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

FORM 10-Q

(Mark One)

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2020

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 Number: 1-14267

REPUBLIC SERVICES, INC.
(Exact name of registrant as specified in its charter)

Delaware	**65-0716904**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
18500 North Allied Way	
Phoenix, Arizona	**85054**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (480) 627-2700

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	RSG	New York Stock Exchange

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

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

Large accelerated filer	☑	Accelerated filer	☐	Smaller reporting company	☐
Non-accelerated filer	☐			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 accounting 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 ☑

As of July 31, 2020, the registrant had outstanding 318,493,338 shares of Common Stock, par value $0.01 per share (excluding treasury shares of 35,787,916).

REPUBLIC SERVICES, INC.

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PART I - FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

REPUBLIC SERVICES, INC.
CONSOLIDATED BALANCE SHEETS
(in millions, except per share data)

	June 30, 2020 (Unaudited)	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 269.7	$ 47.1
Accounts receivable, less allowance for doubtful accounts and other of $34.3 and $34.0, respectively	1,066.5	1,125.9
Prepaid expenses and other current assets	232.6	433.0
Total current assets	1,568.8	1,606.0
Restricted cash and marketable securities	142.6	179.4
Property and equipment, net	8,499.1	8,383.5
Goodwill	11,673.5	11,633.4
Other intangible assets, net	126.7	133.9
Other assets	815.6	747.6
Total assets	$ 22,826.3	$ 22,683.8
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 657.4	$ 777.9
Notes payable and current maturities of long-term debt	60.0	929.9
Deferred revenue	334.6	336.0
Accrued landfill and environmental costs, current portion	128.1	132.6
Accrued interest	68.4	74.0
Other accrued liabilities	817.6	814.2
Total current liabilities	2,066.1	3,064.6
Long-term debt, net of current maturities	8,598.0	7,758.6
Accrued landfill and environmental costs, net of current portion	1,724.1	1,703.2
Deferred income taxes and other long-term tax liabilities, net	1,186.8	1,180.6
Insurance reserves, net of current portion	274.5	276.5
Other long-term liabilities	745.9	579.4
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, par value $0.01 per share; 50 shares authorized; none issued	—	—
Common stock, par value $0.01 per share; 750 shares authorized; 354.1 and 353.3 issued including shares held in treasury, respectively	3.5	3.5
Additional paid-in capital	5,026.6	4,994.8
Retained earnings	5,529.2	5,317.3
Treasury stock, at cost; 35.9 and 34.5 shares, respectively	(2,315.7)	(2,199.6)
Accumulated other comprehensive income (loss), net of tax	(16.5)	2.2
Total Republic Services, Inc. stockholders' equity	8,227.1	8,118.2
Non-controlling interests in consolidated subsidiary	3.8	2.7
Total stockholders' equity	8,230.9	8,120.9
Total liabilities and stockholders' equity	$ 22,826.3	$ 22,683.8

The accompanying notes are an integral part of these statements.

REPUBLIC SERVICES, INC.
UNAUDITED CONSOLIDATED STATEMENTS OF INCOME
(in millions, except per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenue	$ 2,454.4	$ 2,605.3	$ 5,008.3	$ 5,075.9
Expenses:				
Cost of operations	1,468.1	1,617.0	3,018.2	3,123.1
Depreciation, amortization and depletion	269.1	264.2	537.7	515.8
Accretion	20.8	20.5	41.7	40.9
Selling, general and administrative	262.1	264.5	539.2	530.9
Withdrawal costs - multiemployer pension funds	31.6	—	35.9	—
Loss on business divestitures and impairments, net	5.3	0.2	1.4	0.5
Restructuring charges	2.2	1.5	6.0	4.5
Operating income	395.2	437.4	828.2	860.2
Interest expense	(91.6)	(98.5)	(188.2)	(198.9)
Loss from unconsolidated equity method investments	(9.4)	(11.5)	(22.6)	(23.1)
Interest income	3.3	1.4	3.6	3.3
Other income (loss), net	2.6	(0.2)	1.7	(0.1)
Income before income taxes	300.1	328.6	622.7	641.4
Provision for income taxes	73.8	77.7	149.6	155.6
Net income	226.3	250.9	473.1	485.8
Net (income) loss attributable to non-controlling interests in consolidated subsidiary	(0.8)	0.6	(1.3)	(0.1)
Net income attributable to Republic Services, Inc.	$ 225.5	$ 251.5	$ 471.8	$ 485.7
Basic earnings per share attributable to Republic Services, Inc. stockholders:				
Basic earnings per share	$ 0.71	$ 0.78	$ 1.48	$ 1.51
Weighted average common shares outstanding	319.0	321.7	319.3	322.0
Diluted earnings per share attributable to Republic Services, Inc. stockholders:				
Diluted earnings per share	$ 0.71	$ 0.78	$ 1.47	$ 1.50
Weighted average common and common equivalent shares outstanding	319.6	322.8	319.9	323.1
Cash dividends per common share	$ 0.405	$ 0.375	$ 0.810	$ 0.750

The accompanying notes are an integral part of these statements.

REPUBLIC SERVICES, INC.
UNAUDITED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in millions)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Net income	$ 226.3	$ 250.9	$ 473.1	$ 485.8
Other comprehensive income (loss), net of tax				
Hedging activity:				
Realized loss (gain) reclassified into earnings	1.2	(0.2)	2.0	(0.3)
Unrealized loss	(0.1)	(19.9)	(22.3)	(31.2)
Pension activity:				
Change in funded status of pension plan obligations	—	(0.8)	1.6	(0.8)
Other comprehensive income (loss), net of tax	1.1	(20.9)	(18.7)	(32.3)
Comprehensive income	227.4	230.0	454.4	453.5
Comprehensive (income) loss attributable to non-controlling interests	(0.8)	0.6	(1.3)	(0.1)
Comprehensive income attributable to Republic Services, Inc.	$ 226.6	$ 230.6	$ 453.1	$ 453.4

The accompanying notes are an integral part of these statements.

REPUBLIC SERVICES, INC.
UNAUDITED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Republic Services, Inc. Stockholders' Equity								
	Common Stock		Additional Paid-In Capital	Retained Earnings	Treasury Stock		Accumulated Other Comprehensive Income (Loss), Net of Tax	Non-controlling Interests In Consolidated Subsidiary	Total
	Shares	Amount			Shares	Amount			
Balance as of December 31, 2019	353.3	$ 3.5	$ 4,994.8	$ 5,317.3	(34.5)	$ (2,199.6)	$ 2.2	$ 2.7	$ 8,120.9
Net income	—	—	—	246.3	—	—	—	0.5	246.8
Other comprehensive loss	—	—	—	—	—	—	(19.8)	—	(19.8)
Cash dividends declared	—	—	—	(128.9)	—	—	—	—	(128.9)
Issuances of common stock	0.7	—	7.5	—	(0.2)	(17.0)	—	—	(9.5)
Stock-based compensation	—	—	10.8	(1.1)	—	—	—	—	9.7
Purchase of common stock for treasury	—	—	—	—	(1.2)	(98.8)	—	—	(98.8)
Distributions paid	—	—	—	—	—	—	—	(0.2)	(0.2)
Balance as of March 31, 2020	354.0	3.5	5,013.1	5,433.6	(35.9)	(2,315.4)	(17.6)	3.0	8,120.2
Net income	—	—	—	225.5	—	—	—	0.8	226.3
Other comprehensive income	—	—	—	—	—	—	1.1	—	1.1
Cash dividends declared	—	—	—	(129.0)	—	—	—	—	(129.0)
Issuances of common stock	0.1	—	3.1	—	—	(0.3)	—	—	2.8
Stock-based compensation	—	—	10.4	(0.9)	—	—	—	—	9.5
Balance as of June 30, 2020	354.1	$ 3.5	$ 5,026.6	$ 5,529.2	(35.9)	$ (2,315.7)	$ (16.5)	$ 3.8	$ 8,230.9

The accompanying notes are an integral part of these statements.

REPUBLIC SERVICES, INC.
UNAUDITED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY - (CONTINUED)
(in millions)

	Republic Services, Inc. Stockholders' Equity								
	Common Stock				Treasury Stock				
	Shares	Amount	Additional Paid-In Capital	Retained Earnings	Shares	Amount	Accumulated Other Comprehensive Income, Net of Tax	Non-controlling Interests In Consolidated Subsidiary	Total
Balance as of December 31, 2018	351.9	$ 3.5	$ 4,924.9	$ 4,750.5	(29.4)	$ (1,782.6)	$ 30.8	$ 2.4	$ 7,929.5
Adoption of accounting standard, net of tax	—	—	—	(3.1)	—	—	3.1	—	—
Net income	—	—	—	234.2	—	—	—	0.7	234.9
Other comprehensive loss	—	—	—	—	—	—	(11.4)	—	(11.4)
Cash dividends declared	—	—	—	(120.7)	—	—	—	—	(120.7)
Issuances of common stock	0.9	—	7.7	—	(0.2)	(16.8)	—	—	(9.1)
Stock-based compensation	—	—	12.0	(1.1)	—	—	—	—	10.9
Purchase of common stock for treasury	—	—	—	—	(1.5)	(111.5)	—	—	(111.5)
Balance as of March 31, 2019	352.8	3.5	4,944.6	4,859.8	(31.1)	(1,910.9)	22.5	3.1	7,922.6
Net income	—	—	—	251.5	—	—	—	(0.6)	250.9
Other comprehensive loss	—	—	—	—	—	—	(20.9)	—	(20.9)
Cash dividends declared	—	—	—	(120.2)	—	—	—	—	(120.2)
Issuances of common stock	0.2	—	6.3	—	—	(0.3)	—	—	6.0
Stock-based compensation	—	—	9.8	(0.9)	—	—	—	—	8.9
Purchase of common stock for treasury	—	—	—	—	(1.1)	(91.9)	—	—	(91.9)
Distributions paid	—	—	—	—	—	—	—	(0.2)	(0.2)
Balance as of June 30, 2019	353.0	$ 3.5	$ 4,960.7	$ 4,990.2	(32.2)	$ (2,003.1)	$ 1.6	$ 2.3	$ 7,955.2

The accompanying notes are an integral part of these statements.

REPUBLIC SERVICES, INC.
UNAUDITED CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
Cash provided by operating activities:		
Net income	$ 473.1	$ 485.8
Adjustments to reconcile net income to cash provided by operating activities:		
Depreciation, amortization, depletion and accretion	579.4	556.7
Non-cash interest expense	30.9	23.3
Stock-based compensation	19.4	20.1
Deferred tax provision	11.4	40.3
Provision for doubtful accounts, net of adjustments	15.9	15.9
Gain on disposition of assets and asset impairments, net	(1.3)	(0.2)
Withdrawal costs - multiemployer pension funds	35.9	—
Environmental adjustments	(0.4)	(10.3)
Loss from unconsolidated equity method investments	22.6	23.1
Other non-cash items	(2.6)	(0.8)
Change in assets and liabilities, net of effects from business acquisitions and divestitures:		
Accounts receivable	45.5	(53.0)
Prepaid expenses and other assets	192.1	101.3
Accounts payable	(60.8)	12.8
Capping, closure and post-closure expenditures	(23.2)	(23.8)
Remediation expenditures	(28.3)	(17.8)
Other liabilities	23.9	(37.8)
Cash provided by operating activities	1,333.5	1,135.6
Cash used in investing activities:		
Purchases of property and equipment	(654.7)	(588.7)
Proceeds from sales of property and equipment	12.3	7.9
Cash used in acquisitions and investments, net of cash and restricted cash acquired	(95.1)	(178.9)
Cash received from business divestitures	26.8	(0.2)
Purchases of restricted marketable securities	(16.2)	(8.2)
Sales of restricted marketable securities	5.6	7.8
Other	(0.5)	(2.3)
Cash used in investing activities	(721.8)	(762.6)
Cash used in financing activities:		
Proceeds from notes payable and long-term debt, net of fees	2,441.0	2,284.2
Proceeds from issuance of senior notes, net of discount and fees	985.5	—
Payments of notes payable and long-term debt and senior notes	(3,493.9)	(2,194.2)
Issuances of common stock, net	(6.7)	(3.1)
Purchases of common stock for treasury	(98.8)	(202.5)
Cash dividends paid	(257.9)	(241.7)
Distributions paid to non-controlling interests in consolidated subsidiary	(0.2)	(0.2)
Contingent consideration payments	(7.4)	(5.1)
Cash used in financing activities	(438.4)	(362.6)
Increase in cash, cash equivalents, restricted cash and restricted cash equivalents	173.3	10.4
Cash, cash equivalents, restricted cash and restricted cash equivalents at beginning of year	177.4	133.3
Cash, cash equivalents, restricted cash and restricted cash equivalents at end of period	$ 350.7	$ 143.7

The accompanying notes are an integral part of these statements.

REPUBLIC SERVICES, INC.
NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS

1. BASIS OF PRESENTATION

Republic Services, Inc., a Delaware corporation, and its consolidated subsidiaries (also referred to collectively as Republic, the Company, we, us, or our), is the second largest provider of non-hazardous solid waste collection, transfer, recycling, disposal and environmental services in the United States, as measured by revenue. We manage and evaluate our operations through two field groups, Group 1 and Group 2, which we have identified as our reportable segments.

The unaudited consolidated financial statements include the accounts of Republic Services, Inc. and its wholly owned and majority owned subsidiaries in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP). We account for investments in entities in which we do not have a controlling financial interest under either the equity method or cost method of accounting, as appropriate. All material intercompany accounts and transactions have been eliminated in consolidation.

We have prepared these unaudited consolidated financial statements pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). Certain information related to our organization, significant accounting policies and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP has been condensed or omitted. In the opinion of management, these financial statements include all adjustments that, unless otherwise disclosed, are of a normal recurring nature and necessary for a fair presentation of the financial position, results of operations and cash flows for the periods presented. Operating results for interim periods are not necessarily indicative of the results you can expect for a full year. You should read these financial statements in conjunction with our audited consolidated financial statements and notes thereto appearing in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

For comparative purposes, certain prior year amounts have been reclassified to conform to the current year presentation. All dollar amounts in tabular presentations are in millions, except per share amounts and unless otherwise noted.

Management's Estimates and Assumptions

In preparing our financial statements, we make numerous estimates and assumptions that affect the amounts reported in these financial statements and accompanying notes. We must make these estimates and assumptions because certain information we use is dependent on future events, cannot be calculated with a high degree of precision from data available or simply cannot be readily calculated based on generally accepted methodologies. In preparing our financial statements, the more critical and subjective areas that deal with the greatest amount of uncertainty relate to our accounting for our long-lived assets, including recoverability, landfill development costs, and final capping, closure and post-closure costs; our valuation allowances for accounts receivable and deferred tax assets; our liabilities for potential litigation, claims and assessments; our liabilities for environmental remediation, multiemployer pension funds, employee benefit plans, deferred taxes, uncertain tax positions, and insurance reserves; and our estimates of the fair values of assets acquired and liabilities assumed in any acquisition. Each of these items is discussed in more detail in our description of our significant accounting policies in Note 2, *Summary of Significant Accounting Policies*, of the Notes to Consolidated Financial Statements in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019. Our actual results may differ significantly from our estimates.

In March 2020, the World Health Organization declared the outbreak of a new strain of coronavirus (COVID-19) a pandemic. The COVID-19 pandemic has negatively impacted the global economy, disrupted global supply chains and created significant volatility and disruption of financial markets. The full extent of the impact of the COVID-19 pandemic on our operations and financial performance will depend on future developments, including the duration and spread of the pandemic, all of which are uncertain and cannot be predicted at this time. An extended period of economic disruption associated with the COVID-19 pandemic could materially and adversely affect our business, results of operations, access to sources of liquidity and financial condition.

Both national and local government agencies have implemented steps with the intent to slow the spread of the virus, including shelter-in-place orders and the mandatory shutdown of certain businesses. During this time, we continued to provide essential services to our customers. In mid-March 2020, certain customers in our small- and large-container businesses began adjusting their service levels, which included a decrease in the frequency of pickups or a temporary pause in service. In addition, we experienced a decline in volumes disposed at certain of our landfills and transfer stations. As service levels decreased, we also experienced a decrease in certain costs of our operations which are variable in nature. This decline in service activity peaked in the first half of April and gradually improved thereafter as local economies began to gradually reopen and customers began to resume service.

The demand for our environmental services business depends on the continued demand for, and production of, oil and natural gas in certain shale basins located in the United States. During the six months ended June 30, 2020, the value of crude oil and natural gas declined to historic lows, resulting in a decrease in rig counts and drilling activity that led to a year-over-year decrease in revenue from our environmental services business. Further declines in the level of production activity may result in an unfavorable change to the long-term strategic outlook for our environmental services business that could result in the recognition of impairment charges on intangible assets and property and equipment associated with this business. On at least a quarterly basis, we will continue to monitor the effect of the evolving COVID-19 pandemic on our business and review our estimates for recoverability of assets used in certain of our operations that are related to strategic investments.

In April 2020, we launched our Committed to Serve initiative which was intended to help our employees, customers and communities across the United States. We committed $20 million to support frontline employees and their families, as well as small business customers in the local communities we serve. In addition to this initiative, we have experienced an increase in certain costs of doing business as a direct result of the COVID-19 pandemic, including costs for additional safety equipment and hygiene products and increased facility and equipment cleaning. These costs, which we refer to as business resumption costs, are intended to assist in protecting the safety of our frontline employees as we continue to provide an essential service to our customers. We also incurred incremental costs for expanding certain aspects of our existing healthcare programs and guaranteeing certain frontline employees a minimum hourly work week regardless of service decreases. We expect to incur similar costs throughout 2020, and potentially into future years. The magnitude of the costs we expect to incur throughout the remainder of the year cannot be predicted at this time due to the various uncertainties surrounding the pandemic (e.g., its duration and spread).

New Accounting Pronouncements

Accounting Standards Adopted

Effective January 1, 2020, we adopted the following accounting standards updates (ASUs) as issued by the Financial Accounting Standards Board (FASB):

ASU		**Effective Date**
ASU 2016-13	Credit Losses (Topic 326)	January 1, 2020
ASU 2018-13	Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement (Topic 820)	January 1, 2020

Credit Losses

Effective January 1, 2020, we adopted ASU 2016-13, *Credit Losses Topic 326* (ASU 2016-13 or the new credit losses standard) using the modified retrospective approach. The comparative periods have not been restated and continue to be reported under the accounting standard in effect for those periods. The new credit losses standard amends the impairment model to use a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. Our adoption of ASU 2016-13 did not have a material impact on our consolidated financial statements for the six months ended June 30, 2020, and we did not recognize a cumulative effect adjustment to retained earnings as of January 1, 2020.

To assist in quantifying the impact on our consolidated financial statements and supplementing our existing disclosures, we identified financial assets measured at an amortized cost basis in our consolidated balance sheet and evaluated the collectability considerations based on an expected credit loss assessment. We are exposed to credit losses primarily through the collection, transfer and disposal of non-hazardous solid waste and environmental services we provide our customers as well as the recovering and sale of certain recyclable materials. We perform ongoing credit evaluations of our customers, but generally do not require collateral to support customer receivables. We establish an allowance for doubtful accounts based on various factors including the age of receivables outstanding, historical trends, economic conditions and other information. We also review outstanding balances on an account-specific basis based on the credit risk of the customer. We determined that all of our accounts receivable share similar risk characteristics. We monitor our credit exposure on an ongoing basis and assess whether assets in the pool continue to display similar risk characteristics.

The consolidated statement of income for the six months ended June 30, 2020 reflects the measurement of credit losses for newly recognized financial assets as well as any changes to historical financial assets. The following table reflects the activity in our allowance for doubtful accounts during the six months ended June 30, 2020.

	Allowance for Doubtful Accounts and Other
Balance as of December 31, 2019	$ 34.0
Additions charged to expense	15.9
Accounts written-off	(15.6)
Balance as of June 30, 2020	$ 34.3

We continue to apply our historical loss rate assumptions and reserve against outstanding balances on an account-specific basis as we assess the collectability of our receivables. In certain situations, we may offer credit extensions to our customers as they navigate the uncertain economic environment brought about by the COVID-19 pandemic. In accordance with our accounting policy, we are actively monitoring the credit risk of our specific customers, age of receivables outstanding, recent collection trends and general economic conditions to evaluate the risk of credit loss.

Fair Value Measurement

Effective January 1, 2020, we adopted the FASB's ASU 2018-13, *Fair Value Measurement (Topic 820) Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement* (ASU 2018-13). ASU 2018-13 intends to increase the consistency and comparability of fair value measurements used in financial reporting through eliminating, modifying, and adding certain disclosure requirements within Topic 820. The adoption of ASU 2018-13 did not have a material impact on our consolidated financial statements for the six months ended June 30, 2020.

Accounting Standards Updates Issued but not yet Adopted

Changes to the Disclosure Requirements for Defined Benefit Plans

In August 2018, the FASB issued ASU 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Subtopic 715-20) Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans* (ASU 2018-14). ASU 2018-14 removes disclosures that no longer are considered cost beneficial, clarifies the specific requirements of disclosures, and adds disclosure requirements identified as relevant. Although narrow in scope, the amendments are considered an important part of the FASB's efforts to improve the effectiveness of disclosures in the notes to financial statements. ASU 2018-14 is effective for public business entities for fiscal years beginning after December 15, 2020, including interim periods within that fiscal year. Early adoption is permitted for all entities. We are currently assessing the effect this guidance may have on our consolidated financial statements.

Simplifying the Accounting for Income Taxes

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): *Simplifying the Accounting for Income Taxes* (ASU 2019-12). ASU 2019-12 attempts to simplify aspects of accounting for franchise taxes and enacted changes in tax laws or rates, and clarifies the accounting for transactions that result in a step-up in the tax basis of goodwill. The amended guidance contains a model under which an entity can consider a list of factors in determining whether the step-up in tax basis of goodwill is related to the business combination that caused the initial recognition of goodwill or to a separate transaction. ASU 2019-12 is effective for public business entities for fiscal years beginning after December 15, 2020, including interim periods within that fiscal year. Early adoption is permitted for all entities. We are currently assessing the effect this guidance may have on our consolidated financial statements.

Reference Rate Reform

In March 2020, the FASB issued ASU 2020-04, Reference Rate Reform (Topic 848): *Facilitation of the Effects of Reference Rate Reform on Financial Reporting* (ASU 2020-04). ASU 2020-04 provides optional guidance for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. The amendments in ASU 2020-04 provide optional expedients and exceptions for applying generally accepted accounting principles to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. ASU 2020-04 is effective for all entities as of March 12, 2020 through December 31, 2022. We are currently assessing the effect this guidance may have on our consolidated financial statements.

2. BUSINESS ACQUISITIONS, INVESTMENTS AND RESTRUCTURING CHARGES

Acquisitions

We acquired various waste businesses during the six months ended June 30, 2020 and 2019. The purchase price for these business acquisitions and the allocations of the purchase price follows:

	2020	2019
Purchase price:		
Cash used in acquisitions, net of cash acquired	$ 71.2	$ 152.6
Contingent consideration	—	1.6
Holdbacks	4.7	14.1
Fair value, future minimum finance lease payments	0.3	0.7
Total	$ 76.2	$ 169.0
Allocated as follows:		
Accounts receivable	$ 2.9	$ 7.3
Property and equipment	24.7	36.6
Operating right-of-use lease assets	0.2	—
Other assets	0.2	5.3
Accounts payable	(1.1)	(3.0)
Environmental remediation liabilities	(1.5)	—
Operating right-of-use lease liabilities	(0.2)	—
Other liabilities	(1.6)	(5.5)
Fair value of tangible assets acquired and liabilities assumed	23.6	40.7
Excess purchase price to be allocated	$ 52.6	$ 128.3
Excess purchase price allocated as follows:		
Other intangible assets	$ 3.6	$ 28.4
Goodwill	49.0	99.9
Total allocated	$ 52.6	$ 128.3

The purchase price allocations are based on information existing at the acquisition dates. Accordingly, certain of the purchase price allocations are preliminary and subject to change. Substantially all of the goodwill and intangible assets recorded for these acquisitions are deductible for tax purposes.

These acquisitions are not material to our results of operations, individually or in the aggregate. As a result, no pro forma financial information is provided.

Investments

In 2020, we continued to acquire non-controlling equity interests in certain limited liability companies that qualified for investment tax credits under Section 48 of the Internal Revenue Code. In exchange for our non-controlling interests, we made capital contributions of $24.5 million and $13.8 million, which were recorded to other assets in our June 30, 2020 and 2019 consolidated balance sheets, respectively. During the three and six months ended June 30, 2020, we reduced the carrying value of these investments by $9.4 million and $22.6 million, respectively, and during the three and six months ended June 30, 2019, we reduced the carrying value of these investments by $11.5 million and $23.1 million, respectively, as a result of tax credits allocated to us, cash distributions and our share of income and loss pursuant to the terms of the limited liability company agreements.

Restructuring Charges

In 2019, we incurred costs related to the redesign of certain back-office software systems, which continued into 2020. During the three and six months ended June 30, 2020, we incurred restructuring charges of $2.2 million and $6.0 million, respectively, and during the three and six months ended June 30, 2019, we incurred restructuring charges of $1.5 million and $4.5 million, respectively, that primarily related to these restructuring efforts. During the six months ended June 30, 2020 and 2019, we paid $6.2 million and $6.5 million, respectively, related to these restructuring efforts.

In July 2020, we eliminated certain positions, primarily related to our back-office support functions, in response to the COVID-19 pandemic. During the remainder of 2020, we expect to incur additional restructuring charges of approximately $15 million primarily related to employee severance costs and the redesign of certain of our back-office software systems. Substantially all of these restructuring charges will be recorded in our corporate segment.

3. GOODWILL AND OTHER INTANGIBLE ASSETS, NET

Our senior management evaluates, oversees and manages the financial performance of our operations through two field groups, referred to as Group 1 and Group 2.

Goodwill

A summary of the activity and balances in goodwill accounts by reporting segment follows:

	Balance as of December 31, 2019	Acquisitions	Divestitures	Adjustments to Acquisitions	Balance as of June 30, 2020
Group 1	$ 6,235.6	$ 10.8	$ —	$ (0.4)	$ 6,246.0
Group 2	5,397.8	38.2	(12.5)	4.0	5,427.5
Total	$ 11,633.4	$ 49.0	$ (12.5)	$ 3.6	$ 11,673.5

Other Intangible Assets, Net

Other intangible assets, net, include values assigned to customer relationships, non-compete agreements and trade names, and are amortized over periods ranging from 1 to 17 years. A summary of the activity and balances by intangible asset type follows:

	Gross Intangible Assets				Accumulated Amortization				
	Balance as of December 31, 2019	Acquisitions	Adjustments and Other	Balance as of June 30, 2020	Balance as of December 31, 2019	Additions Charged to Expense	Adjustments and Other	Balance as of June 30, 2020	Other Intangible Assets, Net as of June 30, 2020
Customer relationships	$ 733.8	$ 2.0	$ —	$ 735.8	$ (623.0)	$ (8.3)	$ —	$ (631.3)	$ 104.5
Non-compete agreements	45.3	1.6	(0.2)	46.7	(35.3)	(1.9)	0.1	(37.1)	9.6
Other intangible assets	58.2	—	(0.7)	57.5	(45.1)	(0.2)	0.4	(44.9)	12.6
Total	$ 837.3	$ 3.6	$ (0.9)	$ 840.0	$ (703.4)	$ (10.4)	$ 0.5	$ (713.3)	$ 126.7

We evaluate goodwill for impairment annually as of October 1, or when an indicator of impairment exists. In accordance with our accounting policy, we also perform a quarterly review of our long-lived and intangible assets. During the performance of our quarterly impairment reviews during the six months ended June 30, 2020, we considered the impact of the COVID-19 pandemic on our business, noting no indicators of impairment for goodwill or other intangible assets.

4. OTHER ASSETS

Prepaid Expenses and Other Current Assets

A summary of prepaid expenses and other current assets as of June 30, 2020 and December 31, 2019 follows:

	2020	2019
Prepaid expenses	$ 65.8	$ 75.5
Inventories	58.5	56.8
Income taxes receivable	37.6	156.7
Reinsurance receivable	34.8	31.9
Other non-trade receivables	22.3	88.1
Prepaid fees for cloud-based hosting arrangements, current	8.9	12.4
Interest rate swap locks	—	3.6
Other current assets	4.7	8.0
Total	$ 232.6	$ 433.0

Other Assets

A summary of other assets as of June 30, 2020 and December 31, 2019 follows:

	2020	2019
Operating right-of-use lease assets	$ 231.3	$ 243.6
Deferred compensation plan	114.0	118.0
Investments	98.9	87.8
Reinsurance receivable	84.0	78.9
Deferred contract costs and sales commissions	80.4	83.1
Other derivative assets	72.1	2.9
Amounts recoverable for capping, closure and post-closure obligations	32.2	31.8
Prepaid fees and capitalized implementation costs for cloud-based hosting arrangements	29.7	32.0
Interest rate swaps	21.8	10.7
Deferred financing costs	2.4	3.0
Other	48.8	55.8
Total	$ 815.6	$ 747.6

5. OTHER LIABILITIES

Other Accrued Liabilities

A summary of other accrued liabilities as of June 30, 2020 and December 31, 2019 follows:

	2020	2019
Accrued payroll and benefits	$ 195.3	$ 207.7
Insurance reserves, current	170.5	162.0
Accrued fees and taxes	132.6	140.8
Accrued dividends	129.0	129.2
Ceded insurance reserves, current	34.6	31.6
Operating right-of-use lease liabilities, current	34.4	51.5
Withdrawal liability - multiemployer pension fund, current	31.6	—
Current tax liabilities	11.8	—
Accrued professional fees and legal settlement reserves	7.8	11.8
Interest rate swap locks	—	14.9
Other	70.0	64.7
Total	$ 817.6	$ 814.2

Other Long-Term Liabilities

A summary of other long-term liabilities as of June 30, 2020 and December 31, 2019 follows:

	2020	2019
Operating right-of-use lease liabilities	$ 218.1	$ 212.5
Other derivative liabilities	122.8	22.2
Deferred compensation plan liability	113.5	116.1
Ceded insurance reserves	85.7	80.6
Contingent purchase price and acquisition holdbacks	68.0	71.2
Payroll tax payable (CARES Act)	33.4	—
Withdrawal liability - multiemployer pension funds	26.3	12.0
Legal settlement reserves	19.0	10.0
Interest rate swap locks	11.2	0.8
Pension and other post-retirement liabilities	6.4	6.2
Other	41.5	47.8
Total	$ 745.9	$ 579.4

6. LANDFILL AND ENVIRONMENTAL COSTS

As of June 30, 2020, we owned or operated 190 active solid waste landfills with total available disposal capacity estimated to be 5.0 billion in-place cubic yards. Additionally, we had post-closure responsibility for 130 closed landfills.

Accrued Landfill and Environmental Costs

A summary of accrued landfill and environmental liabilities as of June 30, 2020 and December 31, 2019 follows:

	2020	2019
Landfill final capping, closure and post-closure liabilities	$ 1,369.9	$ 1,335.6
Environmental remediation	482.3	500.2
Total accrued landfill and environmental costs	1,852.2	1,835.8
Less: current portion	(128.1)	(132.6)
Long-term portion	$ 1,724.1	$ 1,703.2

Final Capping, Closure and Post-Closure Costs

The following table summarizes the activity in our asset retirement obligation liabilities, which includes liabilities for final capping, closure and post-closure, for the six months ended June 30, 2020 and 2019:

	2020	2019
Asset retirement obligation liabilities, beginning of year	$ 1,335.6	$ 1,292.0
Non-cash additions	21.7	21.6
Acquisitions, net of divestitures and other adjustments	(0.6)	0.2
Asset retirement obligation adjustments	(5.3)	(0.5)
Payments	(23.2)	(23.8)
Accretion expense	41.7	40.9
Asset retirement obligation liabilities, end of period	1,369.9	1,330.4
Less: current portion	(70.8)	(76.8)
Long-term portion	$ 1,299.1	$ 1,253.6

We review annually, in the fourth quarter, and update as necessary, our estimates of asset retirement obligation liabilities. However, if there are significant changes in the facts and circumstances related to a site during the year, we will update our assumptions prospectively in the period that we know all the relevant facts and circumstances and make adjustments as appropriate.

Landfill Operating Expenses

In the normal course of business, we incur various operating costs associated with environmental compliance. These costs include, among other things, leachate treatment and disposal, methane gas and groundwater monitoring, systems maintenance, interim cap maintenance, costs associated with the application of daily cover materials, and the legal and administrative costs of ongoing environmental compliance. These costs are expensed as cost of operations in the periods in which they are incurred.

Environmental Remediation Liabilities

We accrue for remediation costs when they become probable and can be reasonably estimated. There can sometimes be a range of reasonable estimates of the costs associated with remediation of a site. In these cases, we use the amount within the range that constitutes our best estimate. If no amount within the range appears to be a better estimate than any other, we use the amount that is at the low end of the range. It is reasonably possible that we will need to adjust the liabilities recorded for remediation to reflect the effects of new or additional information, to the extent such information impacts the costs, timing or duration of the required actions. If we used the reasonably possible high ends of our ranges, our aggregate potential remediation liability as of June 30, 2020 would be approximately $365 million higher than the amount recorded. Future changes in our estimates of the cost, timing or duration of the required actions could have a material adverse effect on our consolidated financial position, results of operations and cash flows.

The following table summarizes the activity in our environmental remediation liabilities for the six months ended June 30, 2020 and 2019:

	2020	2019
Environmental remediation liabilities, beginning of year	$ 500.2	$ 540.2
Net adjustments charged to expense	(0.4)	(10.3)
Payments	(28.3)	(17.8)
Accretion expense (non-cash interest expense)	9.3	9.6
Acquisitions, net of divestitures and other adjustments	1.5	—
Environmental remediation liabilities, end of period	482.3	521.7
Less: current portion	(57.3)	(65.5)
Long-term portion	$ 425.0	$ 456.2

Bridgeton Landfill. During the six months ended June 30, 2020, we paid $15.7 million related to management and monitoring of the remediation area for our closed Bridgeton Landfill in Missouri. We continue to work with state and federal regulatory agencies on our remediation efforts. From time to time, this may require us to modify our future operating timeline and procedures, which could result in changes to our expected liability. As of June 30, 2020, the remediation liability recorded for this site was $128.8 million, of which approximately $8 million is expected to be paid during the remainder of 2020. We believe the remaining reasonably possible high end of our range would be approximately $163 million higher than the amount recorded as of June 30, 2020.

During the six months ended June 30, 2020, we recognized a favorable insurance recovery of $10.8 million related to our closed Bridgeton Landfill as a reduction of remediation expenses in our consolidated statement of income for the applicable period.

West Lake Landfill Superfund Site. Our subsidiary Bridgeton Landfill, LLC is one of several currently designated Potentially Responsible Parties for the West Lake Landfill Superfund site (West Lake) in Missouri. On September 27, 2018, the U.S. Environmental Protection Agency (EPA) issued a Record of Decision Amendment for West Lake that includes a total undiscounted cost estimate of $229 million over a four- to five-year design and construction timeline. On March 11, 2019, the EPA issued special notice letters under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) to Bridgeton Landfill, LLC and the other currently designated Potentially Responsible Parties to initiate negotiations to implement the remedy. At this time we are neither able to predict the final design of that remedy, nor estimate how much of the future response costs of the site our subsidiary may agree or be required to pay. During any subsequent administrative proceedings or litigation, our subsidiary will vigorously contest liability for the costs of remediating radiologically-impacted materials generated on behalf of the federal government during the Manhattan Project and delivered to the site by an Atomic Energy Commission licensee and its subcontractor. Currently, we believe we are adequately reserved for our expected remediation liability. However, subsequent events related to remedy design, divisibility, or allocation may require us to modify our expected remediation liability.

7. DEBT

The carrying value of our notes payable, finance leases and long-term debt as of June 30, 2020 and December 31, 2019 is listed in the following table, and is adjusted for the fair value of interest rate swaps, unamortized discounts, deferred issuance costs and the unamortized portion of adjustments to fair value recorded in purchase accounting. Original issue discounts and adjustments to fair value recorded in purchase accounting are amortized to interest expense over the term of the applicable instrument using the effective interest method.

		June 30, 2020			December 31, 2019		
Maturity	Interest Rate	Principal	Adjustments	Carrying Value	Principal	Adjustments	Carrying Value
Credit facilities:							
Uncommitted Credit Facility	Variable	$ —	$ —	$ —	$ 11.6	$ —	$ 11.6
June 2023	Variable	—	—	—	184.4	—	184.4
Senior notes:							
March 2020	5.000	—	—	—	850.0	(0.1)	849.9
November 2021	5.250	600.0	(0.6)	599.4	600.0	(0.8)	599.2
June 2022	3.550	850.0	(2.1)	847.9	850.0	(2.6)	847.4
May 2023	4.750	550.0	12.5	562.5	550.0	2.6	552.6
August 2024	2.500	900.0	(7.4)	892.6	900.0	(8.3)	891.7
March 2025	3.200	500.0	(3.3)	496.7	500.0	(3.6)	496.4
July 2026	2.900	500.0	(3.6)	496.4	500.0	(3.9)	496.1
November 2027	3.375	650.0	(4.8)	645.2	650.0	(5.2)	644.8
May 2028	3.950	800.0	(15.0)	785.0	800.0	(15.7)	784.3
March 2030	2.300	600.0	(6.8)	593.2	—	—	—
March 2035	6.086	181.9	(13.7)	168.2	181.9	(13.9)	168.0
March 2040	6.200	399.9	(3.6)	396.3	399.9	(3.7)	396.2
May 2041	5.700	385.7	(5.2)	380.5	385.7	(5.3)	380.4
March 2050	3.050	400.0	(7.4)	392.6	—	—	—
Debentures:							
May 2021	9.250	35.3	(0.2)	35.1	35.3	(0.4)	34.9
September 2035	7.400	148.1	(32.6)	115.5	148.1	(33.0)	115.1
Tax-exempt:							
2020 - 2050	0.400 - 3.000	1,126.2	(6.8)	1,119.4	1,122.4	(6.2)	1,116.2
Finance leases:							
2020 - 2055	1.882 - 12.203	131.5	—	131.5	119.3	—	119.3
Total Debt		$ 8,758.6	$ (100.6)	8,658.0	$ 8,788.6	$ (100.1)	8,688.5
Less: current portion				(60.0)			(929.9)
Long-term portion				$ 8,598.0			$ 7,758.6

Credit Facilities

In 2018, we entered into a $2.25 billion unsecured revolving credit facility (the Credit Facility), which replaced our $1.0 billion and $1.25 billion unsecured credit facilities that would have matured in May 2021 and June 2019, respectively. The Credit Facility matures in June 2023. We may request two one-year extensions of the maturity date but none of the lenders are committed to participate in such extension. The Credit Facility also includes a feature that allows us to increase availability, at our option, by an aggregate amount of up to $1.0 billion through increased commitments from existing lenders or the addition of new lenders. At our option, borrowings under the Credit Facility bear interest at a Base Rate, or a Eurodollar Rate, plus an applicable margin based on our Debt Ratings (all as defined in the Credit Facility agreement).

The Credit Facility is subject to facility fees based on applicable rates defined in the Credit Facility agreement and the aggregate commitment, regardless of usage. Availability under our Credit Facility totaled $1,885.2 million and $1,696.9 million as of June 30, 2020 and December 31, 2019, respectively. The Credit Facility can be used for working capital, capital expenditures, acquisitions, letters of credit and other general corporate purposes. The Credit Facility agreement requires us to comply with financial and other covenants. We may pay dividends and repurchase common stock if we are in compliance with these covenants.

As of June 30, 2020, we had no borrowings under our Credit Facility, and as of December 31, 2019, we had $184.4 million of borrowings under our Credit Facility. We had $348.1 million and $351.4 million of letters of credit outstanding under our Credit Facility as of June 30, 2020 and December 31, 2019, respectively.

In July 2020, we executed an amendment to the Credit Facility agreement to increase flexibility and reduce restrictions, in particular, for future acquisitions. Effective June 30, 2020, the amendment eliminated the consolidated interest coverage ratio and revised the sole remaining financial covenant, total debt to EBITDA ratio.

We also have an Uncommitted Credit Facility, which bears interest at LIBOR, plus an applicable margin. We can use borrowings under the Uncommitted Credit Facility for working capital and other general corporate purposes. The agreement governing our Uncommitted Credit Facility requires us to comply with certain covenants. The Uncommitted Credit Facility may be terminated by either party at any time. As of June 30, 2020, we had no borrowings outstanding under our Uncommitted Credit Facility, and as of December 31, 2019, we had $11.6 million of borrowings outstanding under our Uncommitted Credit Facility.

Senior Notes and Debentures

In February 2020, we issued $600.0 million of 2.300% senior notes due 2030 (the 2.300% Notes) and $400.0 million of 3.050% senior notes due 2050 (the 3.050% Notes). We used the net proceeds from the 2.300% Notes and 3.050% Notes to repay $850.0 million of 5.000% senior notes that matured in March 2020. The remaining proceeds were used to repay amounts outstanding under our unsecured credit facilities as well as for general corporate purposes.

Our senior notes and debentures are general unsecured obligations. Interest is payable semi-annually.

Interest Rate Swap and Lock Agreements

Our ability to obtain financing through the capital markets is a key component of our financial strategy. Historically, we have managed risk associated with executing this strategy, particularly as it relates to fluctuations in interest rates, by using a combination of fixed and floating rate debt. From time to time, we also have entered into interest rate swap and lock agreements to manage risk associated with interest rates, either to effectively convert specific fixed rate debt to a floating rate (fair value hedges), or to lock interest rates in anticipation of future debt issuances (cash flow hedges).

Fair Value Hedges

During the second half of 2013, we entered into various interest rate swap agreements relative to our 4.750% fixed rate senior notes due in May 2023. The goal was to reduce overall borrowing costs and rebalance our debt portfolio's ratio of fixed-to-floating interest rates. As of June 30, 2020, these swap agreements had a total notional value of $300.0 million and mature in May 2023, which is identical to the maturity of the hedged senior notes. We pay interest at floating rates based on changes in LIBOR and receive interest at a fixed rate of 4.750%. These transactions were designated as fair value hedges because the swaps hedge against the changes in fair value of the fixed rate senior notes resulting from changes in interest rates.

As of June 30, 2020 and December 31, 2019, the interest rate swap agreements are reflected at their fair value of $21.8 million and $10.7 million, respectively, and are included in other assets in our consolidated balance sheet. To the extent they are effective, these interest rate swap agreements are included as an adjustment to long-term debt in our consolidated balance sheets.

We recognized net interest income of $1.3 million and $0.1 million during the three months ended June 30, 2020 and 2019, respectively, and net interest income of $2.0 million and $0.2 million during the six months ended June 30, 2020 and 2019, respectively, related to net settlements for these interest rate swap agreements, which is included as an offset to interest expense in our consolidated statements of income.

For the three months ended June 30, 2020 and 2019, we recognized a gain of less than $0.1 million and a loss of $5.5 million, respectively, on the change in fair value of the hedged senior notes and gains of $0.8 million and $5.7 million, respectively, on the related interest rate swaps, both attributable to changes in the benchmark interest rate. For the six months ended June 30, 2020 and 2019, we recognized losses of $9.7 million and $8.9 million, respectively, on the change in fair value of the hedged senior notes, with offsetting gains of $11.1 million and $9.1 million, respectively, on the related interest rate swaps, both attributable to changes in the benchmark interest rate. The difference of these fair value changes for the three and six months ended June 30, 2020 and 2019 was recorded directly in earnings as an adjustment to interest expense in our consolidated statements of income.

For further detail regarding the effect of our fair value hedging on interest expense, refer to Note 11, *Financial Instruments*, of the notes to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Cash Flow Hedges

As of June 30, 2020 and December 31, 2019, our interest rate lock agreements had an aggregate notional value of $200.0 million and $575.0 million, respectively, with fixed interest rates ranging from 0.784% to 2.374% and 1.330% to 3.000%, respectively. We entered into these transactions to manage exposure to fluctuations in interest rates in anticipation of planned future issuances of senior notes in 2020 and 2021. Upon the expected issuance of senior notes, we terminate the interest rate locks and settle with our counterparties. These transactions were accounted for as cash flow hedges.

The fair value of our interest rate locks was determined using standard valuation models with assumptions about interest rates being based on those observed in underlying markets (Level 2 in the fair value hierarchy). The aggregate fair values of the outstanding interest rate locks as of June 30, 2020 were liabilities of $11.2 million, which were recorded in other long-term liabilities in our consolidated balance sheet. As of December 31, 2019, the aggregate fair values of the outstanding interest rate locks were assets of $3.6 million, which were recorded in prepaid expenses and other current assets in our consolidated balance sheet and liabilities of $15.7 million, which were recorded in other accrued liabilities and other long-term liabilities in our consolidated balance sheet.

Total unrealized loss recognized in other comprehensive income for interest rate locks was $0.1 million and $19.9 million, net of tax, for the three months ended June 30, 2020 and 2019, respectively. Total unrealized loss recognized in other comprehensive income for interest rate locks was $22.3 million and $31.2 million, net of tax, for the six months ended June 30, 2020 and 2019, respectively.

As of June 30, 2020 and December 31, 2019, our previously terminated interest rate locks were recorded as components of accumulated other comprehensive loss, net of tax of $25.7 million and $4.7 million, respectively. The amortization of the terminated interest rate locks is recorded as an adjustment to interest expense over the life of the issued debt using the effective interest method. Over the next 12 months, we expect to amortize approximately $4.5 million, net of tax, from accumulated other comprehensive loss to interest expense as a yield adjustment of our senior notes.

For further detail regarding the effect of our cash flow hedging on interest expense, refer to Note 11, *Financial Instruments*, of the notes to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Derivative Contracts

Contemporaneously with the issuance of our 2.300% Notes in February 2020, we amended interest rate lock agreements with a notional value of $550.0 million, extending the mandatory maturity date from 2020 to 2030 and dedesignated them as cash flow hedges (the 2020 Extended Interest Rate Locks). Contemporaneously with the issuance of our 2.500% Notes in August 2019, we amended interest rate lock agreements with a notional value of $375.0 million, extending the mandatory maturity date from 2019 to 2024 and dedesignated them as cash flow hedges (collectively with the 2020 Extended Interest Rate Locks referred to as the Extended Interest Rate Locks). There was no ineffectiveness recognized in the termination of these cash flow hedges. In addition, we entered into offsetting interest rate swaps to offset future exposures to fair value fluctuations of the Extended Interest Rate Locks (the Offsetting Interest Rate Swaps). The fair value of these free-standing derivatives was determined using standard valuation models with assumptions about interest rates being based on those observed in underlying markets (Level 2 in the fair value hierarchy).

As of June 30, 2020 and December 31, 2019, the fair values of the Extended Interest Rate Locks were liabilities of $122.8 million and $22.2 million, respectively, which were included in other long-term liabilities in our consolidated balance sheets, and the fair values of the Offsetting Interest Rate Swaps were assets of $72.1 million and $2.9 million, respectively, and were included in other assets in our consolidated balance sheets. For the three and six months ended June 30, 2020, we recognized losses of $10.2 million and $71.5 million, respectively, on the change in fair value of the Extended Interest Rate Locks, with offsetting gains of $10.6 million and $69.2 million, respectively, on the Offsetting Interest Rate Swaps. The change in fair value was recorded directly in earnings as an adjustment to interest expense in our consolidated statements of income.

Tax-Exempt Financings

As of June 30, 2020, we had $1,119.4 million of certain variable rate tax-exempt financings outstanding with maturities ranging from 2020 to 2050. As of December 31, 2019, we had $1,116.2 million of certain variable rate tax-exempt financings outstanding with maturities ranging from 2020 to 2049. During the second quarter of 2020, we issued $60.0 million of tax-exempt financings. During the second quarter of 2019, we refinanced $35.0 million of tax-exempt financings and issued $30.0 million of new tax-exempt financings.

All of our tax-exempt financings are remarketed either quarterly or semiannually by remarketing agents to effectively maintain a variable yield. The holders of the bonds can put them back to the remarketing agents at the end of each interest period. If the remarketing agent is unable to remarket our bonds, the remarketing agent can put the bonds to us. In the event of a failed remarketing, we currently have availability under our $2.25 billion unsecured revolving credit facility to fund these bonds until they are remarketed successfully. Accordingly, we have classified these borrowings as long-term in our consolidated balance sheets as of June 30, 2020 and December 31, 2019.

Finance Leases

We had finance lease liabilities of $131.5 million as of June 30, 2020 with maturities ranging from 2020 to 2055. We had finance lease liabilities of $119.3 million as of December 31, 2019 with maturities ranging from 2020 to 2049.

8. INCOME TAXES

Our effective tax rate, exclusive of non-controlling interests, for the three and six months ended June 30, 2020 was 24.7% and 24.1%, respectively. Our effective tax rate, exclusive of non-controlling interests, for the three and six months ended June 30, 2019 was 23.6% and 24.3%, respectively.

Cash paid for income taxes was $6.6 million for the six months ended June 30, 2020 and a net refund of $10.5 million for the same period in 2019. The net refund received for the six months ended June 30, 2019 was due to the receipt of funds from amended tax returns.

We have deferred tax assets related to state net operating loss carryforwards. We provide a partial valuation allowance due to uncertainty surrounding the future utilization of these carryforwards in the taxing jurisdictions where the loss carryforwards exist. When determining the need for a valuation allowance, we consider all positive and negative evidence, including recent financial results, scheduled reversals of deferred tax liabilities, projected future taxable income and tax planning strategies.

As a result of our ongoing efforts to evaluate, streamline and maximize the efficiency of our tax footprint, we could adjust our valuation allowance in a future period if there is sufficient evidence to support a conclusion that it is more certain than not that a portion of the state net operating loss carryforwards, on which we currently provide a valuation allowance, would be realized. Future changes in our valuation allowance could have a material effect on our results of operations in the period recorded.

The realization of our deferred tax asset for state loss carryforwards ultimately depends upon the existence of sufficient taxable income in the appropriate state taxing jurisdictions in future periods. The weight given to the positive and negative evidence is commensurate with the extent such evidence can be objectively verified. We continue to regularly monitor both positive and negative evidence in determining the ongoing need for a valuation allowance. As of June 30, 2020, the valuation allowance associated with our state loss carryforwards was approximately $67 million, which we believe is sufficient at this time.

Given the various uncertainties surrounding the COVID-19 pandemic, we will continue to review our estimates for recoverability of our state loss carryforwards on, at least, a quarterly basis.

We are subject to income tax in the United States and Puerto Rico, as well as in multiple state jurisdictions. Our compliance with income tax rules and regulations is periodically audited by taxing authorities. These authorities may challenge the positions taken in our tax filings. We are currently under examination by the Internal Revenue Service for tax years 2015 through 2017, as well as state and local taxing authorities and Puerto Rico for various tax years.

We believe our recorded liabilities for uncertain tax positions are adequate. However, a significant assessment against us in excess of the liabilities recorded could have a material adverse effect on our consolidated financial position, results of operations and cash flows. As of June 30, 2020, we are unable to estimate the resolution of our gross unrecognized benefits over the next 12 months.

We recognize interest and penalties as incurred within the provision for income taxes in the consolidated statement of income. As of June 30, 2020, we accrued a liability for penalties of $0.3 million and a liability for interest (including interest on penalties) of $12.1 million related to our uncertain tax positions.

9. STOCK REPURCHASES, DIVIDENDS AND EARNINGS PER SHARE

Available Shares

We currently have approximately 12.3 million shares of common stock reserved for future grants under the Republic Services, Inc. Amended and Restated 2007 Stock Incentive Plan.

Stock Repurchases

Stock repurchase activity during the three and six months ended June 30, 2020 and 2019 follows (in millions, except per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Number of shares repurchased	—	1.1	1.2	2.6
Amount paid	$ —	$ 91.0	$ 98.8	$ 202.5
Weighted average cost per share	$ —	$ 82.63	$ 85.06	$ 78.11

As of June 30, 2020, no repurchased shares were pending settlement. As of June 30, 2019, less than 0.1 million repurchased shares were pending settlement.

In October 2017, our Board of Directors added $2.0 billion to the existing share repurchase authorization that now extends through December 31, 2020. Share repurchases under the program may be made through open market purchases or privately negotiated transactions in accordance with applicable federal securities laws. While the Board of Directors has approved the program, the timing of any purchases, the prices and the number of shares of common stock to be purchased will be determined by our management, at its discretion, and will depend upon market conditions and other factors. The share repurchase program may be extended, suspended or discontinued at any time. As of June 30, 2020, the remaining authorized purchase capacity under our October 2017 repurchase program was $605.8 million.

Dividends

In April 2020, our Board of Directors approved a quarterly dividend of $0.405 per share. Cash dividends declared were $257.9 million for the six months ended June 30, 2020. As of June 30, 2020, we recorded a quarterly dividend payable of $129.0 million to shareholders of record at the close of business on July 1, 2020.

Earnings per Share

Basic earnings per share is computed by dividing net income attributable to Republic Services, Inc. by the weighted average number of common shares (including vested but unissued RSUs and PSUs) outstanding during the period. Diluted earnings per share is based on the combined weighted average number of common shares and common share equivalents outstanding, which include, where appropriate, the assumed exercise of employee stock options, unvested RSUs and unvested PSUs at the expected attainment levels. We use the treasury stock method in computing diluted earnings per share.

Earnings per share for the three and six months ended June 30, 2020 and 2019 are calculated as follows (in thousands, except per share amounts):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Basic earnings per share:				
Net income attributable to Republic Services, Inc.	$ 225,500	$ 251,500	$ 471,800	$ 485,700
Weighted average common shares outstanding	319,047	321,718	319,312	322,000
Basic earnings per share	$ 0.71	$ 0.78	$ 1.48	$ 1.51
Diluted earnings per share:				
Net income attributable to Republic Services, Inc.	$ 225,500	$ 251,500	$ 471,800	$ 485,700
Weighted average common shares outstanding	319,047	321,718	319,312	322,000
Effect of dilutive securities:				
Options to purchase common stock	71	432	81	469
Unvested RSU awards	173	240	195	234
Unvested PSU awards	271	375	308	406
Weighted average common and common equivalent shares outstanding	319,562	322,765	319,896	323,109
Diluted earnings per share	$ 0.71	$ 0.78	$ 1.47	$ 1.50

There were 0.1 million antidilutive securities outstanding during each of the three and six months ended June 30, 2020. During the three and six months ended June 30, 2019, there were no antidilutive securities outstanding.

10. CHANGES IN ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS) BY COMPONENT

A summary of changes in accumulated other comprehensive income (loss), net of tax, by component, for the six months ended June 30, 2020 follows:

	Cash Flow Hedges	Defined Benefit Pension Items	Total
Balance as of December 31, 2019	$ (13.7)	$ 15.9	$ 2.2
Other comprehensive (loss) income before reclassifications	(22.3)	1.6	(20.7)
Amounts reclassified from accumulated other comprehensive loss	2.0	—	2.0
Net current period other comprehensive (loss) income	(20.3)	1.6	(18.7)
Balance as of June 30, 2020	$ (34.0)	$ 17.5	$ (16.5)

A summary of reclassifications out of accumulated other comprehensive income (loss) for the three and six months ended June 30, 2020 and 2019 follows:

	Three Months Ended June 30,		Six Months Ended June 30,		
	2020	2019	2020	2019	
Details about Accumulated Other Comprehensive Income (Loss) Components	Amount Reclassified from Accumulated Other Comprehensive Income (Loss)		Amount Reclassified from Accumulated Other Comprehensive Income (Loss)		Affected Line Item in the Statement where Net Income is Presented
Gain (loss) gain on cash flow hedges:					
Terminated interest rate locks	$ (1.6)	$ 0.3	$ (2.7)	$ 0.4	Interest expense
Total before tax	(1.6)	0.3	(2.7)	0.4	
Tax benefit (expense)	0.4	(0.1)	0.7	(0.1)	
Total (loss) gain reclassified into earnings, net of tax	$ (1.2)	$ 0.2	$ (2.0)	$ 0.3	

11. FINANCIAL INSTRUMENTS

The effect of our hedging relationships and derivative instruments on the consolidated statements of income for the three and six months ended June 30, 2020 and 2019 follows (in millions):

	Classification and amount of gain (loss) recognized in income on hedging relationships and derivative instruments			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	Interest Expense	Interest Expense	Interest Expense	Interest Expense
Total amount of expense line items presented in the consolidated statements of income in which the effects of hedging relationships and derivative instruments are recorded	$ (91.6)	$ (98.5)	$ (188.2)	$ (198.9)
The effects of fair value and cash flow hedging relationships in Subtopic 815-20:				
Gain on fair value hedging relationships:				
Interest rate swaps:				
Net swap settlements	$ 1.3	$ 0.1	$ 2.0	$ 0.2
Net periodic earnings	$ 0.8	$ 0.2	$ 1.4	$ 0.2
(Loss) gain on cash flow hedging relationships:				
Interest rate swap locks:				
Amount of (loss) gain reclassified from accumulated other comprehensive income (loss) into income, net of tax	$ (1.2)	$ 0.2	$ (2.0)	$ 0.3
The effects of derivative instruments not in Subtopic 815-20:				
Gain (loss) on free-standing derivative instruments:				
Interest rate contract:				
Net gain (loss) on change in fair value of free-standing derivative instruments	$ 0.4	$ —	$ (2.3)	$ —

Fair Value Measurements

In measuring fair values of assets and liabilities, we use valuation techniques that maximize the use of observable inputs (Level 1) and minimize the use of unobservable inputs (Level 3). We also use market data or assumptions that we believe market participants would use in pricing an asset or liability, including assumptions about risk when appropriate.

The carrying value for certain of our financial instruments, including cash, accounts receivable, current investments, accounts payable and certain other accrued liabilities, approximates fair value because of their short-term nature. As of June 30, 2020 and December 31, 2019, our assets and liabilities that are measured at fair value on a recurring basis include the following:

	June 30, 2020				
		Fair Value			
	Carrying Amount	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:					
Money market mutual funds	$ 45.2	$ 45.2	$ 45.2	$ —	$ —
Bonds - restricted cash and marketable securities and other assets	62.4	62.4	—	62.4	—
Interest rate swaps - other assets	21.8	21.8	—	21.8	—
Other derivative assets - other assets	72.1	72.1	—	72.1	—
Total assets	$ 201.5	$ 201.5	$ 45.2	$ 156.3	$ —
Liabilities:					
Other derivative liabilities - other long-term liabilities	$ 122.8	$ 122.8	$ —	$ 122.8	$ —
Interest rate locks - other long-term liabilities	11.2	11.2	—	11.2	—
Contingent consideration - other accrued liabilities and other long-term liabilities	71.2	71.2	—	—	71.2
Total liabilities	$ 205.2	$ 205.2	$ —	$ 134.0	$ 71.2

	December 31, 2019				
		Fair Value			
	Carrying Amount	Total	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:					
Money market mutual funds	$ 43.0	$ 43.0	$ 43.0	$ —	$ —
Bonds - restricted cash and marketable securities and other assets	51.6	51.6	—	51.6	—
Interest rate swaps - other assets	10.7	10.7	—	10.7	—
Other derivative assets - other assets	2.9	2.9	—	2.9	—
Interest rate locks - prepaid expenses and other current assets	3.6	3.6	—	3.6	—
Total assets	$ 111.8	$ 111.8	$ 43.0	$ 68.8	$ —
Liabilities:					
Other derivative liabilities - other long-term liabilities	$ 22.2	$ 22.2	$ —	$ 22.2	$ —
Interest rate locks - other accrued liabilities and other long-term liabilities	15.7	15.7	—	15.7	—
Contingent consideration - other accrued liabilities and other long-term liabilities	72.0	72.0	—	—	72.0
Total liabilities	$ 109.9	$ 109.9	$ —	$ 37.9	$ 72.0

Total Debt

As of June 30, 2020 and December 31, 2019, the carrying value of our total debt was $8.7 billion and the fair value of our total debt was $9.8 billion and $9.4 billion, respectively. The estimated fair value of our fixed rate senior notes and debentures is based on quoted market prices. The fair value of our remaining notes payable, tax-exempt financings and borrowings under our credit facilities approximates the carrying value because the interest rates are variable. The fair value estimates are based on Level 2 inputs of the fair value hierarchy as of June 30, 2020 and December 31, 2019. See Note 7, *Debt*, for further information related to our debt.

Contingent Consideration

In April 2015, we entered into a waste management contract with the County of Sonoma, California to operate the county's waste management facilities. As of June 30, 2020, the Sonoma contingent consideration represents the fair value of $64.9 million payable to the County of Sonoma based on the achievement of future annual tonnage targets through the expected remaining capacity of the landfill. The potential undiscounted amount of all future contingent payments that we could be required to make under the waste management contract is estimated to be between approximately $75 million and $165 million. During the six months ended June 30, 2020, the activity in the contingent consideration liability included accretion, which was offset by concession payments made in the ordinary course of business. There were no changes to the estimate of fair value.

In 2017, we recognized additional contingent consideration associated with the acquisition of a landfill. As of June 30, 2020, the contingent consideration of $3.7 million represents the fair value of amounts payable to the seller based on annual volume of tons disposed at the landfill. During the six months ended June 30, 2020, the activity in the contingent consideration liability included accretion, which was offset by concession payments made in the ordinary course of business. There were no changes to the estimate of fair value.

In June 2019, we recognized additional contingent consideration associated with the acquisition of a collection business. As of June 30, 2020, the contingent consideration of $2.6 million represents the fair value of amounts payable to the seller based on annual volume of tons collected from certain customers of the business. During the six months ended June 30, 2020, the activity in the contingent consideration liability included accretion. There were no changes to the estimate of fair value.

12. SEGMENT REPORTING

Our senior management evaluates, oversees and manages the financial performance of our operations through two field groups, referred to as Group 1 and Group 2. Group 1 primarily consists of geographic areas located in the western United States, and Group 2 primarily consists of geographic areas located in the southeastern and mid-western United States, and the eastern seaboard of the United States. These two groups are presented below as our reportable segments, which provide integrated waste management services consisting of non-hazardous solid waste collection, transfer, recycling, disposal and environmental services.

Summarized financial information concerning our reportable segments for the three and six months ended June 30, 2020 and 2019 follows:

	Gross Revenue	Intercompany Revenue	Net Revenue	Depreciation, Amortization, Depletion and Accretion	Operating Income (Loss)	Capital Expenditures	Total Assets
Three Months Ended June 30, 2020							
Group 1	$ 1,474.8	$ (244.7)	$ 1,230.1	$ 130.8	$ 318.5	$ 151.8	$ 11,417.1
Group 2	1,392.8	(208.0)	1,184.8	132.4	225.6	133.2	9,377.1
Corporate entities	45.1	(5.6)	39.5	26.7	(148.9)	(3.4)	2,032.1
Total	$ 2,912.7	$ (458.3)	$ 2,454.4	$ 289.9	$ 395.2	$ 281.6	$ 22,826.3
Three Months Ended June 30, 2019							
Group 1	$ 1,528.6	$ (264.2)	$ 1,264.4	$ 126.9	$ 309.2	$ 137.1	$ 11,274.7
Group 2	1,529.7	(226.7)	1,303.0	132.5	228.0	121.9	9,050.5
Corporate entities	42.4	(4.5)	37.9	25.3	(99.8)	30.4	1,671.6
Total	$ 3,100.7	$ (495.4)	$ 2,605.3	$ 284.7	$ 437.4	$ 289.4	$ 21,996.8

	Gross Revenue	Intercompany Revenue	Net Revenue	Depreciation, Amortization, Depletion and Accretion	Operating Income (Loss)	Capital Expenditures	Total Assets
Six Months Ended June 30, 2020							
Group 1	$ 2,982.4	$ (497.7)	$ 2,484.7	$ 259.3	$ 630.3	$ 284.9	$ 11,417.1
Group 2	2,860.7	(417.4)	2,443.3	266.9	460.0	233.5	9,377.1
Corporate entities	91.1	(10.8)	80.3	53.2	(262.1)	136.3	2,032.1
Total	$ 5,934.2	$ (925.9)	$ 5,008.3	$ 579.4	$ 828.2	$ 654.7	$ 22,826.3
Six Months Ended June 30, 2019							
Group 1	$ 2,959.6	$ (501.9)	$ 2,457.7	$ 248.4	$ 597.5	$ 235.6	$ 11,274.7
Group 2	2,967.7	(425.0)	2,542.7	258.5	451.3	214.9	9,050.5
Corporate entities	83.7	(8.2)	75.5	49.8	(188.6)	138.2	1,671.6
Total	$ 6,011.0	$ (935.1)	$ 5,075.9	$ 556.7	$ 860.2	$ 588.7	$ 21,996.8

Intercompany revenue reflects transactions within and between segments that generally are made on a basis intended to reflect the market value of such services. Capital expenditures for corporate entities primarily include vehicle inventory acquired but not yet assigned to operating locations and facilities. Corporate functions include legal, tax, treasury, information technology, risk management, human resources, closed landfills and other administrative functions.

13. REVENUE

Our operations primarily consist of providing collection, transfer and disposal of non-hazardous solid waste, recovering and recycling of certain materials, and environmental services. The following table disaggregates our revenue by service line for the three and six months ended June 30, 2020 and 2019 (in millions of dollars and as a percentage of revenue):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
Collection:								
Residential	$ 573.6	23.4 %	$ 570.1	21.9 %	$ 1,142.1	22.8 %	$ 1,127.5	22.2 %
Small-container	742.4	30.3	792.0	30.4	1,548.1	30.9	1,570.0	30.9
Large-container	501.3	20.4	573.9	22.0	1,053.7	21.0	1,104.5	21.8
Other	12.6	0.5	11.7	0.4	24.9	0.5	22.5	0.4
Total collection	1,829.9	74.6	1,947.7	74.7	3,768.8	75.2	3,824.5	75.3
Transfer	330.5		344.7		652.4		639.6	
Less: intercompany	(180.4)		(193.5)		(366.0)		(365.5)	
Transfer, net	150.1	6.1	151.2	5.8	286.4	5.7	274.1	5.4
Landfill	564.0		607.5		1,122.3		1,142.8	
Less: intercompany	(248.3)		(270.1)		(500.6)		(508.6)	
Landfill, net	315.7	12.9	337.4	13.0	621.7	12.4	634.2	12.5
Environmental services	30.1	1.2	40.8	1.6	76.9	1.6	85.9	1.7
Other:								
Recycling processing and commodity sales	73.5	3.0	71.9	2.7	141.3	2.8	144.6	2.9
Other non-core	55.1	2.2	56.3	2.2	113.2	2.3	112.6	2.2
Total other	128.6	5.2	128.2	4.9	254.5	5.1	257.2	5.1
Total revenue	$ 2,454.4	100.0 %	$ 2,605.3	100.0 %	$ 5,008.3	100.0 %	$ 5,075.9	100.0 %

Other non-core revenue consists primarily of revenue from National Accounts, which represents the portion of revenue generated from nationwide or regional contracts in markets outside our operating areas where the associated waste handling services are subcontracted to local operators. Consequently, substantially all of this revenue is offset with related subcontract costs, which are recorded in cost of operations.

The factors that impact the timing and amount of revenue recognized for each service line may vary based on the nature of the service performed. Generally, we recognize revenue at the time we perform a service. In the event that we bill for services in advance of performance, we recognize deferred revenue for the amount billed and subsequently recognize revenue at the time the service is provided. Substantially all of the deferred revenue recognized as of December 31, 2019 was recognized as revenue during the six months ended June 30, 2020 when the service was performed.

See Note 12, *Segment Reporting,* for additional information regarding revenue by reportable segment.

Revenue Recognition

Our service obligations of a long-term nature, e.g., certain solid waste collection service contracts, are satisfied over time, and we recognize revenue based on the value provided to the customer during the period. The amount billed to the customer is based on variable elements such as the number of residential homes or businesses for which collection services are provided, the volume of waste collected, transported and disposed, and the nature of the waste accepted. We do not disclose the value of unsatisfied performance obligations for these contracts as our right to consideration corresponds directly to the value provided to the customer for services completed to date and all future variable consideration is allocated to wholly unsatisfied performance obligations.

Additionally, certain elements of our long-term customer contracts are unknown upon entering into the contract, including the amount that will be billed in accordance with annual price escalation clauses, our fuel recovery fee program and commodity prices. The amount to be billed is often tied to changes in an underlying base index such as a consumer price index or a fuel or commodity index, and revenue can be recognized once the index is established for the period.

Deferred Contract Costs

We incur certain upfront payments to acquire customer contracts which are recognized as other assets in our consolidated balance sheet, and we amortize the asset over the respective contract life. In addition, we recognize sales commissions that represent an incremental cost of the contract as other assets in our consolidated balance sheets, and we amortize the asset over the average life of the customer relationship. As of June 30, 2020 and December 31, 2019, we recognized $80.4 million and $83.1 million, respectively, of deferred contract costs and capitalized sales commissions. During the three and six months ended June 30, 2020, we amortized $3.2 million and $6.2 million, respectively, of capitalized sales commissions to selling, general and administrative expenses and we amortized $1.7 million and $3.3 million, respectively, of other deferred contract costs as a reduction of revenue. During the three and six months ended June 30, 2019, we amortized $3.0 million and $6.0 million, respectively, of capitalized sales commissions to selling, general and administrative expenses and we amortized $1.5 million and $3.0 million, respectively, of other deferred contract costs as a reduction of revenue.

Effective January 1, 2020, we adopted ASU 2016-13. In accordance with the standard, we evaluated the impairment considerations for our deferred contract cost assets based on an expected credit loss assessment. We considered the impact of the COVID-19 pandemic on our business, noting no significant changes to our expected credit loss assessment.

14. COMMITMENTS AND CONTINGENCIES

Legal Proceedings

We are subject to extensive and evolving laws and regulations and have implemented safeguards to respond to regulatory requirements. In the normal course of our business, we become involved in legal proceedings. Some may result in fines, penalties or judgments against us, or settlements, which may impact earnings and cash flows for a particular period. Although we cannot predict the ultimate outcome of any legal matter with certainty, we do not believe the outcome of any of our pending legal proceedings will have a material adverse impact on our consolidated financial position, results of operations or cash flows.

As used herein, the term *legal proceedings* refers to litigation and similar claims against us and our subsidiaries, excluding: (1) ordinary course accidents, general commercial liability and workers' compensation claims, which are covered by insurance programs, subject to customary deductibles, and which, together with insured employee health care costs, are discussed in Note 5, *Other Liabilities;* and (2) environmental remediation liabilities, which are discussed in Note 6, *Landfill and Environmental Costs.*

We accrue for legal proceedings when losses become probable and reasonably estimable. We have recorded an aggregate accrual of approximately $26 million relating to our outstanding legal proceedings as of June 30, 2020. As of the end of each applicable reporting period, we review each of our legal proceedings and, where it is probable that a liability has been incurred, we accrue for all probable and reasonably estimable losses. Where we can reasonably estimate a range of losses we may incur regarding such a matter, we record an accrual for the amount within the range that constitutes our best estimate. If we can reasonably estimate a range but no amount within the range appears to be a better estimate than any other, we use the amount that is the low end of such range. If we had used the high ends of such ranges, our aggregate potential liability would be approximately $8 million higher than the amount recorded as of June 30, 2020.

Multiemployer Pension Plans

We participate in multiemployer pension plans that generally provide retirement benefits to participants of contributing employers. We do not administer these plans.

Under current law regarding multiemployer pension plans, a plan's termination, our voluntary withdrawal (which we consider from time to time) or the mass withdrawal of all contributing employers from any under-funded multiemployer pension plan (each, a Withdrawal Event) would require us to make payments to the plan for our proportionate share of the plan's unfunded vested liabilities. During the course of operating our business, we incur Withdrawal Events regarding certain of the multiemployer pension plans in which we participate. We accrue for such events when losses become probable and reasonably estimable.

In June 2020, we entered into an agreement with a certain multiemployer pension fund through which we transitioned from one plan into another plan managed by the same fund, thus creating a withdrawal event from the original plan. As a result of the withdrawal event, we recognized a liability of $31.6 million as of June 30, 2020 that we paid in July 2020.

The COVID-19 pandemic has created significant volatility and disruption of financial markets, which has negatively impacted companies across the globe. We will continue to monitor the Pension Protection Act zone status of the multiemployer pension plans in which we participate, noting that the current economic environment may impact certain contributing employers' ability to fulfill their obligations under the plans. We believe the largest risk is attributable to plans in the critical red zone, which are less than 65% funded. In the event other contributing employers default on their obligations under the plans, we could be required to adjust our estimates for these matters, which could have a material and adverse effect on our consolidated financial position, results of operations and cash flows.

Restricted Cash and Marketable Securities

Restricted cash and restricted cash equivalents are included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. Beginning-of-period and end-of-period cash, cash equivalents, restricted cash and restricted cash equivalents as presented in the statement of cash flows is reconciled as follows:

	June 30, 2020	December 31, 2019	June 30, 2019	December 31, 2018
Cash and cash equivalents	$ 269.7	$ 47.1	$ 72.5	$ 70.5
Restricted cash and marketable securities	142.6	179.4	119.2	108.1
Less: restricted marketable securities	(61.6)	(49.1)	(48.0)	(45.3)
Cash, cash equivalents, restricted cash and restricted cash equivalents	$ 350.7	$ 177.4	$ 143.7	$ 133.3

Our restricted cash and marketable securities include, among other things, restricted cash and marketable securities pledged to regulatory agencies and governmental entities as financial guarantees of our performance under certain collection, landfill and transfer station contracts and permits, and relating to our final capping, closure and post-closure obligations at our landfills, restricted cash and marketable securities related to our insurance obligations, and restricted cash related to a payment for a certain maturing tax-exempt financing.

The following table summarizes our restricted cash and marketable securities:

	June 30, 2020	December 31, 2019
Capping, closure and post-closure obligations	$ 31.1	$ 30.6
Insurance	111.5	99.4
Payment for maturing tax-exempt financing	—	49.4
Total restricted cash and marketable securities	$ 142.6	$ 179.4

Off-Balance Sheet Arrangements

We have no off-balance sheet debt or similar obligations, other than short-term operating leases and financial assurances, which are not classified as debt. We have no transactions or obligations with related parties that are not disclosed, consolidated into or reflected in our reported financial position or results of operations. We have not guaranteed any third-party debt.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

You should read the following discussion in conjunction with the unaudited consolidated financial statements and notes thereto included under Part I, Item 1, and the risk factors in Part II, Item 1A of this Quarterly Report on Form 10-Q. In addition, you should refer to our audited consolidated financial statements and notes thereto and related *Management's Discussion and Analysis of Financial Condition and Results of Operations* appearing in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019.

Disclosure Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains certain forward-looking information about us that is intended to be covered by the safe harbor for "forward-looking statements" provided by the Private Securities Litigation Reform Act of 1995. Forward-looking statements are statements that are not historical facts. Words such as "guidance," "expect," "will," "may," "anticipate," "plan," "estimate," "project," "intend," "should," "can," "likely," "could," "outlook" and similar expressions are intended to identify forward-looking statements. In particular, information appearing in this "Management's Discussion and Analysis of Financial Condition and Results of Operations" includes forward-looking statements. These statements include information about our plans, strategies, expectations of future financial performance and prospects. Forward-looking statements are not guarantees of performance. These statements are based upon the current beliefs and expectations of our management and are subject to significant risk and uncertainties that could cause actual results to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot assure you that the expectations will prove to be correct. Among the factors that could cause actual results to differ materially from the expectations expressed in the forward-looking statements are the effects of the COVID-19 pandemic and actions taken in response thereto, as well as acts of war, riots or terrorism, and the impact of these acts on economic, financial and social conditions in the United States as well as our dependence on large, long-term collection, transfer and disposal contracts. More information on factors that could cause actual results or events to differ materially from those anticipated is included from time to time in our reports filed with the Securities and Exchange Commission, including our Annual Report on Form 10-K for the year ended December 31, 2019, particularly under Part I, Item 1A - Risk Factors, and Part II, Item 1A of this Quarterly Report on Form 10-Q. Additionally, new risk factors emerge from time to time and it is not possible for us to predict all such risk factors, or to assess the impact such risk factors might have on our business. We undertake no obligation to update publicly any forward-looking statements whether as a result of new information, future events or otherwise, except as required by law.

Recent Developments

In March 2020, the World Health Organization declared the outbreak of a new strain of coronavirus (COVID-19) a pandemic. The COVID-19 pandemic has negatively impacted the global economy, disrupted global supply chains and created significant volatility and disruption of financial markets. The full extent of the impact of the COVID-19 pandemic on our operations and financial performance will depend on future developments, including the duration and spread of the pandemic, all of which are uncertain and cannot be predicted at this time. An extended period of economic disruption associated with the COVID-19 pandemic could materially and adversely affect our business, results of operations, access to sources of liquidity and financial condition.

Both national and local government agencies have implemented steps with the intent to slow the spread of the virus, including shelter-in-place orders and the mandatory shutdown of certain businesses. During this time, we continued to provide essential services to our customers. In mid-March 2020, certain customers in our small- and large-container businesses began adjusting their service levels, which included a decrease in the frequency of pickups or a temporary pause in service. In addition, we experienced a decline in volumes disposed at certain of our landfills and transfer stations. As service levels decreased, we also experienced a decrease in certain costs of our operations which are variable in nature. This decline in service activity peaked in the first half of April and gradually improved thereafter as local economies began to gradually reopen and customers began to resume service.

The demand for our environmental services business depends on the continued demand for, and production of, oil and natural gas in certain shale basins located in the United States. During the six months ended June 30, 2020, the value of crude oil and natural gas declined to historic lows, resulting in a decrease in rig counts and drilling activity that led to a year-over-year decrease in revenue from our environmental services business. Further declines in the level of production activity may result in an unfavorable change to the long-term strategic outlook for our environmental services business that could result in the recognition of impairment charges on intangible assets and property and equipment associated with this business. On at least a quarterly basis, we will continue to monitor the effect of the evolving COVID-19 pandemic on our business and review our estimates for recoverability of assets used in certain of our operations that are related to strategic investments.

In April 2020, we launched our Committed to Serve initiative, which was intended to help our employees, customers and communities across the United States. We committed $20 million to support frontline employees and their families, as well as small business customers in the local communities where we serve. In addition to this initiative, we have experienced an increase in certain costs of doing business as a direct result of the COVID-19 pandemic, including costs for additional safety equipment and hygiene products and increased facility and equipment cleaning. These costs, which we refer to as business resumption costs, are intended to assist in protecting the safety of our frontline employees as we continue to provide an essential service to our customers. We also incurred incremental costs for expanding certain aspects of our existing healthcare programs and guaranteeing certain frontline employees a minimum hourly work week regardless of service decreases. During the three and six months ended June 30, 2020, we incurred costs of $31.0 million and $34.2 million, respectively, as a direct and incremental result of the COVID-19 pandemic. We expect to incur similar costs throughout 2020, and potentially into future years. The magnitude of the costs we expect to incur throughout the remainder of the year cannot be predicted at this time due to the various uncertainties surrounding the pandemic (e.g., its duration and spread).

The effects of the COVID-19 pandemic on our business are described in more detail in the *Results of Operations* discussion in this *Management's Discussion and Analysis of Financial Condition and Results of Operations.*

Overview

Republic is the second largest provider of non-hazardous solid waste collection, transfer, disposal, recycling, and environmental services in the United States, as measured by revenue. As of June 30, 2020, we operated facilities in 41 states and Puerto Rico through 339 collection operations, 213 transfer stations, 190 active landfills, 78 recycling processing centers, 7 treatment, recovery and disposal facilities, 12 salt water disposal wells and 4 deep injection wells. We are engaged in 75 landfill gas to energy and renewable energy projects and had post-closure responsibility for 130 closed landfills as of June 30, 2020.

Revenue for the six months ended June 30, 2020 decreased by (1.3)% to $5,008.3 million compared to $5,075.9 million for the same period in 2019. This change in revenue is due to decreases in volumes of (3.7)%, fuel recovery fees of (0.5)%, and environmental services of (0.7)%, partially offset by increases in average yield of 2.7%, and acquisitions, net of divestitures of 0.9%.

The following table summarizes our revenue, expenses and operating income for the three and six months ended June 30, 2020 and 2019 (in millions of dollars and as a percentage of revenue):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
Revenue	$ 2,454.4	100.0 %	$ 2,605.3	100.0 %	$ 5,008.3	100.0 %	$ 5,075.9	100.0 %
Expenses:								
Cost of operations	1,468.1	59.8	1,617.0	62.1	3,018.2	60.3	3,123.1	61.5
Depreciation, amortization and depletion of property and equipment	254.4	10.4	251.0	9.6	508.2	10.2	489.8	9.7
Amortization of other intangible assets	5.2	0.2	5.0	0.2	10.5	0.2	9.7	0.2
Amortization of other assets	9.5	0.4	8.2	0.3	19.0	0.4	16.3	0.3
Accretion	20.8	0.8	20.5	0.8	41.7	0.8	40.9	0.8
Selling, general and administrative	262.1	10.7	264.5	10.1	539.2	10.8	530.9	10.4
Withdrawal costs - multiemployer pension funds	31.6	1.3	—	—	35.9	0.7	—	—
Loss on business divestitures and impairments, net	5.3	0.2	0.2	—	1.4	—	0.5	—
Restructuring charges	2.2	0.1	1.5	0.1	6.0	0.1	4.5	0.1
Operating income	$ 395.2	16.1 %	$ 437.4	16.8 %	$ 828.2	16.5 %	$ 860.2	17.0 %

Our pre-tax income was $300.1 million and $622.7 million for the three and six months ended June 30, 2020, respectively, compared to $328.6 million and $641.4 million for the same respective periods in 2019. Our net income attributable to Republic Services, Inc. was $225.5 million and $471.8 million for the three and six months ended June 30, 2020, or $0.71 and $1.47 per diluted share, respectively, compared to $251.5 million and $485.7 million, or $0.78 and $1.50 per diluted share, for the same periods in 2019, respectively.

During each of the three and six months ended June 30, 2020 and 2019, we recorded a number of charges, other expenses and benefits that impacted our pre-tax income, net income attributable to Republic Services, Inc. (net income – Republic) and diluted earnings per share as noted in the following table (in millions, except per share data). Additionally, see the *Results of Operations* discussion of this *Management's Discussion and Analysis of Financial Condition and Results of Operations* for a discussion of other items that impacted our earnings during the three and six months ended June 30, 2020 and 2019.

	Three Months Ended June 30, 2020			Three Months Ended June 30, 2019		
	Pre-tax Income	Net Income - Republic	Diluted Earnings per Share	Pre-tax Income	Net Income - Republic	Diluted Earnings per Share
As reported	$ 300.1	$ 225.5	$ 0.71	$ 328.6	$ 251.5	$ 0.78
Restructuring charges[1]	2.2	1.6	0.01	1.5	1.1	—
Loss on business divestitures and impairments, net [1]	5.3	6.4	0.02	0.2	0.2	—
Acquisition integration and deal costs [2]	1.8	1.3	—	1.9	1.3	0.01
Withdrawal costs - multiemployer pension funds	31.6	23.4	0.07	—	—	—
Total adjustments	40.9	32.7	0.10	3.6	2.6	0.01
As adjusted	$ 341.0	$ 258.2	$ 0.81	$ 332.2	$ 254.1	$ 0.79

(1) The aggregate impact to adjusted diluted earnings per share totals to less than $0.01 for the three months ended June 30, 2019.

(2) The aggregate impact to adjusted diluted earnings per share totals to less than $0.01 for the three months ended June 30, 2020.

	Six Months Ended June 30, 2020			Six Months Ended June 30, 2019		
	Pre-tax Income	Net Income - Republic	Diluted Earnings per Share	Pre-tax Income	Net Income - Republic	Diluted Earnings per Share
As reported	$ 622.7	$ 471.8	$ 1.47	$ 641.4	$ 485.7	$ 1.50
Restructuring charges	6.0	4.5	0.02	4.5	3.3	0.01
Loss on business divestitures and impairments, net [1]	1.4	3.5	0.01	0.5	0.4	—
Acquisition integration and deal costs	5.6	4.1	0.02	2.5	1.8	0.01
Withdrawal costs - multiemployer pension funds	35.9	26.5	0.08	—	—	—
Bridgeton insurance recovery	(10.8)	(8.2)	(0.03)	—	—	—
Incremental contract startup costs - large municipal contract [1]	—	—	—	0.7	0.5	—
Total adjustments	38.1	30.4	0.10	8.2	6.0	0.02
As adjusted	$ 660.8	$ 502.2	$ 1.57	$ 649.6	$ 491.7	$ 1.52

(1) The aggregate impact to adjusted diluted earnings per share totals to less than $0.01 for the six months ended June 30, 2019.

We believe that presenting adjusted pre-tax income, adjusted net income – Republic, and adjusted diluted earnings per share, which are not measures determined in accordance with U.S. GAAP, provides an understanding of operational activities before the financial impact of certain items. We use these measures, and believe investors will find them helpful, in understanding the ongoing performance of our operations separate from items that have a disproportionate impact on our results for a particular period. We have incurred comparable charges, costs and recoveries in prior periods, and similar types of adjustments can reasonably be expected to be recorded in future periods. Our definitions of adjusted pre-tax income, adjusted net income – Republic, and adjusted diluted earnings per share may not be comparable to similarly titled measures presented by other companies. Further information on each of these adjustments is included below.

Restructuring charges. In 2019, we incurred costs related to the redesign of certain back-office software systems, which continued into 2020. During the three and six months ended June 30, 2020, we incurred restructuring charges of $2.2 million and $6.0 million, respectively, and during the three and six months ended June 30, 2019, we incurred restructuring charges of $1.5 million and $4.5 million, respectively, that primarily related to these efforts. During the six months ended June 30, 2020 and 2019, we paid $6.2 million and $6.5 million, respectively, related to these restructuring efforts.

In July 2020, we eliminated certain positions, primarily related to our back-office support functions, in response to the COVID-19 pandemic. During the remainder of 2020, we expect to incur additional restructuring charges of approximately $15 million primarily related to employee severance costs and the redesign of certain of our back-office software systems. Substantially all of these restructuring charges will be recorded in our corporate segment.

Loss on business divestitures and impairments, net. During the three and six months ended June 30, 2020, we recorded a net loss on business divestitures and impairments of $5.3 million, which included a $10.8 million liability for a withdrawal event from a certain multi-employer pension plan, and $1.4 million, respectively. During the three and six months ended June 30, 2019, we recorded a net loss on business divestitures and impairments of $0.2 million and $0.5 million, respectively.

Acquisition integration and deal costs. Although our business regularly incurs costs related to acquisitions, we specifically identify in the tables above integration and deal costs of $1.8 million and $5.6 million incurred during the three and six months ended June 30, 2020, respectively, and $1.9 million and $2.5 million incurred during the three and six months ended June 30, 2019, respectively. We do this because of the magnitude of the costs associated with the particular acquisition and integration activity during these time periods.

Withdrawal costs - multiemployer pension funds. During the three and six months ended June 30, 2020, we recorded charges to earnings of $31.6 million and $35.9 million, respectively, for withdrawal events at multiemployer pension funds to which we contribute. As we obtain updated information regarding multiemployer pension funds, the factors used in deriving our estimated withdrawal liabilities will be subject to change, which may adversely impact our reserves for withdrawal costs.

Bridgeton insurance recovery. During the six months ended June 30, 2020, we recognized an insurance recovery of $10.8 million related to our closed Bridgeton Landfill in Missouri as a reduction of remediation expenses in our cost of operations.

Incremental contract startup costs - large municipal contract. Although our business regularly incurs startup costs under municipal contracts, we specifically identify in the tables above the startup costs with respect to an individual municipal contract (and do not adjust for other startup costs under other contracts). We do this because of the magnitude of the costs involved with this particular municipal contract and the unusual nature for the time period in which they were incurred. During the six months ended June 30, 2019, we incurred costs of $0.7 million related to the implementation of this large municipal contract. These costs did not meet the capitalization criteria prescribed by Accounting Standards Update 2014-09, *Revenue from Contracts with Customers (Topic 606) and Other Assets and Deferred Costs-Contracts with Customers (Subtopic 340-40)*.

Results of Operations

Revenue

We generate revenue primarily from our solid waste collection operations. Our remaining revenue is from other services, including transfer station, landfill disposal, recycling, and environmental services. Our residential, small-container and large-container collection operations in some markets are based on long-term contracts with municipalities. Certain of our municipal contracts have annual price escalation clauses that are tied to changes in an underlying base index such as a consumer price index. We generally provide small-container and large-container collection services to customers under contracts with terms up to three years. Our transfer stations and landfills generate revenue from disposal or tipping fees charged to third parties. Our recycling processing facilities generate revenue from tipping fees charged to third parties and the sale of recycled commodities. Our revenue from environmental services consists mainly of fees we charge for disposal of non-hazardous solid and liquid waste and in-plant services, such as transportation and logistics. Environmental services waste is generated from the by-product of oil and natural gas exploration and production activity. Additionally, it is generated by the daily operations of industrial, petrochemical and refining facilities, including maintenance, plant turnarounds and capital projects. Other non-core revenue consists primarily of revenue from National Accounts, which represents the portion of revenue generated from nationwide or regional contracts in markets outside our operating areas where the associated waste handling services are subcontracted to local operators. Consequently, substantially all of this revenue is offset with related subcontract costs, which are recorded in cost of operations.

The following table reflects our revenue by service line for the three and six months ended June 30, 2020 and 2019 (in millions of dollars and as a percentage of revenue):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
Collection:								
Residential	$ 573.6	23.4 %	$ 570.1	21.9 %	$ 1,142.1	22.8 %	$ 1,127.5	22.2 %
Small-container	742.4	30.3	792.0	30.4	1,548.1	30.9	1,570.0	30.9
Large-container	501.3	20.4	573.9	22.0	1,053.7	21.0	1,104.5	21.8
Other	12.6	0.5	11.7	0.4	24.9	0.5	22.5	0.4
Total collection	1,829.9	74.6	1,947.7	74.7	3,768.8	75.2	3,824.5	75.3
Transfer	330.5		344.7		652.4		639.6	
Less: intercompany	(180.4)		(193.5)		(366.0)		(365.5)	
Transfer, net	150.1	6.1	151.2	5.8	286.4	5.7	274.1	5.4
Landfill	564.0		607.5		1,122.3		1,142.8	
Less: intercompany	(248.3)		(270.1)		(500.6)		(508.6)	
Landfill, net	315.7	12.9	337.4	13.0	621.7	12.4	634.2	12.5
Environmental services	30.1	1.2	40.8	1.6	76.9	1.6	85.9	1.7
Other:								
Recycling processing and commodity sales	73.5	3.0	71.9	2.7	141.3	2.8	144.6	2.9
Other non-core	55.1	2.2	56.3	2.2	113.2	2.3	112.6	2.2
Total other	128.6	5.2	128.2	4.9	254.5	5.1	257.2	5.1
Total revenue	$ 2,454.4	100.0 %	$ 2,605.3	100.0 %	$ 5,008.3	100.0 %	$ 5,075.9	100.0 %

The following table reflects changes in components of our revenue, as a percentage of total revenue, for the three and six months ended June 30, 2020 and 2019:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Average yield	2.5 %	2.8 %	2.7 %	2.9 %
Fuel recovery fees	(0.8)	0.1	(0.5)	0.1
Total price	1.7	2.9	2.2	3.0
Volume (1)	(7.4)	0.1	(3.7)	(0.7)
Recycling processing and commodity sales	0.1	0.2	—	—
Environmental services	(0.9)	(0.4)	(0.7)	(0.2)
Total internal growth	(6.5)	2.8	(2.2)	2.1
Acquisitions / divestitures, net	0.7	0.7	0.9	0.5
Total	(5.8) %	3.5 %	(1.3) %	2.6 %
Core price	4.7 %	4.6 %	5.0 %	4.7 %

(1) The decrease in volume of (3.7)% during the six months ended June 30, 2020 includes an offsetting increase of 0.2% due to one additional workday as compared to the same respective period in 2019. The decrease in volume of (0.7)% during the six months ended June 30, 2019 includes a decrease of (0.3)% due to one less workday as compared to the same respective period in 2018.

Average yield is defined as revenue growth from the change in average price per unit of service, expressed as a percentage. Core price is defined as price increases to our customers and fees, excluding fuel recovery fees, net of price decreases to retain customers. We also measure changes in average yield and core price as a percentage of related-business revenue, defined as total revenue excluding recycled commodities and fuel recovery fees, to determine the effectiveness of our pricing strategies. Average yield as a percentage of related-business revenue was 2.6% and 2.8% for the three and six months ended June 30, 2020, respectively, and 3.0% for the same respective periods in 2019. Core price as a percentage of related-business revenue was 4.9% and 5.2% for the three and six months ended June 30, 2020, respectively, and 4.9% and 5.0% for the same respective periods in 2019.

During the three and six months ended June 30, 2020, we experienced the following changes in our revenue as compared to the same respective periods in 2019:

- Average yield increased revenue by 2.5% and 2.7% during the three and six months ended June 30, 2020, respectively, due to price increases in all lines of business.
- The fuel recovery fee program, which mitigates our exposure to increases in fuel prices, decreased revenue by (0.8)% and (0.5)% during the three and six months ended June 30, 2020, respectively, primarily due to a decrease in fuel prices compared to the same periods in 2019 combined with a decrease in the total revenue subject to the fuel recovery fees.
- Volume decreased revenue by (7.4)% and (3.7)% during the three and six months ended June 30, 2020, respectively, primarily due to a reduction in service levels attributable to the COVID-19 pandemic. We experienced volume declines in our small- and large-container lines of business as a result of a reduction in the frequency of pickups or a temporary pause in service for certain of our customers. In addition, we experienced declines in solid and special waste volumes disposed at certain of our landfills and transfer stations. These decreases were partially offset by an increase in construction and demolition volumes in our landfill line of business along with one additional workday during the six months ended June 30, 2020 as compared to the same period in 2019.
- Recycling processing and commodity sales increased revenue by 0.1% during the three months ended June 30, 2020, primarily due to an increase in overall commodity prices as compared to the same period in 2019. Recycling processing and commodity sales remained unchanged during the six months ended June 30, 2020 as higher commodity prices were offset by lower recycling volumes. The average price for recycled commodities, excluding glass and organics, for the three and six months ended June 30, 2020 was $101 and $88 per ton, respectively, compared to $78 and $86 per ton for the same respective periods in 2019.

  Changing market demand for recycled commodities causes volatility in commodity prices. At current volumes and mix of materials, we believe a $10 per ton change in the price of recycled commodities will change both annual revenue and operating income by approximately $13 million.
- Environmental services decreased revenue by (0.9)% and (0.7)% during the three and six months ended June 30, 2020, respectively, primarily due to a decrease in rig counts and drilling activity as a result of lower demand for crude oil and the delay of in-plant project work.
- Acquisitions, net of divestitures, increased revenue by 0.7% and 0.9% during the three and six months ended June 30, 2020, respectively, due to our continued growth strategy of acquiring privately held solid waste, recycling and environmental services companies that complement our existing business platform.

Cost of Operations

Cost of operations includes labor and related benefits, which consists of salaries and wages, health and welfare benefits, incentive compensation and payroll taxes. It also includes transfer and disposal costs representing tipping fees paid to third party disposal facilities and transfer stations; maintenance and repairs relating to our vehicles, equipment and containers, including related labor and benefit costs; transportation and subcontractor costs, which include costs for independent haulers that transport our waste to disposal facilities and costs for local operators who provide waste handling services associated with our National Accounts in markets outside our standard operating areas; fuel, which includes the direct cost of fuel used by our vehicles, net of fuel tax credits; disposal fees and taxes, consisting of landfill taxes, host community fees and royalties; landfill operating costs, which includes financial assurance, leachate disposal, remediation charges and other landfill maintenance costs; risk management costs, which include insurance premiums and claims; cost of goods sold, which includes material costs paid to suppliers; and other, which includes expenses such as facility operating costs, equipment rent and gains or losses on sale of assets used in our operations.

The following table summarizes the major components of our cost of operations for the three and six months ended June 30, 2020 and 2019 (in millions of dollars and as a percentage of revenue):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
Labor and related benefits	$ 514.2	21.0 %	$ 551.7	21.2 %	$ 1,071.1	21.4 %	$ 1,088.9	21.5 %
Transfer and disposal costs	189.2	7.7	221.1	8.5	387.8	7.7	418.4	8.2
Maintenance and repairs	232.2	9.5	251.0	9.6	479.5	9.6	492.8	9.7
Transportation and subcontract costs	160.7	6.5	171.8	6.6	328.0	6.5	325.6	6.4
Fuel	58.7	2.4	96.8	3.7	138.3	2.8	188.9	3.7
Disposal fees and taxes	77.2	3.1	85.0	3.3	154.6	3.1	158.2	3.1
Landfill operating costs	65.7	2.7	67.2	2.6	130.5	2.6	120.9	2.4
Risk management	51.6	2.1	63.6	2.4	113.5	2.3	116.1	2.3
Other	118.6	4.8	108.8	4.2	225.7	4.5	213.3	4.2
Subtotal	1,468.1	59.8	1,617.0	62.1	3,029.0	60.5	3,123.1	61.5
Bridgeton insurance recovery	—	—	—	—	(10.8)	(0.2)	—	—
Total cost of operations	$ 1,468.1	59.8 %	$ 1,617.0	62.1 %	$ 3,018.2	60.3 %	$ 3,123.1	61.5 %

These cost categories may change from time to time and may not be comparable to similarly titled categories presented by other companies. As such, you should take care when comparing our cost of operations by component to that of other companies.

Our cost of operations decreased for the three and six months ended June 30, 2020 compared to the same periods in 2019 as a result of the following:

- Labor and related benefits decreased due to a decline in service levels attributable to the COVID-19 pandemic, partially offset by the minimum hourly work week guarantee for certain of our frontline employees. Additionally, this decrease was offset by higher hourly and salaried wages as a result of annual merit increases and one additional workday during the six months ended June 30, 2020 as compared to the same period in 2019.
- Transfer and disposal costs decreased as a result of lower collection volumes, partially offset by an increase in third party disposal rates.

  During the three and six months ended June 30, 2020, we internalized approximately 67% and 68%, respectively, of the total waste volume we collected. During the three and six months ended June 30, 2019, we internalized approximately 68% and 67%, respectively, of the total waste volume we collected.
- Maintenance and repairs expense decreased due to a decrease in service levels attributable to the COVID-19 pandemic.
- Transportation and subcontract costs decreased during the three months ended June 30, 2020 primarily due to a decrease in transfer station volumes. Transportation and subcontract costs increased during the six months ended June 30, 2020 due to acquisition-related activity along with one additional workday during the six months ended June 30, 2020 as compared to the same period in 2019, partially offset by a decrease in transfer station volumes.
- Fuel costs decreased during the three and six months ended June 30, 2020 due to a decline in fuel prices as well as a decline in service levels attributable to the COVID-19 pandemic. Our fuel costs were further decreased by compressed natural gas (CNG) tax credits that were enacted in December 2019 and recognized during the three and six months ended June 30, 2020. The national average diesel fuel cost per gallon for the three and six months ended June 30, 2020 was $2.43 and $2.66, respectively, as compared to $3.12 and $3.07 for the same respective periods in 2019.

  At current consumption levels, we believe a twenty-cent per gallon change in the price of diesel fuel would change our fuel costs by approximately $26 million per year. Offsetting these changes in fuel expense would be changes in our fuel recovery fee charged to our customers. At current participation rates, a twenty-cent per gallon change in the price of diesel fuel changes our fuel recovery fee by approximately $26 million per year.
- Landfill operating costs remained relatively unchanged during the three months ended June 30, 2020. Landfill operating costs increased during the six months ended June 30, 2020 due to certain favorable remediation adjustments recorded during the six months ended June 30, 2019, which did not recur in 2020.
- Risk management expenses decreased during the three and six months ended June 30, 2020 primarily due to favorable actuarial development in our auto liability programs coupled with a decline in exposure in our workers compensation current year program, partially offset by an increase in premiums for our current year programs.

- Other costs of operations increased during the three and six months ended June 30, 2020 as a result of incremental business resumption costs incurred related to the COVID-19 pandemic, including costs for additional safety equipment and hygiene products, increased facility and equipment cleaning, and costs associated with our Committed to Serve initiative.
- During the six months ended June 30, 2020, we recognized a favorable insurance recovery of $10.8 million related to our closed Bridgeton Landfill as a reduction of remediation expenses in our consolidated statement of income for the applicable period.

Depreciation, Amortization and Depletion of Property and Equipment

The following table summarizes depreciation, amortization and depletion of property and equipment for the three and six months ended June 30, 2020 and 2019 (in millions of dollars and as a percentage of revenue):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
Depreciation and amortization of property and equipment	$ 173.1	7.1 %	$ 161.0	6.2 %	$ 343.9	6.9 %	$ 320.4	6.3 %
Landfill depletion and amortization	81.3	3.3	90.0	3.4	164.3	3.3	169.4	3.4
Depreciation, amortization and depletion expense	$ 254.4	10.4 %	$ 251.0	9.6 %	$ 508.2	10.2 %	$ 489.8	9.7 %

Depreciation and amortization of property and equipment for the three and six months ended June 30, 2020 increased primarily due to additional assets acquired with our acquisitions.

During the three and six months ended June 30, 2020, landfill depletion and amortization expense decreased due to lower landfill disposal volumes primarily driven by decreased special waste volumes, partially offset by an increase in our overall average depletion rate.

Amortization of Other Intangible Assets

Expenses for amortization of other intangible assets were $5.2 million and $10.5 million, or 0.2% of revenue, for the three and six months ended June 30, 2020, respectively, compared to $5.0 million and $9.7 million, or 0.2% of revenue, for the same respective periods in 2019. Our other intangible assets primarily relate to customer relationships and, to a lesser extent, non-compete agreements. Amortization expense increased due to additional assets acquired with our acquisitions.

Amortization of Other Assets

Expenses for amortization of other assets were $9.5 million and $19.0 million, or 0.4% of revenue, for the three and six months ended June 30, 2020, respectively, compared to $8.2 million and $16.3 million, or 0.3% of revenue, for the same respective periods in 2019. Our other assets primarily relate to the prepayment of fees and capitalized implementation costs associated with cloud-based hosting arrangements.

Accretion Expense

Accretion expense was $20.8 million and $41.7 million, or 0.8% of revenue, for the three and six months ended June 30, 2020, respectively, compared to $20.5 million and $40.9 million, or 0.8% of revenue, for the same respective periods in 2019. Accretion expense has remained relatively unchanged as our asset retirement obligations have remained relatively consistent period over period.

Selling, General and Administrative Expenses

Selling, general and administrative expenses include salaries, health and welfare benefits, and incentive compensation for corporate and field general management, field support functions, sales force, accounting and finance, legal, management information systems, and clerical and administrative departments. Other expenses include rent and office costs, fees for professional services provided by third parties, legal settlements, marketing, investor and community relations services, directors’ and officers’ insurance, general employee relocation, travel, entertainment and bank charges. Restructuring charges are excluded from selling, general and administrative expenses and are discussed separately.

The following table summarizes our selling, general and administrative expenses for the three and six months ended June 30, 2020 and 2019 (in millions of dollars and as a percentage of revenue):

	Three Months Ended June 30,				Six Months Ended June 30,			
	2020		2019		2020		2019	
Salaries and related benefits	$ 181.0	7.4 %	$ 182.5	7.0 %	$ 372.4	7.5 %	$ 366.7	7.2 %
Provision for doubtful accounts	11.0	0.4	8.4	0.3	15.9	0.3	15.9	0.3
Other	68.3	2.8	71.7	2.7	145.3	2.9	145.8	2.9
Subtotal	260.3	10.6	262.6	10.0	533.6	10.7	528.4	10.4
Acquisition integration and deal costs	1.8	0.1	1.9	0.1	5.6	0.1	2.5	—
Total selling, general and administrative expenses	$ 262.1	10.7 %	$ 264.5	10.1 %	$ 539.2	10.8 %	$ 530.9	10.4 %

These cost categories may change from time to time and may not be comparable to similarly titled categories presented by other companies. As such, you should take care when comparing our selling, general and administrative expenses by cost component to those of other companies.

The most significant items affecting our selling, general and administrative expenses during the three and six months ended June 30, 2020 and 2019 are summarized below:

- Salaries and related benefits decreased in aggregate dollars during the three months ended June 30, 2020 primarily due to efficiencies at our customer resource centers attributable to our investments in enhanced technology platforms. Salaries and related benefits increased during the six months ended June 30, 2020 primarily due to higher wages, benefits, and other payroll related items resulting from annual merit increases, partially offset by efficiencies at our customer resource centers.
- Provision for doubtful accounts for the three months ended June 30, 2020 and 2019 were $11.0 million and $8.4 million, respectively. The increase in provision for doubtful accounts is primarily due to specifically identified reserves recognized for certain of our National Accounts customers.
- Other selling, general and administrative expenses decreased for the three months ended June 30, 2020, primarily due to a decrease in travel and advertising costs as a result of the COVID-19 pandemic. These decreases were partially offset by an increase in facility and equipment cleaning expenses attributable to the COVID-19 pandemic, consulting fees, and unfavorable changes in our legal reserves recorded during the three months ended June 30, 2020.
- Acquisition integration and deal costs increased during the six months ended June 30, 2020 to $5.6 million as compared to $2.5 million for the same period in 2019 due to an increase in acquisition activity.

Withdrawal Costs - Multiemployer Pension Funds

During the three and six months ended June 30, 2020, we recorded charges to earnings of $31.6 million and $35.9 million, respectively, for withdrawal events at multiemployer pension funds to which we contribute. As we obtain updated information regarding multiemployer pension funds, the factors used in deriving our estimated withdrawal liabilities will be subject to change, which may adversely impact our reserves for withdrawal costs.

Loss on Business Divestitures and Impairments, Net

We strive to have a number one or number two market position in each of the markets we serve, or have a clear path on how we will achieve a leading market position over time. Where we cannot establish a leading market position, or where operations are not generating acceptable returns, we may decide to divest certain assets and reallocate resources to other markets. Business divestitures could result in gains, losses or impairment charges that may be material to our results of operations
in a given period.

During the three and six months ended June 30, 2020, we recorded a net loss on business divestitures and impairments of $5.3 million and $1.4 million, respectively, which included a $10.8 million liability for a withdrawal event from a certain multi-employer pension plan. During the three and six months ended June 30, 2019, we recorded a net loss on business divestitures and impairments of $0.2 million and $0.5 million, respectively.

Restructuring Charges

In 2019, we incurred costs related to the redesign of certain back-office software systems, which continued into 2020. During the three and six months ended June 30, 2020, we incurred restructuring charges of $2.2 million and $6.0 million, respectively, and during the three and six months ended June 30, 2019, we incurred restructuring charges of $1.5 million and $4.5 million, respectively, that primarily related to these efforts. During the six months ended June 30, 2020 and 2019, we paid $6.2 million and $6.5 million, respectively, related to these restructuring efforts.

Interest Expense

The following table provides the components of interest expense, including accretion of debt discounts and accretion of discounts primarily associated with environmental and risk insurance liabilities assumed in acquisitions, for the three and six months ended June 30, 2020 and 2019 (in millions of dollars):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Interest expense on debt	$ 76.9	$ 87.6	$ 159.3	$ 177.6
Non-cash interest	16.0	12.3	30.9	23.3
Less: capitalized interest	(1.3)	(1.4)	(2.0)	(2.0)
Total interest expense	$ 91.6	$ 98.5	$ 188.2	$ 198.9

Total interest expense for the three and six months ended June 30, 2020 decreased primarily due to lower interest rates on our floating and fixed rate debt. The decrease attributable to our fixed rate debt is primarily due to the issuance of $600.0 million of 2.300% senior notes and $400.0 million of 3.050% senior notes in February 2020 as well as the issuance of $900.0 million of 2.500% senior notes in August 2019, which were used to repay outstanding senior notes with coupons ranging from 5.000% to 5.500%. This decrease was partially offset by the change in fair value of certain derivative contracts, which was recorded as an adjustment to interest expense, as well as an increase in variable lease costs related to certain of our finance leases. For additional discussion and detail regarding our derivative contracts, see the *Financial Condition* discussion of this *Management's Discussion and Analysis of Financial Condition and Results of Operations*.

Cash paid for interest, excluding net swap settlements for our fixed-to-floating interest rate swaps, was $166.9 million and $171.1 million for the six months ended June 30, 2020 and 2019, respectively.

Income Taxes

Our effective tax rate, exclusive of non-controlling interests, for the three and six months ended June 30, 2020 was 24.7% and 24.1%, respectively. Our effective tax rate, exclusive of non-controlling interests, for the three and six months ended June 30, 2019 was 23.6% and 24.3%, respectively.

Cash paid for income taxes was $6.6 million for the six months ended June 30, 2020 and a net refund of $10.5 million for the same period in 2019. The net refund received for the six months ended June 30, 2019 was favorably impacted from the receipt of funds from amended tax returns filed during 2018.

For additional discussion and detail regarding our income taxes, see Note 8, *Income Taxes*, to our unaudited consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Reportable Segments

Our senior management evaluates, oversees and manages the financial performance of our operations through two field groups, referred to as Group 1 and Group 2. Group 1 primarily consists of geographic areas located in the western United States, and Group 2 primarily consists of geographic areas located in the southeastern and mid-western United States, and the eastern seaboard of the United States.

The two field groups, Group 1 and Group 2, are presented below as our reportable segments, which provide integrated waste management services consisting of non-hazardous solid waste collection, transfer, recycling, disposal and environmental services. Summarized financial information concerning our reportable segments for the three and six months ended June 30, 2020 and 2019 is shown in the following tables (in millions of dollars and as a percentage of revenue in the case of operating margin):

	Net Revenue	Depreciation, Amortization, Depletion and Accretion Before Adjustments for Asset Retirement Obligations	Adjustments to Amortization Expense for Asset Retirement Obligations	Depreciation, Amortization, Depletion and Accretion	Loss on Business Divestitures and Impairments, Net	Operating Income (Loss)	Operating Margin
Three Months Ended June 30, 2020							
Group 1	$ 1,230.1	$ 130.8	$ —	$ 130.8	$ —	$ 318.5	25.9 %
Group 2	1,184.8	133.9	(1.5)	132.4	—	225.6	19.0 %
Corporate entities	39.5	26.7	—	26.7	5.3	(148.9)	—
Total	$ 2,454.4	$ 291.4	$ (1.5)	$ 289.9	$ 5.3	$ 395.2	16.1 %
Three Months Ended June 30, 2019							
Group 1	$ 1,264.4	$ 127.1	$ (0.2)	$ 126.9	$ —	$ 309.2	24.5 %
Group 2	1,303.0	131.9	0.6	132.5	—	228.0	17.5 %
Corporate entities	37.9	25.3	—	25.3	0.2	(99.8)	—
Total	$ 2,605.3	$ 284.3	$ 0.4	$ 284.7	$ 0.2	$ 437.4	16.8 %

	Net Revenue	Depreciation, Amortization, Depletion and Accretion Before Adjustments for Asset Retirement Obligations	Adjustments to Amortization Expense for Asset Retirement Obligations	Depreciation, Amortization, Depletion and Accretion	Loss on Business Divestitures and Impairments, Net	Operating Income (Loss)	Operating Margin
Six Months Ended June 30, 2020							
Group 1	$ 2,484.7	$ 259.5	$ (0.2)	$ 259.3	$ —	$ 630.3	25.4 %
Group 2	2,443.3	268.5	(1.6)	266.9	—	460.0	18.8 %
Corporate entities	80.3	53.2	—	53.2	1.4	(262.1)	—
Total	$ 5,008.3	$ 581.2	$ (1.8)	$ 579.4	$ 1.4	$ 828.2	16.5 %
Six Months Ended June 30, 2019							
Group 1	$ 2,457.7	$ 248.7	$ (0.3)	$ 248.4	$ —	$ 597.5	24.3 %
Group 2	2,542.7	257.9	0.6	258.5	—	451.3	17.7 %
Corporate entities	75.5	49.8	—	49.8	0.5	(188.6)	—
Total	$ 5,075.9	$ 556.4	$ 0.3	$ 556.7	$ 0.5	$ 860.2	17.0 %

Corporate entities include legal, tax, treasury, information technology, risk management, human resources, closed landfills and other administrative functions. National Accounts revenue included in corporate entities represents the portion of revenue generated from nationwide and regional contracts in markets outside our operating areas where the associated waste handling services are subcontracted to local operators. Consequently, substantially all of this revenue is offset with related subcontract costs, which are recorded in cost of operations.

Significant changes in the revenue and operating margins of our reportable segments comparing the three and six months ended June 30, 2020 with the same periods in 2019 are discussed below:

Group 1

Revenue for the three months ended June 30, 2020 decreased 2.7% due to volume declines in our small- and large-container collection, transfer station, and landfill lines of business, partially offset by an increase in average yield in all lines of business. Revenue for the six months ended June 30, 2020 increased 1.1% due to an increase in average yield in all lines of business and one additional workday as compared to the same periods in 2019. This increase was partially offset by volume declines in our small- and large-container collection, transfer station, and landfill lines of business.

Operating income in Group 1 increased from $309.2 million for the three months ended June 30, 2019, or a 24.5% operating income margin, to $318.5 million for the three months ended June 30, 2020, or a 25.9% operating income margin. Operating income in Group 1 increased from $597.5 million for the six months ended June 30, 2019, or a 24.3% operating income margin, to $630.3 million for the six months ended June 30, 2020, or a 25.4% operating income margin. The following cost categories impacted operating income margin:

- Cost of operations favorably impacted operating income margin for the three and six months ended June 30, 2020, primarily due to a decrease in labor and related benefits, maintenance and repairs expenses, and fuel costs as a result of decreased service levels attributable to the COVID-19 pandemic. Fuel costs were further decreased as a result of a decline in diesel fuel prices combined with CNG tax credits that were enacted in December 2019 and recognized during the three and six months ended June 30, 2020.
- Landfill and depletion favorably impacted operating income margin during the three and six months ended June 30, 2020 due to lower landfill disposal volumes primarily driven by decreased special waste volumes, partially offset by an increase in our overall average depletion rate. Depreciation unfavorably impacted operating income margin for the three and six months ended June 30, 2020, primarily due to additional assets acquired with our acquisitions.

Group 2

Revenue for the three and six months ended June 30, 2020 decreased 9.1% and 3.9%, respectively, due to a decrease in overall volumes across all lines of business, partially offset by an increase in average yield in all lines of business and one additional workday during the six months ended June 30, 2020, as compared to the same period in 2019.

Operating income in Group 2 decreased from $228.0 million for the three months ended June 30, 2019, or a 17.5% operating income margin, to $225.6 million for the three months ended June 30, 2020, or a 19.0% operating income margin. Operating income in Group 2 increased from $451.3 million for the six months ended June 30, 2019, or a 17.7% operating income margin, to $460.0 million for the six months ended June 30, 2020, or an 18.8% operating income margin. The following cost categories impacted operating income margin:

- Cost of operations favorably impacted operating income margin for the three and six months ended June 30, 2020, primarily due to a decrease in labor and related benefits, transfer and disposal costs, maintenance and repairs expenses, and fuel costs as a result of decreased service levels attributable to the COVID-19 pandemic. Fuel costs were further decreased as a result of a decline in diesel fuel prices combined with CNG tax credits that were enacted in December 2019 and recognized during the three and six months ended June 30, 2020. These decreases were partially offset by an increase in transportation and subcontract costs and landfill operating costs, both as a percentage of revenue.
- Landfill depletion and amortization unfavorably impacted operating income margin for the three and six months ended June 30, 2020 due to an increase in our overall average depletion rate, partially offset by lower landfill disposal volumes primarily driven by decreased special waste volumes. Depreciation unfavorably impacted operating income margin during the three and six months ended June 30, 2020, primarily due to additional assets acquired with our acquisitions.

Corporate Entities

Operating loss in our Corporate Entities increased from $99.8 million for the three months ended June 30, 2019 to $148.9 million for the three months ended June 30, 2020. Operating loss in our Corporate Entities increased from $188.6 million for the six months ended June 30, 2019 to $262.1 million for the six months ended June 30, 2020. The operating loss for the three and six months ended June 30, 2020 was unfavorably impacted by net unfavorable legal settlements and a net loss on business divestitures and impairments, partially offset by favorable actuarial development in our auto liability programs recorded during the three months ended June 30, 2020. Additionally, during the six months ended June 30, 2020, we recognized incremental business resumption costs related to the COVID-19 pandemic as selling, general and administrative expenses. We recognized certain direct and incremental costs attributable to the COVID-19 pandemic, including costs for additional safety equipment and hygiene products, increased facility and equipment cleaning, and costs associated with our Committed to Serve initiative.

Landfill and Environmental Matters

Available Airspace

As of June 30, 2020, we owned or operated 190 active solid waste landfills with total available disposal capacity estimated to be 5.0 billion in-place cubic yards. For these landfills, the following table reflects changes in capacity and remaining capacity, as measured in cubic yards of airspace:

	Balance as of December 31, 2019	New Expansions Undertaken	Permits Granted / New Sites, Net of Closures	Airspace Consumed	Changes in Engineering Estimates	Balance as of June 30, 2020
Cubic yards (in millions):						
Permitted airspace	4,673.0	—	88.7	(37.6)	(0.2)	4,723.9
Probable expansion airspace	321.7	30.0	(82.3)	—	—	269.4
Total cubic yards (in millions)	4,994.7	30.0	6.4	(37.6)	(0.2)	4,993.3
Number of sites:						
Permitted airspace	189	—	1			190
Probable expansion airspace	12	2	(2)			12

Total available disposal capacity represents the sum of estimated permitted airspace plus an estimate of probable expansion airspace. Engineers develop these estimates at least annually using information provided by annual aerial surveys. Before airspace included in an expansion area is determined to be probable expansion airspace and, therefore, included in our calculation of total available disposal capacity, it must meet all of our expansion criteria.

As of June 30, 2020, 12 of our landfills met all of our criteria for including their probable expansion airspace in their total available disposal capacity. At projected annual volumes, these landfills have an estimated remaining average site life of 126 years, including probable expansion airspace. The average estimated remaining life of all of our landfills is 62 years. We have other expansion opportunities that are not included in our total available airspace because they do not meet all of our criteria for treatment as probable expansion airspace.

Remediation and Other Charges for Landfill Matters

It is reasonably possible that we will need to adjust our accrued landfill and environmental liabilities to reflect the effects of new or additional information, to the extent that such information impacts the costs, timing or duration of the required actions. Future changes in our estimates of the costs, timing or duration of the required actions could have a material adverse effect on our consolidated financial position, results of operations and cash flows.

For a description of our significant remediation matters, see Note 6, *Landfill and Environmental Costs*, of the notes to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Selected Balance Sheet Accounts

The following table reflects the activity in our allowance for doubtful accounts and other, final capping, closure, post-closure costs, remediation liabilities, and accrued insurance during the six months ended June 30, 2020 (in millions of dollars):

	Allowance for Doubtful Accounts and Other	Final Capping, Closure and Post-Closure	Remediation	Insurance Reserves
Balance as of December 31, 2019	$ 34.0	$ 1,335.6	$ 500.2	$ 438.5
Non-cash additions for asset retirement obligations	—	21.7	—	—
Acquisitions, net of divestitures and other adjustments	—	(0.6)	1.5	—
Asset retirement obligation adjustments	—	(5.3)	—	—
Accretion expense	—	41.7	9.3	0.2
Premium written for third-party risk assumed	—	—	—	18.8
Reclassified to ceded insurance reserves	—	—	—	(5.0)
Net adjustments charged to expense	15.9	—	(0.4)	233.4
Payments or usage	(15.6)	(23.2)	(28.3)	(240.9)
Balance as of June 30, 2020	34.3	1,369.9	482.3	445.0
Less: current portion	(34.3)	(70.8)	(57.3)	(170.5)
Long-term portion	$ —	$ 1,299.1	$ 425.0	$ 274.5

As of June 30, 2020, accounts receivable were $1,066.5 million, net of allowance for doubtful accounts and other of $34.3 million. As of December 31, 2019, accounts receivable were $1,125.9 million, net of allowance for doubtful accounts and other of $34.0 million.

Property and Equipment

The following tables reflect the activity in our property and equipment accounts for the six months ended June 30, 2020 (in millions of dollars):

	Gross Property and Equipment							
	Balance as of December 31, 2019	Capital Additions	Retirements	Acquisitions, Net of Divestitures	Non-cash Additions for Asset Retirement Obligations	Adjustments for Asset Retirement Obligations	Impairments, Transfers and Other Adjustments	Balance as of June 30, 2020
Land	$ 448.3	$ 4.7	$ (1.1)	$ 2.1	$ —	$ —	$ —	$ 454.0
Non-depletable landfill land	170.5	0.2	—	(0.4)	—	—	—	170.3
Landfill development costs	7,474.7	1.2	(15.6)	15.8	20.0	(5.3)	244.6	7,735.4
Vehicles and equipment	7,766.0	364.3	(147.1)	(18.1)	—	—	(3.5)	7,961.6
Buildings and improvements	1,342.6	0.5	(4.6)	9.0	1.7	—	19.8	1,369.0
Construction-in-progress - landfill	366.8	170.7	—	—	—	—	(243.6)	293.9
Construction-in-progress - other	87.7	51.6	—	—	—	—	(53.7)	85.6
Total	$ 17,656.6	$ 593.2	$ (168.4)	$ 8.4	$ 21.7	$ (5.3)	$ (36.4)	$ 18,069.8

	Accumulated Depreciation, Amortization and Depletion						
	Balance as of December 31, 2019	Additions Charged to Expense	Retirements	Acquisitions, Net of Divestitures	Adjustments for Asset Retirement Obligations	Impairments, Transfers and Other Adjustments	Balance as of June 30, 2020
Landfill development costs	$ (3,968.6)	$ (166.2)	$ 15.5	$ —	$ 1.9	$ —	$ (4,117.4)
Vehicles and equipment	(4,728.2)	(312.0)	140.9	15.5	—	33.7	(4,850.1)
Buildings and improvements	(576.3)	(32.6)	4.0	1.6	—	0.1	(603.2)
Total	$ (9,273.1)	$ (510.8)	$ 160.4	$ 17.1	$ 1.9	$ 33.8	$ (9,570.7)

Liquidity and Capital Resources

Cash and Cash Equivalents

The following is a summary of our cash and cash equivalents and restricted cash and marketable securities balances as of:

	June 30, 2020	December 31, 2019
Cash and cash equivalents	$ 269.7	$ 47.1
Restricted cash and marketable securities	142.6	179.4
Less: restricted marketable securities	(61.6)	(49.1)
Cash, cash equivalents, restricted cash and restricted cash equivalents	$ 350.7	$ 177.4

Our restricted cash and marketable securities include, among other things, restricted cash and marketable securities pledged to regulatory agencies and governmental entities as financial guarantees of our performance under certain collection, landfill and transfer station contracts and permits, and relating to our final capping, closure and post-closure obligations at our landfills, restricted cash and marketable securities related to our insurance obligations, and restricted cash related to a payment for a certain maturing tax-exempt financing.

The following table summarizes our restricted cash and marketable securities:

	June 30, 2020	December 31, 2019
Capping, closure and post-closure obligations	$ 31.1	$ 30.6
Insurance	111.5	99.4
Payment for maturing tax-exempt financing	—	49.4
Total restricted cash and marketable securities	$ 142.6	$ 179.4

Intended Uses of Cash

We intend to use excess cash on hand and cash from operating activities to fund capital expenditures, acquisitions, dividend payments, share repurchases and debt repayments. Debt repayments may include purchases of our outstanding indebtedness in the secondary market or otherwise. We believe that our excess cash, cash from operating activities and our availability to draw on our credit facilities provide us with sufficient financial resources to meet our anticipated capital requirements and maturing obligations as they come due.

We may choose to voluntarily retire certain portions of our outstanding debt before their maturity dates using cash from operations or additional borrowings. We may also explore opportunities in the capital markets to fund redemptions should market conditions be favorable. Early extinguishment of debt will result in an impairment charge in the period in which the debt is repaid. The loss on early extinguishment of debt relates to premiums paid to effectuate the repurchase and the relative portion of unamortized note discounts and debt issue costs.

Summary of Cash Flow Activity

The major components of changes in cash flows are discussed in the following paragraphs. The following table summarizes our cash flow from operating activities, investing activities and financing activities for the six months ended June 30, 2020 and 2019 (in millions of dollars):

	Six Months Ended June 30,	
	2020	2019
Cash provided by operating activities	$ 1,333.5	$ 1,135.6
Cash used in investing activities	$ (721.8)	$ (762.6)
Cash used in financing activities	$ (438.4)	$ (362.6)

The Coronavirus Aid, Relief and Economic Security (CARES) Act provides companies the option to defer the payment of the employer's portion of social security taxes that would otherwise be required to be made during the period between March 27, 2020 and December 31, 2020 (Payroll Tax Deferral Period). The first half of the deferred payments are due to be paid by December 31, 2021, and the second half of the deferred payments are due to be paid by December 31, 2022. We intend to defer approximately $100 million of payments related to our portion of our employees' social security taxes throughout the Payroll Tax Deferral Period in accordance with the CARES Act.

Cash Flows Provided by Operating Activities

The most significant items affecting the comparison of our operating cash flows for the six months ended June 30, 2020 and 2019 are summarized below:

Changes in assets and liabilities, net of effects from business acquisitions and divestitures, increased our cash flow from operations by $149.2 million during the six months ended June 30, 2020, compared to a decrease of $18.3 million during the same period in 2019, primarily as a result of the following:

- Our accounts receivable, exclusive of the change in allowance for doubtful accounts and customer credits, decreased $45.5 million during the six months ended June 30, 2020 due to the timing of billings net of collections, compared to a $53.0 million increase in the same period in 2019. As of June 30, 2020, our days sales outstanding were 39.5, or 27.1 days net of deferred revenue, compared to 40.1, or 28.5 days net of deferred revenue, as of June 30, 2019.
- Our prepaid expenses and other assets decreased $192.1 million during the six months ended June 30, 2020, compared to a $101.3 million decrease in the same period in 2019, primarily due to timing of our estimated tax payments and our receipt of the $24.0 million Bridgeton insurance settlement we recognized in the fourth quarter of 2019. Cash paid for income taxes was $6.6 million and a net refund of $10.5 million for the six months ended June 30, 2020 and 2019, respectively.
- Our accounts payable decreased $60.8 million during the six months ended June 30, 2020, compared to a $12.8 million increase in the same period in 2019, due to the timing of payments.
- Cash paid for capping, closure and post-closure obligations was $23.2 million during the six months ended June 30, 2020, compared to $23.8 million in the same period in 2019. The decrease in cash paid for capping, closure, and post-closure obligations is primarily due to the timing of capping and post-closure payments at certain of our landfill sites.
- Cash paid for remediation obligations was $10.5 million higher during the six months ended June 30, 2020, compared to the same period in 2019, primarily due to $15.7 million of payments related to management and monitoring of the remediation area of our closed Bridgeton Landfill in Missouri as compared to $6.9 million of payments for the same period in 2019.

In addition, cash paid for interest, excluding net swap settlements for our fixed-to-floating interest rate swaps, was $166.9 million and $171.1 million for the six months ended June 30, 2020 and 2019, respectively.

We use cash flows from operations to fund capital expenditures, acquisitions, dividend payments, share repurchases and debt repayments.

Cash Flows Used in Investing Activities

The most significant items affecting the comparison of our cash flows used in investing activities for the six months ended June 30, 2020 and 2019 are summarized below:

- Capital expenditures during the six months ended June 30, 2020 were $654.7 million, compared with $588.7 million for the same period in 2019.
- During the six months ended June 30, 2020 and 2019, we paid $95.1 million and $178.9 million, respectively, for acquisitions and investments.

We intend to finance capital expenditures and acquisitions through cash on hand, restricted cash held for capital expenditures, cash flows from operations, our revolving credit facilities, and tax-exempt bonds and other financings. We expect to primarily use cash and borrowings under our revolving credit facilities to pay for future business acquisitions.

Cash Flows Used in Financing Activities

The most significant items affecting the comparison of our cash flows used in financing activities for the six months ended June 30, 2020 and 2019 are summarized below:

- Net payments from notes payable and long-term debt and senior notes were $67.4 million during the six months ended June 30, 2020, compared to net proceeds of $90.0 million in the same period in 2019.
- During the six months ended June 30, 2020, we repurchased 1.2 million shares of our stock for $98.8 million compared to repurchases of 2.6 million shares for $202.5 million during the same period in 2019.
- Dividends paid were $257.9 million and $241.7 million during the six months ended June 30, 2020 and 2019, respectively.

Financial Condition

Debt Obligations

As of June 30, 2020, we had $60.0 million of principal debt maturing within the next 12 months, which includes certain variable rate tax-exempt financings, finance lease obligations and debentures. All of our tax-exempt financings are remarketed either quarterly or semiannually by remarketing agents to effectively maintain a variable yield. The holders of the bonds can put them back to the remarketing agents at the end of each interest period. If the remarketing agent is unable to remarket our bonds, the remarketing agent can put the bonds to us. In the event of a failed remarketing, we currently have availability under our $2.25 billion unsecured revolving credit facility to fund these bonds until they are remarketed successfully. Accordingly, we have classified these borrowings as long-term in our consolidated balance sheet as of June 30, 2020.

An extended period of economic disruption associated with the COVID-19 pandemic could further disrupt the global supply chain, negatively impact demand for our services, and disrupt financial markets. These effects could materially and adversely affect our business and financial condition, including our access to sources of liquidity. We will continue to monitor the evolving COVID-19 pandemic along with the effect on our business and access to capital markets. Refer to Part II, Item 1A - Risk Factors of this Quarterly Report on Form 10-Q for a discussion of certain risk factors related to this pandemic.

For further discussion of the components of our overall debt, see Note 7, *Debt*, of the notes to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Credit Facilities

In 2018, we entered into a $2.25 billion unsecured revolving credit facility (the Credit Facility), which replaced our $1.0 billion and $1.25 billion unsecured credit facilities that would have matured in May 2021 and June 2019, respectively. The Credit Facility matures in June 2023. We may request two one-year extensions of the maturity date but none of the lenders are committed to participate in such extension. The Credit Facility also includes a feature that allows us to increase availability, at our option, by an aggregate amount of up to $1.0 billion through increased commitments from existing lenders or the addition of new lenders. At our option, borrowings under the Credit Facility bear interest at a Base Rate, or a Eurodollar Rate, plus an applicable margin based on our Debt Ratings (all as defined in the Credit Facility agreement).

The Credit Facility requires us to comply with financial and other covenants. To the extent we are not in compliance with these covenants, we cannot pay dividends or repurchase common stock. Compliance with covenants also is a condition for any incremental borrowings under our Credit Facility, and failure to meet these covenants would enable the lenders to require repayment of any outstanding loans (which would adversely affect our liquidity). In July 2020, we executed an amendment to the Credit Facility agreement to increase flexibility and reduce restrictions, in particular, for future acquisitions. Effective June 30, 2020, the amendment eliminated the consolidated interest coverage ratio and revised the sole remaining financial covenant, total debt to EBITDA ratio. As amended, the covenant provides that the total debt to EBITDA ratio may not exceed 3.75 to 1.00 as of the last day of any fiscal quarter. In the case of an "elevated ratio period", which may be elected by us if one or more acquisitions during a fiscal quarter involve aggregate consideration in excess of $200 million (the Trigger Quarter), the total debt to EBITDA ratio may not exceed 4.25 to 1.00 during the Trigger Quarter and for the three fiscal quarters thereafter. The amendment also provides that there may not be more than two elevated ratio periods during the term of the Credit Facility agreement. As of June 30, 2020, our total debt to EBITDA ratio was 3.00 compared to the 3.75 maximum allowed by the covenant. As of June 30, 2020, we were in compliance with the covenants under our Credit Facility, and we expect to be in compliance throughout the remainder of 2020.

EBITDA, which is a non-U.S. GAAP measure, is calculated as defined in our Credit Facility agreement. In this context, EBITDA is used solely to provide information regarding the extent to which we are in compliance with debt covenants and is not comparable to EBITDA used by other companies or used by us for other purposes.

Failure to comply with the financial and other covenants under our Credit Facility, as well as the occurrence of certain material adverse events, would constitute defaults and would allow the lenders under our Credit Facility to accelerate the maturity of all indebtedness under the Credit Facility agreement. This could have an adverse effect on the availability of financial assurances. In addition, maturity acceleration on our Credit Facility constitutes an event of default under our other debt instruments, including our senior notes, and, therefore, our senior notes would also be subject to acceleration of maturity. If such acceleration were to occur, we would not have sufficient liquidity available to repay the indebtedness. We would likely have to seek an amendment under our Credit Facility for relief from the financial covenant or repay the debt with proceeds from the issuance of new debt or equity, or asset sales, if necessary. We may be unable to amend our Credit Facility or raise sufficient capital to repay such obligations in the event the maturity is accelerated.

Availability under our Credit Facility totaled $1,885.2 million and $1,696.9 million as of June 30, 2020 and December 31, 2019, respectively. The Credit Facility can be used for working capital, capital expenditures, acquisitions, letters of credit and other general corporate purposes. As of June 30, 2020, we had no borrowings under our Credit Facility, and as of December 31, 2019, we had $184.4 million of borrowings under our Credit Facility. We had $348.1 million and $351.4 million of letters of credit outstanding under our Credit Facility as of June 30, 2020 and December 31, 2019, respectively.

We also have an Uncommitted Credit Facility, which bears interest at LIBOR, plus an applicable margin. We can use borrowings under the Uncommitted Credit Facility for working capital and other general corporate purposes. The agreement governing our Uncommitted Credit Facility requires us to comply with certain covenants. The Uncommitted Credit Facility may be terminated by either party at any time. As of June 30, 2020, we had no borrowings outstanding under our Uncommitted Credit Facility, and as of December 31, 2019, we had $11.6 million of borrowings outstanding under our Uncommitted Credit Facility.

Senior Notes and Debentures

As of June 30, 2020, we had $7,407.1 million of unsecured senior notes and debentures outstanding with maturities ranging from 2021 to 2050. As of December 31, 2019, we had $7,257.0 million of unsecured senior notes and debentures outstanding with maturities ranging from 2020 to 2041.

In February 2020, we issued $600.0 million of 2.300% senior notes due 2030 (the 2.300% Notes) and $400.0 million of 3.050% senior notes due 2050 (the 3.050% Notes). We used the net proceeds from the 2.300% Notes and 3.050% Notes to repay $850.0 million of 5.000% senior notes that matured in March 2020. The remaining proceeds were used to repay amounts outstanding under our unsecured credit facilities as well as for general corporate purposes.

Derivative Instruments and Hedging Relationships

Our ability to obtain financing through the capital markets is a key component of our financial strategy. Historically, we have managed risk associated with executing this strategy, particularly as it relates to fluctuations in interest rates, by using a combination of fixed and floating rate debt. From time to time, we also have entered into interest rate swap and lock agreements to manage risk associated with interest rates, either to effectively convert specific fixed rate debt to a floating rate (fair value hedges), or to lock interest rates in anticipation of future debt issuances (cash flow hedges).

Additionally, we amended certain interest rate lock agreements, extending the mandatory maturity date and dedesignated them as cash flow hedges (the Extended Interest Rate Locks). In addition, we entered into offsetting interest rate swaps to offset future exposures to fair value fluctuations of the Extended Interest Rate Locks.

For a description of our derivative contracts and hedge accounting, see Note 7, *Debt*, to our unaudited consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Tax-Exempt Financings

As of June 30, 2020, we had $1,119.4 million of certain variable rate tax-exempt financings outstanding with maturities ranging from 2020 to 2050. As of December 31, 2019, we had $1,116.2 million of certain variable rate tax-exempt financings outstanding with maturities ranging from 2020 to 2049. During the second quarter of 2020, we issued $60.0 million of tax-exempt financings. During the second quarter of 2019, we refinanced $35.0 million of tax-exempt financings and issued $30.0 million of new tax-exempt financings.

Finance Leases

We had finance lease liabilities of $131.5 million as of June 30, 2020 with maturities ranging from 2020 to 2055. We had finance lease liabilities of $119.3 million as of December 31, 2019 with maturities ranging from 2020 to 2049.

Credit Ratings

Our continued access to the debt capital markets and to new financing facilities, as well as our borrowing costs, depend on multiple factors, including market conditions, our operating performance and maintaining strong credit ratings. As of June 30, 2020, our credit ratings were BBB+, Baa2 and BBB by Standard & Poor's Ratings Services, Moody's Investors Service and Fitch Ratings, Inc., respectively. If our credit ratings were downgraded, especially any downgrade to below investment grade, our ability to access the debt markets with the same flexibility that we have experienced historically, our cost of funds and other terms for new debt issuances, could be adversely impacted.

Off-Balance Sheet Arrangements

We have no off-balance sheet debt or similar obligations, other than short-term operating leases and financial assurances, which are not classified as debt. We have no transactions or obligations with related parties that are not disclosed, consolidated into or reflected in our reported financial position or results of operations. We have not guaranteed any third-party debt.

Seasonality and Severe Weather

Our operations can be adversely affected by periods of inclement or severe weather, which could increase the volume of waste collected under our existing contracts (without corresponding compensation), delay the collection and disposal of waste, reduce the volume of waste delivered to our disposal sites, or delay the construction or expansion of our landfills and other facilities. Our operations also can be favorably affected by severe weather, which could increase the volume of waste in situations where we are able to charge for our additional services.

Contingencies

For a description of our commitments and contingencies, see Note 6, *Landfill and Environmental Costs*, Note 8, *Income Taxes*, and Note 14, *Commitments and Contingencies*, to our unaudited consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

Critical Accounting Judgments and Estimates

We identified and discussed our critical accounting judgments and estimates in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019. Although we believe our estimates and judgments are reasonable, they are based upon information available at the time the judgment or estimate is made. Actual results may differ significantly from estimates under different assumptions or conditions.

New Accounting Pronouncements

For a description of new accounting standards that may affect us, see Note 1, *Basis of Presentation*, to our unaudited consolidated financial statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Fuel Price Risk

Fuel costs represent a significant operating expense. When economically practical, we may enter into new fuel hedges, renew contracts, or engage in other strategies to mitigate market risk. As of June 30, 2020, we had no fuel hedges in place. While we charge fuel recovery fees to a majority of our customers, we are unable to charge such fees to all customers.

At current consumption levels, we believe a twenty-cent per gallon change in the price of diesel fuel would change our fuel costs by approximately $26 million per year. Offsetting these changes in fuel expense would result in changes in our fuel recovery fee charged to our customers. At current participation rates, we believe a twenty-cent per gallon change in the price of diesel fuel would change our fuel recovery fee by approximately $26 million per year.

Our operations also require the use of certain petrochemical-based products (such as liners at our landfills) the cost of which may vary with the price of petrochemicals. An increase in the price of petrochemicals could increase the cost of those products, which would increase our operating and capital costs. We also are susceptible to increases in fuel recovery fees from our vendors.

Our fuel costs were $138.3 million during the six months ended June 30, 2020, or 2.8% of revenue, compared to $188.9 million during the comparable period in 2019, or 3.7% of revenue.

Commodities Price Risk

We market recovered materials such as old corrugated containers and old newsprint from our recycling processing centers. Changes in market supply and demand for recycled commodities causes volatility in commodity prices. In prior periods, we have entered into derivative instruments such as swaps and costless collars designated as cash flow hedges to manage our exposure to changes in prices of these commodities. As of June 30, 2020, we had no recycling commodity hedges in place.

At current volumes and mix of materials, we believe a $10 per ton change in the price of recycled commodities would change both annual revenue and operating income by approximately $13 million.

Revenue from recycling processing and commodity sales during the six months ended June 30, 2020 and 2019 was $141.3 million and $144.6 million, respectively.

Interest Rate Risk

We are subject to interest rate risk on our variable rate long-term debt. Additionally, we enter into various interest rate swap agreements with the goal of reducing overall borrowing costs and increasing our floating interest rate exposure, as well as interest rate locks to manage exposure to fluctuations in anticipation of future debt issuances. Our interest rate swap and lock contracts have been authorized pursuant to our policies and procedures. We do not use financial instruments for trading purposes and are not a party to any leveraged derivatives.

As of June 30, 2020, we had $1,126.2 million of floating rate debt and $300.0 million of floating interest rate swap contracts. If interest rates increased or decreased by 100 basis points on our variable rate debt, annualized interest expense and net cash payments for interest would increase or decrease by approximately $14 million. This analysis does not reflect the effect that interest rates would have on other items, such as new borrowings and the impact on the economy. See Note 7, *Debt*, of the notes to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q for further information regarding how we manage interest rate risk.

ITEM 4. CONTROLS AND PROCEDURES.

Disclosure Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e), and 15d-15(e)) as of the end of the period covered by this Form 10-Q. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this Form 10-Q.

Changes in Internal Control Over Financial Reporting

Based on an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, there has been no change in our internal control over financial reporting during the period covered by this Form 10-Q identified in connection with that evaluation, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

In July 2019, we acquired all of the issued and outstanding shares of Southern Tank Leasing, Inc., Tidal Tank, Inc. and Bealine Service Company, Inc. (collectively Sprint). As permitted by the SEC Staff interpretive guidance for newly acquired businesses, management's assessment of our internal control over financial reporting as of June 30, 2020 did not include an assessment of internal control over financial reporting as it relates to the Sprint acquisition. We will continue the process of implementing internal control over financial reporting for Sprint. As of June 30, 2020, assets excluded from management's assessment totaled $128.3 million and contributed less than 1% of revenue to our unaudited consolidated financial statements for the three months ended June 30, 2020.

PART II - OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

General Legal Proceedings

We are subject to extensive and evolving laws and regulations and have implemented safeguards to respond to regulatory requirements. In the normal course of our business, we become involved in legal proceedings. Some may result in fines, penalties or judgments against us, or settlements, which may impact earnings and cash flows for a particular period. Although we cannot predict the ultimate outcome of any legal matter with certainty, we do not believe the outcome of any of our pending legal proceedings will have a material adverse impact on our consolidated financial position, results of operations or cash flows.

As used herein, the term *legal proceedings* refers to litigation and similar claims against us and our subsidiaries, excluding: (1) ordinary course accidents, general commercial liability and workers' compensation claims, which are covered by insurance programs, subject to customary deductibles, and which, together with self-insured employee health care costs, are discussed in Note 5, *Other Liabilities*, to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q; and (2) environmental remediation liabilities, which are discussed in Note 6, *Landfill and Environmental Costs,* to our unaudited consolidated financial statements in Part I, Item 1 of this Quarterly Report on Form 10-Q.

We accrue for legal proceedings when losses become probable and reasonably estimable. We have recorded an aggregate accrual of approximately $26 million relating to our outstanding legal proceedings as of June 30, 2020. As of the end of each applicable reporting period, we review each of our legal proceedings and, where it is probable that a liability has been incurred, we accrue for all probable and reasonably estimable losses. Where we are able to reasonably estimate a range of losses we may incur with respect to such a matter, we record an accrual for the amount within the range that constitutes our best estimate. If we are able to reasonably estimate a range but no amount within the range appears to be a better estimate than any other, we use the amount that is the low end of such range. If we had used the high ends of such ranges, our aggregate potential liability would be approximately $8 million higher than the amount recorded as of June 30, 2020.

Legal Proceedings over Certain Environmental Matters Involving Governmental Authorities with Possible Sanctions of $100,000 or More

Item 103 of the SEC's Regulation S-K requires disclosure of certain environmental matters when a governmental authority is a party to the proceedings and the proceedings involve potential monetary sanctions unless we reasonably believe the monetary sanctions will not equal or exceed $100,000. We are disclosing the following matters in accordance with that requirement:

Pine Avenue Landfill Matter

On December 20, 2016, the EPA issued a Finding of Violation (FOV) to Allied Waste Niagara Falls Landfill, LLC (Allied-Niagara). The FOV alleges violations of the Clean Air Act and associated regulations relating to operation of Allied-Niagara’s Pine Avenue Landfill in Niagara County, New York. On October 16, 2017, Allied-Niagara received a civil penalty demand from the EPA. The demand proposes a penalty of $0.6 million or $2.5 million, depending on the results of requested sampling analysis at the site. Allied-Niagara is negotiating a resolution to the FOV, including the amount of the penalty.

West Contra Costa Sanitary Landfill Matters

The West Contra Costa Sanitary Landfill is a closed landfill formerly operated by West Contra Costa Sanitary Landfill, Inc. (WCCSL). The top deck area of the closed landfill is being utilized for a composting operation. In 2017 and 2018, the California State Water Resources Control Board (Water Board) issued three Notices of Violation alleging that operations at the closed landfill violated stormwater and waste discharge requirements permits. In September 2018, we received a proposed penalty assessment from the Water Board in the amount of $513,400. After negotiations between the parties, WCCSL agreed to a penalty amount of $460,600, one half of which can be satisfied by performing a Supplemental Environmental Project approved by the Water Board. The terms of the settlement will be memorialized in a settlement agreement, which the parties will negotiate.

Blue Ridge Landfill Matter

On January 9, 2020, the Texas Commission on Environmental Quality (TCEQ) sent a Proposed Agreed Order (PAO) to Blue Ridge Landfill TX, LP (BRLF). The PAO alleges that BRLF violated certain federal and state air regulations and permit requirements and failed to prevent nuisance odor conditions at our Blue Ridge Landfill in Fresno, Texas. The TCEQ proposed an administrative penalty in the amount of $183,055. BRLF declined to accept the PAO but did provide a substantive response to the PAO to the TCEQ. On April 7, 2020, BRLF learned that the TCEQ referred enforcement to the Office of the Attorney General (OAG). BRLF will seek to negotiate a resolution with the OAG.

ITEM 1A. RISK FACTORS.

Our material risk factors are disclosed in Part I, Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2019. There have been no material changes during the six months ended June 30, 2020 from or updates to the risk factors discussed in Part I, Item 1A, Risk Factors, of our 2019 Annual Report on Form 10-K, except as follows.

Weakened global economic conditions, including those resulting from the recent COVID-19 pandemic, may harm our industry, business and results of operations.

Our business is directly affected by changes in national and general economic factors and overall economic activity that are outside of our control, including consumer confidence and interest rates. For example, the COVID-19 pandemic has negatively impacted the global economy, disrupted global supply chains and created significant volatility and disruption of financial markets. A weak economy generally results in decreases in volumes of waste generated, which adversely affects our revenues. In addition, we have certain fixed costs (e.g., facility expense associated with long-term leases, depreciation expense and accretion expense), which may be difficult to adjust quickly to match declining waste volume levels. Consumer uncertainty and the loss of consumer confidence may decrease overall economic activity and thereby limit the amount of services we provide. Additionally, a decline in waste volumes may result in increased competitive pricing pressure and increased customer turnover, resulting in lower revenue and increased operating costs. Operating in an environment of worsening economic conditions could have a material adverse effect on our consolidated financial condition, results of operations and cash flows. Further, recovery in the solid waste industry historically has lagged behind recovery in the general economy. Accordingly, we cannot assure you that an improvement in general economic conditions will result in an immediate, or any, improvement in our consolidated financial condition, results of operations or cash flows.

The COVID-19 pandemic has negatively impacted, and is likely to continue to negatively impact, our business, results of operations and financial performance.

The COVID-19 pandemic is having an unprecedented effect on the U.S. economy, which has created significant uncertainties. These uncertainties include, but are not limited to, the potential adverse effect of the pandemic on the economy, our supply chain partners, our employees and our customers. As a result of the COVID-19 pandemic, our costs of doing business have increased, including for the purchase of additional safety equipment and hygiene products, increased facility and equipment cleaning, and meals for our frontline employees. Additionally, if the pandemic continues and conditions worsen, we expect to experience additional adverse impacts on our operational and commercial activities and our collections of accounts receivable, which adverse impacts may be material. The degree to which COVID-19 impacts our results going forward will depend on future developments, which are uncertain and cannot be predicted, including, but not limited to, the duration and spread of COVID-19, its severity, the actions to contain the virus or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. Any of the foregoing factors, or other cascading effects of the COVID-19 pandemic that are not currently foreseeable, could materially increase our costs, negatively impact our business and damage our results of operations and our liquidity position, possibly to a significant degree.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS.

Issuer Purchases of Equity Securities

The following table provides information relating to our purchases of shares of our common stock during the three months ended June 30, 2020:

	Total Number of Shares Purchased (a)	Average Price Paid per Share (a)	Total Number of Shares Purchased as Part of Publicly Announced Program (b)	Dollar Value of Shares that May Yet Be Purchased Under the Program (c)
April 1 - 30	—	$ —	—	$ 605,818,899
May 1 - 31	—	$ —	—	$ 605,818,899
June 1 - 30	—	$ —	—	$ 605,818,899
	—		—	

a. In October 2017, our Board of Directors added $2.0 billion to the existing share repurchase authorization that now extends through December 31, 2020. Share repurchases under the program may be made through open market purchases or privately negotiated transactions in accordance with applicable federal securities laws. While the Board of Directors has approved the program, the timing of any purchases, the prices and the number of shares of common stock to be purchased will be determined by our management, at its discretion, and will depend upon market conditions and other factors. The share repurchase program may be extended, suspended or discontinued at any time. As of June 30, 2020, no repurchased shares were pending settlement.

b. The total number of shares purchased as part of the publicly announced program were all purchased pursuant to the October 2017 authorization.

c. Shares that may be purchased under the program exclude shares of common stock that may be surrendered to satisfy statutory minimum tax withholding obligations in connection with the vesting of restricted stock units and performance stock units issued to employees.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

None.

ITEM 4. MINE SAFETY DISCLOSURES.

None.

ITEM 5. OTHER INFORMATION.

On March 3, 2020, we announced that Jeffrey A. Hughes submitted his intent to retire from his position as Executive Vice President and Chief Administrative Officer effective March 1, 2021. At the request of our Board of Directors, on August 4, 2020, Mr. Hughes agreed to continue in his current position and postpone his retirement until April 1, 2022.

ITEM 6. EXHIBITS.

Exhibit Number	Description of Exhibit
4.1	Amendment No.1, dated as of May 18, 2020, to Credit Agreement, dated as of June 8, 2018, by and among Republic Services, Inc., as Borrower, Bank of America, N.A., as Administrative Agent, Swing Line Lender and L/C Issuer, and the other lenders party thereto (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K dated May 21, 2020).
4.2	Amendment No. 2, dated as of July 14, 2020, to Credit Agreement, dated as of June 8, 2018, as amended, by and among Republic Services, Inc., as Borrower, Bank of America, N.A., as Administrative Agent, Swing Line Lender and L/C Issuer, and the other lenders party thereto (incorporated by reference to Exhibit 4.1 of the Company's Current Report on Form 8-K dated July 17, 2020).
10.1+*	Offer letter, dated May 29, 2020, by and between Brian DelGhiaccio and Republic Services, Inc.
10.2+*	Non-Competition, Non-Solicitation, and Confidentiality Agreement, effective June 1, 2020, by and between Brian DelGhiaccio and Republic Services, Inc.
31.1*	Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer.
31.2*	Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer.
32.1**	Section 1350 Certification of Chief Executive Officer.
32.2**	Section 1350 Certification of Chief Financial Officer.
101.INS*	XBRL Instance Document. - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	XBRL Taxonomy Extension Schema Document.
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document.
101.LAB*	XBRL Taxonomy Extension Labels Linkbase Document.
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document.
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document.
104*	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

** This exhibit is being furnished rather than filed, and shall not be deemed incorporated by reference into any filing, in accordance with Item 601 of Regulation S-K.

\+ Indicates a management or compensatory plan or arrangement

SIGNATURES

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

REPUBLIC SERVICES, INC.

Date:	August 6, 2020	By:	/S/ BRIAN DELGHIACCIO **Brian DelGhiaccio** **Executive Vice President,** **Chief Financial Officer** **(Principal Financial Officer)**
Date:	August 6, 2020	By:	/S/ BRIAN A. GOEBEL **Brian A. Goebel** **Vice President and** **Chief Accounting Officer** **(Principal Accounting Officer)**

May 29, 2020
Mr. Brian DelGhiaccio

Dear Brian,

Congratulations! I am very pleased to promote you the position of Executive Vice President, Chief Financial Officer with Republic Services, Inc. (the "Company" or "Republic"), reporting directly to me, or other individuals as the Company may direct. I am excited about the opportunities presented by the Company and hope that you will continue as a member of the executive leadership team. Your promotion will be effective June 1, 2020 ("Effective Date").

This letter sets forth the terms and conditions of our offer and highlights the basic components of your compensation. It is not intended to be a comprehensive description of all benefits available to you or to provide the details of the plans that govern the administration of compensation, equity and benefits, as our offerings change periodically.

You will be eligible for the following:

Base Salary: Your Base Salary will be $550,000 annually, subject to applicable deductions and withholdings.

Annual Cash Incentive: You will continue to be eligible to participate in the Company's Executive Incentive Plan ("EIP"), or any successor or similar plan maintained by the Company for the benefit of similarly-situated employees, subject to the terms and conditions of such plans and at the discretion of and subject to approval by the Management Development and Compensation Committee (the "Committee"). Your award target for the 2020 Annual Cash Incentive has been set by the Committee to be 80% of your Base Salary. The calculation of your 2020 bonus will be prorated based on your base salary, as in effect, prior to and after the Effective Date.

Equity: You will continue to be eligible to participate in the Company's Amended and Restated 2007 Stock Incentive Plan ("Stock Plan"), or any successor or similar plan maintained by the Company for the benefit of similarly-situated employees, subject to the terms and conditions of such plans and the applicable award agreements. All awards under the Stock Plan are at the discretion of and subject to approval by the Committee or any authorized designee of the Committee. For 2021, management intends to recommend a Restricted Stock Unit ("RSU") award with a grant date fair value of approximately $560,000.

For 2020, the Committee has approved an RSU award with a grant date fair value of approximately $200,000 to be granted on the Effective Date. The grant will vest in 25% increments on each of the first four anniversaries of the grant date. The equity grant is governed by the provisions of the Stock Plan and applicable award agreement.

Stock Ownership Guidelines: As Executive Vice President, Chief Financial Officer, you are expected to obtain within five years and thereafter maintain ownership of Republic common stock having the value equal to three times Base Salary or such other amount as set from time to time by the Company. As a newly promoted employee, you will have five years from the Effective Date to reach this increased level of stock ownership.

Performance Shares: You will continue to be eligible for a grant of Performance Shares ("PSUs") under the Stock Plan, or any successor or similar plan maintained by the Company for the benefit of similarly-situated employees, subject to the terms and conditions of such plan, the award agreement and the discretion of and approval by the Committee. A new performance share opportunity may be established each year. This incentive will be tied to achieving the Company's key financial and shareholder return goals as established by the Committee over a three-year performance cycle. As a reference, these goals for the 2020-2022 performance cycle were cash flow value creation, return on invested capital, and relative total shareholder return. PSUs will be settled equally in shares of Company stock and cash. Management intends to recommend to the Committee that your award target for the 2021-2023 performance cycle be set at $775,000.

Supplemental Long-Term Incentives: The Committee has determined that you will be granted long-term cash incentives for the performance cycles 2018-2020, 2019-2021 and 2020-2022 with targets set at $100,000, $233,333 and $352,917, respectively ("Supplemental LTIPs"), to increase your target awards for such cycles to take into account that you will be in your new role for a portion of the 2018-2020, 2019-2021 and 2020-2022 performance cycles. Payment dates, measurement criteria, targets, performance, and other aspects of the Supplemental LTIPs (including negative discretion of the Committee) will be as if the awards were made under the EIP (except for the provisions stating when awards under the EIP must be granted and the provisions of the following paragraph) and the performance goals will be the same as those that are applicable to other executive officers.

In the event that your continuous service with the Company terminates by reason of death, disability (as defined in the Stock Plan), termination without cause by the Company or termination for good reason (as such terms are defined in the Company's Executive Separation Policy) by you prior to the end of the applicable performance cycles for the Supplemental LTIPs, you will be entitled to a prorated amount for each such Supplemental LTIP performance cycle that has not yet ended equal to the Supplemental LTIP payment that the Committee determines would have been paid to you had your employment continued through the end of the performance cycle, multiplied by a fraction, the numerator of which is the number of months of the performance cycle which have elapsed since the first day of the performance cycle to the end of the month in which your continuous service with the Company terminates by reason of death, disability, termination without cause by the Company or termination for good reason by you and the denominator of which is the total number of months in the performance cycle. The Supplemental LTIPs will not be payable in the event that a change in control occurs, except to the extent payable without a change in control or required under the Separation Policy.

Deferred Compensation Plan: As an Executive Vice President, you will continue to be eligible for a contribution to the Republic's Deferred Compensation Plan ("DCP") that may be made annually at the discretion of the Committee. Presently, the amount of the annual Deferred Compensation Savings Plan contribution is set at $65,000.

Paid Time Off: Paid Time Off will continue to be accrued and used in accordance with the PTO policy applicable to similarly-situated employees.

Benefits: You will continue to be eligible to participate in all benefit plans that the Company makes available to similarly-situated employees.

Executive Separation Policy: Should your employment with the Company terminate at any time in the future while you are employed in the position of Executive Vice President, Chief Financial Officer, your eligibility for separation benefits will be governed by the Company's then applicable Executive Separation Policy.

Other Terms and Conditions

As a condition of your employment, you are required to sign a ***Non-Competition, Non-Solicitation, Confidentiality and Arbitration Agreement***, which is enclosed with this offer.

While we hope that you will continue to have a long, successful and rewarding career with Republic, this offer is for “at will” employment, and either you or the Company may terminate your employment at any time and for any reason.

Brian, we are excited to have you assume the position of Executive Vice President, Chief Financial Officer and look forward to working with you in your new role. Please indicate your acceptance of this offer by countersigning this letter and returning the original to me. As always, please contact me if you have questions.

Sincerely,

/s/ Donald W. Slager
Chief Executive Officer
Republic Services, Inc.

/s/ Brian DelGhiaccio — 06/03/2020

Brian DelGhiaccio — Date

NON-COMPETITION, NON-SOLICITATION, AND CONFIDENTIALITY AGREEMENT

Republic Services, Inc. ("Company"), for the benefit of the Company and its Affiliates (defined below), and Brian DelGhiaccio, Employee ID No. 551099004 ("Executive") enter into this Non-Competition, Non-Solicitation, and Confidentiality Agreement ("Agreement"), effective June 1, 2020 ("Effective Date"). The Company and Executive are collectively referred to as the "Parties" in this Agreement. The use of the term "Executive" herein is a general reference only and shall not be construed to provide Executive any rights or status as an employee that the individual would not otherwise have absent this Agreement. The Parties agree as follows:

1. **Position of Trust and Confidence.** In reliance upon Executive's promises in this Agreement, the Company agrees that Executive shall be provided employment with the Company in a position of special trust and confidence that involves access to the Company's Confidential Information (defined below) and relationships that would give Executive an unfair competitive advantage if it were not for Executive's agreement to comply with the terms of this Agreement. Executive accepts all of the terms and conditions contained in this Agreement in exchange for the Company's agreement to provide Executive with: the above-described employment, access to the Company's Confidential Information, eligibility to participate in the Company's Executive Separation Policy (or any successor or similar policy maintained by the Company for the benefit of similarly situated employees), and/or the Company's remaining covenants in this Agreement. Executive stipulates that each of the foregoing items is independently sufficient consideration to support this Agreement standing alone.

2. **General Duties.** Executive acknowledges that, due to the nature of Executive's job responsibilities, Executive will be entrusted with significant responsibility for managing, using and otherwise handling Confidential Information and with significant responsibility for managing aspects of the business of the Company and its Affiliates. Accordingly, Executive owes a fiduciary duty of loyalty, fidelity and allegiance to always act in the best interests of the Company and its Affiliates, and to refrain from doing or saying anything to a third party or subordinate that Executive knows, or through the exercise of reasonable care should know, would cause injury to the Company or its Affiliates; provided, however, that the foregoing does not prohibit any conduct that is protected under Section 17 (Protected Conduct). As used in this Agreement, the property and interests of the Company referred to in this Agreement are understood to include the property and interests of the Company's Affiliates that Executive has involvement with or access to Confidential Information about, in all possible respects (such as, but not limited to, the Affiliates' Confidential Information, Intellectual Property, customer relationships, employee relationships, and Facilities), irrespective of whether the Affiliates are expressly referred to in the definition, restriction or other provision at issue.

3. **Confidentiality, Intellectual Property Assignment, and Company Property Obligations.**

3.1 For purposes of this Agreement, "Confidential Information" means information and compilations of information, in any form (tangible or intangible), related to the Company or an Affiliate that Executive acquires or gains access to as a result of Executive's employment, if: (a) the Company has not authorized public disclosure of the item, and (b) it is not readily available through proper means to the public or others who are not obligated to keep it confidential and may lawfully use it to the Company's disadvantage; provided, however, that items of information acquired by Executive prior to and separate from Executive's association with the Company are not included. The Company's Confidential Information includes, but is not limited to, non-public records and information maintained internally by the Company or its Affiliates of the following nature: customer lists and private agreements; customer service information; names of customer contacts and the identities of decision-makers; lists, names, analysis and other identifying information regarding specific customer prospects and opportunities; marketing plans and techniques; market planning; development plans; formulas; price data; cost data; price and fee amounts; pricing and billing policies; quoting procedures; forecasts, forecast assumptions and volumes; information regarding the Company's actual or potential customers, suppliers or other vendors; information about the Company's routes, territories or target markets; the Company's internal financial information, including purchasing, internal cost information, information regarding revenue and growth, and information about the profitability of particular operations; internal sales, service and operational manuals, policies and procedures; information regarding the manner and methods of conducting the Company's business; information about the Company's future plans, potential acquisition, divestiture and other strategies; information about the Company's landfill development plans, landfill capacities, special projects and the status of any permitting process or investigation; information the Company is obligated to keep as confidential; and information that would qualify as a trade secret. Private disclosure of Confidential Information to another party by the Company or its Affiliates for business purposes will not cause it to lose its protected status under this Agreement, and Confidential Information in the form of a confidential compilation created or customized by the Company or its Affiliates will remain protected because of the compilation's unique and special value as a compilation even though individual items of information in it may not otherwise qualify as confidential.

3.2 As a direct consequence of Executive's access to Confidential Information, Executive agrees to the following restrictions and further agrees that such restrictions are reasonable:

(a) For the period of time that the information qualifies as Confidential Information under this Agreement, Executive will take reasonable measures to preserve the confidentiality of the information and comply with Company policies regarding confidentiality, and shall not engage in any use, copying, transfer, sale or disclosure of Confidential Information that is not authorized as part of Executive's job duties for the Company, without first obtaining the written consent of a duly authorized officer of the Company. The purpose of the foregoing restriction is the protection of the Company's Confidential Information, and it shall not be construed or applied broadly as a general restraint of trade or covenant not to compete. The foregoing supplements, and shall not be construed to reduce or eliminate, any rights and remedies the Company would have absent this Agreement with respect to the protection of its trade secrets under applicable law.

(b) During Executive's employment with the Company, Executive agrees not to use or disclose any previously obtained trade secret, proprietary or confidential information that Executive received from a prior employer or another third party, if Executive has any such information.

(c) If Executive is served with a subpoena, court order, or similar legal document requiring the disclosure of Confidential Information, Executive will provide the Company as much notice as is possible (presumably seven (7) business days or more) through written notification to the Chief Legal Officer, Republic Services Legal Department, at the then-current Corporate address, so that the Company may take permissible steps to protect the Confidential Information. This notice must be provided unless such notice is prohibited by law or court order; provided, however, that nothing herein prohibits conduct that is protected under Section 17 (Protected Conduct).

3.3 Executive will provide the Company with prompt written notice of Intellectual Property conceived, created or developed during employment with the Company. "Intellectual Property" refers to any and all inventions, patents, business methods or processes, designs, discoveries, innovations, ideas, know-how, improvements, trademarks, works of authorship, source code, computer programs, mask works, domain names, writings, drawings, and designs, and all other forms of intellectual property (or proprietary works) that can be owned or subject to legal control, whether subject to copyright registration or not, whether patentable or not, whether reduced to tangible form or not, and whether made by Executive alone or jointly with others. Executive agrees to and does hereby fully and finally grant and assign to the Company (or its designee) all of Executive's rights, title and interest, present and future, in and to Intellectual Property conceived, created, discovered, or developed by Executive during employment or any other relationship (e.g., independent contractor or otherwise) with the Company or its Affiliates, whether conceived, created, discovered, developed or improved upon, alone or with others, during regular working hours or outside of them. However, nothing in this Agreement shall create or require the assignment of an invention for which no equipment, supplies, facility or trade secret information of the Company or its Affiliates were used and which was developed entirely on Executive's own time, unless: (a) the invention relates directly to the business of the Company or its Affiliates or to either of their actual or demonstrably anticipated research or development; or (b) the invention results from any work performed by Executive for the Company or its Affiliates. All of Executive's work product related to the Company's business shall to the fullest extent permitted by law be considered the property of the Company as "works made for hire" under the U.S. Copyright Act and comparable laws of other countries, and nothing herein shall be construed to limit or diminish any rights or interests the Company would have in such works made for hire absent this Agreement. Nothing in this Agreement shall be construed to grant Executive any rights in or to the Intellectual Property of the Company or an Affiliate. Executive will keep and maintain adequate and current written records of all Intellectual Property developed by Executive (solely or jointly with others) during Executive's employment with the Company. The records may be in the form of notes, sketches, drawings, flow charts, electronic data or recordings, and any other format. The records will be available to and remain the sole property of the Company at all times. Executive agrees not to remove such records from the Company except as expressly permitted by Company policy which may, from time to time, be revised at the sole discretion of the Company. Any Intellectual Property related to the Company's business (existing or under demonstrably anticipated research or development) that Executive claims to retain rights in because it was conceived, created or discovered prior to employment with the Company ("Prior Works") have been identified below, and if there are no such Prior Works identified it is because Executive agrees there are none.

Intellectual Property related to the Company's business (existing or under demonstrably anticipated research or development) that Executive claims to retain rights in because it was conceived, created or discovered by Executive prior to employment with the Company ("**Prior Works**") is listed below. ***Leave the section below blank if no Prior Works are claimed***.

Prior Works list:

____.
____.
____.
____.

If additional pages are needed, attach them and identify the number of pages attached here: ________.

3.4 Executive agrees to handle all the Company's property in accordance with Company policy. Executive's authorization to access the Company's computer systems is limited and use of such systems to compete or prepare to compete is unauthorized access that is strictly prohibited. All documents and records received or created by Executive in the course of employment related to the Company's business are the property of the Company. When Executive's employment with the Company ends, or at the earlier request of the Company, Executive agrees to immediately return to the Company all Company property in Executive's possession, custody or control, including anything containing Confidential Information, such as: documents, emails, contact lists, papers, files, records, reports, binders, notebooks, books, notes, calendars, plans, drawings, maps, specifications, blueprints, studies, photographs, video recordings, audio recordings, computers, tablets, smartphones, mobile telephones, drives, discs, and any other devices used to store electronic data whether made by Executive or which came into Executive's possession concerning the business or affairs of the Company, including any and all electronic copies and/or hard-copies. Nothing herein prohibits Executive's retention of paystubs and other records provided to Executive by the Company regarding his or her compensation and benefits. Upon the Company's request, Executive agrees to immediately provide the Company with a written affidavit confirming that Executive has returned all Company property (including Confidential Information); provide all passcodes and passwords for Company devices or accounts used by Executive; provide for inspection any electronic storage devices Executive used to conduct business for the Company; and cooperate in providing the Company a means through which it can promptly and independently verify (including by forensic analysis, if necessary) that all Company property has been removed from electronic storage devices, cloud-based storage, and accounts in Executive's possession or control. If Executive stored Company information in any third-party cloud, email or internet service provider, Executive consents to the provider's disclosure of such information to the Company.

4. **Non-Competition and Non-Solicitation Obligations.** Executive agrees that the restrictions provided for in this Section 4 are reasonable and necessary for the protection of the Company's trade secrets and other protectable interests, and that Executive's obligations in Sections 1 – 3 are inadequate by themselves to protect the Company's interests and prevent irreparable harm. The obligations created by this Section of the Agreement shall be referred to as the "Protective Covenants."

4.1 *Definitions*.

(a) "Competitor" means any person or entity, whether public or private and whether operating alone or as part of a larger organization, that: (i) is doing business in one or more cities or counties (or county-equivalents) where the Company or its Affiliates do business; and (ii) engages in a business, or is actively planning to engage in a business, that involves products or services that compete with any products or services of the Company or its Affiliates, existing or under demonstrable development during the Look-Back Period, and which remain a part of the Company's or its Affiliate's business (existing or under development) at the relevant time of enforcement. For purposes of the foregoing, the covered products and services are understood to include, at the time this contract is made, the following: collection, hauling, transfer, processing, disposal and/or recycling of refuse (hazardous or non-hazardous), and any other services or products offered, conducted, authorized or provided by the Company or its Affiliates during the last two years of Executive's employment. The Parties acknowledge that the foregoing list is illustrative only. Executive understands and accepts that the list may be expanded upon or reduced depending upon future developments in the Company's or its Affiliate's business, and Executive acknowledges that his or her employment with the Company will provide adequate notice of changes in the list of Company and Affiliate products and services applicable to him or her.

(b) "Conflicting Services" refers to offering, providing, selling, managing or supervising services or activities on behalf of a Competitor that: (i) are the same as, or are substantially similar in function or purpose to those Executive offered, performed, supervised or managed for the Company or its Affiliates during the Look-Back Period; (ii) relate to products or services of a Competitor that compete with those products or services of the Company or its Affiliates (existing or under development) that Executive had involvement with or was provided Confidential Information about during the Look-Back Period; (iii) involve pursuing business with or accepting business from a customer of the Company or its Affiliate on behalf of a Competitor and to the detriment of the Company or its Affiliate; or (iv) otherwise involve the likely use or disclosure of Confidential Information by Executive. The foregoing applies to the intentional actions of Executive, whether done directly or through direction or control of others; in person or through telephonic, electronic, or other means of communication; or as a principal, owner, director, officer, agent, employee, partner, member, contractor or consultant.

(c) "Covered Customer" is a customer of the Company or its Affiliates that Executive had material contact or dealings with on behalf of the Company or its Affiliates during the Look-Back Period.

A "customer of the Company" will be presumed to include any person or entity who is: (i) a purchaser of the Company's or its Affiliate's goods or services in the Look-Back Period with whom the Company or its Affiliates has a reasonable expectation of continued business activity; (ii) an active prospective purchaser of the Company's or its Affiliate's goods or services with whom the Company or its Affiliates has an ongoing business relationship or reasonable expectation of doing business based on communications with the person or entity during the Look-Back Period; or (iii) a buyer, broker, or comparable representative of a purchaser or prospective purchaser that qualifies as a customer under (i) or (ii) above.

"Material contact or dealings" will be presumed to exist with the customer of the Company if, during the Look-Back Period, the Executive: (i) had contact or dealings with the customer on behalf of the Company or its Affiliates; (ii) supervised or coordinated other Company or Affiliate employees in their dealings with the customer on behalf of the Company or its Affiliate; (iii) was provided Confidential Information related to the customer; or (iv) received credit or compensation (such as bonus, commission, or earnings) from the Company for business conducted with the customer.

(d) "Covered Employee or Individual" shall mean, for purposes of this Agreement only, an individual that Executive works with or gains knowledge of as a result of Executive's employment with the Company, provided such individual is either an: (i) employee of the Company or an Affiliate; or (ii) individual providing his or her personal services to the Company or an Affiliate in an individual capacity as an independent contractor.

(e) "Facility" means the physical location of: (i) an office, workplace or other location where the Company or its Affiliates conduct business; (ii) a hauling/collection operation; or (iii) a post-collection operation (including, but not limited to, landfills, transfer stations, material recovery facilities, recycling facilities and compost facilities), owned, leased or operated at the relevant time of enforcement by the Company or its Affiliates; provided, however, that it was a facility owned, leased, operated, planned, or under development by the Company or its Affiliates, or is in geographic area that Executive had access to Confidential Information about, during the Look-Back Period.

(f) "Look-Back Period" means the last two (2) years of Executive's employment with the Company, or whatever lesser period of time Executive has been employed at the Company if not employed for two (2) years or more, including any period of employment with a predecessor or Affiliate of the Company; or, if the foregoing is not enforceable, then such lesser period as the applicable court or arbitrator deems enforceable to protect the Company's legitimate business interests.

(g) "Restricted Area" means the geographic areas (by state, county, parish, or other means of identification used in the ordinary course of the Company's business) that involve a protectable interest on behalf of the Company or its Affiliate that is related to Executive. Due to the nature of Executive's position and the extensive Confidential Information Executive will have access to regarding the operations of the Company and its Affiliates nationally, it shall be presumed that the Restricted Area is Executive's county and state of residence, and the remainder of the counties and states (or their equivalents) within the United States where the Company or its Affiliates do business and were doing business (or had demonstrable plans to do business) during the Look Back Period. If, and only if, the foregoing is deemed unenforceable by a court or arbitrator, then (for purposes of that court or arbitrator's jurisdiction only) the "Restricted Area" shall mean: the geographic areas that fall within a 50-mile radius of each Company or Affiliate Facility; or, if not enforceable, then such lesser area within the foregoing geography as the applicable court or arbitrator deems reasonable and enforceable under the circumstances. Executive stipulates that he or she will be exposed to Confidential Information and trade secrets related to all of the Company's or its Affiliates' Facilities as a result of Executive's high-level position with the Company which makes the foregoing area reasonable.

(h) "Restricted Period" means the period during Executive's employment with the Company and a period of twenty-four (24) months after Executive's employment with the Company ends; or, if the foregoing is not enforceable, then such lesser period as the applicable court or arbitrator deems enforceable to protect the Company's legitimate business interests.

(i) "Solicit" or "Soliciting" means to engage in acts or communications that are intended to, or can reasonably be expected to, induce or encourage a particular responsive action (such as buying a good or service or terminating a relationship), regardless of which party first initiates contact.

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4.2 *Prohibition Against Competition*.

During the Restricted Period, Executive will not compete with the Company by providing Conflicting Services to a Competitor within the Restricted Area. This obligation shall be referred to as the "Noncompete."

4.3 *Prohibition Against Solicitation of Customers*.

During the Restricted Period, Executive will not, directly or through the direction or supervision of others: (i) Solicit or assist in Soliciting a Covered Customer on behalf of, or for the benefit of a Competitor; or (ii) otherwise knowingly encourage or cause (in whole or in part) a Covered Customer to stop or reduce business conducted with the Company or its Affiliates (except where such activity is authorized by the Company in the ordinary course of Executive's employment with the Company and undertaken for the benefit of the Company or its Affiliate). If, and only if, required for enforcement under applicable law, the restriction in this paragraph shall be limited to business activities in or related to the Restricted Area. This obligation shall be referred to as the "Customer Nonsolicit."

4.4 *Prohibition Against Solicitation of Employees and Individuals.*

During the Restricted Period, Executive will not Solicit a Covered Employee or Individual: (a) to go to work for a Competitor; or (b) to end his or her relationship with the Company or its Affiliate unless such activity is authorized and undertaken in the ordinary course of Executive's employment for the benefit of the Company or its Affiliate. This obligation shall be referred to as the "Employee Nonsolicit."

5. **Obligation to Avoid Conflicts of Interest.** During Executive's employment with the Company, Executive agrees: (a) not to compete with the Company; (b) to notify the Company in writing of any business opportunities related to the business of the Company that are not already regularly identified in the ordinary course of Executive's duties for the Company; and (c) to abide by the Company's Conflicts of Interests policy, which includes not becoming involved, directly or indirectly, in a situation that a reasonable person would recognize to be a conflict of interest with the Company. If Executive discovers, or is informed by the Company, that Executive has become involved in a situation that is an actual conflict, likely conflict, or appears to be a conflict of interest, Executive will take immediate action to eliminate the conflict, including providing full and immediate disclosure to the Company in writing and complying with the Conflicts of Interests Policy. The Company's determination as to whether a conflict of interest exists will be conclusive.

6. **Notice to New Employers.** During the Restricted Period: (a) Executive agrees to provide a copy of this Agreement to any person or entity that proposes to employ or utilize the services of Executive (as an employee, consultant, independent contractor or otherwise) before accepting the proposed employment or work; and (b) if Executive accepts an offer of employment with any Competitor, Executive agrees to provide Company with notice of Executive's acceptance before beginning active employment or work with the Competitor or within seven (7) days after Executive accepts the offer of employment, whichever is sooner. Executive agrees that the Company may notify third parties (such as a prospective employer of Executive) of this Agreement and provide an opinion regarding its application and enforcement without such action being the basis of any legal claim or complaint by Executive.

7. **Severability**. Each of Executive's obligations under this Agreement shall be construed as a separate and severable obligation except where this Agreement provides otherwise by expressly designating a provision non-severable. If a court or arbitrator determines that a restriction in this Agreement cannot be enforced as written due to an overbroad characteristic (such as time, geography, or scope of activity covered), the Parties agree that the court or arbitrator shall nonetheless engage in partial enforcement of the restriction and/or reform any overbroad part of the restriction so that it may be enforced to the greatest extent legally enforceable. Executive must present clear and convincing evidence to overcome a presumption provided for in this Agreement. And, if a presumption used in this Agreement would make a restriction against Executive unenforceable, then it will be severed from the Agreement and shall not apply. If, despite the foregoing, any provision contained in this Agreement is determined to be void or unenforceable, in whole or in part, then the offending provision shall be stricken from this Agreement and other provisions of this Agreement will remain in full force and effect.

8. **Affiliates & Beneficiaries.** As used herein, an "Affiliate" is any legal entity that, directly or indirectly, through one or more intermediaries, is owned or controlled by, or is under the common ownership and/or control of Republic Services, Inc., including but not limited to the Company's subsidiaries and successors (if applicable). As used herein, references to Executive's employment with the Company shall be understood to include any employment with an Affiliate that may occur. The Parties expect that some or all of the duties or responsibilities of the Company under this Agreement may be satisfied by an Affiliate. Accordingly, Executive acknowledges that the discharge of any duty or responsibility of the Company under this Agreement by one or more of its Affiliates discharges the Company's duty or responsibility in that regard. Executive's obligations under this Agreement will be owed to, and fully enforceable by the Company and any Affiliate with a material interest warranting protection.

9. **Injunctive Relief.** If Executive violates or threatens to violate any of the restrictions placed on Executive by this Agreement, the Company shall be entitled to specific performance and temporary and permanent injunctive relief to enforce this Agreement in addition to any and all other legal and equitable relief available to the Company under applicable law. No bond will be required for the issuance of the injunctive relief provided for in this Agreement unless it is required by law to make the injunctive relief enforceable, and if required then an agreed upon reasonable bond shall be $1,000.00. The Parties agree that the foregoing injunctive relief to enforce this Agreement is a reasonable and necessary remedy to prevent the irreparable harm that would result from Executive's failure to comply with the restrictions in this Agreement.

10. **Survival.** The restrictions applicable to Executive under this Agreement and the agreement to arbitrate in Section 19 below shall survive the termination of Executive's employment in accordance with their terms, and shall remain in effect despite any change in position, title, duties, compensation, or other terms and conditions of Executive's employment. The existence of a claim by Executive against the Company, whether predicated on this Agreement or otherwise, shall not relieve Executive of his or her obligations under this Agreement or make them unenforceable.

11. **Tolling.** If a post-employment restriction with a time limit in this Agreement is violated by Executive, the time period applicable to the violated restriction will be extended by one day for each day Executive remains in violation of the restriction. This paragraph providing for an extension of post-employment time limits shall be referred to as the "Tolling Clause."

12. **Successors and Assigns.** This Agreement shall automatically inure to the benefit of the Company's successors and assigns and may be enforced by the same without the need for any further agreement by Executive. Executive expressly consents to the assignment of this Agreement by the Company as part of any sale, merger, or other transaction related to the assets of the Company at the Company's discretion. Executive's rights and obligations under this Agreement are personal to Executive and may not be assigned by Executive.

13. **Waiver.** The waiver by any party of a breach of any provision of this Agreement will neither operate nor be construed as a waiver of any subsequent breach. The Company's decision not to pursue a breach of this Agreement by Executive (or the breach of any other Agreement by any other party), shall not relieve Executive of his or her obligations under this Agreement or create a waiver of the Company's rights as to Executive or any other party. In order for a waiver to be effective against the Company, it must be in writing and signed by a duly authorized officer of the Company.

14. **Attorneys' Fees and Costs.** The Parties agree that, if Executive breaches or threatens to breach any term of this Agreement, the Company will be entitled to recover the attorneys' fees, costs and expenses incurred in enforcing this Agreement if it is the prevailing party. The Company shall be deemed the "prevailing party" if it secures any relief enforcing the Agreement irrespective of whether some of the relief requested is also denied.

15. **Governing Law, Jurisdiction and Venue.** This Agreement shall be governed, interpreted, and enforced in accordance with the laws of the State of Arizona; provided, however, that any agreement between the Parties to arbitrate claims shall be governed by the Federal Arbitration Act, 9 U.S.C. § 1 et seq. Additionally, the Parties agree that the courts situated in Maricopa County, Arizona will have personal jurisdiction over them to hear all disputes arising under or related to this Agreement that are not otherwise subject to arbitration and that venue for any court proceeding arising from or related to this Agreement will be proper only in Maricopa County, Arizona.

16. **Entire Agreement, No Oral Amendments.** Except as otherwise provided for in this Agreement, the terms contained in this document are the entire agreement between the Parties regarding the matters covered in it. The Parties are not relying upon any representations, understandings or agreements outside of this Agreement in making the decision to enter into it. This Agreement supersedes prior agreements between the Parties regarding the subject matter covered in it, and shall be considered the controlling agreement with respect to all such matters; provided, however, that this Agreement shall be interpreted to supplement and not replace or eliminate any restrictions placed on Executive as a condition of the receipt of benefits under a deferred or long term incentive compensation plan, equity participation plan, stock or stock option award agreements, or intellectual property transfer agreements, to the extent they apply.

17. **Protected Conduct**. Nothing in this Agreement prohibits Executive from opposing, or reporting to the applicable law-enforcement agency (such as the Securities and Exchange Commission), an event that Executive reasonably and in good faith believes is a violation of law, requires notice or approval from the Company before doing so, or prohibits cooperating in an investigation conducted by such a government agency. Executive is hereby provided notice that pursuant to the 2016 Defend Trade Secrets Act (DTSA): (a) no individual (consultant, contractor or employee) will be held criminally or civilly liable under federal or state trade secret law for the disclosure of a trade secret that: (i) is made in confidence to a federal, state, or local government official, either directly or indirectly, or to an attorney; and made solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal so that it is not made public; and (b) an individual who pursues a lawsuit for retaliation by an employer for reporting a suspected violation of the law may disclose the trade secret to the attorney of the individual and use the trade secret information in the court proceeding, if the individual files any document containing the trade secret under seal, and does not disclose the trade secret, except as permitted by court order.

18. **At-Will Status**. Unless Executive has a written employment agreement signed by a duly authorized officer of the Company that clearly and unequivocally provides otherwise, Executive's employment with the Company is at-will, meaning that either the Company or Executive may terminate the employment relationship at any time, with or without cause or notice. Nothing in this Agreement shall be construed to create a contract of employment for a fixed or guaranteed term or to eliminate or create a limitation on any right that either one of the Parties would have to terminate the employment relationship between them absent this Agreement.

19. **Arbitration.**

19.1 Except as otherwise provided herein, any claim or dispute (whether past, present, or future), that could otherwise be asserted in a court of law by either party arising from or related to this Agreement or Executive's application and selection for employment, employment, and/or separation of employment with the Company (including without limitation, claims based upon or related to discrimination, harassment, retaliation, defamation (including post-employment defamation or retaliation), breach of a contract or covenant, fraud, negligence, breach of fiduciary duty, trade secrets, unfair competition, compensation or any monies claimed to be owed, whistleblowing, tort claims, common law claims, statutory claims, equitable claims, and federal, state, or local legal claims) shall be resolved through an individualized, final and binding arbitration proceeding. Except as otherwise provided for herein, the arbitration shall be conducted in accordance with the Employment Arbitration and Mediation Rules of the American Arbitration Association ("AAA Rules"). The AAA Rules are available via the internet at www.adr.org/employment or by using a search engine such as Google to search for "AAA Employment Arbitration Rules"). To the extent that the AAA Rules conflict with the Federal Arbitration Act ("FAA") or this Agreement, the FAA and this Agreement shall control.

19.2 This Agreement has a "Class Action Waiver" that prohibits the Parties or any arbitrator from resolving any claim or dispute between them in a group, class, collective, or representative action involving parties other than the Company and Executive (as an individual), except by the mutual. written consent of the Parties, and the arbitrator shall not have authority to preside over a group, class, collective or representative proceeding. In the event a final judicial determination is made that the Class Action Waiver is unenforceable and that a class, collective, and/or representative action may proceed notwithstanding the existence of this Agreement, the arbitrator is without authority to preside over a class, collective, or representative action and any such action must be brought in a court of competent jurisdiction—not in arbitration. Regardless of anything else in this Agreement and/or any rules or procedures that might otherwise be applicable by virtue of this Agreement, disputes over the interpretation, applicability, enforceability or formation of the Class Action Waiver, including, but not limited to any claim that all or part of the Class Action Waiver is void or voidable, must be determined only by a court and not by an arbitrator.

19.3 The following claims are not covered by this Section: (i) claims for workers' compensation benefits, state disability insurance benefits and unemployment compensation benefits, or benefits under any plan governed by ERISA (however, it applies to discrimination or retaliation claims based upon seeking such benefits); (ii) disputes that may not be subject to pre-dispute arbitration agreement as provided by the Dodd-Frank Wall Street Reform and Consumer Protection Act (Public Law 111-203) or disputes that an applicable federal statute expressly states cannot be arbitrated or subject to a pre-dispute arbitration agreement; or (iii) representative actions for civil penalties filed under the California Private Attorneys General Act ("PAGA"), which may only be maintained in a court of competent jurisdiction (but to the extent permitted by applicable law, any claim by Executive on Executive's own behalf under PAGA to recover Executive's unpaid wages must be arbitrated and is covered by this Agreement).

Nothing in this Agreement prevents Executive from making a report to or filing a claim or charge with a governmental agency, including without limitation, the Equal Employment Opportunity Commission, U.S. Department of Labor, Securities Exchange Commission, National Labor Relations Board, Occupational Safety and Health Administration, or applicable law enforcement agencies. And nothing in this Agreement prevents the investigation by a government agency of any report, claim or charge otherwise covered by this Agreement. This Agreement also does not prevent federal administrative agencies from adjudicating claims and awarding remedies, even if the claims would otherwise be covered by this Agreement. The Company will not retaliate against Executive for filing a claim with an administrative agency. Nothing in this Agreement prevents or excuses a party from satisfying any conditions precedent and/or exhausting administrative remedies under applicable law before bringing a claim in Arbitration. This Agreement also does not prevent or prohibit Executive in any way from reporting, communicating about, or disclosing claims for discrimination, harassment, retaliation, or sexual abuse.

Either party may pursue and receive a temporary restraining order or and/or preliminary injunctive relief in a court of competent jurisdiction because the award to which the party may be entitled in arbitration may be rendered ineffectual without such relief. This includes but is not limited to preliminary injunctive relief to enforce the covenants applicable to Executive under Sections 3 – 6 of this Agreement (provided, however, that all issues of final relief shall continue to be decided through arbitration, and the pursuit of temporary injunctive relief shall not constitute a waiver of the Parties' agreement to arbitrate). The Parties stipulate that issuance of temporary or preliminary injunctive relief by a court does not require any final decisions of fact or law and is consistent with the subsequent referral of the matter to arbitration for final resolution on the merits. Nothing herein shall be construed to deprive the arbitrator of the power to issue temporary, preliminary and permanent injunctive relief to enforce this Agreement.

19.4 The Parties understand that they are agreeing to substitute one legitimate dispute resolution forum (arbitration) for another (litigation) because of the mutual advantages the arbitration forum offers and that their mutual promises to arbitrate provide consideration for this agreement to arbitrate.

The arbitration proceeding will comply with the following:

(a) A party wishing to arbitrate a legal claim must make a written request for arbitration to the other party and deliver it before the expiration of the statute of limitations applicable to the claim. The arbitrator shall resolve all disputes regarding the timeliness or propriety of the request for arbitration. Either party may file a motion to dismiss and/or a motion for summary judgment consistent with the standards for such motions under the Federal Rules of Civil Procedure. The arbitration award may only provide for damages or relief that a court of law could award. The award shall be issued in writing and state the essential findings and conclusions on which such award is based. Unless arbitration is prohibited by applicable law (in which case the arbitration will be held in the county and state where Executive works or last worked), the arbitration proceeding will be conducted in Maricopa County, Arizona, or another mutually agreed upon location. Unless the Parties jointly agree otherwise, the arbitrator shall be either an attorney who is experienced in employment law and licensed to practice law in the state in which the arbitration is convened or a retired state or federal judge from any jurisdiction. Unless the Parties mutually select an arbitrator, the arbitrator shall be chosen by the AAA through a process of alternate strikes by the Parties. The AAA will give each party a list of eleven (11) arbitrators (subject to the qualifications listed above) drawn from its panel of arbitrators. The Parties will strike names alternately from the list of common names, with the party initiating the claim to strike first, until only one remains. The remaining person will be designated as the arbitrator. If for any reason, the individual selected cannot serve, AAA will issue another list of eleven (11) arbitrators and repeat the alternate striking selection process.

(b) The decision and award shall be exclusive, final, and binding on the Parties, their heirs, executors, administrators, successors, and assigns. Except as otherwise expressly provided for herein, any legal dispute relating to the interpretation, applicability, or enforceability of this arbitration agreement that would otherwise be subject to resolution in a court of law will be resolved by the arbitrator. The Company will pay all costs and expenses associated with the arbitration, except for the filing fees and costs that would have been required of Executive in a court proceeding if the claim is one initiated by Executive. Each party agrees to pay their own respective attorneys' fees, costs and expenses throughout the arbitration proceeding. The arbitrator may award attorneys' fees, costs and expenses at the conclusion of the arbitration and any other relief provided by law. Judgment on the arbitration award may be entered in any court having jurisdiction over the Parties.

20. **Notice.** Executive acknowledges that Executive has been provided advance notice of the Agreement (the "Notice Period"); and, if Executive is signing/executing the Agreement before the expiration of any applicable Notice Period, Executive is doing so voluntarily and waiving Executive's right to take the full notice period to consider the Agreement before doing so. Executive understands that Executive has the right to withdraw consent to receive and sign this Agreement electronically by contacting the applicable recruiter and/or human resources manager in writing, and requesting that this Agreement be presented to Executive in paper form for handwritten signature.

Executive, intending to be legally bound, executes this Agreement as of the Effective Date.

EXECUTIVE

/s/ Brian DelGhiaccio

Brian DelGhiaccio

EXHIBIT 31.1

CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Donald W. Slager, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Republic 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(s) 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the 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.

/S/ DONALD W. SLAGER

Donald W. Slager
Chief Executive Officer
(Principal Executive Officer)

Date: August 6, 2020

EXHIBIT 31.2

**CERTIFICATION PURSUANT TO RULES 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Brian DelGhiaccio, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Republic 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(s) 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the 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.

/s/ BRIAN DELGHIACCIO

Brian DelGhiaccio
Executive Vice President,
Chief Financial Officer
(Principal Financial Officer)

Date: August 6, 2020

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 on Form 10-Q of Republic Services, Inc. (the Company) for the period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the Report), I, Donald W. Slager, Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/S/ DONALD W. SLAGER

Donald W. Slager
Chief Executive Officer
(Principal Executive Officer)

Date: August 6, 2020

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 on Form 10-Q of Republic Services, Inc. (the Company) for the period ended June 30, 2020 as filed with the Securities and Exchange Commission on the date hereof (the Report), I, Brian DelGhiaccio, Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ BRIAN DELGHIACCIO

Brian DelGhiaccio
Executive Vice President,
Chief Financial Officer
(Principal Financial Officer)

Date: August 6, 2020