

Summary of Technical Issues/Comments

Draft NPDES Permit No. MA012369; Public Notice No. MA-016-07

Upper Blackstone Water Pollution Abatement District

May 25, 2007

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for compliance, while the continuous recorder is presented for informational purposes only.

Total Nitrogen (May 1 – October 31)

Footnote 9 indicates, "The permittee shall operate the treatment facility to reduce the discharge of total nitrogen during the months of November – April to the maximum extent possible".

What is the basis for N reduction in the cold weather months? How is the District to show conformance to this standard? Should the facility be operated to reduce nitrogen in the colder months at the expense of phosphorus reduction?

Part I.A.I.e

On a combined sewer system, where the influent is often very dilute, it can be difficult to attain 85% removal of CBOD and TSS, even though the effluent limits are met. This requirement is a remnant of the old secondary treatment standards and should be stricken from the permit.

Part I.A.I.f

In order to properly operate a wastewater treatment facility, operators need to perform routine process monitoring and control. This draconian requirement will ultimately discourage operators from performing this monitoring for fear that the results will be used to penalize the District.

Unauthorized Discharges

Part I.D, This section is not clear on whom is responsible for notification of overflows the permittee or the co-permittee.

Operation and Maintenance of the Sewer System

The Permit requires the I/I Control Plan must be submitted within six months of the effective date of the permit. This does not provide the permittee or co-permittees enough time to prepare the required plan. The time should be extended.

Total Copper

As noted in the Fact Sheet, MassDEP has submitted revised site-specific water quality criteria for copper. We are in support of the site specific criteria and would welcome its adoption in the final permit.

Non-point Sources

The attached figure depicts an estimate of sewer population in Eastern Massachusetts and Rhode Island. As presented, a number of communities lining the Bay are less than 50% sewerage. The identification of all non-point sources of nitrogen in Narragansett Bay have not been well established and thus the basis for the nitrogen limit for Upper Blackstone is questioned. Non-point sources, such as groundwater (from septic systems), combined sewer overflows (CSOs), atmospheric deposition, and sediment flux all contribute to the nitrogen load in Narragansett Bay and is not well understood. Until a better understanding of all loads to the Bay is provided (especially those in such close proximity to the Bay) it is illogical to spend significant funds to further reduce the nitrogen load originating at the Upper Blackstone

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facility miles away.

K. Clarifications to Fact Sheet

Description of Treatment Facility

1st para, 3rd line, delete, "and chemical addition facilities for total phosphorus removal." There are no chemical addition facilities currently and none are planned in the current upgrade.

1st para, 7th line, delete, "stored in a septage holding facility and then introduced" and replace with "directly discharged". The District does not have septage holding tanks.

2nd para., 2nd line, delete "two" and replace with "four" The current wastewater treatment facility upgrade consists of four phases, the first two of which are essentially as described, a third phase which will soon be under design, will focus on sludge management improvements needed to sustain the facilities constructed in Phase I and II, and a fourth phase to accommodate future development in the service area.

2nd para., 3rd line, after "and" insert "improvements to multiple hearth furnaces and associated".

2nd para., delete last sentence and replace with "Phase I was completed in 2006 and Phase II is scheduled to be completed by August 5, 2009."

3rd para., 3rd line, delete "with minimal treatment"

3rd para., 4th line, after "a peak hour flow of" insert, "up to"

3rd para., insert at the end of the paragraph, "The upgraded facilities were designed to meet the permit limits established in the September 30 1999 (modified on December 19, 2001) with the blended effluents from outfalls 001 and 001A."

4th para. Refer to comments above regarding Discharge at Outfall 001A.

Description of the Receiving Waters

The Rhode Island waters are clearly designated with a partial use restriction – waters likely to be impacted by combined sewer overflows. Why isn't the Blackstone River in Massachusetts so designated?

Limits Derivation

Page 8, 2nd para., under "Phosphorus" states, "The expired permit has a monthly average limit of 750 ug/l from April 1 to October 31. Effluent data from DMRs for April thru October during 2004 thru 2006 ranged from 900 to 2,400 ug/l total phosphorus." This implies that the District has been in constant violation of its current permit which is not the case. Interim permit limits were negotiated in good faith with the regulators in late 2001, understanding, at that time, that the phosphorus limits included in the September 30 1999 (modified on December 19, 2001) would not be achieved until August 2009. The interim permit only

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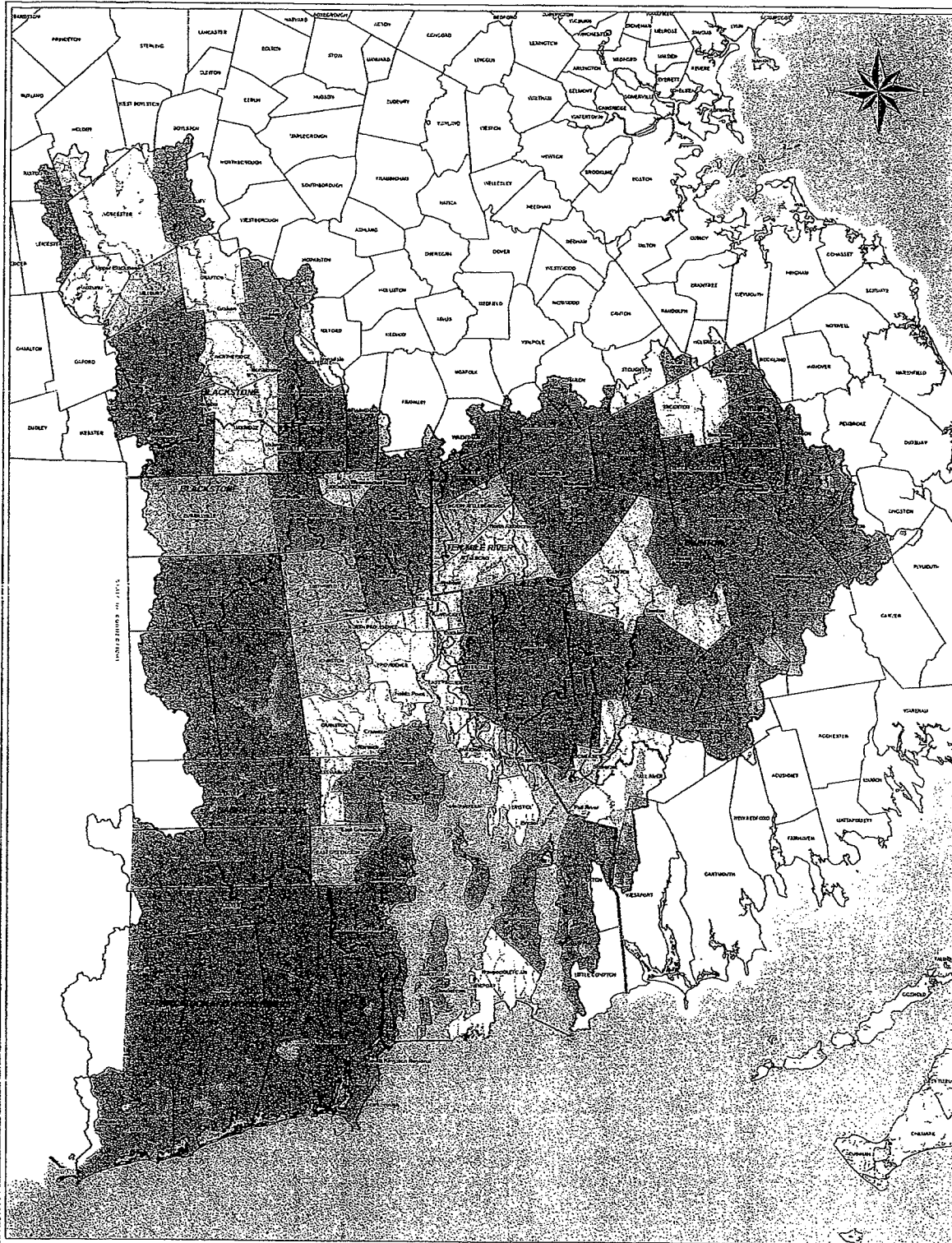
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required that the District "report" phosphorus, no limits on phosphorus were included. The District has operated in compliance with the Consent Order and the interim permit.

Sludge

Page 19, 2nd para., delete second paragraph in its entirety and replace with the following, "UBWPAD owns and operates two multiple hearth incinerators equipped with flue gas recirculation. The incinerators have the following air pollution control devices: a venturi scrubber which removes particulate matter and volatile metals; an impingement tray scrubber which removes acid gases and additional metals; a wet electrostatic precipitator which removes fine particulates and metals; and regenerative thermal oxidizers which converts volatile organic compounds to carbon dioxide. The District generates approximately 8836 dry metric tons of sewage sludge annually and receives approximately 2260 dry metric tones annually from off-site facilities.



Legend
 Percentage of Town Population
 Serviced by Sewers

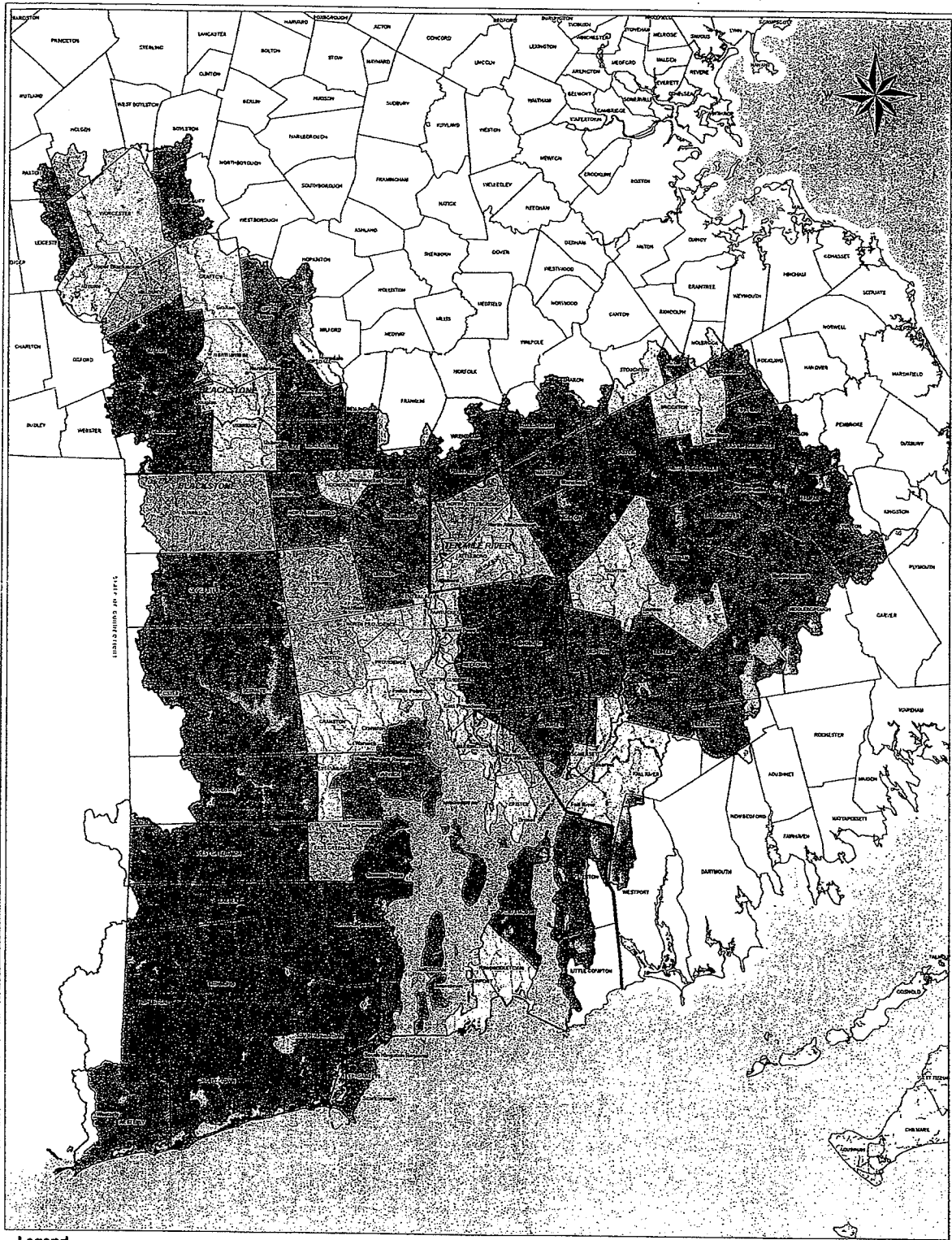
- < 25%
- ≥ 25% and < 50%
- ≥ 50% and < 75%
- ≥ 75%
- No Data

WWTP
 Drainage Basin Boundaries
 Rhode Island - Massachusetts State Boundary

**Sewered Population
 Eastern Massachusetts and Rhode Island**








CDM




Legend

Percentage of Town Population Served by Sewers

-  < 25%
-  ≥ 25% and < 50%
-  ≥ 50% and < 75%
-  ≥ 75%
-  No Data

WWTP

 Drainage Basin Boundaries

 Rhode Island - Massachusetts State Boundary

**Sewered Population
Eastern Massachusetts and Rhode Island**

CDM

Attachment A1

United States
Environmental Protection
Agency

Office of Water
Regulations and Standards
Washington, DC 20460

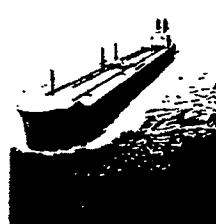
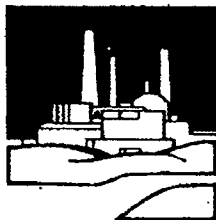
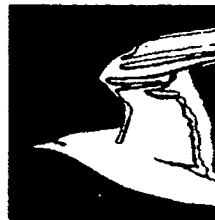
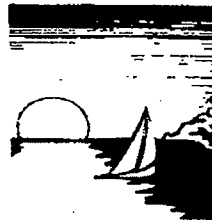
May 1, 1986



Water

EPA 440/5-86-001

QUALITY CRITERIA for WATER 1986



Phosphate Phosphorus

Although a total phosphorus criterion to control nuisance aquatic growths is not presented, it is believed that the following rationale to support such a criterion, which currently is evolving, should be considered.

Total phosphate phosphorus concentrations in excess of 100 ug/L P may interfere with coagulation in water treatment plants. When such concentrations exceed 25 ug/L at the time of the spring turnover on a volume-weighted basis in lakes or reservoirs, they may occasionally stimulate excessive or nuisance growths of algae and other aquatic plants. Algal growths impart undesirable tastes and odors to water, interfere with water treatment, become aesthetically unpleasant, and alter the chemistry of the water supply. They contribute to the phenomenon of cultural eutrophication.

To prevent the development of biological nuisances and to control accelerated or cultural eutrophication, total phosphates as phosphorus (P) should not exceed 50 ug/L in any stream at the point where it enters any lake or reservoir, nor 25 ug/L within the lake or reservoir. A desired goal for the prevention of plant nuisances in streams or other flowing waters not discharging directly to lakes or impoundments is 100 ug/L total P (Mackenthun, 1973). Most relatively uncontaminated lake districts are known to have surface waters that contain from 10 to 30 ug/L total phosphorus as P (Hutchinson, 1957).

The majority of the Nation's eutrophication problems are associated with lakes or reservoirs and currently there are more

data to support the establishment of a limiting phosphorus level in those waters than in streams or rivers that do not directly impact such water. There are natural conditions, also, that would dictate the consideration of either a more or less stringent phosphorus level. Eutrophication problems may occur in waters where the phosphorus concentration is less than that indicated above and, obviously, such waters would need more stringent nutrient limits. Likewise, there are those waters within the Nation where phosphorus is not now a limiting nutrient and where the need for phosphorus limits is substantially diminished. Such conditions are described in the last paragraph of this rationale.

There are two basic needs in establishing a phosphorus criterion for flowing waters: one is to control the development of plant nuisances within the flowing water and, in turn, to control and prevent animal pests that may become associated with such plants; the other is to protect the downstream receiving waterway, regardless of its proximity in linear distance. It is evident that a portion of that phosphorus that enters a stream or other flowing waterway eventually will reach a receiving lake or estuary either as a component of the fluid mass, as bed load sediments that are carried downstream, or as floating organic materials that may drift just above the stream's bed or float on its water's surface. Superimposed on the loading from the inflowing waterway, a lake or estuary may receive additional phosphorus as fallout from the air shed or as a direct introduction from shoreline areas.