# WATER QUALITY OF AN URBAN WET DETENTION POND IN MADISON, WISCONSIN, 1987-88

By Leo B. House, Robert J. Waschbusch, and Peter E. Hughes

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**For additional information write to:**

District Chief
U.S. Geological Survey
6417 Normandy Lane
Madison, WI 53719

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## CONVERSION FACTORS AND ABBREVIATIONS

| ***Multiply*** | ***By*** | ***To obtain*** |
|---|---|---|
| | Length | |
| millimeter (mm) | 0.03937 | inch |
| meter (m) | 3.281 | foot |
| | Area | |
| square meter ($m^2$) | 10.76 | square foot |
| square kilometer ($km^2$) | 247.04 | acre |
| square kilometer ($km^2$) | 0.3861 | square mile |
| | Volume | |
| cubic meter ($m^3$) | 35.31 | cubic foot |
| | Flow | |
| liter per second (L/s) | 0.03531 | cubic foot per second |
| cubic meter per second ($m^3/s$) | 35.31 | cubic foot per second |
| | Mass | |
| kilogram (kg) | 2.205 | pound |

# WATER QUALITY OF AN URBAN WET DETENTION POND IN MADISON, WISCONSIN, 1987-88

By Leo B. House, Robert J. Waschbusch, and Peter E. Hughes

## ABSTRACT

A 5,670-square meter wet detention pond was monitored by the U.S. Geological Survey to determine its effect on the water quality of urban runoff. The pond has a drainage area of 0.96-square kilometer, composed primarily of single-family residential land use. Event-mean concentrations (EMC) were determined from samples collected for sediment, nutrients, and selected metals at the pond's inflow and outflow sites. EMC samples were collected for 64 runoff events during the study period from February 1987 through April 1988. Storm precipitation ranged from 1 to 51 millimeters during these events. Inflow and outflow EMC and constituent loads were compared to determine the trap efficiency of the pond. Trap efficiency varied considerably among water-quality constituents.

In general, the detention pond decreased the EMC of sampled constituents at the outlet compared to the inlet. The median decrease in EMC for suspended solids was 88 percent, 60 percent for total chemical oxygen demand (COD), 43 percent for total phosphorus, 38 percent for total Kjeldahl nitrogen, 65 percent for total nitrite plus nitrate, and 71 percent for total lead. A notable exception to the general decrease in EMC is for chloride. The EMC of chloride was generally higher in outflow from the pond than in the inflow.

The total study-period loads of most constituents were less leaving the pond than the loads entering it. This decrease is attributed to the constituents transported on suspended sediment being deposited in the pond. The decrease in total load of suspended solids was 88 percent, 62 percent for total COD, 58 percent for total phosphorus, 46 percent for total Kjeldahl nitrogen, 62 percent for total nitrite plus nitrate, 97 percent for total copper, and 93 percent for total lead.

## INTRODUCTION

The U.S. Geological Survey, in cooperation with the Wisconsin Department of Natural Resources (WDNR), investigated the effect of a wet detention pond on the water quality of storm runoff. Wet detention ponds are being built throughout the United States to help protect receiving waters from water-quality degradation. Older detention ponds were designed primarily to decrease the peak flows from storm runoff, whereas newer detention ponds are built with the protection of water quality as an additional or primary objective. This study was done to determine the effectiveness of the detention pond in decreasing loads of selected chemical constituents entering a receiving water body.

The University of Wisconsin Arboretum in Madison, Wisconsin, constructed a wet detention pond to protect the water quality and ecology of Lake Wingra from the effects of storm-sewer inflow to the lake (fig. 1). The pond is located on the downstream side of Monroe Street at the outlet of a storm sewer that drains a 0.96-$km^2$ urbanized area. Land use in this area consists primarily of single-family residences and commercial strip development. The average basin slope is 2.2 percent. The pond, referred to as the Monroe Street detention pond in this report, has a surface area of 5,670 $m^2$, a maximum depth of 2.3 m, and an average depth of 1.1 m at normal pool elevation (fig. 2). The pond has a surcharge storage volume above the normal pool elevation that is capable of holding the 10-year, 24-hour-storm-runoff volume without overtopping the containment berm around the pond. The pond has two outlets controlled by 45-degree V-notch weirs that drain to channels leading to Lake Wingra. The bottom of the pond consists of a clay layer that inhibits infiltration of water from or into the pond.

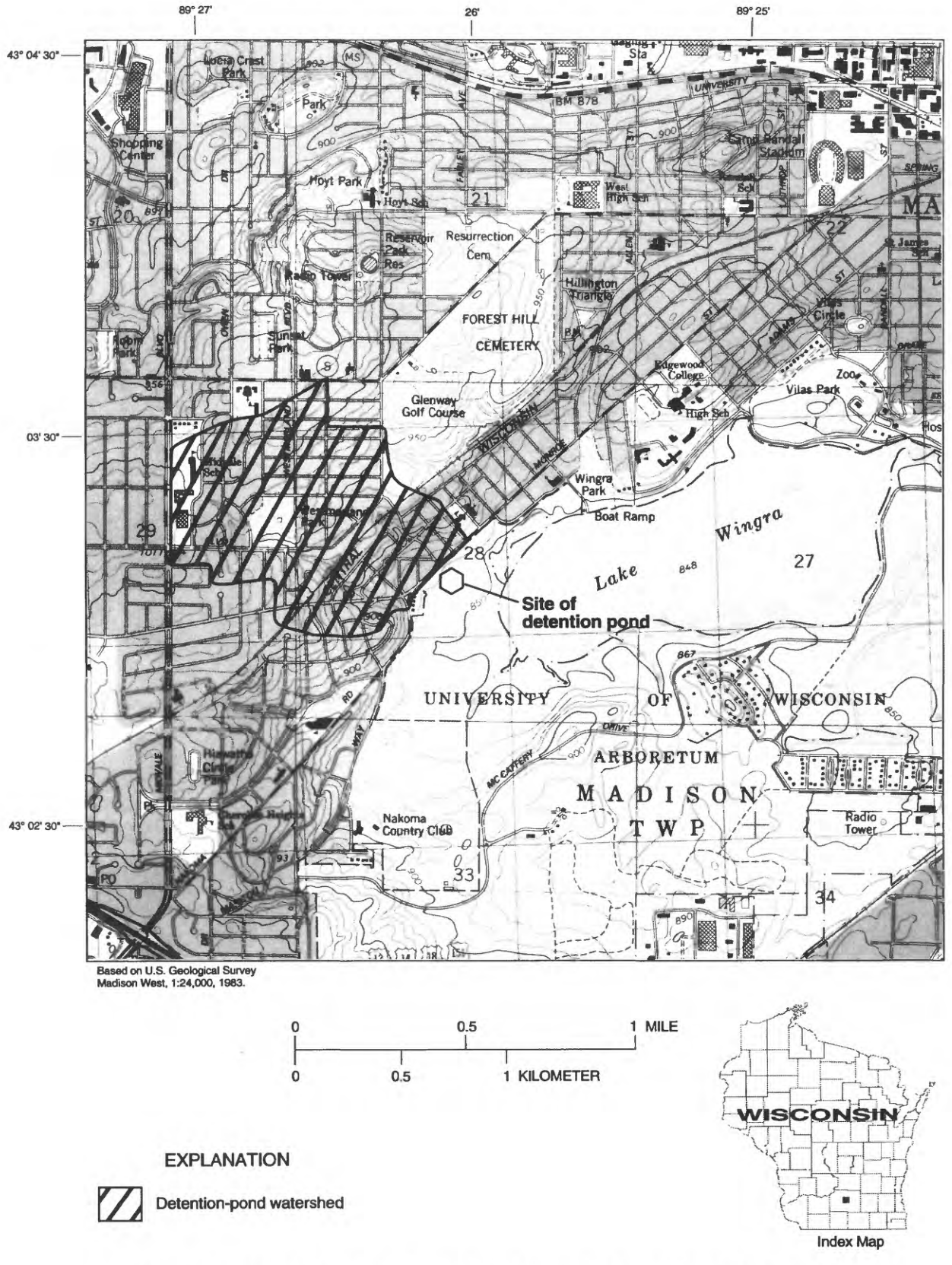


**Figure 1.** Location of Monroe Street detention pond and watershed, Madison, Wisconsin.

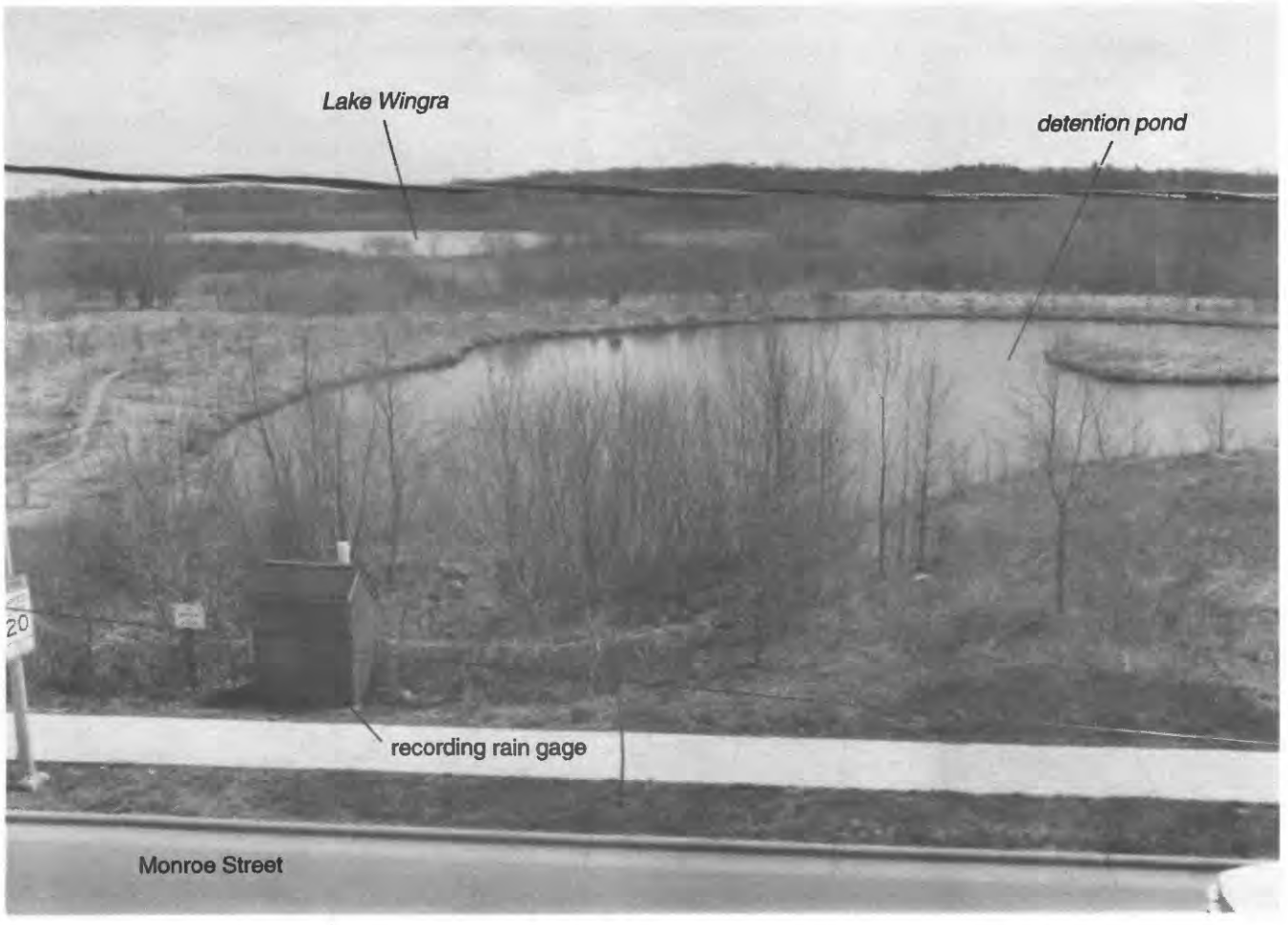


**Figure 2.** Photograph of the Monroe Street wet detention pond, 1993.

The purpose of this report is to present and summarize the concentrations and loads of selected constituents collected during February 1987 through April 1988. The constituent load flowing into and out of the detention pond were compared to determine the trap efficiency of the pond.

## METHODS OF INVESTIGATION

Hydrologic information was collected to determine the water budget of the pond. Precipitation data were recorded at 5-minute intervals during the storm events at a recording rain gage located at the pond site (fig. 2). Storm runoff (pond inflow) was monitored at the box culvert that was the terminus of the 0.96-$km^2$ storm-sewered area. Discharge rates and flowvolumes passing through the culvert were determined by use of a flow-velocity sensor installed inside the culvert. The velocity sensor was connected to a datalogger that recorded the flow-velocity data and computed discharge rates based on the culvert geometry and depth of flow.

The pond stage was monitored with a water-level sensor connected to a datalogger. Outflow rates from the pond were calculated using the recorded pond stage in conjunction with stage-discharge ratings for the two V-notch weirs at the outlets. The recorded precipitation and computed inflow and outflow discharge data are available from the U.S. Geological Survey office in Madison, Wisconsin.

Water-quality data were collected by programmable water samplers installed at the inflow and outflow sites of the pond and programmed to obtain flow-proportional samples. These samples represent the average constituent

concentration during a runoff event on a discharge-weighted basis. These flow-proportional, concentration averages are referred to as event-mean concentrations (EMC) throughout this report. The EMC samples were removed and mailed to the laboratory for analysis within 24 hours of being collected. EMC samples were analyzed for suspended solids, volatile total solids, total and dissolved chemical oxygen demand (COD), total chloride, total and dissolved phosphorus, total and dissolved forms of nitrogen, and total and dissolved copper and lead.

Water-chemistry samples were collected from three sites within the pond at mid-depth. These three samples for each event were used to determine an average constituent concentration in the water column of the pond.

Constituents loads were computed as the product of the EMC in or out of the pond and the corresponding water volumes for that runoff event. The EMC's and loads for selected constituents are presented in appendix II (tables 1-15).

Samples of sediment transported into the pond as bedload were obtained by use of three drop-inlet sediment traps installed in the floor of the box culvert at the inflow site to the pond. Bedload-sediment samples were analyzed for the distribution of particle size. The particle-size distribution data are available from the U.S. Geological Survey office in Madison, Wisconsin. These data are not presented in this report.

## EFFECTS OF THE DETENTION POND ON WATER QUALITY OF STORM RUNOFF

An important effect of the detention pond on the quality of storm runoff was a decrease in the EMC in outflow during runoff. Another important effect was the decrease in total annual loads of most constituents leaving the pond compared to those entering it. One notable exception to these effects was for total chloride in which the total outflow concentrations and loads were greater than the total inflow concentrations and loads. The increase in chloride may be attributed to an influx of chloride into the pond during nonmonitored periods in the winter.

### Decrease in Event-Mean Concentrations of Selected Constituents

One method of evaluating the effects of the detention pond on water quality is to compare the inflow and outflow (EMC's) for a given constituent. During this study, most outflow EMC's were less than inflow EMC's. Median percentage decreases in selected constituent EMC's are summarized in table 1 and shown graphically in figure 3.

### Decrease in Total Study-Period Constituent Loads

Most, if not all, significant runoff events were monitored during the February 1987 through April 1988 study period. On the basis of previously published information concerning urban runoff (U.S. Environmental Protection Agency, 1983), it was estimated that about 90 percent of the total constituent loads entering the detention pond (excluding chloride) was conveyed during sampled runoff.

Total constituent loads for the study period are summarized in table 2 and shown graphically in figure 4.

## CONCLUSION

During the February 1987 through April 1988 study period, approximately 90 percent of the total constituent loads entering the Monroe Street detention pond were sampled. The detention pond decreased the load exiting the pond for all constituents except chloride. For the remaining constituents, the loads were decreased a maximum of 97 percent for total copper and a minimum of 21 percent for dissolved Kjeldahl nitrogen. Other notable load decreases were 88 percent in suspended solids, 55 percent in total volatile solids, and 93 percent in total lead.

## REFERENCE CITED

U.S. Environmental Protection Agency, 1983, Results of the nationwide urban runoff program, volume I: Final Report, Water Planning Division, NTIS PB#84-18552.

**Table 1.** *Percentage decrease in event-mean concentrations (EMC) of selected constituents in runoff outflow from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[Negative (-) percentage indicates an increase in outflow EMC; --, not determined]

| Constituent | Percentage decrease in outflow EMC[1] | | |
|---|---|---|---|
| | Maximum | Minimum | Median |
| Suspended solids | 98 | -154 | 88 |
| Total volatile solids | 98 | -170 | 45 |
| Total chemical oxygen demand | 90 | -327 | 59 |
| Dissolved chemical oxygen demand | 85 | -53 | 25 |
| Total chloride | 89 | -1,650 | -245 |
| Total phosphorus | 92 | -332 | 42 |
| Dissolved phosphorus | 97 | -129 | 41 |
| Dissolved orthophosphorus | 98 | -160 | 58 |
| Total Kjeldahl nitrogen | 89 | -575 | 38 |
| Dissolved Kjeldahl nitrogen | 70 | -369 | 7 |
| Total nitrite plus nitrate | 95 | -4 | 65 |
| Total copper | -- | -- | -- |
| Dissolved copper | 67 | -175 | 29 |
| Total lead | 94 | 50 | 71 |
| Dissolved lead | -- | -33 | -16 |

[1]Percentage decrease in EMC computed as: (Inflow EMC-Outflow EMC)/Inflow EMC x 100.

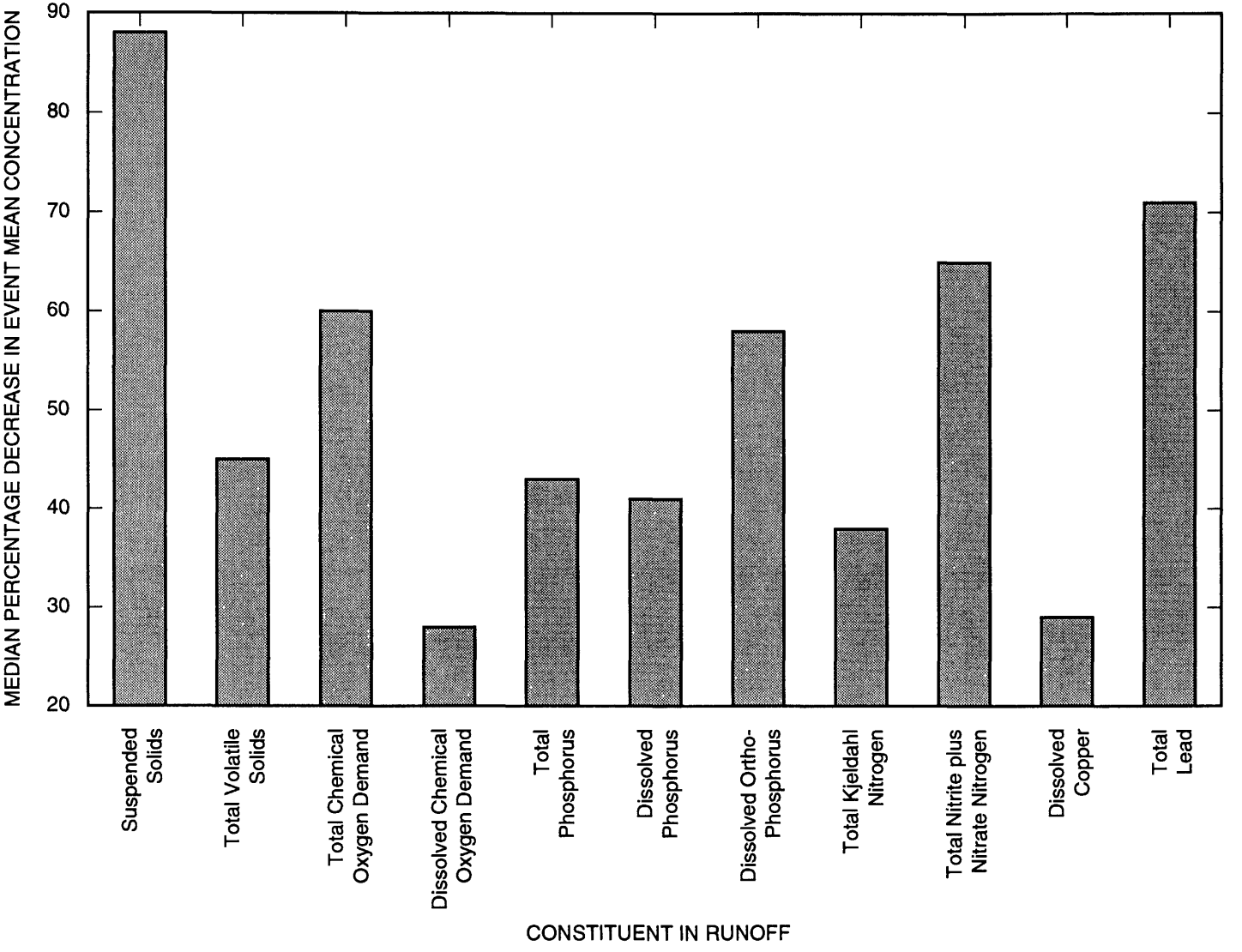


**Figure 3.** Median percentage decrease in event-mean concentrations (EMC) of selected constituents in runoff outflow from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988.

**Table 2.** *Total study-period loads and percentage decrease in selected constituent loads in runoff outflow from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[Load values are in kilograms, except as noted. Negative (-) value indicates an increase in load]

| Constituent | Inflow load | | Outflow load | | Percentage decrease in constituent load[1] |
|---|---|---|---|---|---|
| Suspended solids | 28,200 | | 3,290 | | 88 |
| Total volatile solids | 8,500 | | 3,800 | | 55 |
| Total chemical oxygen demand | 7,860 | | 2,980 | | 62 |
| Dissolved chemical oxygen demand | 2,260 | | 1,470 | | 35 |
| Total chloride | 4,230 | | 6,670 | | -58 |
| Total phosphorus | 49.7 | | 21.0 | | 58 |
| Dissolved phosphorus | 14.0 | | 7.4 | | 47 |
| Dissolved orthophosphorus | 11.7 | | 5.8 | | 50 |
| Total Kjeldahl nitrogen | 257 | | 140 | | 46 |
| Dissolved Kjeldahl nitrogen | 88.8 | | 70.2 | | 21 |
| Total nitrite plus nitrate | 36.9 | | 14.0 | | 62 |
| Total copper | 1,250 | grams | 33.8 | grams | 97 |
| Dissolved copper | 338 | grams | 198 | grams | 41 |
| Total lead | 2,710 | grams | 184 | grams | 93 |
| Dissolved lead | 57.0 | grams | 25.0 | grams | 56 |

[1]Percentage decrease in constituent load computed as (Inflow load - Outflow load)/Inflow load x 100.

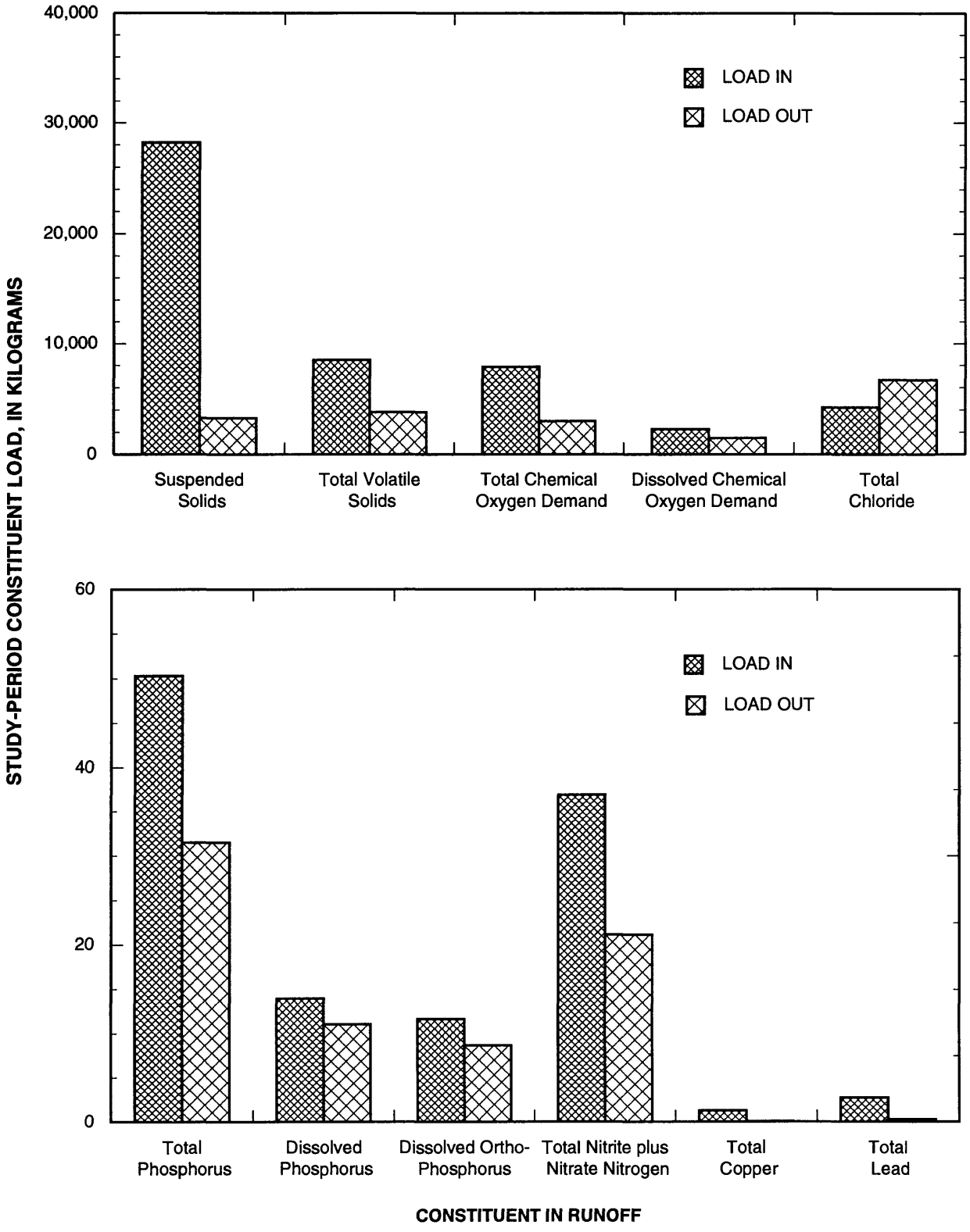


**Figure 4.** Total study-period constituent loads in runoff flowing into and out of the Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988.

# APPENDIXES I-II

**Appendix I.** *Date and precipitation data for runoff events, Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[mm, millimeters; --, raingage malfunction; *, total of individual storm segments; **, snowmelt runoff]

| Storm identification | Runoff Start Date | Runoff End Date | Total Precipitation (mm) |
|---|---|---|---|
| *1 | 02/28/87 | 03/04/87 | 18 |
| 3.1 | 03/13/87 | 03/18/87 | 15 |
| 3.2 | 03/18/87 | 03/22/87 | 11 |
| *3 | 03/13/87 | 03/22/87 | 26 |
| 5.1 | 03/24/87 | 03/28/87 | 7 |
| 5.2 | 03/28/87 | 04/02/87 | 12 |
| *5 | 03/24/87 | 04/02/87 | 19 |
| 6.1 | 04/13/87 | 04/14/87 | -- |
| 6.2 | 04/14/87 | 04/17/87 | -- |
| *6 | 04/13/87 | 04/17/87 | 29 |
| *7 | 04/21/87 | 04/25/87 | 43 |
| *8 | 05/01/87 | 05/04/87 | 37 |
| *9 | 05/14/87 | 05/15/87 | 6 |
| 10.1 | 05/18/87 | 05/20/87 | 23 |
| 10.2 | 05/20/87 | 05/23/87 | 12 |
| *10 | 05/18/87 | 05/23/87 | 35 |
| *11 | 05/25/87 | 05/27/87 | 2 |
| 12.1 | 05/27/87 | 05/28/87 | 14 |
| 12.2 | 05/28/87 | 05/29/87 | 8 |
| 12.3 | 05/29/87 | 06/01/87 | 1 |
| *12 | 05/27/87 | 06/01/87 | 24 |
| 13.1 | 06/01/87 | 06/01/87 | -- |
| 13.2 | 06/01/87 | 06/02/87 | -- |
| *13 | 06/01/87 | 06/02/87 | 7 |
| *14 | 06/11/87 | 06/15/87 | 9 |
| *15 | 06/21/87 | 06/25/87 | 10 |
| *16 | 06/25/87 | 06/30/87 | 7 |
| 18.1 | 07/05/87 | 07/06/87 | -- |
| 18.2 | 07/06/87 | 07/10/87 | -- |
| *18 | 07/05/87 | 07/10/87 | 22 |

**Appendix I.** *Date and precipitation data for runoff events, Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identi-fication | Runoff Start Date | Runoff End Date | Total Precipitation (mm) |
|---|---|---|---|
| *19 | 07/20/87 | 07/24/87 | 12 |
| 20.1 | 07/26/87 | 07/27/87 | 12 |
| 20.2 | 07/27/87 | 08/02/87 | 7 |
| *20 | 07/26/87 | 08/02/87 | 19 |
| 21.1 | 08/02/87 | 08/03/87 | 5 |
| 21.2 | 08/03/87 | 08/05/87 | 1 |
| *21 | 08/02/87 | 08/05/87 | 6 |
| *22 | 08/08/87 | 08/13/87 | 51 |
| 23.1 | 08/13/87 | 08/14/87 | 21 |
| 23.2 | 08/14/87 | 08/16/87 | -- |
| 23.3 | 08/16/87 | 08/16/87 | -- |
| 23.4 | 08/16/87 | 08/21/87 | 10 |
| *23 | 08/13/87 | 08/21/87 | 81 |
| *24 | 08/21/87 | 08/24/87 | 2 |
| 25.1 | 08/26/87 | 08/28/87 | 26 |
| 25.2 | 08/28/87 | 09/02/87 | 19 |
| *25 | 08/26/87 | 09/02/87 | 45 |
| 26.1 | 09/13/87 | 09/14/87 | 13 |
| 26.2 | 09/14/87 | 09/15/87 | 4 |
| 26.3 | 09/15/87 | 09/16/87 | -- |
| 26.4 | 09/16/87 | 09/16/87 | -- |
| 26.5 | 09/16/87 | 09/17/87 | -- |
| 26.6 | 09/17/87 | 09/18/87 | -- |
| 26.7 | 09/18/87 | 09/23/87 | -- |
| *26 | 09/13/87 | 09/23/87 | 82 |
| 27.1 | 10/22/87 | 10/24/87 | 2 |
| 27.2 | 10/24/87 | 10/26/87 | 7 |
| 27.3 | 10/26/87 | 10/28/87 | 5 |
| *27 | 10/22/87 | 10/28/87 | 14 |
| *28 | 10/31/87 | 11/05/87 | 8 |

**Appendix I.** *Date and precipitation data for runoff events, Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identi-fication | Runoff Start Date | Runoff End Date | Total Precipitation (mm) |
|---|---|---|---|
| 29.1 | 11/07/87 | 11/08/87 | 12 |
| 29.2 | 11/08/87 | 11/13/87 | 2 |
| *29 | 11/07/87 | 11/13/87 | 14 |
| *30. | 11/16/87 | 11/20/87 | 29 |
| *31 | 11/24/87 | 12/03/87 | 41 |
| *32 | 12/07/87 | 12/11/87 | 27 |
| *33 | 12/11/87 | 12/15/87 | 5 |
| *34 | 12/19/87 | 12/23/87 | 19 |
| *35 | 12/23/87 | 12/27/87 | 14 |
| 37.1 | 02/29/88 | 02/29/88 | ** |
| 37.2 | 02/29/88 | 03/01/88 | ** |
| 37.3 | 03/01/88 | 03/02/88 | ** |
| 37.4 | 03/02/88 | 03/05/88 | ** |
| *37 | 02/29/88 | 03/05/88 | ** |
| *38 | 03/06/88 | 03/16/88 | 2 |
| *39 | 03/24/88 | 03/28/88 | 6 |
| *40 | 03/28/88 | 04/02/88 | 20 |
| *41 | 04/02/88 | 04/05/88 | 35 |
| *42 | 04/05/88 | 04/13/88 | 8 |

## Appendix II.

**Table 1.** *Event-mean concentrations and loads of suspended solids in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *1 | 360 | 1,127.5 | 49 | 88.7 | 58 | 68.1 | 53 | 156.8 | 85 |
| 3.1 | 128 | 153.5 | 15 | 15.4 | 22 | 0 | 15 | 15.4 | 88 |
| 3.2 | 128 | 103.4 | 15 | 12.5 | 22 | 1.1 | 15 | 13.6 | 88 |
| *3 | ** | 256.9 | ** | 27.9 | ** | 1.1 | 15 | 29.0 | nc |
| 5.1 | 52 | 19.1 | 24 | 4.7 | 24 | 1.2 | 24 | 5.9 | 54 |
| 5.2 | 52 | 59.8 | 24 | 25.3 | 24 | .6 | 24 | 25.9 | 54 |
| *5 | ** | 78.9 | ** | 30.0 | ** | 1.8 | 24 | 31.8 | nc |
| 6.1 | 130 | 407.2 | 14 | 15.8 | 11 | 8.1 | 13 | 23.9 | 90 |
| 6.2 | 296 | 268.0 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 675.2 | ** | 15.8 | ** | 8.1 | 6 | 23.9 | nc |
| *7 | 142 | 500.3 | 15 | 52.5 | 15 | .7 | 15 | 53.2 | 89 |
| *8 | -- | -- | 50 | 156.6 | 22 | 56.5 | 37 | 213.1 | -- |
| *9 | 216 | 105.7 | 15 | 1.8 | 15 | .4 | 15 | 2.2 | 93 |
| 10.1 | -- | -- | 18 | 34.4 | 38 | 54.9 | 27 | 89.3 | -- |
| 10.2 | 66 | 124.3 | 10 | 15.7 | 13 | 13.7 | 11 | 29.4 | 83 |
| *10 | ** | 124.3 | ** | 50.0 | ** | 68.6 | 20 | 118.7 | nc |
| *11 | 21 | 2.1 | 4 | .2 | 4 | .1 | 4 | .3 | 81 |
| 12.1 | 812 | 2,046.4 | 15 | 19.1 | 25 | 23.9 | 19 | 43.0 | 98 |
| 12.2 | 196 | 244.6 | 19 | 14.4 | 3 | 1.6 | 12 | 16.0 | 94 |
| 12.3 | 30 | 3.7 | 8 | 2.5 | 8 | 1.0 | 8 | 3.5 | 73 |
| *12 | ** | 2,294.7 | ** | 36.0 | ** | 26.5 | 16 | 62.5 | nc |
| 13.1 | 30 | 3.7 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 152 | 81.8 | 4 | 1.9 | 4 | .8 | 4 | 2.7 | 97 |
| *13 | ** | 85.5 | ** | 1.9 | ** | .8 | 4 | 2.7 | nc |
| *14 | 52 | 25.4 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 870 | 510.9 | -- | -- | -- | -- | -- | -- | -- |
| *16 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 18.1 | 264 | 490.9 | 16 | 13.7 | 23 | 14.6 | 19 | 28.3 | 93 |
| 18.2 | 340 | 357.7 | 20 | 16.1 | 12 | 6.8 | 17 | 22.9 | 95 |
| *18 | ** | 848.7 | ** | 29.9 | ** | 21.4 | 18 | 51.3 | nc |

## Appendix II.

**Table 1.** *Event-mean concentrations and loads of suspended solids in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 556 | 952.3 | 24 | 22.9 | 44 | 29.1 | 32 | 52.0 | 94 |
| 20.1 | 120 | 117.4 | 124 | 42.5 | 124 | 27.3 | 124 | 69.8 | - 3 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 117.4 | ** | 42.5 | ** | 27.3 | 34 | 69.8 | nc |
| 21.1 | 65 | 15.9 | 18 | 2.6 | 46 | 2.3 | 25 | 4.9 | 62 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 15.9 | ** | 2.6 | ** | 2.3 | 20 | 4.9 | nc |
| *22 | 388 | 2,705.7 | 26 | 105.0 | 26 | 77.0 | 26 | 182.0 | 93 |
| 23.1 | 248 | 521.9 | 21 | 19.0 | 21 | 14.9 | 21 | 33.9 | 92 |
| 23.2 | 270 | 997.6 | 72 | 58.1 | 72 | 37.0 | 72 | 95.1 | 73 |
| 23.3 | 224 | 1,046.9 | 25 | 68.5 | 25 | 61.8 | 25 | 130.3 | 89 |
| 23.4 | 166 | 353.4 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 2,919.8 | ** | 145.7 | ** | 113.7 | 20 | 259.4 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | 43 | 142.0 | 13 | 23.2 | 17 | 23.3 | 15 | 46.5 | 65 |
| 25.2 | 424 | 664.0 | 19 | 21.9 | 21 | 15.9 | 20 | 37.8 | 95 |
| *25 | ** | 806.0 | ** | 45.1 | ** | 39.2 | 17 | 84.3 | nc |
| 26.1 | 78 | 26.7 | -- | -- | 13 | 3.2 | -- | -- | -- |
| 26.2 | 74 | 3.6 | 52 | 1.3 | 45 | 4.4 | 46 | 5.7 | 38 |
| 26.3 | 392 | 48.0 | 30 | .7 | 26 | 12.1 | 26 | 12.8 | 93 |
| 26.4 | 268 | 203.3 | 13 | 0 | 14 | 18.8 | 14 | 18.8 | 95 |
| 26.5 | 22 | 28.0 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | 236 | 196.3 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | 72 | 255.5 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 761.4 | ** | 2.0 | ** | 38.5 | 5 | 37.3 | nc |
| 27.1 | 484 | 639.5 | 12 | 4.1 | 10 | 2.9 | 11 | 7.0 | 98 |
| 27.2 | 106 | 38.9 | 14 | 3.8 | 15 | 3.3 | 14 | 7.1 | 87 |
| 27.3 | 146 | 53.6 | 14 | 2.7 | 14 | 2.7 | 14 | 5.4 | 90 |
| *27 | ** | 732.0 | ** | 10.6 | ** | 9.0 | 13 | 19.5 | nc |
| *28 | 148 | 50.7 | 9 | 1.1 | 9 | 2.6 | 9 | 3.7 | 94 |
| 29.1 | 452 | 785.2 | 28 | 19.9 | 18 | 11.5 | 23 | 31.4 | 95 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 785.2 | ** | 19.9 | ** | 11.5 | 18 | 31.4 | nc |
| *30 | 188 | 777.4 | 28 | 59.6 | 25 | 50.2 | 27 | 109.8 | 86 |
| *31 | 158 | 927.8 | 34 | 99.0 | 21 | 63.2 | 27 | 162.2 | 83 |

## Appendix II.

**Table 1.** *Event-mean concentrations and loads of suspended solids in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 26 | 78.3 | 104 | 155.2 | 28 | 41.8 | 66 | 197.0 | -154 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 45 | 54.0 | 10 | 7.8 | 10 | 4.9 | 10 | 12.7 | 78 |
| *35 | 108 | 76.6 | 38 | 21.4 | 38 | 13.9 | 38 | 35.3 | 65 |
| 37.1 | 136 | 66.6 | 94 | 2.3 | 94 | 2.3 | 94 | 4.6 | 31 |
| 37.2 | 100 | 46.5 | 43 | 13.7 | 43 | 9.5 | 43 | 23.2 | 57 |
| 37.3 | 56 | 23.3 | 32 | 7.8 | 32 | 5.5 | 32 | 13.3 | 43 |
| 37.4 | 56 | nmf | -- | -- | -- | -- | -- | | -- |
| *37 | ** | 136.4 | ** | 23.8 | ** | 17.3 | 34 | 41.1 | nc |
| *38 | 72 | 33.5 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 1,330 | 1,008.8 | 78 | 22.9 | 78 | 13.4 | 78 | 36.3 | 94 |
| *40 | 664 | 1,592.2 | 80 | 131.2 | 80 | 105.7 | 80 | 236.9 | 88 |
| *41 | 1,110 | 7,034.4 | 140 | 507.0 | 140 | 435.0 | 140 | 942.0 | 87 |
| *42 | 34 | 27.5 | 29 | 17.7 | 29 | 9.2 | 29 | 26.9 | 15 |
| Total load (2): | | 28,229.7 | | 1,934.2 | | 1,358.9 | | 3,290.0 | |

Percentage decrease in outflow EMC:
maximum = 98
median = 88
minimum = -154

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 2.** *Event-mean concentrations and loads of total volatile solids in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *1 | 146 | 457.3 | 66 | 119.5 | 68 | 79.9 | 67 | 199.4 | 54 |
| 3.1 | 66 | 79.1 | 44 | 45.2 | 60 | -- | 44 | 45.2 | 33 |
| 3.2 | 66 | 53.3 | 44 | 36.6 | 60 | 2.9 | 45 | 39.5 | 32 |
| *3 | ** | 132.4 | ** | 81.8 | ** | 2.9 | 44 | 84.7 | nc |
| 5.1 | 32 | 11.7 | 48 | 9.4 | 48 | 2.3 | 48 | 11.7 | - 50 |
| 5.2 | 32 | 36.8 | 48 | 50.5 | 48 | 1.2 | 48 | 51.7 | - 50 |
| *5 | ** | 48.5 | ** | 59.9 | ** | 3.5 | 48 | 63.4 | nc |
| 6.1 | 66 | 206.7 | 36 | 40.5 | 114 | 83.7 | 67 | 124.2 | - 2 |
| 6.2 | 90 | 81.5 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 288.2 | ** | 40.5 | ** | 83.7 | 30 | 124.2 | nc |
| *7 | 64 | 225.5 | 38 | 133.0 | 38 | 1.9 | 38 | 134.9 | 41 |
| *8 | -- | -- | 40 | 125.3 | 40 | 102.8 | 40 | 228.1 | -- |
| *9 | 118 | 57.7 | 2 | .2 | 2 | 0 | 2 | .2 | 98 |
| 10.1 | 98 | 371.7 | 0 | 0 | 0 | -- | -- | -- | -- |
| 10.2 | 42 | 79.1 | 4 | 6.3 | 4 | 4.2 | 4 | 10.5 | 90 |
| *10 | ** | 450.8 | ** | 6.3 | ** | 4.2 | 2 | 10.5 | nc |
| *11 | 54 | 5.3 | 30 | 1.5 | 30 | .7 | 30 | 2.2 | 44 |
| 12.1 | 110 | 277.2 | 28 | 35.6 | 30 | 28.6 | 29 | 64.2 | 74 |
| 12.2 | 74 | 92.3 | 40 | 30.3 | 22 | 11.8 | 33 | 42.1 | 55 |
| 12.3 | 60 | 7.3 | 36 | 11.5 | 36 | 4.4 | 36 | 15.9 | 40 |
| *12 | ** | 376.8 | ** | 77.4 | ** | 44.8 | 31 | 122.2 | nc |
| 13.1 | 60 | 7.3 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 84 | 45.2 | 36 | 16.7 | 36 | 7.1 | 36 | 23.8 | 57 |
| *13 | ** | 52.5 | ** | 16.7 | ** | 7.1 | 36 | 23.8 | nc |
| *14 | 88 | 43.1 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 356 | 209.1 | -- | -- | -- | -- | -- | -- | -- |
| *16 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 18.1 | 92 | 171.1 | 62 | 53.1 | 62 | 39.4 | 62 | 92.5 | 33 |
| 18.2 | 104 | 109.4 | 58 | 46.8 | 56 | 31.5 | 57 | 78.3 | 45 |
| *18 | ** | 280.5 | ** | 99.9 | ** | 70.9 | 60 | 170.8 | nc |

## Appendix II

**Table 2.** *Event-mean concentrations and loads of total volatile solids in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 164 | 280.9 | 64 | 61.1 | 68 | 44.9 | 66 | 106.0 | 60 |
| 20.1 | 86 | 84.2 | 232 | 79.5 | 232 | 51.1 | 232 | 130.6 | -170 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 84.2 | ** | 79.5 | ** | 51.1 | 63 | 130.6 | nc |
| 21.1 | 82 | 20.1 | 62 | 9.1 | 98 | 4.8 | 71 | 13.9 | 13 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 20.1 | ** | 9.1 | ** | 4.8 | 57 | 13.9 | nc |
| *22 | -- | -- | 38 | 153.4 | 38 | 112.5 | 38 | 265.9 | -- |
| 23.1 | 78 | 164.1 | 48 | 43.5 | 48 | 34.1 | 48 | 77.6 | 38 |
| 23.2 | 96 | 354.7 | 48 | 38.8 | 48 | 24.7 | 48 | 63.5 | 50 |
| 23.3 | 90 | 420.6 | 38 | 104.1 | 38 | 93.9 | 38 | 198.0 | 58 |
| 23.4 | 60 | 127.7 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 1,067.1 | ** | 186.4 | ** | 152.7 | 26 | 339.1 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | 28 | 92.5 | 32 | 57.2 | 32 | 43.8 | 32 | 101.0 | - 14 |
| 25.2 | 122 | 191.0 | 26 | 29.9 | 30 | 22.8 | 28 | 52.7 | 77 |
| *25 | ** | 283.5 | ** | 87.1 | ** | 66.6 | 30 | 153.7 | nc |
| 26.1 | 58 | 19.9 | -- | -- | 38 | 9.3 | -- | -- | -- |
| 26.2 | 54 | 2.6 | 36 | .9 | 34 | 3.3 | 34 | 4.2 | 37 |
| 26.3 | 82 | 10.0 | 28 | .7 | 32 | 14.9 | 32 | 15.6 | 61 |
| 26.4 | 58 | 44.0 | 30 | 0 | 30 | 40.4 | 30 | 40.4 | 48 |
| 26.5 | 32 | 40.7 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | 66 | 54.9 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | 50 | 177.4 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 349.5 | ** | 1.6 | ** | 67.9 | 8 | 60.2 | nc |
| 27.1 | 140 | 185.0 | 46 | 15.8 | 46 | 13.5 | 46 | 29.3 | 67 |
| 27.2 | 142 | 52.1 | 48 | 12.9 | 44 | 9.7 | 46 | 22.6 | 67 |
| 27.3 | 124 | 45.5 | 50 | 9.8 | 50 | 9.8 | 50 | 19.6 | 60 |
| *27 | ** | 282.6 | ** | 38.5 | ** | 33.0 | 47 | 71.5 | nc |
| *28 | 136 | 46.6 | 50 | 6.1 | 50 | 14.7 | 50 | 20.8 | 63 |
| 29.1 | 168 | 291.9 | 64 | 45.4 | 62 | 39.4 | 63 | 84.8 | 62 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 291.9 | ** | 45.4 | ** | 39.4 | 48 | 84.8 | nc |
| *30 | 80 | 330.8 | 48 | 102.2 | 56 | 112.4 | 52 | 214.6 | 35 |
| *31 | 78 | 458.0 | 44 | 128.1 | 40 | 120.4 | 42 | 248.5 | 46 |

## Appendix II

**Table 2.** *Event-mean concentrations and loads of total volatile solids in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 36 | 108.3 | 86 | 128.4 | 42 | 62.7 | 64 | 191.1 | - 78 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 66 | 79.1 | 40 | 31.3 | 40 | 19.6 | 40 | 50.9 | 39 |
| *35 | 54 | 38.3 | 34 | 19.1 | 34 | 12.5 | 34 | 31.6 | 37 |
| 37.1 | 88 | 43.1 | 76 | 1.9 | 76 | 1.9 | 76 | 3.8 | 14 |
| 37.2 | 76 | 35.3 | 60 | 19.1 | 60 | 13.2 | 60 | 32.3 | 21 |
| 37.3 | 58 | 24.1 | 58 | 14.2 | 58 | 9.9 | 58 | 24.1 | 0 |
| 37.4 | 58 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 102.5 | ** | 35.2 | ** | 25.0 | 50 | 60.2 | nc |
| *38 | 82 | 38.1 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 376 | 285.2 | 58 | 17.0 | 58 | 9.9 | 58 | 26.9 | 85 |
| *40 | 170 | 407.6 | 60 | 98.4 | 60 | 79.3 | 60 | 177.7 | 65 |
| *41 | 204 | 1,292.8 | 52 | 188.3 | 52 | 161.6 | 52 | 349.9 | 75 |
| *42 | 36 | 29.1 | 36 | 22.0 | 36 | 11.5 | 36 | 33.5 | 0 |
| Total load (2): | | 8,503.9 | | 2,200.2 | | 1,604.9 | | 3,795.8 | |

Percentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 98 |
| median = | 45 |
| minimum = | -170 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

**Table 3.** *Event-mean concentrations and loads of total chemical oxygen demand in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concenration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | in EMC (1) |
| *1 | 165 | 516.8 | 47 | 85.1 | 63 | 74.0 | 53 | 159.1 | 68 |
| 3.1 | 70 | 83.9 | 29 | 29.8 | 28 | 0 | 29 | 29.8 | 59 |
| 3.2 | 70 | 56.5 | 29 | 24.1 | 28 | 1.4 | 29 | 25.5 | 59 |
| *3 | ** | 140.4 | ** | 53.9 | ** | 1.4 | 29 | 55.3 | nc |
| 5.1 | 37 | 13.6 | 16 | 3.1 | 16 | .8 | 16 | 3.9 | 57 |
| 5.2 | 37 | 42.6 | 16 | 16.8 | 16 | .4 | 16 | 17.2 | 57 |
| *5 | ** | 56.2 | ** | 19.9 | ** | 1.2 | 16 | 21.1 | nc |
| 6.1 | 60 | 187.9 | 22 | 24.8 | 15 | 11.0 | 19 | 35.8 | 68 |
| 6.2 | 120 | 108.6 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 296.5 | ** | 24.8 | ** | 11.0 | 9 | 35.8 | nc |
| *7 | 62 | 218.5 | 21 | 73.5 | 21 | 1.0 | 21 | 74.5 | 66 |
| *8 | -- | -- | 27 | 84.6 | 23 | 59.1 | 25 | 143.7 | -- |
| *9 | 200 | 97.9 | 21 | 2.6 | 21 | .5 | 21 | 3.1 | 90 |
| 10.1 | 100 | 379.3 | 28 | 53.4 | 30 | 43.3 | 29 | 96.7 | 71 |
| 10.2 | 42 | 79.1 | 21 | 32.9 | 24 | 25.3 | 22 | 58.2 | 48 |
| *10 | ** | 458.4 | ** | 86.3 | ** | 68.6 | 26 | 154.9 | nc |
| *11 | 73 | 7.1 | 16 | .8 | 19 | .5 | 17 | 1.3 | 77 |
| 12.1 | 140 | 352.8 | 24 | 30.5 | 26 | 24.8 | 25 | 55.3 | 82 |
| 12.2 | 79 | 98.6 | 31 | 23.5 | 15 | 8.1 | 24 | 31.6 | 70 |
| 12.3 | 85 | 10.4 | 21 | 6.7 | 21 | 2.6 | 21 | 9.3 | 75 |
| *12 | -- | 461.8 | -- | 60.7 | -- | 35.5 | 24 | 96.2 | -- |
| 13.1 | 85 | 10.4 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 110 | 59.2 | 25 | 11.6 | 25 | 4.9 | 25 | 16.5 | 77 |
| *13 | ** | 69.6 | ** | 11.6 | ** | 4.9 | nc | 16.5 | nc |
| *14 | 54 | 26.4 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 360 | 211.4 | 50 | 8.6 | 60 | 4.4 | 53 | 13.0 | 85 |
| *16 | -- | -- | 48 | 17.6 | 57 | 9.8 | 51 | 27.4 | -- |
| 18.1 | 110 | 204.6 | 50 | 42.8 | 59 | 37.5 | 54 | 80.3 | 51 |
| 18.2 | 75 | 78.9 | 46 | 37.1 | 48 | 27.0 | 47 | 64.1 | 37 |
| *18 | ** | 283.5 | ** | 79.9 | ** | 64.5 | 50 | 144.4 | nc |

**Table 3.** *Event-mean concentrations and loads of total chemical oxygen demand in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 140 | 239.8 | 52 | 49.6 | 53 | 35.0 | 52 | 84.6 | 63 |
| 20.1 | 82 | 80.3 | 350 | 119.9 | 350 | 77.1 | 350 | 197.0 | -327 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 80.3 | ** | 119.9 | ** | 77.1 | 95 | 197.0 | nc |
| 21.1 | 78 | 19.1 | 41 | 6.0 | 41 | 2.0 | 41 | 8.0 | 47 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 19.1 | ** | 6.0 | ** | 2.0 | 33 | 8.0 | nc |
| *22 | 53 | 369.6 | 37 | 149.4 | 37 | 109.5 | 37 | 258.9 | 30 |
| 23.1 | 80 | 168.3 | 32 | 29.0 | 32 | 22.7 | 32 | 51.7 | 60 |
| 23.2 | 71 | 262.3 | 33 | 26.6 | 33 | 17.0 | 33 | 43.6 | 54 |
| 23.3 | 39 | 182.3 | 23 | 63.0 | 23 | 56.8 | 23 | 119.8 | 41 |
| 23.4 | 37 | 78.8 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 691.7 | ** | 118.6 | ** | 96.5 | 16 | 215.1 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | 21 | 69.4 | 21 | 37.5 | 26 | 35.6 | 23 | 73.1 | - 10 |
| 25.2 | 52 | 81.4 | 19 | 21.9 | 27 | 20.5 | 22 | 42.4 | 58 |
| *25 | ** | 150.8 | ** | 59.4 | ** | 56.1 | 23 | 115.5 | nc |
| 26.1 | 66 | 22.6 | -- | -- | 28 | 6.9 | -- | -- | -- |
| 26.2 | 59 | 2.9 | 25 | .6 | 26 | 2.5 | 26 | 3.1 | 56 |
| 26.3 | 100 | 12.2 | 24 | .6 | 21 | 9.8 | 21 | 10.4 | 79 |
| 26.4 | 60 | 45.5 | 18 | 0 | 15 | 20.2 | 15 | 20.2 | 75 |
| 26.5 | 25 | 31.8 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | 60 | 49.9 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | 42 | 149.0 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 313.9 | ** | 1.2 | ** | 39.4 | 5 | 40.7 | nc |
| 27.1 | 37 | 48.9 | 26 | 8.9 | 27 | 7.9 | 26 | 16.8 | 30 |
| 27.2 | 150 | 55.1 | 26 | 7.0 | 21 | 4.6 | 24 | 11.6 | 84 |
| 27.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *27 | ** | 104.0 | ** | 15.9 | ** | 12.5 | 19 | 28.4 | nc |
| *28 | 180 | 61.7 | 33 | 4.0 | 33 | 9.7 | 33 | 13.7 | 82 |
| 29.1 | 140 | 243.2 | 42 | 29.8 | 41 | 26.1 | 42 | 55.9 | 70 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 243.2 | ** | 29.8 | ** | 26.1 | 32 | 55.9 | nc |
| *30 | 85 | 351.5 | 31 | 66.0 | 48 | 96.3 | 39 | 162.3 | 54 |
| *31 | 54 | 317.1 | 23 | 67.0 | 20 | 60.2 | 21 | 127.2 | 61 |

**Table 3.** *Event-mean concentrations and loads of total chemical oxygen demand in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 85 | 255.8 | 30 | 44.8 | 32 | 47.8 | 31 | 92.6 | 64 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 47 | 56.4 | 23 | 18.0 | 23 | 11.3 | 23 | 29.3 | 51 |
| *35 | 66 | 46.8 | 32 | 18.0 | 32 | 11.7 | 32 | 29.7 | 52 |
| 37.1 | 82 | 40.1 | 56 | 1.4 | 56 | 1.4 | 56 | 2.8 | 32 |
| 37.2 | 68 | 31.6 | 48 | 15.3 | 48 | 10.6 | 48 | 25.9 | 29 |
| 37.3 | 51 | 21.2 | 45 | 11.0 | 45 | 7.7 | 45 | 18.7 | 12 |
| 37.4 | 51 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 92.9 | ** | 27.7 | ** | 19.7 | 39 | 47.4 | nc |
| *38 | 70 | 32.5 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 370 | 280.7 | 46 | 13.5 | 46 | 7.9 | 46 | 21.4 | 88 |
| *40 | 140 | 335.7 | 56 | 91.8 | 56 | 74.0 | 56 | 165.8 | 60 |
| *41 | 150 | 950.6 | 47 | 170.2 | 47 | 146.1 | 47 | 316.3 | 69 |
| *42 | 28 | 22.6 | 22 | 13.5 | 22 | 7.0 | 22 | 20.5 | 21 |
| Total load (2): | | 7,861.2 | | 1,694.2 | | 1,282.3 | | 2,976.5 | |

Percentage decrease in outflow EMC:
maximum = 90
median = 59
minimum = -327

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 4.** *Event-mean concentrations and loads of dissolved chemical oxygen demand in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *1 | 43 | 134.7 | 24 | 43.5 | 34 | 39.9 | 28 | 83.4 | 35 |
| 3.1 | -- | -- | 16 | 16.4 | 15 | 0 | 16 | 16.4 | nc |
| 3.2 | -- | -- | 16 | 13.3 | 15 | .7 | 16 | 14.0 | nc |
| *3 | ** | -- | ** | 29.7 | ** | .7 | nc | 30.4 | nc |
| 5.1 | 14 | 5.1 | 19 | 3.7 | 19 | .9 | 19 | 4.6 | - 36 |
| 5.2 | 14 | 16.1 | 19 | 20.0 | 19 | .5 | 19 | 20.5 | - 36 |
| *5 | ** | 21.2 | ** | 23.7 | ** | 1.4 | 19 | 25.1 | nc |
| 6.1 | 20 | 62.6 | 15 | 16.9 | 12 | 8.8 | 14 | 25.7 | 30 |
| 6.2 | 10 | 9.1 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 71.7 | ** | 16.9 | ** | 8.8 | 6 | 25.7 | nc |
| *7 | 16 | 56.4 | 13 | 45.5 | 13 | .6 | 13 | 46.1 | 19 |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | 110 | 53.8 | 20 | 2.4 | 20 | .5 | 20 | 2.9 | 82 |
| 10.1 | 32 | 121.4 | 16 | 30.5 | 21 | 30.3 | 18 | 60.8 | 44 |
| 10.2 | 16 | 30.1 | 12 | 18.8 | 16 | 16.8 | 14 | 35.6 | 12 |
| *10 | ** | 151.5 | ** | 49.3 | ** | 47.1 | 16 | 96.4 | nc |
| *11 | 55 | 5.4 | 17 | .8 | 16 | .4 | 17 | 1.2 | 69 |
| 12.1 | 23 | 58.0 | 20 | 25.4 | 20 | 19.1 | 20 | 44.5 | 13 |
| 12.2 | 22 | 27.5 | 17 | 12.9 | 15 | 8.1 | 16 | 21.0 | 27 |
| 12.3 | 68 | 8.3 | 19 | 6.0 | 19 | 2.3 | 19 | 8.3 | 72 |
| *12 | ** | 93.8 | ** | 44.3 | ** | 29.5 | nc | 73.8 | nc |
| 13.1 | 68 | 8.3 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 40 | 21.5 | 18 | 8.4 | 18 | 3.5 | 18 | 11.9 | 55 |
| *13 | ** | 29.8 | ** | 8.4 | ** | 3.5 | nc | 11.9 | nc |
| *14 | 46 | 22.5 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 160 | 94.0 | 38 | 6.5 | 45 | 3.3 | 40 | 9.8 | 75 |
| *16 | -- | -- | 38 | 13.9 | 48 | 8.2 | 41 | 22.2 | -- |
| 18.1 | 64 | 119.0 | 44 | 37.7 | 48 | 30.5 | 46 | 68.2 | 28 |
| 18.2 | 36 | 37.9 | 36 | 29.1 | -- | -- | -- | -- | -- |
| *18 | ** | 156.9 | ** | 66.8 | ** | 30.5 | 34 | 97.3 | nc |

## Appendix II

**Table 4.** *Event-mean concentrations and loads of dissolved chemical oxygen demand in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 45 | 77.1 | 34 | 32.4 | 40 | 26.4 | 36 | 58.8 | 20 |
| 20.1 | 45 | 44.0 | 69 | 23.6 | 69 | 15.2 | 69 | 38.8 | - 53 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 44.0 | ** | 23.6 | ** | 15.2 | 19 | 38.8 | nc |
| 21.1 | 58 | 14.2 | 33 | 4.8 | 29 | 1.4 | 32 | 6.2 | 45 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 14.2 | ** | 4.8 | ** | 1.4 | 26 | 6.2 | nc |
| *22 | 16 | 111.6 | 23 | 92.9 | 23 | 68.1 | 23 | 161.0 | - 44 |
| 23.1 | 20 | 42.1 | 20 | 18.1 | 20 | 14.2 | 20 | 32.3 | -- |
| 23.2 | 24 | 88.7 | 18 | 14.5 | 18 | 9.2 | 18 | 23.7 | 25 |
| 23.3 | 19 | 88.8 | 13 | 35.6 | 13 | 32.1 | 13 | 67.7 | 32 |
| 23.4 | 19 | 40.4 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 260.0 | ** | 68.2 | ** | 55.5 | 9 | 123.7 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | 13 | 42.9 | 16 | 28.6 | 12 | 16.4 | 14 | 45.0 | - 8 |
| 25.2 | 11 | 17.2 | 10 | 11.5 | 14 | 10.6 | 12 | 22.1 | - 9 |
| *25 | ** | 60.1 | ** | 40.1 | ** | 27.0 | 13 | 67.1 | nc |
| 26.1 | 34 | 11.6 | -- | -- | 22 | 5.4 | -- | -- | -- |
| 26.2 | 33 | 1.6 | 13 | .3 | 15 | 1.5 | 15 | 1.8 | 55 |
| 26.3 | 19 | 2.3 | 15 | .4 | 16 | 7.4 | 16 | 7.8 | 16 |
| 26.4 | 11 | 8.3 | 12 | 0 | 12 | 16.1 | 12 | 16.1 | - 9 |
| 26.5 | 16 | 20.4 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | 15 | 12.5 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | 15 | 53.2 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 109.9 | ** | .7 | ** | 30.4 | 4 | 31.1 | nc |
| 27.1 | 22 | 29.1 | 24 | 8.2 | 24 | 7.0 | 24 | 15.2 | - 9 |
| 27.2 | 130 | 47.7 | 21 | 5.7 | 17 | 3.7 | 19 | 9.4 | 85 |
| 27.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *27 | ** | 76.8 | ** | 13.9 | ** | 10.7 | 16 | 24.6 | nc |
| *28 | 130 | 44.5 | 27 | 3.3 | 27 | 7.9 | 27 | 11.2 | 79 |
| 29.1 | 68 | 118.1 | 36 | 25.5 | 25 | 15.9 | 31 | 41.4 | 54 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 118.1 | ** | 25.5 | ** | 15.9 | 24 | 41.4 | nc |
| *30 | 25 | 103.4 | 23 | 49.0 | 28 | 56.2 | 25 | 105.2 | 0 |
| *31 | 11 | 64.6 | 11 | 32.0 | 14 | 42.1 | 13 | 74.1 | - 18 |

## Appendix II

**Table 4.** *Event-mean concentrations and loads of dissolved chemical oxygen demand in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 18 | 54.2 | 11 | 16.4 | 14 | 20.9 | 12 | 37.3 | 33 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 18 | 21.6 | 10 | 7.8 | 10 | 4.9 | 10 | 12.7 | 44 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | 32 | 15.7 | 24 | .6 | 24 | .6 | 24 | 1.2 | 25 |
| 37.2 | 28 | 13.0 | 30 | 9.5 | 30 | 6.6 | 30 | 16.1 | - 7 |
| 37.3 | 31 | 12.9 | 28 | 6.9 | 28 | 4.8 | 28 | 11.7 | 10 |
| 37.4 | 31 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 41.6 | ** | 17.0 | ** | 12.0 | 24 | 28.9 | nc |
| *38 | 40 | 18.6 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 43 | 32.6 | 15 | 4.4 | 15 | 2.6 | 15 | 7.0 | 65 |
| *40 | 16 | 38.4 | 16 | 26.2 | 16 | 21.1 | 16 | 47.3 | 0 |
| *41 | 10 | 63.4 | 9 | 32.6 | 9 | 28.0 | 9 | 60.6 | 10 |
| *42 | 18 | 14.5 | 9 | 5.5 | 9 | 2.9 | 9 | 8.4 | 50 |
| Total load (2): | | 2,260.9 | | 848.0 | | 623.6 | | 1,471.6 | |

Percentage decrease in outflow EMC:
maximum = 85
median = 25
minimum = - 53

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 5.** *Event-mean concentrations and loads of total chloride in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | in EMC (1) |
| *1 | 19 | 59.5 | 120 | 217.3 | 160 | 187.9 | 136 | 405.2 | - 615 |
| 3.1 | 22 | 26.4 | 200 | 205.5 | 110 | 0 | 200 | 205.5 | - 809 |
| 3.2 | 22 | 17.8 | 200 | 166.4 | 110 | 5.4 | 195 | 171.8 | - 786 |
| *3 | ** | 44.2 | ** | 371.9 | ** | 5.4 | 198 | 377.3 | nc |
| 5.1 | 100 | 36.7 | 170 | 33.3 | 170 | 8.3 | 170 | 41.6 | - 70 |
| 5.2 | 100 | 115.0 | 170 | 178.9 | 170 | 4.2 | 170 | 183.1 | - 70 |
| *5 | ** | 151.7 | ** | 212.2 | ** | 12.5 | 170 | 224.7 | nc |
| 6.1 | 8 | 23.8 | 120 | 135.1 | 88 | 64.6 | 107 | 199.7 | -1,238 |
| 6.2 | 4 | 3.3 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 27.1 | ** | 135.1 | ** | 64.6 | 49 | 199.7 | nc |
| *7 | 4 | 12.3 | 70 | 244.9 | 70 | 3.4 | 70 | 248.3 | -1,650 |
| *8 | -- | -- | 40 | 125.3 | 46 | 118.2 | 43 | 243.5 | -- |
| *9 | 7 | 3.4 | 75 | 9.2 | 75 | 1.8 | 75 | 11.0 | - 971 |
| 10.1 | 2 | 8.3 | 38 | 72.5 | 29 | 41.9 | 34 | 114.4 | -1,600 |
| 10.2 | 3 | 6.2 | 22 | 34.5 | 24 | 25.3 | 23 | 59.8 | - 667 |
| *10 | ** | 14.5 | ** | 107.0 | ** | 67.2 | 29 | 174.2 | nc |
| *11 | 6 | .6 | 28 | 1.4 | 30 | .7 | 29 | 2.1 | - 383 |
| 12.1 | 3 | 7.3 | 22 | 28.0 | 24 | 22.9 | 23 | 50.9 | - 667 |
| 12.2 | 4 | 4.7 | 18 | 13.7 | 19 | 10.2 | 18 | 23.9 | - 350 |
| 12.3 | 7 | .8 | 19 | 6.0 | 19 | 2.3 | 19 | 8.3 | - 171 |
| *12 | ** | 12.8 | ** | 47.7 | ** | 35.4 | 21 | 83.2 | nc |
| 13.1 | 7 | .8 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 5 | 2.6 | 17 | 7.9 | 17 | 3.3 | 17 | 11.2 | - 240 |
| *13 | ** | 3.4 | ** | 7.9 | ** | 3.3 | nc | 11.2 | nc |
| *14 | 4 | 2.0 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 6 | 3.6 | -- | -- | -- | -- | -- | -- | -- |
| *16 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 18.1 | 2 | 3.5 | 18 | 15.4 | 19 | 12.1 | 18 | 27.5 | - 800 |
| 18.2 | 2 | 1.8 | 16 | 12.9 | 18 | 10.1 | 17 | 23.0 | - 750 |
| *18 | ** | 5.3 | ** | 28.3 | ** | 22.2 | 18 | 50.5 | nc |

## Appendix II

**Table 5.** *Event-mean concentrations and loads of total chloride in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 2 | 3.6 | 13 | 12.4 | 13 | 8.6 | 13 | 21.0 | - 550 |
| 20.1 | 2 | 2.2 | 14 | 4.8 | 14 | 3.1 | 14 | 7.9 | - 600 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 2.2 | ** | 4.8 | ** | 3.1 | 4 | 7.9 | nc |
| 21.1 | 5 | 1.2 | 10 | 1.4 | 10 | .5 | 10 | 1.9 | - 100 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 1.2 | ** | 1.4 | ** | .5 | 8 | 1.9 | nc |
| *22 | 2 | 13.2 | 7 | 27.0 | 7 | 19.8 | 7 | 46.8 | - 250 |
| 23.1 | 1 | 2.9 | 5 | 4.6 | 5 | 3.6 | 5 | 8.2 | - 400 |
| 23.2 | 4 | 12.9 | 3 | 2.4 | 3 | 1.5 | 3 | 3.9 | 25 |
| 23.3 | 1 | 3.7 | 3 | 6.9 | 3 | 6.2 | 2 | 13.1 | - 100 |
| 23.4 | 2 | 4.3 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 23.8 | ** | 13.9 | ** | 11.3 | 2 | 25.2 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | 4 | 11.9 | 4 | 7.5 | 3 | 3.8 | 4 | 11.3 | 0 |
| 25.2 | 4 | 6.4 | 3 | 3.0 | 3 | 2.0 | 3 | 5.0 | 25 |
| *25 | ** | 18.3 | ** | 10.5 | ** | 5.8 | 3 | 16.3 | nc |
| 26.1 | 4 | 1.3 | -- | -- | 3 | .8 | -- | -- | -- |
| 26.2 | 4 | .2 | 2 | .1 | 3 | .3 | 3 | .4 | 25 |
| 26.3 | 2 | .2 | 2 | .1 | 2 | 1.1 | 2 | 1.2 | 0 |
| 26.4 | 2 | 1.4 | 2 | 0 | 2 | 3.2 | 2 | 3.2 | 0 |
| 26.5 | 3 | 3.3 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | 2 | 1.4 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | 6 | 22.7 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 30.5 | ** | .2 | ** | 5.4 | 1 | 4.8 | nc |
| 27.1 | 21 | 27.7 | 5 | 1.7 | 5 | 1.5 | 5 | 3.2 | 76 |
| 27.2 | 11 | 4.0 | 6 | 1.5 | 6 | 1.2 | 6 | 2.7 | 45 |
| 27.3 | 9 | 3.2 | 10 | 2.0 | 10 | 2.0 | 10 | 4.0 | - 11 |
| *27 | ** | 34.9 | ** | 5.2 | ** | 4.7 | 7 | 9.8 | nc |
| *28 | 7 | 2.4 | 6 | .7 | 6 | 1.7 | 6 | 2.4 | 14 |
| 29.1 | 4 | 6.6 | 6 | 4.2 | 6 | 3.6 | 6 | 7.8 | - 50 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 6.6 | ** | 4.2 | ** | 3.6 | 4 | 7.8 | nc |
| *30 | 2 | 7.0 | 4 | 8.1 | 5 | 9.4 | 4 | 17.5 | - 100 |
| *31 | 140 | 822.1 | 15 | 43.7 | 16 | 48.2 | 16 | 91.9 | 89 |

## Appendix II

**Table 5.** *Event-mean concentrations and loads of total chloride in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 40 | 120.4 | 660 | 985.1 | 51 | 76.1 | 355 | 1,061.2 | - 788 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 1,400 | 1,678.5 | 170 | 133.1 | 170 | 83.2 | 170 | 216.3 | 88 |
| *35 | 270 | 191.6 | 310 | 174.5 | 310 | 113.8 | 310 | 288.3 | - 15 |
| 37.1 | 140 | 68.5 | 570 | 13.9 | 570 | 13.9 | 570 | 27.8 | - 307 |
| 37.2 | 92 | 42.8 | 390 | 124.1 | 390 | 85.9 | 390 | 210.0 | - 324 |
| 37.3 | 150 | 62.4 | 220 | 53.8 | 220 | 37.7 | 220 | 91.5 | - 47 |
| 37.4 | 150 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 173.7 | ** | 191.8 | ** | 137.5 | 275 | 329.3 | nc |
| *38 | 320 | 148.8 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 510 | 386.8 | 320 | 94.0 | 320 | 54.8 | 320 | 148.8 | 37 |
| *40 | 43 | 103.1 | 340 | 557.4 | 340 | 449.2 | 340 | 1,006.6 | - 691 |
| *41 | 17 | 107.7 | 180 | 651.8 | 180 | 559.3 | 180 | 1,211.2 | - 959 |
| *42 | 13 | 10.5 | 130 | 79.5 | 130 | 41.4 | 130 | 120.9 | - 900 |
| Total load (2): | | 4,227.3 | | 4,507.5 | | 2,160.0 | | 6,666.8 | |

Percentage decrease in outflow EMC:
maximum = 89
median = - 245
minimum = -1,650

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 6.** *Event-mean concentrations and loads of total phosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | in EMC (1) |
| *1 | 1.08 | 3.38 | 0.33 | 0.60 | 0.40 | 0.47 | 0.36 | 1.07 | 67 |
| 3.1 | .33 | .40 | .26 | .27 | .36 | 0 | .26 | .27 | 21 |
| 3.2 | .33 | .27 | .26 | .22 | .36 | .02 | .27 | .25 | 18 |
| *3 | ** | .67 | ** | .49 | ** | .02 | .26 | .51 | nc |
| 5.1 | .20 | .07 | .22 | .04 | .22 | .01 | .22 | .05 | - 10 |
| 5.2 | .20 | .23 | .22 | .23 | .22 | .01 | .22 | .24 | - 10 |
| *5 | ** | .30 | ** | .27 | ** | .02 | .22 | .29 | nc |
| 6.1 | .38 | 1.19 | .17 | .19 | .12 | .09 | .15 | .28 | 61 |
| 6.2 | .46 | .42 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 1.61 | ** | .19 | ** | .09 | .07 | .28 | nc |
| *7 | .30 | 1.06 | .18 | .63 | .18 | .01 | .18 | .64 | 40 |
| *8 | -- | -- | .22 | .69 | .20 | .51 | .21 | 1.20 | -- |
| *9 | 1.16 | .57 | .18 | .02 | .18 | 0 | .18 | .02 | 84 |
| 10.1 | .71 | 2.69 | .27 | .52 | .24 | .35 | .26 | .87 | 63 |
| 10.2 | .20 | .38 | .20 | .31 | .22 | .23 | .21 | .54 | - 5 |
| *10 | ** | 3.07 | ** | .83 | ** | .58 | .24 | 1.41 | nc |
| *11 | .24 | .02 | .25 | .01 | .44 | .01 | .31 | .02 | - 29 |
| 12.1 | .82 | 2.07 | .30 | .38 | .28 | .27 | .29 | .65 | 65 |
| 12.2 | .45 | .56 | .28 | .21 | .22 | .12 | .26 | .33 | 42 |
| 12.3 | .32 | .04 | .19 | .06 | .19 | .02 | .19 | .08 | 41 |
| *12 | ** | 2.67 | ** | .65 | ** | .41 | .27 | 1.06 | nc |
| 13.1 | .32 | .04 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | .49 | .26 | .19 | .09 | .19 | .04 | .19 | .13 | 61 |
| *13 | ** | .30 | ** | .09 | ** | .04 | nc | .13 | nc |
| *14 | .65 | .32 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 1.30 | .76 | .23 | .04 | .23 | .02 | .23 | .06 | 82 |
| *16 | -- | -- | .18 | .07 | .18 | .03 | .18 | .10 | -- |
| 18.1 | .51 | .95 | .18 | .15 | .24 | .15 | .21 | .30 | 59 |
| 18.2 | .60 | .63 | .21 | .17 | .17 | .10 | .19 | .27 | 68 |
| *18 | ** | 1.58 | ** | .32 | ** | .25 | .20 | .58 | nc |

## Appendix II

**Table 6.** *Event-mean concentrations and loads of total phosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 1.15 | 1.97 | .24 | .23 | .23 | .15 | .24 | .38 | 79 |
| 20.1 | .37 | .36 | 1.60 | .55 | 1.60 | .35 | 1.60 | .90 | -332 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | .36 | ** | .55 | ** | .35 | .43 | .90 | nc |
| 21.1 | .35 | .09 | .20 | .03 | .22 | .01 | .20 | .04 | 41 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | .09 | ** | .03 | ** | .01 | .16 | .04 | nc |
| *22 | .36 | 2.51 | .20 | .81 | .20 | .59 | .20 | 1.40 | 44 |
| 23.1 | .40 | .84 | .24 | .22 | .24 | .17 | .24 | .39 | 40 |
| 23.2 | .45 | 1.66 | .28 | .23 | .28 | .14 | .28 | .37 | 38 |
| 23.3 | .36 | 1.68 | .18 | .49 | .18 | .44 | .18 | .93 | 50 |
| 23.4 | .24 | .51 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 4.69 | ** | .94 | ** | .75 | .13 | 1.69 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | .18 | .59 | .16 | .29 | .18 | .25 | .17 | .54 | 6 |
| 25.2 | .56 | .88 | .14 | .16 | .14 | .11 | .14 | .27 | 75 |
| *25 | ** | 1.47 | ** | .45 | ** | .36 | .16 | .81 | nc |
| 26.1 | .39 | .13 | -- | -- | .16 | .04 | -- | -- | -- |
| 26.2 | .34 | .02 | .22 | .01 | .20 | .02 | .20 | .03 | 41 |
| 26.3 | .52 | .06 | .18 | 0 | .17 | .08 | .17 | .08 | 67 |
| 26.4 | .38 | .29 | .15 | 0 | .14 | .19 | .14 | .19 | 63 |
| 26.5 | .16 | .20 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | .34 | .28 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | .26 | .92 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 1.90 | ** | .01 | ** | .33 | .04 | .30 | nc |
| 27.1 | .50 | .66 | .15 | .05 | .14 | .04 | .15 | .09 | 70 |
| 27.2 | 1.58 | .58 | .18 | .05 | .14 | .03 | .16 | .08 | 90 |
| 27.3 | 1.60 | .59 | .33 | .06 | .33 | .06 | .33 | .12 | 79 |
| *27 | ** | 1.83 | ** | .16 | ** | .13 | .20 | .29 | nc |
| *28 | 1.62 | .55 | .27 | .03 | .27 | .08 | .27 | .11 | 83 |
| 29.1 | 1.28 | 2.22 | .49 | .35 | .44 | .28 | .47 | .63 | 63 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 2.22 | ** | .35 | ** | .28 | .36 | .63 | nc |
| *30 | .54 | 2.23 | .34 | .72 | .36 | .72 | .35 | 1.45 | 35 |
| *31 | .32 | 1.88 | .26 | .76 | .24 | .72 | .25 | 1.48 | 22 |

## Appendix II

**Table 6.** *Event-mean concentrations and loads of total phosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | .38 | 1.14 | .22 | .33 | .24 | .36 | .23 | .69 | 39 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | .17 | .20 | .19 | .15 | .19 | .09 | .19 | .24 | - 12 |
| *35 | .22 | .16 | .18 | .10 | .18 | .07 | .18 | .17 | 18 |
| 37.1 | .61 | .30 | .41 | .01 | .41 | .01 | .41 | .02 | 33 |
| 37.2 | .59 | .27 | .39 | .12 | .39 | .09 | .39 | .21 | 34 |
| 37.3 | .49 | .20 | .45 | .11 | .45 | .08 | .45 | .19 | 8 |
| 37.4 | .49 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | .77 | ** | .24 | ** | .18 | .35 | .42 | nc |
| *38 | .45 | .21 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 1.70 | 1.29 | .13 | .04 | .13 | .02 | .13 | .06 | 92 |
| *40 | .74 | 1.77 | .23 | .38 | .23 | .30 | .23 | .68 | 69 |
| *41 | 1.02 | 6.46 | .25 | .91 | .25 | .78 | .25 | 1.69 | 75 |
| *42 | .28 | .23 | .21 | .13 | .21 | .07 | .21 | .20 | 25 |
| Total load (2): | | 49.67 | | 12.22 | | 8.80 | | 21.00 | |

Percentage decrease in outflow EMC:
maximum = 92.35
median = 42.00
minimum = -332.41

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 7.** *Event-mean concentrations and loads of dissolved phosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | in EMC (1) |
| *1 | 0.37 | 1.16 | 0.05 | 0.09 | 0.17 | 0.20 | 0.10 | 0.29 | 73 |
| 3.1 | .10 | .12 | .14 | .14 | .13 | 0 | .14 | .14 | - 40 |
| 3.2 | .10 | .08 | .14 | .12 | .13 | .01 | .14 | .13 | - 40 |
| *3 | ** | .20 | ** | .26 | ** | .01 | .14 | .26 | nc |
| 5.1 | .08 | .03 | .04 | .01 | .04 | 0 | .04 | .01 | 50 |
| 5.2 | .08 | .09 | .04 | .04 | .04 | 0 | .04 | .04 | 50 |
| *5 | ** | .12 | ** | .05 | ** | 0 | .04 | .05 | nc |
| 6.1 | .14 | .44 | .10 | .11 | <0.02 | nc | nc | nc | nc |
| 6.2 | .10 | .09 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | .53 | ** | .11 | ** | nc | nc | nc | nc |
| *7 | .11 | .39 | .10 | .35 | .10 | 0 | .10 | .35 | 9 |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | .67 | .33 | .02 | 0 | .02 | 0 | .02 | 0 | 97 |
| 10.1 | .10 | .38 | .12 | .23 | .13 | .19 | .12 | .42 | - 20 |
| 10.2 | .08 | .15 | .12 | .19 | .13 | .14 | .12 | .33 | - 50 |
| *10 | ** | .53 | ** | .42 | ** | .33 | .12 | .75 | nc |
| *11 | .12 | .01 | .18 | .01 | .31 | .01 | .22 | .02 | - 83 |
| 12.1 | .23 | .58 | .17 | .22 | .18 | .17 | .17 | .39 | 26 |
| 12.2 | .07 | .09 | .16 | .12 | .16 | .09 | .16 | .21 | -129 |
| 12.3 | .21 | .03 | .13 | .04 | .13 | .02 | .13 | .06 | 38 |
| *12 | ** | .70 | ** | .38 | ** | .28 | .16 | .66 | nc |
| 13.1 | .21 | .03 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | .16 | .09 | .15 | .07 | .15 | .03 | .15 | .10 | 6 |
| *13 | ** | .12 | ** | .07 | ** | .03 | .15 | .10 | nc |
| *14 | .32 | .16 | -- | -- | -- | -- | -- | -- | -- |
| *15 | .32 | .19 | .06 | .01 | .06 | 0 | .06 | .01 | 81 |
| *16 | -- | -- | .06 | .02 | .05 | .01 | .06 | .03 | -- |
| 18.1 | .13 | .24 | .06 | .05 | .07 | .04 | .06 | .10 | 54 |
| 18.2 | .06 | .06 | .06 | .05 | .06 | .03 | .06 | .08 | |
| *18 | ** | .30 | ** | .10 | ** | .07 | .06 | .17 | nc |

## Appendix II

**Table 7.** *Event-mean concentrations and loads of dissolved phosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | .16 | .27 | .08 | .08 | .06 | .04 | .07 | .12 | 56 |
| 20.1 | .13 | .13 | .08 | .03 | .08 | .02 | .08 | .05 | 38 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | .13 | ** | .03 | ** | .02 | .02 | .05 | nc |
| 21.1 | .22 | .05 | .06 | .01 | .08 | 0 | .06 | .01 | 73 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | .05 | ** | .01 | ** | 0 | .05 | .01 | nc |
| *22 | .08 | .56 | .05 | .20 | .05 | .15 | .05 | .35 | 38 |
| 23.1 | .08 | .17 | .06 | .05 | .06 | .04 | .06 | .10 | 25 |
| 23.2 | .08 | .30 | .08 | .06 | .08 | .04 | .08 | .10 | 0 |
| 23.3 | .08 | .37 | .06 | .16 | .06 | .15 | .06 | .31 | 25 |
| 23.4 | .11 | .23 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 1.07 | ** | .27 | ** | .23 | .04 | .50 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | .10 | .33 | .04 | .07 | .03 | .04 | .04 | .11 | 60 |
| 25.2 | .06 | .09 | .04 | .05 | .03 | .02 | .04 | .07 | 33 |
| *25 | ** | .42 | ** | .12 | ** | .06 | .04 | .18 | nc |
| 26.1 | .23 | .08 | -- | -- | .04 | .01 | -- | -- | -- |
| 26.2 | .17 | .01 | .06 | 0 | .05 | 0 | .05 | .01 | 70 |
| 26.3 | .10 | .01 | .06 | 0 | .06 | .03 | .06 | .03 | 40 |
| 26.4 | .10 | .08 | .06 | 0 | .05 | .07 | .05 | .07 | 50 |
| 26.5 | .08 | .10 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | .08 | .07 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | .11 | .39 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | .74 | ** | 0 | ** | .11 | .01 | .11 | nc |
| 27.1 | .10 | .13 | .04 | .01 | .02 | .01 | .03 | .02 | 70 |
| 27.2 | 1.33 | .49 | .08 | .02 | .07 | .02 | .08 | .04 | 94 |
| 27.3 | 1.24 | .46 | .18 | .04 | .18 | .04 | .18 | .08 | 85 |
| *27 | ** | 1.08 | ** | .07 | ** | .07 | .08 | .14 | nc |
| *28 | 1.31 | .45 | .14 | .02 | .14 | .04 | .14 | .06 | 89 |
| 29.1 | .66 | 1.15 | .30 | .21 | .24 | .15 | .27 | .36 | 59 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 1.15 | ** | .21 | ** | .15 | .21 | .36 | nc |
| *30 | .20 | .83 | .21 | .45 | .22 | .44 | .21 | .89 | - 5 |
| *31 | .10 | .59 | .14 | .41 | .15 | .45 | .15 | .86 | - 50 |

## Appendix II

**Table 7.** *Event-mean concentrations and loads of dissolved phosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | .10 | .30 | .12 | .18 | .11 | .16 | .11 | .34 | - 10 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | .06 | .07 | .09 | .07 | .09 | .04 | .09 | .11 | - 50 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | .32 | .16 | .13 | 0 | .13 | 0 | .13 | 0 | 59 |
| 37.2 | .35 | .16 | .20 | .06 | .20 | .04 | .20 | .10 | 43 |
| 37.3 | .36 | .15 | .25 | .06 | .25 | .04 | .25 | .10 | 31 |
| 37.4 | .36 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | .47 | ** | .12 | ** | .08 | .18 | .20 | nc |
| *38 | .24 | .11 | -- | -- | -- | -- | -- | -- | -- |
| *39 | .17 | .13 | .04 | .01 | .04 | .01 | .04 | .02 | 76 |
| *40 | .11 | .26 | .04 | .07 | .04 | .05 | .04 | .12 | 64 |
| *41 | .08 | .51 | .04 | .14 | .04 | .12 | .04 | .27 | 50 |
| *42 | .12 | .10 | .02 | .01 | .02 | .01 | .02 | .02 | 83 |
| Total load (2): | | 14.03 | | 4.34 | | 3.17 | | 7.40 | |

Percentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 97 |
| median = | 41 |
| minimum = | -129 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 8.** *Event-mean concentrations and loads of dissolved orthophosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations); <, less than]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *1 | .37 | 1.16 | .03 | .05 | .15 | .17 | .08 | .22 | 78 |
| 3.1 | .08 | .10 | .10 | .10 | .10 | 0 | .10 | .10 | - 25 |
| 3.2 | .08 | .07 | .10 | .08 | .10 | .01 | .10 | .09 | - 25 |
| *3 | ** | .17 | ** | .18 | ** | .01 | .10 | .19 | nc |
| 5.1 | .08 | .03 | .03 | .01 | .03 | 0 | .03 | .01 | 62 |
| 5.2 | .08 | .09 | .03 | .03 | .03 | 0 | .03 | .03 | 62 |
| *5 | ** | .12 | ** | .04 | ** | 0 | .03 | .04 | nc |
| 6.1 | .12 | .36 | .08 | .09 | <0.004 | nc | nc | nc | nc |
| 6.2 | .09 | .09 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | .45 | ** | .09 | ** | nc | nc | nc | nc |
| *7 | .09 | .33 | .09 | .30 | .09 | 0 | .09 | .30 | 0 |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | .61 | .30 | .01 | 0 | .01 | 0 | .01 | 0 | 98 |
| 10.1 | .08 | .29 | .10 | .18 | .10 | .15 | .10 | .33 | - 25 |
| 10.2 | .06 | .12 | .10 | .16 | .11 | .12 | .11 | .28 | - 83 |
| *10 | ** | .41 | ** | .34 | ** | .27 | .10 | .61 | nc |
| *11 | .09 | .01 | .15 | .01 | .13 | 0 | .14 | .01 | - 56 |
| 12.1 | .09 | .22 | .15 | .19 | .15 | .15 | .15 | .34 | - 67 |
| 12.2 | .05 | .06 | .13 | .09 | .13 | .07 | .13 | .16 | -160 |
| 12.3 | .17 | .02 | .11 | .03 | .11 | .01 | .11 | .04 | 35 |
| *12 | ** | .30 | ** | .31 | ** | .23 | .14 | .54 | nc |
| 13.1 | .17 | .02 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | .14 | .07 | .12 | .06 | .12 | .02 | .12 | .08 | 14 |
| *13 | ** | .09 | ** | .06 | ** | .02 | .12 | .08 | nc |
| *14 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *15 | -- | -- | .02 | 0 | .03 | 0 | .02 | 0 | -- |
| *16 | -- | -- | .02 | .01 | .01 | 0 | .02 | .01 | -- |
| 18.1 | .12 | .22 | .02 | .02 | .04 | .02 | .03 | .04 | 75 |
| 18.2 | .03 | .03 | .03 | .02 | .02 | .01 | .02 | .03 | 33 |
| *18 | ** | .25 | ** | .04 | ** | .03 | .02 | .07 | nc |

## Appendix II

**Table 8.** *Event-mean concentrations and loads of dissolved orthophosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | .15 | .26 | .05 | .05 | .04 | .02 | .05 | .07 | 67 |
| 20.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 21.1 | .17 | .04 | .01 | 0 | .04 | 0 | .01 | 0 | 94 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | .04 | ** | 0 | ** | 0 | .01 | 0 | nc |
| *22 | .07 | .48 | .03 | .13 | .03 | .10 | .03 | .23 | 57 |
| 23.1 | .07 | .15 | .04 | .04 | .04 | .03 | .04 | .07 | 43 |
| 23.2 | .07 | .26 | .06 | .05 | .06 | .03 | .06 | .08 | 14 |
| 23.3 | .07 | .31 | .04 | .11 | .04 | .10 | .04 | .21 | 43 |
| 23.4 | .09 | .20 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | .92 | ** | .20 | ** | .16 | .03 | .36 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | .11 | .36 | .02 | .03 | .01 | .02 | .01 | .05 | 91 |
| 25.2 | .05 | .07 | .02 | .03 | .02 | .01 | .02 | .04 | 60 |
| *25 | ** | .43 | ** | .06 | ** | .03 | .02 | .09 | nc |
| 26.1 | .21 | .07 | -- | -- | .02 | 0 | -- | -- | -- |
| 26.2 | .16 | .01 | .03 | 0 | .03 | 0 | .03 | 0 | 81 |
| 26.3 | .10 | .01 | .03 | 0 | .04 | .02 | .03 | .02 | 70 |
| 26.4 | .08 | .06 | .03 | 0 | .03 | .04 | .03 | .04 | 62 |
| 26.5 | .07 | .09 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | .07 | .06 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | .09 | .32 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | .62 | ** | 0 | ** | .06 | .01 | .06 | nc |
| 27.1 | .10 | .13 | .02 | .01 | .01 | 0 | .02 | .01 | 80 |
| 27.2 | 1.21 | .44 | .06 | .02 | .03 | .01 | .04 | .03 | 97 |
| 27.3 | 1.16 | .43 | .15 | .03 | .15 | .03 | .15 | .06 | 87 |
| *27 | ** | 1.00 | ** | .06 | ** | .04 | .06 | .10 | nc |
| *28 | 1.22 | .42 | .12 | .02 | .12 | .04 | .12 | .06 | 90 |
| 29.1 | .62 | 1.08 | .27 | .19 | .22 | .14 | .25 | .33 | 60 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 1.08 | ** | .19 | ** | .14 | .19 | .33 | nc |
| *30 | .17 | .72 | .19 | .40 | .19 | .38 | .19 | .78 | - 12 |
| *31 | .08 | .48 | .13 | .37 | .13 | .39 | .13 | .76 | - 62 |

## Appendix II

**Table 8.** *Event-mean concentrations and loads of dissolved orthophosphorus in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | .08 | .24 | .10 | .15 | .10 | .15 | .10 | .30 | - 25 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | .05 | .05 | .08 | .06 | .08 | .04 | .08 | .10 | - 60 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | .30 | .15 | .10 | 0 | .10 | 0 | .10 | 0 | 67 |
| 37.2 | .33 | .15 | .18 | .06 | .18 | .04 | .18 | .10 | 45 |
| 37.3 | .27 | .11 | .23 | .06 | .23 | .04 | .23 | .10 | 15 |
| 37.4 | .27 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | .41 | ** | .12 | ** | .08 | .17 | .21 | nc |
| *38 | .21 | .10 | -- | -- | -- | -- | -- | -- | -- |
| *39 | .13 | .10 | .03 | .01 | .03 | 0 | .03 | .01 | 77 |
| *40 | .09 | .22 | .02 | .04 | .02 | .03 | .02 | .07 | 78 |
| *41 | .07 | .46 | .02 | .08 | .02 | .07 | .02 | .15 | 71 |
| *42 | .10 | .08 | <0.004 | nc | <0.004 | nc | nc | nc | nc |
| Total load (2): | | 11.70 | | 3.33 | | 2.46 | | 5.81 | |

Percentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 98 |
| median = | 58 |
| minimum = | -160 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 9.** *Event-mean concentrations and loads of total Kjeldahl nitrogen in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations); <, less than]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | in EMC (1) |
| *1 | 5.00 | 15.66 | 2.70 | 4.89 | 2.20 | 2.58 | 2.50 | 7.47 | 50 |
| 3.1 | 2.00 | 2.40 | 2.20 | 2.26 | 2.40 | 0 | 2.20 | 2.26 | - 10 |
| 3.2 | 2.00 | 1.61 | 2.20 | 1.83 | 2.40 | .12 | 2.21 | 1.95 | - 11 |
| *3 | ** | 4.01 | ** | 4.09 | ** | .12 | 2.20 | 4.21 | nc |
| 5.1 | 1.30 | .48 | 1.80 | .35 | 1.80 | .09 | 1.80 | .44 | - 38 |
| 5.2 | 1.30 | 1.50 | 1.80 | 1.89 | 1.80 | .04 | 1.80 | 1.93 | - 38 |
| *5 | ** | 1.98 | ** | 2.24 | ** | .13 | 1.80 | 2.37 | nc |
| 6.1 | 2.50 | 7.83 | 1.40 | 1.58 | 1.80 | 1.32 | 1.56 | 2.90 | 38 |
| 6.2 | 2.50 | 2.26 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 10.09 | ** | 1.58 | ** | 1.32 | .71 | 2.90 | nc |
| *7 | 1.80 | 6.34 | 1.20 | 4.20 | 1.20 | .06 | 1.20 | 4.26 | 33 |
| *8 | -- | -- | 1.20 | 3.76 | 1.10 | 2.83 | 1.15 | 6.59 | -- |
| *9 | 6.60 | 3.23 | 1.90 | .23 | 1.90 | .05 | 1.90 | .28 | 71 |
| 10.1 | 4.30 | 16.31 | 1.40 | 2.67 | 1.40 | 2.02 | 1.40 | 4.69 | 67 |
| 10.2 | 1.40 | 2.64 | 1.20 | 1.88 | 1.50 | 1.58 | 1.32 | 3.46 | 6 |
| *10 | ** | 18.95 | ** | 4.55 | ** | 3.60 | 1.37 | 8.15 | nc |
| *11 | 3.40 | .33 | 1.50 | .07 | 2.60 | .06 | 1.87 | .13 | 45 |
| 12.1 | 5.30 | 13.36 | 1.80 | 2.29 | 1.60 | 1.53 | 1.71 | 3.82 | 68 |
| 12.2 | 3.10 | 3.87 | 1.70 | 1.29 | 1.40 | .75 | 1.58 | 2.04 | 49 |
| 12.3 | 3.20 | .39 | 1.40 | .45 | 1.40 | .17 | 1.40 | .62 | 56 |
| *12 | ** | 17.62 | ** | 4.03 | ** | 2.45 | 1.63 | 6.48 | nc |
| 13.1 | 3.20 | .39 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 3.10 | 1.67 | 1.40 | .65 | 1.40 | .27 | 1.40 | .92 | 55 |
| *13 | ** | 2.06 | ** | .65 | ** | .27 | 1.40 | .92 | nc |
| *14 | 3.40 | 1.66 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 7.00 | 4.11 | 1.60 | .27 | 2.50 | .18 | 1.87 | .45 | 73 |
| *16 | -- | -- | 1.70 | .62 | 3.00 | .51 | 2.11 | 1.13 | -- |
| 18.1 | 5.30 | 9.86 | 1.80 | 1.54 | 2.30 | 1.46 | 2.01 | 3.00 | 62 |
| 18.2 | 4.40 | 4.63 | 1.60 | 1.29 | 1.80 | 1.01 | 1.68 | 2.30 | 62 |
| *18 | ** | 14.49 | ** | 2.83 | ** | 2.47 | 1.85 | 5.30 | nc |

## Appendix II

**Table 9.** *Event-mean concentrations and loads of total Kjeldahl nitrogen in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 6.10 | 10.45 | 2.20 | 2.10 | 2.60 | 1.72 | 2.36 | 3.82 | 61 |
| 20.1 | 4.00 | 3.91 | 27.00 | 9.25 | 27.00 | 5.95 | 27.00 | 15.20 | -575 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 3.91 | ** | 9.25 | ** | 5.95 | 7.31 | 15.20 | nc |
| 21.1 | 2.40 | .59 | 1.90 | .28 | 2.30 | .11 | 2.00 | .39 | 17 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | .59 | ** | .28 | ** | .11 | 1.60 | .39 | nc |
| *22 | 2.00 | 13.95 | 1.80 | 7.27 | 1.80 | 5.33 | 1.80 | 12.60 | 10 |
| 23.1 | 2.00 | 4.21 | 1.90 | 1.72 | 1.90 | 1.35 | 1.90 | 3.07 | 5 |
| 23.2 | 2.60 | 9.61 | 1.90 | 1.53 | 1.90 | .98 | 1.90 | 2.51 | 27 |
| 23.3 | 2.10 | 9.81 | 1.40 | 3.84 | 1.40 | 3.46 | 1.40 | 7.30 | 33 |
| 23.4 | 1.00 | 2.13 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 25.76 | ** | 7.09 | ** | 5.79 | .97 | 12.88 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | 0.80 | 2.64 | 1.40 | 2.50 | 1.80 | 2.47 | 1.57 | 4.97 | - 96 |
| 25.2 | 3.80 | 5.95 | 1.40 | 1.61 | 1.50 | 1.14 | 1.44 | 2.75 | 62 |
| *25 | ** | 8.59 | ** | 4.11 | ** | 3.61 | 1.52 | 7.72 | nc |
| 26.1 | 1.90 | .65 | | | 1.80 | .44 | 1.38 | .44 | 27 |
| 26.2 | 1.30 | .06 | 1.60 | .04 | 1.40 | .14 | 1.44 | .18 | - 11 |
| 26.3 | 1.90 | .23 | 1.00 | .02 | 1.10 | .51 | 1.09 | .53 | 43 |
| 26.4 | 1.80 | 1.37 | .90 | 0 | .90 | 1.21 | .90 | 1.21 | 50 |
| 26.5 | .60 | .76 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | 1.40 | 1.16 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | 1.20 | 4.26 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 8.49 | ** | .06 | ** | 2.30 | .29 | 2.36 | nc |
| 27.1 | 2.00 | 2.64 | 1.00 | .34 | 2.10 | .62 | 1.51 | .96 | 25 |
| 27.2 | 2.20 | .81 | 1.00 | .27 | 1.00 | .22 | 1.00 | .49 | 55 |
| 27.3 | 1.80 | .66 | 1.30 | .25 | 1.30 | .25 | 1.30 | .50 | 28 |
| *27 | ** | 4.11 | ** | .86 | ** | 1.09 | 1.29 | 1.95 | nc |
| *28 | 2.20 | .75 | 1.20 | .15 | 1.20 | .35 | 1.20 | .50 | 45 |
| 29.1 | 4.00 | 6.95 | 1.30 | .92 | 1.20 | .76 | 1.25 | 1.68 | 69 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 6.95 | ** | .92 | ** | .76 | .96 | 1.68 | nc |
| *30 | 2.20 | 9.10 | 1.00 | 2.13 | 1.30 | 2.61 | 1.15 | 4.74 | 48 |
| *31 | 1.60 | 9.40 | 1.00 | 2.91 | 1.00 | 3.01 | 1.00 | 5.92 | 38 |

## Appendix II

**Table 9.** *Event-mean concentrations and loads of total Kjeldahl nitrogen in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 1.70 | 5.12 | .80 | 1.19 | 1.00 | 1.49 | .90 | 2.68 | 47 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | .60 | .72 | .90 | .70 | .90 | .44 | .90 | 1.14 | - 50 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | 2.50 | 1.22 | 2.20 | .05 | 2.20 | .05 | 2.20 | .10 | 12 |
| 37.2 | 2.30 | 1.07 | 2.00 | .64 | 2.00 | .44 | 2.00 | 1.08 | 13 |
| 37.3 | 1.90 | .79 | 2.00 | .49 | 2.00 | .34 | 2.00 | .83 | - 5 |
| 37.4 | 1.90 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 3.08 | ** | 1.18 | ** | .83 | 1.68 | 2.01 | nc |
| *38 | 1.90 | .88 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 6.50 | 4.93 | .70 | .21 | .70 | .12 | .70 | .33 | 89 |
| *40 | 3.10 | 7.43 | 1.30 | 2.13 | 1.30 | 1.72 | 1.30 | 3.85 | 58 |
| *41 | 4.90 | 31.05 | 1.30 | 4.71 | 1.30 | 4.04 | 1.30 | 8.75 | 73 |
| *42 | 1.40 | 1.13 | .90 | .55 | .90 | .29 | .90 | .84 | 36 |
| Total load (2): | | 256.93 | | 81.81 | | 58.19 | | 140.00 | |

ercentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 89 |
| median = | 38 |
| minimum = | -575 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 10.** *Event-mean concentrations and loads of dissolved Kjeldahl nitrogen in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations)]

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | (mg/L) | (kg) | in EMC (1) |
| *1 | 2.00 | 6.26 | 1.30 | 2.35 | 1.20 | 1.41 | 1.26 | 3.76 | 37 |
| 3.1 | 1.00 | 1.20 | 1.80 | 1.85 | 1.40 | 0 | 1.80 | 1.85 | - 80 |
| 3.2 | 1.00 | .81 | 1.80 | 1.50 | 1.40 | .07 | 1.78 | 1.57 | - 78 |
| *3 | ** | 2.01 | ** | 3.35 | ** | .07 | 1.79 | 3.42 | nc |
| 5.1 | .70 | .26 | 1.00 | .20 | 1.00 | .05 | 1.00 | .25 | - 43 |
| 5.2 | .70 | .81 | 1.00 | 1.05 | 1.00 | .02 | 1.00 | 1.08 | - 43 |
| *5 | ** | 1.07 | ** | 1.25 | ** | .07 | 1.00 | 1.32 | nc |
| 6.1 | 1.20 | 3.76 | 1.20 | 1.35 | 1.40 | 1.03 | 1.28 | 2.38 | - 7 |
| 6.2 | .60 | .54 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 4.30 | ** | 1.35 | ** | 1.03 | .58 | 2.38 | nc |
| *7 | .90 | 3.17 | .90 | 3.15 | .90 | .04 | .90 | 3.19 | |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | 4.50 | 2.20 | 1.60 | .20 | 1.60 | .04 | 1.60 | .24 | 64 |
| 10.1 | 1.10 | 4.17 | 1.00 | 1.91 | 1.00 | 1.44 | 1.00 | 3.35 | 9 |
| 10.2 | .90 | 1.70 | .90 | 1.41 | 1.00 | 1.05 | .94 | 2.46 | - 4 |
| *10 | ** | 5.87 | ** | 3.32 | ** | 2.49 | .97 | 5.81 | nc |
| *11 | 2.90 | .28 | 1.20 | .06 | 2.50 | .06 | 1.63 | .12 | 44 |
| 12.1 | 2.30 | 5.80 | 1.20 | 1.53 | 1.30 | 1.24 | 1.24 | 2.77 | 46 |
| 12.2 | .70 | .87 | 1.10 | .83 | 1.20 | .65 | 1.14 | 1.48 | - 63 |
| 12.3 | 2.80 | .34 | 1.20 | .38 | 1.20 | .15 | 1.20 | .53 | 57 |
| *12 | ** | 7.01 | ** | 2.74 | ** | 2.04 | 1.20 | 4.78 | nc |
| 13.1 | 2.80 | .34 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 1.40 | .75 | 1.20 | .56 | 1.20 | .23 | 1.20 | .79 | 14 |
| *13 | ** | 1.09 | ** | .56 | ** | .23 | 1.20 | .79 | nc |
| *14 | 2.80 | 1.37 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 3.00 | 1.76 | .80 | .14 | 1.10 | .08 | .89 | .22 | 70 |
| *16 | -- | -- | 1.00 | .37 | 1.90 | .33 | 1.29 | .70 | -- |
| 18.1 | 3.60 | 6.69 | 1.00 | .86 | 1.40 | .89 | 1.17 | 1.75 | 68 |
| 18.2 | 1.80 | 1.89 | 1.00 | .81 | 1.00 | .56 | 1.00 | 1.37 | 44 |
| *18 | ** | 8.58 | ** | 1.67 | ** | 1.45 | 1.09 | 3.12 | nc |

## Appendix II

**Table 10.** *Event-mean concentrations and loads of dissolved Kjeldahl nitrogen in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 2.30 | 3.94 | 1.20 | 1.15 | 1.60 | 1.06 | 1.36 | 2.21 | 41 |
| 20.1 | 1.60 | 1.57 | 7.50 | 2.57 | 7.50 | 1.65 | 7.50 | 4.22 | -369 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 1.57 | ** | 2.57 | ** | 1.65 | 2.03 | 4.22 | nc |
| 21.1 | 2.00 | .49 | 1.00 | .15 | 1.60 | .08 | 1.15 | .23 | 43 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | .49 | ** | .15 | ** | .08 | .92 | .23 | nc |
| *22 | .50 | 3.49 | .90 | 3.63 | .90 | 2.66 | .90 | 6.29 | - 80 |
| 23.1 | .60 | 1.26 | 1.00 | .91 | 1.00 | .71 | 1.00 | 1.62 | - 67 |
| 23.2 | .80 | 2.96 | .80 | .65 | .80 | .41 | .80 | 1.06 | 0 |
| 23.3 | .40 | 1.87 | .60 | 1.64 | .60 | 1.48 | .60 | 3.12 | - 50 |
| 23.4 | .60 | 1.28 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 7.37 | ** | 3.20 | ** | 2.60 | .44 | 5.80 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | .40 | 1.32 | .60 | 1.07 | .60 | .82 | .60 | 1.89 | - 50 |
| 25.2 | 1.00 | 1.57 | .80 | .92 | .60 | .46 | .72 | 1.38 | 28 |
| *25 | ** | 2.89 | ** | 1.99 | ** | 1.28 | .65 | 3.27 | nc |
| 26.1 | 1.10 | .38 | -- | -- | 1.30 | .32 | -- | -- | -- |
| 26.2 | .80 | .04 | .80 | .02 | .80 | .08 | .80 | .10 | 0 |
| 26.3 | .50 | .06 | .50 | .01 | .60 | .28 | .59 | .29 | - 18 |
| 26.4 | .50 | .38 | .50 | 0 | .60 | .81 | .60 | .81 | - 20 |
| 26.5 | .40 | .51 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | .50 | .42 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | .50 | 1.77 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 3.56 | ** | .03 | ** | 1.49 | .19 | 1.52 | nc |
| 27.1 | 1.40 | 1.85 | 1.00 | .34 | 1.30 | .38 | 1.14 | .72 | 19 |
| 27.2 | 1.40 | .51 | .40 | .11 | .80 | .18 | .58 | .29 | 59 |
| 27.3 | 1.10 | .40 | .60 | .12 | .60 | .12 | .60 | .24 | 45 |
| *27 | ** | 2.76 | ** | .57 | ** | .68 | .82 | 1.25 | nc |
| *28 | 1.30 | .45 | .50 | .06 | .50 | .15 | .50 | .21 | 62 |
| 29.1 | 1.00 | 1.74 | .60 | .43 | .50 | .32 | .55 | .75 | 45 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 1.74 | ** | .43 | ** | .32 | .42 | .75 | nc |
| *30 | .60 | 2.48 | .60 | 1.28 | .60 | 1.20 | .60 | 2.48 | 0 |
| *31 | .40 | 2.35 | .60 | 1.75 | .60 | 1.81 | .60 | 3.56 | - 50 |

## Appendix II

**Table 10.** *Event-mean concentrations and loads of dissolved Kjeldahl nitrogen in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 0.60 | 1.81 | 0.40 | 0.60 | 0.60 | 0.90 | 0.50 | 1.50 | 17 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | .40 | .48 | .50 | .39 | .50 | .24 | .50 | .63 | - 25 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | 1.50 | .73 | 1.30 | .03 | 1.30 | .03 | 1.30 | .06 | 13 |
| 37.2 | 1.50 | .70 | 1.40 | .45 | 1.40 | .31 | 1.40 | .76 | 7 |
| 37.3 | 1.40 | .58 | 1.30 | .32 | 1.30 | .22 | 1.30 | .54 | 7 |
| 37.4 | 1.40 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 2.01 | ** | .80 | ** | .56 | 1.13 | 1.36 | nc |
| *38 | 1.20 | .56 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 1.50 | 1.14 | .60 | .18 | .60 | .10 | .60 | .28 | 60 |
| *40 | .60 | 1.44 | .60 | .98 | .60 | .79 | .60 | 1.77 | 0 |
| *41 | .40 | 2.53 | .40 | 1.45 | .40 | 1.24 | .40 | 2.69 | 0 |
| *42 | .90 | .73 | .30 | .18 | .30 | .10 | .30 | .28 | 67 |
| Total load (2): | | 88.76 | | 41.90 | | 28.25 | | 70.15 | |

Percentage decrease in outflow EMC:
maximum = 70
median = 7
minimum = -369

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 11.** *Event-mean concentrations and loads of total nitrite plus nitrate in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; mg/L, milligrams per liter; kg, kilograms; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations); <, less than]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *3 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *5 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 6.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 6.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *6 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *7 | 0.32 | 1.13 | 0.32 | 1.12 | 0.32 | 0.02 | 0.32 | 1.14 | 0 |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | 1.02 | .50 | .11 | .01 | .11 | 0 | .11 | .01 | 89 |
| 10.1 | .62 | 2.35 | .23 | .44 | .23 | .33 | .23 | .77 | 63 |
| 10.2 | .53 | 1.00 | .30 | .47 | .29 | .31 | .30 | .78 | 43 |
| *10 | ** | 3.35 | ** | .91 | ** | .64 | .26 | 1.54 | nc |
| *11 | 1.29 | .13 | .10 | 0 | .36 | .01 | .19 | .01 | 85 |
| 12.1 | .34 | .86 | .17 | .22 | .21 | .20 | .19 | .42 | 44 |
| 12.2 | .59 | .74 | .23 | .17 | .17 | .09 | .21 | .26 | 64 |
| 12.3 | .61 | .07 | .33 | .10 | .33 | .04 | .33 | .14 | 46 |
| *12 | ** | 1.67 | ** | .49 | ** | .33 | .21 | .82 | nc |
| 13.1 | .61 | .07 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | .53 | .29 | .18 | .08 | .18 | .04 | .18 | .12 | 66 |
| *13 | ** | .36 | ** | .08 | ** | .04 | .18 | .12 | nc |
| *14 | .87 | .43 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 1.34 | .79 | <.02 | nc | .04 | 0 | nc | nc | nc |
| *16 | -- | -- | .03 | .01 | .04 | .01 | .03 | .02 | -- |
| 18.1 | .69 | 1.28 | .10 | .09 | .11 | .07 | .10 | .16 | 86 |
| 18.2 | .46 | .48 | .10 | .08 | .06 | .03 | .08 | .11 | 83 |
| *18 | ** | 1.76 | ** | .17 | ** | .10 | .09 | .27 | nc |

## Appendix II

**Table 11.** *Event-mean concentrations and loads of nitrite plus nitrate in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | EMC (mg/L) | Load (kg) | |
| *19 | 0.64 | 1.10 | 0.17 | 0.16 | 0.16 | 0.11 | 0.17 | 0.27 | 74 |
| 20.1 | .59 | .58 | .09 | .03 | .09 | .02 | .09 | .05 | 85 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | .58 | ** | .03 | ** | .02 | .02 | .05 | nc |
| 21.1 | .81 | .20 | .07 | .01 | .08 | 0 | .07 | .01 | 91 |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | .20 | ** | .01 | ** | 0 | .06 | .01 | nc |
| *22 | .30 | 2.09 | .12 | .48 | .12 | .36 | .12 | .84 | 60 |
| 23.1 | .42 | .88 | .08 | .07 | .08 | .06 | .08 | .13 | 81 |
| 23.2 | .53 | 1.96 | .18 | .15 | .18 | .09 | .18 | .24 | 66 |
| 23.3 | .22 | 1.03 | .17 | .47 | .17 | .42 | .17 | .89 | 23 |
| 23.4 | .21 | .45 | -- | -- | -- | -- | -- | -- | -- |
| *23 | ** | 4.32 | ** | .69 | ** | .57 | .09 | 1.26 | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | .31 | 1.02 | .10 | .18 | .08 | .11 | .09 | .29 | 71 |
| 25.2 | .94 | 1.47 | .21 | .24 | .20 | .15 | .21 | .39 | 78 |
| *25 | ** | 2.49 | ** | .42 | ** | .26 | .13 | .68 | nc |
| 26.1 | .45 | .15 | -- | -- | .08 | .02 | -- | -- | -- |
| 26.2 | .42 | .02 | .16 | 0 | .15 | .01 | .15 | .01 | 64 |
| 26.3 | .25 | .03 | .19 | 0 | .17 | .08 | .17 | .08 | 32 |
| 26.4 | .35 | .27 | .14 | 0 | .13 | .17 | .13 | .17 | 63 |
| 26.5 | .36 | .46 | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | .21 | .17 | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | .29 | 1.03 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | 2.13 | ** | 0 | ** | .28 | .04 | .29 | nc |
| 27.1 | 1.06 | 1.40 | .14 | .05 | .18 | .05 | .16 | .10 | 85 |
| 27.2 | .64 | .23 | .09 | .02 | .09 | .02 | .09 | .04 | 86 |
| 27.3 | .25 | .09 | .07 | .01 | .07 | .01 | .07 | .02 | 72 |
| *27 | ** | 1.72 | ** | .08 | ** | .08 | .11 | .17 | nc |
| *28 | .37 | .13 | .02 | 0 | .02 | .01 | .02 | .01 | 95 |
| 29.1 | .60 | 1.04 | .17 | .12 | .10 | .06 | .14 | .18 | 77 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 1.04 | ** | .12 | ** | .06 | .10 | .18 | nc |
| *30 | .33 | 1.36 | .20 | .43 | .16 | .32 | .18 | .75 | 45 |
| *31 | .32 | 1.88 | .20 | .58 | .19 | .57 | .19 | 1.15 | 41 |

## Appendix II

**Table 11.** *Event-mean concentrations and loads of nitrite plus nitrate in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (mg/L) | Inflow Load (kg) | East outlet EMC (mg/L) | East outlet Load (kg) | West outlet EMC (mg/L) | West outlet Load (kg) | Total outflow EMC (mg/L) | Total outflow Load (kg) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 0.65 | 1.96 | 0.33 | 0.49 | 0.32 | 0.48 | 0.32 | 0.97 | 51 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | .34 | .41 | .29 | .23 | .29 | .14 | .29 | .37 | 15 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | .30 | .15 | .29 | .01 | .29 | .01 | .29 | .02 | 3 |
| 37.2 | .27 | .13 | .28 | .09 | .28 | .06 | .28 | .15 | - 4 |
| 37.3 | .32 | .13 | .30 | .07 | .30 | .05 | .30 | .12 | 6 |
| 37.4 | .32 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | .41 | ** | .17 | ** | .12 | .24 | .28 | nc |
| *38 | .62 | .29 | -- | -- | -- | -- | -- | -- | -- |
| *39 | .74 | .56 | .17 | .05 | .17 | .03 | .17 | .08 | 77 |
| *40 | .46 | 1.10 | .24 | .39 | .24 | .32 | .24 | .71 | 48 |
| *41 | .39 | 2.47 | .27 | .98 | .27 | .84 | .27 | 1.82 | 31 |
| *42 | .65 | .52 | .23 | .14 | .23 | .07 | .23 | .21 | 65 |
| Total load (2): | | 36.86 | | 8.24 | | 5.79 | | 14.03 | |

Percentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 95 |
| median = | 65 |
| minimum = | -4 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 12.** *Event-mean concentrations and loads of total copper in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; µg/L, micrograms per liter; g, grams; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations); <, less than]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | |
| *1 | 50 | 156.6 | <50 | nc | <50 | nc | nc | nc | nc |
| 3.1 | 50 | 59.9 | <50 | nc | <50 | nc | nc | nc | nc |
| 3.2 | 50 | 40.4 | <50 | nc | <50 | nc | nc | nc | nc |
| *3 | ** | 100.3 | ** | nc | ** | nc | nc | nc | nc |
| 5.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 5.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *5 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 6.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 6.2 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| *6 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *7 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *8 | 50 | 281.4 | <50 | nc | <50 | nc | nc | nc | nc |
| *9 | -- | -- | <50 | nc | <50 | nc | nc | nc | nc |
| 10.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 10.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *10 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *11 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 12.1 | 50 | 126.0 | <50 | nc | <50 | nc | nc | nc | nc |
| 12.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 12.3 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *12 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 13.1 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| 13.2 | 60 | 32.3 | <50 | nc | <50 | nc | nc | nc | nc |
| *13 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *14 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| *15 | 60 | 35.2 | -- | -- | -- | -- | -- | -- | nc |
| *16 | -- | -- | <50 | nc | <50 | nc | nc | nc | nc |
| 18.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 18.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *18 | ** | nc | ** | nc | ** | nc | nc | nc | nc |

## Appendix II

**Table 12.** *Event-mean concentrations and loads of total copper in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | |
| *19 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 20.1 | 60 | 58.7 | 60 | 20.6 | 60 | 13.2 | 60 | 33.8 | 0 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 58.7 | ** | 20.6 | ** | 13.2 | 16 | 33.8 | nc |
| 21.1 | 50 | 12.2 | <50 | nc | <50 | nc | nc | nc | nc |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 12.2 | ** | nc | ** | nc | nc | nc | nc |
| *22 | 50 | 348.7 | <50 | nc | <50 | nc | nc | nc | nc |
| 23.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 23.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 23.3 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 23.4 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| *23 | ** | nc | ** | nc | ** | nc | 15 | nc | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 25.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *25 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 26.1 | <50 | nc | -- | -- | <50 | nc | nc | nc | nc |
| 26.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 26.3 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 26.4 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 26.5 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| 26.6 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| 26.7 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| *26 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 27.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 27.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 27.3 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *27 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *28 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 29.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *30 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *31 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |

## Appendix II

**Table 12.** *Event-mean concentrations and loads of total copper in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (µg/L) | Inflow Load (g) | East outlet EMC (µg/L) | East outlet Load (g) | West outlet EMC (µg/L) | West outlet Load (g) | Total outflow EMC (µg/L) | Total outflow Load (g) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *35 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 37.1 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 37.2 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 37.3 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| 37.4 | <50 | nmf | -- | -- | -- | -- | -- | -- | nc |
| *37 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *38 | <50 | nc | -- | -- | -- | -- | -- | -- | nc |
| *39 | 130 | 98.6 | <50 | nc | <50 | nc | nc | nc | nc |
| *40 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *41 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| *42 | <50 | nc | <50 | nc | <50 | nc | nc | nc | nc |
| Total Load: | | 1,250.0 | | 20.6 | | 13.2 | | 33.8 | |

Percentage decrease in outflow EMC:
maximum = 0
median = 0
minimum = 0

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.
(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 13.** *Event-mean concentrations and loads of dissolved copper in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; µg/L, micrograms per liter; g, grams; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations); <, less than]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | |
| *1 | 7 | 21.9 | 3 | 5.4 | 7 | 8.2 | 5 | 13.6 | 29 |
| 3.1 | 6 | 7.2 | 4 | 4.1 | <3 | nc | nc | nc | nc |
| 3.2 | 6 | 4.8 | 4 | 3.3 | <3 | nc | nc | nc | nc |
| *3 | ** | 12.0 | ** | 7.4 | ** | nc | nc | nc | nc |
| 5.1 | 5 | 1.8 | 6 | 1.2 | 6 | .3 | 6 | 1.5 | - 20 |
| 5.2 | 5 | 5.8 | 6 | 6.3 | 6 | .1 | 6 | 6.4 | - 20 |
| *5 | ** | 7.6 | ** | 7.5 | ** | .4 | 6 | 8.0 | nc |
| 6.1 | 6 | 18.8 | 4 | 4.5 | <3 | nc | nc | nc | nc |
| 6.2 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *6 | ** | nc | ** | 4.5 | ** | nc | nc | nc | nc |
| *7 | 4 | 14.1 | 4 | 14.0 | 4 | .2 | 4 | 14.2 | 0 |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | 16 | 7.8 | <3 | nc | <3 | nc | nc | nc | nc |
| 10.1 | 4 | 15.2 | <3 | nc | <3 | nc | nc | nc | nc |
| 10.2 | <3 | nc | 4 | 6.3 | 4 | 4.2 | 4 | 10.5 | nc |
| *10 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *11 | 12 | 1.2 | 5 | .2 | 3 | .1 | 4 | .3 | 67 |
| 12.1 | 7 | 17.6 | 5 | 6.4 | 4 | 3.8 | 5 | 10.2 | 29 |
| 12.2 | 8 | 10.0 | 6 | 4.6 | 4 | 2.2 | 5 | 6.8 | 38 |
| 12.3 | 12 | 1.5 | 9 | 2.9 | 9 | 1.1 | 9 | 4.0 | 25 |
| *12 | ** | 29.1 | ** | 13.9 | ** | 7.1 | 5 | 20.9 | nc |
| 13.1 | 12 | 1.5 | -- | -- | -- | -- | -- | -- | -- |
| 13.2 | 7 | 3.8 | 5 | 2.3 | 5 | 1.0 | 5 | 3.3 | 29 |
| *13 | ** | 5.3 | ** | 2.3 | ** | 1.0 | 5 | 3.3 | nc |
| *14 | 12 | 5.9 | -- | -- | -- | -- | -- | -- | -- |
| *15 | 9 | 5.3 | 8 | 1.4 | 8 | .6 | 8 | 2.0 | 11 |
| *16 | -- | -- | 6 | 2.2 | 6 | 1.0 | 6 | 3.2 | -- |
| 18.1 | 5 | 9.3 | 4 | 3.4 | <3 | nc | nc | nc | nc |
| 18.2 | 7 | 7.4 | 6 | 4.8 | <3 | nc | nc | nc | nc |
| *18 | ** | 16.7 | ** | 8.2 | ** | nc | nc | nc | nc |

## Appendix II

**Table 13.** *Event-mean concentrations and loads of dissolved copper in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (µg/L) | Inflow Load (g) | East outlet EMC (µg/L) | East outlet Load (g) | West outlet EMC (µg/L) | West outlet Load (g) | Total outflow EMC (µg/L) | Total outflow Load (g) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *19 | 5 | 8.6 | <3 | nc | 3 | 2.0 | nc | nc | nc |
| 20.1 | 4 | 3.9 | 11 | 3.8 | 11 | 2.4 | 11 | 6.2 | -175 |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | 3.9 | ** | 3.8 | ** | 2.4 | 3 | 6.2 | nc |
| 21.1 | 6 | 1.5 | <3 | nc | <3 | nc | nc | nc | nc |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | 1.5 | ** | nc | ** | nc | nc | nc | nc |
| *22 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.3 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.4 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *23 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 25.2 | 8 | 12.5 | <3 | nc | <3 | nc | nc | nc | nc |
| *25 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 26.1 | 5 | 1.7 | -- | -- | <3 | nc | nc | nc | nc |
| 26.2 | 5 | .2 | <3 | nc | <3 | nc | nc | nc | nc |
| 26.3 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 26.4 | 3 | 2.3 | <3 | nc | <3 | nc | nc | nc | nc |
| 26.5 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| 26.6 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| 26.7 | 3 | 10.6 | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 27.1 | <3 | nc | 8 | 2.7 | 3 | .9 | 6 | 3.6 | nc |
| 27.2 | 12 | 4.4 | <3 | nc | 4 | .9 | nc | nc | nc |
| 27.3 | 10 | 3.7 | 7 | 1.4 | 7 | 1.4 | 7 | 2.7 | 30 |
| *27 | ** | nc | ** | nc | ** | 3.2 | nc | nc | nc |
| *28 | 13 | 4.5 | 6 | .7 | 6 | 1.8 | 6 | 2.5 | 54 |
| 29.1 | 8 | 13.9 | 4 | 2.8 | 4 | 2.5 | 4 | 5.4 | 50 |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 13.9 | ** | 2.8 | ** | 2.5 | 3 | 5.4 | nc |
| *30 | 7 | 28.9 | 17 | 36.2 | 10 | 20.1 | 14 | 56.3 | -100 |
| *31 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |

## Appendix II

**Table 13.** *Event-mean concentrations and loads of dissolved copper in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | |
| *32 | 10 | 30.1 | 5 | 7.5 | 8 | 11.9 | 6 | 19.4 | 40 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 6 | 7.2 | 4 | 3.1 | 4 | 2.0 | 4 | 5.1 | 33 |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | 7 | 3.4 | 5 | .1 | 5 | .1 | 5 | .2 | 29 |
| 37.2 | 5 | 2.3 | 5 | 1.6 | 5 | 1.1 | 5 | 2.7 | 0 |
| 37.3 | 11 | 4.6 | 8 | 2.0 | 8 | 1.4 | 8 | 3.3 | 27 |
| 37.4 | 11 | nmf | -- | -- | -- | -- | -- | -- | -- |
| *37 | ** | 10.3 | ** | 3.7 | ** | 2.6 | 5 | 6.2 | nc |
| *38 | 7 | 3.3 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 10 | 7.6 | <3 | nc | <3 | nc | nc | nc | nc |
| *40 | 7 | 16.8 | 4 | 6.6 | 4 | 5.3 | 4 | 11.8 | 43 |
| *41 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *42 | 6 | 4.8 | 3 | 1.8 | 3 | 1.0 | 3 | 2.8 | 50 |
| Total load (2): | | 337.7 | | 143.7 | | 77.6 | | 198.1 | |

Percentage decrease in outflow EMC:
maximum = 67
median = 29
minimum = -175

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 14.** *Event-mean concentrations and loads of total lead in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; µg/L, micrograms per liter; g, grams; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a value of 0 for calculations); <, less than]

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | |
| *1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 3.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 3.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *3 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 5.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 5.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *5 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 6.1 | 100 | 313.2 | <100 | nc | <100 | nc | nc | nc | nc |
| 6.2 | 100 | 90.5 | -- | -- | -- | -- | -- | -- | -- |
| *6 | ** | 403.7 | ** | nc | ** | nc | nc | nc | nc |
| *7 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *8 | -- | -- | <100 | nc | <100 | nc | nc | nc | nc |
| *9 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 10.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 10.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *10 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *11 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 12.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 12.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 12.3 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *12 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 13.1 | <100 | nc | -- | -- | -- | -- | -- | -- | nc |
| 13.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *13 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *14 | <100 | nc | -- | -- | -- | -- | -- | -- | nc |
| *15 | <100 | nc | -- | -- | -- | -- | -- | -- | nc |
| *16 | -- | -- | <100 | nc | <100 | nc | nc | nc | nc |
| 18.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 18.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *18 | ** | nc | ** | nc | ** | nc | nc | nc | nc |

## Appendix II

**Table 14.** *Event-mean concentrations and loads of total lead in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (µg/L) | Inflow Load (g) | East outlet EMC (µg/L) | East outlet Load (g) | West outlet EMC (µg/L) | West outlet Load (g) | Total outflow EMC (µg/L) | Total outflow Load (g) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *19 | 100 | 171.3 | <100 | nc | <100 | nc | nc | nc | nc |
| 20.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 21.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *22 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 23.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 23.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 23.3 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 23.4 | <100 | nc | -- | -- | -- | -- | -- | -- | nc |
| *23 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 25.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| *25 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 26.1 | <100 | nc | -- | -- | <100 | nc | nc | nc | nc |
| 26.2 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 26.3 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 26.4 | <100 | nc | <100 | nc | <100 | nc | nc | nc | nc |
| 26.5 | <100 | nc | -- | -- | -- | -- | -- | -- | -- |
| 26.6 | <100 | nc | -- | -- | -- | -- | -- | -- | -- |
| 26.7 | <100 | nc | -- | -- | -- | -- | -- | -- | -- |
| *26 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 27.1 | 75 | 99.1 | <25 | nc | <25 | nc | nc | nc | nc |
| 27.2 | 50 | 18.4 | <25 | nc | 50 | 11.0 | nc | nc | nc |
| 27.3 | <25 | nc | <25 | nc | <25 | nc | nc | nc | nc |
| *27 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *28 | 25 | 8.6 | <25 | nc | <25 | nc | nc | nc | nc |
| 29.1 | 52 | 90.3 | <25 | nc | <25 | nc | nc | nc | nc |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 90.3 | ** | nc | ** | nc | nc | nc | nc |
| *30 | 25 | 103.4 | <25 | nc | <25 | nc | nc | nc | nc |
| *31 | 50 | 293.6 | 25 | 72.8 | <25 | nc | nc | nc | nc |

## Appendix II

**Table 14.** *Event-mean concentrations and loads of total lead in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow EMC (µg/L) | Inflow Load (g) | East outlet EMC (µg/L) | East outlet Load (g) | West outlet EMC (µg/L) | West outlet Load (g) | Total outflow EMC (µg/L) | Total outflow Load (g) | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| *32 | 75 | 225.7 | 25 | 37.3 | 25 | 37.3 | 25 | 74.6 | 67 |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | 25 | 30.0 | <25 | nc | <25 | nc | nc | nc | nc |
| *35 | 50 | 35.5 | 25 | 14.1 | 25 | 9.2 | 25 | 23.3 | 50 |
| 37.1 | 25 | 12.2 | <25 | nc | <25 | nc | nc | nc | nc |
| 37.2 | <25 | nc | <25 | nc | <25 | nc | nc | nc | nc |
| 37.3 | <25 | nc | <25 | nc | <25 | nc | nc | nc | nc |
| 37.4 | <25 | nmf | -- | -- | -- | -- | -- | -- | |
| *37 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *38 | 50 | 23.2 | -- | -- | -- | -- | -- | -- | -- |
| *39 | 420 | 318.6 | 25 | 7.3 | 25 | 4.3 | 25 | 11.6 | 94 |
| *40 | 100 | 239.8 | 25 | 41.0 | 25 | 33.0 | 25 | 74.0 | 75 |
| *41 | 100 | 633.7 | <25 | nc | <25 | nc | nc | nc | nc |
| *42 | <25 | nc | <25 | nc | <25 | nc | nc | nc | nc |
| Total load (2): | | 2,707.1 | | 172.5 | | 94.8 | | 183.6 | |

Percentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 94 |
| median = | 71 |
| minimum = | 50 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.

## Appendix II

**Table 15.** *Event-mean concentrations and loads of dissolved lead in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988*

[EMC, event-mean concentration; µg/L, micrograms per liter; g, grams; --, concentration not determined; nc, not calculated; *, total of individual storm segments; **, storm average not determined; nmf, not meaningful because discharge could not be calculated (used a valueof 0 for calculations); <, less than]

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (µg/L) | (g) | (µg/L) | (g) | (µg/L) | (g) | (µg/L) | (g) | in EMC (1) |
| *1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 3.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 3.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *3 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 5.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 5.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *5 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 6.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 6.2 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *6 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *7 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *8 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *9 | 10 | 4.9 | <3 | nc | <3 | nc | nc | nc | nc |
| 10.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 10.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *10 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *11 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 12.1 | 4 | 10.1 | 3 | 3.8 | <3 | nc | nc | nc | nc |
| 12.2 | <3 | nc | 4 | 3.0 | <3 | nc | nc | nc | nc |
| 12.3 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *12 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 13.1 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| 13.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *13 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *14 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *15 | 4 | 2.3 | <3 | nc | 4 | 0.3 | nc | nc | nc |
| *16 | -- | -- | 3 | 1.1 | <3 | nc | nc | nc | nc |
| 18.1 | <3 | nc | 3 | 2.6 | <3 | nc | nc | nc | nc |
| 18.2 | <3 | nc | 3 | 2.4 | 3 | 1.7 | 3 | 4.1 | nc |
| *18 | ** | nc | ** | 5.0 | ** | nc | nc | nc | nc |

## Appendix II

**Table 15.** *Event-mean concentrations and loads of dissolved lead in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage |
|---|---|---|---|---|---|---|---|---|---|
| identi- | EMC | Load | EMC | Load | EMC | Load | EMC | Load | decrease |
| fication | (µg/L) | (g) | (µg/L) | (g) | (µg/L) | (g) | (µg/L) | (g) | in EMC (1) |
| *19 | 4 | 6.9 | 4 | 3.8 | 4 | 2.6 | 4 | 6.4 | 0 |
| 20.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 20.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *20 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 21.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 21.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *21 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *22 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.3 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 23.4 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *23 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *24 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 25.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *25 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 26.1 | <3 | nc | -- | -- | <3 | nc | nc | nc | nc |
| 26.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 26.3 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 26.4 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 26.5 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| 26.6 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| 26.7 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *26 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| 27.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 27.2 | 12 | 4.4 | <3 | nc | <3 | nc | nc | nc | nc |
| 27.3 | 8 | 2.9 | <3 | nc | <3 | nc | nc | nc | nc |
| *27 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *28 | 8 | 2.7 | <3 | nc | <3 | nc | nc | nc | nc |
| 29.1 | 6 | 10.4 | <3 | nc | <3 | nc | nc | nc | nc |
| 29.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *29 | ** | 10.4 | ** | nc | ** | nc | nc | nc | nc |
| *30 | 3 | 12.4 | 4 | 8.5 | 3 | 6.0 | 4 | 14.5 | - 33 |
| *31 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |

## Appendix II

**Table 15.** *Event-mean concentrations and loads of dissolved lead in water from Monroe Street detention pond, Madison, Wisconsin, February 1987 through April 1988--Continued*

| Storm identification | Inflow | | East outlet | | West outlet | | Total outflow | | Percentage decrease in EMC (1) |
|---|---|---|---|---|---|---|---|---|---|
| | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | EMC (µg/L) | Load (g) | |
| *32 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *33 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| *34 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *35 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 37.1 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 37.2 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 37.3 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| 37.4 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *37 | ** | nc | ** | nc | ** | nc | nc | nc | nc |
| *38 | <3 | nc | -- | -- | -- | -- | -- | -- | nc |
| *39 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *40 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *41 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| *42 | <3 | nc | <3 | nc | <3 | nc | nc | nc | nc |
| Total load (2): | | 57.0 | | 25.2 | | 10.6 | | 25.0 | |

Percentage decrease in outflow EMC:

| | |
|---|---|
| maximum = | 0 |
| median = | -16 |
| minimum = | -33 |

(1) Percentage decrease in EMC computed as:
(Inflow EMC-Outflow EMC)/Inflow EMC x 100.

(2) Total loads are the sum of the totals of individual storm segments.