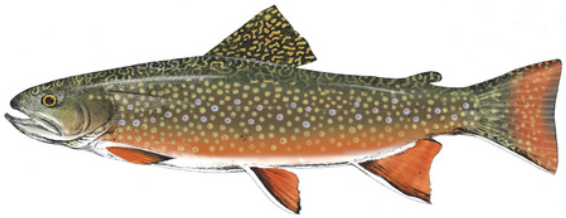
Project Construction Examples



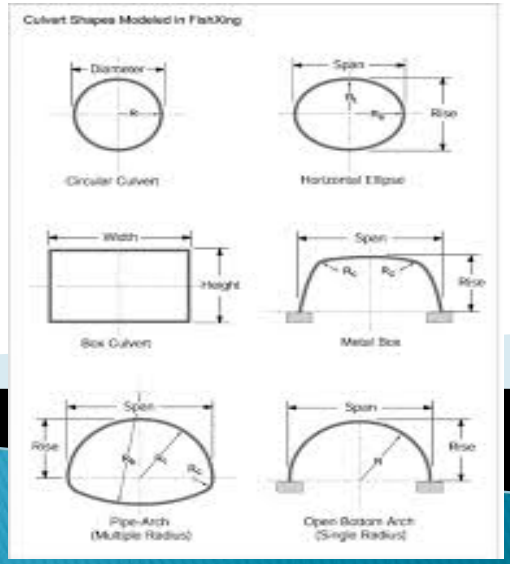
Culvert Replacements

Madeleine Lyttle,
Fish Passage Coordinator
U.S. Fish and Wildlife Service
Lake Champlain Resources Office

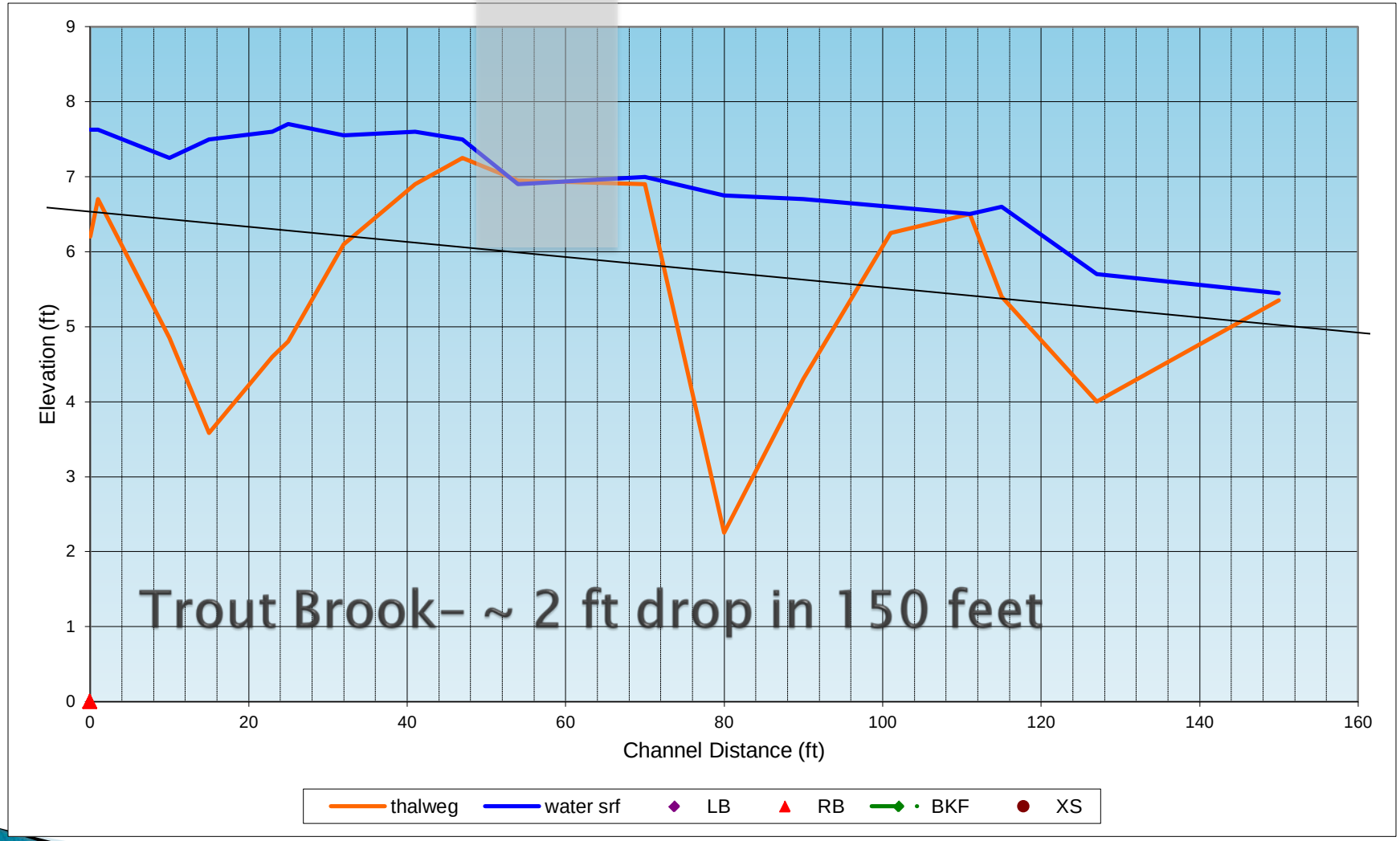
Discussion Topics:

Four Examples

- Site Considerations
  - geophysical conditions
    - stream bed profile
    - bed material
    - other specific issues
- Culvert placement details
  - site constraints
  - culvert fill



Trout Brook, Hayford Rd, Ticonderoga, NY


Elevation (ft)
Channel Distance (ft)
Trout Brook– ~ 2 ft drop in 150 feet
thalweg
water srf
LB
RB
BKF
XS

Issues specific to this location

Only access to three homes

Limited staging area

Wetlands border both side of road

Ticonderoga Road Crew

Trout Brook, Hayes Rd, Ticonderoga, NY

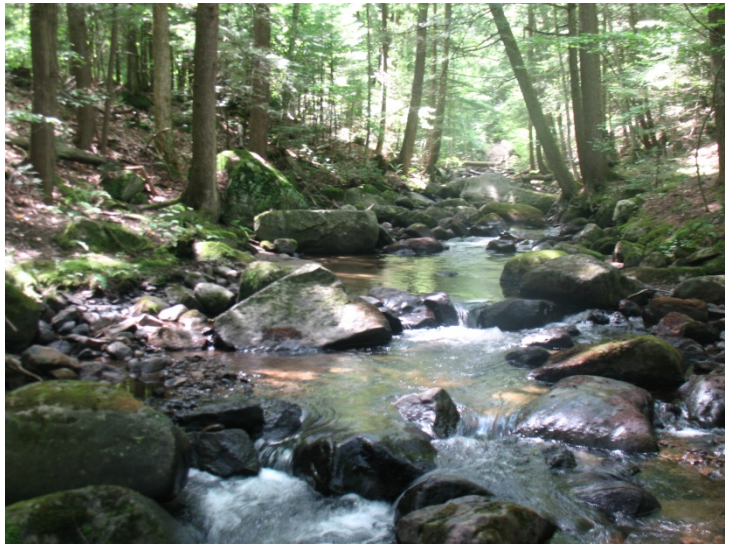
Hague Brook, McCoy Rd, Hague NY

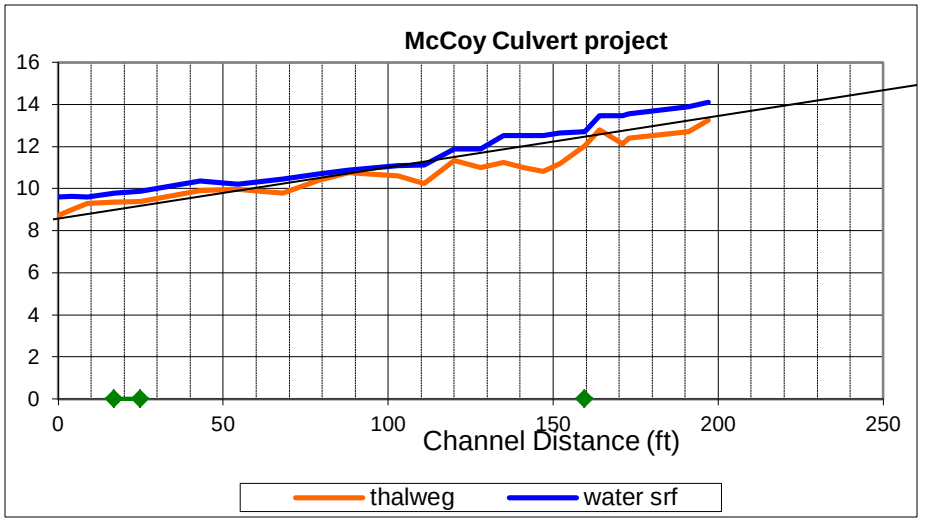
Project brought to us through Warren County Soil and Water Conservation District

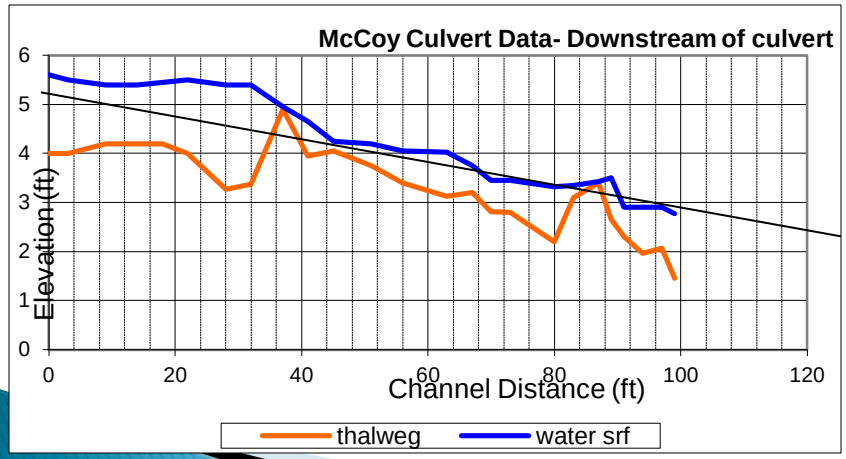
Constructed by the Hague Road Crew

Specific Issues-
Only access to one home
Swimming hole and community dry hydrant

Hague Brook, McCoy Project, Hague, NY





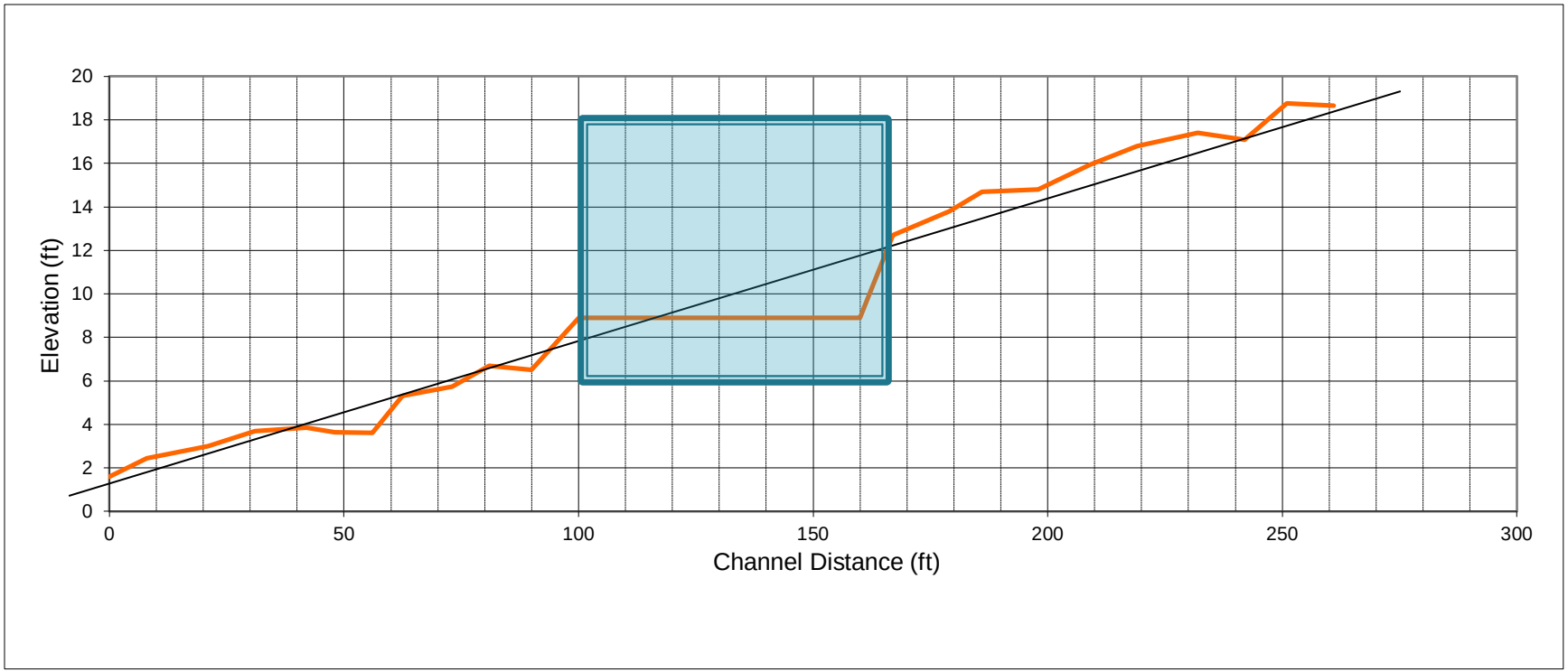


McCoy Project compromise……

Achieve fish passage and maintain the swimming hole

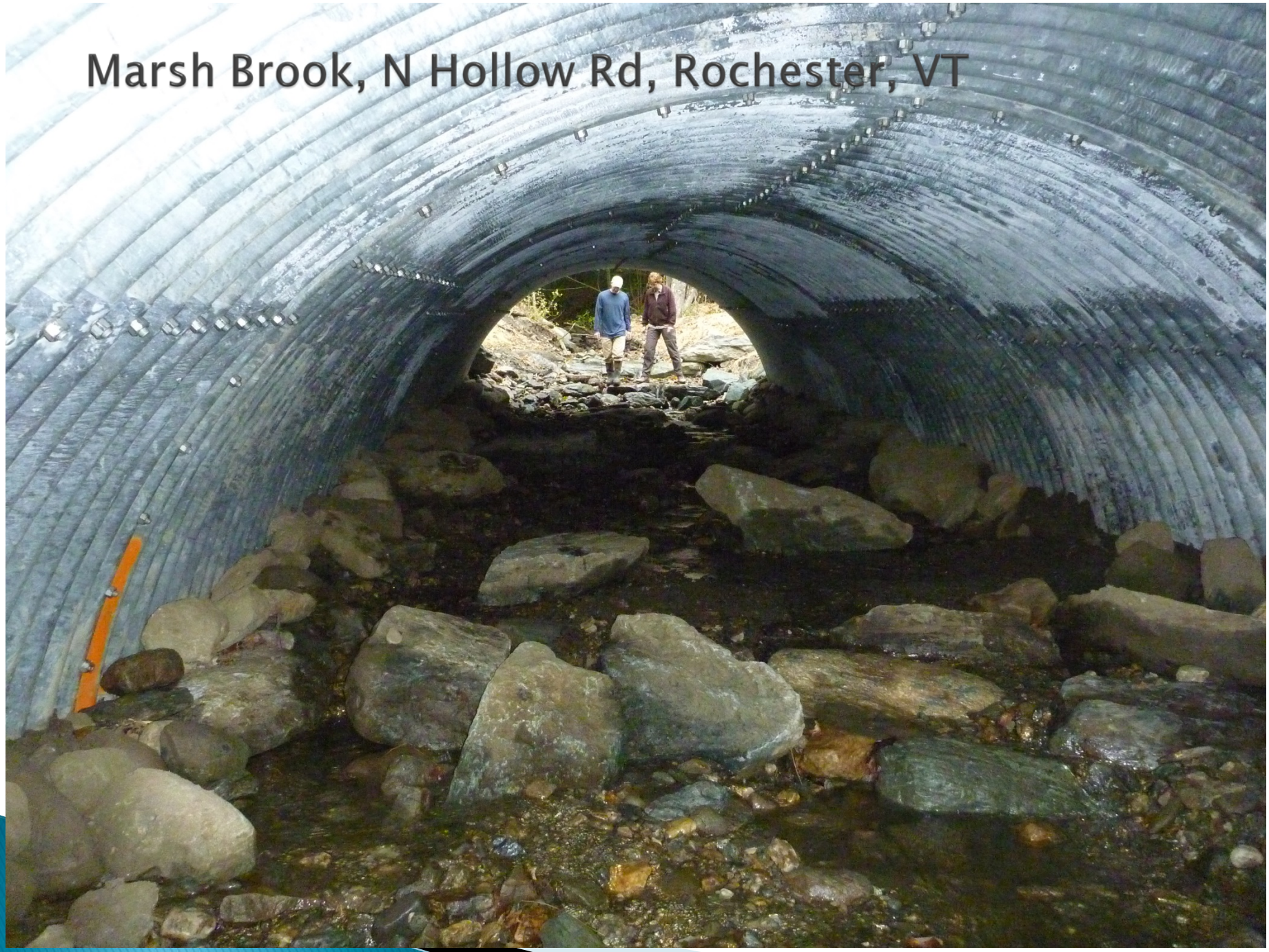
Marsh Brook, N Hollow Rd, Rochester, VT

Marsh Brook, N Hollow Rd, Rochester, VT

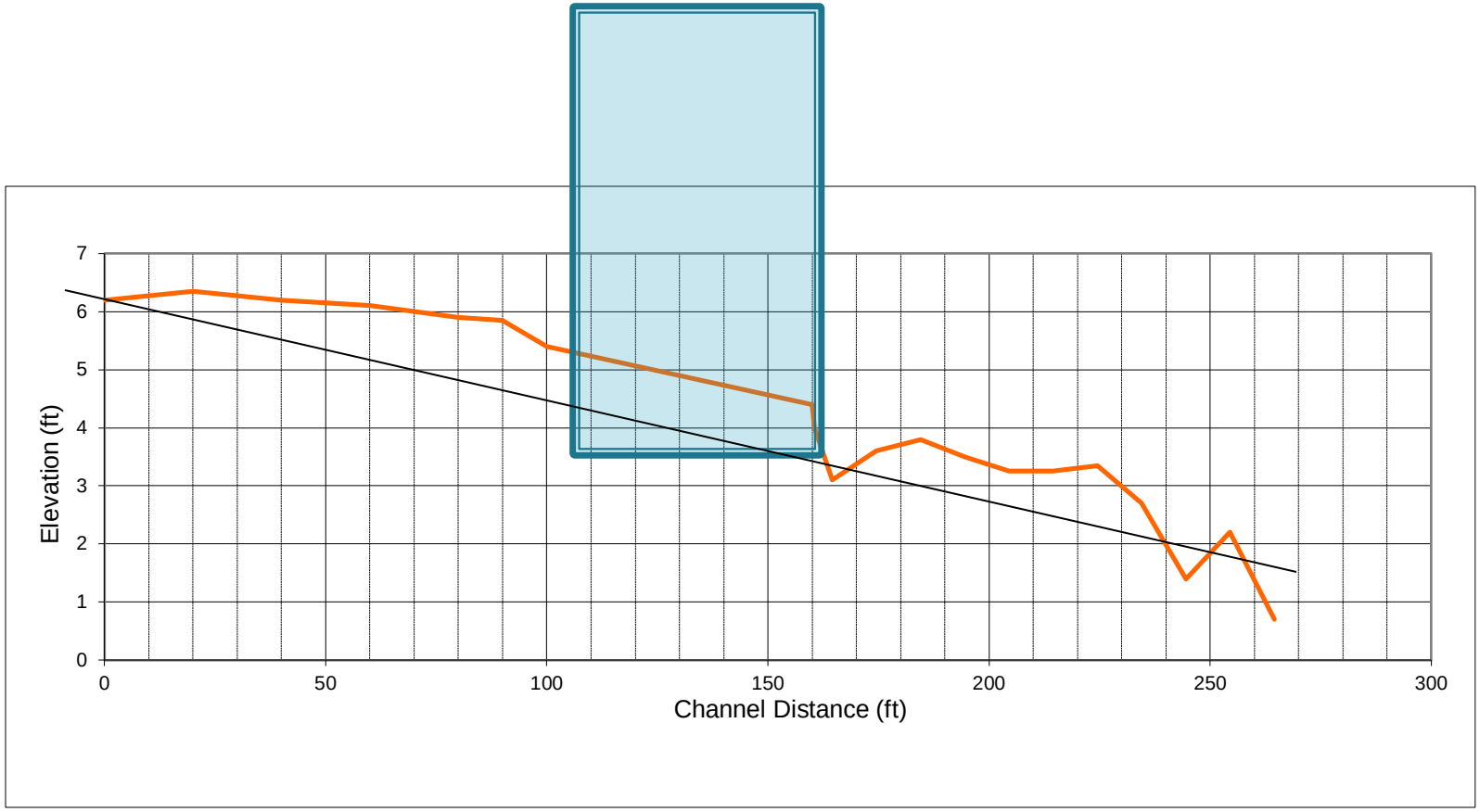


N Hollow Rd, Rochester, VT

- Road was closed so project did not have as tight of a deadline
- Staging area was larger so fill was stored on site
- Tons of fill had to be removed


Marsh Brook, N Hollow Rd, Rochester, VT

Howe Brook at Oak Lodge Rd, Rochester, VT



Howe Brook at Oak Lodge Rd, Rochester, VT

Howe Brook at Oak Lodge Rd, Rochester, VT

Road was closed

Material was dredged but

bedrock out was uncovered on the upstream edge. Although a contingency to blast was in the contract the town supervisor and the engineer determined to set the culvert on top of the bedrock since it was only a foot in height.

But- the culvert was placed flat (horizontal) which caused the outflow to be perched. A series of in-stream weirs had to be constructed to raise the stream bed to insure fish passage through the structure.

Howe Brook at Oak Lodge Rd, Rochester, VT

Howe Brook at Oak Lodge Rd, Rochester, VT

Questions?