in both Civil Engineering and Mechanical Engineering from Stanford University, an MBA from Oxford University, and a Doctorate in Systems Engineering from George Washington University. He is a Member of the National Academy of Engineering and the National Academy of Construction.

LTG (ret.) Bostick's distinguished career in both the government and private sectors brings valuable experience and insight into solving complex issues domestically and globally. His extensive knowledge and problem-solving experiences enhance the Board's ability to address significant challenges in the nuclear market and led the Board to conclude that he should serve as a director.

Dr. Louis F. Centofanti

Dr. Centofanti, the founder of the Company and a director of the Company since its inception in 1991, currently holds the position of EVP of Strategic Initiatives. From March 1996 to September 8, 2017 and from February 1991 to September 1995, Dr. Centofanti held the position of President and CEO of the Company. Dr. Centofanti served as Chairman of the Board from the Company's inception in February 1991 until December 16, 2014. In January 2015, Dr. Centofanti was appointed by the U.S. Secretary of Commerce Penny Prizker to serve on the U.S. Department of Commerce's Civil Nuclear Trade Advisory Committee ("CINTAC"). The CINTAC is composed of industry representatives from the civil nuclear industry and meets periodically throughout the year to discuss the critical trade issues facing the U.S. civil nuclear sector. From 1985 until joining the Company, Dr. Centofanti served as Senior Vice President ("SVP") of USPCI, Inc., a large publicly-held hazardous waste management company, where he was responsible for managing the treatment, reclamation and technical groups within USPCI. In 1981, he and Mark Zwecker, a current Board member of the Company, founded PPM, Inc. (later sold to USPCI), a hazardous waste management company specializing in treating PCB-contaminated oil. From 1978 to 1981, Dr. Centofanti served as Regional Administrator of the U.S. Department of Energy ("DOE") for the southeastern region of the United States. Dr. Centofanti has a Ph.D. and a M.S. in Chemistry from the University of Michigan, and a B.S. in Chemistry from Youngstown State University.

As founder of Perma-Fix and PPM, Inc., and as a senior executive at USPCI, Dr. Centofanti combines extensive business experience in the waste management industry with a drive for innovative technology which is critical for a waste management company. In addition, his service in the government sector provides a solid

foundation for the continuing growth of the Company, particularly within the Company's Nuclear business. Dr. Centofanti's comprehensive understanding of the Company's operations and his extensive knowledge of its history, coupled with his drive for innovation and excellence, positions Dr. Centofanti to optimize our role in this competitive, evolving market, and led the Board to conclude that he should serve as a director.

Mark J. Duff

Mr. Duff, the Company's President and CEO since September 2017, has served as a Board member since April 2023. Since joining the Company in 2016, Mr. Duff has developed and implemented strategies to meet growth objectives in both the Treatment and Services Segments. In the Treatment Segment, he continues to upgrade each facility to increase efficiency, and modernize and broaden treatment capabilities to meet the changing markets associated with the waste management industry. This growth includes expansion into international markets and additional market sectors, including development of new clients in the commercial power and oil and gas industries. In the Services Segment, which encompasses all field operations, he has completed the revitalization of business development programs, which has resulted in increased competitive procurement effectiveness, and broadened the market penetration within both the commercial and government sectors. Within the Services Segment, Mr. Duff has established a team of professionals with experience in conducting safe and efficient field operations while addressing complex technical challenges associated with removal of radioactive and hazardous waste contamination. Mr. Duff has over 40 years of management and technical experience in the DOE and the DOD environmental and construction markets as, variously, a corporate officer, senior project manager, co-founder of a consulting firm, and federal employee. Mr. Duff has an MBA from the University of Phoenix and received his B.S. from the University of Alabama.

Mr. Duff's extensive experience in the government sector has proven invaluable in the continuing growth of the Company's Treatment and Services Segments. Mr. Duff's comprehensive understanding of the Company's operations, his proven leadership skills, and his drive for new innovation in this evolving industry and market, led the Board to conclude that he should serve as a director.

Kerry C. Duggan

Ms. Duggan, a director of the Company since May 2021, is the founder of SustainabiliD, a woman-owned advisory services firm working with gamechangers to equitably solve the climate crisis. She was appointed to the faculty and named as the Founding Director of the University of Michigan's School for Environmental and Sustainability ("SEAS") Clinic in Detroit.

In 2021, Ms. Duggan was appointed to the DOE's prestigious Secretary of Energy Advisory Board ("SEAB"), serving under Energy Secretary Jennifer Granholm. In February 2021, Michigan Governor Gretchen Whitmer also appointed Ms. Duggan to the State of Michigan's Council on Climate Solutions, to advise on the implementation of the MI Healthy Climate Plan, to reduce greenhouse gas emissions and to transition toward economy-wide carbon neutrality. More recently, Ms. Duggan also served on the Governor's bipartisan Growing Michigan Together Council (Infrastructure & Places Workgroup). In 2020-21, Ms. Duggan was a member of the Biden-Harris Transition Team on the U.S. Department of Energy Agency Review Team. In May 2020, Ms. Duggan was named a member of the Biden-Sanders Unity Task Force on Climate Change, serving as one of Biden's five delegates alongside Gina McCarthy and Sec. John Kerry; and later co-chaired the climate change policy committee and served as a surrogate for the Biden campaign.

Previously, Ms. Duggan served nearly seven years in federal public-service leadership roles, including inside the Obama-Biden White House as Deputy Director for Policy in the Office of then Vice President Joe Biden for energy, environment, climate, and distressed communities. Simultaneously, she served as Deputy Director of the Detroit Federal Working Group to support Detroit's revitalization. Prior to the White House, Ms. Duggan held several senior roles at the DOE, including as Secretary Moniz's embedded Liaison to the City of Detroit (where she championed a citywide LED streetlight conversion), and in the Office of Energy Efficiency & Renewable Energy as Director of Stakeholder Engagement, Director of Legislative, Regulatory & Urban Affairs, and as a Senior Policy Advisor.

After her time in federal service, Ms. Duggan co-founded the Smart Cities Lab, was a Partner with the Honorable Thomas J. Ridge's firm, RIDGE-LANE Limited Partners, and served on the external advisory board of the University of Michigan's Erb Institute for Global Sustainable Enterprise and was a Board

Member at the Global Council for Science and the Environment. She was also briefly a Trustee of the University Liggett School. In 2018, Ms. Duggan was named to the prestigious “40 Under 40” list by Crain’s Detroit Business and their inaugural “Notable Leaders in Sustainability” lists. She previously worked at the League of Conservation Voters in Washington, D.C.

Ms. Duggan sits on the corporate board of directors at Storm Energia Inc., a privately-held leading global solution company for recycling Lithium-ion battery materials, as well as the corporate advisory boards of Our Next Energy, Inc. (ONE), a privately-held energy storage solutions company; Aclima, Inc., a public benefit corporation dedicated to protecting public health, reducing climate-changing emissions, and advancing environmental justice; BlueConduit, a privately-held water analytics company that builds machine learning software to support the efficient removal of lead and other dangerous materials from communities; Walker-Miller Energy Services, L.L.C., a privately-held energy efficiency services company; Commonweal Investors, a private equity firm that invests in early-stage technology companies advancing a sustainable economy, upgrading transportation and infrastructure systems, and revitalizing the urban environment; and Arctaris Impact Investors, LLC, an investment management company that manages funds which invest in growth-oriented operating businesses and community infrastructure projects located in underserved communities, among others. Ms. Duggan also serves as a senior advisor at The RockCreek Group, LP, a registered private fund adviser that manages fund of funds portfolios and direct equity trading portfolios.

Ms. Duggan attended the University of Vermont, where she completed her Bachelor of Science degree in environmental studies. Ms. Duggan also has a Master of Science degree in natural resource policy & behavior from the University of Michigan.

Ms. Duggan’s career in both the government and private sectors brings valuable experience and insight into solving complex issues. Her extensive knowledge and problem-solving experiences led the Board to conclude that she should serve as a director.

Mr. Joseph T. Grumski

Mr. Grumski, a director of the Company since February 2020, has served since April 2020 as the CEO of TAS Energy Inc. (“TAS”), a wholly-owned subsidiary of Comfort Systems USA, Inc. (NYSE: FIX), a publicly-held company that provides mechanical and electrical contracting services in locations throughout the United States. Mr. Grumski also served as the President of TAS Energy, Inc. from April 2020 to December 2023. Prior to the acquisition of TAS by Comfort Systems USA, Inc., Mr. Grumski served as President and CEO and a board member of TAS from May 2013 to March 2020. From 1997 to February 2013, Mr. Grumski was employed with Science Applications International Corporation (“SAIC”) (NYSE: SAIC), a publicly-held company that provides government services and information technology support. During his employment with SAIC, Mr. Grumski held various senior management positions, including the positions of President of SAIC’s Energy, Environment & Infrastructure (“E2I”) commercial subsidiary and General Manager of the E2I Business Unit. SAIC’s E2I commercial subsidiary and Business Unit is comprised of approximately 5,200 employees performing over \$1.1 billion of services for federal, commercial, utility and state customers. Mr. Grumski’s accomplishments with SAIC included growing SAIC’s \$300 million federal environmental business to a top ranked, \$1.1 billion business; receiving the National Safety Council “Industry Leader” award in 2009; and receiving highest senior executive performance rating three years in a row. Mr. Grumski began his career with Gulf Oil Company and progressed through senior level engineering, operations management, and program management positions with various other companies, including Westinghouse Electric Corporation and Lockheed Martin, Inc. Mr. Grumski received a B.S. in Mechanical Engineering from the University of Pittsburgh and a M.S in Mechanical Engineering from West Virginia University.

Mr. Grumski has had an extensive career in solving and overseeing solutions to complex issues involving both domestic and international concerns. In addition, his extensive experience in companies that provide services to the government sector as well as his experience in the commercial sector provide solid experience for the continuing growth of the Company’s Treatment and Services Segment. Mr. Grumski’s extensive knowledge and problem-solving experiences, executive operational leadership experience and governance experience enhance the Board’s ability to address significant challenges in the nuclear market, and led the Board to conclude that he should serve as a director.

The Honorable Joe R. Reeder

Mr. Reeder, a director since 2003, is a principal shareholder of the law firm of Greenberg Traurig LLP, one of the world's largest law firms, with 47 offices and 2,900 attorneys worldwide. Mr. Reeder served as Shareholder-in-Charge of the law firm's Mid-Atlantic Region offices for ten years. His clientele includes celebrities, heads of state, sovereign nations, international corporations, and law firms. As the U.S. Army's 14th Undersecretary (1993-97), he also served three years as Chairman of the Panama Canal Commission's Board, overseeing a multibillion-dollar infrastructure program. For the past 23 years, he has served on the Canal's International Advisory Board. He has written extensively in leading journals on corporate cybersecurity and has served on the boards of the USO; the National Defense Industry Association ("NDIA"), chairing NDIA's Ethics Committee; the Armed Services YMCA; the Marshall Legacy Institute; and many other private companies and charitable organizations. He served as a director of ELBIT Systems of America, LLC, (2005-2020), a subsidiary of Elbit Systems Ltd. (Nasdaq: ESLT), a multi-billion-dollar provider of defense, homeland security, and commercial aviation system solutions. Mr. Reeder has also served as director of WashingtonFirst Bank, the bank subsidiary of WashingtonFirst Bankshares, Inc. (Nasdaq: WSBI), from 2004 to 2017; Sandy Spring Bancorp, Inc. (Nasdaq: SASR), from 2018 to 2020; and Trustar Bank, a Virginia state-chartered bank (2022 - present).

After two successive 4-year appointments by Virginia Governors Mark Warner and Tim Kaine, Mr. Reeder served seven years as Chairman of two Commonwealth of Virginia military boards, and 10 years on the USO Board of Governors. Appointed by former Governor Terry McAuliffe to the Virginia Military Institute's Board of Visitors (2014), he was reappointed in 2018 by former Virginia Governor Ralph Northam, with his term ending in 2022. Mr. Reeder has been a television commentator on legal and national security issues, is consistently named a Super Lawyer for Washington, D.C., and has served six years after his appointment in 2018 to the U.S. Court of Federal Claims Advisory Council Bid Protest Committee.

A West Point graduate who served in the 82nd Airborne Division after Ranger School, Mr. Reeder earned his J.D. from the University of Texas, his L.L.M. from Georgetown University, and has devoted his career to resolving complex domestic and international issues. He continues to enhance the Board in addressing major challenges in the nuclear market and day-to-day corporate and Washington D.C.- related challenges.

Mr. Larry M. Shelton

Mr. Shelton, a director since July 2006, has also held the position of Chairman of the Board of the Company since December 2014. Mr. Shelton served as the Chief Financial Officer ("CFO") of S K Hart Management, LLC, a private investment management company ("S K Hart Management"), from 1999 until August 2018. Mr. Shelton served as President of Pony Express Land Development, Inc. (an affiliate of SK Hart Management), a privately held land development company, from January 2013 until August 2017, and has served on its board since December 2005. Mr. Shelton served as Director and CFO of S K Hart Ranches (PTY) Ltd, a private South African Company involved in agriculture, from March 2012 to March 2020. Mr. Shelton has over 20 years of experience as an executive financial officer for several waste management companies, including as CFO of Envirocare of Utah, Inc. (now EnergySolutions, Inc. (1995–1999)), a privately held nuclear waste services company, and as CFO of USPCI, Inc. (1982–1987), then a NYSE- listed public company engaged in the hazardous waste business. Since July 1989, Mr. Shelton has served on the board of Subsurface Technologies, Inc., a privately held company specializing in providing environmentally sound innovative solutions for water well rehabilitation and development. Mr. Shelton has a B.A. in accounting from the University of Oklahoma.

With his years of accounting experience as CFO of various companies, including a number of waste management companies, Mr. Shelton combines extensive industry knowledge and understanding of accounting principles, financial reporting requirements, evaluating and overseeing financial reporting processes and business matters. These factors led the Board to conclude that he should serve as a director.

The Honorable Zach P. Wamp

Mr. Wamp, a director since January 2018, is currently the President of Zach Wamp Consulting, a position he has held since 2011. As the President and owner of Zach Wamp Consulting, he has served some of the most prominent companies from Silicon Valley to Wall Street as a business development consultant and advisor. From September 2013 to November 2017, Mr. Wamp chaired the Board of Directors for Chicago Bridge and

Iron Federal Services, LLC (a subsidiary of Chicago Bridge & Iron Company, NYSE: CBI, which provides critical services primarily to the U.S. government). From January 1995 to January 2011, Mr. Wamp served as a member of the U.S. House of Representatives from Tennessee's 3rd Congressional District. Among his many accomplishments, which included various leadership roles in the advancement of education and science, Mr. Wamp was instrumental in the formation and success of the Tennessee Valley Technology Corridor, which created thousands of jobs for Tennesseans in the areas of high-tech research, development, and manufacturing. During his career in the political arena, Mr. Wamp served on several prominent subcommittees during his 14 years on the House Appropriations Committee, including serving as a "ranking member" of the Subcommittee on Military Construction and Veterans Affairs and Related Agencies. Mr. Wamp has been a regular panelist on numerous media outlets and has been featured in a number of national publications effectively articulating sound social and economic policy. Mr. Wamp's business career has also included work in the real estate sector for a number of years as a licensed industrial-commercial real estate broker, for which he was named Chattanooga's Small Business Person of the Year.

Mr. Wamp has an extensive career in solving and overseeing solutions to complex issues involving domestic concerns. In addition, his wide-ranging career, particularly with respect to his government-related work, provides solid experience for the continuing growth of the Company's Treatment and Services Segments. His extensive knowledge and problem-solving expertise enhance the Board's ability to address significant challenges in the nuclear market, and led the Board to conclude that he should serve as a director.

Mr. Mark A. Zwecker

Mr. Zwecker, a director since the Company's inception in January 1991, previously served as the CFO and a board member of JCI US Inc. from 2013 to 2019. JCI US Inc. is a telecommunications company and wholly-owned subsidiary of Japan Communications, Inc. (Tokyo Stock Exchange (Securities Code: 9424)), which provides cellular service for M2M (machine to machine) applications. From 2006 to 2013, Mr. Zwecker served as Director of Finance for Communications Security and Compliance Technologies, Inc., a wholly-owned subsidiary of JCI US Inc. that develops security software products for the mobile workforce. Mr. Zwecker has held various other senior management positions, including President of ACI Technology, LLC, a privately-held IT services provider, and Vice President of Finance and Administration for American Combustion, Inc., a privately-held combustion technology solutions provider. In 1981, with Dr. Centofanti, Mr. Zwecker co-founded a start-up, PPM, Inc., a hazardous waste management company. He remained with PPM, Inc. until its acquisition in 1985 by USPCI. Mr. Zwecker has a B.S. in Industrial and Systems Engineering from the Georgia Institute of Technology and an M.B.A. from Harvard University.

As a director since our inception, Mr. Zwecker's understanding of our business provides valuable insight to the Board. With years of experience in operations and finance for various companies, including a number of waste management companies, Mr. Zwecker combines extensive knowledge of accounting principles, financial reporting rules and regulations, the ability to evaluate financial results, and understanding of financial reporting processes. He has an extensive background in operating complex organizations. Mr. Zwecker's experience and background position him well to serve as a member of our Board. These factors led the Board to conclude that he should serve as a director.

BOARD OF DIRECTOR INDEPENDENCE

The Board has determined that each director, other than Dr. Centofanti and Mark Duff, is "independent" within the meaning of applicable Nasdaq rules. Each of Dr. Centofanti and Mark Duff is not deemed to be an "independent director" because of his employment as an executive officer of the Company.

BOARD LEADERSHIP STRUCTURE

We currently separate the roles of Chairman of the Board and CEO. The Board believes that this leadership structure promotes balance between the Board's independent authority to oversee our business, and the CEO and his management team, who manage the business on a day-to-day basis.

The Company does not have a written policy with respect to the separation of the positions of Chairman of the Board and CEO. The Company believes it is important to retain its flexibility to allocate the responsibilities of the offices of the Chairman and CEO in any way that is in the best interests of the Company at a given point in time; therefore, the Company's leadership structure may change in the future as

circumstances may dictate.

Mark A. Zwecker, a current member of our Board, continues to serve as the Independent Lead Director, a position he has held since February 2010. The Lead Director's role includes:

- convening and chairing meetings of the non-employee directors as necessary from time to time and Board meetings in the absence of the Chairman of the Board;
- acting as liaison between directors, committee chairs and management;
- serving as an information source for directors and management; and
- carrying out responsibilities as the Board may delegate from time to time.

COMMITTEES OF THE BOARD

Corporate Governance and Nominating Committee

We have a separately-designated standing Corporate Governance and Nominating Committee (the "Governance and Nominating Committee"). Members of the Governance and Nominating Committee during 2024 were Joe R. Reeder (Chairperson), Thomas P. Bostick, Kerry C. Duggan and Zach P. Wamp. All members of the Nominating Committee are and were "independent" as that term is defined by current Nasdaq listing standards.

The Governance and Nominating Committee has specific responsibilities which include:

- considering and making recommendations to the Board regarding the composition and chairmanship of the committees of our Board;
- developing and making recommendations to our Board regarding corporate governance guidelines which include policies and procedures that promote honest and ethical conduct and prohibit conflict of interest in business conduct;
- overseeing evaluations of the Board's performance, including committees of the Board; and
- overseeing Company practices and initiatives with respect to environmental, social and governance matters.

The Governance and Nominating Committee recommends to the Board of Directors candidates to fill vacancies on the Board and the nominees for election as directors at each annual meeting of stockholders. In making such recommendations, the Governance and Nominating Committee takes into account information provided to them from the candidates, as well as the Committee's own knowledge and information obtained through inquiries to third parties to the extent the Committee deems appropriate. The Company's Bylaws sets forth certain minimum director qualifications to qualify as a nominee for election as a director. To qualify for nomination or for election as a director, an individual must:

- be an individual at least 21 years of age who is not under legal disability;
- have the ability to be present, in person, at all regular and special meetings of the Board of Directors;
- not serve on the boards of more than three other publicly-held companies;
- satisfy the director qualification requirements of all environmental and nuclear commissions, boards or similar regulatory or law enforcement authorities to which the Company is subject so as not to cause the Company to fail to satisfy any of the licensing requirements imposed by any such authority;
- not be affiliated with, employed by or be a representative of, or have or acquire a material personal involvement with, or material financial interest in, any "Business Competitor" (as defined in the Bylaws);
- not have been convicted of a felony or of any misdemeanor involving moral turpitude; and
- have been nominated for election to the Board of Directors in accordance with the terms of the Bylaws.

In addition to the minimum director qualifications as mentioned above, in order for any proposed nominee to be eligible to be a candidate for election to the Board of Directors, such candidate must deliver to the Governance and Nominating Committee a completed questionnaire with respect to the background,

qualifications, stock ownership and independence of such proposed nominee. The Governance and Nominating Committee reviews each candidate's qualifications to include considerations of:

- standards of integrity, personal ethics and values, commitment, and independence of thought and judgment;
- ability to represent the interests of the Company's stockholders;
- ability to dedicate sufficient time, energy and attention to fulfill the requirements of the position; and
- diversity of skills and experience with respect to accounting and finance, management and leadership, business acumen, vision and strategy, charitable causes, business operations, and industry knowledge.

The Governance and Nominating Committee does not assign specific weight to any particular criteria and no particular criterion is necessarily applicable to all prospective nominees. The Governance and Nominating Committee does not have a formal policy for the consideration of diversity in identifying nominees for directors. However, diversity is one of the many factors taken into account when considering potential candidates to serve on the Board of Directors. The Company recognizes that diversity in professional and life experiences may include consideration of gender, race, cultural background or national origin, in identifying individuals who possess the qualifications that the Governance and Nominating Committee believes are important to be represented on the Board. The Company also views and values diversity from the perspective of professional and life experiences, as well as geographic location, representative of the markets in which we do business. The Company believes that the inclusion of diversity as one of many factors considered in selecting director nominees is consistent with the Company's goal of creating a board of directors that best serves our needs and those of our shareholders.

Stockholder Nominees

The Governance and Nominating Committee will consider properly submitted stockholder nominations for candidates for membership on the Board from stockholders who meet each of the requirements set forth in the Bylaws, including, but not limited to, the requirements that any such stockholder own at least 1% of the Company's shares of the Common Stock entitled to vote at the meeting on such election, has held such shares continuously for at least one full year, and continuously holds such shares through and including the time of the annual or special meeting. Nominations of persons for election to the Board may be made at any Annual Meeting of Stockholders, or at any Special Meeting of Stockholders called for the purpose of electing directors. Any stockholder nomination ("Proposed Nominee") must comply with the requirements of the Company's Bylaws and the Proposed Nominee must meet the minimum qualification requirements as discussed above. For a nomination to be made by a stockholder, such stockholder must provide advance written notice to the Governance and Nominating Committee, delivered to the Company's principal executive office address (i) in the case of an Annual Meeting of Stockholders, no later than the 90th day nor earlier than the 120th day prior to the anniversary date of the immediately preceding Annual Meeting of Stockholders; and (ii) in the case of a Special Meeting of Stockholders called for the purpose of electing directors, not later than the 10th day following the day on which public disclosure of the date of the Special Meeting of Stockholders is made.

The Governance and Nominating Committee will evaluate the qualification of the Proposed Nominee and the Proposed Nominee's disclosure and compliance requirements in accordance with the Company's Bylaws. If the Board, upon the recommendation of the Governance and Nominating Committee, determines that a nomination was not made in accordance with the Company's Bylaws, the Chairman of the Meeting shall declare the nomination defective and it will be disregarded.

Audit Committee

We have a separately designated standing Audit Committee of our Board established in accordance with Section 3(a)(58)(A) of the Exchange Act. Members of the Audit Committee are Mark A. Zwecker (Chairperson), Joseph T. Grumski and Larry M. Shelton.

Our Board has determined that each of our Audit Committee members is independent within the meaning of the rules of the Nasdaq. Additionally, our Board has also determined that two members of our Audit Committee are "audit committee financial experts" as defined by Item 407(d)(5)(ii) of Regulation S-K of the

Securities Exchange Act of 1934, as amended (the “Exchange Act”).

The Audit Committee has also discussed with Grant Thornton, LLP, the Company’s independent registered accounting firm, the matters required to be discussed by Public Company Accounting Oversight Board (“PCAOB”) Auditing Standard No. 16 (Communications with Audit Committee).

Compensation and Stock Option Committee

The Compensation and Stock Option Committee (the “Compensation Committee”) reviews and recommends to the Board the compensation and benefits of all of the Company’s officers and reviews general policy matters relating to compensation and benefits of the Company’s employees. The Compensation Committee also administers the Company’s stock option plans. The Compensation Committee has the sole authority to retain and terminate a compensation consultant, as well as to approve the consultant’s fees and other terms of engagement. It also has the authority to obtain advice and assistance from internal or external legal, accounting or other advisors. No compensation consultant was employed during 2024. Members of the Compensation Committee during 2024 were Joseph T. Grumski (Chairperson), Zach P. Wamp and Mark A. Zwecker. None of the members of the Compensation Committee has been or is an officer or employee of the Company or has had or has any relationship with the Company requiring disclosure under applicable Commission regulations.

Strategic Advisory Committee

We have a separately designated Strategic Advisory Committee (the “Strategic Committee”). The primary functions of the Strategic Committee are to investigate and evaluate strategic alternatives available to the Company and to work with management on long-range strategic planning and identification of potential new business opportunities. The members of the Strategic Advisory Committee are Dr. Louis F. Centofanti (Chairperson), Kerry C. Duggan, Joe R. Reeder, and Zach P. Wamp.

Demand Review Committee

In early March 2025, the Board established a Demand Review Committee to consider shareholder demands, including a shareholder demand received by the Board on February 4, 2025, and to make recommendations to the Board with respect to such demands. See “Note 18 – Subsequent Events – Shareholder Demand Letter” for a discussion of the shareholder demand received on February 4, 2025. The Board anticipates that the Demand Review Committee, which initially is comprised of directors who are disinterested and independent with respect to the matters set forth in the February 2025 shareholder demand, will be *ad hoc*, in that the composition of the Committee will necessarily change in response to the specific shareholder demand.

The Board has adopted a written charter for each of the Audit Committee, the Compensation Committee, the Governance and Nominating Committee, the Strategic Advisory Committee, and the Demand Review Committee, each of which is available on our website at <https://ir.perma-fix.com/governance-docs>.

EXECUTIVE OFFICERS OF THE REGISTRANT

The following table sets forth, as of the date hereof, information concerning our executive officers:

<u>NAME</u>	<u>AGE</u>	<u>POSITION</u>
Mr. Mark Duff	62	President and CEO
Mr. Ben Naccarato	62	Chief Financial Officer (“CFO”), EVP, and Secretary
Mr. Troy Eshleman	55	Chief Operating Officer (“COO”)
Dr. Louis Centofanti	81	EVP of Strategic Initiatives
Mr. Richard Grondin	66	EVP of Hanford and International Waste Operations

Mr. Mark Duff

See “Director – Mark J. Duff” in this section for information on Mr. Duff.

Mr. Ben Naccarato

Mr. Naccarato has served as the Company’s CFO since February 2009. Mr. Naccarato joined the Company in September 2004, holding the positions of Vice President of Finance for the Company’s Industrial Segment until May 2006, when he was named Vice President, Corporate Controller/Treasurer. Mr. Naccarato has over 37 years of experience in senior financial positions in the waste management and used oil industries. Mr.

Naccarato was the CFO of a privately-held company in the fuel distribution and used waste oil industry from 2002 to 2004 and prior to that served in numerous senior financial roles in the waste management industry in both the US and Canada. Mr. Naccarato is a graduate of the University of Toronto with a Bachelor of Commerce and Finance Degree and is a Chartered Professional Accountant, Certified Management Accountant (CPA, CMA).

Since March 2021, Mr. Naccarato has served as an independent director and as a member of the Audit Committee, the Compensation Committee, and the Strategic Initiatives Committee of PyroGenesis, Inc., a high-tech company involved in the design, development, manufacture and commercialization of advanced plasma processes and products and whose stock is listed for trading on the Toronto Stock Exchange.

Mr. Troy Eshleman

On January 23, 2025, the Board approved the appointment of Mr. Troy Eshleman as the Company's COO. Mr. Troy Eshleman was originally hired by the Company on January 6, 2025 as Vice President of Operations. Mr. Eshleman has more than 34 years' experience in radioactive waste management facility operations, environmental remediation, hazardous and radioactive material logistics, and facility decommissioning. Mr. Eshleman specializes in commissioning commercially viable solutions to radioactive waste challenges and improving facility operational performance. Prior to joining Perma-Fix, Mr. Eshleman founded in 2019 and served until 2024 as the President of Oakleaf Environmental, Inc., a consulting firm specializing in mergers and acquisitions, business strategy and integration, and technical support to a variety of private equity and commercial clients, as well as the U.S Department of Energy, and Naval Reactors, the U.S. government office that has comprehensive responsibility for the safe and reliable operation of the United States Navy's nuclear reactors. Mr. Eshleman was previously employed by EnergySolutions, Inc., a privately-held nuclear services company that is one of the largest processors of low level radioactive waste (LLW) in America, and its predecessor companies for 27 years in a variety of positions of increasing responsibility focused on the leadership of North American waste processing facility operations, nuclear power plant decommissioning, logistics, international project management, and business development roles, including as Senior Vice-President of Corporate Business Development and Strategy, Senior Vice President of Commercial Waste Processing, Senior Vice-President of Global Logistics, Senior Vice-President of Decommissioning Operations, and Senior Vice-President of EnergySolutions Italia S.r.l. Mr. Eshleman holds a B.S. in Civil Engineering Technology from the University of Pittsburgh.

Dr. Louis Centofanti

See "Director – Dr. Louis F. Centofanti" in this section for information on Dr. Centofanti.

Mr. Richard Grondin

On January 23, 2025, the Board appointed Mr. Grondin as the Company's EVP of Hanford and International Waste Operations. Prior to his appointment to such office, Mr. Grondin previously served as the Company's EVP of Waste Treatment Operations since July 2020. Since joining the Company in 2002, Mr. Grondin has held various positions within the Company's Treatment Segment, including Vice President of Technical Services, Vice President/General Manager of the Perma-Fix Northwest Richland, Inc. Facility and Vice President of Western Operations. Mr. Grondin, a Project Management Professional, has over 35 years of management and technical experience in the highly regulated and specialized radioactive/hazardous waste management industry with the majority of his experience concentrated on managing start-up waste management processing and disposal facilities for four different organizations in the commercial and government sectors. Prior to joining the Company, Mr. Grondin held the position of Vice President of Mixed Waste Operations for Allied Technology Group in Richland, Washington; Vice President of Operations for Waste Control Specialists in Andrews Texas; and Technical Manager/Director of Operations for Rollins Environmental Services Facility in Deer Trail, Colorado. Mr. Grondin is recognized in the United States and Canada as an authority in hazardous and mixed waste treatment. Mr. Grondin has a Diploma of Collegial Studies in Pure and Applied Sciences from CEGEP of Amiante (Thetford-Mines, Canada) and Analytical Chemistry Techniques from CEGEP of Ahuntsic (Montreal, Canada), a Geography minor from Montreal University (Montreal, Canada) and a Certificate of Business Management from the School of Higher Commercial Studies from Montreal University (Montreal, Canada).

Certain Relationships

There are no family relationships between any of the directors or executive officers.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act, and the regulations promulgated thereunder require our executive officers and directors and beneficial owners of more than 10% of our Common Stock to file reports of ownership and changes of ownership of our Common Stock with the Commission, and to furnish us with copies of all such reports. Based solely on a review of the copies of such reports furnished to us and written information provided to us, we believe that during 2024 none of our executive officers, directors, or beneficial owners of more than 10% of our Common Stock failed to timely file reports under Section 16(a).

Schelhammer Capital Bank AG, a banking institution regulated by the banking regulations of Austria, has represented to the Company that as of March 10, 2025, it holds of record as a nominee for, and as an agent of, certain accredited investors, 1,760,522 shares of our Common Stock. Schelhammer Capital Bank AG has also represented to the Company that none of the investors, individually or as a group, as the term “group” is defined under Rule 13d-5(b) of the Exchange Act, beneficially owns more than 4.9% of our Common Stock. Additionally, the investors for whom Schelhammer Capital Bank AG acts as nominee with respect to such shares maintain full voting and dispositive power over the Common Stock beneficially owned by such investors, and Schelhammer Capital Bank AG has neither voting nor investment power over such shares. Accordingly, Schelhammer Capital Bank AG believes that (i) it is not the beneficial owner, as such term is defined in Rule 13d-3 of the Exchange Act, of the shares of Common Stock registered in Schelhammer Capital Bank AG’s name because (a) Schelhammer Capital Bank AG holds the Common Stock as a nominee only, (b) Schelhammer Capital Bank AG has neither voting nor investment power over such shares, and (c) Schelhammer Capital Bank AG has not nominated or sought to nominate, and does not intend to nominate in the future, any person to serve as a member of our Board; and (ii) it is not required to file reports under Section 16(a) of the Exchange Act or to file either Schedule 13D or Schedule 13G in connection with the shares of our Common Stock registered in the name of Schelhammer Capital Bank AG.

If the representations of, or information provided by Schelhammer Capital Bank AG, are incorrect or Schelhammer Capital Bank AG was historically acting on behalf of its investors as a group, rather than on behalf of each investor independent of other investors, then Schelhammer Capital Bank AG and/or the investor group would have become a beneficial owner of more than 10% of our Common Stock on February 9, 1996, as a result of the acquisition on such date of 1,100 shares of our Preferred Stock that were convertible into a maximum of 256,560 shares of our Common Stock. If either Schelhammer Capital Bank AG or a group of Schelhammer Capital Bank AG’s investors became a beneficial owner of more than 10% of our Common Stock on February 9, 1996, or at any time thereafter, and thereby required to file reports under Section 16(a) of the Exchange Act, then Schelhammer Capital Bank AG has failed to file a Form 3 or any Forms 4 or 5 since February 9, 1996. (See “Item 12 - Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters – Security Ownership of Certain Beneficial Owners” for a discussion of Schelhammer Capital Bank AG’s current record ownership of our securities).

Code of Ethics

Our Code of Business Conduct and Ethics (“Code of Ethics”), which applies to our Board and all our employees, including our CEO and our senior financial officers, complies with applicable SEC rules and Nasdaq listing standards. and is available on our website at <https://ir.perma-fix.com/governance-docs>. The provisions of the Code of Ethics that apply to the CEO and our senior financial officers, including our CFO and our chief accounting officer, complies with the requirements imposed by the Sarbanes-Oxley Act of 2002 and the rules issued thereunder for codes of ethics applicable to such officers. If any amendments are made to the Code of Ethics, or any grants of waivers are made to any provision of the Code of Ethics, that are applicable to our CEO and our senior financial officers, we will promptly disclose the amendment or waiver and nature of such amendment or waiver on our website at the same web address.

Insider Trading Arrangements and Policies

We have adopted a Stock Trading, Reporting & Blackout Policy governing the purchase, sale, and/or other disposition of our securities by directors, officers, and employees, that we believe are reasonably designed to

promote compliance with insider trading laws, rules, and regulations, and listing standards applicable to us. A copy of our policy is filed with this Annual Report on Form 10-K as Exhibit 19.

ITEM 11. EXECUTIVE COMPENSATION

Summary Compensation

The following table summarizes the total compensation of the Company's named executive officers ("NEOs") for the fiscal years ended December 31, 2024, 2023 and 2022.

Name and Principal Position	Year	Salary	Bonus	Option Awards	Non-Equity Incentive Plan Compensation	All other Compensation	Total Compensation
		(\$)	(\$)	(\$) ⁽¹⁾	(\$) ⁽²⁾	(\$) ⁽³⁾	(\$)
Mark Duff	2024	417,155	—	—	—	39,306	456,461
President and CEO	2023	382,367	—	140,840	187,435	37,453	748,095
	2022	374,870	—	—	—	41,270	416,140
Ben Naccarato	2024	332,811	—	—	—	52,359	385,170
EVP and CFO	2023	310,867	—	80,480	152,386	51,744	595,477
	2022	304,772	—	—	—	51,484	356,256
Dr. Louis Centofanti	2024	277,346	—	—	—	28,910	306,256
EVP of Strategic Initiatives	2023	259,060	—	60,360	126,990	39,015	485,425
	2022	253,980	—	—	—	38,776	292,756
Richard Grondin	2024	285,267	—	—	—	41,330	326,597
EVP of Waste Treatment Operations ⁽⁴⁾	2023	266,458	—	60,360	130,617	40,890	498,325
	2022	261,233	—	—	—	38,240	299,473

(1) Reflects the aggregate grant date fair value of awards computed in accordance with ASC 718, "Compensation – Stock Compensation." Assumptions used in the calculation of this amount are included in "Part II – Item 8 – Financial Statements and Supplementary Data – Notes to Consolidated Financial Statements - Note 6 – Capital Stock, Stock Plans, Warrants and Stock Based Compensation."

(2) Represents performance compensation earned under the Company's Management Incentive Plans ("MIPs"). None of the named executive officers earned performance compensation under his respective MIP for 2024. The 2024 MIP for each individual in the table is described under the heading "2024 MIPs."

(3) The amount shown for 2024 includes a monthly automobile allowance, insurance premiums (health, disability and life) paid by the Company on behalf of the NEO, and 401(k) matching contributions.

Name	Insurance Premium	Auto Allowance	401(k) match	Total
Mark Duff	\$ 22,681	\$ 9,000	\$ 7,625	\$ 39,306
Ben Naccarato	\$ 35,734	\$ 9,000	\$ 7,625	\$ 52,359
Dr. Louis Centofanti	\$ 12,285	\$ 9,000	\$ 7,625	\$ 28,910
Richard Grondin	\$ 24,705	\$ 9,000	\$ 7,625	\$ 41,330

- (4) On January 23, 2025, the Board appointed Mr. Grondin as the Company's EVP of Hanford and International Waste Operations. Mr. Grondin remains an executive officer of the Company.

Outstanding Equity Awards at Fiscal Year-End

The following table sets forth unexercised options held by the NEOs as of the fiscal year-end.

Outstanding Equity Awards at December 31, 2024

	Option Awards						
	Number of Securities Underlying Unexercised Options (#)		Number of Securities Underlying Unexercised Options ⁽¹⁾ (#)		Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date
Name	Exercisable		Unexercisable				
Mark Duff	25,000	(2) (5)	—	(2)		3.150	1/17/2025
	30,000	(3)	20,000	(3)		7.005	10/14/2027
	14,000	(4)	56,000	(4)		3.950	1/19/2029
Ben Naccarato	15,000	(2) (6)	—	(2)		3.150	1/17/2025
	15,000	(3)	10,000	(3)		7.005	10/14/2027
	8,000	(4)	32,000	(4)		3.950	1/19/2029
Dr. Louis Centofanti	12,000	(3)	8,000	(3)		7.005	10/14/2027
	6,000	(4)	24,000	(4)		3.950	1/19/2029
Richard Grondin	5,000	(3)	10,000	(3)		7.005	10/14/2027
	—	(4)	24,000	(4)		3.950	1/19/2029

- (1) Pursuant to each of the employment agreements between the Company and, respectively, Mark Duff, Ben Naccarato, Dr. Louis Centofanti, and Richard Grondin, each dated April 20, 2023, in the event of a change in control, death of the executive officer, the executive officer terminates his employment for "good reason" or the executive officer is terminated by the Company without cause, each outstanding option and award shall immediately become exercisable in full (see "Employment Agreements" below for further discussion of the events pursuant to which accelerated exercise of the respective NEO's outstanding options can arise).

- (2) Incentive stock option granted on January 17, 2019 under the Company's 2017 Stock Option Plan. The option has a contractual term of six years with one-fifth yearly vesting over a five-year period.

- (3) Incentive stock option granted on October 14, 2021 under the Company's 2017 Stock Option Plan. The option has a contractual term of six years with one-fifth yearly vesting over a five-year period.

- (4) Incentive stock option granted on January 19, 2023 under the Company's 2017 Stock Option Plan. The option has a contractual term of six years with one-fifth yearly vesting over a five-year period.

- (5) On January 8, 2025, Mr. Duff exercised 100% of his ISO granted to him on January 17, 2019 under the Company's 2017 Stock Plan for the purchase of up to 25,000 shares (Option Shares) of the Company's Common Stock at \$3.15 per share. As permitted by the 2017 Stock Option Plan, Mr. Duff elected to pay the exercise price of the Option Shares by having the Company withhold from the Option Shares a number of shares having a fair market value equal to the aggregate exercise price of \$78,750. Since the fair market value of the Company's Common Stock on January 8, 2025, (as determined in accordance with the 2017 Stock Option Plan) was \$10.58 per share, the Company withheld 7,443 shares of Common Stock (\$78,750 divided by \$10.58) to pay the aggregate exercise price for the Option Shares and issued 17,557 shares to Mr. Duff.

- (6) On January 8, 2025, Mr. Naccarato exercised 100% of his ISO granted to him on January 17, 2019 under the Company's 2017 Stock Option Plan for the purchase of up to 15,000 shares (Option Shares) of the Company's Common Stock at \$3.15 per share. As permitted by the 2017 Stock Option Plan, Mr. Naccarato elected to pay the exercise price of the Option Shares by having the Company withhold from the Option Shares a number of shares having a fair market value equal to the aggregate exercise price of \$47,250. Since the fair market value of the Company's Common Stock on January 8, 2025, (as determined in accordance with the 2017 Stock Option Plan) was \$10.58 per share, the Company withheld 4,466 shares of Common Stock (\$47,250 divided by \$10.58) to pay the aggregate exercise price for the Option Shares and issued 10,534 shares to Mr. Naccarato.

Option Exercises

The table below reflects options exercised by our NEOs in 2024:

Name	Number of Shares	Value Realized
	Acquired on Exercise (#)	on Exercise (\$)
Richard Grondin	1,455 ⁽¹⁾	\$ 16,840 ⁽¹⁾
	3,946 ⁽²⁾	\$ 45,650 ⁽²⁾
	3,952 ⁽³⁾	45,720 ⁽³⁾

⁽¹⁾ On March 26, 2024, Mr. Grondin exercised the remaining ISO granted to him on January 17, 2019, for the purchase of 2,000 shares (Option Shares) of the Company's Common Stock at \$3.15 per share. As permitted by the 2017 Stock Option Plan, Mr. Grondin elected to pay the exercise price of the Option Shares by having the Company withhold from the Option Shares a number of shares having a fair market value equal to the aggregate exercise price of \$6,300. Since the fair market value of the Company's Common Stock on March 26, 2024, (as determined in accordance with the 2017 Stock Option Plan) was \$11.57 per share, the Company withheld 545 shares of Common Stock (\$6,300 divided by \$11.57) to pay the aggregate exercise price of the option and issued 1,455 shares to Mr. Grondin. Realized value on this exercise was determined based on the difference between the (a) exercise price (\$3.15) per share of the Option Shares multiplied by the 2,000 Option Shares exercised, and (b) the market value (\$11.57) on the date of exercise of the Option Shares times the 2,000 Option Shares exercised.

⁽²⁾ On March 26, 2024, Mr. Grondin exercised the vested portion of the ISO granted to him on October 14, 2021, for the purchase of 10,000 shares (Option Shares) of the Company's Common Stock at \$7.005 per share. As permitted by the 2017 Stock Option Plan, Mr. Grondin elected to pay the exercise price of the Option Shares by having the Company withhold from the Option Shares a number of shares having a fair market value equal to the aggregate exercise price of \$70,050. Since the fair market value of the Company's Common Stock on March 26, 2024, (as determined in accordance with the 2017 Stock Option Plan) was \$11.57 per share, the Company withheld 6,054 shares of Common Stock (\$70,050 divided by \$11.57) to pay the aggregate exercise price of the option and issued 3,946 shares to Mr. Grondin. Realized value on this exercise was determined based on the difference between the (a) exercise price (\$7.005) per share of the Option Shares multiplied by the 10,000 Option Shares exercised, and (b) the market value (\$11.57) on the date of exercise of the Option Shares times the 10,000 Option Shares exercised

⁽³⁾ On March 26, 2024, Mr. Grondin exercised the vested portion of the ISO granted to him on January 19, 2023, for the purchase of 6,000 shares (Option Shares) of the Company's Common Stock at \$3.95 per share. As permitted by the 2017 Stock Option Plan, Mr. Grondin elected to pay the exercise price of the Option Shares by having the Company withhold from the Option Shares a number of shares having a fair market value equal to the aggregate exercise price of \$23,700. Since the fair market value of the Company's Common Stock on March 26, 2024, (as determined in accordance with the 2017 Stock Option Plan) was \$11.57 per share, the Company withheld 2,048 shares of Common Stock (\$23,700 divided by \$11.57) to pay the aggregate exercise price of the option and issued 3,952 shares to Mr. Grondin. Realized value on this exercise was determined based on the difference between the (a) exercise price (\$3.95) per share of the Option Shares multiplied by the 6,000 Option Shares exercised, and (b) the market value (\$11.57) on the date of exercise of the Option Shares times the 6,000 Option Shares exercised

Employment Agreements

Each of Mark Duff, President and CEO; Ben Naccarato, EVP and CFO; and Dr. Louis Centofanti, EVP of Strategic Initiatives, has an employment agreement with the Company dated April 20, 2023. On January 23, 2025, the Board appointed Mr. Richard Grondin as the Company's EVP of Hanford and International Waste Operations. Prior to his appointment to such office, Mr. Grondin previously served as the Company's EVP of Waste Treatment Operations and, in connection therewith, also had an employment agreement with the Company dated April 20, 2023. Mr. Grondin remains an executive officer of the Company upon his appointment to the position of EVP of Hanford and International Waste Operations and, accordingly, his employment agreement dated April 20, 2023, was amended solely to reflect his new position (each employment agreement dated April 20, 2023 above, is individually the "Employment Agreement" and, collectively, the "Employment Agreements").

Each of the Employment Agreements, which are substantially identical, provides for a specified annual base salary, which annual salary may be increased from time to time, but not reduced, as determined by the Compensation Committee. In addition, each of the NEOs is entitled to participate in the Company's broad-based benefits plans and to certain performance compensation payable under separate Management Incentive Plans ("MIPs") as approved by the Company's Compensation Committee and Board. The Company's Compensation Committee and the Board approved individual 2024 MIPs on January 18, 2024 (which were effective January 1, 2024 and applicable for the 2024 fiscal year) for each of the executive officers (see discussion of each of the 2024 MIPs below under "2024 MIPs").

Each of the Employment Agreements is effective for three years from April 20, 2023 (the "Initial Term") unless earlier terminated by the Company or by the executive officer. At the end of the Initial Term, each Employment Agreement will automatically be extended for one additional year, unless at least six months

prior to the expiration of the Initial Term, the Company or the executive officer provides written notice not to extend the terms of the Employment Agreement.

Pursuant to the Employment Agreements, if the executive officer's employment is terminated due to death, disability or for cause (as defined in the agreements), the Company will pay to the executive officer or to his estate an amount equal to the sum of any unpaid base salary and accrued unused vacation time through the date of termination and any benefits due to the executive officer under any employee benefit plan (the "Accrued Amounts") plus any performance compensation payable pursuant to the executive officer's MIP with respect to the fiscal year immediately preceding the date of termination. In the event that an executive officer's employment is terminated due to death, the Company will also pay a lump-sum payment (the "Cash Medical Continuation Benefit") equal to eighteen times the monthly premium that would be required to be paid, pursuant to the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), to continue group health coverage for the executive officer's eligible covered dependents in effect on the date of the executive officer's termination of employment, based on the premium for the first month of COBRA coverage. Such cash payment will be taxable and will be made regardless of whether the executive officer's eligible covered dependents elect COBRA continuation coverage.

If the executive officer terminates his employment for "good reason" (as defined in the agreements) or is terminated by the Company without cause (including any such termination for "good reason" or without cause within 24 months after a Change in Control (as defined in the agreements), the Company will pay the executive officer Accrued Amounts, (a) two years of full base salary, plus (b) (i) two times the performance compensation (under the executive officer's MIP) earned with respect to the fiscal year immediately preceding the date of termination provided the performance compensation earned with respect to the fiscal year immediately preceding the date of termination has not yet been paid, or (ii) if performance compensation earned with respect to the fiscal year immediately preceding the date of termination has already been paid to the executive officer, the executive officer will be paid an additional year of the performance compensation earned with respect to the fiscal year immediately preceding the date of termination, and (c) the Cash Medical Continuation Benefit. If the executive officer terminates his employment for a reason other than for good reason, the Company will pay to the executive officer an amount equal to the Accrued Amounts plus any performance compensation payable pursuant to the MIP applicable to such executive officer.

Additionally, in the event of a Change in Control (as defined in the agreements), all outstanding stock options to purchase the common stock held by the executive officer will immediately become exercisable in full commencing on the date of termination through the original term of the options. In the event of the death of an executive officer, all outstanding stock options to purchase common stock held by the executive officer will immediately become exercisable in full commencing on the date of death, with such options exercisable for the lesser of the original option term or twelve months from the date of the executive officer's death. In the event an executive officer terminates his employment for "good reason" (as defined in the agreements) or is terminated by the Company without cause, all outstanding stock options to purchase common stock held by the officer will immediately become exercisable in full commencing on the date of termination, with such options exercisable for the lesser of the original option term or within 60 days from the date of the executive officer's date of termination. Severance benefits payable with respect to a termination (other than Accrued Amounts) shall not be payable until the termination constitutes a "separation from service" (as defined under Treasury Regulation Section 1.409A-1(h)).

Potential Payments Upon Termination or Change in Control

The following table sets forth the potential (estimated) payments and benefits to which each executive officer would be entitled upon termination of employment by the executive officer for "good reason" or by the Company "without cause," or following a Change in Control of the Company, as specified under each of their respective Employment Agreements with the Company, assuming each circumstance described below occurred on December 31, 2024, the last day of our most recent fiscal year. Such potential payments include any Accrued Amounts (accrued base salary earned for 2024 but paid in 2025, as well as accrued unused vacation/sick time and other vested benefits under the Company plans in which the executive officer participates). The executive officer is not entitled to payment of any benefits upon termination for cause or resignation without good reason other than for Accrued Amounts.

Name and Principal Position Potential Payment/Benefit	By Executive for Good Reason or by Company Without Cause			Change in Control of the Company	
Mark Duff President and CEO					
Base salary and Accrued Amounts	\$	843,790	(1)	\$	843,790 (1)
Performance compensation	\$	—	(2)	\$	— (2)
Stock Options	\$	899,650	(3)	\$	899,650 (3)
Cash Medical Benefit Cotinuation	\$	36,540	(4)	\$	36,540 (4)
Ben Naccarato EVP and CFO					
Base salary and Accrued Amounts	\$	722,152	(1)	\$	722,152 (1)
Performance compensation	\$	—	(2)	\$	— (2)
Stock Options	\$	505,225	(3)	\$	505,225 (3)
Cash Medical Benefit Cotinuation	\$	60,408	(4)	\$	60,408 (4)
Dr. Louis Centofanti EVP of Strategic Initiatives					
Base salary and Accrued Amounts	\$	738,340	(1)	\$	738,340 (1)
Performance compensation	\$	—	(2)	\$	— (2)
Stock Options	\$	294,000	(3)	\$	294,000 (3)
Cash Medical Benefit Cotinuation	\$	20,644	(4)	\$	20,644 (4)
Richard Grondin EVP of Waste Treatment Operations					
Base salary and Accrued Amounts	\$	663,371	(1)	\$	663,371 (1)
Performance compensation	\$	—	(2)	\$	— (2)
Stock Options	\$	231,855	(3)	\$	231,855 (3)
Cash Medical Benefit Cotinuation	\$	41,850	(4)	\$	41,850 (4)

(1) Represents two times the base salary of the executive officer at December 31, 2024, plus “Accrued Amounts.”

(2) Represents two times the performance compensation earned for fiscal year 2024. None of the NEOs earned performance compensation for fiscal 2024 (see “2024 MIPs” below).

(3) Benefit is calculated based on the difference between the exercise price of each option and the market value of the Company’s Common Stock per share (as reported on the Nasdaq) at December 31, 2024, times the number of options outstanding at December 31, 2024. Benefit excludes options which were out-of-the-money at December 31, 2024.

(4) Represents a lump-sum payment equal to eighteen times the monthly premium that would be required to be paid to continue group health coverage for the executive officer’s eligible covered dependents in effect on the date of the executive officer’s termination of employment as defined in the employment agreement,

2024 Executive Compensation Components

For the fiscal year ended December 31, 2024, the principal components of compensation for executive officers were:

- base salary;
- performance-based incentive compensation;
- long term incentive compensation;
- retirement and other benefits; and
- perquisites.

Based on the amounts set forth in the Summary Compensation table, during 2024, salary accounted for approximately 89.0% of the total compensation of our NEOs, while equity option awards, MIP compensation, bonus and other compensation accounted for approximately 11.0% of the total compensation of the NEOs.

Base Salary

The NEOs, other officers, and other employees of the Company receive a base annual salary. Base salary ranges for executive officers are determined for each executive based on his or her position and responsibility

by using market data and comparisons to similar companies within the business segments in which the Company operates.

During its review of base salaries for executives, the Compensation Committee primarily considers:

- market data and comparisons to similar companies within the business segments in which the Company operates;
- internal review of the executive's compensation, both individually and relative to other officers; and
- individual performance of the executive.

Salary levels are typically considered annually as part of the performance review process as well as upon a promotion or other change in job responsibility. Merit-based salary increases for executives are based on the Compensation Committee's assessment of the individual's performance. The base salary for the executives are set forth in their respective employment agreements (if applicable), which annual salary may be increased from time to time, but not reduced, as determined by the Compensation Committee. On January 23, 2025, the Board appointed Mr. Richard Grondin as the Company's EVP of Hanford and International Waste Operations, at an annual salary of \$315,267. Prior to his appointment to such office, Mr. Grondin previously served as the Company's EVP of Waste Treatment Operations. Additionally, on January 23, 2025, the Board appointed Mr. Troy Eshleman as the Company's COO, at an annual salary of \$320,000. Mr. Troy Eshleman was originally hired by the Company on January 6, 2025 as Vice President of Operations.

Performance-Based Incentive Compensation

The Compensation Committee has the latitude to design cash and equity-based incentive compensation programs to promote high performance and achievement of our corporate objectives by directors and the NEOs, encourage the growth of stockholder value and enable employees to participate in our long-term growth and profitability. The Compensation Committee may grant stock options and/or performance bonuses. In granting these awards, the Compensation Committee may establish any conditions or restrictions it deems appropriate. In addition, the CEO has discretionary authority to grant stock options to certain high-performing executives or officers, subject to the approval of the Compensation Committee. The exercise price for each stock option granted is at or above the market price of our Common Stock on the date of grant. Stock options may be awarded to newly hired or promoted executives at the discretion of the Compensation Committee. Grants of stock options to eligible newly hired executive officers are generally made at the next regularly scheduled Compensation Committee meeting following the hire date.

2024 MIPs

On January 18, 2024, the Compensation Committee and the Board (with Mr. Mark Duff and Dr. Louis Centofanti abstaining) approved individual MIPs for the calendar year 2024 for each of the NEOs. Each of the MIPs was effective January 1, 2024.

The performance compensation payable under each MIP was based upon meeting certain of the Company's separate target objectives during 2024 as described in each of the MIPs below, provided, however, no performance compensation was to be paid for attaining any of the Company's separate target objectives unless a minimum of 75% of the EBITDA target objective was achieved. The Compensation Committee believes performance compensation payable under each of the MIPs should be based on achievement of at least 75% of EBITDA (earnings before interest, taxes, depreciation and amortization), a non-U.S. GAAP (accounting principles generally accepted in the United States of America) financial measurement, as the Company believes that this target provides a better indicator of operating performance as it excludes certain non-cash items. EBITDA has certain limitations as it does not reflect all items of income or cash flows that affect the Company's financial performance under U.S. GAAP. In formulating such targets, the Compensation Committee and the Board considered 2023 results, the Board-approved budget for 2024, economic conditions, forecasts for 2024 government spending, as well as the Compensation Committee's expectation for performance that in its estimation would warrant payment of incentive cash compensation

Performance compensation amounts under the 2024 MIPs, if earned, are to be paid on or about 90 days after year-end, or sooner, based on finalization of our audited financial statements for 2024. No compensation was earned under any of the MIPs for the NEOs in 2024.

The Compensation Committee retained the right to modify, change or terminate each MIP and may adjust the various target amounts described below, at any time and for any reason.

The total to be paid to the NEOs under the MIPs may not exceed 50% of the Company's pre-tax net income prior to the calculation of performance compensation.

The following schedules reflect performance compensation that was payable under each of the MIPs, along with a description of the target objectives.

CEO MIP:

Annualized Base Pay:	\$417,155
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$208,578</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$625,733</u>

Perma-Fix Environmental Services, Inc. 2024 Management Incentive Plan CEO MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (6)	\$ 10,429	\$ 20,858	\$ 35,756	\$ 50,655	\$ 80,451
EBITDA (2)	62,572	125,146	214,537	303,927	482,708
Health & Safety (4) (6)	15,643	31,287	31,287	31,287	31,287
Permit & License Violations (5) (6)	15,643	31,287	31,287	31,287	31,287
	<u>\$104,287</u>	<u>\$208,578</u>	<u>\$312,867</u>	<u>\$417,156</u>	<u>\$625,733</u>

CFO MIP:

Annualized Base Pay:	\$332,811
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$166,406</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$499,217</u>

Perma-Fix Environmental Services, Inc. 2024 Management Incentive Plan CFO MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (6)	\$ 8,320	\$ 16,641	\$ 27,338	\$ 36,847	\$ 43,979
EBITDA (2)	62,401	124,805	164,029	221,082	263,872
	<u>70,721</u>	<u>141,446</u>	<u>191,367</u>	<u>257,929</u>	<u>307,851</u>
	Performance Target Achieved				
	100%	100%	100%	100%	100%
Regulatory Filing (3) (6)	24,960	24,960	24,960	24,960	24,960
	<u>\$ 95,681</u>	<u>\$ 166,406</u>	<u>\$ 216,327</u>	<u>\$ 282,889</u>	<u>\$ 332,811</u>

EVP of Strategic Initiatives MIP:

Annualized Base Pay:	\$277,346
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$138,673</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$416,019</u>

Perma-Fix Environmental Services, Inc. 2024 Management Incentive Plan EVP OF STRATEGIC INITIATIVES MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (6)	\$ 6,935	\$ 13,867	\$ 22,782	\$ 30,706	\$ 36,649
EBITDA (2)	52,002	104,006	136,692	184,237	219,897
Health & Safety (4) (6)	5,200	10,400	10,400	10,400	10,400
Permit & License Violations (5) (6)	5,200	10,400	10,400	10,400	10,400
	<u>\$ 69,337</u>	<u>\$138,673</u>	<u>\$180,274</u>	<u>\$235,743</u>	<u>\$277,346</u>

EVP of Waste Treatment Operations MIP:

Annualized Base Pay:	\$285,267
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$142,634</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$427,901</u>

Perma-Fix Environmental Services, Inc. 2024 Management Incentive Plan EVP OF WASTE TREATMENT OPERATIONS MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (6)	\$ 7,132	\$ 14,263	\$ 20,376	\$ 28,527	\$ 34,640
EBITDA (2)	42,789	85,581	122,257	171,160	207,837
Health & Safety (4) (6)	10,698	21,395	21,395	21,395	21,395
Permit & License Violations (5) (6)	10,698	21,395	21,395	21,395	21,395
	<u>\$ 71,317</u>	<u>\$ 142,634</u>	<u>\$ 185,423</u>	<u>\$ 242,477</u>	<u>\$285,267</u>

- (1) Revenue was defined as the total consolidated third-party top line revenue as publicly reported in the Company's 2024 financial statements. The percentage achieved was determined by comparing the actual consolidated revenue for 2024 to the Board-approved revenue target for 2024.
- (2) EBITDA was defined as earnings before interest, taxes, depreciation, and amortization from continuing and discontinued operations. The percentage achieved was determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2024.
- (3) Regulatory Filing Incentive Target was based on meeting all deadlines (including allowable extension granted by the SEC) for the Form 10-K, Form 10-Q and 8-Ks required by SEC (Securities and Exchange Commission).
- (4) The Health and Safety Incentive target was based upon the actual number of Worker's Compensation Lost Time Accidents ("WCLTA"), as provided by the Company's Worker's Compensation carrier. For the EVP of Waste Treatment Operations, the incentive target was based on actual number of WCLTA in the Treatment Segments only. The Corporate Controller submitted a report on a quarterly basis

documenting and confirming the number of Worker’s Compensation Lost Time Accidents, supported by the Worker’s Compensation Loss Report provided by the company’s carrier or broker. Such claims were identified on the loss report as “indemnity claims.” The following number of Worker’s Compensation Lost Time Accidents and corresponding performance target thresholds was established for the annual Incentive Compensation Plan calculation for 2024.

Work Comp. Claim Number	Performance Target Achieved
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- (5) Permits or License Violations incentive was earned/determined according to the scale set forth below: An “official notice of non-compliance” was defined as an official communication during 2024 from a local, state, or federal regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which resulted in a facility’s implementation of corrective action(s) which included a material financial obligation, as determined by the Company’s Board of Directors in their sole discretion, to the Company .

Permit and License Violations	Performance Target Achieved
3	75%-89%
2	90%-110%
1	111%-129%
1	130%-150%
1	>150%

- (6) No performance incentive compensation was payable for the target objective unless a minimum of 75% of the EBITDA target objective was achieved.

2025 MIPs

On January 23, 2025, the Compensation Committee and the Board (with Mr. Mark Duff and Dr. Louis Centofanti abstaining) approved individual MIPs for the calendar year 2025 for each of the NEOs. Each of the MIPs is effective January 1, 2025.

The performance compensation payable under each MIP is based upon meeting certain of the Company’s separate target objectives during 2025 as described in each of the MIPs below, provided, however, no performance compensation will be paid for attaining any of the Company’s separate target objectives unless a minimum of 75% of the EBITDA target objective is achieved. In formulating such targets, the Compensation Committee and the Board considered 2024 results, the Board-approved budget for 2025, economic conditions, forecasts for 2025 government spending, as well as the Compensation Committee’s expectation for performance that in its estimation would warrant payment of incentive cash compensation.

Performance compensation amounts under the 2025 MIPs are to be paid on or about 90 days after year-end, or sooner, based on finalization of our audited financial statements for 2025.

The Compensation Committee retains the right to modify, change or terminate each MIP and may adjust the

various target amounts described below, at any time and for any reason.

The total to be paid to the NEOs under the MIPs shall not exceed 50% of the Company's pre-tax net income prior to the calculation of performance compensation.

The following schedules reflect performance compensation payable under each of the MIPs, along with a description of the target objectives.

CEO MIP:

Annualized Base Pay:	\$417,155
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$208,578</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$625,733</u>

Perma-Fix Environmental Services, Inc. 2025 Management Incentive Plan CEO MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (7)	\$ 10,429	\$ 20,858	\$ 35,756	\$ 50,655	\$ 80,451
EBITDA (2)	62,572	125,146	214,537	303,927	482,708
Health & Safety (5) (7)	15,643	31,287	31,287	31,287	31,287
Permit & License Violations (6) (7)	15,643	31,287	31,287	31,287	31,287
	<u>\$104,287</u>	<u>\$208,578</u>	<u>\$312,867</u>	<u>\$417,156</u>	<u>\$625,733</u>

CFO MIP:

Annualized Base Pay:	\$332,811
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$166,406</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$499,217</u>

Perma-Fix Environmental Services, Inc. 2025 Management Incentive Plan CFO MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (7)	\$ 8,320	\$ 16,641	\$ 27,338	\$ 36,847	\$ 43,979
EBITDA (2)	62,401	124,805	164,029	221,082	263,872
	<u>70,721</u>	<u>141,446</u>	<u>191,367</u>	<u>257,929</u>	<u>307,851</u>
	Performance Target Achieved				
	100%	100%	100%	100%	100%
Regulatory Filing (3) (7)	24,960	24,960	24,960	24,960	24,960
	<u>\$ 95,681</u>	<u>\$ 166,406</u>	<u>\$ 216,327</u>	<u>\$ 282,889</u>	<u>\$ 332,811</u>

EVP of Strategic Initiatives MIP:

Annualized Base Pay:	\$277,346
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$138,673</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$416,019</u>

Perma-Fix Environmental Services, Inc. 2025 Management Incentive Plan EVP of Strategic Initiatives MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (7)	\$ 6,934	\$ 13,867	\$ 22,782	\$ 30,706	\$ 36,649
EBITDA (2)	52,001	104,006	136,692	184,237	219,896
	58,935	117,873	159,474	214,943	256,545
	Performance Target Achieved				
	100%	100%	100%	100%	100%
PFAS Gen 2 (4) (7)	20,801	20,801	20,801	20,801	20,801
	<u>\$ 79,736</u>	<u>\$ 138,674</u>	<u>\$ 180,275</u>	<u>\$ 235,744</u>	<u>\$ 277,346</u>

EVP of Hanford and International Waste Operations MIP:

Annualized Base Pay:	\$315,267
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$157,634</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$472,901</u>

Perma-Fix Environmental Services, Inc. 2025 Management Incentive Plan EVP OF HANFORD AND INTERNATIONAL WASTE OPERATIONS MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (7)	\$ 7,882	\$ 15,763	\$ 22,519	\$ 31,527	\$ 38,282
EBITDA (2)	47,289	94,581	135,114	189,160	229,695
Health & Safety (5) (7)	11,823	23,645	23,645	23,645	23,645
Permit & License Violations (6) (7)	11,823	23,645	23,645	23,645	23,645
	<u>\$ 78,817</u>	<u>\$ 157,634</u>	<u>\$ 204,923</u>	<u>\$ 267,977</u>	<u>\$315,267</u>

Chief Operating Officer MIP:

Annualized Base Pay:	\$320,000
Performance Incentive Compensation Target (at 100% of Plan):	<u>\$160,000</u>
Total Annual Target Compensation (at 100% of Plan):	<u>\$480,000</u>

Perma-Fix Environmental Services, Inc. 2025 Management Incentive Plan CHIEF OPERATING OFFICER MIP MATRIX					
Target Objectives	Performance Target Achieved				
	75%-89%	90%-110%	111%-129%	130%-150%	>150%
Revenue (1) (7)	\$ 8,000	\$ 16,000	\$ 22,857	\$ 32,000	\$ 38,857
EBITDA (2)	48,000	96,000	137,143	192,000	233,143
Health & Safety (5) (7)	12,000	24,000	24,000	24,000	24,000
Permit & License Violations (6) (7)	12,000	24,000	24,000	24,000	24,000
	<u>\$ 80,000</u>	<u>\$ 160,000</u>	<u>\$ 208,000</u>	<u>\$ 272,000</u>	<u>\$320,000</u>

- (1) Revenue is defined as the total consolidated third-party top line revenue as publicly reported in the Company's 2025 financial statements. The percentage achieved is determined by comparing the actual consolidated revenue for 2025 to the Board-approved revenue target for 2025.
- (2) EBITDA is defined as earnings before interest, taxes, depreciation, and amortization from continuing and discontinued operations. The percentage achieved is determined by comparing the actual EBITDA to the Board-approved EBITDA target for 2025.
- (3) Regulatory Filing Incentive Target is based on meeting all deadlines (including allowable extension granted by the SEC) for the Form 10-K, Form 10-Q and 8-Ks required by SEC (Securities and Exchange Commission).
- (4) PFAS (Per- and polyfluoroalkyl substances) Gen 2 Target is based on startup of the Company's generation 2 reactor with the ability to generate revenue in treatment of PFAS waste.
- (5) The Health and Safety Incentive target is based upon the actual number of Worker's Compensation Lost Time Accidents ("WCLTA"), as provided by the Company's Worker's Compensation carrier. For the EVP of Hanford and International Waste Operations, the Health and Safety Incentive target is determined based on the actual number of WCLTA at the Company's Perma-Fix Northwest facility and international operations. The Corporate Controller will submit a report on a quarterly basis documenting and confirming the number of Worker's Compensation Lost Time Accidents, supported by the Worker's Compensation Loss Report provided by the company's carrier or broker. Such claims will be identified on the loss report as "indemnity claims." The following number of Worker's Compensation Lost Time Accidents and corresponding performance target thresholds has been established for the annual Incentive Compensation Plan calculation for 2025.

CEO and COO		EVP of Hanford and International Waste Operations	
Work Comp. Claim Number	Performance Target Achieved	Work Comp. Claim Number	Performance Target Achieved
3	75%-89%	2	75%-89%
2	90%-110%	1	90%-110%
1	111%-129%	1	111%-129%
1	130-150%	1	130-150%
1	>150%	1	>150%

- (6) Permits or License Violations incentive is earned/determined according to the scale set forth below: An "official notice of non-compliance" is defined as an official communication during 2025 from a local, state, federal, or foreign regulatory authority alleging one or more violations of an otherwise applicable Environmental, Health or Safety requirement or permit provision, which results in a facility's implementation of corrective action(s) which includes a material financial obligation, as determined by the Company's Board of Directors in their sole discretion, to the Company. For the EVP of Hanford and

International Waste Operations, the permit or license violations incentive is earned/determined based on results from the Company's Perma-Fix Northwest facility and international operations.

CEO and COO		EVP of Hanford and International Waste Operations	
Work Comp. Claim Number	Performance Target Achieved	Work Comp. Claim Number	Performance Target Achieved
3	75%-89%	2	75%-89%
2	90%-110%	1	90%-110%
1	111%-129%	1	111%-129%
1	130-150%	1	130-150%
1	>150%	1	>150%

- (7) No performance incentive compensation will be payable for the target objective unless a minimum of 75% of the EBITDA target objective is achieved.

Long-Term Incentive Compensation

Employee Stock Option Plans

The 2017 Stock Option Plan ("2017 Plan") encourages participants to focus on long-term performance and provides an opportunity for executive officers and certain designated key employees to increase their stake in the Company. Stock options succeed by delivering value to executives only when the value of our stock increases. The 2017 Plan authorizes the grant of Non-Qualified Stock Options ("NQSOs") and Incentive Stock Options ("ISOs") for the purchase of our Common Stock.

The 2017 Plan was adopted to:

- enhance the link between the creation of stockholder value and long-term executive incentive compensation;
- provide an opportunity for increased equity ownership by executives; and
- maintain competitive levels of total compensation.

Stock option award levels are determined based on market data, vary among participants based on their positions with the Company and are granted generally at the Compensation Committee's regularly scheduled July or August meeting. Newly hired or promoted executive officers who are eligible to receive options are generally awarded such options at the next regularly scheduled Compensation Committee meeting following their hire or promotion date.

Options are awarded with an exercise price equal to or not less than the closing price of the Company's Common Stock on the date of the grant as reported on the Nasdaq. In certain limited circumstances, the Compensation Committee may grant options to an executive at an exercise price in excess of the closing price of the Company's Common Stock on the grant date.

The Company's NEOs have outstanding options from the Company's 2017 Plan (See "Item 11 – Executive Compensation – Outstanding Equity Awards at Fiscal Year-End - Outstanding Equity Awards as of December 31, 2024," for outstanding options under the 2017 Plan for each of our NEOs).

On January 23, 2025, in connection with the Board's appointment of Mr. Troy Eshleman to the position of COO, the Compensation Committee and the Board approved the grant of an ISO for the purchase of up to 50,000 shares of the Company's Common Stock to Mr. Eshleman. The ISO has a term of six years, and vests 20% per year over a five-year period commencing on the first anniversary date of grant. The exercise price of the ISO is \$10.70 per share, which is equal to the closing price of the Company's Common Stock on the date of grant as quoted on Nasdaq.

In cases of termination of an executive officer's employment due to death, by the executive for "good reason," by the Company without cause, and due to a "change of control," all outstanding stock options to purchase Common Stock held by the executive officer will immediately become exercisable in full (see further discussion of the exercisability term of these options in each of these circumstances in "EXECUTIVE COMPENSATION – Employment Agreements"). Otherwise, vesting of option awards ceases upon termination of employment and exercise right of the vested option amount ceases upon three months from termination of employment except in the case of retirement (subject to a six-month limitation) and disability (subject to a one-year limitation).

Accounting for Stock-Based Compensation

We account for stock-based compensation in accordance with ASC 718, "Compensation – Stock Compensation." ASC 718 establishes accounting standards for entity exchanges of equity instruments for goods or services. It also addresses transactions in which an entity incurs liabilities in exchange for goods or services that are based on the fair value of the entity's equity instruments or that may be settled by the issuance of those equity instruments. ASC 718 requires all stock-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. The Company uses the Black-Scholes option-pricing model to determine the fair-value of stock-based awards which requires subjective assumptions. Assumptions used to estimate the fair value of stock options granted include the exercise price of the award, the expected term, the expected volatility of the Company's stock over the option's expected term, the risk-free interest rate over the option's expected term, and the expected annual dividend yield. We recognize stock-based compensation expense using a straight-line amortization method over the requisite period, which is the vesting period of the stock option grant.

Retirement and Other Benefits

401(k) Plan

The Company adopted the Perma-Fix Environmental Services, Inc. 401(k) Plan (the "401(k) Plan") in 1992, which is intended to comply with Section 401 of the Internal Revenue Code and the provisions of the Employee Retirement Income Security Act of 1974. All full-time employees who have attained the age of 18 are eligible to participate in the 401(k) Plan. Eligibility is immediate upon employment but enrollment is only allowed during four quarterly open periods of January 1, April 1, July 1, and October 1. Participating employees may make annual pretax contributions to their accounts up to 100% of their compensation, up to a maximum amount as limited by law. At our discretion, we may make matching contributions based on the employee's elective contributions. Company contributions vest over a period of five years. In 2024, the Company contributed approximately \$580,000 in 401(k) matching funds, of which approximately \$30,500 was for our NEOs (see the "Summary Compensation" table in this section for 401(k) matching fund contributions made for the NEOs for 2024).

Perquisites and Other Personal Benefits

The Company provides executive officers with limited perquisites and other personal benefits (health/disability/life insurance/auto allowance) that the Company and the Compensation Committee believe are reasonable and consistent with its overall compensation program to better enable the Company to attract and retain superior employees for key positions. The Compensation Committee periodically reviews the levels of perquisites and other personal benefits provided to executive officers.

Compensation of Directors

Directors who are employees receive no additional compensation for serving on the Board or its committee(s). In 2024, the Company provided the following annual compensation to each non-employee director for service on the Board and the committee(s) for which he/she serves:

- a quarterly fee of \$11,500;
- an additional quarterly fee of \$8,750 to the Chairman of the Board;
- an additional quarterly fee of \$6,250 to the Chairman of the Audit Committee;

- an additional quarterly fee of \$3,125 to the Chairman of each of the Compensation Committee, the Governance and Nominating Committee, and the Strategic Committee. The Chairman of the Board was not eligible to receive a quarterly fee for serving as the Chairman of any the aforementioned committees;
- an additional \$1,250 to each Audit Committee member (excluding the Chairman of the Audit Committee);
- an additional quarterly fee of \$500 to each member of the Compensation Committee, the Governance and Nominating Committee, and the Strategic Committee. Such fee was payable only if the member did not also serve as the Chairman of any other standing committees or as the Chairman of the Board; and
- a fee of \$1,000 for each in-person board meeting attended and a \$500 fee for meeting attendance via conference call;

Under the 2003 Outside Directors Stock Plan (“2003 Outside Directors Plan”), each director may elect to have either 65% or 100% of such fees payable in Common Stock, with the balance, if any, payable in cash. Each non-employee director was also granted a NQSO to purchase up to 10,000 shares of Common Stock upon reelection at the 2024 Annual Meeting of Stockholders, with vesting at 25% per year, beginning on the first anniversary date of the grant, with each option having a 10-year term.

Directors Dr. Louis Centofanti and Mark Duff, each an executive officer of the Company, are not eligible to receive compensation for their respective service as a director of the Company, pursuant to the policy described above. (See “Summary Compensation” table in this section for each of Dr. Centofanti’s and Mark Duff’s annual salary and other compensation as an employee of the Company).

The table below summarizes the director compensation expenses recognized by the Company for director options and stock awards (resulting from fees earned) for the year ended December 31, 2024. The terms of the 2003 Outside Directors Plan are further described below under “2003 Outside Directors Plan.”

Director Compensation

Name	Fees Earned or Paid In Cash	Stock Awards	Option Awards	Non-Equity Incentive Plan Compensation	Nonqualified Deferred Compensation Earnings	All Other Compensation	Total
	(\$) ⁽¹⁾	(\$) ⁽²⁾	(\$) ⁽⁴⁾	(\$)	(\$)	(\$)	(\$)
Thomas P. Bostick	—	68,680	68,700 ⁽³⁾	—	—	—	137,380
Kerry C. Duggan	18,725	46,382	68,700 ⁽³⁾	—	—	—	133,807
Joseph T. Grumski	—	89,996	68,700 ⁽³⁾	—	—	—	158,696
Joe R. Reeder	—	82,006	68,700 ⁽³⁾	—	—	—	150,706
Larry M. Shelton	31,500	77,995	68,700 ⁽³⁾	—	—	—	178,195
Zach P. Wamp	19,600	48,535	68,700 ⁽³⁾	—	—	—	136,835
Mark A. Zwecker	26,600	65,870	68,700 ⁽³⁾	—	—	—	161,170

(1) Under the 2003 Outside Directors Plan, each director elects to receive 65% or 100% of the director’s fees in shares of our Common Stock. The amounts set forth above represent the portion of the director’s fees paid in cash and exclude the value of the director’s fee elected to be paid in Common Stock under the 2003 Outside Directors Plan, which values are included under “Stock Awards.”

(2) The number of shares of Common Stock comprising stock awards granted under the 2003 Outside Directors Plan is calculated based on 75% of the closing market value of the Common Stock as reported on the Nasdaq on the business day immediately preceding the date that the quarterly fee is due. Such shares are fully vested on the date of grant. The value of the stock award is based on the market value of our Common Stock at each quarter end times the number of shares issuable under the award. The amount shown is the fair value of the Common Stock on the date of the award.

(3) Reflects options granted under the Company’s 2003 Outside Directors Plan resulting from re-election to the Board on July 18, 2024. Options are for a 10-year period with an exercise price of \$10.20 per share and vest 25% per year, beginning on the first anniversary date of the grant. The value of the option award for each outside director is calculated based on the fair value of the option per share (approximately \$6.87) on grant date times the number of options granted, which was 10,000 for each director, pursuant to ASC 718, “Compensation – Stock Compensation.”

(4) The following table reflects the aggregate number of outstanding NQSOs held by the Company’s directors as of December 31, 2024. As an employee of the Company or its subsidiaries, neither Dr. Centofanti nor Mark Duff is eligible to participate in the

2003 Outside Directors Plan. Options reflected below for each of Dr. Centofanti and Mark Duff were granted from the 2017 Plan as discussed previously:

Name	Options Outstanding at December 31, 2024
Dr. Louis Centofanti	50,000
Thomas P. Bostick	46,000
Mark J. Duff	145,000
Kerry C. Duggan	46,000
Joseph T. Grumski	48,400
Joe R. Reeder	32,500
Larry M. Shelton	54,400
Zach P. Wamp	53,200
Mark A. Zwecker	54,400
Total	<u>529,900</u>

2003 Outside Directors Plan

We believe that it is important for our directors to have a personal interest in our success and growth and for their interests to be aligned with those of our stockholders; therefore, under our 2003 Outside Directors Plan, each outside director is granted a 10-year NQSO to purchase up to 20,000 shares of Common Stock on the date such director is initially elected to the Board, and receives on each re-election date a NQSO to purchase up to another 10,000 shares of our Common Stock, with the exercise price being the fair market value of the Common Stock preceding the option grant date. Common Stock shares subject to option granted vest at 25% per year, beginning on the first anniversary date of the grant and no option shall be exercisable after the expiration of ten years from the date the option is granted. As of December 31, 2024, options to purchase 352,000 shares of Common Stock were outstanding under the 2003 Outside Directors Plan, of which 177,900 were vested.

As a member of the Board, each director may elect to receive either 65% or 100% of his or her director's fee in shares of our Common Stock. The number of shares received by each director is calculated based on 75% of the fair market value of the Common Stock determined on the business day immediately preceding the date that the quarterly fee is due. The balance of each director's fee, if any, is payable in cash. In 2024, fees earned by our outside directors totaled approximately \$576,000.

In the event of a "change of control" (as defined in the 2003 Outside Directors Plan) or by reason of the director's death or Disability (as defined), each outstanding stock option and stock award shall immediately become exercisable in full notwithstanding the vesting or exercise provisions contained in the stock option agreement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Security Ownership of Certain Beneficial Owners

The table below sets forth information as to the shares of Common Stock beneficially owned as of March 10, 2025, by each person known by us to be the beneficial owners of more than 5% of any class of our voting securities.

Name of Beneficial Owner	Title Of Class	Amount and Nature of Ownership ⁽²⁾	Percent Of Class ⁽¹⁾
BlackRock, Inc. ⁽²⁾	Common	1,006,818	5.46%

⁽¹⁾ The number of shares and the percentage of outstanding Common Stock shown as beneficially owned by a person are based upon 18,428,393 shares of Common Stock outstanding on March 10, 2025, and the number of shares of Common Stock which such person has the right to acquire beneficial ownership of within 60 days. Beneficial ownership by our stockholders has been determined in accordance with the rules promulgated under Section 13(d) of the Exchange Act.

- (2) This information is based on the Schedule 13G of BlackRock, Inc., a parent holding Company or control person in accordance with Rule 13d-1(b) (1) (ii) (G), filed with the Commission on November 8, 2024, disclosing that at September 30, 2024, BlackRock, Inc. had sole voting power over 1,002,992 shares and sole dispositive power over all shares shown above. The address of BlackRock, Inc. is 50 Hudson Yards, New York, NY 10001.

Additionally, as of March 10, 2025, Schelhammer Capital Bank AG, a banking institution regulated by the banking regulations of Austria, has represented to the Company that it holds of record as a nominee for, and as an agent of, certain accredited investors, 1,760,522 shares of our Common Stock. None of the Common Stock held by Schelhammer Capital Bank AG for the account of any single investor represents more than 4.9% of our Common Stock and, to the best knowledge of Schelhammer Capital Bank AG, as far as stocks held by such investors in accounts with Schelhammer Capital Bank AG, none of such investors act together as a group or otherwise act in concert for the purpose of voting on matters subject to the vote of our stockholders or for purpose of disposition or investment of such stock. Additionally, the investors for whom Schelhammer Capital Bank AG acts as nominee with respect to such shares maintain full voting and dispositive power over the Common Stock beneficially owned by such investors, and Schelhammer Capital Bank AG has neither voting nor investment power over such shares. Accordingly, Schelhammer Capital Bank AG believes that (i) it is not the beneficial owner, as such term is defined in Rule 13d-3 of the Exchange Act, of the shares of Common Stock registered in Schelhammer Capital Bank AG's name because (a) Schelhammer Capital Bank AG holds the Common Stock as a nominee only, (b) Schelhammer Capital Bank AG has neither voting nor investment power over such shares, and (c) Schelhammer Capital Bank AG has not nominated or sought to nominate, and does not intend to nominate in the future, any person to serve as a member of our Board; and (ii) it is not required to file reports under Section 16(a) of the Exchange Act or to file either Schedule 13D or Schedule 13G in connection with the shares of our Common Stock registered in the name of Schelhammer Capital Bank AG.

Notwithstanding the previous paragraph, if Schelhammer Capital Bank AG's representations to us described above are incorrect or if the investors for whom Schelhammer Capital Bank AG acts as nominee are acting as a group, then Schelhammer Capital Bank AG or a group of such investors could be a beneficial owner of more than 5% of our voting securities. If Schelhammer Capital Bank AG was deemed the beneficial owner of such shares, the following table sets forth information as to the shares of voting securities that Schelhammer Capital Bank AG may be considered to beneficially own on March 10, 2025:

Name of Record Owner	Title Of Class	Amount and Nature of Ownership	Percent Of Class (*)
Schelhammer Capital Bank AG	Common	1,760,522 ⁽⁺⁾	9.55%

(*) This calculation is based upon 18,428,393 shares of Common Stock outstanding on March 10, 2025, plus the number of shares of Common Stock which Schelhammer Capital Bank AG, as agent for certain accredited investors, has the right to acquire within 60 days, which is none.

⁽⁺⁾ This amount is the number of shares that Schelhammer Capital Bank AG has represented to us that it holds of record as nominee for, and as an agent of, certain accredited investors. As of March 10, 2025, the date of Schelhammer Capital Bank AG's representations to us, Schelhammer Capital Bank AG has no warrants or options to acquire, as agent for certain investors, additional shares of our Common Stock. Although Schelhammer Capital Bank AG is the record holder of the shares of Common Stock described in this note, Schelhammer Capital Bank AG has advised us that it does not believe it is a beneficial owner of the Common Stock or that it is required to file reports under Section 16(a) or Section 13(d) of the Exchange Act. Schelhammer Capital Bank AG has advised us that it (a) holds the Common Stock as a nominee only and that it does not exercise voting or investment power over the Common Stock held in its name and that no one investor for which it holds our Common Stock holds more than 4.9% of our issued and outstanding Common Stock and (b) has not nominated, and has not sought to nominate, and does not intend to nominate in the future, any person to serve as a member of our Board. Accordingly, we do not believe that Schelhammer Capital Bank AG is our affiliate. Schelhammer Capital Bank AG's address is Goldschmiedgasse 3, A-1010 Wien, Austria.

Security Ownership of Management

The following table sets forth information as to the shares of voting securities beneficially owned as of March 10, 2025, by each of our directors and NEOs and by all of our directors and NEOs as a group. Beneficial ownership has been determined in accordance with the rules promulgated under Section 13(d) of the Exchange Act. A person is deemed to be a beneficial owner of any voting securities for which that person has the right to acquire beneficial ownership within 60 days.

Name of Beneficial Owner ⁽²⁾	Amount and Nature of Beneficial Owner ⁽¹⁾	Percent of Class ⁽¹⁾
Thomas P. Bostick ⁽³⁾	61,921 ⁽³⁾	*
Kerry C. Duggan ⁽⁴⁾	44,305 ⁽⁴⁾	*
Dr. Louis F. Centofanti ⁽⁵⁾	304,565 ⁽⁵⁾	1.65%
Joseph T. Grumski ⁽⁶⁾	78,063 ⁽⁶⁾	*
Joe R. Reeder ⁽⁷⁾	249,091 ⁽⁷⁾	1.35%
Larry M. Shelton ⁽⁸⁾	208,362 ⁽⁸⁾	1.13%
Zack P. Wamp ⁽⁹⁾	74,803 ⁽⁹⁾	*
Mark A. Zwecker ⁽¹⁰⁾	262,764 ⁽¹⁰⁾	1.42%
Mark Duff ⁽¹¹⁾	188,609 ⁽¹¹⁾	1.02%
Richard Grondin ⁽¹²⁾	39,780 ⁽¹²⁾	*
Ben Naccarato ⁽¹³⁾	79,411 ⁽¹³⁾	*
Troy Eshleman ⁽¹⁴⁾	- ⁽¹⁴⁾	*
Directors and Executive Officers as a Group (12 persons)	1,591,674 ⁽¹⁵⁾	8.51%

*Indicates beneficial ownership of less than one percent (1%).

⁽¹⁾ The number of shares and the percentage of Common Stock shown as beneficially owned by a person are based up 18,428,393 shares of Common Stock outstanding on March 10, 2025, and the number of shares of Common Stock which such person has the right to acquire beneficial ownership of within 60 days.

⁽²⁾ The business address of each person, for the purposes hereof, is c/o Perma-Fix Environmental Services, Inc., 8302 Dunwoody Place, Suite 250, Atlanta, Georgia 30350.

⁽³⁾ LTG (ret.) Bostick has sole and voting and investment power over all shares shown, which include: (i) 40,921 shares of Common Stock held of record by LTG (ret.) Bostick, and (ii) options to purchase 21,000 shares which are immediately exercisable.

⁽⁴⁾ Ms. Duggan has sole and voting and investment power over all shares shown, which include: (i) 23,305 shares of Common Stock held of record by Ms. Duggan, and (ii) options to purchase 21,000 shares which are immediately exercisable.

⁽⁵⁾ These shares include (i) 217,765 shares held of record by Dr. Centofanti, (ii) immediately exercisable options to purchase 24,000 shares, and (iii) 62,800 shares held by Dr. Centofanti's wife. Dr. Centofanti has sole voting and investment power over all such shares, except for the shares held by Dr. Centofanti's wife, over which Dr. Centofanti shares voting and investment power.

⁽⁶⁾ Mr. Grumski has sole and voting and investment power over all shares shown, which include: (i) 54,663 shares of Common Stock held of record by Mr. Grumski, and (ii) options to purchase 23,400 shares which are immediately exercisable.

⁽⁷⁾ Mr. Reeder has sole voting and investment power over all shares shown, which include: (i) 241,591 shares of Common Stock held of record, and (ii) options to purchase 7,500 shares which are immediately exercisable.

⁽⁸⁾ Mr. Shelton has sole voting and investment power over all shares shown, which include: (i) 178,962 shares of Common Stock held of record by Mr. Shelton, and (ii) options to purchase 29,400 shares which are immediately exercisable.

(9) Mr. Wamp has sole voting and investment power over all shares shown, which include: (i) 46,603 shares of Common Stock held of record by Mr. Wamp, and (ii) options to purchase 28,200 shares which are immediately exercisable.

(10) Mr. Zwecker has sole voting and investment power over all shares shown, which include: (i) 233,364 shares of Common Stock held of record by Mr. Zwecker, and (ii) options to purchase 29,400 shares which are immediately exercisable.

(11) Mr. Duff has sole voting and investment power over all shares shown, which include: (i) 130,609 shares of Common Stock held of record by Mr. Duff, and (ii) immediately exercisable options to purchase 58,000 shares.

(12) Mr. Grondin has sole voting and investment power over all shares shown, which include: (i) 28,780 shares of Common Stock held of record by Mr. Grondin, and (ii) immediately exercisable options to purchase 11,000 shares.

(13) Mr. Naccarato has sole voting and investment power over all shares shown, which include: (i) 48,411 shares of Common Stock held of record by Mr. Naccarato, and (ii) immediately exercisable options to purchase 31,000 shares.

(14) Mr. Eshleman does not beneficially own any shares.

(15) Amount includes options to purchase 283,900 shares which are immediately exercisable.

Equity Compensation Plans

The following table sets forth information as of December 31, 2024, with respect to our equity compensation plans.

Plan Category	Equity Compensation Plan		
	Number of securities to be issued upon exercise of outstanding options warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity compensation plans approved by stockholders	1,000,900	\$6.18	888,133
Equity compensation plans not approved by stockholders	—	—	—
Total	1,000,900	\$6.18	888,133

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

We describe below transactions to which we were a party during our last two fiscal years or to which we currently propose to be a party in the future, and in which:

- the amounts involved exceeded or will exceed the lesser of \$120,000 or one percent of the average of our total assets at year-end for the last two completed fiscal years; and
- any of our directors, executive officers or beneficial owners of more than 5% of any class of our voting securities, or any member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest.

Audit Committee Review

Our Audit Committee Charter provides for the review by the Audit Committee of any related party

transactions, other than transactions involving an employment relationship with the Company, which are reviewed by the Compensation Committee. Although we do not have written policies for the review of related party transactions, the Audit Committee reviews transactions between the Company and its directors, executive officers, holders of more than 5% of any class of the Company's voting securities, and their respective immediate family members. In reviewing a proposed transaction, the Audit Committee takes into account, among other factors it deems appropriate:

- (1) the extent of the related person's interest in the transaction;
- (2) whether the transaction is on terms generally available to an unaffiliated third-party under the same or similar circumstances;
- (3) the cost and benefit to the Company;
- (4) the impact or potential impact on a director's independence in the event the related party is a director, an immediate family member of a director or an entity in which a director is a partner, stockholder or executive officer;
- (5) the availability of other sources for comparable products or services;
- (6) the terms of the transaction; and
- (7) the risks to the Company.

In addition, as applicable, the Audit Committee considers Section 144 of the Delaware General Corporation Law ("DGCL") and the Company's Code of Ethics.

The provisions of Section 144 of the DGCL apply to transactions between the Company and any of its officers or directors, or any organization in which any such individual has a financial interest or serves as a director or officer (individually, a "Section 144 Related Party," and, collectively, "Section 144 Related Parties"). Section 144 provides that a transaction between a corporation and any Section 144 Related Party will not be void or voidable solely because such transaction involves the corporation and the Section 144 Related Party, or solely because the Section 144 Related Party is present at or participates or votes in the meeting of the board or committee which authorizes the transaction, if the transaction (a) is approved in good faith after full disclosure of the material facts of the transaction by a majority vote of (i) the disinterested directors, or (ii) the stockholders, and (b) is fair as to the corporation as of the time it is authorized, approved, or ratified by the board, a committee or the stockholders.

Our Code of Ethics, which applies to our Board, all our employees (including our named executive officers or "NEOs") and our senior financial officers, provides that such individuals must exhibit and promote honest and ethical conduct in connection with the performance of his or her duties for and on behalf of the Company, including the ethical handling of actual or apparent conflicts of interest involving such individual and the Company, by, among other considerations:

- not entering into a transaction that would result in a conflict of interest with what is in the best interest of the Company and that is reasonably likely to result in material personal gain to any such individuals or their affiliates; and
- not having a personal financial interest in any of the Company's suppliers, customers or competitors that could cause divided loyalty as a result of having the ability to influence the Company's decisions with that particular supplier or customer or actions to be taken by the Company that could materially benefit a competitor.

Related party transactions are reviewed by the Audit Committee prior to the consummation of the transaction. With respect to a related party transaction arising between Audit Committee meetings, the CFO may present it to the Audit Committee Chairperson, who will review and may approve the related party transaction subject to ratification by the Audit Committee at the next scheduled meeting. Our Audit Committee shall approve only those transactions that, in light of known circumstances, are not inconsistent with the Company's best interests.

Related Party Transactions

David Centofanti

David Centofanti serves as our Vice President of Information Systems. For such position, he received annual compensation of \$191,000 for each of the years 2024 and 2023. David Centofanti is the son of Dr. Louis F. Centofanti, our EVP of Strategic Initiatives and a Board member.

Board Independence

Our Common Stock is listed on the Nasdaq Capital Market. Rule 5605 of the Nasdaq Marketplace Rules requires a majority of a listed company's board of directors to be comprised of independent directors. In addition, the Nasdaq Marketplace Rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating and corporate governance committees be independent under applicable provisions of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Audit committee members must also satisfy independence criteria set forth in Rule 10A-3 under the Exchange Act, and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under Nasdaq Rule 5605(a)(2), a director will only qualify as an "independent director" if, in the opinion of our Board, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the board of directors, or any other board committee, accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries or otherwise be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the board must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company which is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director; and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

Our Board annually reviews the composition of our Board of Directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his/her background, employment and affiliations, including family relationships, our Board of Directors has determined that Ms. Kerry C. Duggan and each of Messrs. Thomas P. Bostick, Joseph T. Grumski, Joe R. Reeder, Larry M. Shelton, Zach P. Wamp and Mark A. Zwecker is an "independent director" as defined under the Nasdaq Marketplace Rules. Our Board of Directors has also determined that each member of our Audit Committee, consisting of Mark A. Zwecker (Chairperson), Joseph T. Grumski, and Larry M. Shelton, and each member of our Compensation and Stock Option Committee, consisting of Joseph T. Grumski (Chairperson), Zach P. Wamp, and Mark A. Zwecker, satisfy the independence standards for such committees established by the Commission and the Nasdaq Marketplace Rules, as applicable. In making such determination, our Board of Directors considered the relationships that each such non-employee director has with our Company and all other facts and circumstances our Board of Directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each non-employee director.

Our Board of Directors has determined that neither Dr. Louis Centofanti nor Mark J. Duff is deemed to be an "independent director" because of their employment as a senior executive officers of the Company.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table reflects the aggregate fees for the audit and other services provided by Grant Thornton LLP, the Company's independent registered public accounting firm, for fiscal years 2024 and 2023:

Fee Type	<u>2024</u>	<u>2023</u>
Audit Fees ⁽¹⁾	\$ 824,000	\$ 699,000
Tax Fees ⁽²⁾	<u>111,000</u>	<u>100,000</u>
Total	\$ <u>935,000</u>	\$ <u>799,000</u>

⁽¹⁾ Audit fees consist of audit work performed in connection with the annual financial statements, the reviews of unaudited quarterly financial statements, and work generally only the independent registered accounting firm can reasonably provide, such as consents and review of regulatory documents filed with the Securities and Exchange Commission

⁽²⁾ Fees for income tax planning, filing, and consulting.

Engagement of the Independent Auditor

To ensure that our independent registered public accounting firm is engaged only to provide audit and non-audit services that are compatible with maintaining its independence, the Audit Committee has a policy that requires the Committee to review and approve in advance all services to be provided by the Company's independent accounting firm before the firm is engaged to provide those services. The Audit Committee considers non-audit services and fees when assessing auditor independence, and determined that tax return preparation and other tax compliance services is compatible with maintaining our accounting firm's independence. All services under the headings Audit Fees and Tax Fees were approved by the Audit Committee pursuant to paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X of the Exchange Act. The Audit Committee's pre-approval policy provides as follows:

- The Audit Committee will review and pre-approve on an annual basis all audits, audit-related, tax and other services, along with acceptable cost levels, to be performed by the independent accounting firm and any member of the independent accounting firm's alliance network of firms, and may revise the pre-approved services during the period based on later determinations. Pre-approved services typically include: audits, quarterly reviews, regulatory filing requirements, consultation on new accounting and disclosure standards, employee benefit plan audits, reviews and reporting on management's internal controls and specified tax matters.
- Any proposed service that is not pre-approved on the annual basis requires a specific pre-approval by the Audit Committee, including cost level approval.
- The Audit Committee may delegate pre-approval authority to one or more of the Audit Committee members. The delegated member must report to the Audit Committee, at the next Audit Committee meeting, any pre-approval decisions made.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULE

The following documents are filed as a part of this report:

- (a)(1) Consolidated Financial Statements

See Item 8 for the Index to Consolidated Financial Statements.

- (a)(2) Financial Statement Schedule

Schedules are not required, are not applicable or the information is set forth in the consolidated financial statements or notes thereto.

- (a)(3) Exhibits

The Exhibits listed in the Exhibit Index are filed or incorporated by reference as a part of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Perma-Fix Environmental Services, Inc.

By /s/ Mark Duff Date March 13, 2025
Mark Duff
Chief Executive Officer, President and
Principal Executive Officer

By /s/ Ben Naccarato Date March 13, 2025
Ben Naccarato
Chief Financial Officer and
Principal Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in capacities and on the dates indicated.

By /s/ Thomas P. Bostick Date March 13, 2025
Thomas P. Bostick, Director

By /s/Dr. Louis F. Centofanti Date March 13, 2025
Dr. Louis F. Centofanti, Director

By /s/Mark J. Duff Date March 13, 2025
Mark J. Duff, Director

By /s/ Kerry C. Duggan Date March 13, 2025
Kerry C. Duggan, Director

By /s/Joseph T. Grumski Date March 13, 2025
Joseph T. Grumski, Director

By /s/ Joe R. Reeder Date March 13, 2025
Joe R. Reeder, Director

By /s/ Larry M. Shelton Date March 13, 2025
Larry M. Shelton, Chairman of the Board

By /s/ Zach P. Wamp Date March 13, 2025
Zach P. Wamp, Director

By /s/ Mark A. Zwecker Date March 13, 2025
Mark A. Zwecker, Director

EXHIBIT INDEX

Exhibit No.	<u>Description</u>
3(i)	Restated Certificate of Incorporation, as amended, of Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 3(i) to the Company's Form 10-Q for Quarter ended March 31, 2021 filed on May 6, 2021.
3(ii)	Second Amended and Restated Bylaws, as amended effective April 20, 2023, of Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 3(ii) to the Company's 8-K filed on April 26, 2023.
4.1	Revised Second Amended and Restated Revolving Credit, Term Loan and Security Agreement referenced as Annex A in the Fifth Amendment, as incorporated by reference from Exhibit 4.2 to the Company's Form 8-K filed on August 29, 2022.
4.2	Sixth Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated March 21, 2023, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.3 to the Company's 2022 Form 10-K filed on March 23, 2023.
4.3	Seventh Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated July 31, 2023, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.1 to the Company's Form 10-Q for the Quarter ended June 30, 2023 filed on August 3, 2023.
4.4	Term Note dated July 31, 2023, between Perma-Fix between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.2 to the Company's Form 10-Q for the Quarter ended June 30, 2023 filed on August 3, 2023.
4.5	Eighth Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated May 8, 2024, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.1 to the Company's Form 10-Q for the Quarter ended March 31, 2024, filed on May 9, 2024.
4.6	Ninth Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated November 8, 2024, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association, as incorporated by reference from Exhibit 4.3 to the Company's Form 10-Q for the Quarter ended September 30, 2024, filed on November 12, 2024.
4.7	Tenth Amendment to Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated March 11, 2025, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association.
10.1	2003 Outside Directors' Stock Plan of the Company, as incorporated by reference from Exhibit 10.1 to the Company's 2019 Form 10-K filed on March 20, 2020.
10.2	First Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.2 to the Company's 2019 Form 10-K filed on March 20, 2020.
10.3	Second Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.3 to the Company's 2023 Form 10-K, filed on March 13, 2024.
10.4	Third Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.4 to the Company's 2023 Form 10-K, filed on March 13, 2024.
10.5	Fourth Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit 10.5 to the Company's 2023 Form 10-K, filed on March 13, 2024.
10.6	Fifth Amendment to 2003 Outside Directors Stock Plan, as incorporated by reference from Exhibit A to the Company's Proxy Statement for its 2021 Annual Meeting of Stockholders filed on June 10, 2021.
10.7	2017 Stock Option Plan, as incorporated by reference from Exhibit 10.7 to the Company's 2023 Form 10-K, filed on March 13, 2024.
10.8	First Amendment to 2017 Stock Option Plan, as incorporated by reference from Appendix "A" to the Company's Proxy Statement for its 2020 Annual Meeting of Stockholders filed on June 12, 2020.

- 10.9 Second Amendment to 2017 Stock Option Plan, as incorporated by reference from Appendix “A” to the Company’s Proxy Statement for its 2023 Annual Meeting of Stockholders filed on June 8, 2023.
- 10.10 Employment Agreement dated April 20, 2023, between Mark Duff, Chief Executive Officer, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.1 to the Company’s Form 8-K filed on April 26, 2023.
- 10.11 Employment Agreement dated April 20, 2023, between Ben Naccarato, Chief Financial Officer, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.2 to the Company’s Form 8-K filed on April 26, 2023.
- 10.12 Employment Agreement dated April 20, 2023, between Dr. Louis Centofanti, EVP of Strategic Initiatives, and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.3 to the Company’s Form 8-K filed on April 26, 2023.
- 10.13 Employment Agreement dated April 20, 2023, between Richard Grondin, EVP of Waste Treatment Operations and Perma-Fix Environmental Services, Inc., as incorporated by reference from Exhibit 99.5 to the Company’s Form 8-K filed on April 26, 2023.
- 10.14 Memorandum amending Employment Agreement dated April 20, 2023, for EVP of Waste Treatment Operations, as incorporated by reference from Exhibit 99.7 to the Company’s Form 8-K filed January 29, 2025.
- 10.15 2025 Incentive Compensation Plan for Chief Executive Officer, effective January 1, 2025, as incorporated by reference from Exhibit 99.1 to the Company’s Form 8-K filed on January 29, 2025. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.
- 10.16 2025 Incentive Compensation Plan for Chief Financial Officer, effective January 1, 2025, as incorporated by reference from Exhibit 99.2 to the Company’s Form 8-K filed on January 29, 2025. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.
- 10.17 2025 Incentive Compensation Plan for EVP of Strategic Initiatives, effective January 1, 2025, as incorporated by reference from Exhibit 99.3 to the Company’s Form 8-K filed on January 29, 2025. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.
- 10.18 2025 Incentive Compensation Plan for EVP of Hanford and International Waste Operations, effective January 1, 2025, as incorporated by reference from Exhibit 99.4 to the Company’s Form 8-K filed on January 29, 2025. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.
- 10.19 2025 Incentive Compensation Plan for Chief Operating Officer, effective January 1, 2025, as incorporated by reference from Exhibit 99.5 to the Company’s Form 8-K filed on January 29, 2025. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.
- 10.20 Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Chief Executive Officer, dated October 14, 2021, as incorporated by reference from Exhibit 99.1 to the Company’s Form 8-K/A filed on October 20, 2021.
- 10.21 Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Chief Financial Officer, dated October 14, 2021, as incorporated by reference from Exhibit 99.2 to the Company’s Form 8-K/A filed on October 20, 2021.
- 10.22 Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and EVP of Strategic Initiatives, dated October 14, 2021, as incorporated by reference from Exhibit 99.3 to the Company’s Form 8-K/A filed on October 20, 2021.
- 10.23 Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and EVP of Waste Treatment Operations, dated October 14, 2021, as incorporated by reference from Exhibit 99.4 to the Company’s Form 8-K/A filed on October 20, 2021.

10.24	Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Chief Executive Officer, dated January 19, 2023, as incorporated by reference from Exhibit 99.6 to the Company's Form 8-K filed on January 23, 2023.
10.25	Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Chief Financial Officer, dated January 19, 2023, as incorporated by reference from Exhibit 99.7 to the Company's Form 8-K filed on January 23, 2023.
10.26	Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and EVP of Strategic Initiatives, dated January 19, 2023, as incorporated by reference from Exhibit 99.8 to the Company's Form 8-K filed on January 23, 2023.
10.27	Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and EVP of Waste Treatment Operations, dated January 19, 2023, as incorporated by reference from Exhibit 99.10 to the Company's Form 8-K filed on January 23, 2023.
10.28	Incentive Stock Option Agreement between Perma-Fix Environmental Services, Inc. and Chief Operating Officer, dated January 23, 2025, as incorporated by reference from Exhibit 99.6 to the Company's Form 8-K filed on January 29, 2025.
10.29	Mixed Direct & Framework Contract for Services (Number -945711-IPR-2023), issued by European Commission to Perma-Fix Environmental Services, Inc. and Campoverde Srl, dated December 18, 2023, as incorporated by reference from Exhibit 10.35 to the Company's 2023 Form 10-K, filed on March 13, 2024. CERTAIN INFORMATION WITHIN THIS EXHIBIT HAS BEEN EXCLUDED BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE COMPANY IF PUBLICLY DISCLOSED.
10.30	Form of Placement Agents' Warrants, as incorporated by reference from Exhibit 10.3 to the Company's Form 8-K filed on May 24, 2024.
10.31	Form of Representative's Warrants in connection with Underwriting Agreement, dated as of December 18, 2024.
19	Insider Trading Policy and Procedures (Stock Trading, Report & Blackout Policy).
21.1	List of Subsidiaries
23.1	Consent of Grant Thornton, LLP
31.1	Certification by Mark Duff, Chief Executive Officer and Principal Executive Officer of the Company pursuant to Rule 13a-14(a) and 15d-14(a).
31.2	Certification by Ben Naccarato, Chief Financial Officer and Principal Financial Officer of the Company pursuant to Rule 13a-14(a) and 15d-14(a).
32.1	Certification by Mark Duff, Chief Executive Officer and Principal Executive Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.
32.2	Certification by Ben Naccarato, Chief Financial Officer and Principal Financial Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.
97	Perma-Fix Clawback Policy, incorporated by reference to Exhibit 97 to the Company's 2023 Form 10-K, filed on March 13, 2024.
101.INS	XBRL Instance Document*
101.SCH	XBRL Taxonomy Extension Schema Document*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	XBRL Taxonomy Extension Labels Linkbase Document*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document*

*Pursuant to Rule 406T of Regulation S-T, the Interactive Data File in Exhibit 101 hereto are deemed not filed or part of a registration statement or prospectus for purposes of Section 11 or 12 of the Securities Act of 1933, as amended, are deemed not filed for purpose of Section 18 of the Securities Exchange Act of 1934, as amended, and otherwise are not subject to liability under those sections.

EXHIBIT 31.1

CERTIFICATIONS

I, Mark Duff, certify that:

1. I have reviewed this annual report on Form 10-K of Perma-Fix Environmental Services, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2025

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President
and Principal Executive Officer

EXHIBIT 31.2

CERTIFICATIONS

I, Ben Naccarato, certify that:

1. I have reviewed this annual report on Form 10-K of Perma-Fix Environmental Services, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2025

/s/ Ben Naccarato

Ben Naccarato
Chief Financial Officer and
Principal Financial Officer

Corporate Information

Board of Directors

Lieutenant General (U.S. Army Ret.)
Thomas P. Bostick
CEO of Bostick Global Strategies, LLC
(Director since 2020)⁽²⁾⁽⁵⁾

Dr. Louis F. Centofanti
Executive Vice President of Strategic
Initiatives
(Director since 1991)⁽⁴⁾

Mark J. Duff
President and Chief Executive Officer
(Director since 2023)

Kerry C. Duggan
Founder and Managing Partner of
Energy Security Partners (Director
since 2021)⁽²⁾⁽⁴⁾⁽⁵⁾

Joseph T. Grumski
Chief Executive Officer of TAS
Energy, Inc.
(Director since 2020)⁽¹⁾⁽³⁾

The Honorable Joe R. Reeder
Shareholder of Greenburg
Traurig, LLP
Former Army Undersecretary
(Director since 2003)⁽²⁾⁽⁴⁾

⁽¹⁾ Member of Audit Committee

⁽²⁾ Member of Corporate Governance and
Nominating Committee

⁽³⁾ Member of Compensation and Stock
Option Committee

Larry M. Shelton
Chairman of the Board
(Director since 2006)⁽¹⁾

The Honorable Zach P. Wamp
President of Zach Wamp Consulting
Member of U.S. House of
Representatives from Tennessee's
3rd District (1995-2011)
(Director since 2018)⁽²⁾⁽³⁾⁽⁴⁾⁽⁵⁾

Mark A. Zwecker
(Director since 1991)⁽¹⁾⁽³⁾

⁽⁴⁾ Member of Strategic Advisory
Committee

⁽⁵⁾ Member of Demand Review
Committee (ad hoc)

Management Team

Mark Duff
President and Chief Executive
Officer

Ben Naccarato
Executive Vice President and Chief
Financial Officer

Troy Eshleman
Chief Operating Officer

Dr. Louis F. Centofanti
Executive Vice President of
Strategic Initiatives

Richard Grondin
Executive Vice President of
Hanford and International Waste
Operations

Corporate Information

Executive Offices
8302 Dunwoody Place, Suite 250
Atlanta, Georgia 30350
Telephone: 770-587-9898

Transfer Agent and Registrar
Continental Stock Transfer
& Trust Company
One State Street Plaza, 30th Floor
New York, New York 10004

Independent Registered
Public Accounting Firm
Grant Thornton LLP
1100 Peachtree Street NE #1200
Atlanta, Georgia 30309

Stock Listing
The common stock of Perma-Fix
Environmental Services, Inc. is listed
on Nasdaq where it is traded under
the ticker symbol PESI.

Stockholder Inquiries

Inquiries concerning stockholder records should be addressed to the Transfer Agent listed above. Comments or questions concerning the operations of the Company should be addressed to the Secretary, Perma-Fix Environmental Services, Inc., 8302 Dunwoody Place, Suite 250, Atlanta, Georgia 30350.

Included within this Annual Report is a list briefly describing all exhibits listed in the Company's Form 10-K. We will furnish any exhibit to a shareholder upon receipt of a written request and payment of a specified reasonable fee, which fee shall be limited to the registrant's reasonable expenses in furnishing such exhibit. Each request must set forth a good-faith representation that, as of the record date for the solicitation of proxies, the person making the request was a beneficial owner of securities of the Company entitled to vote.

The Company defines EBITDA as earnings before interest, taxes, depreciation and amortization. Adjusted EBITDA is defined as EBITDA before income from Employee Retention Credit (ERC) refund claim (net of costs incurred). Both EBITDA and adjusted EBITDA are not measures of performance calculated in accordance with accounting standards generally accepted in the United States of America (U.S. GAAP), and should not be considered in isolation of, or as a substitute for, earnings as an indicator of operating performance or cash flows from operating activities as a measure of liquidity. The Company believes the presentation of EBITDA and adjusted EBITDA is relevant and useful by enhancing the readers' ability to understand the Company's operating performance. The Company's management utilizes EBITDA and adjusted EBITDA as a means to measure performance. The Company's measurements of EBITDA and adjusted EBITDA may not be comparable to similar titled measures reported by other companies. The table below reconciles EBITDA and adjusted EBITDA, both non-GAAP measures, to GAAP numbers for (loss) income from continuing operations for the periods noted.

(In thousands)	Fiscal Year 2024	Fiscal Year 2023	Fiscal Year 2022
(Loss) income from continuing operations	\$ (19,569)	\$ 918	\$ (3,211)
Adjustments:			
Depreciation and amortization	1,763	2,568	2,109
Interest income	(921)	(606)	(99)
Interest expense	473	323	175
Interest expense—financing fees	66	93	61
Income tax expense (benefit)	4,435	17	(378)
EBITDA	(13,753)	3,313	(1,343)
Income from ERC refund claim, net ⁽¹⁾	—	—	(1,908)
Adjusted EBITDA	\$ (13,753)	\$ 3,313	\$ (3,251)

⁽¹⁾ Net of costs incurred in connection with the ERC program in the amount of approximately \$67.

Cautionary Note Regarding Forward-Looking Statements

Certain statements contained in the Shareholders' letter, which have been added to this Annual Report on Form 10-K, may be deemed additional forward-looking statements. All estimates, projections, and other statements generally identifiable by the use of the words "believe," "expect," "intend," "anticipate," "plans to" and similar expressions (except statements of historical facts) contained therein are forward-looking statements, including but not limited to, improved performance beginning in the second half of 2025; targeted investments expected to enhance our long-term growth profile; schedule of hot commissioning by August 1, 2025 of DFLAW; waste receipts under DFLAW initiatives could double the waste receipts currently received at all our treatment facilities combined; growing interest in our PFAS technology; Q4 2025 deployment of our Gen 2.0 system; increase capacity under Gen 2.0 system; PFAS treatment expected to be a long-term growth driver; increase project visibility and multiple larger awards expected later in the year; operations for West Valley Demonstration Projects in Q3 2025; commercial waste treatment operations under JRC targeted for late 2026; international expansion; Italian project; and return to revenue growth and improved results beginning in second half of 2025. See "Special Note Regarding Forward-Looking Statements" contained in this Form 10-K that is part of the Annual Report and our Form 10-Q for the quarter ended March 31, 2025, for discussion of factors which could cause future outcomes to differ materially from those described herein.

The Shareholders' letter should be read in conjunction with the "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in the Form 10-K contained within this 2024 Annual Report and our Form 10-Q for the quarter ended March 31, 2025.

Perma-Fix Environmental Services, Inc.
8302 Dunwoody Place, Suite 250
Atlanta, GA 30350
www.perma-fix.com



PermaFix®
environmental services

