FINAL FACT SHEET

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 3
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

NPDES Permit No. DC0000175

The United States Environmental Protection Agency (EPA) Proposes the Reissuance of a National Pollutant Discharge Elimination System (NPDES) Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) For:

Bardon, Inc (d/b/a Aggregate Industries, aka Super Concrete)
6401 Golden Triangle Drive, Suite 400
Greenbelt, MD 20770

FACILITY LOCATION:
Fort Totten Ready-Mix Concrete Facility
5001 Fort Totten Drive, NE
Washington, DC 20011

RECEIVING WATER:
Northwest Branch of the Anacostia River

Notice of Permit Reissuance

The U.S. Environmental Protection Agency, Region 3 (EPA) has made a decision to reissue the NPDES permit to Bardon, Inc. for the Fort Totten Ready-Mix Concrete facility subject to certain effluent discharge limitations, monitoring requirements, and other terms and conditions identified in the permit. The permit requirements are based on Section 402 of the Clean Water Act (33 U.S.C. 1342), and NPDES regulations found at 40 CFR Parts 122, 124, 125, 127, and 131.

EPA published a draft permit for this facility for public notice and comment on April 24, 2020 and accepted comments until May 26, 2020 because May 24, 2020 fell on a weekend and May 25, 2020 was a holiday. EPA also notified persons and organizations in the District of Columbia who are known to be interested in NPDES permitting matters. EPA received no public comments during or after the public comment period.

In accordance with Clean Water Act (CWA) Section 401(a)(1), EPA requested certification from the District of Columbia that the NPDES permit (DC0000175) will comply with applicable water quality standards. On May 21, 2020 the District of Columbia provided to EPA a CWA Section 401 Certification of NPDES Permit No. DC0000175 and is included in the permit's administrative record. The requirements contained in the District's 401 certification are incorporated into the permit in Part III Section D. Additionally, in accordance with CWA 401(a)(2), EPA notified both Maryland and Virginia of this NPDES permitted discharge, as the water quality of those states could potentially be impacted by this discharge. Neither Maryland nor Virginia responded to EPA's notification letters, therefore, EPA assumes there is no objection to the issuance of this permit.

For additional information, please email the permit writer, Carissa Moncavage at moncavage.carissa@epa.gov or call 215-814-5798.

Table of Contents

1.0 Facility Summary

1.1 Site Description

The Fort Totten Ready-Mix Concrete Facility is a ready-mix concrete (RMC) production and maintenance facility located on twelve (12) acres in Washington, DC. According to the permittee's Storm Water Pollution Prevention Plan (SWPPP) dated December 2017, the facility is bounded on the north by a wooded area, on the east by the D.C. Metro Red Line, on the south by Fort Totten Transfer Station and on the west by Fort Totten Park, which is managed by the National Park Service. The facility operates under the Standard Industry Classification (SIC) code of 3273, Ready Mix Concrete. The site has several structures, including the office, scales, aggregate hoppers and material storage area, a RMC dry batch plant, a RMC wet batch plant, RMC maintenance shops, truck parking, fueling area, and various chemical and petroleum storage structures, truck washing and waste concrete storage yard, truck rinse area, two water treatment facilities, and underground and above ground cisterns. The site has one drainage area that encompasses the entire 12 acre site where stormwater runoff is collected and drains to Settling Basins 1 and 2 and/or continues to the southeastern corner of the property where it is collected in an underground cistern. Water collected in the underground cistern is recirculated back into Settling Basin 2 where it enters the water treatment cycle. The water treatment cycle consists of six settling bays and a pH adjustment.

Water from Settling Basin 1 is recycled by the facility and used as grey water during their processes. Runoff from the process and truck rinsing areas drains to Settling Basin 2. Waste streams from Settling Basin 2 include process water and storm water runoff from stockpiles, runoff from production areas, truck wash and facility sweeping, and runoff from paved areas. All the stormwater collected on site is either reused as grey water or pumped to Settling Basin 2 where it goes through a 6-bay settling process and a pH adjustment before discharging to Outfall 004.

The following is a list of changes from the previous permit:

1. Added Whole Effluent Toxicity (WET) effluent limits and monitoring requirements.
2. Implemented the Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) Total Maximum Daily Loads (TMDLs) for the Anacostia River by incorporating permit limits consistent with the assumptions and requirements of the applicable wasteload allocations per 40 C.F.R. § 122.44(d)(1)(vii)(B).
3. Added detailed reporting requirements to eliminate confusion regarding how data should be reported on the Discharge Monitoring Reports (DMRs).
4. Added requirements to submit sampling data for TMDL parameters.
5. Added requirements to submit additional information with the next permit application.

Pollutant	**Previous Permit**				**Current Permit**			
	lbs/day		mg/L		lbs/day		mg/L	
	Ave monthly	Daily Max	Ave monthly	Daily Max	Ave monthly	Daily Max	Ave monthly	Daily Max
Total Suspended Solids (TSS)	33	66	23.4	46.8	N/A	N/A	23.4	46.8
Oil & Grease	N/A		10	15	N/A		10	15
Biological Oxygen Demand (BOD)	Report		Report		N/A		15	30
Whole Effluent Toxicity (WET)	None		None		N/A		1.1 TU_c*	1.6 TU_c*
Total Nitrogen (TN)	None		None		Monitor & Report Only		Monitor & Report Only	
Total Phosphorus (TP)	None		None		Monitor & Report Only		Monitor & Report Only	

*TU_c = Toxicity Unit, chronic

List of current and previous outfalls

Outfall	Status
001	Outfall permanently closed
002	Outfall permanently closed
003	Removed from permit in 1996
004	Active Outfall
005	Outfall permanently closed

1.2 Discharge Description

The discharge consists of process wastewater and stormwater runoff collected on site that discharges via Outfall 004. Outfall 004 discharges to a concrete-lined ditch located to the east of the facility which drains into an unnamed tributary of the Northwest Branch of the Anacostia River. The discharge from this facility is considered a batch discharge since it only occurs when Settling Basin 2 reaches its maximum capacity.

1.3 Water Treatment

The site is equipped with two settling basins, Settling Basin 1 and Settling Basin 2. Settling Basin 2 consists of six settling bays that allow for additional settling of solids to enable the water to be recycled for production. There are wash pits that collect truck washing runoff. When trucks use the wash water at the wash pit, the wash water goes through a gravel filter and enters the first of the six settling bays in Settling Basin 2.

A pH and solids filtration water treatment system is located adjacent to Settling Basin 2. The treatment system has an inline pH meter and an inline TSS meter as well as a diverter valve that will recirculate water back through the system for more treatment if the pH and TSS values are above the permitted limits.

1.4 Compliance History

A report pulled from EPA's Enforcement and Compliance History Online (ECHO) website shows no outstanding violations. The most recent inspection report from August 2019 shows no single event violations were issued.

2.0 Special Conditions in the Previous Permit

The previous permit contained a requirement to conduct Whole Effluent Toxicity (WET) testing to determine whether the discharge causes or has the potential to cause or contribute to an excursion above the narrative water quality criteria. The permittee was required to conduct both acute and chronic WET testing within the first year of the permit reissuance. These results were submitted to EPA to be evaluated with this permit reissuance. The WET results were evaluated and there is reasonable potential for this discharge to cause or contribute to an exceedance of water quality criteria. This is discussed in more detail in the Reasonable Potential Analysis Section 8.0 below.

3.0 Special conditions in the Current Permit

Part III.B.1 of the permit requires the permittee to submit sampling data for certain pollutants listed in Total Maximum Daily Loads (TMDLs) for metals and organics developed for the Anacostia River. The purpose of this new permit requirement is to ensure the permit is consistent with the assumptions and requirements of the Anacostia River TMDLs for metals and organics. The permittee does not currently have any discharge data on these TMDL pollutants and, therefore, EPA could not verify that the discharge is not adding to the loadings in the Anacostia River. Similarly, Part III.B.2 of the permit requires the permittee to take action if the sampling results show concentrations at or above the Districts water quality standard for that pollutant. Part III.B.2 of the permit includes a reopener clause to allow EPA to reopen the permit should monitoring data demonstrate that additional water quality-based effluent limitations are needed. In addition, the permittee may request that EPA modify the permit in the event that EPA's approval of the TMDLs is vacated and/or the TMDLs are withdrawn, replaced or superseded.

Part III.B.3 of the permit requires the permittee to submit WET and TMDL data at the next permit reissuance, i.e. with the application. The purpose of this special condition is to ensure effluent variability is captured because the nature of the discharge can vary with each type of product being produced.

Part III.B.4 of the permit gives the permittee the option to submit a water quality modeling study to quantify the dilution of the discharge to the receiving stream. The purpose of the study is to evaluate the discharge based on the results of the site specific study. The permit may be reopened and new limits calculated based on the results of the study. If this is not completed before the 24 month timeframe specified in the permit, the limits in Part I.C. go into effect.

Part III.B.5 of the permit requires the permittee to notify EPA prior to making changes to their treatment system.

4.0 Receiving Water Characterization

4.1 303(d) Status of Northwest Branch of the Anacostia River

The permittee discharges to an unnamed tributary to the Northwest Branch of the Anacostia River. Based on the District's 2018 Integrated Report, the Northwest Branch of the Anacostia River is not on the 303(d) list but has TMDLs for various pollutants. The applicable TMDLs are discussed in Section 5.0 below.

Outfall No.	Latitude	Longitude	Receiving Water	Designated Uses*
004	38º 56' 58" N	77º 00' 05" W	Northwest Branch of the Anacostia River	A, B, C, D, E

***Classifications of the District's Waters, Defined:**

Class A – Primary Contact Recreation
Class B – Secondary Contact Recreation
Class C – Protection and propagation fish, shellfish and wildlife
Class D – Protection of human health related to consumption of fish and shellfish
Class E – Navigation

5.0 Total Maximum Daily Loads (TMDLs)

Federal regulations at 40 C.F.R. § 122.44(d)(1)(vii)(B) require that NPDES permits be consistent with assumptions and requirements of applicable wasteload allocations (WLAs) in TMDLs. All WLAs assigned to this facility were incorporated into the permit as effluent limits as explained below.

TMDLs with WLAs applicable to this discharge:

Anacostia Watershed TMDLs	Chesapeake Bay TMDLs (Established 2010)
Trash, approved 2010	Total Nitrogen (TN), Total Phosphorus (TP), TSS that addresses Dissolved Oxygen (DO), and Chlorophyll *a* impairments in the Anacostia River
Total Suspended Solids (TSS), approved 2007	
Nutrients/Biological Oxygen Demand (BOD), approved 2008	
Metals and Organics, approved 2003	

5.1 Anacostia River Basin TMDL for Sediment/TSS (approved July 24, 2007)

The TMDL for sediment/TSS includes loading caps that constitute an 85% overall reduction of sediment/TSS from the baseline loads determined for the TMDL analysis period (1995-1997). The TMDL addresses discharges from Municipal Separate Storm Sewer Systems (MS4's), nonpoint sources, Combined Sewer Overflow Systems (CSO's), and industrial sources or "Other Point Sources." This permit authorizes an industrial discharge and falls under the "Other Point Source" category of the TMDL. The TMDL states the "other point sources" like Super Concrete are minor contributors of sediment loads to the Anacostia River.

When analyzing TSS contributions from the "Other Point Sources" category, the TMDL held each industrial source constant at its existing technology-based permit limit for every day of the three-year simulation period, which was 1995-1997. During this time, Outfall 004 had a maximum monthly permit limit of 35.6 mg/L for TSS which is represented in Table 3 of the TMDL. The TMDL calculated the loads using the long term average concentrations from each industrial source. The permit contains concentration based effluent limits based on the assumptions of the TMDL. The TMDL used these long-term average concentrations to determine the seasonal wasteload allocations, therefore, incorporating these concentrations into the permit is consistent with the assumptions and requirements of the TMDL. It should be noted that although the permitted concentration was 35.6 mg/L at the time the TSS contributions were analyzed for the TMDL, this concentration was not imposed in the permit because it is less stringent than the TSS limit of 23.4 mg/L needed to be consistent with the Chesapeake Bay TMDL. This is discussed in more detail in section 5.3 below. Based on DMRs, EPA expects this facility to meet these limits.

5.2 Anacostia River Basin TMDL for Nutrients/BOD (approved June 5, 2008)

The Anacostia River Basin TMDL for Nutrients/BOD, approved June 5, 2008, assigns this facility a BOD WLA of 1,188 lbs/year. This WLA was calculated using a maximum reported flow and an assumed maximum concentration of 30 mg/L. A daily maximum concentration of 30 mg/L and average

monthly concentration of 15 mg/L was imposed in the permit to be consistent with the assumptions of the TMDL. Based on DMR data, EPA expects this facility to meet these BOD limits.

The Anacostia River Basin TMDL for Nutrients/BOD does not assign Total Nitrogen (TN) and Total Phosphorus (TP) loads to this facility.

5.3 Chesapeake Bay TMDLs (established 2010)

The Chesapeake Bay TMDL ("Bay TMDL) categorizes Super Concrete as a non-significant industrial discharger and includes Super Concrete in the aggregate wasteload allocations for TN, TP, and Total Suspended Solids (TSS). Section 8.3.3 of the Bay TMDL acknowledges that, due to the lack of information from nonsignificant discharges included in the aggregate, information on these discharges may be based on default assumptions regarding flow and concentrations. The TMDL expects these facilities to provide, at minimum, TN, TP, and TSS monitoring data to verify the loads do not contribute to any exceedance of the individual or aggregate WLA.

5.3.1 Chesapeake Bay TMDLs for TN and TP

This facility is categorized as a non-significant discharger of TN and TP and is included in Bay TMDL's aggregate wasteload allocation for these pollutants. The permittee has not monitored for TN and TP so there are no discharge data for these two parameters to verify this assumption. Table 3-7 of the District's Phase III Watershed Implementation Plan (WIP) lists this facility as discharging average annual loads of TN and TP. Since there are no data for TN and TP for this discharge it is likely these loads are estimated based on default concentrations, as indicated in section 4.5.2 of the TMDL. Table 6-5 of the Phase III WIP has TN and TP planning goals for this facility that are based on the estimated loads. Because this facility is not expected to be a significant source of TN and TP, the permit requires monitoring for TN and TP for two years. At that time, EPA may reopen the permit to include TN and/or TP limits based upon an evaluation of the monitoring data.

5.3.2 Chesapeake Bay TMDL for TSS

Section 4.5.2 of the Bay TMDL states that discharges from industrial facilities represent a *de minimis* source of sediment. The aggregate WLA for sediment was established based on the TSS effluent limits for each facility included in the aggregate. At the time the Bay TMDL was approved, this facility had an existing average monthly and daily maximum TSS effluent limit of 23.4 mg/L and 46.8, respectively. The permittee has reported an average TSS concentration of 9 mg/L over the last permit term and is expected to meet these limits at permit reissuance.

5.4 TMDL of Trash for the Anacostia River Watershed (approved September 21, 2010)

The trash TMDL identifies both point and non-point sources of trash in the Anacostia River. The point sources identified in the TMDL are primarily from Multiple Separate Storm Sewer Systems (MS4) and Combined Sewer Systems (CSS). The TMDL has an "Other Facilities" category which addresses industrial facilities such as Bardon, Inc, and includes these facilities in the aggregate.[1] Trash is not a pollutant of concern for this facility, however, the permittee has trash cans located throughout the property including outside the office area, maintenance shop, and other areas where trash may

[1] See section 3.1 of the TMDL of Trash for the Anacostia River Watershed

accumulate. The positioning of the trash cans reduces the likelihood that trash will be discarded into the Anacostia river.

5.5 Anacostia River Basin TMDL for Arsenic, Copper, Lead, and Zinc (approved August 2003)

The TMDL for arsenic represents an 85% reduction of loads for stormwater discharges (Section 6.1.3 of the TMDL). The permittee was not required to monitor for arsenic, therefore, no discharge data is available for this pollutant. While arsenic is not expected to be a pollutant of concern for this discharge, the permittee is required to submit sampling data for the TMDL parameters, which are listed in Part III.B.1 of the permit, to determine if there is a presence of these pollutants in the discharge. If arsenic is detected at or above the District's Water Quality Criteria, a special condition in Part III.B.2 of the permit requires the permittee to take measures to determine the source of arsenic and enact controls to reduce arsenic loadings to the Anacostia River. This approach is consistent with the TMDL for aresenic (Section 8.2.4 of the TMDL). Part III.B.2 of the permit also includes a reopener clause to allow EPA to reopen the permit should monitoring data demonstrate that additional water quality-based effluent limitations are needed. In addition, the permittee may seek modification of the permit in the event that EPA's approval of the TMDL is vacated and/or the TMDL is withdrawn, replaced or superseded.

The TMDLs for copper, lead, and zinc represent a 1% reduction of loads for stormwater discharges (Section 6.2.3 of the TMDL report) and allow reductions for NPDES point sources to be determined on a facility-by-facility basis (Section 8.2.4 of the TMDL report). In most cases for storm water discharges, reductions would be achieved through Best Management Practices (BMPs). While these pollutants are not expected to be pollutants of concern for this discharge, the permittee is required to submit sampling data for the TMDL parameters, which are listed in Part III.B.1 of the permit, to determine if there is a presence of these pollutants in the discharge. If there are detectable levels at or above the District's Water Quality Criteria, a special condition in Part III.B.2 of the permit requires the permittee to take measures to determine the sources and enact controls to reduce loadings to the Anacostia River. This approach is consistent with the TMDL (Section 8.2.4 of the TMDL report). Part III.B.3 of the permit also includes a reopener clause to allow EPA to reopen the permit should monitoring data demonstrate that additional water quality-based effluent limitations are needed. In addition, the permittee may request that EPA modify the permit in the event that EPA's approval of the TMDLs is vacated and/or the TMDLs are withdrawn, replaced or superseded.

5.6 Anacostia River Basin TMDLs for Chlordane, DDD[2], DDE[2], DDT[2], Dieldrin, Heptachlor Epoxide, and Polyaromatic Hydrocarbons (PAHs) (approved 2003)

The TMDLs represent reductions for these pollutants for stormwater discharges. The TMDLs state that point source facilities that currently have no monitoring for certain TMDL parameters will not necessarily be considered a source. The permittee was not required to monitor for these pollutants, therefore, no discharge data are available. While these pollutants are not expected to be pollutants of concern for this discharge, the permittee is required to submit sampling data for the TMDL parameters, which are listed in Part III.B.1 of the permit, to determine if there is a presence of these pollutants in the discharge. If there are detectable levels at or above the District's Water Quality Criteria, a special condition in Part III.B.2 of the permit requires the permittee to take measures to determine the sources and enact controls to reduce loadings to the Anacostia River. This approach is consistent with the TMDLs (Section 8.2.4 of the TMDL report). Part III.B.2 of the permit also includes a reopener clause

[2] DDD=dichlorodiphenyldichloroethane; DDE=dichlorodiphenyldichloroethylene; DDT=dichlorodiphenyltrichloroethane

to allow EPA to reopen the permit should monitoring data demonstrate that additional water quality-based effluent limitations are needed. In addition, the permittee may request that EPA modify the permit in the event that EPA's approval of the TMDLs is vacated and/or the TMDLs are withdrawn, replaced or superseded.

6.0 Basis for Effluent Limitations

In general, the CWA requires compliance with all applicable statutory and regulatory requirements, including effluent limitations based on the capabilities of technologies available to control pollutants (i.e., technology-based effluent limits) and limitations that are protective of the water quality standards of the receiving water (i.e., water quality-based effluent limits).

When developing the proposed effluent limitations and monitoring requirements EPA considered its own effluent limitation guidelines (ELGs) currently in effect for the cement manufacturing sector at 40 C.F.R. Part 411 Subpart C, *Materials Storage Piles Runoff Subcategory*, the applicable TMDLs, and the District's Water Quality Standards (WQS). In each case, the permit effluent limitations were based on the more stringent of the three.

The final effluent limitations will ensure that all applicable WQS are achieved.

Basis for Effluent Limitations

Source	TSS	BOD	pH	WET	Total Nitrogen	Total Phosphorus
ELG 40 CFR Part 411 Subpart C	Not to exceed 50 mg/L	N/A	6.0 to 9.0	N/A	N/A	N/A
DC WQS	Based on water clarity criteria[3]	Narrative	6.0 to 8.5	Narrative	Narrative	Narrative
TMDL WLA	23.4 mg/L	30 mg/L	N/A	N/A	N/A	N/A
Most Stringent	TMDL WLA	TMDL WLA	DC WQS	DC WQS	TMDL WLA	TMDL WLA

7.0 Water Quality Based Effluent Limitations (WQBELs)

40 C.F.R. § 122.44(d)(1)(i) requires limitations to be established in permits to control all pollutants or pollutant parameters that are or may be discharged at a level that *cause*, have the *reasonable potential (RP) to cause*, or *contribute* to an excursion above any state Water Quality Standard (WQS), including state narrative water quality criteria. The WQBELs in this permit will be as stringent as necessary to ensure that the designated uses of the Anacostia River are protected, maintained, and/or attained. EPA assessed the reasonable potential (RP) for the discharge from this facility to cause, have the RP to cause, or contribute to an exceedance of the District's applicable WQS. EPA used the *Technical Support Document for Water Quality-based Toxics Control* (TSD) approach to conduct that analysis.

[3] The District does not have a numeric water quality standard for TSS. The Anacostia TMDL for TSS was developed based on attainment of DC's numeric water clarity criterion which is measured by Secchi Depth. The Anacostia River TMDL for TSS assumes if the WLA's are met, then DC's water clarity criterion is also met.

7.1 WQBELs based on D.C. Water Quality Criteria (WQC)

7.1.1 Oil & Grease

The Oil & Grease effluent limits in the permit are WQBELs based on the District's numeric WQS for Oil and Grease[4]. The WQBEL for Oil & Grease is 10 mg/L as specified in Section 21-1104.8 of the District of Columbia's Water Quality Standards Regulations.

7.1.2 pH

The pH effluent limits in the permit are WQBELs based on the District's numeric WQS for pH. The WQBEL for pH is 6.0 to 8.5 as specified in Section 21-1104.8 of the District of Columbia's Water Quality Standards Regulations.

7.1.3 Whole Effluent Toxicity

The WQBELs for whole effluent toxicity are based on EPA's interpretation of the District's narrative WQC found in Section 21-1104 of the District of Columbia's Water Quality Standards Regulations.

7.2 WQBELs based on TMDLs

7.2.1 BOD, TN, TP, TSS

As discussed in section 5.0 above, the BOD, TSS TN, and TP WQBELs are consistent with the assumptions of the Anacostia River Basin TMDL for Nutrients/BOD.

8.0 Reasonable Potential Analysis

A Reasonable Potential (RP) analysis was conducted for each parameter of concern to determine if the discharge shows the potential to cause or contribute to an exceedance of in-stream water quality criteria. To conduct that analysis, EPA evaluated all data collected over the last permit term, which includes data reported on the permittee's DMRs, application data, and additional data submitted to EPA over the last permit term. 40 C.F.R § 122.44(d)(1)(iii) requires effluent limitations be established in permits when it is determined that a discharge will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including narrative criteria. Procedures in the TSD were used in the RP analysis.

8.1 Parameters of Concern

The permittee has one outfall, Outfall 004. The parameters of concern for this facility are TSS, Oil & Grease, pH, BOD, and WET. A parameter of concern is a pollutant with quantifiable values present in the effluent as reported to EPA. A parameter is considered a candidate for completing the RP analysis when the reported quantifiable values are at or above water quality criteria after accounting for variability.

[4] The reasonable potential analysis for Oil & Grease showed no potential for Oil & Grease to cause or contribute to an excursion of DC's WQS (discussed in more detail in section 8.0), however, because truck washing, truck rinsing, and truck maintenance occurs on the site, Oil & Grease continues to be a pollutant of concern for this discharge. Therefore, the permit limits for Oil & Grease will remain in the permit.

8.2 Using the TSD approach, the following is a description of the 5 steps used to conduct the RP analysis at Outfall 004.

1) Determine the total number of effluent data values for the pollutant of interest (n) and identify the highest value of the dataset for that parameter.
2) Determine the coefficient of variation (CV) of the dataset. The CV is equal to the standard of deviation divided by the long-term average. The default CV for fewer than 10 data values is 0.6, as specified in Box 3-2 of the TSD.
3) Determine the appropriate confidence level for the RP analysis. For this permit, EPA used the 99th confidence level, recommended by the TSD in section 5.5.4.
4) Determine the RP multiplier, using Table 3-1 of the TSD. If (n) is greater than 20, the multiplier was calculated per section 3.3.2 of the TSD. Then multiply the highest value from the data set by the RP multiplier. Use this value with the appropriate dilution to project a maximum receiving water concentration (MRWC).

Before projecting the MRWC, EPA calculates an adjusted effluent concentration (AEC) to determine if the pollutant of concern is a candidate for completing a RP analysis. If the pollutant does not exceed the water quality criterion (WQC) after applying the multiplying factor to the highest effluent concentration, then that pollutant does not continue with the RP analysis to completion. The AEC is calculated by multiplying the highest effluent concentration (HEC) by the reasonable potential multiplier (RPM) which is the first part in Step 4 above. If the AEC > WQC then the pollutant should continue with the RP analysis and the projected MRWC is calculated which is in the second part of Step 4.

TSD Steps 1-4

Outfall 004							
Parameter of Concern	**# of Samples**	**Highest Value**	**CV**	**RP Multiplier**	**Adjusted Effluent Concentration**	**WQC**	**Continue with RP?**
Total Suspended Solids (TSS)	59	66.4 mg/L	1.1	2.44	159.15 mg/L	23.4 mg/L[5] (TMDL WLA)	Yes
Oil & Grease	55	2.7 mg/L	0.07	1.07	2.88 mg/L	10 mg/L	No
pH	59	Max: 8.3 Min: 6.0	N/A	NA	N/A	6.0 – 8.5	No
Biological Oxygen Demand (BOD)	58	120 mg/L	0.9	2.11	252.82 mg/L	30.0 mg/L[5] (TMDLWLA)	Yes
Whole Effluent Toxicity acute (TU_a)	1	12.99 TU_a	0.6	13.2	171.47	0.3 TU_a	Yes
Whole Effluent Toxicity chronic (TU_c)	1	8.00 TU_c	0.6	13.2	105.60	1.0 TU_c	Yes

[5] This concentration is based on the assumption of the Anacostia River Basin TMDL for this pollutant.

Step 4, continued. Calculate the MRWC:

MRWC = ((AEC – IBC/DF), where

AEC – Adjusted Effluent Concentration
IBC – Instream Background Concentration
DF – Dilution Factor – see calculation section 8.3 below

5) Compare the projected MRWC to the applicable WQC. EPA finds reasonable potential when the projected MRWC is greater than the WQC:

TSD Step 5, Summary Table.

Parameter of Concern	Adjusted Effluent Concentration	Instream Background Concentration	Dilution Factor	MRWC	WQC	RP?
Total Suspended Solids (TSS)	159.15 mg/L	N/A	5.7	27.79 mg/L	23.4 mg/L (TMDL)	Yes
Biological Oxygen Demand (BOD)	252.82 mg/L	N/A	5.7	44.14 mg/L	30 mg/L (TMDL)	Yes
Whole Effluent Toxicity acute (TU_a)	171.47 TU_a	N/A	5.7	29.94	0.3 TU_a	Yes
Whole Effluent Toxicity chronic (TU_c)	105.60 TU_c	N/A	5.7	18.44	1.00 TU_c	Yes

8.3 Dilution Factor Calculation:

A calculated dilution factor of 5.7 was applied to this discharge based on the default assumption of complete mixing of the effluent with the receiving water. The dilution factor affects the outcome of the RP analysis and calculation of WQBELs. EPA's assumption of complete mixing is only applied to the WQBELs[6] in the permit for a 24 month term. Within this time, the permittee has the option of submitting a water quality modeling study to provide site specific information on how the effluent mixes with the receiving stream. This information can be used to re-evaluate the discharge and re-calculate the WQBELs using the results from the site specific water modeling study. The effluent limits in Part I.C will go into effect after 24 months should the permittee choose not to conduct a site specific modeling study of their discharge.

The dilution factor was calculated based on the discharge flow and the 7Q10 stream flow of the Anacostia River. EPA followed a conservative approach to the calculation by using 1/3 of the 7Q10 flow of the Anacostia River[7]. The USGS calculated the 7Q10 of the Anacostia River to be 14 cfs[8].

[6] Not applicable to the WQBELs that are based on the assumptions of their respective TMDLs.
[7] This approach was based on Chapter 21 section 1105.7(f) of the DC WQS regulations which does not allow a discharge's mixing zone to occupy more than one third (1/3) of the width of the waterway.
[8] cfs= cubic feet per second. The 7Q10 flow was calculated manually by a hydrologist at USGS Maryland-Delaware-District of Columbia Water Science Center in Baltimore, Maryland. This can be found in the permit's Administrative Record.

Therefore, 14 cfs x 33% = 4.67 cfs

Dilution Factor Calculation is:

(Max effluent flow + stream flow) / Max effluent flow
DF = 0.99 cfs + 4.67 cfs / 0.99 cfs = **5.7**

8.4 Developing a Water-Quality Based Effluent Limit for WET:

For those pollutants where there was a reasonable potential to cause or contribute to an exceedance of applicable WQS, the second step is the development of WQBEL for each pollutant. The procedure for this is described at Section 5.4 of the TSD.

1. Compute the Wasteload Allocation (WLA): WLA = ((WQC – IBC) * DF) + IBC, where

   WQC – Water Quality Criterion
   IBC – Instream Background Concentration
   DF – Dilution Factor

The acute WLA is converted to chronic toxic units by multiplying the WLA by the acute-to-chronic ratio (ACR) of 10 and represented as TUac.[9]

Outfall 004				
Parameter of Concern	Water Quality Criterion	Instream Background Concentration	Dilution Factor	Wasteload Allocation
WET, Acute	0.3 TU_a	N/A	5.7	17.5 TUac
WET, Chronic	1.0 TUc	N/A	5.7	5.8 TUc

2. Calculate the Long-Term Average (LTA) and determine the lower (more limiting) of the two long-term averages. The long-term average calculation is based on the 99th confidence level as reflected with the z score of 2.326.

   LTA = WLA * $e^{(0.5*\text{sigma square} - 2.326*\text{sigma})}$
   Sigma square (σ^2) = ln (CV^2 +1)
   Sigma (σ) = square root of σ^2

LTA_{ac}	Z score	CV	σ^2	σ	LTA (TU_{ac})
	2.326	0.6	0.307	0.555	5.634

LTAc	Z score	CV	σ^2	σ	LTA (TU_c)
	2.326	0.6	0.086	0.294	3.08

3. Calculate the Maximum Daily Limits (MDL) and the Average Monthly Limits (AML) permit limits using the lower (more limiting) long-term average.

[9] Ten (10) is the default ACR. Per Section 1.3.4 of the TSD, a default ACR of 10 can be used in the absence of WET data to develop an ACR. EPA's data suggest that an ACR of 10 should provide ample protection against chronic instream impacts, see Appendix A-3 of the TSD.

i. MDL = LTA * $e^{(2.326*\sigma - 0.5*\sigma^2)}$
$\sigma^2 = \ln(CV^2 + 1)$
σ = square root of σ^2
The MDL is based on the 99th confidence level with the z score of 2.326 as recommended by section 5.5.4 in the TSD.

ii. AML = LTA * $e^{(1.645*\sigma - 0.5*\sigma^2)}$
$\sigma^2 = \ln(CV^2 + 1)$
σ= square root of σ^2
The AML is based on the 95th confidence level with a z score of 1.645 as recommended by section 5.5.4 in the TSD.

MDL (TUc)	Z score	CV	σ^2	σ	LTA	MDL (TUc)
	2.326	0.6	0.307	0.555	3.08	9.6
AML (TU_c)	Z score	CV	σ^2	σ	LTA	AML (TUc)
	1.645	0.6	0.307	0.555	3.08	6.6

9.0 RP Discussion

9.1 Oil & Grease

EPA did not continue the RP analysis to completion for Oil & Grease because the adjusted effluent concentration was below the District's WQC of 10 mg/L, therefore the reasonable potential analysis for Oil & Grease showed no potential for Oil & Grease to cause or contribute to an excursion of DC's WQS (discussed in more detail in section 7.0). However, because truck washing, truck rinsing, and truck maintenance occurs on the site, Oil & Grease continues to be a pollutant of concern for this discharge. Therefore, the permit limits for Oil & Grease will remain in the permit.

9.2 pH

The highest and lowest pH values do not show reasonable potential to exceed the District's standard for pH, however, the pH limits were retained in the permit due to the nature of the facility's processes. Specifically, the raw materials used in production have the potential to contribute to elevated pH values in the effluent thereby requiring a pH adjustment using sulfuric acid prior to discharging.

9.3 TSS and BOD

The District does not have numeric WQC for TSS and BOD, and the effluent limits that were derived from the assumptions of TMDL were used in the RP analysis. The RP analysis showed the maximum receiving water concentrations for these pollutants are higher than the concentrations assumed in the TMDL. The concentration based effluent limits, which are based on the assumptions of the TMDL, shall remain in the permit. In general, the TSS and BOD data reported on the DMRs indicate the permittee can meet the permit limits for these pollutants. Based on the DMR data, EPA expects the permittee will be able to meet the limits in the permit.

9.4 WET

WET was evaluated to determine if there was reasonable potential to cause, or contribute to an excursion of DC's water quality criteria at Outfall 004. WET exhibited RP, therefore, WQBELs were calculated and included in the permit. The facility will conduct WET testing on a quarterly basis for the first year of the permit and if the test results for four consecutive tests do not exhibit toxicity, the permittee can reduce the frequency of WET testing to once every 6 months. Since the nature of the discharge may vary depending on production, the reduced frequency of every 6 months is expected to capture this inherent variability and its potential toxic effects on the receiving stream.

10.0 Endangered Species Protection

On September 20, 2019, EPA requested an official species list from the U.S. Fish and Wildlife Service (USFWS) using their *Information for Planning and Consultation* (IPaC) tool found on their website at: https://ecos.fws.gov/ipac to determine if there are any federally listed threatened or endangered species or their designated critical habit(s) under their jurisdiction that will be affected by this discharge. On October 24, 2019 the USFWS responded to EPA's request and indicated that there are a total of one (1) threatened species, the Northern Long-eared Bat, and one (1) endangered species, the Hay's Spring Amphipod, in the project area. There are no critical habitats designated for the listed species within this project area under the jurisdiction of USFWS. EPA has made a "no effect" determination on the endangered, threatened, or candidate species list because while the "project area" or discharge area is within the range of the species, it is unlikely that the species would occur within the project area. Therefore, no further Section 7 consultation with the U.S. Fish and Wildlife Service is required. Because EPA requested the species list more than 90 days ago, the accuracy of the species list was verified on August 7, 2020 as recommended under 50 C.F.R. 402.12(e). The September 20, 2019 species list along with the subsequent verification of this list can be found in the permit's administrative record, document number twenty three.

For listed species or critical habitats that fall under the jurisdiction of The National Oceanic and Atmospheric Administration Fisheries (also known as National Marine Fisheries Service) EPA has made a "no effect" determination. A "no effect" determination means there will be no direct or indirect effects to listed species or critical habitat from this proposed action.

11.0 National Historic Preservation Act

The National Historic Preservation Act of 1966. and implementing regulations (36 C.F.R. Part 800) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation, or designee, the opportunity to comment on such undertakings. See Section 106, 54 U.S.C. § 306108. EPA notified the District of Columbia State Historic Preservation Office (DC SHPO) that it is proposing to reissue NPDES permit no. DC0000175 and that EPA has determined that this permit does not have the potential to affect historic properties. See 36 C.F.R § 800.3(1).

12.0 Anti-Backsliding Provision

Section 402(o) of the CWA and 40 CFR §122.44(l) prohibit the renewal, reissuance or modification of an existing NPDES permit that contains effluent limits, permit conditions, or standards that are less stringent than those established in the existing permit, unless certain exceptions are met. The effluent limits and permit conditions are not less stringent than those in the previous permit.

13.0 Antidegradation Statement

The Anacostia River is a Tier 1 protected water. The permit contains water quality based effluent limits for TSS, BOD, pH, Oil & Grease, and WET that are as stringent or more stringent than the previous permit. Discharges from this facility will not downgrade the water quality of the Anacostia River.

14.0 401 Certification

In accordance with CWA 401(a)(1), EPA requested a water quality certification from the District of Columbia, via DOEE, to ensure compliance with the District's WQS. In accordance with CWA 401 (a)(2), EPA notified Maryland and Virginia because the issuance of this permit may affect the waters of their State.

401 Certification mailed to District of Columbia's Department of Energy and Environment (DOEE): May 11, 2020.
401 Certification received from DOEE: May 22, 2020.

401 Notification letter mailed to Maryland Department of the Environment (MDE):
May 26, 2020.
401 Notification letter received from MDE: EPA did not receive a response from MDE.

401 Notification letter mailed to Virginia Department of Environmental Quality (VADEQ):
May 26, 2020
401 Notification letter received from VADEQ: EPA did not receive a response from VADEQ.