



Pipe Inspection

PROJECT DEVELOPMENT & CONSTRUCTION CONFERENCE 2020

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Objectives

- Pipe inspection equipment
- Pipe inspection projects
- Data collection software
- Future program outlook

Pearpoint P350 Crawler System



Crawler - Capabilities



Crawler - Multiple Configurations



Crawler - Multiple Configurations



Crawler - Command Module & Powered Drum



Crawler - On Screen Details



← Distance Counter

← Pitch Angle

← Mimic Controls

Hydraulic Inspection Vehicle Explorer (HIVE)



HIVE - Minnesota DOT & NDLTAP



The screenshot shows the Minnesota Department of Transportation website. At the top is the logo for the Department of Transportation. Below it is a navigation menu with links for Home, About, News, Publications, Projects, RFP/Contracts, Resources, and Contact. The main content area features a section titled "Research & Innovation" with a sub-section for "Featured Projects". A specific project is highlighted: "Hydraulics Inspection Vehicle Explorer (HIVE)", with a link to "Protecting Roads From Flood Damage". The main text on the page describes the HIVE as an enhanced radio-operated car used for inspecting culverts and pipes. It mentions that the device was modified by Rochester MnDOT workers and that an online guide is available for users.

DEPARTMENT OF TRANSPORTATION

Search MnDOT A to Z

Research & Innovation

Featured Projects

Home About News Publications Projects RFP/Contracts Resources Contact

Featured projects
Hydraulics Inspection Vehicle Explorer (HIVE)
[Protecting Roads From Flood Damage](#)

Hydraulics Inspection Vehicle Explorer (HIVE)

The Hydraulic Inspection Vehicle Explorer (HIVE) is an enhanced radio-operated car, which allows MnDOT to inspect culverts and pipes to determine if any repairs or replacement is needed. Often the culverts and pipes are too small or difficult for a person to enter to visually inspect it, so the vehicle is operated via radio control with a camera and lights to record and view conditions with just one specialist at the site. It has discovered damage in culverts underneath roads long before the problem becomes an emergency. The device was modified by Rochester MnDOT workers in the inventory department, who are experienced radio-operated car hobbyists. They have built a HIVE device for each MnDOT district and created an online guide for parts, repairs and operation to allow all MnDOT users to access the information when issues arise.

Hydraulic Inspection Vehicle Explorer (HIVE) Vehicle User Guide



'Culvert Inspector'

NDSU

UPPER GREAT PLAINS TRANSPORTATION INSTITUTE
NORTH DAKOTA LOCAL TECHNICAL ASSISTANCE PROGRAM

HIVE - FHWA Road Inspections Near Max, ND



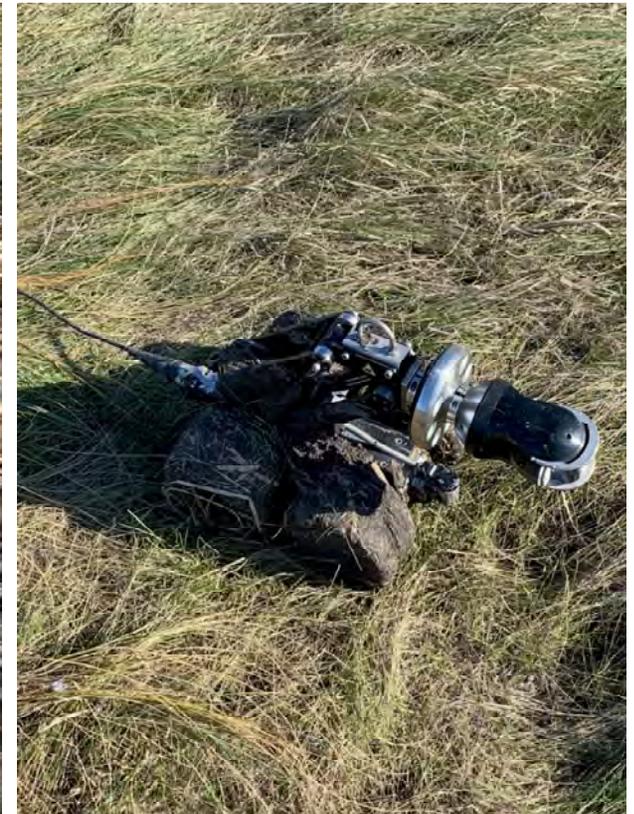
HIVE - Capabilities



HIVE - Capabilities



I-29 Landslide, Grand Forks



I-29 Landslide, Grand Forks



US 85 Horseshoe Bend Landslide



US 85 Horseshoe Bend Landslide



US 85 Horseshoe Bend Landslide



I-94 to River Road, Bismarck



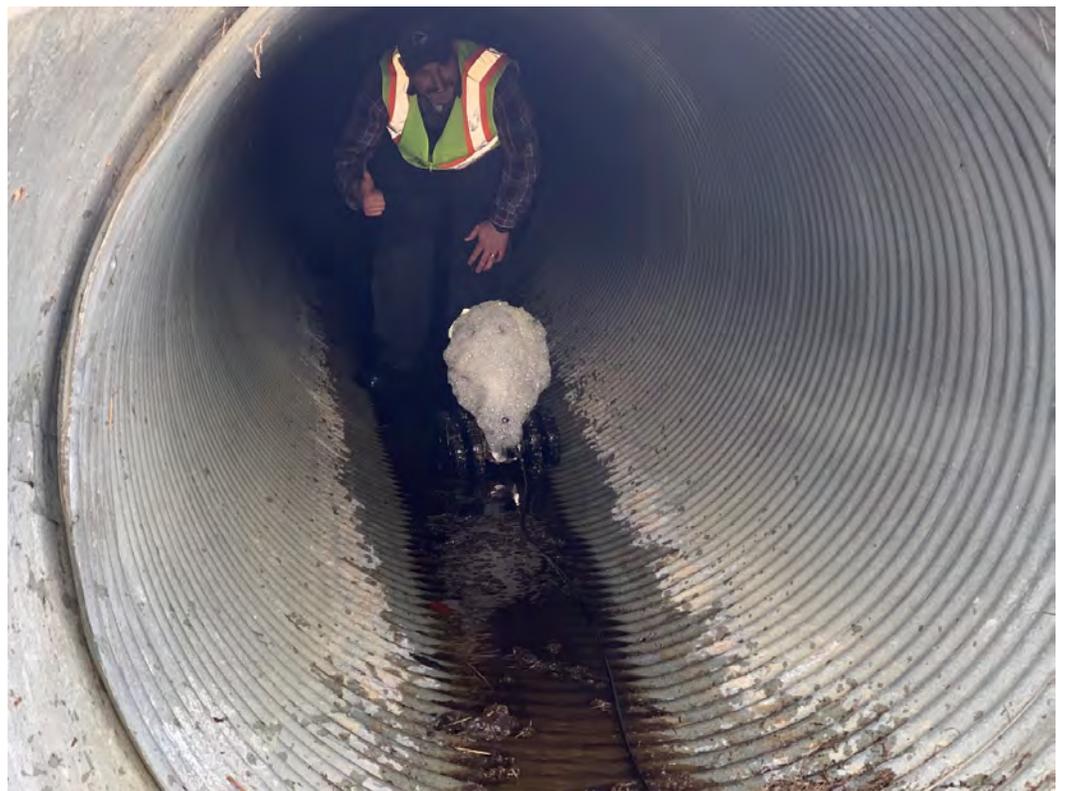
I-94 to River Road, Bismarck



I-94 to River Road, Bismarck



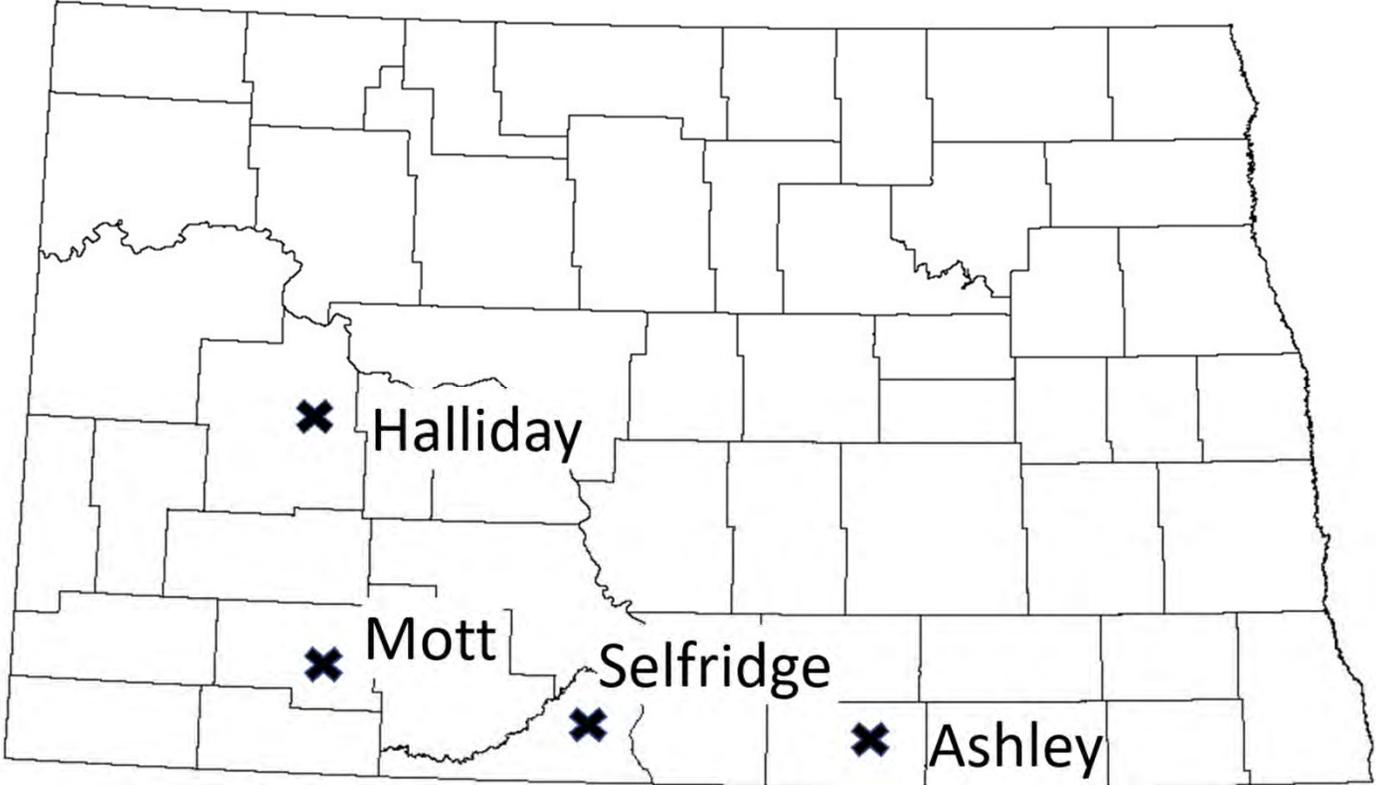
I-94 to River Road, Bismarck



I-94 to River Road, Bismarck, 2nd Try



Corridor Pipe Inspections and Data Management











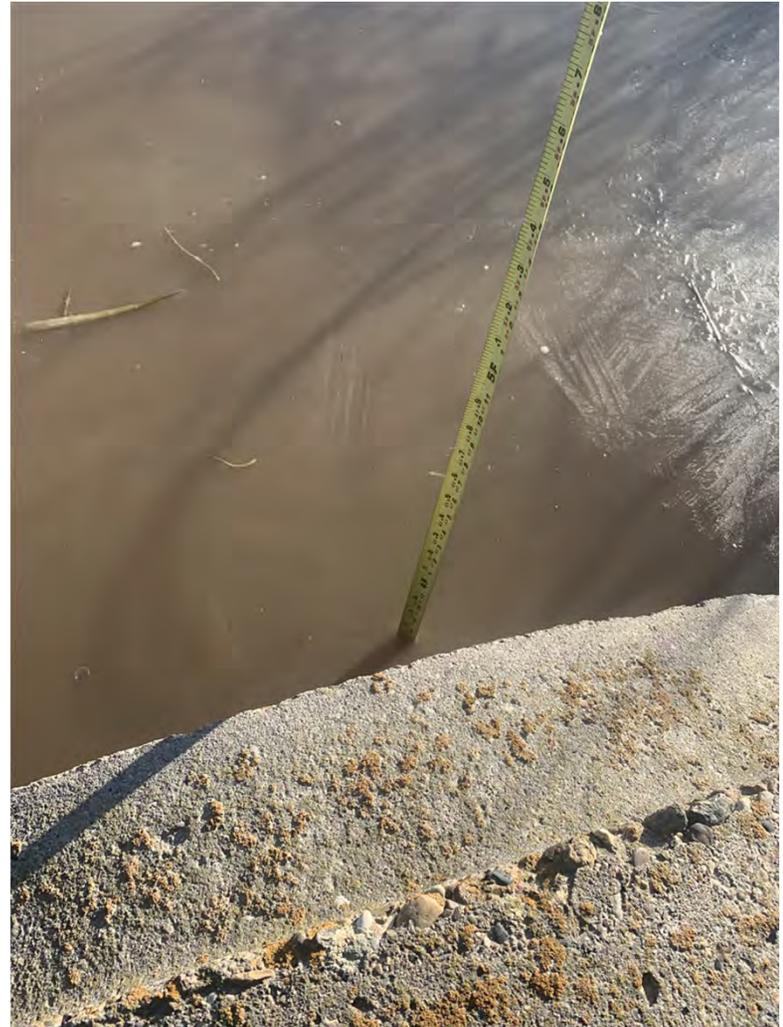


















Field Data Collection & Management



Why?

- Safety
- Cost Savings
- Data-Driven Decision Making
- Condition Monitoring
- Maintenance
- Post-Construction Inspections
- GIS Viewer

What's Next?



Questions?



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