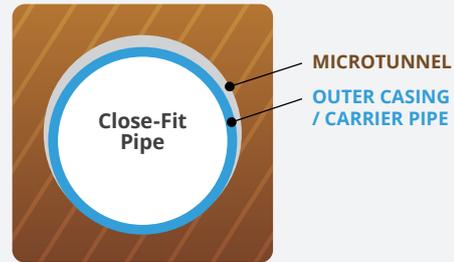


### Using a retractable head for the Close-Fit Bore Section with a temporary outer casing, e.g. for:

- GRP Pipe Jacking for sewer
- Concrete Jacking Pipe for stormwater



LAUNCH

EXIT

1



### Microtunnel

Head is inside front sleeve

2



### Forward Progress Stopped

- Obstruction encountered
- Change of Ground
- Head Failure

Head retracts while the outer casings remain in place to support the ground.

3

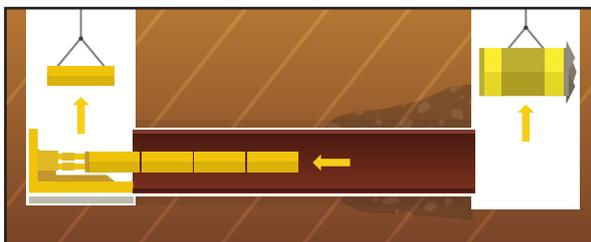


### Situation Remedied

- Obstruction removed
- Cutters replaces
- Head Repaired

Head pushed back to the face and microtunnelling recommenced.

4



### Complete the Bore

To the exit Shaft and remove the head **OR** retract the head back to the launch shaft. Outer casing is now in place.

5



### Permanent Outer Casings

Carrier Pipes are jacked in to replace the temporary outer casing.

E.g. Temporary steel casings are replaced by concrete jacking pipes under a railway.