Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Stephanie Pollack, MassDOT Secretary & CEO
Brian Shortsleeve, Chief Administrator and Acting General Manager

massDOT
Massachusetts Department of Transportation

June 23, 2017

Arthur V. Johnson, III, Acting Director
Office of Ecosystem Protection
USEPA Region I – New England
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Information Request Pursuant to Section 308 of the Clean Water Act for the NPDES Permit MA 0003590 (MBTA Commuter Rail Maintenance Facility); Extension of Submittal.

Dear Mr. Johnson:

Please accept this letter as the response of the Massachusetts Bay Transportation Authority (MBTA) to the Environmental Protection Agency (EPA) letter dated March 2, 2017; and letter dated June 6, 2017, which extended the deadline for this response until June 23, 2017.

The Request was issued solely to the MBTA, as representative for the MBTA and Keolis. EPA requests that the MBTA provide specific information regarding drainage associated with NPDES Permit MA 0003590.

As an initial matter, please note that Keolis operates commuter rail service for the MBTA pursuant to the Operating Agreement dated February 2, 2014, and that under that agreement Keolis operates and maintains the MBTA Commuter Rail Maintenance Facility (CRMF) as well as the associated drainage from this facility. The MBTA owns the drainage infrastructure. Additionally, as you are aware, there are three (3) other co-permittees on NPDES Permit MA003590;DW NP Property, LLC; (2) City of Somerville; and (3) the Commonwealth of Massachusetts Department of Conservation and Recreation (DCR).

If after reviewing this response, EPA believes it needs additional information please let me know.

Each EPA request for information is set forth *underlined in blue italics* below with the response following.

Request No. 1. Continuous flow measurements reported on no more than 15-minute intervals, starting as soon as possible, and collected from a flow metering device to be installed to measure flow to the Unnamed Tributary.

Response No. 1: A pressure transducer was installed in the cofferdam on May 12, 2017. The pressure transducer continuously measures the head of water above the instrument and records the measurements for subsequent downloading. Measurements are recorded every two minutes. The head of water above the instrument at any instant is converted into a flowrate of water discharging over the weir of the cofferdam using the Kindsvater-Carter rectangular weir equation. The instantaneous flow measurements are then integrated over time to calculate Average Monthly Flow and Maximum Daily Flow. For the period between May 12 and May 31, 2017, the Average Monthly Flow was 0.753 million of gallons per day (MGD), and the Maximum Daily Flow was 4.97 MGD (on May 26, 2017).

Continuous flow measurements will be recorded and reported using this system going forward under the NPDES Permit, beginning with the June monthly Discharge Monitoring Report (DMR).

> *Request No. 2: An up-to-date map and description of all relevant property ownership for the areas that contribute stormwater drainage to the discharge at Outfall 001, including parcels where such drainage passes through or under. Contributing properties upgradient of the Old Stone Culvert need not be included. On the map clearly label drainage infrastructure and include the following locations where samples will be taken:*
>
> a. *Prison Point Oil Trap*
> b. *Each upstream connection to the Prison Point Oil Trap (e.g. NorthPoint)*
> c. *DMH 13*
> d. *Accessible opening of the Old Stone Culvert or DMH 13.1*
> e. *DMH 13.4 (Outfall 001)*
> f. *Ambient location in the Unnamed Tributary downstream of the temporary oil containment booms and prior to confluence of the Unnamed Tributary with the Charles River.*
>
> *Approximate locations of DMH13, DMH13.1, DMH13.4, the Prison Point Oil Trap, the accessible opening of the Old Stone Culvert, and ambient sampling are included in Attachment A.*

Response No. 2: Refer to the figures submitted via Office 365, MBTA_CRMF_308 (Item 2-Property Ownership of Drainage to Outfall 001 Millers River) indicating relevant property ownership for the areas that contribute stormwater drainage to the discharge at Outfall 001. This information was compiled from publically available sources within the Cities of Boston, Cambridge and Somerville.

A separate figure (Item 2- Miller's River Stormwater Sampling Locations) of the overall Millers River watershed, drainage infrastructure, and the following sampling locations are also provided:

a. Prison Point Oil Trap Chamber 3
b. Manhole upstream of the Prison Point Oil Trap Chamber 2
c. DMH-13
d. Opening in the Old Stone Culvert
e. DMH-13.4
f. Millers River (Unnamed Tributary) ambient sampling location

Refer to Item 2 in Office 365, MBTA_CRMF.308

Request No. 3. A complete process diagram for the facility, showing all wastewater (including stormwater) flows contributing to Outfall 001, with the following locations clearly identified:

a. *the three (3) oil/water separators at the CRMF*
b. *the monitoring locations described in #2a through 2f*
c. *key junction manholes*

Response No. 3: A process flow diagram (Item 3-CMRF Drainage Flowchart) has been prepared for CRMF showing all known wastewater and stormwater flows contributing to Outfall 001, defined in EPA's letter as DMH 13.4. The process flow diagram is based on available As-Built Green Line Extension (GLX) project drainage drawings. The "Report on Area Drainage Study" (Malcolm Pirnie, February 2011) (Item 3-Process Flow Site Map with Flowmeter Locations) and information provided by Kennedy/Jenks Consultants. Contributions of flow from the NorthPoint area and Gilmore Bridge are pending confirmation from those entities; these assumed flows are indicated by dashed lines on the diagram. In addition, it is currently not known from prior studies whether several catch basins along the Fitchburg Main Line (FML) to the west of CRMF drain solely through the new drainage system to DMH 13.4, or whether an additional connection exists (at CB 226) to the drain pipe that leads to the Prison Point OWS. The drainage from the FML catch basins would represent a de minimus flow.

Train wash rinse water drip pans are located outside of the CRMF building, west of and adjacent to the interior train wash operations area. These drip pans collect potable rinse water that drips from trains as they exit the building following train washing. Dye test studies were conducted on April 25, 2017 by Keolis to determine the direction of the discharge from the exterior rinse water drip pans. The studies concluded that the exterior rinse water drip pans drain to the stormwater drainage system on the West Side of the building.

There are two historical sources of *de minimus* off-site flow to the CRMF stormwater drainage system on the West side, as shown on the diagram (information from KJ):

- Approximately 3 to 5 catch basins in 3rd Avenue, and
- 150/200 Inner Belt Rd property

The process flow diagram also identifies the three oil/water separators (East Side, West Side and Yard 14) at CRMF, monitoring locations for sampling conducted under the 308 letter, and key junction manholes.

Refer to Item 3 in Office 365, MBTA_ CRMF_ 308

> *Request No. 4. A description of the potential for groundwater infiltration at locations described in #2a through #2f.*

Response No. 4: This response provides a qualitative description of the potential for groundwater to infiltrate into the drainage infrastructure at the locations described in #2a through #2f. A descriptor of either "HIGH", "MODERATE" or "LOW" is provided for each location (with the exception of the Millers River ambient sampling location, which is not applicable).

a. Prison Point Oil Trap - HIGH
b. Manhole upstream of the Prison Point Oil Trap - MODERATE
c. DMH-13 - LOW
d. Opening in the Old Stone Culvert - HIGH
e. DMH-13.4 - LOW
f. Millers River ambient sampling location – NOT APPLICABLE

Note that the Prison Point drainage infrastructure on the NorthPoint property, most of which has high potential for groundwater to infiltrate into the drainage infrastructure, is still connected to the outfall system. Once NorthPoint redirects its drainage away from the Prison Point drainage infrastructure, the connection will be sealed.

The entire Old Stone Culvert is considered to have a high potential for groundwater to infiltrate, and will remain connected to the outfall system until such time as the Inner Belt Road area is redeveloped and the Old Stone Culvert can potentially be abandoned.

> *Request No. 5. A description of the potential of reverse directional flow, defined as flow away from Outfall 001, at each monitoring location described in #2a through #2f.*

Response No. 5: A steel cofferdam, installed in May 2009, is in place at the outfall pipes at the Millers River (Unnamed Tributary). A portion of the cofferdam was cut during the recent GLX project to create a weir for the discharge from the outfall pipes to the Millers River. The weir elevation is approximately 1 to 2 feet higher than the Millers River surface water elevation, which is maintained at a relatively constant level by the water levels that are set at the New Charles River Dam (downstream of Millers River). Thus, there is no reverse directional flow from the Millers River to DMH 13.4 and the CRMF drainage system. Please note that the Ambient Millers River sampling location is located downstream of the cofferdam and booms in the Millers River.

A survey was performed of the rim elevations and coordinates (NAVD88) for the sampling locations upstream of the Millers River (i.e., DMH13.4 and upstream locations) during the Biweekly sampling event on May 17, 2017. In addition, the depth to water from the rim elevation at these locations was gauged during this sampling event using measuring tape marked to hundredth of a foot. Water elevations (rounded to the nearest hundredth) were calculated from the surveyed rim elevations and gauged depths to water. A summary table of the results is attached (Item 6 – Monitoring Locations CRMF Table 1 Survey Gauging Results).

Weather conditions were dry during the 24-hour period preceding and through the survey/gauging event.

The elevation of the cofferdam weir was also surveyed; this elevation (1.72') represents the surface water elevation in the cofferdam at the outfall pipes. Precipitation was not occurring at the time and a low flow of water was observed spilling over the weir.

The highest water elevation was measured at the DMH 13.4 downstream manhole (1.81'), which is located approximately 3 feet west from the inlet of one of the three outfall pipes. Slightly lower water elevations were measured at upstream locations Old Stone Culvert Opening (1.70') with a difference of approximately 0.11'; DMH 13 (southern manhole) (1.66') with a difference of approximately 0.15'; and, the Prison Point Oil Trap Chamber 3 (1.68') with a difference of approximately 0.13'. The survey results as observed suggest that the water elevation was slightly higher in DMH 13.4 than in the upstream sampling locations as well as at the cofferdam weir.

The results indicate there is potential reverse directional flow from DMH 13.4 in the drainage system with a slight variance that ranges between 0.09' to 0.15'. Based on known current conditions, there are several possible reasons for this:

1. Pumping of water by the two submersible pumps from Prison Point Oil Trap Chamber 4 to Chamber 5 may be causing a slightly increased head in Chambers 5 and 6, near the discharge end of the Oil Trap structure. Chambers 5 and 6 discharge by gravity to DMH 13.4, located approximately 20' downstream. An increased head at the discharge end of the Oil Trap may, in turn, be causing a slightly increased head in DMH 13.4, resulting in a higher water elevation in DMH 13.4 by approximately 0.13'.

   The pumping of water from Chamber 4 to Chamber 5 may also cause a decreased head and water elevation in Chamber 3, upstream of Chamber 4.

2. The outfall pipes from DMH 13.4 are continuously filled with water as the water level in DMH 13.4 is always above the upper elevation of the outfall pipes. As a result, a "bottleneck" of the water discharging from DMH 13.4 may be causing a slight increase in water elevation in DMH 13.4.

3. Though unlikely, a field reading error of the tape is possible at one or more locations.

Since flow is monitored at the coffer dam (as described in Response Item #1), the Prison Point pumps will be taken offline in the near future. It is anticipated that the cessation of pumping from Chamber 4 to Chamber 5 will eliminate this potential cause for a slightly increased head and water elevation in DMH 13.4. As a result, it is assumed that the water elevations at the above locations would tend to equilibrate, decreasing the potential for reverse directional flow from DMH 13.4.

The water elevation measured at an additional sampling location, the Upstream to Prison Point Chamber 2 Manhole (4.65'), was significantly higher than the water elevations measured at the other sampling locations described above. This manhole is located between Prison Point Chambers 1 and 2 and was constructed to replace a section of collapsed pipe that failed at the time of the cofferdam installation. The unusually high water elevation measured in the "Upstream to Prison Point Chamber 2 Manhole" is likely related to groundwater infiltration. The GLX project team reported that the drainage pipes leading into and out of Chamber 1 are severely corroded and likely receive significant groundwater seepage. Furthermore, the Malcolm Pirnie Area Drainage Study (2011) indicates that the walls and floor of Chamber 1 are not water tight and also allow for groundwater infiltration. As a result, it is assumed that groundwater infiltration into Chamber 1 causes an elevated water level in the "Upstream to Prison Point Chamber 2 Manhole". The survey results do not indicate reverse directional flow from the Prison Point Oil Trap Chamber 2 into this upstream manhole.

Request No. 6: Depths of each monitoring location described in #2a through #2f relative to a single appropriate reference elevation, e.g. NGVD29.

Response No. 6: An elevation and coordinates survey of the monitoring locations (described in Items 9-12, below) was conducted during the May 17, 2017 Biweekly sampling round. The results are attached (Item 6 Monitoring Locations CRMF Table 1 Survey Gauging Results):

Refer to Item 6 in Office 365, MBTA_CRMF_ 308.

Request No. 7: Copies of legal agreements or, if not available, other information specifying dates for rerouting of non-MBTA CRMF flows to or away from the discharge to the Unnamed Tributary, e.g. NorthPoint.

Response No. 7: Please find attached a letter to the City of Somerville, dated November 17, 2016 describing the essential terms of an Agreement between the City of Somerville and the MBTA pertaining to the City's use of drainage to be constructed by the MBTA as part of the Green Line Extension Project. When the Agreement with the City is finalized, the MBTA will provide a copy to the EPA.

The MBTA contacted DW NP Property LLC/CJUFIII/NorthPoint on March 31, 2017 regarding this information request. NorthPoint responded directly to EPA by Memo dated May 24, 2017 (attached). After reviewing the memo, the MBTA contacted NorthPoint requesting the date when the work will occur and a sampling location to sample current discharge, NorthPoint did not respond. Attached is the Easement Agreement (Drainage Infrastructure) between the MBTA and CJUFIII NorthPoint, dated May 12, 2015.

Attached are information and deeds related to 200 Inner Belt Road, Somerville, MA and the drainage rights associated with that property.

Refer to Item 7 in Office 365, MBTA_CRMF_308 for all Legal Agreements.

Request No. 8: An evaluation of Best Management Practices (BMPs) to reduce or eliminate pollutants that discharge to the Unnamed Tributary via Outfall 001, including the following practices:

a. *The diversion of "dragout" water, or process water not covered by sewer use permit #2010200, to the sewer*

Response No. 8a: The CRMF train wash infrastructure was constructed to allow final rinse water collected in steel drip pans to flow to the West Side drainage system into the Fitchburg Main Line (FML) via DMH6 (see description below). The

train wash process was evaluated qualitatively to understand the opportunities for diverting and or redirecting the potable rinse dragout water not covered by the MWRA Sewer Use Permit #2010200. However, after review of the current operating practices and infrastructure, it was determined that the existing train wash infrastructure does not allow for changes to divert and or redirect the flow of dragout water resulting from the train wash activities before reaching the drip pans nor once collected in the drip pans. Although it is impractical to divert and or redirect the dragout water, the description below of the train wash system and processes in place serve to provide an overview of the existing controls and best management practices to minimize the volume of dragout water generated from train wash activities.

The CRMF is equipped with three (3) train wash tracks which clean the exterior of locomotives and coaches exiting the Service and Inspection tracks to the west. Train wash tracks are identified from the south to the north as Track R1, R2, and R3. Indoors, each train wash track is equipped with the following 'stations':

a) Pre-wet arch
b) Detergent/chemical arch
c) Pre-high pressure spinner arch
d) Ten-brush tower
e) Final high pressure spinner arch
f) Final rinse arch, and
g) Air stripper

Inside of the building, train wash process water is drained into a reclaim pit. Process water in the reclaim pit is recycled in the train wash for approximately six (6) weeks, after which train wash process water is pumped to the on-site waste water pre-treatment plant, and discharged under MWRA Sewer Use Permit #20102003.

Car sets exit the train wash to the west. Outside of the train wash, rinse water that drips off cars sets is known as dragout water. Dragout water collects in steel rinse water drip pans on tracks R1, R2, and R3. Dye tracer tests conducted in April of 2017 confirmed that the rinse water drip pans drain into the FML drain line. Rinse water collected in drip pans flows to the FML drain line at DMH-6to the eventual outfall at Millers River.

Please note that the train wash rinse water drip pans are not used to layover or park locomotives or car sets. Locomotives and coaches only pass over the steel drip pans as car sets exit the train wash. The requirement to continually move car sets and locomotives through the Service and Inspection tracks does not allow for layover of locomotives at any time.

Locomotives driving through the train wash are limited to speeds less than 3 miles per hour (mph). The MBTA Commuter Rail Service Procedure Manual includes the operating rules for train speeds at the CRMF. The Commuter Rail Service Procedure Manual is compliant with Federal Railroad Administration (FRA) and the Northeast Operating Rules Advisory Committee (NORAC) operating regulations. Rule 98-Y3 indicates that "the wash facility system is designed to operate at a speed less than 3 mph, which must be maintained until the entire movement clears the facility".

Maintaining a constant speed of 3 mph through the train wash maximizes the effectiveness of the final rinse arch and air stripper. According to CRMF pipe fitters and design drawings for the train wash facility, the final rinse arch does not draw from the reclaim pit (recycled train wash process water). The final rinse arch is potable water. The air stripper station is equipped with car wash blowers on each side and above the track to help dry each train before exiting the building. The train wash is seasonal and only utilized when ambient temperature is sustained above freezing.

As reported in the Sewer Use Permit #20102003, the train wash potable rinse dragout water is estimated at a maximum quantity of 30 gallons per day (GPD) per train set for a total estimate of 600 GPD. However, based on information provided by facility personnel, the train wash activities consist on average of 13 to 14 train sets washed daily representing approximately 390 GPD of dragout water versus a maximum of 20 train sets at a rate of 600 GPD.

In addition to the information presented herein for the train wash operations and best management practices, it is estimated that the average volume of dragout water represents approximately 0.052% of the average daily stormwater flow (measured May 12 – 31, 2017) and 0.0078% of the maximum daily stormwater flow for the month of May (measured May 26, 2017). As a result it is anticipated that the total volume of dragout water from the train wash activities represents a de minimis quantity in comparison to the total flow measured at the Millers River cofferdam as represented below:

Average Daily Drag Out Water (gallons per day)	Average Daily Flow at Millers River Cofferdam May 12 - 31, 2017 (gallons per day)	Train Wash Dragout Water Percent Contribution	Maximum Daily Flow at Millers River Cofferdam May 26, 2017 (gallons per day)	Train Wash Dragout Water Percent Contribution
390	753,000	0.052%	4,970,000	0.0078%

b. prevention or reduction of commingling of contaminated groundwater with other flows discharging to the Unnamed Tributary

Response No. 8b: Under the future GLX construction, the drainage lines in the vicinity of contaminated groundwater from the 50 Tufts Street site in Somerville will be lined to minimize the infiltration of contaminated groundwater.

Once NorthPoint redirects their drainage away from the Prison Point Drainage Infrastructure, that infrastructure will be sealed off from the MBTA's stormwater collection and conveyance system, preventing or reducing contaminated groundwater from that area from entering the outfall system.

c. enhanced operation and maintenance of the three (3) oil/water separators at the CRMF

Response No. 8c: The CRMF property is equipped with three (3) Oil/Water Separators (OWS) to collect drainage from steel track pans which collect oil, grease, and other fluids leaked from locomotives which are being serviced, in transit or on layover. The CRMF oil/water separators are identified in the following table:

Oil/Water Separator	Total Volume (Maximum Capacity in Gallons)	Oil (Maximum Capacity in Gallons)
East Side (east of Locomotive Repair Shop)	8,000	1,000
West Side (west of Locomotive Repair Shop)	12,000	1,200
Yard 14	30,000	3,000

Each OWS at CRMF is inspected monthly. Monthly inspections involve a visual inspection of separators, vaults, and associated equipment. In addition, each OWS is gauged monthly for accumulated oil and sediment. Debris and/or trash observed during monthly inspections is removed immediately.

Track pan inspection and maintenance are a component of the Oil/Water Separator maintenance Best Management Practice (BMP). Track pans are visually inspected bimonthly (i.e. every two months) for structural conditions and any accumulation of oil or traction sand. Traction sand observed during a bimonthly inspection is removed and shipped for off-site disposal. Oil that has accumulated in the track pans is removed using absorbent pads and disposed of accordingly. Debris and/or trash observed in track pans is removed immediately.

Sampling and laboratory analysis of each OWS's effluent is completed monthly as part of the inspection routine. A grab sample of OWS water is collected from

approximately one foot beneath the liquid surface using a disposable bailer. Parameters analyzed monthly are: pH and oil and grease. The pH is measured in the field, using test strips or a meter, prior to filling laboratory preserved sample jar for oil and grease analysis. Oil and grease analysis is performed by an independent certified laboratory.

If accumulated oil in an OWS reaches a thickness of 6 inches or greater, skimming or pumping of oil is performed. Skimming of floating oil contained within the separators will be conducted as needed and or at minimum on a quarterly basis. Sludge/sediment removal from the OWS is required when sludge/sediment thickness is 6-inches or greater. Sludge/sediment is removed from each OWS by block surging with a vac-truck.

The Keolis environmental contractor performs immediate maintenance, adjustments or minor repairs based on the results of the inspections. Keolis maintains a repository of records containing inspections, cleaning logs, and manifests, amongst other records of maintenance.

d. collection system cleaning and maintenance

Response No. 8d: Catch basins are designed to trap sediment and other solids while directing stormwater flow to the final outfall. Catch basins at CRMF and T-Pad are inspected on a quarterly basis for build-up of debris or sediment.

Catch basins are cleaned annually to ensure proper drainage of storm water. Catch basin cleaning includes removing all water, oil, sludge, sediment, and any other material contained in the catch basin. Catch basins where oil has previously been observed are equipped with oil absorbent booms. Catch basins containing booms are inspected monthly, and absorbent booms are replaced as necessary. Keolis maintains a repository of catch basin inspection records, cleaning logs, manifests, and other records of maintenance.

Please note that as part of the prior Green Line Extension project construction work, substantial portions of the drain lines at CRMF and each of the three outfall pipes were cleaned of accumulated sediments.

e. catchbasin or pipe lining

Response No. 8e: Keolis does not exercise as part of the contractual requirements with MBTA pipe lining of catch basins or pipes at the CRMF. If required, catch basin or pipe lining would be conducted by a third-party contractor according to standard industry practices and under the direction of MBTA capital improvement program.

As noted above, certain drain lines and catch basins will be lined under the pending GLX construction work to reduce or eliminate the infiltration of contaminated groundwater into the drainage system leading to Outfall 001.

Please note that portions of MBTA's drain lines in the vicinity of the 50 Tufts Street groundwater contamination will be lined under the next phase of Green Line Extension project construction.

f. pipe replacement

Response No. 8f: Keolis does not execute replacement of infrastructure at CRMF unless required by MBTA and as such Keolis does not maintain a BMP for pipe replacements. Upgrades to drainage infrastructure are completed by third-party design engineering firms and contractors according to standard and accepted engineering practices as approved by MBTA.

Please note that portions of Somerville's catch basins and drain lines beneath Washington Street in the vicinity of the 50 Tufts Street groundwater contamination will be replaced under the next phase of Green Line Extension project construction.

g. camera investigations

Response No. 8g: Keolis does not conduct camera investigations and does not have a BMP for such work. If required, camera investigations are completed by a third-party contractor according to standard industry practices and under the direction of MBTA.

Request No. 9. Results from at least five (5) sampling events. Within a single sampling event, samples must be taken no more than six (6) hours apart at each location in #2a through #2f. Sampling events at all locations in #2a through #2f shall be conducted on the same day at approximately the same time, every two weeks, and until 5 samples at each location are collected. The intent is for both dry and wet weather flow to be characterized, and therefore a report of "no flow" is not a substitute for a sample. If field conditions do not allow for sampling (e.g. there is no flow), conditions must be explained in detail and recorded for the applicable report. The Prison Point Oil Trap must be sampled between chambers 1 and 4 and DMH 13.4 must be sampled from the downstream hatch. Samples shall be analyzed for priority pollutants in Attachment B of this letter, and pH, total suspended solids (TSS), total petroleum hydrocarbons (TPH), oil & grease, total phosphorus, E. Coli, and hexavalent chromium.

Response No. 9: Five Biweekly sampling events were conducted on March 22, April 5, April 19, May 5, and May 17. During each event, all samples were collected within the same 6-hour period. Samples were analyzed in accordance with the parameters listed in the 308 letter. Sampling locations for Biweekly events are identified as the following :

2a – Prison Point Oil Trap (or, OWS) Chamber 3
2b – Upstream Manhole to Prison Point Chamber 2 (for assumed NorthPoint flow)
2c – DMH 13 (southern manhole)
2d – Old Stone Culvert opening
2e – DMH 13.4 (Outfall 001) (downstream manhole of DMH 13.4)
2f – Ambient Unnamed Tributary (Millers River) downstream of containment booms and prior to confluence with the Charles River

Refer to Item 9-Biweekly Analytical Results in Office 365, MBTA_CRMF_308.

Request No. 10 Results from at least three (3) Whole Effluent Toxicity (WET) tests suites and associated analytical chemistry for:

a. *DMH13.4 and:*
b. *an ambient location.*
The ambient location is defined in #2f and shown in Attachment A. Both acute and chronic WET tests shall be performed for each freshwater species. Ceriodaphnia dubia and Pimephales promelas as part of each WET test suite. Please note that modified acute toxicity tests are no longer accepted as a substitute for chronic tests. Each WET sample shall be collected during a sampling event, where a sampling event is defined in #9. However, WET samples shall be collected during sampling events at least 28 days apart.

Response No.10: Three Monthly Whole Effluent Toxicity (WET) tests and associated analytical general chemistry were conducted at locations 2e and 2f. Because it involves sample collection using an automatic composite sampler over the course of six days, monthly WET sampling was conducted after the threat of freezing temperatures had passed. Samples were collected during the periods of April 2-7, April 30 – May 7, and June 2, 2017. Refer to Item -10 Whole Effluent Toxicity Results in Office 365, MBTA_CRMF_308.

For the Chronic WET test results for the May 28 to June 2 sampling event, it was noted by the Certifying Laboratory that in the 3rd round of WET Testing, "due to the low survival in both the test concentration that were mixed with river water and

the pure effluent concentration, it appears that toxicity may have been present in both the river water and the effluent." As a result, the CNOEC Pimephales (Fathead Minnow) - 7 day "chronic" data was not estimated due to toxicity of dilution water.

The receiving water sample for the 2e (DMH 13.4) location was collected from within the cofferdam at Millers River, and the receiving water sample for the 2f (Ambient Millers River) location was collected upstream of the Ambient location (and downstream of the containment booms). The coordinate locations are included in the table of coordinates of sample locations.

> *Request No. 11. Results from three (3) effluent samples for each of the three (3) oil/water separators on-site at the CRMF. Samples shall be collected and analyzed for oil & grease, total petroleum hydrocarbons (TPH), and benzene. Each oil/water separator sample shall be collected as part of a sampling event. However, oil/water separator effluent samples for each oil/water separator location shall be collected during sampling events at least 28 days apart.*

Response No. 11: Three samples from each of the three CRMF oil/water separators (East Side, West Side and Yard 14) were collected on April 5, May 2 and May 31, 2017. Samples were analyzed in accordance with the parameters listed in the 308 letter. Refer to Item 11 – Oil/Water Separators Analytical Results in Office 365, MBTA_CRMF_308.

> *Request No. 12. Results from three (3) representative samples of "dragout" water. Samples shall be collected and analyzed for total suspended solids (TSS), oil & grease, phenol, total phthalates, acrolein, benzene, zinc, lead, mercury, cadmium and hexavalent chromium. The rationale for samples being deemed representative of "dragout" water shall also be recorded and included with the reported results. If "dragout" water is indeed representative of train wash process water, "dragout" water samples must be collected while trains are being washed.*

Response No 12: Three samples of "dragout" water of train wash water in the exterior train water rinse water drip pans were collected on May 8, 10, and 12, 2017 and were analyzed in accordance with the parameters listed in the 308 letter. Samples were collected while trains were being washed. The following sampling procedure was used in order to collect representative samples of "dragout" water: Refer to Item 12 – Train Wash Analytical Results in Office 365, MBTA_CRMF_308.

During the sample collection period, car sets were only washed on Track R3; therefore, all train wash dragout water samples were collected at the rinse water drip pan on Track R3.

To collect dragout samples, six (6) plastic storage bins were placed on each side of the steel rinse water drip pan. Each storage bin was placed immediately adjacent to one another and positioned beneath the main drip line of the coaches and locomotives. The dimensions of a single storage bin used to collect dragout water is 26.5-inches long, 16-inches wide and 6.25-inches tall. After a full car set cleared the drip pan, drag out water collected in each storage bin was composited into a single bin to ensure sample representativeness, and sample bottles were promptly filled. Each sampling event yielded a total volume of approximately 6 liters of dragout water. Prior to and immediately after each sampling event each plastic storage bin wash thoroughly decontaminated with Alconox detergent and deionized water.

During the collection of train wash samples on May 8, 2017, the sample for total mercury was collected in an inappropriate container, and the laboratory could not perform analysis for mercury. An additional sample for total mercury was collected on May 17, 2017 to account for the missed analysis.

All documents referenced in each response have been uploaded into Office 365, MBTA_CRMF_308.

The attached MBTA response letter Index lists all documents referenced and uploaded.

If you have any questions or need additional information, please do not hesitate to contact me at jkearney@mbta.com or at 617-222-1592.

Sincerely,

Janis Kearney

Janis O. Kearney
Director of Environmental Compliance/
Assistant General Counsel I

Attachments

O:\EPA Information Request\Unnamed Tributary Info Request\MBTA response letter to EPA.docx

Information Request Pursuant to Section 308 of the Clean Water Act for the NPDES Permit MA 0003590 (MBTA Commuter Rail Maintenance Facility).

Index of Attachments

Item 1 Continuous Flow Measurements
- Flow Data in Excel Format

Item 2 Property Ownership and Watershed Contributors
- Property Ownership of Drainage to Outfall 001 Millers River
- Millers River Stormwater Sampling Locations dated 6-8-2017

Item 3 Process Flow Diagram
- CRMF Drainage Flowchart CDW dated 6-15-2017
- Process Flow Site Map with Flowmeter Locations

Item 6 Monitoring Locations CRMF Table 1 Survey Gauging Results dated 5-17-17

Item 7 Legal Agreements for Discharges
- 150-200 Inner Belt Rd Drainage Report – VHB Dated 5-2000
- 150-200 Inner Belt Rd Drainage Report Trans letter dated 5-23-2000
- 150-200 Inner Belt Rd Drainage Report - MBTA Approval Letter 6-21-2000
- 150-200 Inner Belt Rd Drainage Report- Discharge Monitoring and Reporting
- 150-200 Inner Belt Rd Drainage Report – Val Plans VS01-M05
- 150-200 Inner Belt Rd Drainage Report - Val Plans VS01-M11
- 150-200 Inner Belt Rd Drainage Report - Existing Drainage system 121-200IB
- 150-200 Inner Belt Rd Drainage Report – Response letter dated 11-4-2014
- 200 Inner Belt Road – New Drainage Connection Map dated 7-30-2014
- Beals & Thomas – NorthPoint NPDES information EPA Response 5-2017
- BM Deed Carthartes Release Deed dated 7-20-1999
- Easement Agreement – MBTA CJUFIII NorthPoint dated 5-12-2015
- GLX – Terms of Drainage Interconnection Agreement – MassDOT to City of Somerville dated 11-17-2016
- NorthRiver II LLC – Drainage Over MBTA dated 10-2014

Item 9 Biweekly Analytical Results (5 sampling events)
- Biweekly 3-22-17 event (pdf & Excel)
- Biweekly 4-5-17 event (pdf & Excel)
- Biweekly 4-19-17 event (pdf & Excel)
- Biweekly 5-3-17 event (pdf & Excel)
- Biweekly 5-17-17 event (pdf & Excel)
- Item 9 Biweekly (Excel summary)

Item 10 Whole Effluent Toxicity Results
- Tox 1 Genl Chem Day 1 4-3-17 (pdf & Excel)
- Tox 1 Genl Chem Day 2 4-5-17 (pdf & Excel)
- Tox 1 Genl Chem Day 3 4-7-17 (pdf & Excel)
- Tox 1 WET reports
- Tox 2 Genl Chem Day 1 5-1-17 (pdf & Excel)
- Tox 2 Genl Chem Day 2 5-3-17 (pdf & Excel)

Tox 2 Genl Chem Day 3 5-5-17 (pdf & Excel)
Tox 2 WET reports
Tox 3 Genl Chem Day 1 5-29-17 (pdf & Excel)
Tox 3 Genl Chem Day 2 5-31-17 (pdf & Excel)
Tox 3 Genl Chem Day 3 6-2-17 (pdf & Excel)
Tox 3 WET reports
Item 10 Whole Effluent Toxicity (Excel summary)

Item 11 Oil Water Separators Analytical Results
Item 11 Oil Water Separators (Excel summary)
OWS Monthly 1 4-5-17 event (pdf & Excel)
OWS Monthly 2 5-2-17 event (pdf & Excel)
OWS Monthly 3 5-31-17 event (pdf & Excel)

Item 12 Train Wash Analytical Results
2017-05-08, Train Wash Sample #1, L1714753 (pdf & Excel)
2017-05-08, Train Wash Sample Blanks, L1714822 (pdf & Excel)
2017-05-10, Train Wash Sample #2, L1715142 (pdf & Excel)
2017-05-10 Train Wash Sample Blanks, Hg and Cr, L1715138 (pdf & Excel)
2017-05-12, Train Wash Sample #3, L1715594 (pdf & Excel)
2017-05-18, Train Wash Sample #1 Hg, L1716471 (pdf & Excel)
Item 12 Train Wash (Excel summary)

Items 9-12 Table 3 - Precipitation Summary Prior to Sampling Dates