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Title: structural design of sewer renovation systems : updated French recommendations ASTEE-3R 2014 for Non circular pipes

Theme: Trenchless Design and Construction

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Abstract: To meet the markets needs and requirements, the ASTEE, Scientific and technical Association for water and Environment, decided to revise the #R98 method of liners with the following objectives :

- Integrate the requirements of the new european and international standards
- propose a method applicable for non circular lings
- to take in account the host pipe condition , to prevent over design
- and gives guidelines for application of finite element method (FEM).

Based on this update, we will propose to resume the design of non circular critical shapes and sub critical shapes (egg-shape, horseshoe, boxes) based on host pipe characteristics. This method is based on a fully closed form analytical solution (O. Thépot, 2000) which extends Glocks analysis to non circular lining, and present the guidelines for the design with using a FEM.