

# Crosscroft HOA

## 2021 Irrigation Audit



### Key Findings

In 2021, Conserva Irrigation was hired by the City of Rosemount 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:

- Five controllers operate a total of 114 irrigation zones, irrigating 15.63 acres of greenspace
  - Four of five controllers are not a smart (weather-based) controller capable of remote monitorization and one needs a hotspot to be smart-capable
- Relocating or remounting of some rain sensors is needed .
- A large number of rotor heads were broken/leaking
- There are 13 irrigation water lines or fittings leaking
- Zones have poor coverage/spacing that led to water sprayed onto roads or sidewalks
- Pressure of the system needs attention.
- Conversion to different types of heads are needed for proper coverage

**Table 2. Financial Implications for Recommended Efficiency Upgrades**

Efficiency Upgrade(s)	Estimated Cost	Estimated Annual Cost Savings	Return on Investment
Install four EPA WaterSense approved smart controllers and wireless hotspots (22% water savings)	\$9,000	\$3,771	~ 2.5 years
Install wireless rain sensor (1% savings)	\$150	\$171	< 1 year

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

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

**Table 1. Critical Repairs and Improvements**

Critical Repair(s)	Estimated Cost	Count	Total Cost
Replace damaged 5" rotors	\$65/head	456	\$29,640
Fix poly irrigation line/fitting leaks	\$90/leak	13	\$1,170
Remount one rain sensor	\$140/hr	0.5	\$70
Add or move heads	\$150/head	114	\$17,100
Convert rotors to small sprays with rotary nozzles	\$150/head	43	\$6,450
<b>Total Cost</b>			<b>\$54,580</b>

### Recommendations

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

