

Metrogro Applicators & Equipment



Project Purpose: This line item is included in the District's Capital Improvements Plan (CIP) to fund the replacement of Metrogro Applicators and/or Equipment.

Project History and Status: The District's Metrogro program recycles biosolids to local farm fields. Class B biosolids are applied to the fields using an injection process to minimize runoff and place the nutrients under the soil's surface. The applicators used are large five-wheel vehicles that carry 4000 to 6600 gallons of liquid biosolids, and inject biosolids in the field through an attached tillage implement. Tanker trailers used to haul the biosolids to the individual sites. While these vehicles and trailers are well constructed and maintained, the service on these vehicles is difficult and periodic replacement is required. The District has included funds for replacement of the applicators and/or other Metrogro equipment in its Capital Improvements Plan (CIP). Two Tanker purchases are included in the CIP, 2019 and 2021. Four applicator purchases are included starting in 2021 and going through 2024.

The District currently owns five, self-propelled, all-in-one liquid applicators of varying ages and hours of use. The Terragators that make up the District fleet were built between 2004 and 2008. The Terragators are nearing the end of their useful lives and we need to begin to replace them. The long term capital plan is to replace 4 all-in-one liquid applicators over the next 5 years with the potential for this plan to be modified as the District moves toward diversification of the biosolids management program. The estimate year for replacement does not allow for multiple applicators to be replaced in one year to reduce a potential annual cost of replacing equipment.

Although the district has been undertaking research to assess the viability of new products that can be made with Class A biosolids (one example of this is the compost product), the research is still in the investigation and concept phase, many years from implementation. For the foreseeable future, the District will continue the existing Class B liquid program while seeking to develop alternate biosolids management options.

As a result, when new facilities are ultimately planned and designed for the purpose of moving the diversification of the liquid program forward (see CIP business case A03 – Resource Recovery Facility), this could alter or eliminate the applicator purchase schedule for this project. For these reasons, and the inter-connectivity of the two projects, the equipment replacement schedule and costs reflected for this project represent a conservative estimate of costs erring on the high side.

Project Schedule: The CIP included allowances in 2019 and also includes allowances in 2021 - 2024 for applicator replacement purchases. Actual timing for these purchases may vary with the potential for this schedule to be modified as the District moves toward diversification of the biosolids management program.

Applicator	Year	Current Hours	Estimated Annual Hours	Estimated Year for Replacement	Estimated Hours at time of Replacement ¹
209	2004	9100	625	2019	9725
210	2005	7800	625	2021	9675
211	2005	7400	625	2022	9900
212	2005	7000	625	2023	10125
213 ²	2008	6800	750	2024	11300

Financial Summary: The district's 2020 Capital Improvements Plan (CIP) includes a total allowance of roughly \$2.8 million within the six-year planning horizon of the document; \$750,000 in 2021 and \$680,000 in 2022, 2023, and 2024. It should be noted that the estimate year for replacement does not allow for multiple applicators to be replaced in one year to reduce annual cost of replacing equipment.

	2019	2020	2021	2022	2023	2024
Applicator	\$680,000	\$0	\$680,000	\$680,000	\$680,000	\$680,000
Tanker	\$70,000	\$0	\$70,000	\$0	\$0	\$0
Total	\$750,000	\$0	\$750,000	\$680,000	\$680,000	\$680,000

These cost estimates do not include inflation.

¹ Mechanic recommendation to replace equipment **before** it reaches the 10000 hour mark.

² Applicator 213 is the machine with the larger capacity and super load capabilities resulting in greater use