

## Small Culvert Inspection

The State of Vermont Owns 48,581 Small Culverts (less than 72" Diameter). Each year the Operations section inspects 9,716 culverts in order to update the small culvert inventory. Inspections consist of an end of pipe inspection which do not allow the inspector to determine the condition of the culvert barrel.



Figure 1. Culvert Inspection Using End of Pipe Method.



## Enhanced Culvert Inspection

Enhanced culvert inspection is typically expensive, time consuming, and cost prohibitive. The Implementation of the HIVE was a pilot project to determine if the HIVE balanced the benefits of Enhanced Culvert Inspection with the demand on resources such as time and money.

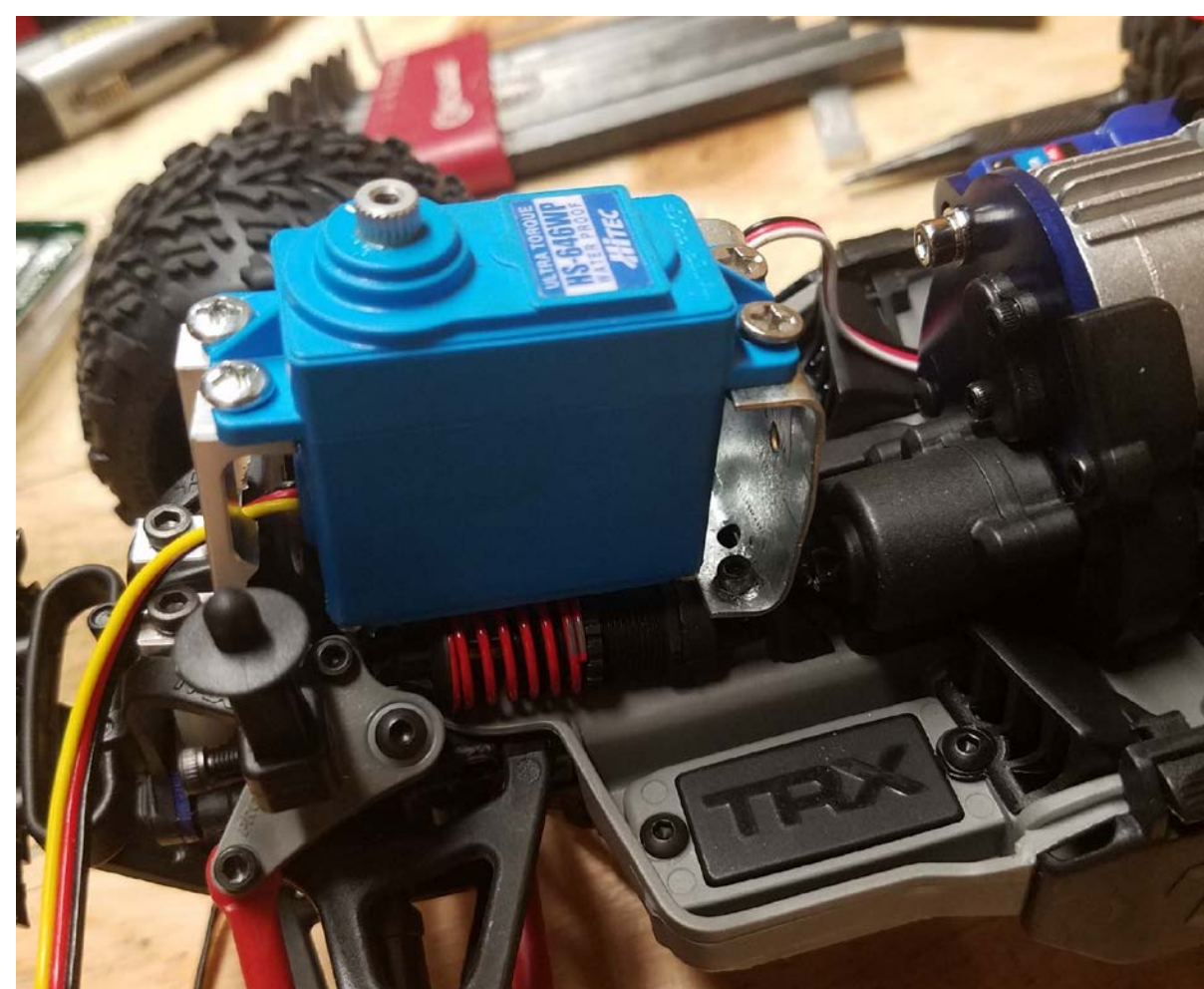


Figure 2. Build Photos

## "The Pilot Project"

The HIVE Pilot project consisted of video inspection of 141 Interstate Culverts that were considered to be the highest risk culverts on the Interstate System.

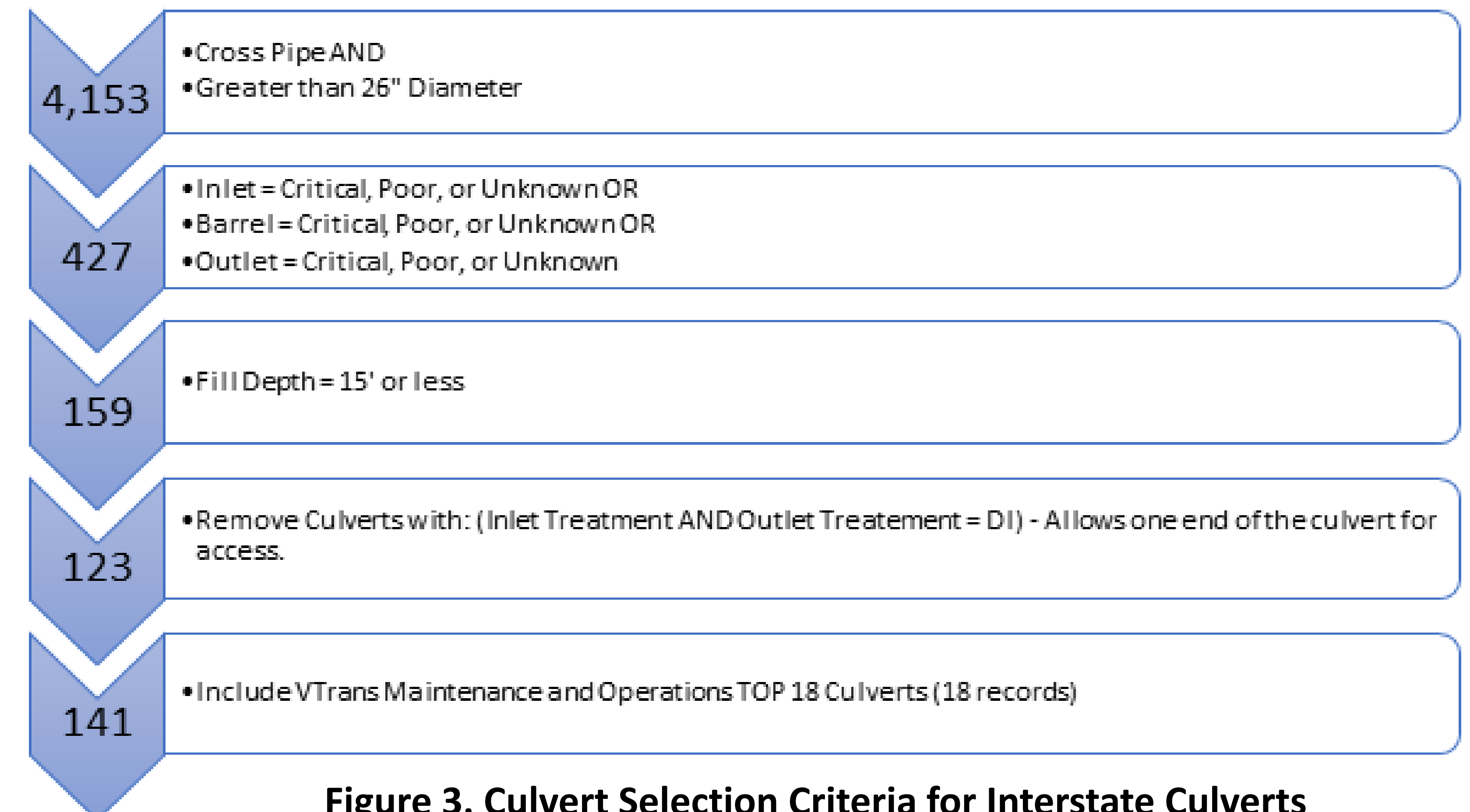


Figure 3. Culvert Selection Criteria for Interstate Culverts

## Conclusion

The HIVE is a valid cost effective method for performing Enhanced Culvert Inspections. It enables an inspector to perform an inspection of the entire asset and not just the ends. See the photos below for examples of findings using the HIVE.

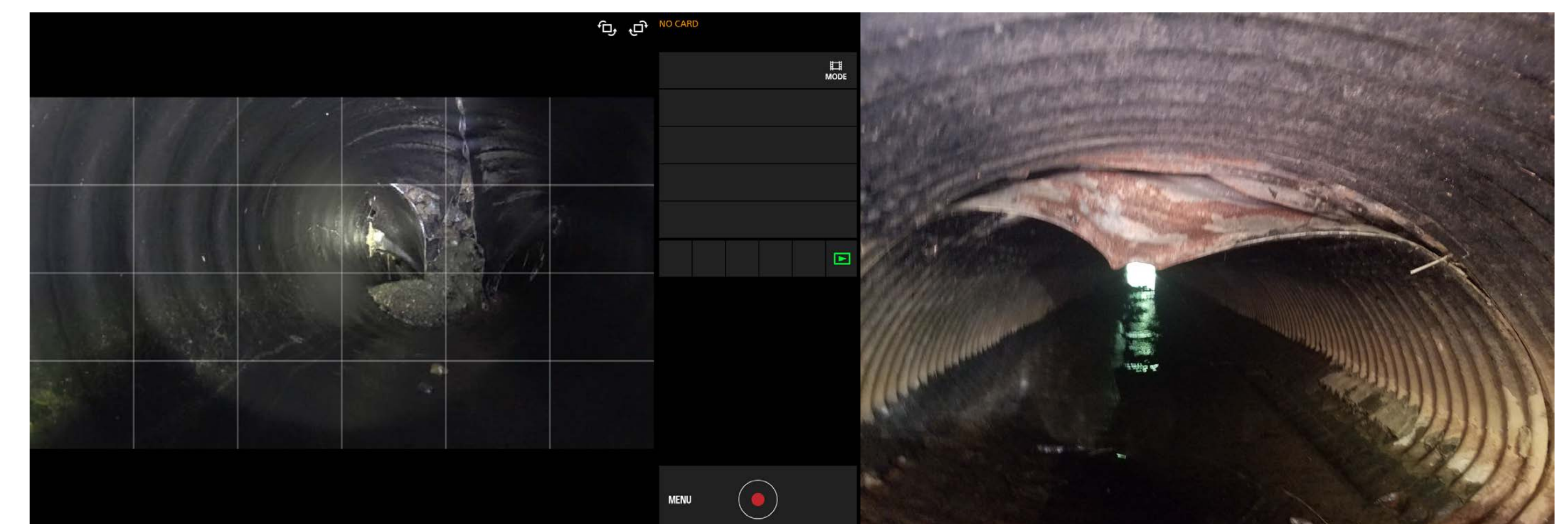


Figure 4. Culvert barrel photos.

## Acknowledgments/ References

This project would not have been possible without Rob Coughlin from MNDOT Pioneering the idea and initial research.