



Town of North Kingstown, Rhode Island

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TO: Ralph Mollis – Town Manager, Town Council

FROM: Alan Austin, Director of Water, Justin Blair, Deputy Director of Water

Subject: Summary Report, ASTERRA Satellite Leak Detection

Attached you will find a summary report from ASTERRA Technologies which details the results of their full-scale satellite leak detection program for the North Kingstown Water Department from August 2023 to October 2025. All 182 miles of pipeline in the North Kingstown Water Department's infrastructure were scanned by satellite on four separate satellite flyovers and based on the combination of these four data sets, a number of specific points of interest (POI) were identified for physical inspection by ASTERRA's field teams. The field teams physically inspected the identified POI's and located 50 confirmed leaks as a result. Of these 50 leaks, 44 were found to be associated with infrastructure under the responsibility of the water department and 6 were identified as homeowner leaks. The Water department has already repaired about 90% of the identified leaks and intends to have repairs to the remaining leaks accomplished within the next two months. The six homeowners were notified, and the Department will work with them to expedite those repairs. Of the six homeowners, three still need to have their lines repaired.

ASTERRA staff quantified the cost of the lost volume of water from the identified leaks since August of 2023. The gallons per year of potential lost water equate to \$204,807 due to these non-surfacing water leaks. Based on the \$85,500 total cost for ASTERRA's services this represents a payback period or ROI of 10.4 months.

As you have been made aware, past traditional leak detection efforts have been ineffective, due to the fact that our water mains are largely made of non-metallic materials. The new technology utilized by ASTERRA which keys in on actual leaking water in the soils adjacent to the water mains rather than "leak sound" transmission carried through the water mains to surface features like valves and fire hydrants, is a much more effective way to identify leaks. The Water Department will work with ASTERRA to develop an appropriate plan moving forward to continue to scan our distribution system for leaks.