

**FINAL FACT SHEET
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT ISSUANCE**

**DEPARTMENT OF THE ARMY
WALTER REED ARMY MEDICAL CENTER
NPDES Permit Number: DC0000361
WASHINGTON, DC**

July 17, 2008

1. NOTICE OF PERMIT ISSUANCE

The United States Environmental Protection Agency, Region III (EPA) has made the decision to issue an individual National Pollutant Discharge Elimination System (NPDES) permit to the United States Department of the Army, Walter Reed Army Medical Center (WRAMC), to control discharges of industrial process water from Building 2, 6900 Georgia Avenue, NW, to the DC Municipal Separate Storm Water System (MS4) NPDES Permit Number DC0000221, and thence to Rock Creek, Washington, DC. The requirements in this permit are based on the Clean Water Act (33 U.S.C. 1251 et seq.), hereinafter referred to as the Act, and NPDES regulations (40 CFR Parts 122, 124).

EPA originally published a draft permit for public comment on February 1, 2008. The changes in the permit address various comments received. Except as modified by this Final Fact Sheet, the fact sheet for the draft permit is incorporated herein by reference.

2. PERMITTING AUTHORITY

The NPDES permitting authority is the U.S. Environmental Protection Agency, Region III, NPDES Permits Branch (3WP41), 1650 Arch Street, Philadelphia, PA 19103. The permit writer is Peter Weber (215) 814-5749, NPDES Permits Branch.

3. PERMITTEE

The permittee is the Department of the Army, Headquarters, U.S. Army Garrison, WRAMC, 6900 Georgia Avenue, NW, Washington, DC 20307-5001. The contact person is Joseph Fromal, Quality Assurance Evaluator, (202) 782-0090.

4. EFFECTIVE DATE

The permit shall become effective 30 days after the final permit is issued, unless a request for an evidentiary hearing is submitted within 30 days after receipt of the final determination.

5. PUBLIC NOTICE

A draft permit was offered for a 30-day public comment period, which extended from February 1, 2008 to March 1, 2008. Public comments were received from WRAMC and the District of Columbia Department of the Environment (known as DDOE).

6. REVISIONS TO DRAFT PERMIT

A complete compilation of all public comments received, and EPA's responses, are provided in the accompanying document, entitled "Response to Public Comments." The leading revisions are presented below, and the rationale for the revisions is provided in Section 7.

a. District of Columbia DDOE comments and EPA responses.

DDOE public comments were issued in a February 28, 2008 email. These comments recognized that WRAMC had applied solely for a NPDES discharge permit from Building 2 to the DC Municipal Separate Storm Sewer System (MS4). However, DDOE files referenced illicit discharges to Rock Creek which might have entered the DC MS4 from WRAMC. DDOE was therefore concerned that illicit discharges from WRAMC might still continue even after Building 2 discharges were permitted. Accordingly, DDOE recommended a comprehensive study of storm water and sanitary sewer lines serving WRAMC to verify that all discharges to DC sewer systems were licit. Given that WRAMC is located approximately one half mile from the MS4 discharge to Rock Creek, there might be other illicit discharges originating upgradient and downgradient of WRAMC. Because this permit is for industrial and storm water discharges associated with Building 2, the study shall focus on the discharges which enter the WRAMC lateral sewer line serving Building 2 and which go directly to the DC MS4 trunk line.

b. Walter Reed Army Medical Center comments and EPA responses.

WRAMC comments, in a February 20, 2008 email, requested monitoring without limits for Total Residual Chlorine (TRC), clarification of the precise location of Outfall 001, and questioned the rationale for other monitoring parameters and frequencies.

7. RATIONALE FOR CHANGES TO THE DRAFT PERMIT

a. Rationale for Discharge Location.

Outfall 001 is located at Manhole 167, which is an access point to enable sampling of Building 2 discharges. This manhole is located on the lateral sewer line which empties into the DC MS4, NPDES Permit Number DC0000221. The compliance point for Building 2's discharges must be established at a location prior to these discharges into the MS4 trunk line. All monitoring is done at this manhole, with the exception of Total Residual Chlorine, which will be sampled at Manhole 166, closer to the juncture with the DC MS4 line. This outfall and monitoring locations have been established in order to ensure that there is monitoring of representative samples of the discharge, per 40 CFR 122.48.

b. Rationale for Effluent Limitations.

The District of Columbia WPCA, at §8-103.07(b), states that “Except for loss of heat, no reduction of pollutants in the discharged wastewater while flowing in the storm sewer will be recognized by the Mayor.” Because of this requirement, discharges from Building 2 must be limited at a point prior to their discharge into the DC MS4 trunk line. Building 2 wastewater process water flows for approximately one half mile in the MS4, prior to discharge into the waterbody. However, according to the WPCA, that half mile transit would not be available to serve for any reduction of pollutants such as TRC.

The District of Columbia TRC water quality criterion is a maximum concentration of 19 ug/l. DC permits have a standard no-detection level requirement, set at <0.1 mg/l. Based on the District of Columbia Water Pollution Control Act (WPCA), cited in Section 7 below, there is no allowable “reduction of pollutants in the discharged wastewater while flowing in the storm sewer” for parameters such as TRC. Accordingly, the permit includes the TRC limitation per DC requirements.

The monitoring frequency has been established on a quarterly sampling basis, in order to assess the effluent characteristics for this initial first permit term, for the parameters which have numeric limits (Total Residual Chlorine, Oil and Grease, and pH). The other parameters are assigned semi-annual monitoring, in order to characterize the discharge.

c. Rationale for Escherichia coli limit.

DC Water Quality Standards have been amended to include the Escherichia coli criterion, which is a new DC water quality criterion. This permit will include monitoring and reporting for E. coli. Fecal coliform is no longer a DC water quality standard, as of the end of calendar year 2007, and has been replaced by E. coli. However, the bacteria Total Maximum Daily Load (TMDL) was established for fecal coliform, so this permit shall require fecal coliform monitoring until such time as the TMDL requirements change from fecal coliform to E. coli.

d. Special Condition D, Waste Water and Storm Water Characterization Study.

The permittee discovered an unpermitted discharge from Building 2 (industrial process water generated by cooling and heating activities in operating the building) to the MS4 line, and thence to Rock Creek, approximately one half mile away. The permittee first contacted DC government, and then EPA, to notify government about this discharge. Also, in previous years, DDOE files indicated a discovery of illicit discharges to the same DC MS4 line. These discharges may be either from waste water or from storm water coming from other buildings on the Walter Reed campus, or from other sources upgradient from the campus.

In its comments on the draft permit, DDOE requested that this permit require an investigation of all WRAMC stormwater and sanitary sewer lines which may discharge to the DC MS4 system. This permit requires an investigation of all WRAMC stormwater and sanitary

sewer lines contributing to the lateral which serves Building 2 and discharges to the MS4 permit. The result of this investigation is to determine whether there are any other unpermitted discharges to the MS4 in the contributing areas in the vicinity of Building 2.

This investigation will determine conditions upgradient and downgradient of Building 2, besides those which are being contributed by Building 2 process water activities. It is noted that the WPCA, at §8-103.06(d), provides that prior to DC certification of this NPDES permit, DC “may require the person seeking the permit or certification to perform studies to ensure conformance with this subchapter” of the WPCA.

Permit certification by the “State in which the discharge originates” (meaning in this case the District of Columbia) is required under the Clean Water Act, §401(a)(1), as contained in 40 CFR 124.53. Permit certification is a means to ensure that the permitted discharge complies with state law, including water quality standards.

8. FACILITY DESCRIPTION

WRAMC is located in Washington, DC. It is a general medical and surgical hospital, SIC code 8062. The WRAMC impervious surface area is approximately 75 acres. Building 2 is a multi-story hospital equipped with floor drains. The drainage area is approximately 230,400 square feet, comprising Building 2. This building was constructed in 1978, and has functioned as the new hospital building from that time to the present. Sanitary waste is discharged separately to the DC sanitary sewer system.

9. DISCHARGE DESCRIPTION, RECEIVING WATERS AND LIMITS

a. Sources and Flows

This permit establishes limits and monitoring requirements for the discharge of industrial process water from Building 2, the Heaton Pavilion, located in the northeastern side of WRAMC. The industrial process water is derived from the building’s cooling and heating system, which includes air dryers, air compressors, and a steam line. The building’s water supply comes from the DC potable water system. The cooling, blow off and steam condensate associated with these systems are the sources of the discharge. The mechanical, cooling and heating services are located below grade in an interstitial floor designated as Floor 9 ½. Building 2 is divided into quadrants. Industrial water is collected from two building quadrants, the southeast and southwest. Water from the cooling and heating activities is captured by a series of drains located near the cooling apparatus, which lead to pump stations. The pumps and associated wet wells are also located on the interstitial floor. Load-activated pumping then sends the collected water from the wet wells to the WRAMC sewer line outside the building. Manhole Numbers 167 and 166, south of Building 2, are the manholes which provide access to discharges from Building 2.

Rather than being discharged directly to Rock Creek, which is the nearest waterbody, the Building 2 discharge enters the District of Columbia storm sewer line as it traverses the

WRAMC property. This storm sewer is part of the DC Municipal Separate Storm Water System (MS4) NPDES Permit No. DC0000221. This storm sewer conveys the effluent to a discharge point (box culvert) on the east side of Rock Creek north of Military Road. The discharge goes first to DC MS4 NPDES Outfall 119 and thence to Outfall 122, with discharge to Rock Creek.

Besides the industrial process water, there is stormwater which is also sent to the DC MS4 storm sewer. The stormwater is gathered from the roof of Building 2, and conveyed to the same southwest and southeast wet wells which collect the process water. The roof capture area is approximately 155,000 sq. ft. The MS4 permit explicitly identifies roof drainage as a permitted flow, “when properly managed so that water quality is not impaired and that the requirements of the Clean Water Act and EPA regulations are met” (Part I.B, second paragraph). The stormwater flow does not come into contact with any industrial process water or any other water until it is fed to the wet wells in interstitial floor 9 ½.

b. Discharge Description

According to the WRAMC application for a NPDES permit, there is an estimated 53,280 gallons per day of discharged water, as follows. This discharge is 0.08 cubic feet per second (cfs) to a receiving water with an average of 71.7 cfs. Monitoring was performed at the Southwest Wet Well, Interstitial Floor 9 ½ , Building 2, WRAMC. The effluent characteristics are also presented here.

<u>Industrial Water (continuous)</u>	<u>Average Flow</u>
Air dryer cooling	30 gallons per minute (gpm)
Steam condensate	5 gpm
Air compressor cooling	2 gpm
Air compressor blow off	1 gallon per day (gpd)
<u>Total (converted to gpd)</u>	<u>53,281 gallons per day</u>

Storm Water

Precipitation events create a flow from the roof which is captured by the building floor drains, and is sent to the pump stations located in the Southeast and Southwest quadrants of Building 2, as described in Section 9.a.

c. Receiving Waters and Total Maximum Daily Loads

The receiving water for these discharges is Rock Creek. Rock Creek originates in Maryland and flows through the District of Columbia to the Potomac River in North West Washington. Rock Creek and its tributaries were identified as having impaired waters (Section 303d list of the Clean Water Act) for metals, organics and bacteria. Two Total Maximum Daily Loads (TMDLs) were developed for those waterbodies which would not attain water quality standards after application of technology-based and other required controls. Each TMDL sets the quantity of a pollutant that may be introduced into a waterbody without exceeding the applicable water quality standard. The two Rock Creek Watershed TMDLs were established in

2004 for fecal coliform and metals (copper, zinc, lead, mercury). No wasteload allocations were assigned to individual dischargers.

This facility discharges to the main stem of Rock Creek, in the Upper Rock Creek portion of the watershed. Available information does not indicate that the permitted discharge is inconsistent with these TMDLs. However, this permit will require monitoring to determine whether this discharge is consistent with the TMDLs.

d. Derivation of Permit Discharge Limits

The proposed discharge limits have been derived from the following:

1) DC Water Pollution Control Act

<http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/information2/water.reg.leg/WaterPollAct.pdf>

2) DC Water Quality Standards

<http://ddoe.dc.gov/ddoe/frames.asp?doc=/ddoe/lib/ddoe/wqd/WaterFinalRules06.pdf>

3) WRAMC Application for NPDES Permit, including EPA Forms 1, 2C and 2F

4) Best Professional Judgment (BPJ) in determining effluent limitations and monitoring requirements for this industrial process water, with the need to be consistent with TMDLs established for the receiving water, and an evaluation of sampling data provided in the permit application. Limitations were derived from the use of BPJ for low volume wastes, and cooling and blowdown activities, which characterize this process water. BPJ was applied to determine parameters and monitoring requirements. More than eighty percent of the daily flows are from air dryer cooling.

5) Because the sampling results provided in the permit application were based on one sample, except for two samples for temperature, pH and Total Residual Chlorine, the permit is requiring four samples per year, to be sampled once every three months, for the duration of the permit.

10. CERTIFICATION

The District of Columbia's Department of the Environment granted Section 401 water quality certification on July 2, 2008 for the permit. Any inquiries concerning the certification should be submitted to:

Collin R. Burrell, Associate Director
Water Quality Division
Natural Resources Administration
District Department of the Environment
51 N Street, N.E., 5th Floor
Washington, D. C. 20002