

Winslow Green 2020 Irrigation Audit



Key findings

In 2020, Conserva Irrigation was hired by the City of Lakeville and the Vermillion River Watershed Joint Powers Organization (VRWJPO) to conduct a Stage 2 Irrigation Audit. The purpose of conducting the audit was to document and recommend upgrades to improve system efficiency. Key findings included:

- ◆ One controller operates 12 zones, irrigating 3.24 acres of greenspace
 - The controller is a basic “set and forget” controller (non-weather based) requiring manual adjustments
- ◆ The controller’s rain sensor was not operational
- ◆ Zone layout did not account for microclimates (differing conditions across the landscape including sunlight/shade, vegetation, soil type, slope and wind), leading to inefficient water distribution
- ◆ Rotors were found to be irrigating over sidewalks and even onto the sides of houses and fences
- ◆ Many heads were found to have incorrect nozzle sizing, leading to inefficient water distribution
- ◆ Two poly line leaks were found

The VRWJPO has a service contract template to ensure your contractor is performing maintenance checks

Table 1. Critical Repairs and Adjustments

Critical Repair(s)	Estimated Cost	Count	Total Cost
1R.) Replace damaged 5” rotor	\$50/head	24	\$1,200
2R.) Move head	\$15/linear ft	20’	\$300
3R.) Fix poly line leak	\$90	2	\$180
Total Cost			\$1,680

Ensuring your irrigation contractor performs 3-4 maintenance checks annually will alert you to broken equipment more quickly

If turf areas at Winslow Green were watered according to plant requirements, the HOA would save an average of \$2,442 per year!

Table 2. Financial Implications for Recommended Efficiency Upgrades

Efficiency Upgrade(s)	Estimated Cost	Estimated Annual Cost Savings	Return on Investment
1U.) Install smart (weather-based) controller upgrade (22% water savings)	\$250 installation \$15 monthly wireless hotspot cost	\$1,283	~ < 0.5 year
2U.) Replace nonfunctional rain Sensor (10% savings)	\$150	\$583	~ 0.25 year
3U.), 5U.) Change rotor types to account for varying microclimates (15% savings)	\$3,050	\$875	~ 3.5 years
4U.) Redesign zones 2 & 6 to reduce overthrow onto hard surfaces (10% savings)	\$1,200	\$583	~ 2 years
6U.) Raise/straighten heads (10% savings)	\$390	\$583	~ 0.5 year

Recommendations

There are several items that can be implemented to increase the efficiency of Winslow Green’s irrigation system. However, prior to implementing recommended efficiency upgrades, the Board should implement the critical repairs in Table 1 before implementing efficiency upgrades. Water and cost savings shown in Table 2 only apply when the system is operating without deficiencies (broken heads, poly line leaks, etc.). Annual cost savings associated with efficiency upgrades are based on City of Lakeville 2021 utility billing rates, historic use trends and audit findings.

