



GREATER HARTFORD FLOOD COMMISSION

50 Jennings Road, 2nd Floor
Hartford, Connecticut 06103
Telephone: (860) 757-9975 Fax: (860) 722-6251



8/5/2022

David McKeegan
Solid Waste Permitting
Waste Engineering and Enforcement Division
Bureau of Materials Management and Compliance Assurance
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

RE: MIRA Closure Plan dated May 2022

Dear Mr. McKeegan,

The City of Hartford entered into Local Cooperation Agreements (LCA) with the federal government for the maintenance and operation of the Connecticut River Right Bank, Hartford CT Flood Damage Reduction System (FDR) in accordance with the United States Army Corps of Engineers (USACE) regulations. The FDR is classified as a high hazard dam by the Connecticut Department of Energy and Environmental Protection Dam Safety (CT DEEP) and is subject to the State's dam safety regulations. Locally, the FDR is subject to regulatory oversight by the Greater Hartford Flood Commission (GHFC). The Department of Public Work Flood Control (DPW Flood) has been tasked with the responsibility for the maintenance and operation of the FDR. At the time of the levee construction, the Material Innovation and Recycling Authority's (MIRA) site was known as the South Meadows Station which was owned by the Hartford Electric Light Company. The FDR was designed and constructed to accommodate the existing South Meadows Station. Since the original FDR construction, the FDR and the MIRA have had a number of site and FDR modifications based on the use of the site. The City of Hartford is committed to ensure that the FDR provides flood protection based on the design flood event.

MIRA's closing of the Resource Recovery Facility (RRF) raises a number of concerns related to the operation and maintenance of the FDR moving forward. The City understands that the State of Connecticut's closure requirements under the solid waste regulations were never intended to address various life safety aspects related to presence of a FDR. It is in the public interest that MIRA's closure of the RRF address not only the solid waste regulations but also issues which impact the integrity and operation of the FDR.

DPW Flood has reviewed MIRA's concept for the development of their closure plan for the RRF. MIRA's closure activities will require permitting from the USACE, GHFC and CT DEEP Dam Safety. DPW Flood's comments and the Closure plan have been passed along to the City's Administration, USACE and the CT DEEP Dam Safety for their information and potential comment. The following DPW Flood comments were generated based on a review of the Closure plan impacts to the FDR only.

1. Any construction, demolition or other activities located within the levee right of way / easement or which affect the flood damage reduction (FDR) system require USACE, CT DEEP Dam Safety and GHFC approval. MIRA should contact the USACE concerning the Section 408 process for alterations to an USACE Civil Works project.
2. DPW Flood must have 24 / 7 access to the site in perpetuity in order to operate and maintain the FDR.

3. NPDES Discharge Permit CT0003875 (once through non-contact cooling water intake / discharge) – Formal abandonment of all existing inactive levee penetrations including the intake / discharge piping are to be completed to satisfaction of the appropriate regulatory agencies. The limits of the abandonment are to be located far enough from the FDR that a failure of the penetration which is not abandoned will not affect the integrity of the FDR. The City must witness the abandonment of the levee penetrations and any lock-out of the intake / discharge pumps that remain.
4. Industrial Stormwater General Permit - MIRA indicates that the Stormwater Pollution Prevention Plan will be modified to reflect changes in stormwater drainage as well as other relevant sections of the plan. MIRA must maintain their drainage connections and structures that outlet to City owned infrastructure including the toe / collector drain system for the FDR. MIRA must implement stormwater control measures to limit discharge of stormwater contaminants to the City's owned infrastructure. DPW Flood requests that the required reporting be submitted to the City.
5. DPW Flood has concerns about the equipment and structures located within or in close proximity to the levee easement. Various elements of the MIRA's infrastructure are located above or attached to the FDR's concrete floodwall. A safe work environment must be maintained and the FDR cannot be compromised. A number of the connections to the floodwall have significant corrosion and include failure of some of the connections. All inactive infrastructure attached to the concrete floodwall, above the levee right of way or which could result in an unsafe work environment must be demolished and removed from the site.
6. Environmental Land Use restrictions require the permanent structures shall be maintained in good condition pursuant to the pavement, permanent structure and engineered control monitoring and maintenance Plan entitled Engineered Control & Permanent Structure Inspections and Long-Term Ground Water Monitoring Manual (Rev. 2, dated January 2018), as amended and approved by the Connecticut Department of Energy and Environmental Protection, and on file at the Connecticut Department of Energy and Environmental Protection Public File Room. DPW Flood has serious reservations about resources that MIRA will provide to properly maintain the various abandoned structures which would remain. The existing structures currently shows signs of deterioration during the period of full operations at the site. The abandoned greenhouse is currently unsafe for entry and will be closed in such a manner as to limit the need for further entry and inspection after closure. If MIRA is not required to demolish the existing structures and buildings, a mechanism and funding must be provided to properly maintain the structures to provide a safe environment for DPW personnel and not result in impacts to the FDR in perpetuity.
7. Closure Elements
 - a. 3.1.2 Floor Drain and Storm Drains
 - 1) Any drain which connects to an existing City owned / FDR storm drainage system is the properly maintained and cleaned to prevent sediment from entering the system.
 - 2) The Closure plan indicates "Following cleaning, catch basins located in areas which may receive sediment-laden stormwater will be protected with fabric filters." The plan is not clear as to whether this is during the closure activities or is intended to be a long-term control measure. Fabric filters should not be utilized as a long-term control measure due to the fact that proper maintenance is required after storm events and the filter fabric deteriorates.
 - 3) All existing drains which connect to the City owned / FDR storm drains which are no longer necessary are to be properly abandoned (eliminate the use of plugs).
 - b. 3.1.3 Containers, Tanks, and Vessels – All tanks / containers located within the levee right of way / easement are to be removed and all piping properly abandoned.
 - c. 3.3.1 Coal Pond - The pond currently has no outlet which will require MIRA to make modifications to provide an outlet/overflow structure. The area located downstream of the proposed outlet is to be reviewed to determine if any City owned property or the FDR drainage system will be impacted.
 - d. 3.3.2 Ash Load-Out and Wheel Wash Building - Both the Ash Load-Out and Wheel Wash Buildings shall be cleaned and drain discharge points terminated at closure. If the existing

drains do not connect to the sanitary sewers, the drains must be properly abandoned if they are connected to the City / FDR drainage system

- e. 3.3.7 Cooling Water Intake Structures and Discharge Outfalls –
 - 1) Language from the Closure Plan - The proximity of the Connecticut River and the associated flood control dike and floodwall, which contains a cut-off sheet pile wall that penetrates below the water table, along the eastern property boundary affect the hydrogeology of the property. **A gap is present in the steel sheeting of the flood control dike where the original non-contact cooling water intake and discharge tunnels between Screenhouse #2 and the PBF are located. Due to the absence of any steel sheeting directly below the tunnel structure, the gap is approximately 12 feet wide and a minimum of 1.5 feet high and exists between the bottom of the tunnel structure and the underlying clay layer. In addition, there is no seal indicated on the engineering design drawings between the steel sheet piling driven along both sides of the concrete tunnel structure and the tunnel structure itself. These gaps in the sheeting of the flood control dike further impact hydrogeologic conditions, as they provide a hydraulic groundwater connection point between the property and the Connecticut River.** Site-specific groundwater contours support this finding. **The cooling water intake and discharge tunnels dating back to the original power generating plant in the 1920's have been sealed at their riverside ends. As the plant was expanded, two additional cooling water intakes with screenhouses were added in 1937 and 1949 and three cooling water discharge pipes were installed. The intake and discharge end of these remaining conduits on the river side of the dike and floodwall will be sealed to prevent interconnection of the plant with the Connecticut River. The portions of the cooling water conduits that lie beneath the floodwall and dike will be filled with sand and/or cement grout to eliminate the possibility of the conduits affecting the integrity of the floodwall and dike.**
 - 2) The intake / discharge piping as well as all existing levee penetrations which are no longer active are to be properly abandoned to the satisfaction of the USACE, CT DEEP Dam Safety and the GHFC. The use of sand filling of levee penetrations will not be allowed. The existing sand filled intake and discharge conduits are to be properly abandoned.
- f. 3.3.8 Intake Screen House
 - 1) The two active intake screenhouse structures and screen equipment will remain intact to allow for periodic integrity inspection of the bulkheads that seal the ends of the cooling water conduits that enter these structures. These structures are not located within the limits of the ELUR and should be demolished.
 - 2) The original screenhouse which currently abandoned is described as unsafe for entry and will be closed in such a manner as to limit the need for further entry and inspection after closure. The existing abandoned discharge tunnels associated with the abandoned screen house must periodically inspected until the levee penetration is abandoned to the satisfaction of the levee regulatory agencies. Only a portion of the discharge tunnels were grout filled. The remaining portion was sand filled and a wooden bulkhead was utilized.
 - 3) All structures that present a hazard (short & long term) to the FDR and flood personnel are to be demolished with the proper USACE, CT DEEP and GHFC approvals.
- g. 3.3.11 Coal Barge Unloading Crane and Dock - The existing coal barge unloading crane, dock and conveyor system is proposed to be closed-in-place. Structures located in the vicinity of the FDR which are a potential hazard to the FDR as well as DPW personnel are to be demolished with the proper USACE, CT DEEP and GHFC approvals.
- h. 3.3.12 Stormwater Drainage and Sanitary Discharge - Any drain which connects to an existing City owned / FDR storm drainage system is the properly maintained and cleaned to prevent sediment from entering the system.

8. 4.5 Tanks and Operating Equipment - All piping located within the FDR right of way / easement must be properly abandoned and the tanks removed per USACE, CT DEEP and GHFC requirements.
9. Post Closure Operation – 7.1 Security as previous noted above. The Closure Plan must address DPW Flood need for 24/7 site access in order to operate and maintain the FDR. Protocols and provisions must be developed to allow the required access to the FDR.

Numerous levee penetrations are not identified or addressed in the Closure Plan. All inactive levee penetrations must be properly abandoned. All levee penetration which are not properly abandoned must be maintained, inspected and evaluated in compliance with the approved Operation & Maintenance Manual for the FDR as well as USACE EM 1110-2-2902 "Conduits, Pipes and Culverts associated with Dam and Levee Systems" dated 12/31/2020. MIRA has not submitted documentation for the periodic inspection of all levee penetrations. MIRA must provide the necessary periodic inspection reports in perpetuity for any levee penetration which is not properly abandoned.

A copy of the May 10, 2022 GHFC correspondence to MIRA concerning the MIRA site and the development of an Emergency Action Plan which identifies various elements that need to be addressed on the site are attached for purposes of discussion. MIRA has not responded to DPW correspondence at this time.

Do not hesitate to contact our office to discuss the matter or if additional information is required.

Sincerely,



Frank Dellaripa, P.E.
City Engineer / Greater Hartford Flood Commission Director

Cc: Michael McGarry, Greater Hartford Flood Commission Chairmen
Michael Looney, Public Works Director
Kevin DiRocco, USACE Levee Safety
Alex Garneau, USACE Levee Safety
Charles Lee, CT DEEP Dam Safety
Ivonne Hall, CT DEEP Dam Safety