

## WisDOT required deflection testing for polyethylene and polypropylene pipe installations

- A WisDOT approved mandrel must be used for testing.
  - Deflection testing will be performed as directed by the engineer.
  - 100% of installed pipe 24" or greater shall be tested.
  - For pipe less than 24" in diameter, at least 10% of the installed pipe shall be tested.
  - Pipe that does not pass mandrel testing shall be relayed or replaced.
- Mandrel testing should be performed 30 days after installation.



## Why Does Deflection Matter?

### POTENTIAL STRUCTURAL FAILURE

Excessive deflection can lead to inverse curvature, buckling, tearing, or severe tensile strain.



### COMPROMISES PIPE JOINTS

Leads to infiltration or exfiltration and causes the loss of backfill materials leading to cracks in pavements, settlement or dips in the road, and sinkholes.



### REDUCES HYDRAULIC CAPACITY

Corrugation growth will affect the flow characteristics of the pipe. Also, the flattening of the pipe crown and invert will decrease flow velocity which will result in debris build-up and could require frequent maintenance.

