

Water Sustainability Fund Report for Project 10059 – FINAL REPORT
Robotic Camera Inspection System
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Results of the Project

NPPD received both the crawler camera and the underwater inspection camera in 2024 and a trailer to deploy and house the cameras, displays, cabling and associated equipment in 2025. The entire grant amount of \$81,892 has been paid to the vendors. Total project cost is \$170,793, therefore the Water Sustainability Fund portion of total cost was 48%.

Project Benefits

We believe the benefits anticipated in the application have been realized. The cameras will help ensure that issues are detected early, protecting the integrity of the Sutherland System and our irrigation canals.

We have done many inspections with the crawler camera already, with great success. NPPD has been able to inspect some hard-to-reach areas of our system. Several underdrains have been identified of needing repairs from the inspections so far, showing how valuable this tool is to the safety and reliability of NPPD's Sutherland System. Some drains could never be inspected by man without a tool like this. Technicians can't physically pass through the underdrains due to captured water or the drainpipe is just too small to enter. The maneuverability of the crawler and the high-definition camera make it possible to see points of interest in harsh conditions.

The underwater camera drone has proven to be quite valuable. It has been deployed in many short-notice projects to inspect structures that have experienced malfunctions. By having this asset in-house, we can verify conditions without contracting divers; getting our system back up and running sooner by having the repairs done faster.

NPPD would like to provide a live demonstration to the Nebraska Natural Resources Commission at a mutually agreeable future NRC board meeting.

We have included pictures below.



Trailer showing generator power for remote locations; wide door for easy access; inside lighting; camera operator window for harsh weather; and small cabling access door.



Inside front of trailer showing power box, mobile cabling wheel, underwater camera in a Pelican Box, and tool/accessory cabinets.



Underwater camera with remote controller.



Rear of trailer showing the automated cabling box with small door and crawler camera in the foreground.