

Pump Screens



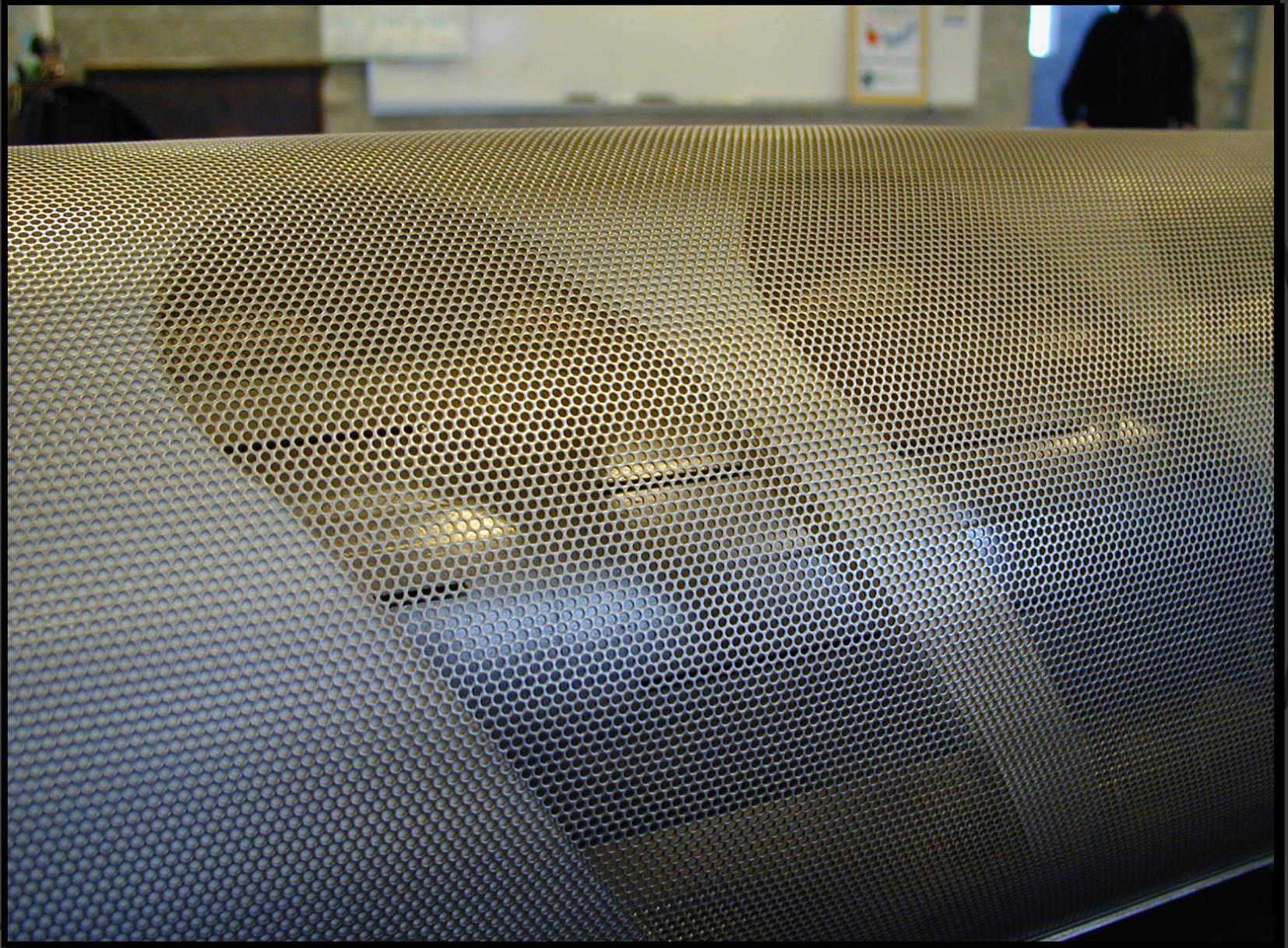
Pump Screens



Passive Screens



Passive Screens



11. Debris Management

- ⦿ Trashracks
- ⦿ Screen Cleaning Systems

Trash racks - Criteria

- ① **“Open channel intakes shall include a trash rack which shall be kept free of debris.”**
- ② **“In certain cases, a satisfactory profile bar screen can substitute for a trash rack.”**
- ③ **Comment - No trashrack would be rare situation - such as an on-river screen.**

Trashracks



Trashracks

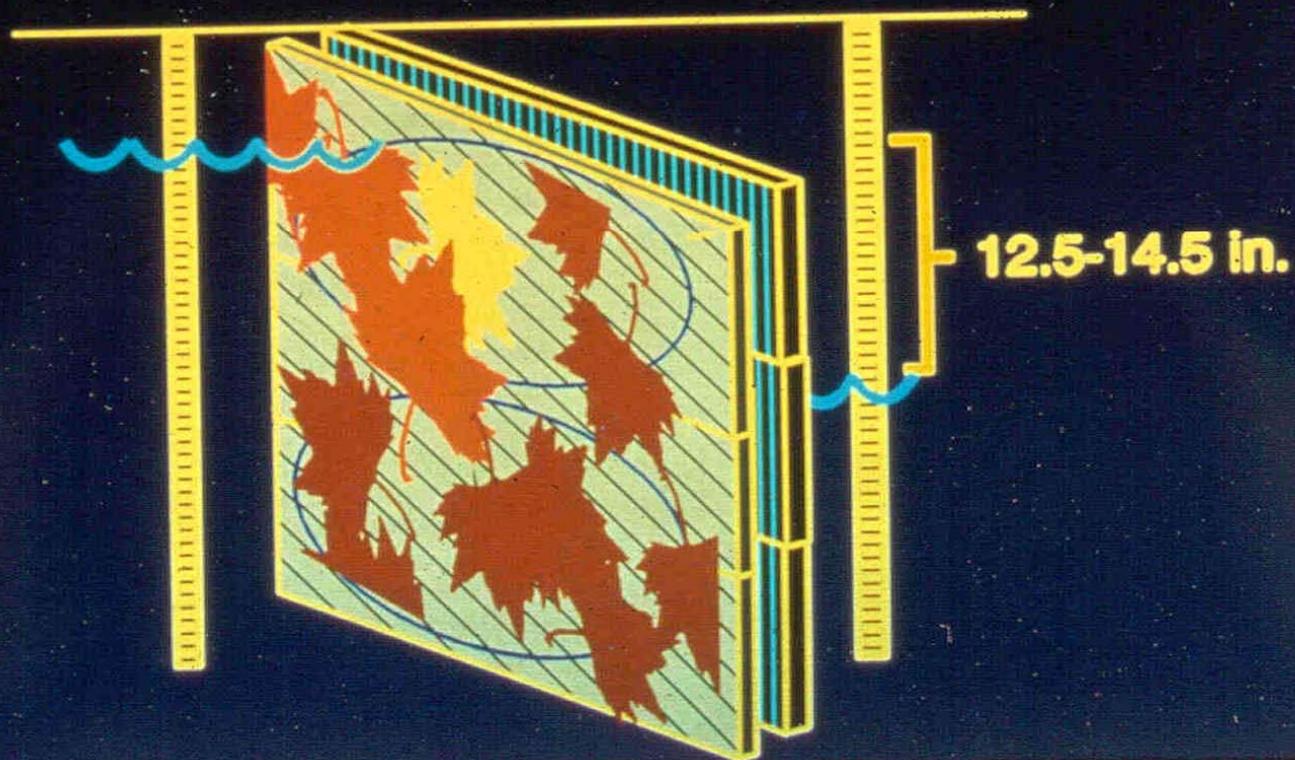


Trashracks

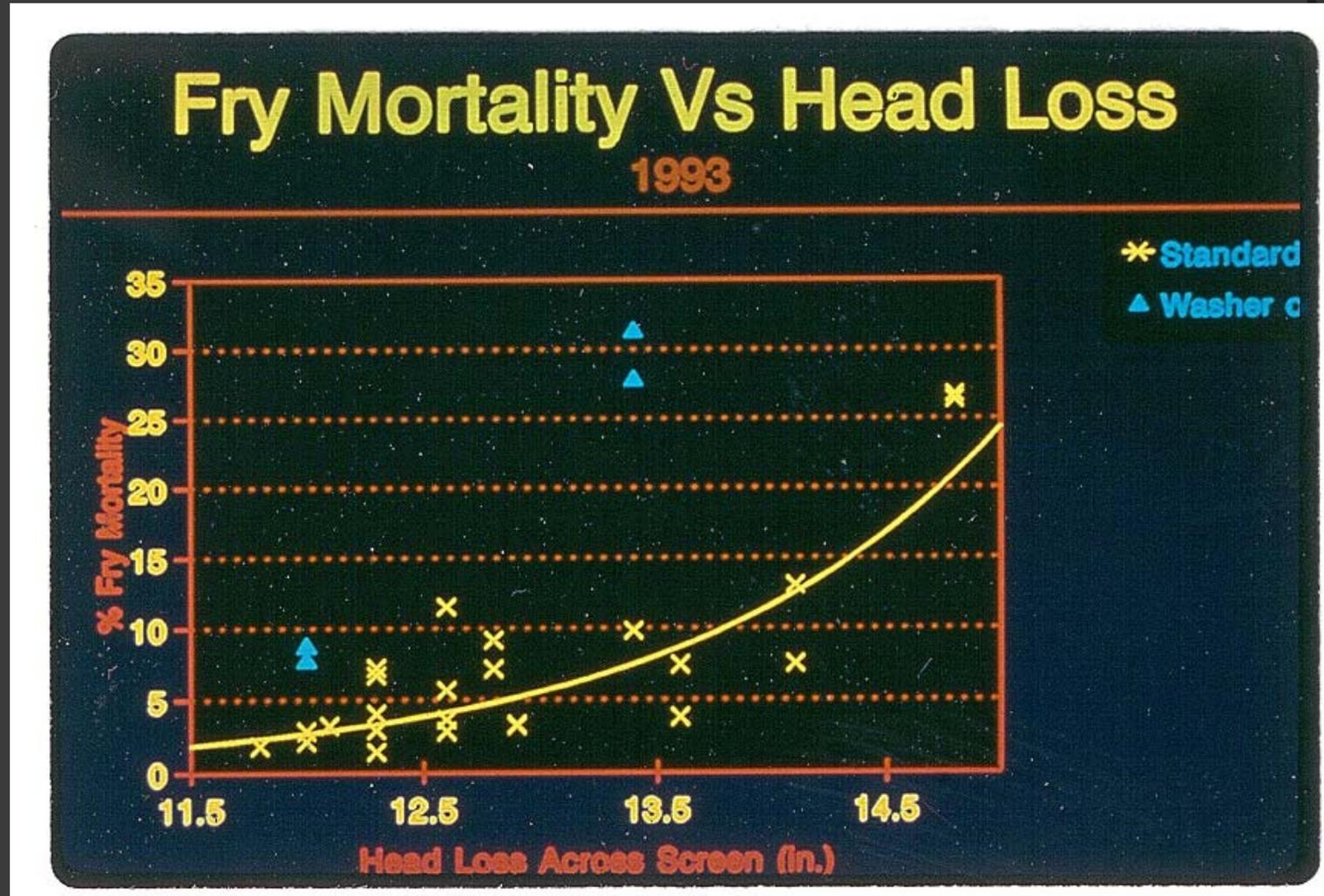


Cleaning System

Head Loss Screens w/Debris



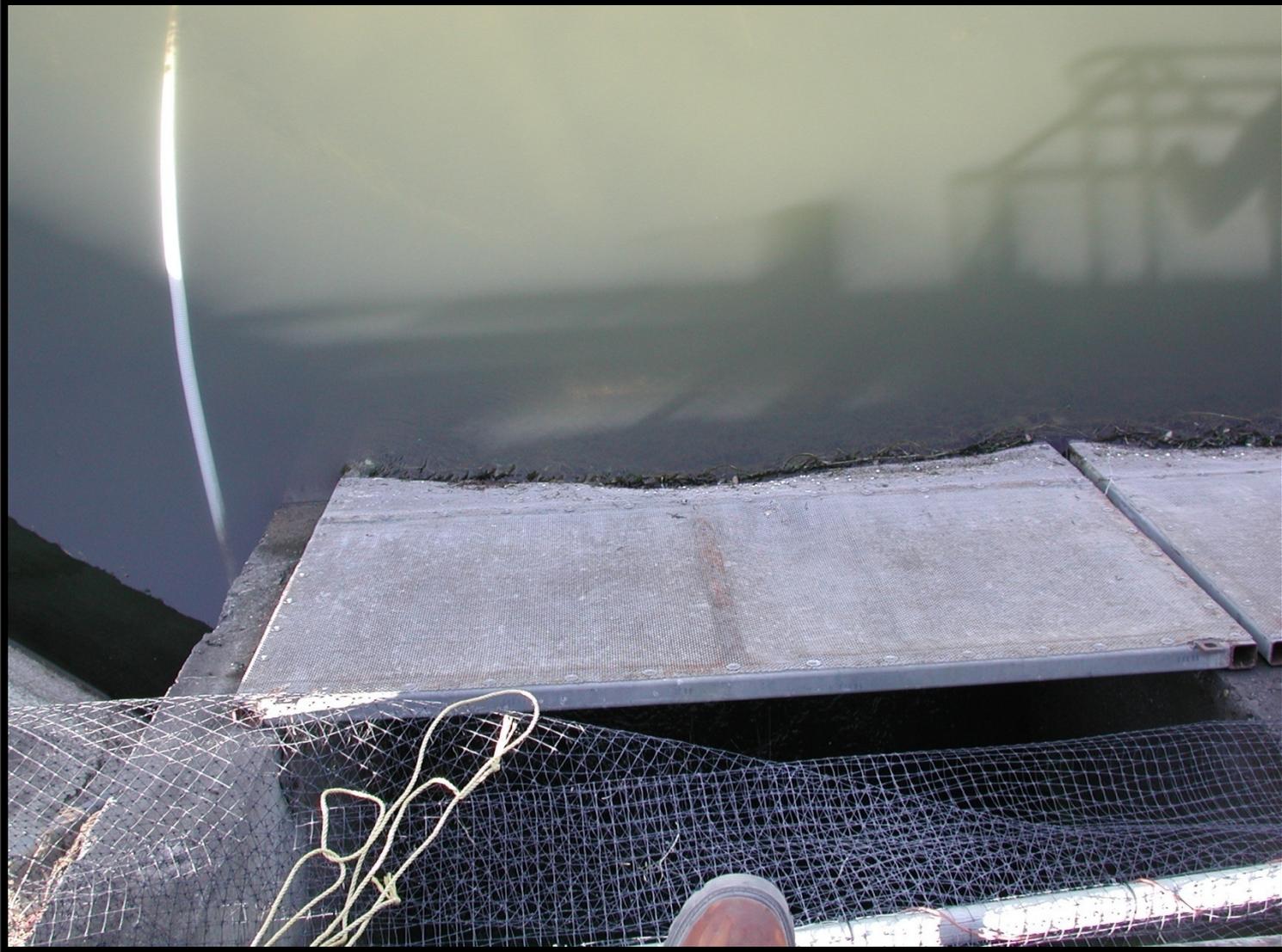
Cleaning System



Cleaning System - ?



Cleaning System - ?



Cleaning System



Cleaning System



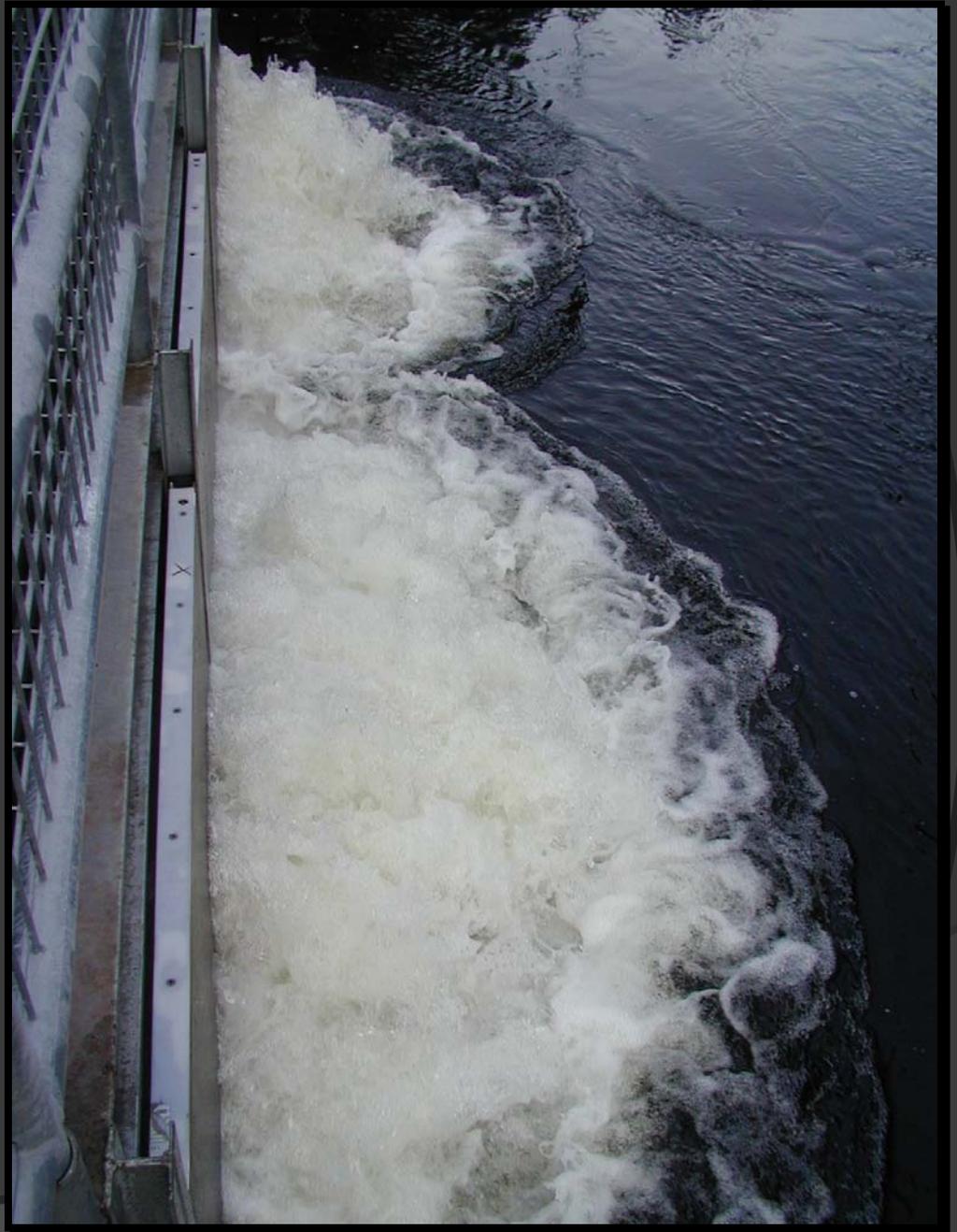
Cleaning System



Cleaning System



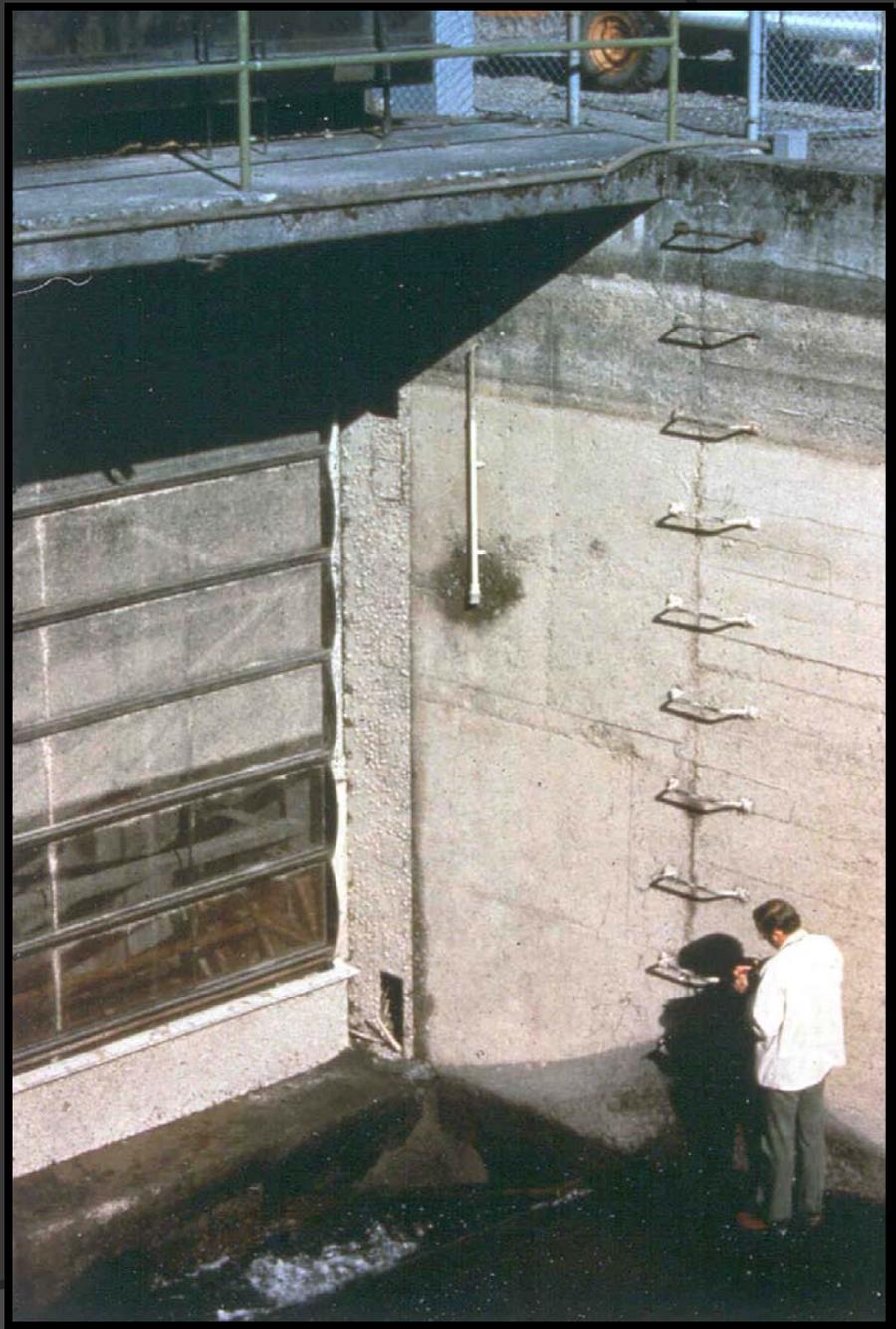
Cleaning System



Cleaning System



Cleaning System



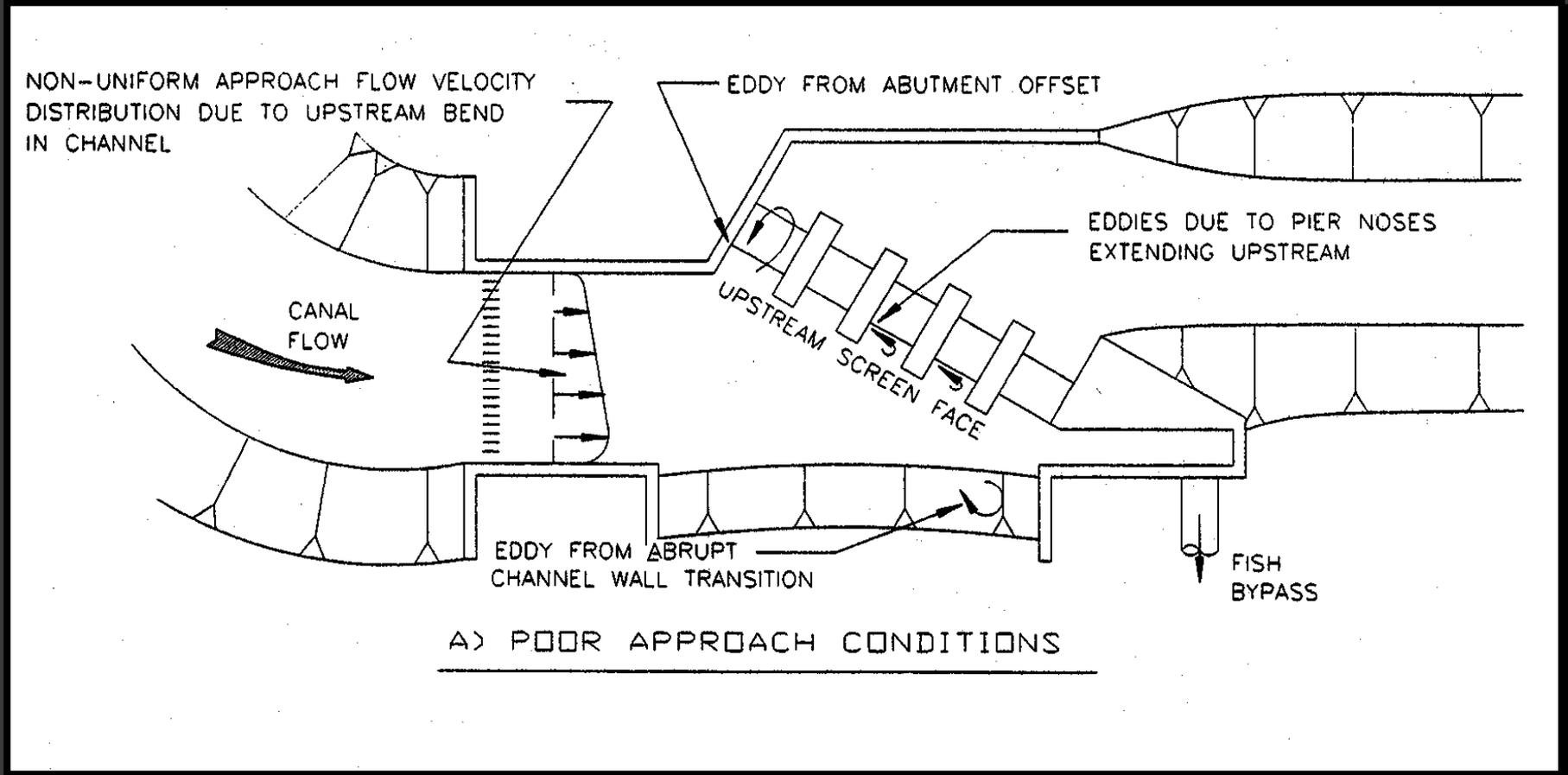
Cleaning System



12. Balancing Screen Velocities

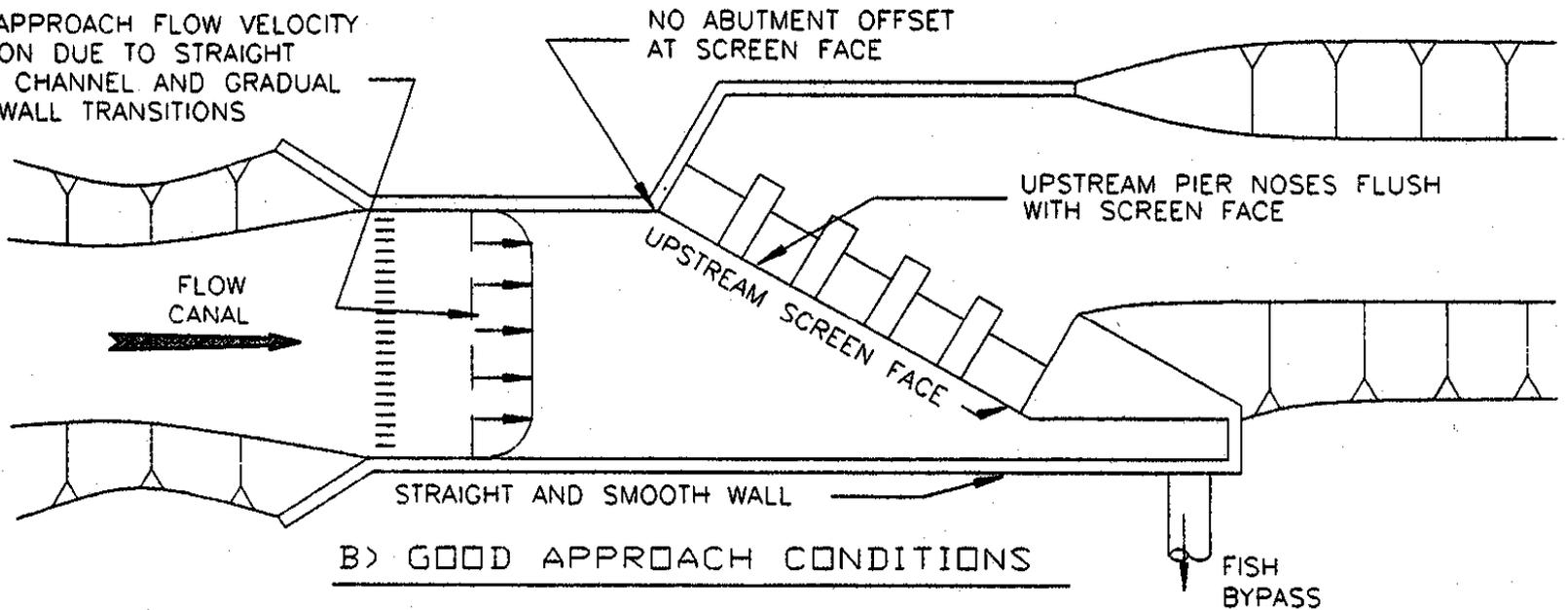
- Flat Plate Screens
- Rotary Drum Screens
- Cylindrical Screens
- Case Study

Poor Approach Flow Conditions



Good Approach Flow Conditions

UNIFORM APPROACH FLOW VELOCITY DISTRIBUTION DUE TO STRAIGHT UPSTREAM CHANNEL AND GRADUAL CHANNEL WALL TRANSITIONS



Channel Configuration – Hydraulic Modeling



Channel Configuration – Hydraulic Modeling



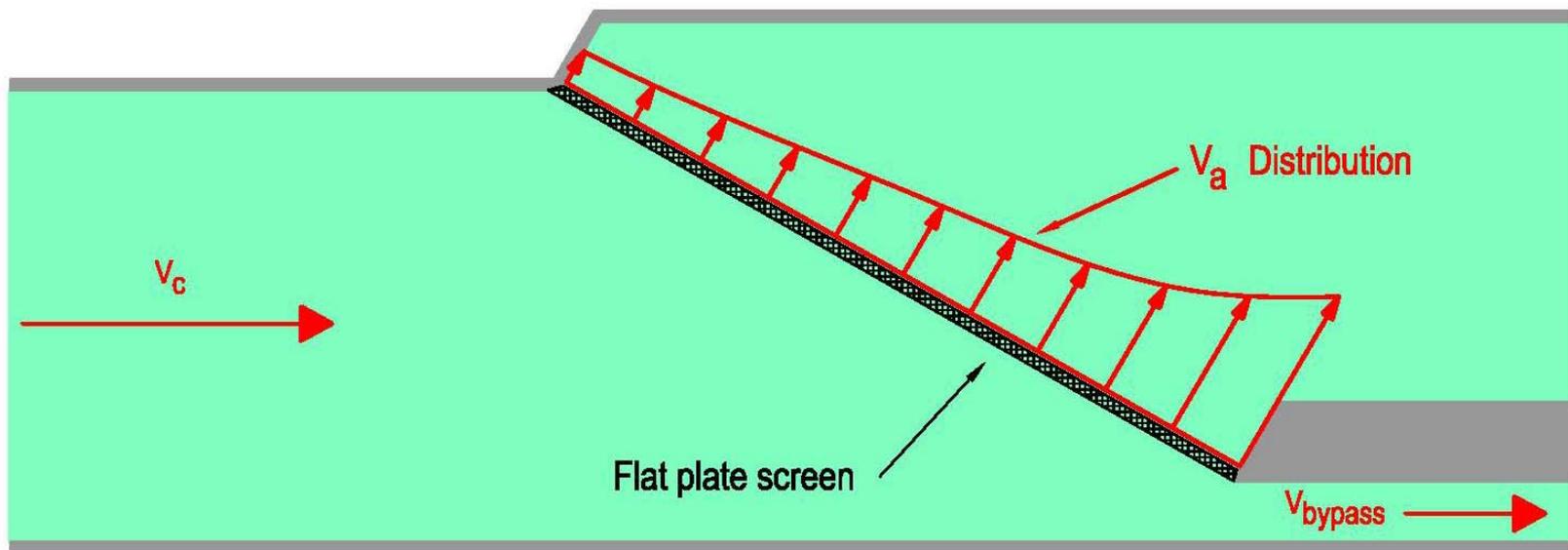
Channel Configuration – Approach Flow Conditions



Unbalanced Screen Velocities

Balancing Flow Distribution
In Vertical Plate Screens

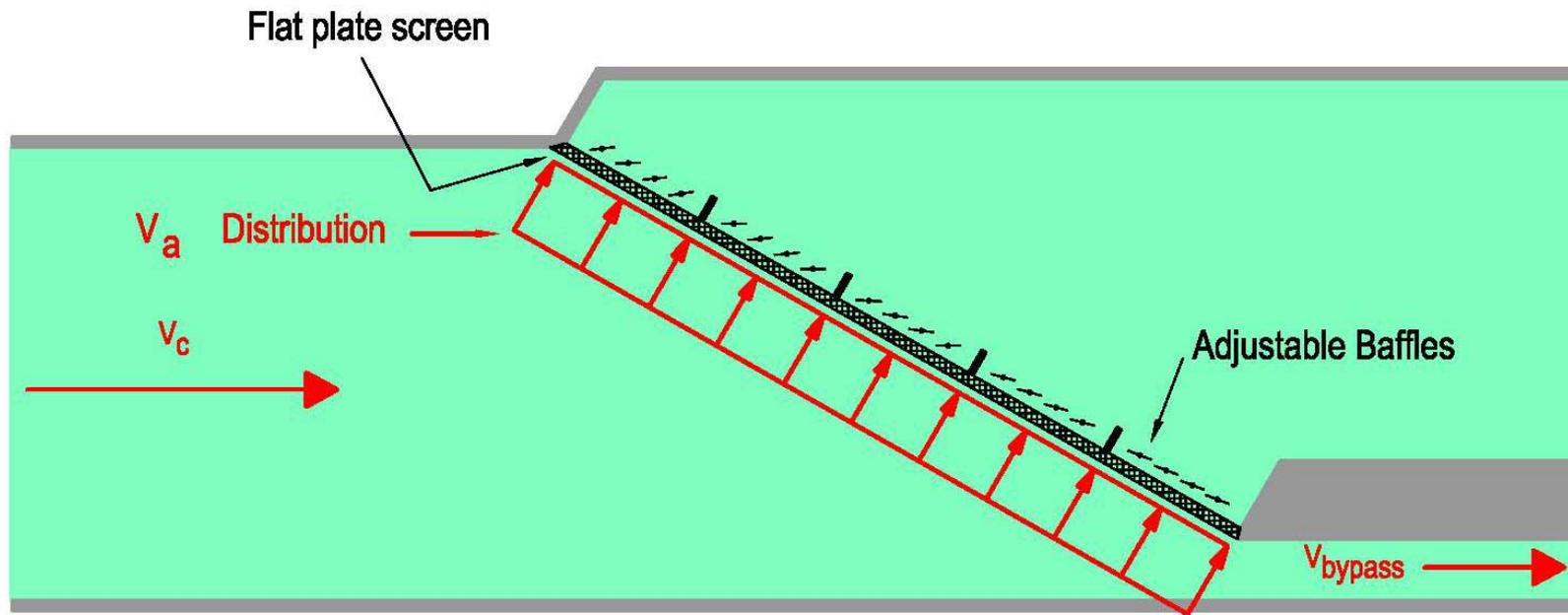
No Flow "Tuning" Baffles



Plan View

Adding Baffles to Balance Screen Velocities

Balancing Flow Distribution In Vertical Plate Screens With Flow "Tuning" Baffles

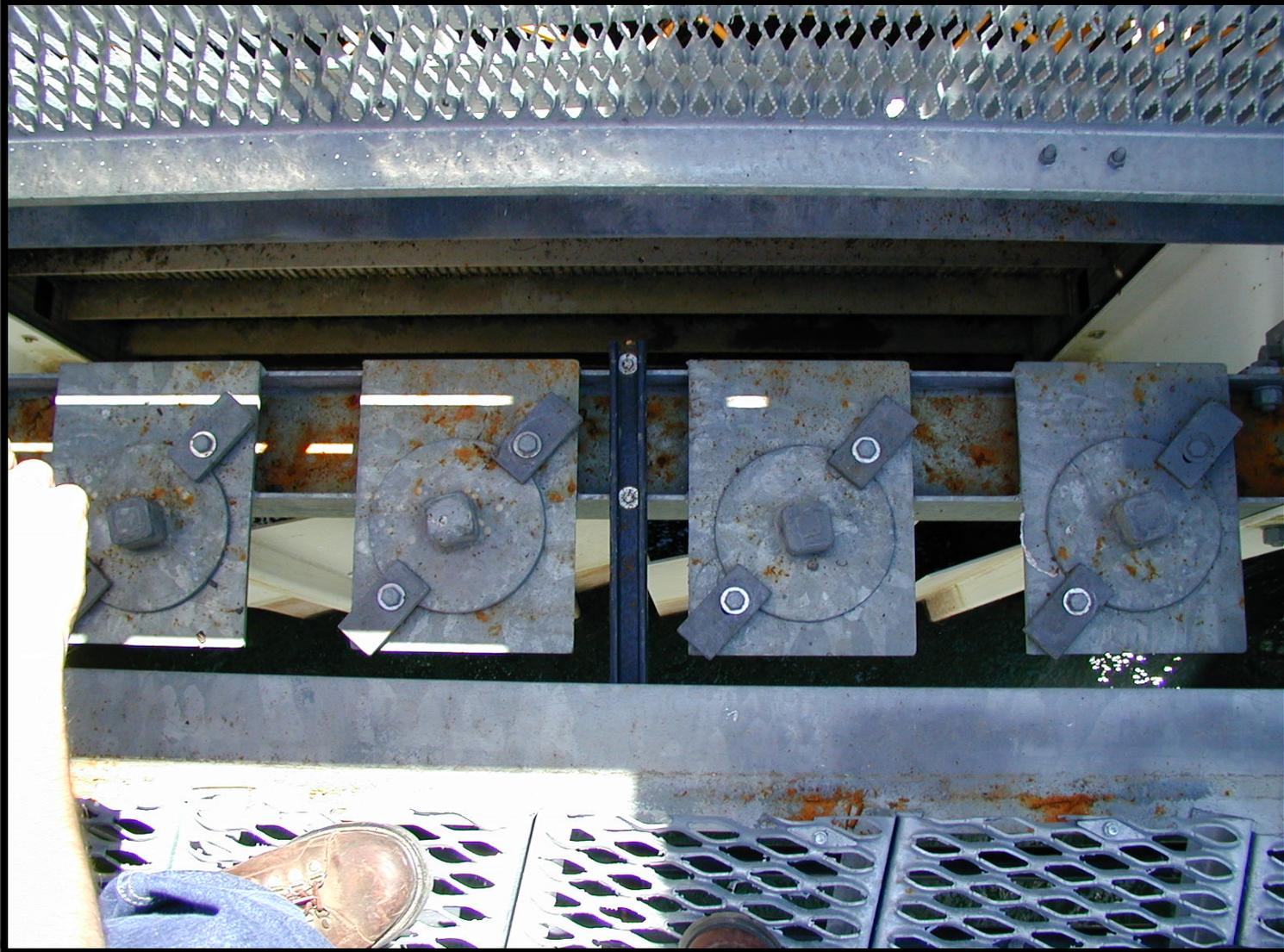


Plan View

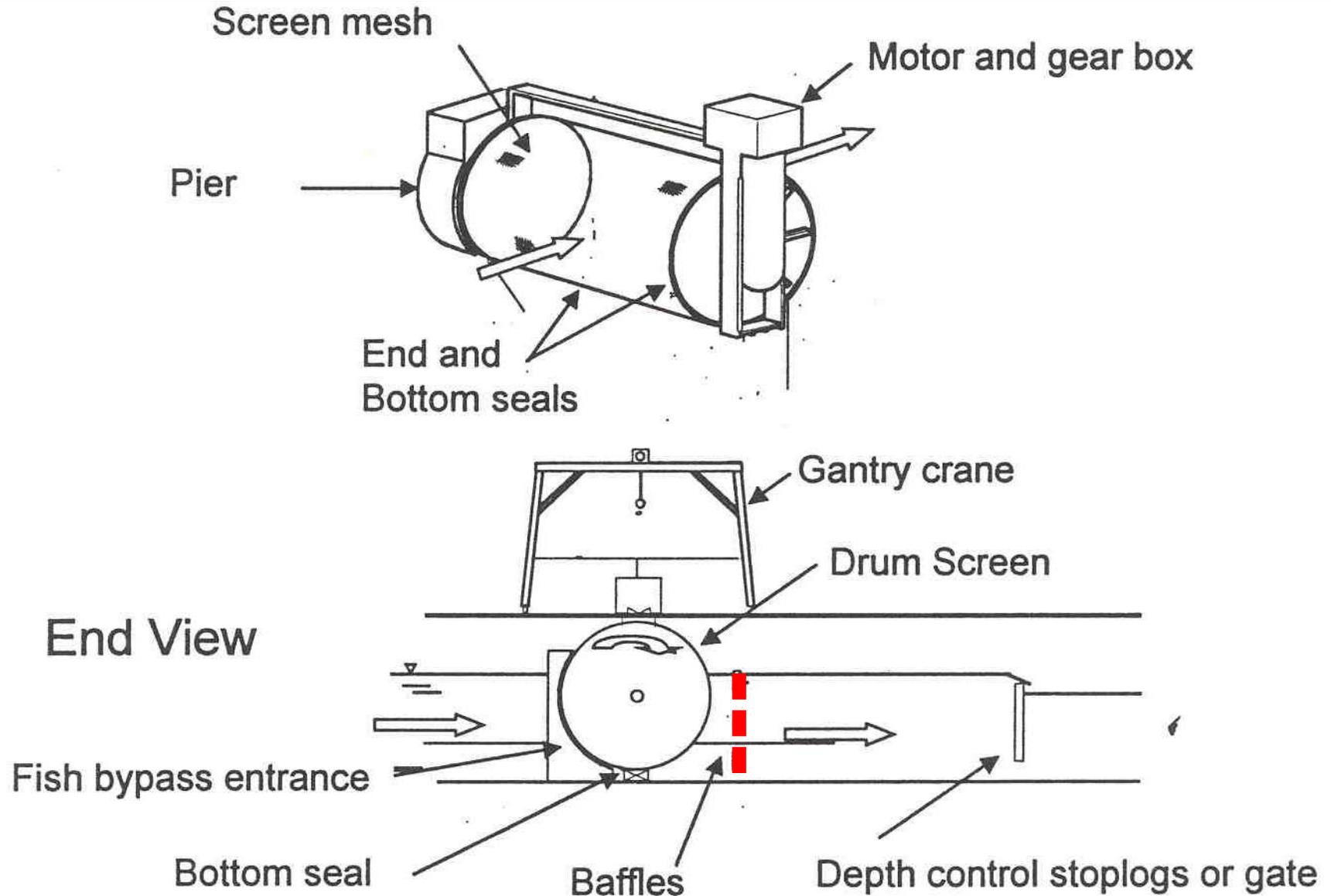
Uniform Approach Velocity



Uniform Approach Velocity



Balancing Rotary Drum Screens



Desired End - any questions? (8-19-11 photo, B-10)

