

## Original Cost Depreciation Funding Strategy Example

The forecasted depreciation schedule below is an idealized example for demonstrating how the Original Cost Depreciation funding strategy sets cash targets for the Capital Improvement Program (CIP). Capital letters and terms are used as reference points between the table and explanation below. This example assumes the Sewer Rate forecast period is 2023 to 2032, capital spending is \$100 million in 2022, CIP has historically grown at 5% per year, future CIP is forecasted to grow at 8% per year, and all assets have a 40-year useful life. Using the original cost depreciation funding strategy, the cash funding target for the CIP equals forecasted annual depreciation which can also be expressed as:

$$\text{Existing Depreciation (A)} + \text{Forecasted Depreciation (B)} = \text{Forecasted Annual Depreciation (C)} = \text{Cash Funding Target}$$

- (A) **Existing Depreciation:** Depreciation from assets built in the past with remaining useful life. As assets are placed into service, their capitalized costs are divided by their useful life and expensed each year until their value equals zero (0) at the end of useful life; this creates the existing depreciation schedule. Once assets reach their useful life, their depreciation comes off the schedule—as seen in the declining values of Existing Depreciation in the schedule below.
- (B) **Forecasted Depreciation:** Projected depreciation from assets that will be built in the future. To forecast depreciation, the forecasted annual CIP is used as a proxy for asset value and then divided by the average useful life of current assets, assumed to be 40 years. These additions are cumulative since new assets need to be depreciated over their useful life—as seen in the increasing values of Forecasted Depreciation in the table below.

In this example, the 2023 cash funding target would be \$45 million, comprised of depreciation from assets built from 1983 to 2021 (\$42.5M) and forecasted depreciation from assets to be built in 2022 (\$2.5M). The Cash-Funding Ratio (E) is no longer the driver of the CIP funding strategy; however, it is still an important financial metric to monitor and it is calculated in the table below by dividing Forecasted Annual Depreciation (C) by Forecasted Annual CIP (D), for each year.

	CIP	Year of Construction	Depreciation Schedule (2023 - 2032)										
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
Historical	\$ 1,701,704,067	1983 - 2021	42,542,602	42,169,732	41,778,218	41,367,129	40,935,486	40,482,260	40,006,373	39,506,692	38,982,026	38,431,128	
	<b>(A) Existing Depreciation</b>			\$ 42,542,602	\$ 42,169,732	\$ 41,778,218	\$ 41,367,129	\$ 40,935,486	\$ 40,482,260	\$ 40,006,373	\$ 39,506,692	\$ 38,982,026	\$ 38,431,128
	\$ 100,000,000	2022	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000	
	\$ 108,000,000	2023		2,700,000	2,700,000	2,700,000	2,700,000	2,700,000	2,700,000	2,700,000	2,700,000	2,700,000	
	\$ 116,640,000	2024			2,916,000	2,916,000	2,916,000	2,916,000	2,916,000	2,916,000	2,916,000	2,916,000	
	\$ 125,971,200	2025				3,149,280	3,149,280	3,149,280	3,149,280	3,149,280	3,149,280	3,149,280	
	\$ 136,048,896	2026					3,401,222	3,401,222	3,401,222	3,401,222	3,401,222	3,401,222	
	\$ 146,932,808	2027						3,673,320	3,673,320	3,673,320	3,673,320	3,673,320	
	\$ 158,687,432	2028							3,967,186	3,967,186	3,967,186	3,967,186	
	\$ 171,382,427	2029								4,284,561	4,284,561	4,284,561	
	\$ 185,093,021	2030									4,627,326	4,627,326	
\$ 199,900,463	2031										4,997,512		
\$ 215,892,500	2032												
<b>(B) Forecasted Depreciation</b>			\$ 2,500,000	\$ 5,200,000	\$ 8,116,000	\$ 11,265,280	\$ 14,666,502	\$ 18,339,823	\$ 22,307,008	\$ 26,591,569	\$ 31,218,895	\$ 36,216,406	
<b>(C) Forecasted Annual Depreciation</b>			\$ 45,042,602	\$ 47,369,732	\$ 49,894,218	\$ 52,632,409	\$ 55,601,988	\$ 58,822,083	\$ 62,313,381	\$ 66,098,261	\$ 70,200,921	\$ 74,647,534	
<b>(D) Forecasted Annual CIP</b>			\$ 108,000,000	\$ 116,640,000	\$ 125,971,200	\$ 136,048,896	\$ 146,932,808	\$ 158,687,432	\$ 171,382,427	\$ 185,093,021	\$ 199,900,463	\$ 215,892,500	
<b>(E) Cash-Funding Ratio</b>			41.7%	40.6%	39.6%	38.7%	37.8%	37.1%	36.4%	35.7%	35.1%	34.6%	