

IN CASE OF FLOODING

PREVENTATIVE MEASURES TO PROTECT WASTEWATER TREATMENT FACILITIES

BEFORE FLOODING OCCURS

- ▶ Wastewater systems should have an emergency contact list for at least:
 - ◆ In-house staff available for emergency response and their contact information:
 - ◆ emails, landlines, cellular phones, etc.
 - ◆ Emergency contact names and numbers for assistance outside of your agency, including emergency responders.
 - ◆ Contacts and equipment available at other treatment facilities that may not be affected by the flooding.
 - ◆ Local contractors (including their equipment) who may be able to assist.

- ▶ Be prepared for wastewater treatment facility headworks to be hydraulically over-loaded and for the final outfall to be underwater.
 - ◆ What precautions do you need to put in place?
 - ◆ Exercise valves and gates prior to needing them in an emergency.
- ▶ Prepare back-up procedures for collecting samples, monitoring influent and discharge flow, and for maintaining treatment.
- ▶ Make contact with your county office of emergency services and State Department of Disaster and Emergency Services (DES). Provide them with your system's 24/7 contact information and the location of your facilities.
- ▶ PLAN FOR OPERATOR SAFETY.
- ▶ Prepare for Customer Notifications.
- ▶ Join MT WARN—utilities helping utilities at www.mtwarn.org and be familiar with helpful websites including "SecureWater" by DEQ at <http://securewater.mt.gov/>

DURING FLOODING (and in immediate preparation for flooding)

- ▶ Relocate vital records and critical equipment (if possible and your permit allows) to a protected area.
- ▶ Call:
 - ◆ Your county office of emergency services and State Department of Disaster and Emergency Services (DES) if untreated or partially treated sewage is discharging from somewhere other than a permitted outfall.
 - ◆ If in doubt, assume it is not a permitted outfall and report the discharge.

 - ◆ Your county Health Department if a sewage spill has occurred (this is a safety precaution) to obtain information and assistance in regards to local public health/clean up requirements.
 - ◆ Follow up with a call to the DEQ Water Protection Bureau (406-444-3080) to report the Sanitary Sewer Overflow event. This is a permit requirement.

 - ◆ The DEQ Water Protection Bureau (406-444-3080) to report a discharge if it is not from a permitted outfall.
 - ◆ Again, if in doubt, assume it is not a permitted outfall and report the discharge.

- ▶ If applicable, follow all requirements and conditions in the facility MPDES permit, especially for monitoring and reporting expectations. Notify DEQ within 24 hours of an unpermitted discharge and submit a written report of the event within five days (consult your MPDES permit). Document your decisions and correspondence.
- ▶ Divert flood waters away from entering your collection system and inundating the wastewater treatment facility.

SPECIFIC FACILITY CONSIDERATIONS

STORM WATER SYSTEMS

- ▶ Check the storm water infrastructure (inlets, culverts, ditches, outfalls, etc.) for obstructions and keep them clear of debris.
 - ◆ Maintain a watch on these structures throughout the flood emergency to prevent inundation of roads, street grates, basements, and sanitary sewer manholes.
 - ◆ Have extra personnel available that can help with clearing plugged storm water structures.
- ▶ Have sand and bags available that can be used for sand bagging.
- ▶ Keep watch on releases from construction sites in your area that may affect your infrastructure.
 - ◆ If the construction site has authorization to discharge under the MT Storm Water General Permit, then the site manager is responsible for maintaining and monitoring erosion control structures and site best management practices (BMPs).
 - ◆ Construction site managers must report noncompliant discharges from their sites.
- ▶ Be prepared to mitigate problems caused by failed erosion control measures and BMPs.

COLLECTION SYSTEMS

- ▶ Identify areas where flood waters may enter the system, such as manholes and street grates.
- ▶ Use preventive measures to reduce the amount of Infiltration and Inflow (I/I) into the collection system.
 - ◆ Seal manhole covers located in low areas that may flood.
 - ◆ Sandbag vulnerable areas.
 - ◆ Trenching may be useful to divert water away.
- ▶ Have back-up power and pumps available for critical locations like lift stations, telemetry vaults, and pumping facilities.

LAGOON FACILITIES

- ▶ If flooding and inundation is anticipated, provide space or check freeboard in lagoons to allow for increased flows into your lagoon treatment cells.
 - ◆ Make sure the valves for the wastewater lagoon treatment cells are exercised regularly so they operate correctly when needed.
 - ◆ Lower the levels in the lagoons (while adhering to MPDES permit requirements) in order to increase hydraulic capacity.
- ▶ During flooding events, it is important to inspect the wastewater treatment lagoon cells and dikes several times a day to verify capacity and integrity.
- ▶ Sand bagging next to the wastewater facilities may reduce the impact of flooding on the treatment plant.
- ▶ Have access to the necessary heavy equipment and material(s) to repair eroded dikes as a measure to reduce the impact of a breached lagoon cell.

MECHANICAL TREATMENT FACILITIES

- ▶ Inflow and Infiltration (I/I) due to flood waters can raise influent flow levels high enough to wash out the activated sludge, resulting in reduced biological treatment, decreased disinfection effectiveness, and potential MPDES permit violations.
 - ◆ Isolate one treatment train (aeration basin/clarifier) to preserve the activated sludge and protect it from washout in order to restart the plant's biological treatment when influent flow levels return to normal.
 - ◆ Be sure you document this operational decision and if you are a permitted facility, consult the MPDES permit for reporting requirements.
- ▶ Contact other treatment facilities to obtain seed if necessary to jump start biological treatment after the flood waters have receded.

FOR ALL WASTEWATER SYSTEMS

DOCUMENT ALL DECISIONS, ACTIONS, AND CORRESPONDENCE WHICH SHOULD INCLUDE, BUT IS NOT LIMITED TO, MAINTAINING COPIES OF ALL REPORTS.

