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

Form 10-Q

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the quarterly period ended June 30, 2023

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. 001-11596

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

Delaware	**58-1954497**
(State or other jurisdiction of incorporation or organization)	*(IRS Employer Identification Number)*
8302 Dunwoody Place, Suite 250, Atlanta, GA	**30350**
(Address of principal executive offices)	*(Zip Code)*

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

N/A
(Former name, former address and former fiscal year, if changed since last report)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common Stock, $.001 Par Value	PESI	NASDAQ Capital Markets

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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" and "smaller reporting 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 is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of Common Stock, as of the close of the latest practical date.

Class	Outstanding at July 28, 2023
Common Stock, $.001 Par Value	13,565,813 shares

PERMA-FIX ENVIRONMENTAL SERVICES, INC.

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PART I - FINANCIAL INFORMATION
Item 1. – Financial Statements

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Condensed Consolidated Balance Sheets

(Amounts in Thousands, Except for Share and Per Share Amounts)	June 30, 2023 (Unaudited)	December 31, 2022
ASSETS		
Current assets:		
Cash	$ 4,750	$ 1,866
Accounts receivable, net of allowance for credit losses of $13 and $57, respectively	11,930	9,364
Unbilled receivables	7,121	6,062
Inventories	1,032	814
Prepaid and other assets	2,735	5,405
Current assets related to discontinued operations	17	15
Total current assets	27,585	23,526
Property and equipment:		
Buildings and land	24,069	24,021
Equipment	21,922	21,242
Vehicles	442	442
Leasehold improvements	23	23
Office furniture and equipment	1,129	1,299
Construction-in-progress	1,143	727
Total property and equipment	48,728	47,754
Less accumulated depreciation	(29,896)	(28,797)
Net property and equipment	18,832	18,957
Property and equipment related to discontinued operations	81	81
Operating lease right-of-use assets	1,732	1,971
Intangibles and other long term assets:		
Permits	9,629	9,610
Other intangible assets - net	529	629
Finite risk sinking fund (restricted cash)	11,780	11,570
Deferred tax assets	4,007	4,116
Other assets	405	438
Total assets	$ 74,580	$ 70,898

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Condensed Consolidated Balance Sheets, Continued

(Amounts in Thousands, Except for Share and per Share Amounts)	June 30, 2023 (Unaudited)	December 31, 2022
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 13,896	$ 10,325
Accrued expenses	4,086	4,593
Disposal/transportation accrual	1,179	887
Deferred revenue	4,852	4,813
Accrued closure costs - current	548	682
Current portion of long - term debt	456	476
Current portion of operating lease liabilities	385	416
Current portion of finance lease liabilities	199	154
Current liabilities related to discontinued operations	280	362
Total current liabilities	25,881	22,708
Accrued closure costs	7,491	7,284
Long-term debt, less current portion	316	563
Long-term operating lease liabilities, less current portion	1,399	1,584
Long-term finance lease liabilities, less current portion	350	318
Long-term liabilities related to discontinued operations	913	908
Total long-term liabilities	10,469	10,657
Total liabilities	36,350	33,365
Commitments and Contingencies (Note 9)		
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; 13,562,743 and 13,332,398 shares issued, respectively; 13,555,101 and 13,324,756 shares outstanding, respectively	14	13
Additional paid-in capital	115,789	115,209
Accumulated deficit	(77,373)	(77,436)
Accumulated other comprehensive loss	(112)	(165)
Less Common Stock in treasury, at cost; 7,642 shares	(88)	(88)
Total stockholders' equity	38,230	37,533
Total liabilities and stockholders' equity	$ 74,580	$ 70,898

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Condensed Consolidated Statements of Operations
(Unaudited)

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Net revenues	$ 25,032	$ 19,455	$ 45,139	$ 35,370
Cost of goods sold	20,516	16,571	37,614	30,850
Gross profit	4,516	2,884	7,525	4,520
Selling, general and administrative expenses	3,551	3,684	7,036	7,106
Research and development	121	80	220	176
Loss on disposal of property and equipment	—	—	—	1
Income (loss) from operations	844	(880)	269	(2,763)
Other income (expense):				
Interest income	172	29	298	40
Interest expense	(47)	(41)	(100)	(76)
Interest expense-financing fees	(24)	(15)	(44)	(28)
Other	6	(3)	7	(5)
Income (loss) from continuing operations before taxes	951	(910)	430	(2,832)
Income tax expense (benefit)	432	347	228	(326)
Income (loss) from continuing operations, net of taxes	519	(1,257)	202	(2,506)
Loss from discontinued operations, net of taxes (Note 10)	(45)	(188)	(139)	(282)
Net income (loss)	$ 474	$ (1,445)	$ 63	$ (2,788)
Net income (loss) per common share - basic:				
Continuing operations	$ .04	$ (.10)	$ .01	$ (.19)
Discontinued operations	—	(.01)	(.01)	(.02)
Net income (loss) per common share	$ .04	$ (.11)	$ —	$ (.21)
Net income (loss) per common share - diluted:				
Continuing operations	$ .03	$ (.10)	$ .01	$ (.19)
Discontinued operations	—	(.01)	(.01)	(.02)
Net income (loss) per common share	$ .03	$ (.11)	$ —	$ (.21)
Number of common shares used in computing net income (loss) per share:				
Basic	13,474	13,264	13,417	13,249
Diluted	13,848	13,264	13,657	13,249

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Condensed Consolidated Statements of Comprehensive Income (Loss)
(Unaudited)

(Amounts in Thousands)	Three Months Ended June 30, 2023	Three Months Ended June 30, 2022	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Net income (loss)	$ 474	$ (1,445)	$ 63	$ (2,788)
Other comprehensive income (loss):				
Foreign currency translation gain (loss)	46	(67)	53	(41)
Total other comprehensive income (loss)	46	(67)	53	(41)
Comprehensive income (loss)	$ 520	$ (1,512)	$ 116	$ (2,829)

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC
Condensed Consolidated Statement of Stockholders' Equity
(Unaudited)
(Amounts in thousands, except for share amounts)

	Common Stock		Additional Paid-In Capital	Common Stock Held In Treasury	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount					
Balance at December 31, 2022	13,332,398	$ 13	$ 115,209	$ (88)	$ (165)	$ (77,436)	$ 37,533
Net loss	—	—	—	—	—	(411)	(411)
Foreign currency translation	—	—	—	—	7	—	7
Issuance of Common Stock for services	33,319	—	118	—	—	—	118
Issuance of Common Stock upon exercise of options	31,719	—	7	—	—	—	7
Stock-Based Compensation	—	—	118	—	—	—	118
Balance at March 31, 2023	13,397,436	$ 13	$ 115,452	$ (88)	$ (158)	$ (77,847)	$ 37,372
Net income	—	—	—	—	—	474	474
Foreign currency translation	—	—	—	—	46	—	46
Issuance of Common Stock for services	10,171	—	119	—	—	—	119
Issuance of Common Stock upon exercise of options	155,136	1	93	—	—	—	94
Stock-Based Compensation	—	—	125	—	—	—	125
Balance at June 30, 2023	13,562,743	$ 14	$ 115,789	$ (88)	$ (112)	$ (77,373)	$ 38,230
Balance at December 31, 2021	13,222,552	$ 13	$ 114,307	$ (88)	$ (28)	$ (73,620)	$ 40,584
Net loss	—	—	—	—	—	(1,343)	(1,343)
Foreign currency translation	—	—	—	—	26	—	26
Issuance of Common Stock for services	19,520	—	123	—	—	—	123
Stock-Based Compensation	—	—	102	—	—	—	102
Balance at March 31, 2022	13,242,072	$ 13	$ 114,532	$ (88)	$ (2)	$ (74,963)	$ 39,492
Net loss	—	—	—	—	—	(1,445)	(1,445)
Foreign currency translation	—	—	—	—	(67)	—	(67)
Issuance of Common Stock upon exercise of options (cashless)	16,526	—	—	—	—	—	—
Issuance of Common Stock for services	21,667	—	120	—	—	—	120
Stock-Based Compensation	—	—	103	—	—	—	103
Balance at June 30, 2022	13,280,265	$ 13	$ 114,755	$ (88)	$ (69)	$ (76,408)	$ 38,203

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)

(Amounts in Thousands)	Six Months Ended June 30, 2023	Six Months Ended June 30, 2022
Cash flows from operating activities:		
Net income (loss)	$ 63	$ (2,788)
Less: loss from discontinued operations, net of taxes (Note 10)	(139)	(282)
Income (loss) from continuing operations, net of taxes	202	(2,506)
Adjustments to reconcile income (loss) from continuing operations to cash provided by (used in) operating activities:		
Depreciation and amortization	1,439	936
Amortization of debt issuance costs	43	28
Deferred tax expense (benefit)	228	(326)
Provision for (recovery of) credit losses on accounts receivable	24	(50)
Loss on disposal of property and equipment	—	1
Issuance of common stock for services	237	243
Stock-based compensation	243	205
Changes in operating assets and liabilities of continuing operations		
Accounts receivable	(2,590)	(1,534)
Unbilled receivables	(1,059)	2,647
Prepaid expenses, inventories and other assets	3,160	1,988
Accounts payable, accrued expenses and unearned revenue	2,835	(4,322)
Cash provided by (used in) continuing operations	4,762	(2,690)
Cash used in discontinued operations	(336)	(367)
Cash provided by (used in) operating activities	4,426	(3,057)
Cash flows from investing activities:		
Purchases of property and equipment	(1,047)	(758)
Proceeds from sale of property and equipment	—	25
Cash used in investing activities of continuing operations	(1,047)	(733)
Cash flows from financing activities:		
Repayments of revolving credit borrowings	(44,130)	(33,545)
Borrowing on revolving credit	44,130	33,545
Proceeds from issuance of Common Stock upon exercise of options	101	—
Proceeds from capital line	—	524
Principal repayments of finance lease liabilities	(81)	(718)
Principal repayments of long term debt	(273)	(229)
Payment of debt issuance costs	(37)	(21)
Cash used in financing activities of continuing operations	(290)	(444)
Effect of exchange rate changes on cash	5	(3)
Increase (decrease) in cash and finite risk sinking fund (restricted cash)	3,094	(4,237)
Cash and finite risk sinking fund (restricted cash) at beginning of period	13,436	15,911
Cash and finite risk sinking fund (restricted cash) at end of period	$ 16,530	$ 11,674
Supplemental disclosure:		
Interest paid	$ 103	$ 79
Income taxes paid	—	6
Non-cash financing activities:		
Equipment purchase subject to finance lease	157	114

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

PERMA-FIX ENVIRONMENTAL SERVICES, INC.
Notes to Condensed Consolidated Financial Statements
June 30, 2023
(Unaudited)

1. Basis of Presentation

The condensed consolidated financial statements included herein have been prepared by the Company (which may be referred to as we, us or our), without an audit, pursuant to the rules and regulations of the Securities and Exchange Commission ("the Commission"). Certain information and note disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") have been condensed or omitted pursuant to such rules and regulations, although the Company believes the disclosures which are made are adequate to make the information presented not misleading. Further, the condensed consolidated financial statements reflect, in the opinion of management, all adjustments (which include only normal recurring adjustments) necessary to present fairly the financial position and results of operations as of and for the periods indicated. The results of operations for the six months ended June 30, 2023, are not necessarily indicative of results to be expected for the fiscal year ending December 31, 2023.

The Company suggests that these condensed consolidated financial statements be read in conjunction with the consolidated financial statements and the notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2022.

The condensed consolidated financial statements include the accounts of our wholly-owned subsidiaries. The Company's continuing operations also consisted of Perma-Fix ERRG, a variable interest entity ("VIE") for which we were the primary beneficiary. During the fourth quarter of 2022, project work under the joint venture was completed.

2. Summary of Significant Accounting Policies

Our accounting policies are as set forth in the notes to the December 31, 2022 consolidated financial statements referred to above.

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 nature of the Company's performance obligations within our Treatment and Services Segments result in the recognition of our revenue primarily over time. The following tables present further disaggregation of our revenues by different categories for our Services and Treatment Segments:

Revenue by Contract Type	Three Months Ended			Three Months Ended		
(In thousands)	June 30, 2023			June 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	$ 12,834	$ 11,161	$ 23,995	$ 8,393	$ 7,916	$ 16,309
Time and materials	—	1,037	1,037	—	3,146	3,146
Total	$ 12,834	$ 12,198	$ 25,032	$ 8,393	$ 11,062	$ 19,455

Revenue by Contract Type (In thousands)	Six Months Ended June 30, 2023			Six Months Ended June 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Fixed price	$ 22,428	$ 19,808	$ 42,236	$ 15,872	$ 13,677	$ 29,549
Time and materials	—	2,903	2,903	—	5,821	5,821
Total	$ 22,428	$ 22,711	$ 45,139	$ 15,872	$ 19,498	$ 35,370

Revenue by generator (In thousands)	Three Months Ended June 30, 2023			Three Months Ended June 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	$ 9,808	$ 11,441	$ 21,249	$ 6,243	$ 10,649	$ 16,892
Domestic commercial	2,269	742	3,011	1,803	384	2,187
Foreign government	657	(7)	650	153	8	161
Foreign commercial	100	22	122	194	21	215
Total	$ 12,834	$ 12,198	$ 25,032	$ 8,393	$ 11,062	$ 19,455

Revenue by generator (In thousands)	Six Months Ended June 30, 2023			Six Months Ended June 30, 2022		
	Treatment	Services	Total	Treatment	Services	Total
Domestic government	$ 17,065	$ 21,159	$ 38,224	$ 12,058	$ 18,894	$ 30,952
Domestic commercial	4,475	1,339	5,814	3,239	546	3,785
Foreign government	752	170	922	245	14	259
Foreign commercial	136	43	179	330	44	374
Total	$ 22,428	$ 22,711	$ 45,139	$ 15,872	$ 19,498	$ 35,370

Contract Balances

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

(In thousands)	June 30, 2023	December 31, 2022	Year-to-date Change ($)	Year-to-date Change (%)
Contract assets				
Unbilled receivables - current	$ 7,121	$ 6,062	$ 1,059	17.5%
Contract liabilities				
Deferred revenue	$ 4,852	$ 4,813	$ 39	0.8%

During the three and six months ended June 30, 2023, the Company recognized revenue of $1,098,000 and $4,593,000, respectively, related to untreated waste that was in the Company's control as of the beginning of each respective year. During the three and six months ended June 30, 2022, the Company recognized revenue of $2,123,000 and $5,644,000, 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 related to performance obligations satisfied within the respective period.

Remaining Performance Obligations

The Company applies the practical expedient in Accounting Standards Codification ("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.

4. Leases

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. The Company's operating leases also include a building with land utilized for our waste treatment operations which includes a purchase option. Finance leases consist primarily of processing and transport equipment used by our facilities' operations.

The components of lease cost for the Company's leases for the three and six months ended June 30, 2023 and 2022 were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Operating Leases:				
Lease cost	$ 156	$ 157	$ 313	$ 314
Finance Leases:				
Amortization of ROU assets	38	44	76	91
Interest on lease liability	7	10	13	21
	45	54	89	112
Short-term lease rent expense	1	3	1	7
Total lease cost	202	214	403	433

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases at June 30, 2023 were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	6.0	2.2
Weighted average discount rate	7.9%	6.0%

The weighted average remaining lease term and the weighted average discount rate for operating and finance leases at June 30, 2022 were:

	Operating Leases	Finance Leases
Weighted average remaining lease terms (years)	6.5	3.1
Weighted average discount rate	7.7%	6.0%

The following table reconciles the undiscounted cash flows for the operating and finance leases at June 30, 2023 to the operating and finance lease liabilities recorded on the balance sheet (in thousands):

	Operating Leases		Finance Leases	
2023	$	267	$	115
2024		416		222
2025		324		200
2026		301		47
2027		286		12
2028 and thereafter		656		2
Total undiscounted lease payments		2,250		598
Less: Imputed interest		(466)		(49)
Present value of lease payments	$	1,784	$	549

Current portion of operating lease obligations	$	385	$	—
Long-term operating lease obligations, less current portion	$	1,399	$	—
Current portion of finance lease obligations	$	—	$	199
Long-term finance lease obligations, less current portion	$	—	$	350

Supplemental cash flow and other information related to our leases were as follows for the three and six months ended June 30, 2023 and 2022 (in thousands):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2023		2022		2023		2022	
Cash paid for amounts included in the measurement of lease liabilities:								
Operating cash flow used in operating leases	$	146	$	143	$	290	$	286
Operating cash flow used in finance leases	$	7	$	10	$	13	$	21
Financing cash flow used in finance leases	$	40	$	661	$	81	$	718
ROU assets obtained in exchange for lease obligations for:								
Finance liabilities	$	107	$	—	$	157	$	147

5. <u>Intangible Assets</u>

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

		June 30, 2023						December 31, 2022					
Other Intangibles (amount in thousands)	Weighted Average Amortization Period (Years)	Gross Carrying Amount		Accumulated Amortization		Net Carrying Amount		Gross Carrying Amount		Accumulated Amortization		Net Carrying Amount	
Patent	8.3	$	700	$	(380)	$	320	$	711	$	(374)	$	337
Software	3		661		(500)		161		640		(468)		172
Customer relationships	10		3,370		(3,322)		48		3,370		(3,250)		120
Total		$	4,731	$	(4,202)	$	529	$	4,721	$	(4,092)	$	629

The intangible assets noted above are amortized on a straight-line basis over their useful lives with the exception of customer relationships which are being amortized using an accelerated method.

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

Year	Amount (In thousands)
2023 (Remaining)	$ 85
2024	62
2025	26
2026	25
2027	22

Amortization expenses relating to the definite-lived intangible assets as discussed above were $55,000 and $110,000 for the three and six months ended June 30, 2023, respectively, and $55,000 and $111,000 for the three and six months ended June 30, 2022, respectively.

6. Capital Stock, Stock Plans and Stock Based Compensation

The Company has certain stock option plans under which it may award incentive stock options ("ISOs") and/or non-qualified stock options ("NQSOs") to employees, officers, outside directors, and outside consultants.

On January 19, 2023, the Company granted ISOs to certain employees for the purchase, under the Company's 2017 Stock Option Plan (the "2017 Plan"), 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 the 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.

The Company granted a NQSO to Robert Ferguson on July 27, 2017, from the Company's 2017 Plan for the purchase of up to 100,000 shares of the Company's Common Stock ("Ferguson Stock Option") in connection with his work as a consultant to the Company's Test Bed Initiative ("TBI") at our Perma-Fix of Northwest Richland, Inc. facility at an exercise price of $3.65 per share, which was the fair market value of the Company's Common Stock on the date of grant. The term of the Ferguson Stock Option is seven years from the grant date. The vesting of the Ferguson Stock Option is subject to the achievement of three separate milestones by certain dates. The first milestone was met and the 10,000 shares under the first milestone were issued to Robert Ferguson in May 2018. The Company had previously entered into amendments whereby the vesting dates for the second and third milestones for the purchase of up to 30,000 and 60,000 shares of the Company's Common Stock were extended to December 31, 2022, and December 31, 2023, respectively. The 30,000 shares under the second milestone failed to vest by December 31, 2022, and therefore were forfeited. Due to Mr. Ferguson's death, resulting in Mr. Ferguson no longer being a consultant to the Company and the third milestone not being achieved prior to or after Mr. Ferguson's death, the Ferguson Stock Option as to the 60,000 shares is effectively cancelled pursuant to the terms of the Ferguson Stock Option.

The following table summarizes stock-based compensation recognized for the three and six months ended June 30, 2023 and 2022 for our employee and director stock options.

Stock Options	Three Months Ended June 30,		Six Months Ended June 30,	
	2023	2022	2023	2022
Employee Stock Options	$ 93,000	$ 86,000	$ 179,000	$ 172,000
Director Stock Options	32,000	17,000	64,000	33,000
Total	$ 125,000	$ 103,000	$ 243,000	$ 205,000

At June 30, 2023, the Company has approximately $1,644,000 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 3.6 years.

The summary of the Company's total Stock Option Plans as of June 30, 2023, and June 30, 2022, and changes during the periods then ended, are presented below. The Company's Plans consist of the 2017 Plan and the 2003 Outside Directors Stock Plan (the "2003 Plan"):

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value [2]
Options outstanding January 1, 2023	1,018,400	$ 5.02		
Granted	295,000	$ 3.95		
Exercised	(265,600)	$ 3.70		$ 2,002,502
Forfeited/expired/cancelled	(64,500)	$ 3.67		
Options outstanding end of period [1]	983,300	$ 5.15	4.9	$ 5,734,647
Options exercisable at June 30, 2023[1]	278,300	$ 4.75	3.4	$ 1,732,347

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value [2]
Options outstanding January 1, 2022	1,019,400	$ 4.91		
Granted	—	$ —		
Exercised	(50,000)	$ 3.97		$ 98,000
Forfeited/expired/cancelled	—	$ —		
Options outstanding end of period [1]	969,400	$ 4.96	3.7	$ 883,991
Options exercisable at June 30, 2022[1]	405,900	$ 3.91	2.5	$ 577,276

(1) Options with exercise prices ranging from $2.79 to $7.50

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

During the six months ended June 30, 2023, the Company issued a total of 43,490 shares of its Common Stock under the 2003 Plan to its outside directors as compensation for serving on our Board of Directors (the "Board"). The Company recorded approximately $237,000 in compensation expenses (included in selling, general and administration ("SG&A") expenses) in connection with the issuance of shares of its Common Stock to outside directors.

During the six months ended June 30, 2023, the Company issued an aggregate 163,255 shares of its Common Stock from cashless exercises of options for the purchases of 242,000 shares of the Company's Common Stock ranging from $3.60 per share to $3.65 per share. Additionally, the Company issued 23,600 shares of its Common Stock from the exercise of options for the purchase of 23,600 shares of the Company's Common Stock ranging from at $2.785 per share to $7.005 per share resulting in proceeds of approximately $101,000.

In connection with a $2,500,000 loan that the Company entered into with Mr. Robert Ferguson (the "Ferguson Loan") on April 1, 2019, the Company issued a warrant to Mr. Ferguson for the purchase of up to 60,000 shares of our Common Stock at an exercise price of $3.51 per share. The warrant expires on April 1, 2024 and remains outstanding at June 30, 2023. Upon Mr. Ferguson's death, the warrant is now held by Mr. Ferguson's personal representative and/or beneficiary. The Ferguson Loan was paid-in-full in December 2020.

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

(Amounts in Thousands, Except for Per Share Amounts)	Three Months Ended June 30, (Unaudited)		Six Months Ended June 30, (Unaudited)	
	2023	2022	2023	2022
Income (loss) per common share from continuing operations				
Income (Loss) from continuing operations, net of taxes	$ 519	$ (1,257)	$ 202	$ (2,506)
Basic income (loss) per share	$ .04	$ (.10)	$ .01	$ (.19)
Diluted income (loss) per share	$ .03	$ (.10)	$ .01	$ (.19)
Loss per common share from discontinued operations, net of taxes				
Loss from discontinued operations, net of taxes	$ (45)	$ (188)	$ (139)	$ (282)
Basic loss per share	$ —	$ (.01)	$ (.01)	$ (.02)
Diluted loss per share	$ —	$ (.01)	$ (.01)	$ (.02)
Net income (loss) per common share				
Net income (loss)	$ 474	$ (1,445)	$ 63	$ (2,788)
Basic income (loss) per share	$ .04	$ (.11)	$ —	$ (.21)
Diluted income (loss) per share	$ .03	$ (.11)	$ —	$ (.21)
Weighted average shares outstanding:				
Basic weighted average shares outstanding	13,474	13,264	13,417	13,249
Add: dilutive effect of stock options	334	—	205	—
Add: dilutive effect of warrants	40	—	35	—
Diluted weighted average shares outstanding	13,848	13,264	13,657	13,249
Potential shares excluded from above weighted average share calculations due to their anti-dilutive effect include:				
Stock options	—	405	—	405
Warrant	—	—	—	—

8. Long Term Debt

Long-term debt consists of the following:

(Amounts in Thousands)	June 30, 2023	December 31, 2022
Revolving Credit facility dated May 8, 2020, borrowings based upon eligible accounts receivable, subject to monthly borrowing base calculation, balance due on May 15, 2024. Effective interest rate for first six months of 2023 was 9.7%. (1)	$ —(3)	$ —
Term Loan dated May 8, 2020, payable in equal monthly installments of principal, balance due on May 15, 2024. Effective interest rate for first six months of 2023 was 9.2% (1)	345(2) (3)	552(2)
Capital Line dated May 4, 2021, payable in equal monthly installments of principal, balance due on May 15, 2024. Effective interest rate for first six months of 2023 was 8.3% (1)	410(3)	463
Notes Payable to 2023 and 2025, annual interest rate of 5.6% and 9.1%.	17	24
Total debt	772	1,039
Less current portion of long-term debt	456	476
Long-term debt	$ 316	$ 563

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

(2)Net of debt issuance costs of ($82,000) and ($88,000) at June 30, 2023 and December 31, 2022, respectively.

(3)As discussed in "Note 15 – Subsequent Events – Credit Facility," on July 31, 2023, the Company entered into an amendment to the Loan Agreement dated May 8, 2020, as amended, which extended the existing credit facility with a maturity date of May 15, 2024 to May 15, 2027. In accordance with ASC 470, "Debt," this post balance-sheet date agreement demonstrated the Company's ability to refinance its short-term obligations under its credit facility on a long-term basis; therefore, the Company has reclassified the current portion of the outstanding debt under the credit facility to long-term except for approximately $105,000 in principal payments under the Capital Line that will be due by June 30, 2024. The remaining principal balance of the Term Loan balance is classified as current as the balance will be paid-in-full by June 30, 2024 (see "Note 15 - Subsequent Events – Credit Facility" for further details of this amendment dated July 31, 2023).

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 ("Loan Agreement"), with PNC National Association ("PNC"), acting as agent and lender. The Loan Agreement, as amended, provides the Company with the following credit facility with a maturity date of May 15, 2024 (see "Note 15 - Subsequent Event – Credit Facility" for a discussion of an amendment that the Company entered into with PNC which extended the maturity date to May 15, 2027, and provided a new term loan of $2,500,000 to the Company, among other things): (a) up to $12,500,000 revolving credit ("revolving credit") (see a discussion of an amendment that the Company entered into with its lender on March 21, 2023 below, which reduced the maximum revolving credit to $12,500,000 from the previous amount of $18,000,000). The maximum that the Company can borrow under the revolving credit was based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that the Company's lender may impose from time to time; (b) a term loan ("term loan") of approximately $1,742,000, requiring monthly installments of $35,547; and (c) a capital expenditure line ("capital loan") of up to $1,000,000 with advances on the line, subject to certain limitations, permitted for up to twelve months starting May 4, 2021 (the "Borrowing Period"). Only interest was payable on advances during the Borrowing Period. Amount advanced under the capital line at the end of the Borrowing Period totaled approximately $524,000 which requires monthly installments in principal of approximately $8,700 plus interest, starting June 1, 2022.

On March 21, 2023, the Company entered into an amendment to its Loan Agreement, as amended, with its lender which provides, among other things, the following:

- removed the quarterly fixed charge coverage ratio ("FCCR") testing requirement for the fourth quarter of 2022 and removes the FCCR testing requirement the first quarter of 2023;
- reduced the maximum revolving credit line under the credit facility from $18,000,000 to $12,500,000;
- reinstates the quarterly FCCR testing requirement starting in the second quarter of 2023 using a trailing twelve-month period (with no change to the minimum 1.15:1 ratio requirement for each quarter); and
- requires maintenance of a minimum of $3,000,000 in borrowing availability under the revolving credit until the minimum FCCR requirement for the quarter ended June 30, 2023 has been met and certified to the lender.

In connection with the amendment, the Company paid its lender a fee of $25,000 which is being amortized over the remaining term of the Loan Agreement, as amended, as interest expense-financing fees.

Pursuant to the Loan Agreement, as amended, payment of annual rate of interest due on the revolving credit is at prime (8.25% at June 30, 2023) plus 2% or Term Secured Overnight Finance Rate ("SOFR") (as defined in the Loan Agreement, as amended) plus 3.00% plus an SOFR Adjustment applicable for an interest period selected by the Company and payment of annual rate of interest due on the term loan and the capital loan is at prime plus 2.50% or Term SOFR Rate plus 3.50% plus an SOFR Adjustment applicable for an interest period selected by the Company. A 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.

At June 30, 2023, the borrowing availability under the Company's revolving credit was approximately $10,368,000 which included our cash and was based on our eligible receivables and is net of approximately $3,200,000 in outstanding standby letters of credit. The Company's borrowing availability of $10,368,000 at June 30, 2023 included a requirement from our lender that we maintain a minimum of $3,000,000 in borrowing availability as discussed above.

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 was not required to perform testing of the FCCR requirement in the first quarter of 2023 pursuant to the March 21, 2023 amendment as discussed above. otherwise, it met all of its other financial covenant requirements. The Company met all of its covenant requirements in the second quarter of 2023. See "Note 15 - Subsequent Event – Credit Facility" for a discussion of an amendment that the Company entered into with its lender on July 31, 2023, that provided, among other things, a new term loan to the Company.

9. 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 the Company transports to its 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 United States 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.

Perma-Fix of Canada, Inc. ("PF Canada")

During the fourth quarter of 2021, PF Canada received a Notice of Termination ("NOT") from Canadian Nuclear Laboratories, LTD. ("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. As of June 30, 2023, PF Canada has approximately $1,895,000 in unpaid receivables due from CNL as a result of work performed under the TOA. Additionally, CNL has approximately $1,084,000 in contractual holdback under the TOA that is payable to PF Canada. CNL also established a bond securing approximately $1,900,000 (CAD) to cover certain issues raised in connection with the TOA. Under the TOA, CNL may be entitled to set off certain costs and expenses incurred by CNL in connection with the termination of the TOA, including the bond as discussed above, against amounts owed to PF Canada for work performed by PF Canada or its subcontractors. PF Canada continues to be in discussions with CNL to finalize the amounts due to PF Canada under the TOA and continues to believe these amounts are due and payable to PF Canada.

Insurance

The Company has a 25-year finite risk insurance policy entered into in June 2003 ("2003 Closure Policy") with AIG Specialty Insurance Company ("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 $22,461,000 at June 30, 2023. At June 30, 2023 and December 31, 2022, 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 Condensed Consolidated Balance Sheets totaled $11,780,000 and $11,570,000, respectively, which included interest earned of $2,309,000 and $2,099,000 on the finite risk sinking funds as of June 30, 2023, and December 31, 2022, respectively. Interest income for the three and six months ended June 30, 2023, was approximately $143,000 and $210,000, respectively. Interest income for the three and six months ended June 30, 2022, was approximately $29,000 and $40,000, respectively. If we so elect, 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. At June 30, 2023, the total amount of standby letters of credit outstanding was approximately $3,200,000 and the total amount of bonds outstanding was approximately $31,870,000.

10. <u>Discontinued Operations</u>

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

The Company's discontinued operations had net losses of $45,000 (net of tax benefit of $89,000) and $188,000 (net of tax benefit of $18,000) for the three months ended June 30, 2023 and 2022, respectively and net losses of $139,000 (net of tax benefit of $119,000) and $282,000 (net of tax benefit of $80,000) for the six months ended June 30, 2023 and 2022, respectively. The losses were primarily due to costs incurred in the administration and continued monitoring of our discontinued operations. The Company's discontinued operations had no revenues for each of the periods noted above.

The following table presents the major class of assets of discontinued operations as of June 30, 2023, and December 31, 2022. No assets and liabilities were held for sale at each of the periods noted.

(Amounts in Thousands)	June 30, 2023	December 31, 2022
Current assets		
Other assets	$ 17	$ 15
Total current assets	17	15
Long-term assets		
Property, plant and equipment, net [1]	81	81
Total long-term assets	81	81
Total assets	$ 98	$ 96
Current liabilities		
Accounts payable	$ 23	$ 104
Accrued expenses and other liabilities	145	146
Environmental liabilities	112	112
Total current liabilities	280	362
Long-term liabilities		
Closure liabilities	164	159
Environmental liabilities	749	749
Total long-term liabilities	913	908
Total liabilities	$ 1,193	$ 1,270

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

11. <u>Operating Segments</u>

In accordance with ASC 280, "Segment Reporting", the Company defines an operating segment as a business activity: (1) from which we may earn revenue and incur expenses; (2) whose operating results are regularly reviewed by the chief operating decision maker ("CODM") to make decisions about resources to be allocated to the segment and assess its performance; and (3) for which discrete financial information is available.

Our reporting segments are defined below:

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
- Research and Development ("R&D") activities to identify, develop and implement innovative waste processing techniques for problematic waste streams.

SERVICES SEGMENT, which includes:

- Technical services, which include:
  - professional radiological measurement and site survey of large government and commercial installations using advanced methods, technology and engineering;
  - 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;
  - global technical services providing consulting, engineering, project management, waste management, environmental, and decontamination and decommissioning field, technical, and management personnel and services to commercial and government customers; and
  - on-site waste management services to commercial and governmental customers.
- Nuclear services, which include:
  - technology-based services including engineering, decontamination and decommissioning (“D&D”), specialty services and construction, logistics, transportation, processing and disposal;
  - 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 nuclear, environmental, and occupational safety and health (“NEOSH”) instrumentation.

Our reporting segments exclude our corporate headquarters and our discontinued operations (see “Note 10 – Discontinued Operations”) which do not generate revenues.

The table below presents certain financial information of our operating segments for the three and six months ended June 30, 2023 and 2022 (in thousands):

Segment Reporting for the Quarter Ended June 30, 2023

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 12,834	$ 12,198	$ 25,032	$ —	$ 25,032
Intercompany revenues	26	17	43	—	—
Gross profit	2,491	2,025	4,516	—	4,516
Research and development	91	7	98	23	121
Interest income	—	—	—	172	172
Interest expense	(23)	—	(23)	(24)	(47)
Interest expense-financing fees	—	—	—	(24)	(24)
Depreciation and amortization	589	89	678	14	692
Segment income (loss) before income taxes	1,356	1,189	2,545	(1,594)	951
Income tax expense	83	349	432	—	432
Segment income (loss)	1,273	840	2,113	(1,594)	519
Expenditures for segment assets	293	5	298	—	298(2)

Segment Reporting for the Six Months Ended June 30, 2023

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 22,428	$ 22,711	$ 45,139	$ —	$ 45,139
Intercompany revenues	230	36	266	—	—
Gross profit	3,743	3,782	7,525	—	7,525
Research and development	158	10	168	52	220
Interest income	—	—	—	298	298
Interest expense	(45)	(1)	(46)	(54)	(100)
Interest expense-financing fees	—	—	—	(44)	(44)
Depreciation and amortization	1,162	249	1,411	28	1,439
Segment income (loss) before income taxes	1,514	2,132	3,646	(3,216)	430
Income tax (benefit) expense	(91)	319	228	—	228
Segment income (loss)	1,605	1,813	3,418	(3,216)	202
Expenditures for segment assets	1,043	4	1,047	—	1,047(2)

Segment Reporting for the Quarter Ended June 30, 2022

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 8,393	$ 11,062	$ 19,455	$ —	$ 19,455
Intercompany revenues	—	17	17	—	—
Gross profit	1,563	1,321	2,884	—	2,884
Research and development	59	8	67	13	80
Interest income	—	—	—	29	29
Interest expense	(19)	3	(16)	(25)	(41)
Interest expense-financing fees	—	—	—	(15)	(15)
Depreciation and amortization	381	86	467	13	480
Segment income (loss) before income taxes	364	515	879	(1,789)	(910)
Income tax expense	304	43	347	—	347
Segment income (loss)	60	472	532	(1,789)	(1,257)
Expenditures for segment assets	373	39	412	—	412(3)

Segment Reporting for the Six Months Ended June 30, 2022

	Treatment	Services	Segments Total	Corporate [1]	Consolidated Total
Revenue from external customers	$ 15,872	$ 19,498	$ 35,370	$ —	$ 35,370
Intercompany revenues	—	27	27	—	—
Gross profit	2,201	2,319	4,520	—	4,520
Research and development	124	23	147	29	176
Interest income	—	—	—	40	40
Interest expense	(33)	2	(31)	(45)	(76)
Interest expense-financing fees	—	—	—	(28)	(28)
Depreciation and amortization	752	157	909	27	936
Segment (loss) income before income taxes	(117)	799	682	(3,514)	(2,832)
Income tax benefit	(254)	(72)	(326)	—	(326)
Segment income (loss)	137	871	1,008	(3,514)	(2,506)
Expenditures for segment assets	670	88	758	—	758(3)

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

(2) Net of financed amount of $107,000 and $157,000 for the three and six months ended June 30, 2023, respectively.

(3) Net of financed amount of $0 and $114,000 for the three and six months ended June 30, 2022, respectively.

12. Income Taxes

The Company uses an estimated annual effective tax rate, which is based on expected annual income, statutory tax rates and tax planning opportunities available in the various jurisdictions in which the Company operates, to determine its quarterly provision for income taxes.

The Company had income tax expenses of $432,000 and $347,000 for continuing operations for the three months ended June 30, 2023 and 2022, respectively, and income tax expense and income tax benefit of $228,000 and ($326,000) for continuing operations for the six months ended June 30, 2023 and 2022, respectively. The Company's effective tax rates were approximately 45.4% and (38.1%) for the three months ended June 30, 2023 and June 30, 2022, respectively, and 53.0% and 11.5% for the six months ended June 30, 2023 and June 30, 2022, respectively. The Company's effective tax rates for the three and six months ended June 30, 2023 were impacted by non-deductible expenses and state taxes. The tax expense for the three months ended June 30, 2023 were primarily driven by the change in forecasted income for the year which resulted in an increase in the estimated annual effective tax rate and an increase in the year to date tax expense for the six months ended June 30, 2023.

13. Employee Retention Credit ("ERC")

The Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act"), which was enacted on March 27, 2020, provides an ERC for qualifying businesses keeping employees on their payroll during the COVID-19 pandemic. The ERC was subsequently amended by the Taxpayer Certainty and Disaster Tax Relief Act of 2020, the Consolidated Appropriation Act of 2021, and the American Rescue Plan Act of 2021, all of which amended and extended the ERC availability and guidelines under the CARES Act. Following these amendments, the Company determined that it was eligible for the ERC, and as a result of the foregoing legislations, was eligible to claim a refundable tax credit against the Company's share of certain payroll taxes equal to 70% of the qualified wages paid to employees between July 1, 2021 and September 30, 2021. Qualified wages were limited to $10,000 per employee per calendar quarter in 2021 for a maximum allowable ERC per employee of $7,000 per calendar quarter in 2021. For purposes of the amended ERC, an eligible employer is defined as having experienced a significant (20% or more) decline in gross receipts during one or more of the first three 2021 calendar quarters when compared to 2019.

During the third quarter of 2022, the Company determined it was eligible for the ERC and amended its third quarter 2021 employer payroll tax filings claiming a refund from the U.S. Treasury in the amount of approximately $1,975,000. As there is no authoritative guidance under U.S. GAAP on accounting for government assistance to for-profit business entities, the Company accounted for the ERC by analogy to International Accounting Standard ("IAS") 20, Accounting for Government Grants and Disclosure of Government Assistance. In accordance with IAS 20, management determined it had reasonable assurance for receipt of the ERC and recorded the expected refund as other income (within "Other income (expense)") on the Company's Condensed Consolidated Statements of Operations and other receivables (within "Prepaid and other assets") on the Company's Condensed Consolidated Balance Sheets. On March 30, 2023, the Company received the ERC refund of $1,975,000 including approximately $60,000 in interest, (recorded within "Interest Income" on the Company's Condensed Consolidated Statements of Operations) totaling approximately $2,035,000.

14. Executive Compensation

Management Incentive Plans ("MIPs")

On January 19, 2023, the Company's Board and the Compensation and Stock Option Committee (the "Compensation Committee") approved individual MIP for the calendar year 2023 for each of the Company's executive officers. Each MIP is effective January 1, 2023 and applicable for year 2023. 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 2023. Assuming each target objective is achieved under the same performance threshold range under each MIP, the total potential target performance compensation payable ranges from 25% to 150% of the 2023 base salary for the CEO ($93,717 to $562,305), 25% to 100% of the 2023 base salary for the CFO ($76,193 to $304,772), 25% to 100% of the 2023 base salary for the EVP of Strategic Initiatives ($63,495 to $253,980), 25% to 100% of the 2023 base salary for the EVP of Nuclear and Technical Services ($76,193 to $304,772) and 25% to 100% ($65,308 to $261,233) of the 2023 base salary for the EVP of Waste Treatment Operations.

15. Subsequent Events

Management evaluated events occurring subsequent to June 30, 2023 through August 3, 2023, the date these condensed consolidated financial statements were available for issuance, and other than as noted below determined that no material recognizable subsequent events occurred.

Credit Facility

On July 31, 2023, the Company entered into an amendment (the "July 31, 2023 Amendment") with PNC to its Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated May 8, 2020, as amended (the "Amended Loan Agreement"). The July 31, 2023 Amendment provided the following, among other things:

- extended the maturity date of the Amended Loan Agreement to May 15, 2027, from May 15, 2024;
- an additional term loan ("Additional Term Loan") to the Company in the amount of $2,500,000, requiring monthly installments of approximately $41,667. Payment of annual rate of interest due on the Additional Term Loan is at prime plus 3.00% or SOFR (as defined in the Amended Loan Agreement) plus 4.00% plus an SOFR Adjustment applicable for an interest period selected by the Company. A SOFR Adjustment rate of 0.10% and 0.15% is applicable for a one-month interest period and three-month period, respectively, that may be selected by the Company;
- removed the minimum Tangible Adjusted Net Worth (as defined in the agreement) covenant requirement;
- placed an indefinite reduction in borrowing availability of $750,000; and
- allows for up to $2,500,000 in capital expenditure made in fiscal year 2023 and thereafter to be treated as financed capital expenditure in the Company's quarterly fixed charge coverage ratio covenant calculation requirement.

At maturity of the Amended Loan Agreement, any unpaid principal balance plus interest, if any, will become due.

Pursuant to the July 31, 2023 Amendment, the Company has agreed to pay PNC 1.0% of the total financing under the Amended Loan Agreement in the event the Company pays off its obligations on or before July 31, 2024, and 0.5% of the total financing if the Company pays off its obligations after July 31, 2024, to and including July 31, 2025. No early termination fee shall apply if the Company pays off its obligations under the Amended Loan Agreement after July 31, 2025.

In connection with the July 31, 2023 Amendment, the Company paid its lender a fee of $100,000.

All other terms of the Amended Loan Agreement remain principally unchanged.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Forward-looking Statements

Certain statements contained within this report may be deemed "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (collectively, the "Private Securities Litigation Reform Act of 1995"). All statements in this 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;
- reductions in the level of government funding in future years;
- reducing operating costs and non-essential expenditures;
- ability to meet loan agreement quarterly covenant requirements;
- cash flow requirements;
- Canadian receivable;
- sufficient liquidity to fund operations for the next twelve months;
- future results of operations and liquidity;
- effect of macroeconomic concerns, such as inflation and higher interest rates, on our business;
- manner in which the applicable government will be required to spend funding to remediate various sites;
- finalization of partnership agreement with Springfields Fuels Limited;
- continued increases in operating costs;
- fund capital expenditures from cash from operations and/or financing;
- steady improvement in waste shipments and work under projects during balance of 2023;
- fund remediation expenditures for sites from funds generated internally;
- compliance with environmental regulations;
- potential effect of being a PRP;
- potential sites for violations of environmental laws and remediation of our facilities; and
- increase our sales price.

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;
- contract bids, including international markets;
- material reduction in revenues;
- 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;
- public not accepting our new technology;
- 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 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 requirement 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;
- 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;
- impact of COVID-19 and economic uncertainties;
- new governmental regulations; and
- risk factors and other factors set forth in "Special Note Regarding Forward-Looking Statements" contained in the Company's 2022 Form 10-K and the "Forward-Looking Statements" contained in the Management's Discussion and Analysis of Financial Condition and Results of Operations" ("MD&A") for the first quarter 2023 10-Q and this second quarter 2023 10-Q.

Overview

Revenue increased by $5,577,000 or 28.7% to $25,032,000 for the three months ended June 30, 2023, from $19,455,000 for the corresponding period of 2022. We saw increases in both segments where Treatment Segment revenue increased by $4,441,000 to $12,834,000 or 52.9% from $8,393,000 and Services Segment revenue increased by $1,136,000 or 10.3% to $12,198,000 from $11,062,000. The increase in revenue in the Treatment Segment was primarily due to overall higher waste volume which was offset by lower averaged price waste due to revenue mix. The increase in revenue in the Services Segment was due to continuing full operational status on certain projects which had been curtailed/delayed primarily in the early part of 2022 due, in part, from the lingering effects of the COVID-19 pandemic. As previously disclosed, the lingering effects of COVID-19 impacted our revenue in 2022 as work under projects and waste shipments continued to be delayed by certain customers into the first half of 2022. Additionally, in 2022, procurement and planning on behalf of our government clients continued to be delayed which did not ease until the second half of 2022. Total gross profit for the second quarter of 2023 increased $1,632,000 or 56.6% due to increased revenue generated in both segments. Selling, General, and Administrative ("SG&A") expenses decreased $133,000 or 3.6% for the three months ended June 30, 2023 as compared to the corresponding period of 2022.

Revenue increased by $9,769,000 or 27.6% to $45,139,000 for the six months ended June 30, 2023, from $35,370,000 for the corresponding period of 2022. As with the second quarter, we saw increases in both segments where Treatment Segment revenue increased by $6,556,000 to $22,428,000 or 41.3% from $15,872,000 and Services Segment revenue increased by $3,213,000 or 16.5% to $22,711,000 from $19,498,000. The increases in revenue in both the Treatment and Services Segments were due to the same reasons as discussed above for the second quarter. Total gross profit for the six months ended 2023 increased $3,005,000 or 66.5% due to increased revenue generated in both segments. SG&A expenses decreased $70,000 or 1.0% for the six months ended June 30, 2023, as compared to the corresponding period of 2022.

We expect to see continued steady improvements in waste receipts and increase in project work from existing contracts, contracts won in the first half of 2023, and bids submitted in both segments that are awaiting awards. We expect this positive trend to continue during the balance of 2023.

Business Environment

Our Treatment and Services Segments' business continues to be heavily dependent on services that we provide to governmental clients, primarily as subcontractors for others who are prime 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, the economic conditions and the manner in which the applicable government will be required to spend funding to remediate various sites. In addition, our governmental contracts and subcontracts relating to activities at governmental sites in the United States are generally subject to termination for convenience at any time at the government's option, and our governmental contracts/TOAs with the Canadian government authorities also allow the authorities to terminate the contract/task orders at any time for convenience. Work under all of our contracts/TOAs with Canadian government authorities has substantially been completed. A significant account receivable due to PF Canada is subject to continuing negotiations. See "Known Trends and Uncertainties – Perma-Fix Canada, Inc. ("PF Canada")" within this MD&A for additional discussion as to a terminated Canadian TOA. 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.

We continue to aggressively bid on various contracts, including potential contracts within the international markets.

Results of Operations

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

Summary – Three and Six Months Ended June 30, 2023 and 2022

	Three Months Ended June 30,				Six Months Ended June 30,			
Consolidated (amounts in thousands)	2023	%	2022	%	2023	%	2022	%
Net revenues	$ 25,032	100.0	$ 19,455	100.0	$ 45,139	100.0	$ 35,370	100.0
Cost of goods sold	20,516	82.0	16,571	85.2	37,614	83.3	30,850	87.2
Gross profit	4,516	18.0	2,884	14.8	7,525	16.7	4,520	12.8
Selling, general and administrative	3,551	14.2	3,684	18.9	7,036	15.6	7,106	20.1
Research and development	121	.4	80	.4	220	.5	176	.5
Loss on disposal of property and equipment	—	—	—	—	—	—	1	—
Income (loss) from operations	844	3.4	(880)	(4.5)	269	.6	(2,763)	(7.8)
Interest income	172	.7	29	—	298	.7	40	.1
Interest expense	(47)	(.2)	(41)	(.2)	(100)	(.2)	(76)	(.2)
Interest expense-financing fees	(24)	(.1)	(15)	—	(44)	(.1)	(28)	(.1)
Other	6	—	(3)	—	7	—	(5)	—
Income (loss) from continuing operations before taxes	951	3.8	(910)	(4.7)	430	1.0	(2,832)	(8.0)
Income tax expense (benefit)	432	1.7	347	1.8	228	.5	(326)	(.9)
Income (loss) income from continuing operations	$ 519	2.1	$ (1,257)	(6.5)	$ 202	.5	$ (2,506)	(7.1)

Revenues

Consolidated revenues increased $5,577,000 for the three months ended June 30, 2023, compared to the three months ended June 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change	% Change
Treatment						
Government waste	$ 9,702	38.8	$ 5,755	29.6	$ 3,947	68.6
Hazardous/non-hazardous [(1)]	1,622	6.5	1,363	7.0	259	19.0
Other nuclear waste	1,510	6.0	1,275	6.5	235	18.4
Total	12,834	51.3	8,393	43.1	4,441	52.9
Services						
Nuclear services	11,840	47.3	10,679	54.9	1,161	10.9
Technical services	358	1.4	383	2.0	(25)	(6.5)
Total	12,198	48.7	11,062	56.9	1,136	10.3
Total	$ 25,032	100.0	$ 19,455	100.0	$ 5,577	28.7

[(1)] Includes wastes generated by government clients of $763,000 and $641,000 for the three months ended June 30, 2023, and the corresponding period of 2022, respectively.

Treatment Segment revenue increased by $4,441,000 or 52.9% for the three months ended June 30, 2023 over the same period in 2022. The overall increase was primarily due to higher waste volume offset by lower averaged price waste from revenue mix. As previously disclosed, starting in the latter part of the second quarter of 2022, our Treatment Segment began to see steady improvements in waste receipts from certain customers who had previously delayed waste shipments due, in part, from the lingering effects of COVID-19. Services Segment revenue increased by approximately $1,136,000 or 10.3%. The increase in revenue in the Services Segment was primarily due to continuing full operational status on certain projects which had been curtailed/delayed in the early part of 2022 due, in part, from the lingering effects of the COVID-19 pandemic. Our Services Segment revenues are project based; as such, the scope, duration, and completion of each project vary. As a result, our Services Segment revenues are subject to differences relating to timing and project value. Revenue from both of our Segments were also positively impacted from contracts won in the first half of 2023 as procurement and planning on behalf of our government clients continue to progress as the lingering effects of COVID-19 pandemic subsided.

Consolidated revenues increased $9,769,000 for the six months ended June 30, 2023, as compared to the six months ended June 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change	% Change
Treatment						
Government waste	$ 16,344	36.2	$ 11,192	31.6	$ 5,152	46.0
Hazardous/non-hazardous (1)	3,133	7.0	2,365	6.7	768	32.5
Other nuclear waste	2,951	6.5	2,315	6.6	636	27.5
Total	22,428	49.7	15,872	44.9	6,556	41.3
Services						
Nuclear services	21,922	48.6	18,960	53.6	2,962	15.6
Technical services	789	1.7	538	1.5	251	46.7
Total	22,711	50.3	19,498	55.1	3,213	16.5
Total	$ 45,139	100.0	$ 35,370	100.0	$ 9,769	27.6

(1) Includes wastes generated by government clients of $1,473,000 and $1,111,000 for the six months ended June 30, 2023, and the corresponding period of 2022, respectively.

Treatment Segment revenue increased by $6,556,000 or 41.3% for the six months ended June 30, 2023 over the same period in 2022. The overall increase was primarily due to higher waste volume offset by lower averaged price waste from revenue mix. As previously disclosed, starting in the latter part of the second quarter of 2022, our Treatment Segment began to see steady improvements in waste receipts from certain customers who had previously delayed waste shipments due, in part, from the lingering effects of COVID-19. Services Segment revenue increased by approximately $3,213,000 or 16.5%. The increase in revenue in the Services Segment was primarily due to achievement of full operational status on certain projects which had been curtailed/delayed in the early part of 2022 due, in part, from the lingering effects of the COVID-19 pandemic. Our Services Segment revenues are project based; as such, the scope, duration, and completion of each project vary. As a result, our Services Segment revenues are subject to differences relating to timing and project value. Revenue from both of our Segments were also positively impacted from contracts won in the first half of 2023 as procurement and planning on behalf of our government clients continue to progress as the lingering effects of COVID-19 pandemic subsided.

Cost of Goods Sold

Cost of goods sold increased $3,945,000 for the quarter ended June 30, 2023, as compared to the quarter ended June 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Treatment	$ 10,343	80.6	$ 6,830	81.4	$ 3,513
Services	10,173	83.4	9,741	88.1	432
Total	$ 20,516	82.0	$ 16,571	85.2	$ 3,945

Cost of goods sold for the Treatment Segment increased by approximately $3,513,000 or 51.4% primarily due to higher revenue. Treatment Segment's variable costs increased by approximately $2,459,000 primarily due to higher material and supplies, disposal, transportation, lab and outside services costs. Treatment Segment's overall fixed costs were higher by approximately $1,054,000 resulting from the following: regulatory expenses were higher by approximately $102,000; salaries and payroll related expenses were higher by approximately $522,000 due to higher headcount; depreciation expenses were higher by approximately $205,000 due to depreciation for asset retirement obligations ("ARO") in connection with our Oak Ridge Environmental Waste Operations Center ("EWOC") facility; maintenance costs were higher by approximately $191,000; and travel expenses were higher by approximately $34,000. Services Segment cost of goods sold increased $432,000 or 4.4% primarily due to higher revenue. The overall increase in cost of goods sold was primarily due to the following: higher salaries/payroll related, outside services, and travel costs totaling approximately $1,019,000; lower material and supplies, lab, and disposal expenses totaling approximately $452,000; and lower general expenses by approximately $135,000 in various categories. Included within cost of goods sold is depreciation and amortization expense of $672,000 and $464,000 for the three months ended June 30, 2023, and 2022, respectively.

Cost of goods sold increased $6,764,000 for the six months ended June 30, 2023, as compared to the six months ended June 30, 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Treatment	$ 18,685	83.3	$ 13,671	86.1	$ 5,014
Services	18,929	83.3	17,179	88.1	1,750
Total	$ 37,614	83.3	$ 30,850	87.2	$ 6,764

Cost of goods sold for the Treatment Segment increased by approximately $5,014,000 or 36.7%. Treatment Segment's variable costs increased by approximately $3,274,000 primarily due to higher material and supplies, disposal, transportation, lab and outside services costs. Treatment Segment's overall fixed costs were higher by approximately $1,740,000 resulting from the following: salaries and payroll related expenses were higher by approximately $622,000 due to higher headcount; general expenses were higher by approximately $263,000 primarily due to higher utility costs; depreciation expenses were higher by approximately $403,000 due to depreciation for ARO in connection with our EWOC facility; maintenance costs were higher by approximately $255,000; regulatory expenses were higher by approximately $165,000; and travel expenses were higher by approximately $32,000. Services Segment cost of goods sold increased $1,750,000 or 10.2% primarily due to higher revenue. The overall increase in cost of goods sold was primarily due to the following: higher salaries/payroll related, outside services, and travel costs totaling approximately $2,212,000; higher depreciation expenses of $92,000; lower material and supplies, lab, and disposal expenses totaling approximately $435,000; and lower general expenses by approximately $119,000 in various categories. Included within cost of goods sold is depreciation and amortization expense of $1,398,000 and $902,000 for the six months ended June 30, 2023, and 2022, respectively.

Gross Profit

Gross profit for the quarter ended June 30, 2023 increased $1,632,000 over the same period in 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Treatment	$ 2,491	19.4	$ 1,563	18.6	$ 928
Services	2,025	16.6	1,321	11.9	704
Total	$ 4,516	18.0	$ 2,884	14.8	$ 1,632

Treatment Segment gross profit increased by $928,000 or approximately 59.4% and gross margin increased to 19.4% from 18.6% primarily due to higher revenue from higher waste volume. Services Segment gross profit increased by $704,000 or 53.3% and gross margin increased to 16.6% from 11.9% primarily due to higher revenue and 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.

Gross profit for the six months ended June 30, 2023 increased $3,005,000 over 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Treatment	$ 3,743	16.7	$ 2,201	13.9	$ 1,542
Services	3,782	16.7	2,319	11.9	1,463
Total	$ 7,525	16.7	$ 4,520	12.8	$ 3,005

Treatment Segment gross profit increased by $1,542,000 or 70.1% and gross margin increased to 16.7% from 13.9% primarily due to higher revenue from higher waste volume. Services Segment gross profit increased by $1,463,000 or 63.1% and gross margin increased from 11.9% to 16.7% primarily due to higher revenue and more 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 $133,000 for the three months ended June 30, 2023, as compared to the corresponding period for 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Administrative	$ 1,695	—	$ 1,764	—	$ (69)
Treatment	1,027	8.0	1,119	13.3	(92)
Services	829	6.8	801	7.2	28
Total	$ 3,551	14.2	$ 3,684	18.9	$ (133)

Administrative SG&A expenses were lower primarily due to lower outside services expenses by approximately $31,000 resulting from fewer audit/consulting matters; lower salaries and payroll related expense of approximately $15,000; lower travel expense by approximately $8,000; and lower general expense of approximately $15,000 in various categories. Treatment Segment SG&A expenses were lower primarily due to the following: outside services expenses were lower by approximately $59,000 resulting from fewer consulting matters; salaries and payroll related expenses were lower by approximately $62,000; travel expenses were lower by approximately $13,000; general expense were higher by approximately $21,000 primarily due to higher tradeshow expenses; and credit losses on accounts receivable were higher by approximately $21,000. The small increase in Services Segment SG&A was primarily due to higher payroll related and travel expenses totaling approximately $39,000 which was offset by lower outside services and general expenses totaling approximately $11,000. Included in SG&A expenses is depreciation and amortization expense of $20,000 and $16,000 for the three months ended June 30, 2023, and 2022, respectively.

SG&A expenses decreased $70,000 for the six months ended June 30, 2023, as compared to the corresponding period for 2022, as follows:

(In thousands)	2023	% Revenue	2022	% Revenue	Change
Administrative	$ 3,365	—	$ 3,451	—	$ (86)
Treatment	2,033	9.1	2,159	13.6	(126)
Services	1,638	7.2	1,496	7.7	142
Total	$ 7,036	15.6	$ 7,106	20.1	$ (70)

Administrative SG&A expenses were lower primarily due to the following: overall outside services expenses were lower by approximately $102,000 primarily due to fewer audit/consulting matters; travel expenses were lower by approximately $7,000; general expenses were lower by approximately $13,000 in various categories; and salaries and payroll related expenses were higher by approximately $36,000. Treatment Segment SG&A expenses were lower primarily due to the following: outside services expenses were lower by approximately $63,000 resulting from fewer consulting matters; salaries and payroll related expenses were lower by approximately $124,000; travel expenses were lower by approximately $12,000; general expense were higher by approximately $47,000 primarily due to higher tradeshow expenses; and credit losses on accounts receivable were higher by approximately $26,000. The increase in SG&A expenses within our Services Segment was primarily due to the following: salaries/payroll related were higher by approximately $86,000 due to more administrative support functions resulting from higher revenue; travel expenses were higher by approximately $17,000; credit losses on accounts receivable were higher by approximately $48,000 as in the first quarter of 2022, our Services Segment collected on certain accounts that were previously deemed to be uncollectible; and general expenses were lower by approximately $9,000 in various categories. Included in SG&A expenses is depreciation and amortization expense of $41,000 and $34,000 for the six months ended June 30, 2023 and 2022, respectively.

Interest Income

Interest income increased by approximately $143,000 and $258,000 for the three and six months ended June 30, 2023, respectively, as compared to the corresponding period of 2022 primarily due to higher interest earned from lower finite risk sinking fund. Interest income for the six months ended June 30, 2023 also included approximately $60,000 received in March of 2023 under the Employee Retention Credit ("ERC") program under the CARES Act.

Interest Expense

Interest expense increased by approximately $6,000 and $24,000 for the three and six months ended June 30, 2023, respectively, as compared to the corresponding period of 2022 primarily due interest incurred from advances made in May of 2022 from the capital line under our credit facility. Interest was also higher in both periods from higher interest rate on our term loan which was offset by the declining term loan balance.

Income Taxes

We had income tax expenses of $432,000 and $347,000 for continuing operations for the three months ended June 30, 2023 and 2022, respectively, and income tax expense and income tax benefit of $228,000 and ($326,000) for continuing operations for the six months ended June 30, 2023 and 2022, respectively. Our effective tax rates were approximately 45.4% and (38.1%) for the three months ended June 30, 2023 and June 30, 2022, respectively, and 53.0% and 11.5% for the six months ended June 30, 2023 and June 30, 2022, respectively. Our effective tax rates for the three and six months ended June 30, 2023 were impacted by non-deductible expenses and state taxes. The tax expense for the three months ended June 30, 2023 were primarily driven by the change in forecasted income for the year which resulted in an increase in the estimated annual effective tax rate and an increase in the year to date tax expense for the six months ended June 30, 2023.

Liquidity and Capital Resources

Our cash flow requirements during the six months ended June 30, 2023, were primarily financed by our operations, cash on hand (which included the ERC, along with interest, that we received in March 2023), and credit facility availability. 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, and planned capital expenditures. We plan to fund these requirements from our operations, credit facility availability, our new term loan, and cash on hand (See "Financing Activities" below for a discussion of an amendment to our credit facility that we entered into with our lender on July 31, 2023, which extended the maturity date of our credit facility and provided a new term loan to us in the amount of $2,500,000, among other things). 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, when necessary. At June 30, 2023, we had borrowing availability under our revolving credit facility of approximately $10,368,000 which included our cash and was based on a percentage of eligible receivables and subject to certain reserves. Our borrowing availability of $10,368,000 at June 30, 2023, included a requirement from our lender that we maintain a minimum of $3,000,000 in borrowing availability under our revolving credit until the minimum FCCR requirement for the quarter ended June 30, 2023, has been met and certified to our lender. As a result of the new term loan in the amount of $2,500,000, our borrowing availability was increased by the amount on July 31, 2023, subject to eligible receivables and certain reserves. We believe that our cash flows from operations, our available liquidity from our credit facility, and our cash on hand should be sufficient to fund our operations for the next twelve months,

The following table reflects the cash flow activities during the first six months of 2023:

(In thousands)		
Cash provided by operating activities of continuing operations	$	4,762
Cash used in operating activities of discontinued operations		(336)
Cash used in investing activities of continuing operations		(1,047)
Cash used in financing activities of continuing operations		(290)
Effect of exchange rate changes in cash		5
Increase in cash and finite risk sinking fund (restricted cash)	$	3,094

At June 30, 2023, we were in a positive cash position with no revolving credit balance. At June 30, 2023, we had cash on hand of approximately $4,750,000. As a result of an amendment dated July 31, 2023, that we entered into with our lender which provided a new term loan to us of $2,500,000, our cash was increased by the amount of the new term loan on the date of the amendment (see "Financing Activities" below for a discussion of this amendment).

Operating Activities

Accounts receivable, net of credit losses, totaled $11,930,000 at June 30, 2023, an increase of $2,566,000 from the December 31, 2022 balance of $9,364,000. The increase was attributed to increased revenue, timing of invoicing, and our accounts receivable collection. Our contracts with our customers are subject to various payment terms and conditions. Our accounts receivable at June 30, 2023 include invoices for work performed for a certain Canadian project that remain outstanding and subject to negotiations (See discussion under "Known Trends and Uncertainties – Perma-Fix Canada, Inc. ("PF Canada") for a discussion as to this certain account receivable.

Prepaid and other assets totaled $2,735,000 at June 30, 2023, a decrease of $2,670,000 from the December 31, 2022 balance of $5,405,000. The decrease was primarily due to the receipt of the Employee Retention Credit ("ERC") of $1,975,000 in March 2023 that we applied for during the third quarter of 2022.

Accounts payable, totaled $13,896,000 at June 30, 2023, an increase of $3,571,000 from the December 31, 2022 balance of $10,325,000. Our accounts payable are impacted by the timing of payments as we are continually managing payment terms with our vendors to maximize our cash position throughout all segments.

We had working capital of $1,704,000 (which included working capital of our discontinued operations) at June 30, 2023, as compared to working capital of $818,000 at December 31, 2022. The increase in our working capital was primarily due to increases in our cash and accounts and unbilled receivables from improved operations. The overall increase was offset by the increase in our accounts payable.

Investing Activities

For the six months ended June 30, 2023, our purchases of capital equipment totaled approximately $1,204,000, of which $157,000 was subject to financing, with the remaining funded from cash from operations and our credit facility. We have budgeted approximately $2,000,000 for 2023 capital expenditures primarily for our Treatment and Services Segments to maintain operations and regulatory compliance requirements and support revenue growth. Certain of these budgeted projects may either be delayed until later years or deferred altogether. We plan to fund our capital expenditures from cash from operations, our new term loan, and/or financing (see "Financing Activities" for a discussion of an amendment to our credit facility which provided for a new term loan to us dated July 31, 2023). The initiation and timing of projects are also determined by financing alternatives or funds available for such capital projects.

During March 2022, we signed a joint venture term sheet addressing plans to partner with Springfields Fuels Limited ("SFL"), an affiliate of Westinghouse Electric Company LLC, to develop and manage a nuclear waste-materials treatment facility (the "Facility") in the United Kingdom. The Facility is for the purpose of expanding the partners' waste treatment capabilities for the European nuclear market. It is expected that upon finalization of a partnership agreement, SFL will have an ownership interest of fifty-five (55) percent and our interest will be forty-five (45) percent. The finalization, form and capitalization of this unpopulated partnership is subject to numerous conditions, including but not limited to, winning a certain contract, completion and execution of a definitive agreement and facility design, granting of required regulatory, lender or permitting approvals and updated cost and profitability analysis based on current and forecast future economic conditions. Upon finalization of this venture, we will be required to make an investment in this venture. The amount of our investment, the period of which it is to be made and the method of funding are to be determined.

Financing Activities

We entered into a Second Amended and Restated Revolving Credit, Term Loan and Security Agreement, dated May 8, 2020 ("Loan Agreement"), with PNC National Association ("PNC"), acting as agent and lender. The Loan Agreement, as amended, provides us with the following credit facility with a maturity date of May 15, 2024 (see below for a discussion of an amendment that we entered into with our lender on July 31, 2023, which extended the maturity date to May 15, 2027 and provided a new term loan of $2,500,000 to us, among other things below): (a) up to $12,500,000 revolving credit ("revolving credit"). The maximum that we can borrow under the revolving credit is based on a percentage of eligible receivables (as defined) at any one time reduced by outstanding standby letters of credit and borrowing reductions that our lender may impose from time to time; (b) a term loan ("term loan") of approximately $1,742,000, requiring monthly installments of $35,547; and (c) a capital expenditure line ("capital loan") of up to $1,000,000 with advances on the line, subject to certain limitations, permitted for up to twelve months starting May 4, 2021 (the "Borrowing Period"). Only interest was payable on advances during the Borrowing Period. Amount advanced under the capital line at the end of the Borrowing Period totaled approximately $524,000 which requires monthly installments in principal of approximately $8,700 plus interest, starting June 1, 2022. At June 30, 2023, balance on the capital line was approximately $410,000.

On March 21, 2023, we entered into an amendment to our Loan Agreement, as amended, with our lender which provides, among other things, the following:

- removed the FCCR testing requirement for the fourth quarter of 2022 and removes the FCCR testing requirement the first quarter of 2023;
- reduced the maximum revolving credit line under the credit facility from $18,000,000 to $12,500,000;
- reinstates the quarterly FCCR testing requirement starting in the second quarter of 2023 using a trailing twelve-month period (with no change to the minimum 1.15:1 ratio requirement for each quarter); and
- requires maintenance of a minimum of $3,000,000 in borrowing availability under the revolving credit until the minimum FCCR requirement for the quarter ended June 30, 2023 has been met and certified to the lender.

In connection with the amendment, we paid our lender a fee of $25,000 which is being amortized over the remaining term of the Loan Agreement, as amended, as interest expense-financing fees.

Pursuant to the Loan Agreement, as amended, payment of annual rate of interest due on the revolving credit is at prime (8.25% at June 30, 2023) plus 2% or SOFR (as defined in the Loan Agreement, as amended) plus 3.00% plus an SOFR Adjustment applicable for an interest period selected by us and payment of annual rate of interest due on the term loan and the capital expenditure line is at prime plus 2.50% or Term SOFR Rate plus 3.50% plus an SOFR Adjustment applicable for an interest period selected by us. A 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 us.

On July 31, 2023, we entered into an amendment (the "July 31, 2023 Amendment") with PNC to our Loan Agreement, as amended. The July 31, 2023 Amendment provided the following, among other things:

- extended the maturity date of our Loan Agreement, as amended, to May 15, 2027, from May 15, 2024;
- an additional term loan ("Additional Term Loan") to us in the amount of $2,500,000, requiring monthly installments of approximately $41,667. Payment of annual rate of interest due on the Additional Term Loan is at prime plus 3.00% or SOFR plus 4.00% plus an SOFR Adjustment applicable for an interest period selected by the Company. A SOFR Adjustment rate of 0.10% and 0.15% is applicable for a one-month interest period and three-month period, respectively, that may be selected by us;
- removed the minimum Tangible Adjusted Net Worth (as defined in the agreement) covenant requirement;
- placed an indefinite reduction in borrowing availability of $750,000; and
- allows for up to $2,500,000 in capital expenditure made in fiscal year 2023 and thereafter to be treated as financed capital expenditure in our quarterly FCCR covenant calculation requirement.

Pursuant to the July 31, 2023 Amendment, we agreed to pay PNC 1.0% of the total financing under our Loan Agreement, as amended, in the event we pay off our obligations on or before July 31, 2024, and 0.5% of the total financing if we pay off our obligations after July 31, 2024, to and including July 31, 2025. No early termination fee shall apply if we pay off our obligations under our Loan Agreement, as amended, after July 31, 2025.

In connection with the July 31, 2023 Amendment, we paid our lender a fee of $100,000.

All other terms of our Loan Agreement, as amended, remain principally unchanged.

Our credit facility under our 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. We were not required to perform testing of the FCCR requirement in the first quarter of 2023 pursuant to the March 21, 2023 amendment as discussed above, otherwise, we met all of our other financial covenant requirements. We met our financial covenant requirements for the second quarter of 2023. We expect to meet our quarterly financial covenant requirements for the next twelve months under our Loan Agreement, as amended.

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. At June 30, 2023, the total amount of standby letters of credit outstanding totaled approximately $3,200,000 and the total amount of bonds outstanding totaled approximately $31,870,000. We also provide closure and post-closure requirements through a financial assurance policy for certain of our Treatment Segment facilities through AIG. At June 30, 2023, the closure and post-closure requirements for these facilities were approximately $22,461,000.

Critical Accounting Policies and Estimates

There were no significant changes in our accounting policies or critical accounting estimates that are discussed in our Annual Report on Form 10-K for the year ended December 31, 2022.

Known Trends and Uncertainties

Significant Customers. Our Treatment and Services Segments have significant relationships with the U.S governmental authorities through contracts entered into indirectly as subcontractors for others who are prime contractors or directly as the prime contractor to government authorities. We also had significant relationships with Canadian government authorities primarily through TOAs entered into with Canadian government authorities. Project work under all TOAs with Canadian government authorities has substantially been completed. The contracts that we are a party to with others as subcontractors to the U.S federal government or directly with the U.S federal government generally provide that the government may terminate the contract at any time for convenience at the government's option. The contracts/TOAs that we are/were a party to with Canadian governmental authorities also generally provide that the government authorities may terminate the contracts/TOAs at any time for any reason for convenience. Our inability to continue under existing contracts that we have with the U.S 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.

We performed services relating to waste generated by government clients (domestic and foreign (primarily Canadian)), either directly as a prime contractor or indirectly for others as a subcontractor to government entities, representing approximately $21,899,000 or 87.5% and $39,146,000 or 86.7% of our total revenues generated during the three and six months ended June 30, 2023, respectively, as compared to $17,053,000 or 87.7% and $31,211,000 or 88.2% of our total revenues generated during the three and six months ended June 30, 2022.

Perma-Fix Canada, Inc. ("PF Canada")

During the fourth quarter of 2021, PF Canada received a Notice of Termination ("NOT") from Canadian Nuclear Laboratories, LTD. ("CNL") on a 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. As of June 30, 2023, PF Canada has approximately $1,895,000 in unpaid receivables due from CNL as a result of work performed under the TOA. Additionally, CNL has approximately $1,084,000 in contractual holdback under the TOA that is payable to PF Canada. CNL also established a bond securing approximately $1,900,000 (CAD) to cover certain issues raised in connection with the TOA. Under the TOA, CNL may be entitled to set off certain costs and expenses incurred by CNL in connection with the termination of the TOA, including the bond as discussed above, against amounts owed to PF Canada for work performed by PF Canada or its subcontractors. PF Canada continues to be in discussions with CNL to finalize the amounts due to PF Canada under the TOA and continues to believe these amounts are due and payable to PF Canada.

Potential Partnership with Springfields Fuels Limited. As discussed above, we have signed a term sheet addressing plans to partner with Springfields Fuels Limited, an affiliate of Westinghouse Electric Company LLC, to develop and manage a nuclear waste-materials treatment facility in the United Kingdom. See "Liquidity and Capital Resources – Investing Activities" of this MD&A for a discussion of this transaction.

Inflation and Supply Chain. Our financial results have been negatively impacted from the effects of inflation, supply chain issues, labor shortage, and higher interest rates from the countries' macroeconomic concerns due, in part, from the impact of COVID-19. Continued increases in any of our operating costs, including utility, transportation, wage rates, and supply costs, may further increase our overall cost of goods sold or operating expenses. Additionally, as previously disclosed, labor shortages and supply chain issues had previously impacted production at certain of our facilities which impacted our financial results. We may attempt to increase our sales prices in order to maintain satisfactory margin from the effect of these factors is discussed above; 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.

Environmental Contingencies

We are engaged in the waste management services segment of the pollution control industry. As a participant in the on-site treatment, storage and disposal market and the off-site treatment and services market, we are subject to rigorous federal, state and local regulations. These regulations mandate strict compliance and therefore are a cost and concern to us. Because of their integral role in providing quality environmental services, we make every reasonable attempt to maintain complete compliance with these regulations; however, even with a diligent commitment, we, along with many of our competitors, may be required to pay fines for violations or investigate and potentially remediate our waste management facilities.

We routinely use third party disposal companies, who ultimately destroy, or secure landfill residual materials generated at our facilities or at a client's site. In the past, numerous third-party disposal sites have improperly managed waste and consequently require remedial action; consequently, any party utilizing these sites may be liable for some or all of the remedial costs. Despite our aggressive compliance and auditing procedures for disposal of wastes, we could further be notified, in the future, that we are a potentially responsible party ("PRP") at a remedial action site, which could have a material adverse effect.

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. We expect to fund the expenses to remediate these sites from funds generated from operations. At June 30, 2023, we had total accrued environmental remediation liabilities of $861,000 with no change from the December 31, 2022 balance. At June 30, 2023, $112,000 of the total accrued environmental liabilities was recorded as current.

Item 3. Quantitative and Qualitative Disclosures about Market Risks

Not required for smaller reporting companies.

Item 4. Controls and Procedures

(a) *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 is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission and that such information is accumulated and communicated to our management. As of the end of the period covered by this report, we carried out an evaluation with the participation of our Principal Executive Officer and Principal Financial Officer. Based on this recent assessment, our Principal Executive Officer and Principal Financial Officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended) were effective as of June 30, 2023.

(b) *Changes in internal control over financial reporting.*

There was no other change 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 has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

There are no material legal proceedings pending against us and/or our subsidiaries not previously reported by us in Item 3 of our Form 10-K for the year ended December 31, 2022. Additionally, there has been no other material change in legal proceedings previously disclosed by us in our Form 10-K for the year ended December 31, 2022.

Item 1A. Risk Factors

There has been no other material change from the risk factors previously disclosed in our Form 10-K for the year ended December 31, 2022, and our Form 10-Q for the quarter ended March 31, 2023.

Item 6. Exhibits

(a) **Exhibits**

4.1	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.
4.2	Term Note dated July 31, 2023, between Perma-Fix Environmental Services, Inc. and PNC Bank, National Association.
31.1	Certification by Mark Duff, Chief Executive Officer of the Company pursuant to Rule 13a-14(a) or 15d-14(a).
31.2	Certification by Ben Naccarato, Chief Financial Officer of the Company pursuant to Rule 13a-14(a) or 15d-14(a).
32.1	Certification by Mark Duff, Chief Executive Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.
32.2	Certification by Ben Naccarato, Chief Financial Officer of the Company furnished pursuant to 18 U.S.C. Section 1350.
101.INS	Inline XBRL Instance Document*
101.SCH	Inline XBRL Taxonomy Extension Schema Document*
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	Inline XBRL Taxonomy Extension Labels Linkbase Document*
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document*
104	Cover Page Interactive Data File (formatted as an Inline XBRL document and included in Exhibit 101).

* 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.

SIGNATURES

Pursuant to the requirements of the Securities and Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, hereunto duly authorized.

	PERMA-FIX ENVIRONMENTAL SERVICES
Date: August 3, 2023	By: */s/ Mark Duff*
	Mark Duff President and Chief (Principal) Executive Officer
Date: August 3, 2023	By: */s/ Ben Naccarato*
	Ben Naccarato Chief (Principal) Financial Officer

Exhibit 4.1

Execution Version

SEVENTH AMENDMENT TO SECOND AMENDED AND RESTATED
REVOLVING CREDIT, TERM LOAN AND SECURITY AGREEMENT

THIS SEVENTH AMENDMENT TO SECOND AMENDED AND RESTATED REVOLVING CREDIT, TERM LOAN AND SECURITY AGREEMENT, dated as of July 31, 2023 (this "Amendment"), relating to the Credit Agreement referenced below, is by and among PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation (the "Borrower"), and PNC Bank, National Association, a national banking association, as agent (in such capacity, the "Agent") and the lender (in such capacity, the "Lender"). Terms used herein but not otherwise defined herein shall have the meanings provided to such terms in the Credit Agreement.

W I T N E S S E T H

WHEREAS, a credit facility has been extended to the Borrower pursuant to the terms of that certain Second Amended and Restated Revolving Credit, Term Loan and Security Agreement dated as of May 8, 2020 (as amended and modified from time to time, the "Credit Agreement") among the Borrower, the Lender identified therein, and PNC Bank, National Association, as agent and Lender;

WHEREAS, the Borrower has requested certain modifications to the Credit Agreement; and

WHEREAS, the Lender has agreed to the requested modifications on the terms and conditions set forth herein;

NOW, THEREFORE, IN CONSIDERATION of the premises and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Amendments. The Credit Agreement is amended as set forth below.

(a) The definitions of "Advances", Applicable Margin", "Fixed Charge Coverage Ratio", "Maximum Loan Amount", "Note", "Revolving Advances", "Senior Debt Payments", "Term Loan", "Term Note" and "Undrawn Availability" appearing in Section 1.2 are hereby amended to read as follows:

"Advances" shall mean and include the Revolving Advances, Letter of Credit, as well as the Term Loans and the Equipment Loans.

"Applicable Margin" for (i) Revolving Advances that are Term SOFR Rate Loans, 3.00% plus the applicable SOFR Adjustment, (ii) Revolving Advances that are Domestic Rate Loans, 2.00%, (iii) Term Loan 1 and Equipment Loans that are Term SOFR Rate Loans, 3.50% plus the applicable SOFR Adjustment, (iv) Term Loan 1 and Equipment Loans that are Domestic Rate Loans, 2.50% (v) Term Loan 2 Loan that is a Term SOFR Rate Loan, 4.00% plus the applicable SOFR Adjustment and (vi) Term Loan 2 Loan that is a Domestic Rate Loan, 3.00%.

"Fixed Charge Coverage Ratio" shall mean and include, with respect to any fiscal period, the ratio of (A) EBITDA for such period minus Unfinanced Capital Expenditures made during such period minus cash taxes with respect to income paid by Borrower during such period minus any cash dividends or distributions made by Borrower during such period to (B) all Senior Debt Payments during such period. For purposes of calculating the Fixed Charge Coverage Ratio (i) any prepayments on the Subordinated Loan following Borrower's receipt of the Release of Restricted Insurance Closure Fund shall be excluded from Senior Debt Payments provided Undrawn Availability is greater than $3,000,000 after making such prepayment; (ii) any payments made by Borrower on its PPP loan during fiscal year 2020 only shall be excluded; (iii) up to $1,000,000 in Capital Expenditures incurred during fiscal year 2021 in connection with Borrower's Diversified Scientific Services unit at its Kingston, Tennessee facility shall be deemed to be financed Capital Expenditures and (iv) up to $2,500,000 in Capital Expenditures incurred during fiscal year 2023 or thereafter in connection with proceeds from Term Loan 2 shall be deemed to be financed Capital Expenditures.

"Maximum Loan Amount" shall mean $15,792,607.32 less repayments of the Term Loans and the Equipment Loans.

"Note" shall mean collectively, the Term Notes, the Equipment Note and the Revolving Credit Note.

"Revolving Advances" shall mean Advances made other than Letters of Credit, the Term Loans and the Equipment Loans.

"Senior Debt Payments" shall mean and include all cash actually expended by any Credit Party to make (a) interest payments on any Advances hereunder, plus (b) scheduled principal payments on the Term Loans and the Equipment Loans, plus (c) payments for all fees, commissions and charges set forth herein and with respect to any Advances, plus (d) capitalized lease payments, plus (e) payments with respect to any other Indebtedness for borrowed money, including Purchase Money Indebtedness.

"Term Loans" shall mean collectively or individually, as the context requires, the Advances made pursuant to Section 2.4 hereof.

"Term Notes" shall mean collectively or individually, as the context requires, the promissory notes described in Section 2.4 hereof.

"Undrawn Availability" at a particular date shall mean an amount equal to (a) the lesser of (i) the Formula Amount or (ii) the Maximum Revolving Advance Amount, minus (b) the sum of (i) the outstanding amount of Advances (other than the Term Loans and the Equipment Loans) plus (ii) all amounts due and owing to any Credit Party's trade creditors which are outstanding more than sixty (60) days after their due date, plus (iii) fees and expenses for which any Credit Party is liable but which have not been paid or charged to Borrower's Account.

(b) The following new definitions are hereby added to Section 1.2 in the appropriate alphabetical order to read as follows:

"Availability Block" shall mean $750,000.

"Seventh Amendment Effective Date" shall mean July 31, 2023.

"<u>Term Loan 1</u>" shall have the meaning set forth in Section 2.4 hereof.

"<u>Term Loan 2</u>" shall have the meaning set forth in Section 2.4 hereof.

(c) The definition of "Tangible Adjusted Net Worth" set forth in Section 1.2 shall be deleted in its entirety.

(d) Section 2.1(a) is amended to read as follows:

(a) <u>Amount of Revolving Advances</u>

Subject to the terms and conditions set forth in this Agreement including Section 2.1(b), each Lender, severally and not jointly, will make Revolving Advances to Borrower in aggregate amounts outstanding at any time equal to such Lender's Commitment Percentage of the lesser of (x) the Maximum Revolving Advance Amount less the aggregate Maximum Undrawn Amount of all outstanding Letters of Credit less the Availability Block or (y) an amount equal to the sum of:

(i) an amount equal to the sum of (without duplication) (A) up to 85%, subject to the provisions of Section 2.1(b) hereof, of Acceptable Government Agency Receivables, (B) up to 50%, subject to the provision of Section 2.1(b) hereof, of Acceptable Unbilled Amounts, (C) up to 85%, subject to the provisions of Section 2.1(b) hereof, of Commercial Broker Receivables, and (D) up to 85%, subject to the provisions of Section 2.1(b) hereof, of Commercial Receivables (collectively, the "Advance Rates"); provided, however, that Foreign Receivables shall not constitute more than ten percent (10%) of Eligible Receivables at any time, minus

(ii) the aggregate Maximum Undrawn Amount of all outstanding Letters of Credit, minus

(iii) the Availability Block, minus

(iv) such reserves as Agent may in good faith reasonably deem proper and necessary from time to time.

The amount derived from the sum of (x) Sections 2.1(a)(y)(i) minus (y) Section 2.1 (a)(y)(ii) and (iii) at any time and from time to time shall be referred to as the "Formula Amount". The Revolving Advances shall be evidenced by one or more secured promissory notes (collectively, the "Revolving Credit Note") substantially in the form attached hereto as Exhibit 2.1(a).

(e) Section 2.4(a) is amended to read as follows:

(a) Term Loans.

(i) Each Lender, severally and not jointly, made Term Loan 1 in the sum equal to such Lender's Commitment Percentage of $6,095,238.12. As of the Seventh Amendment Closing Date the Term Loan 1 has a balance of $391,020.42. The Term Loan 1 was advanced on the Closing Date and shall be, with respect to principal, payable as follows, subject to acceleration upon the occurrence of an Event of Default under this Agreement or termination of this Agreement: equal monthly installments of $35,547.30 commencing on June 1, 2020 and continuing on the first (1st) day of each month thereafter with the remaining balance due in full on the last day of the Term. The Term Loan 1 shall be evidenced by one or more secured promissory notes (collectively, the "Term Note") in substantially the form attached hereto as Exhibit 2.4(a). The Term Loan 1 may consist of Domestic Rate Loans or Term SOFR Rate Loans, or a combination thereof, as Borrower may request. In the event that Borrower desires to obtain or extend any portion of the Term Loan 1 as a Term SOFR Rate Loan or to convert any portion of the Term Loan 1 from a Domestic Rate Loan to a Term SOFR Rate Loan, Borrower shall comply with the notification requirements set forth in Sections 2.2(b) and (d) and the provisions of Sections 2.2(b) through (h) shall apply.

(ii) Each Lender, severally and not jointly, made Term Loan 2 in the sum equal to such Lender's Commitment Percentage of $2,500,000. The Term Loan 2 was advanced on the Seventh Amendment Closing Date and shall be, with respect to principal, payable as follows, subject to acceleration upon the occurrence of an Event of Default under this Agreement or termination of this Agreement: equal monthly installments of $41,666.66 commencing on September 1, 2023 and continuing on the first (1st) day of each month thereafter with the remaining balance due in full on the last day of the Term. The Term Loan 2 shall be evidenced by one or more Term Notes. The Term Loan 2 may consist of Domestic Rate Loans or Term SOFR Rate Loans, or a combination thereof, as Borrower may request. In the event that Borrower desires to obtain or extend any portion of the Term Loan 2 as a Term SOFR Rate Loan or to convert any portion of the Term Loan 2 from a Domestic Rate Loan to a Term SOFR Rate Loan, Borrower shall comply with the notification requirements set forth in Sections 2.2(b) and (d) and the provisions of Sections 2.2(b) through (h) shall apply.

(f) Section 2.6(a) is amended to read as follows:

(a) The Revolving Advances shall be due and payable in full on the last day of the Term subject to earlier prepayment as herein provided. The Term Loans shall be due and payable as provided in Section 2.4(a) hereof and in the applicable Term Notes, subject to mandatory prepayments as herein provided. The Equipment Loans shall be due and payable as provided in Section 2.4(b) hereof and in the Equipment Note, subject to mandatory prepayments as herein provided

(g) Section 2.20(b) is amended to read as follows:

(b) Each payment (including each prepayment) by Borrower on account of the principal of and interest on the Revolving Advances, shall be applied to the Revolving Advances pro rata according to the applicable Commitment Percentages of Lenders. Each payment (including each prepayment) by Borrower on account of the principal of and interest on the Term Notes, shall be made from or to, or applied to that portion of the Term Loans evidenced by the Term Notes pro rata according to the Commitment Percentages of Lenders. Each payment (including each prepayment) by Borrower on account of the Equipment Loans shall be applied to the applicable Equipment Loan pro rata according to the Commitment Percentage of Lenders. Except as expressly provided herein, all payments (including prepayments) to be made by Borrower on account of principal, interest and fees shall be made without set off or counterclaim and shall be made to Agent on behalf of the Lenders to the Payment Office, in each case on or prior to 1:00 P.M., New York time, in Dollars and in immediately available funds.

(h) Section 2.21 is amended to read as follows:

Subject to Section 4.3 hereof, when any Credit Party sells or otherwise disposes of any Collateral other than Inventory in the Ordinary Course of Business, Borrower shall repay the Advances in an amount equal to the Net Cash Proceeds, such repayments to be made promptly but in no event more than three (3) Business Days following receipt of such net proceeds, and until the date of payment, such proceeds shall be held in trust for Agent. The foregoing shall not be deemed to be implied consent to any such sale otherwise prohibited by the terms and conditions hereof. Such repayments shall be applied (i) if the Collateral disposed of is equipment the purchase of which was financed by an Equipment Loan, (x) first, to the outstanding principal installments of the Equipment Loans in the inverse order of the maturities thereof, (y) second, to the outstanding principal installments of the Term Loans in the inverse order of the maturities thereof and (z) third, to the remaining Advances (including cash collateralization of all Obligations relating to any outstanding Letters of Credit in accordance with the provisions of Section 3.2(b); provided however that if no Default or Event of Default has occurred and is continuing, such repayments shall be applied to cash collateralize any Obligations related to outstanding Letters of Credit last) in such order as Agent may determine, subject to Borrower’s ability to reborrow Revolving Advances in accordance with the terms hereof or (ii) if the Collateral disposed of is equipment other than as set forth in (i) above or other Collateral, (x), first, to the outstanding principal installments of the Term Loans in the inverse order of the maturities thereof, (y) second, to the outstanding principal installments of the Equipment Loans in the inverse order of the maturities thereof and (z) third, to the remaining Advances (including cash collateralization of all Obligations relating to any outstanding Letters of Credit in accordance with the provisions of Section 3.2(b); provided however that if no Default or Event of Default has occurred and is continuing, such repayments shall be applied to cash collateralize any Obligations related to outstanding Letters of Credit last) in such order as Agent may determine, subject to Borrower’s ability to reborrow Revolving Advances in accordance with the terms hereof.

(i) Section 3.1 is amended to read as follows:

Interest on Advances shall be payable in arrears on the first day of each month with respect to Domestic Rate Loans and, with respect to Term SOFR Rate Loans, at the end of each Interest Period provided that all accrued and unpaid interest shall be due and payable at the end of the Term. Interest charges shall be computed on the actual principal amount of Advances outstanding during the month at a rate per annum equal to (i) with respect to Revolving Advances, the applicable Revolving Interest Rate and (ii) with respect to the Term Loans and the Equipment Loans, the applicable Term Loan Rate (as applicable, the "Contract Rate"). Whenever, subsequent to the date of this Agreement, the Alternate Base Rate is increased or decreased, the applicable Contract Rate for Domestic Rate Loans shall be similarly changed without notice or demand of any kind by an amount equal to the amount of such change in the Alternate Base Rate during the time such change or changes remain in effect. The Term SOFR Rate shall be adjusted with respect to Term SOFR Rate Loans without notice or demand of any kind on the effective date of any change in the SOFR Reserve Percentage as of such effective date. Upon and after the occurrence of an Event of Default, and during the continuation thereof, at the option of Agent or at the direction of Required Lenders, the Obligations shall bear interest at the applicable Contract Rate plus two (2%) percent per annum (as applicable, the "Default Rate").

(j) Section 6.5(a) is amended to read as follows:

(a) [Intentionally Omitted].

(k) Section 13.1 is amended to read as follows:

This Agreement, which shall inure to the benefit of and shall be binding upon the respective successors and permitted assigns of Borrower, Agent and each Lender, shall become effective on the date hereof and shall continue in full force and effect until May 15, 2027 (the "Term") unless sooner terminated as herein provided. Borrower may terminate this Agreement at any time upon ninety (90) days' prior written notice upon payment in full of the Obligations. In the event the Obligations are prepaid in full prior to the last day of the Term (the date of such prepayment hereinafter referred to as the "Early Termination Date"), Borrower shall pay to Agent for the benefit of Lenders an early termination fee in an amount equal to (x) one percent (1.0%) of the Maximum Loan Amount if the Early Termination Date occurs on or prior to July 31, 2024, (y) one-half of one percent (0.50%) of the Maximum Loan Amount if the Early Termination Date occurs after July 31, 2024 to and including July 31, 2025 and (z) zero percent (0.00%) if the Early Termination Date occurs thereafter.

(l) Section 15.6 is amended by amending the contact information for Moore & Van Allen PLLC to read as follows:

with an additional
copy to: Moore & Van Allen PLLC
100 N. Tryon Street, Floor 47
Charlotte, North Carolina 28202-4003
Attention: Derek Marks
Telephone: (704) 331-1108
Email: derekmarks@mvalaw.com

2. Conditions Precedent. This Amendment shall be effective as of the date hereof upon satisfaction of the following conditions:

(a) the execution of this Amendment by the Borrower and PNC Bank, National Association as the Agent and Lender;

(b) the execution of the Term Note for Term Loan 2 by the Borrower; and

(c) receipt by the Agent of an amendment fee of $100,000.

3. Post-Closing Conditions. Within thirty (30) days of the date hereof (or such later period as the Agent may agree to in its sole discretion), the following conditions shall be satisfied:

(a) the execution and recordation of any amendments or modifications to the Mortgages by the Borrower as reasonably required by the Agent; and

(b) delivery of any customary endorsements to the Agent's title insurance policies as reasonably required by the Agent.

4. Representations and Warranties. The Borrower hereby represents and warrants in connection herewith that as of the date hereof (after giving effect hereto) (i) the representations and warranties set forth in Article V of the Credit Agreement are true and correct in all material respects (except those which expressly relate to an earlier date), and (ii) no Default or Event of Default has occurred and is continuing under the Credit Agreement.

5. Acknowledgments, Affirmations and Agreements. The Borrower (i) acknowledges and consents to all of the terms and conditions of this Amendment and (ii) affirms all of its obligations under the Credit Agreement and the Other Documents.

6. Credit Agreement. Except as expressly modified hereby, all of the terms and provisions of the Credit Agreement remain in full force and effect.

7. Expenses. The Borrower agrees to pay all reasonable costs and expenses in connection with the preparation, execution and delivery of this Amendment, including the reasonable fees and expenses of the Agent's legal counsel.

8. Counterparts. This Amendment may be executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original. It shall not be necessary in making proof of this Amendment to produce or account for more than one such counterpart.

9. Governing Law. This Amendment shall be deemed to be a contract under, and shall for all purposes be construed in accordance with, the laws of the State of New York.

IN WITNESS WHEREOF, each of the parties hereto has caused a counterpart of this Amendment to be duly executed and delivered as of the date first above written.

BORROWER:	PERMA-FIX ENVIRONMENTAL SERVICES, INC.
	By : *_/s/ Ben Naccarato_*
	Name : Ben Naccarato
	Title CFO
AGENT AND LENDER:	PNC BANK, NATIONAL ASSOCIATION, in its capacity as Agent and as Lender
	By : *_/s/ Scott Goldstein_*
	Name : Scott Goldstein
	Title Senior Vice President
	Commitment Percentage of Term Loan 2: 100%

Exhibit 4.2

TERM NOTE

$2,500,000 July 31, 2023

This Term Note is executed and delivered under and pursuant to the terms of that certain Revolving Credit, Term Loan and Security Agreement dated as of October 31, 2011 (as amended, restated, supplemented or modified from time to time, the "Credit Agreement") by and among each of the undersigned, as Borrower, the various financial institutions named therein or which hereafter become a party thereto (each individually a "Lender" and collectively, "Lenders") and PNC BANK, NATIONAL ASSOCIATION, as agent for Lenders (in such capacity, "Agent"). Capitalized terms not otherwise defined herein shall have the meanings provided in the Credit Agreement.

FOR VALUE RECEIVED, the Borrower hereby promises to pay to the order of PNC BANK, NATIONAL ASSOCIATION ("Payee"), at the office of Agent located at Two Tower Center Boulevard, East Brunswick, New Jersey 08816, or at such other place as Agent may from time to time designate to Borrower in writing:

(i) the principal sum of TWO MILLION AND FIVE HUNDRED THOUSAND DOLLARS ($2,500,000) payable in accordance with the provisions of the Credit Agreement, subject to acceleration upon the occurrence of an Event of Default under the Credit Agreement or earlier termination of the Loan Agreement pursuant to the terms thereof; and

(ii) interest on the principal amount of this Term Note from time to time outstanding until such principal amount is paid in full at the applicable Term Loan Rate in accordance with the provisions of the Credit Agreement. In no event, however, shall interest exceed the amount collectible at the maximum interest rate permitted by law. Upon and after the occurrence of an Event of Default, and during the continuation thereof, interest shall be payable at the Default Rate.

This Term Note is one of the Term Notes referred to in the Credit Agreement and is secured by the liens granted pursuant to the Credit Agreement and the Other Documents, is entitled to the benefits of the Credit Agreement and the Other Documents and is subject to all of the agreements, terms and conditions therein contained.

This Term Note is subject to mandatory prepayment and may be voluntarily prepaid, in whole or in part, on the terms and conditions set forth in the Credit Agreement.

If an Event of Default under Section 10.7 of the Credit Agreement shall occur, then this Term Note shall immediately become due and payable, without notice, together with reasonable attorneys' fees if the collection hereof is placed in the hands of an attorney to obtain or enforce payment hereof. If any other Event of Default shall occur under the Credit Agreement or any of the Other Documents, and the same is not cured within any applicable grace or cure period, then this Term Note may, as provided in the Credit Agreement, be declared to be immediately due and payable, without notice, together with reasonable attorneys' fees, if the collection hereof is placed in the hands of an attorney to obtain or enforce payment hereof.

This Term Note shall be construed and enforced in accordance with the laws of the State of New York.

Borrower expressly waives any presentment, demand, protest, notice of protest, or notice of any kind except as expressly provided in the Credit Agreement.

PERMA-FIX ENVIRONMENTAL SERVICES, INC., a Delaware corporation

By : */s/ Ben Naccarato*
Name : Ben Naccarato
Title CFO

EXHIBIT 31.1

CERTIFICATIONS

I, Mark Duff, certify that:

1. I have reviewed this quarterly report on Form 10-Q 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:August 3, 2023

/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 quarterly report on Form 10-Q 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: August 3, 2023

/s/ Ben Naccarato

Ben Naccarato
Executive Vice President and Chief Financial Officer and
Principal Financial Officer

EXHIBIT 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Perma-Fix Environmental Services, Inc. (“PESI”) on Form 10-Q for the quarter ended June 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the “Form 10-Q”), I, Mark Duff, President and Chief Executive Officer and Principal Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Form 10-Q fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §78m or §78o(d)); and

(2) The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 3, 2023

/s/ Mark Duff

Mark Duff
Chief Executive Officer, President
and Principal Executive Officer

This certification is furnished to the Securities and Exchange Commission solely for purpose of 18 U.S.C. §1350 subject to the knowledge standard contained therein, and not for any other purpose.

EXHIBIT 32.2

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Perma-Fix Environmental Services, Inc. ("PESI") on Form 10-Q for the quarter ended June 30, 2023, as filed with the Securities and Exchange Commission on the date hereof (the "Form 10-Q"), I, Ben Naccarato, Executive Vice President and Chief Financial Officer and Principal Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Form 10-Q fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. §78m or §78o(d)); and

(2) The information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 3, 2023

/s/ Ben Naccarato

Ben Naccarato
Executive Vice President and Chief Financial Officer and
Principal Financial Officer

This certification is furnished to the Securities and Exchange Commission solely for purpose of 18 U.S.C. §1350 subject to the knowledge standard contained therein, and not for any other purpose.