



December 6, 2019

Mike Schmoller, Project Manager
Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

Subject: WDNR BBRTS Activity #02-13-584369 and # 02-13-584472 – Draft Site Investigation Work Plan

Dear Mr. Schmoller:

This letter is in response to the Department of Natural Resource (Department) letters dated October 7, 2019 and October 11, 2019 for BBRTS Activity 02-13-584369 and 02-13-584472, respectively. Our November 21, 2019 letter to you provided the status of the required steps to be undertaken by the Airport in the Department's two October letters.

With this letter we are transmitting the Draft Site Investigation Work Plan prepared by the Mead & Hunt team. It is a single investigative work plan with a focused phased approach to address both BBRTS #02-13-584369 and 02-13-584472. This Draft Work Plan is also being uploaded to the Department's RR Program Submittal Portal for both BBRTs.

The Mead & Hunt team has also evaluated the need for interim action and prepared a Technical Memo. A hardcopy of which is being delivered with the Draft Work Site Investigation Work Plan to your attention and will also be uploaded to the Department's Portal for both BBRTs.

Please let me know if you have any questions on the above.

We look forward to your response.

Michael J. Kirchner, P.E.
Director of Engineering

CC: Laura Morland, P.E. Mead & Hunt, Inc. via email



Technical Memorandum

To: Mike Schmoller, Project Manager
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

From: *Laura Morland, P.E., Environmental Practice Leader*

Date: December 6, 2019

Subject: **Interim Action BRRTS #02-13-584369 and 02-13-584472**

Introduction and Background

The Wisconsin Department of Natural Resources (WDNR) sent a letter (BRRTS #02-13-584369) on October 7, 2019, to the Dane County Regional Airport (Airport), Wisconsin Army National Guard (WANG) and the City of Madison about Per- and polyfluoroalkyl substances (PFAS) found in Starkweather Creek. Four days later the WDNR sent a similar letter (BRRTS #02-13-584472) to the Airport regarding PFAS found in storm water sampling at select Airport outfalls. Each letter requires the Airport to conduct site investigations as well as implement immediate, interim, and remedial actions. Because the two letters concern similar issues and have similar required actions, the Airport is taking a consolidated approach in responding to them.

Mead & Hunt has prepared this Technical Memorandum to comply with the requirements to submit an evaluation within 60 days of receipt of the letters for “the need for an interim action to mitigate and treat PFAS-contaminated groundwater and surface water.” The Memorandum evaluates current knowledge about sources and considers potentially applicable interim actions in the contexts of the two letters.

Approach

BRRTS #02-13-584369 (Burn Pit Investigation)

Mead & Hunt, in conjunction with the Airport team, is conducting interviews with employees about the two burn pits located on Airport property. No specific evidence of PFAS usage or impacts at the two burn pits has yet been identified; as a result, there is a need to complete a thorough information gathering process and assess the likelihood of PFAS contamination being present based on historical operations. The history and usage of these pits will be obtained and compared with actual records of instances where firefighting foams containing PFAS compounds may have been used. The manufacturing history of PFAS compounds in fire-fighting foams will also be reviewed relative to the operating histories of the burn pits. This initial investigation will lead to field investigations under a next phase if there is determined to be a risk of PFAS being present.

As a result, no interim actions are necessary.

BRRTS #02-13-5844472 (Storm Water Outfalls)

Mead & Hunt, in conjunction with the Airport team, has evaluated potential interim measures to reduce or eliminate PFAS in storm water discharges. Previously collected sampling data has established the presence of PFAS compounds in discharges from certain airport storm water outfalls. The Airport has concluded that these PFAS compounds are the result of illicit discharges to the storm sewer system. However, the specific nature, identity, and magnitude of these illicit discharges are not known at this time. As such, there is not enough information to develop corrective actions to eliminate them.

Analysis

The possibility of implementing treatment at storm water outfalls was also considered as an interim action. This would involve removing PFAS from the storm water flows by passing the water through granulated activated carbon (GAC) or similar technology prior to discharge at each outfall. Initial evaluation of the concept concluded that it is not applicable as an interim action based on the following considerations:

- Each end-of-pipe treatment filter installation would be designed for the drainage basin it serves, based on flows, the matrix of constituents in the storm water, and operational considerations (e.g., periods between filter changes, filter disposal).
- End-of-pipe GAC filtration of storm water discharges would involve very large peak flows and total volumes. For example, the discharge volumes for the 1-year, 24-hour rainfall event for just Outfalls 032 and 001, which showed significant PFAS concentrations, are more than 2 million and 16 million gallons, respectively.
 - The filtration system would need to be sized for a flow capacity substantially less than peak storm water flows. As a result, significant on-site storage in a detention basin would be required for each outfall where treatment is needed.
 - Alternatively, some drainage basins could be replumbed together to require fewer but larger storage basins.
- The planning, engineering, and environmental challenges associated with implementing these modifications to the Airport's drainage systems would require several years to implement. In addition, National Environmental Policy Act and Clean Water Act approvals would be required from the Federal Aviation Administration and possibly US Army Corps of Engineers. A new Wisconsin Pollutant Discharge Elimination System permit for discharges of treated wastewater may also be required. Conservatively, it would take a year or more to obtain such approvals.

As such, installing end-of-pipe filtration of storm water discharges is both impractical and infeasible as an "interim" action.

Conclusion

Applicable interim actions are not appropriate at the present time to address potential PFAS concerns at the two burn pits or in Airport storm water discharges. The Airport is committed to conducting robust investigations to evaluate the risk of PFAS contamination at the burn pits as well as to identify and quantify the sources of PFAS in storm water. These investigations will then allow the Airport to focus on specific locations and sources for development of appropriate corrective actions.

CC: Mike Kirchner – Dane County Regional Airport

MEMORANDUM