

Appendix 3: Main Break Types and Responses

Controlled Pipe Repair Without Depressurization	Controlled Pipe Repair With Depressurization After Shutdown Without Opening the Pipe	Controlled Pipe Repair with Depressurization After Shutdown With Opening of the Pipe	Uncontrolled Pipe Break with a Likelihood of Water Contamination or Loss of Sanitary Conditions During Repair
Positive pressure maintained during the break	Positive pressure maintained during the break	Positive pressure maintained during the break	Loss of pressure at the break site
Positive pressure maintained during the repair	Positive pressure maintained until controlled shut down – pressure maintained until repair site is exposed and secured, Pipe is not opened	Positive pressure maintained until controlled shut down – pressure maintained until repair site is exposed and secured, Pipe is opened	Loss of pressure during repair, uncontrolled shutdown, may be catastrophic event or failure
No signs of contamination or intrusion	No signs of contamination or intrusion	No signs of contamination or intrusion	Possible or actual contamination or intrusion
Procedures	Procedures	Procedures	Procedures
Excavate to below break	Excavate to below break	Excavate to below break	Document possible contamination
Maintain trench water level below break	Maintain trench water level below break	Maintain trench water level below break	Excavate to below break
Clean and disinfect repair site and parts	Clean and disinfect repair site and parts	Clean and disinfect repair site and parts – flush into trench to clean	Clean and disinfect repair site and parts – flush into trench to remove any contamination
Repair under pressure (clamp or sleeve)	Control shutdown – depressurize area to make the repair	Control shutdown – depressurize area to make the repair	Disinfect line if possible
Flush until water is visually clear	Flush to scour pipe with 3 pipe turnover if possible. Flush until water is visually clear	Flush to scour pipe with 3 pipe turnover if possible. Flush until water is visually clear	Flush to scour pipe with 3 pipe turnover if possible. Flush until water is visually clear
Check chlorine residuals upstream and downstream from break	Check chlorine residuals upstream and downstream from break	Check chlorine residuals upstream and downstream from break	Check chlorine residuals upstream and downstream from break
Return the line to service	Return the line to service	Return the line to service	Return the line to service
If colored water occurs, advise customers to flush their plumbing until clear. If the water is not clear, use an alternative source.	Advise customers to flush their plumbing until clear. If the water is not clear, use an alternative source.	Advise customers to flush their plumbing until clear. If the water is not clear, use an alternative source.	Advise customers to flush their plumbing until clear. If the water is not clear, use an alternative source.
No boil water advisory	No boil or bottled water advisory unless potential contamination identified	A boil water advisory is recommended; use a bottled water advisory if elevated levels of nitrate, nitrite, or manganese	A boil water advisory is required; use a bottled water advisory if elevated levels of nitrate, nitrite, or manganese
No bacteria sampling	No bacteria sampling unless potential contamination identified	Bacteria sampling is recommended	Bacteria sampling is required
		Lift boil or bottled water advisory after absent bacteria results	Lift boil or bottled water advisory after two consecutive sets of absent bacteria results

Notes: Consult with your DNR Field Office with any questions.
 The DNR Field Office must be notified when an advisory is issued or lifted.