Addendum #1

to the
Bloomington and Normal
Water Reclamation District
and
City of Bloomington
Long-Term CSO Control Plan
dated April 2003

August 29, 2003

Prepared By:
The Bloomington and Normal Water Reclamation District,
John Michael Callahan, Executive Director, and
Farnsworth Group, Inc.
Addendum #1

to the
Bloomington and Normal Water Reclamation District and City of Bloomington
Long-Term CSO Control Plan dated April 2003

August 29, 2003

I. Introduction ................................................................................................................................................. 1

II. Addendum Purpose ..................................................................................................................................... 4

III. Goals of the Long-Term CSO Control Plan .......................................................................................... 5

IV. Analysis of Alternatives .......................................................................................................................... 6

A. Description of Alternatives ...................................................................................................................... 6
   1. Alternative 1 – CSO Interceptors and Storage Lagoon .......................................................................... 6
   2. Alternative 2 – Storage Facilities at Major CSO Outfall Sites ......................................................... 10
   3. Alternative 3 – Screening Facilities at Major CSO Outfall Sites .................................................... 11

B. Alternative Cost Analysis .......................................................................................................................... 13

C. Hydraulic Modeling/System Performance ............................................................................................. 22

D. Recommendation of Proposed Alternative/Cost Performance Consideration .............................. 35

V. Disinfection Consideration ....................................................................................................................... 37

VI. Public Participation ................................................................................................................................... 38

VII. Post Construction Monitoring .............................................................................................................. 39

VIII. Implementation ....................................................................................................................................... 40
Figures

1A  CSO Collection and Treatment System Schematic ...........................................Back cover
2A  2-Year Rain Hydrograph – June 28, 2003 .................................................................25
3A  5-Year Rain Hydrograph – July 8, 2003 .................................................................26
4A  100-Year Rain Hydrograph – July 9, 2003 ...............................................................27
5A  2-Year Rain CSO Discharge Volume – June 28, 2003 .............................................28
6A  5-Year Rain CSO Discharge Volume – July 8, 2003 .................................................29
7A  100-Year Rain CSO Discharge Volume – July 9, 2003 .............................................30

Tables

1A  Alternative 1 Summary Budget Estimate ...............................................................14
2A  Alternative 2 Summary Budget Estimate ...............................................................15
3A  Alternative 3 Summary Budget Estimate ...............................................................16
4A  Alternative 1 CSO Lagoon Detailed Budget Estimate ..........................................17
5A  Alternative 1 West Slough CSO Interceptor Detailed Budget Estimate ................19
6A  Alternative 1 Graham Street CSO Interceptor Detailed Budget Estimate ..............20
7A  Alternative 2 Storage at CSO Outfalls Detailed Budget Estimate ........................21
8A  Measured Rainfall for Selected Overflow Events ..................................................24
9A  Alternative Analysis of CSO Performance ...........................................................33
I. INTRODUCTION

This addendum is offered to provide background information and data from which the Bloomington and Normal Water Reclamation District (BNWRD) and City of Bloomington Long-Term CSO Control Plan dated April 2003 was derived. It is recognized that in some instances, assumptions were made in the CSO Control Plan based on many years of interceptor sewer operating experience, inspection, flow monitoring, and modeling. These assumptions were used to form the basis of what is believed to be a very realistic, comprehensive, and cost effective CSO control strategy. Additionally, flow data has been collected since the 2003 CSO Control Plan was completed. This flow data has been used in this addendum to model the effectiveness of the CSO control alternatives studied. This addendum incorporates further analysis based on additional data gathered to refine the original CSO control strategy.

The intent of the efforts to control and treat CSO discharges as described in this CSO Control Plan are not limited to the minimum required efforts established by the United States Environmental Protection Agency (USEPA) in the Nine Minimum Controls and CSO Control Policy. Rather, the intent is to reduce untreated CSO discharges to the maximum extent practicable in response to the level of environmental stewardship for which the BNWRD feels responsible. This level of CSO control is believed to be far in excess of the minimum standards required by the USEPA.

Perhaps one of the most important aspects of the BNWRD CSO Control Plan involves the topography and demography of the Bloomington and Normal, Illinois service area. Bloomington and Normal are located at the far upstream headwaters of the receiving stream, Sugar Creek. Historically, interceptor sewer transport to the BNWRD treatment facility utilized the topography of the communities located adjacent to Sugar Creek. The principal CSO discharge points are thus been located along Sugar Creek in the older section of the communities. Both communities have grown to the extent that growth has “spilled over” from the Sugar Creek drainage basin into surrounding drainage basins. This growth has, by mandate, been undertaken with separate storm and sanitary sewer systems.
The growth of the communities has resulted in the need for additional wastewater treatment capacity. In response to this need, the BNWRD is presently building a new wastewater treatment plant located in the Little Kickapoo Creek drainage basin, approximately five miles south of Bloomington.

Continued growth within the existing combined sewer system of the BNWRD will be very limited, with the majority of growth occurring in newer, separated systems. This CSO Control Plan has quantified the finite amount of combined sewer flow and will capture this flow, with the exception of only the largest of storm events, for treatment. The captured combined sewer overflow will be conveyed with new interceptors to a storage lagoon near the existing wastewater treatment plant. This stored volume of water will be transferred from the CSO storage lagoon to the existing treatment plant for either primary excess flow treatment or full tertiary treatment, depending upon available plant capacity. This opportunity for CSO storage only recently became available when a 37-acre tract of property adjacent to the existing Wastewater Treatment Plant was offered for sale. The BNWRD purchased this property as the intended site for the storage lagoon.

Later sections of this report will quantify the amount of CSO, based on storm frequency, that may be captured with the proposed system of CSO interceptors and storage lagoon.

On July 9, 2003, the BNWRD service area experienced a storm classified by the Illinois State University as a 100-year storm. This storm has a probability of recurring once every 100 years. The combined sewer system was at 100% capacity during this event, and Sugar Creek flooded its banks in several areas of the community. The existing BNWRD treatment plant has a design maximum flow capacity of 45 MGD and an additional excess flow treatment capacity of 42 MGD, resulting in a total treatment capacity of 87 MGD. The peak short-term sustained flow measured through both facilities during this storm event was 105 MGD. The combined flow of both tertiary treatment and excess flow was in excess of 95 MGD for almost two days as a result of this storm. The BNWRD had previously installed flowmeters at the two major CSO locations, Graham Street CSO and West Slough CSO. The flows monitored at these
locations during this storm will be used as a basis for modeling the performance of the proposed CSO treatment alternatives later in this addendum.

The BNWRD was awarded a CSO exemption, with support from the IEPA, by the Illinois Pollution Control Board (PCB) in 1984 (Docket R84-40). The PCB found that the CSO exemption was justified because of the minimal effect of the CSO discharge on Sugar Creek. As a condition of the award of this exemption, the PCB required the BNWRD to undertake a three-year bio-survey of the fish of Sugar Creek, establish and maintain a water quality monitoring network on Sugar Creek, and make five daily inspections of the BNWRD CSO discharge points weekly. The BNWRD has met all of these requirements since the award of the exemption and now has in excess of 20 consecutive years of data. The BNWRD, of its own volition, installed 14 remote computer monitored flowmeters on key sections of its interceptor system in the early 1990s to monitor remaining interceptor capacity and analyze CSO occurrence. All of this data was considered either quantitatively or qualitatively in preparation of this CSO Control Plan.

This addendum will provide the necessary justifications for approval and acceptance of the modified CSO Control Plan. While not eliminating all CSO occurrences, this CSO plan will reduce CSO frequency to that of a very rare occurrence and only during the time of extreme storm events when the impact of such discharge on the water quality of the receiving stream is tremendously minimized.
II. ADDENDUM PURPOSE

This Addendum to the Long-Term CSO Control Plan was prepared to update and validate the scope of the proposed plan based on additional flow monitoring data obtained at the West Slough and Graham Street Slough through July 2003. Flow monitors have been installed at the Graham Street Slough since the beginning of 2001. Flow monitors were subsequently installed at the West Slough in 2003, after the Long-Term CSO Control Plan was completed. Data obtained from particularly large rain events in June through July, 2003, has allowed previous assumptions on overflow discharge and capacity to be quantitatively analyzed, resulting in moderate changes to the proposed plan and modeled validation of the CSO collection, storage and treatment capability.

In addition to these revisions of the plan, additional information is provided in this addendum to address questions and concerns on the part of the US and Illinois EPA based on review of the initial plan submitted in April 2003.
III. GOALS OF THE LONG-TERM CSO CONTROL PLAN

A. Provide CSO treatment to the maximum practicable extent.

B. Ensure compliance with the Nine Minimum Controls.

C. Analysis of flow monitoring data obtained at CSO outfalls in order to characterize the combined sewer system and model its response to the identified treatment alternatives.

D. Evaluation of treatment alternatives that will result in full compliance with water quality standards established by the Clean Water Act. Establish costs and performance criteria for each selected alternative.

E. Provide flexibility and expandability of the recommended CSO treatment facility in the event that further improvements are required to meet established goals.

F. Maximize combined sewer system conveyance and storage capability to maximize treatment through the existing wastewater treatment facility and minimize the frequency and occurrence of CSO to Sugar Creek.
IV. ANALYSIS OF ALTERNATIVES

A. Description of Alternatives

1. Alternative 1 - CSO Interceptors and Storage Lagoon

Based on cost/performance analysis provided in later sections of this addendum, Alternate 1 is the recommended approach to meeting the established goals of the Long-Term CSO Control Plan. A schematic representation of Alternate 1 can be found in Figure 1A.

Alternate 1 includes the following components:

a. Elimination of CSO discharge at the Hungarian Club area.

This includes elimination of the West Branch CSO (008), Normal Valley CSO (009), Division Street CSO (010), and East 48-inch CSO (011). These flows, up to 54 MGD, will be conveyed by the 60-inch Hungarian Club CSO Interceptor to the Graham Street CSO location and ultimately to a CSO Storage Lagoon.

b. Conveyance of CSO discharge from the Graham Street CSO to the West Slough location and ultimately to the CSO Storage Lagoon.

An 84-inch interceptor will convey flow, up to 117 MGD, from the existing outfall to an overflow structure at the end of the existing paved discharge slough. At the overflow structure, flow from the Hungarian Club interceptor will be combined. A total of 172 MGD will be conveyed via two 78-inch CSO interceptors from the overflow structure to the West Slough CSO location. The Graham Street CSO outfall will remain, but will overflow with a frequency less than one time per year and only in the event of a significant
sustained storm event. Potential overflows will be baffled to prevent the release of solids and floatables. Provisions will be made to allow installation of CSO screens in the overflow structure if needed in the future. Easement provisions will be made, and capped pipe stubs will be provided in the applicable structures for addition of parallel 84-inch and 78-inch CSO interceptors, if needed in the future.

c. Conveyance of CSO discharge from the West Slough CSO to the CSO Storage Lagoon.

Three 96-inch interceptors will convey flow, up to 540 MGD, from the existing West Slough CSO outfall to an overflow structure at the end of the existing paved discharge slough. At the overflow structure, flow from the 78-inch Graham Street CSO interceptors will be combined. A total of 711 MGD will be conveyed via three 96-inch interceptors from the overflow structure to the CSO Storage Lagoon. The West Slough CSO outfall will remain but will overflow with a frequency less than one time per year and only in the event of a significant sustained storm event. Potential overflows will be baffled to prevent the release of solids and floatables. Provisions will be made to allow installation of CSO screens in the overflow structure if needed in the future. Easement provisions will be made, and capped pipe stubs will be provided in the applicable structures for addition of a fourth parallel 96-inch CSO interceptor, if needed in the future.

d. Storage of CSO discharge in a lagoon to allow full tertiary treatment of CSO when capacity becomes available in the existing West Wastewater Treatment Plant. The CSO Lagoon ensures
maximization of treatment at existing wastewater treatment facilities.

A single lagoon will be constructed on property recently acquired by the District. This property lies on the north side of Sugar Creek, adjacent to the existing West WWTP. The lined lagoon will have a 3-foot minimum operating depth at an elevation of 730 feet and will be aerated. CSO discharge from the CSO interceptors will flow by gravity to the lagoon to an elevation of 741 feet. At this elevation, approximately 39 MG of storage is available in the lagoon. An additional 4.5 MG of storage will be available in the CSO Interceptors. CSO interceptors will flow at design capacity of 711 MGD up to an elevation of 736 feet. As water level in the lagoon increases above this elevation, flow rate capacity of the interceptors will decrease. At a water level elevation of 741 feet in the lagoon, gravity flow will cease, and a pump station will continue to pump flow from the interceptors into the lagoon at a rate up to 100 MGD. The "pumped" storage available in the lagoon, between elevation 741 and 752, is approximately 46 MG. The total storage available in the lagoon is approximately 85 MG. If the lagoon is full, or if CSO discharge exceeds the rated capacity of the interceptors or pump station, overflow will occur at the permitted West Slough CSO and Graham Street CSO outfalls. Estimated frequency of occurrence of overflow at this location is less than one time per year and only in the event of a significant sustained storm event.
e. Treatment of CSO stored in the CSO Storage Lagoon.

A 60-inch pipe will be constructed to drain flow from the lagoon to the headworks of the West WWTP. All flow entering the headworks will be fine screened. Depending on plant capacity, flow will either receive full tertiary treatment or receive primary treatment in the existing excess flow settling tanks. The existing Plant #2 at the West WWTP, designed for secondary treatment, is currently not in use. This plant will be converted to excess flow treatment to allow total excess flow treatment capacity at the West WWTP up to 49.6 MGD.
2. Alternative 2 – Storage Facilities at Major CSO Outfall Sites

Alternate 2 includes the following components:

a. Elimination of CSO discharge at the Hungarian Club area.

This includes elimination of the West Branch CSO (008), Normal Valley CSO (009), Division Street CSO (010), and East 48-inch CSO (011). These flows, up to 54 MGD, will be conveyed by the 60-inch Hungarian Club CSO Interceptor to the Graham Street CSO location for storage.

b. Construction of concrete storage tanks and screens at the Graham Street CSO and West Slough CSO locations.

This includes construction of a 1.75 MG tank at the Graham Street CSO location and a 3.5 MG tank at the West Slough CSO location. These tanks would store average CSO discharges and reduce direct CSO discharge to Sugar Creek. Overflows from the tanks would be baffled and screened to prevent discharge of floatables and solids. Estimated overflow frequency from these tanks would be less than four times per year. Pump stations would pump flow and screened solids from these tanks to the West WWTP headworks at a rate up to the 49.6 MGD capacity of the excess flow treatment facilities.

c. The existing Plant #2 at the West WWTP, designed for secondary treatment, is currently not in use. This plant will be converted to excess flow treatment to allow total excess flow treatment capacity at the West WWTP up to 49.6 MGD.
3. Alternative 3 – Screening Facilities at Major CSO Outfall Sites

Alternate 3 provides screening to meet requirements of the Nine Minimum controls to prevent discharge of floatables and solids. This alternative does not improve water quality of the creek with respect to other monitoring parameters, such as DO, TSS, or BOD. Alternate 3 is further detailed in reports titled “Bloomington Normal Water Reclamation District CSO Improvements Facility Plan, November 15, 2000” and “City of Bloomington CSO Facility Planning Study, August, 2002”.

Alternate 3 includes the following components:

a. Elimination of CSO discharge at the Hungarian Club area.

This includes elimination of the West Branch CSO (008), Normal Valley CSO (009), Division Street CSO (010), and East 48-inch CSO (011). These flows, up to 54 MGD, will be conveyed by the 60-inch Hungarian Club CSO Interceptor to the Graham Street CSO location for screening.

b. Construction of fine screening facilities at the Graham Street CSO and West Slough CSO locations.

Horizontal bar screens will be installed at both the Graham Street CSO and West Slough CSO locations to screen all CSO discharged at these locations. A 24-inch interceptor and transfer pump station will be constructed from the Graham Street CSO and a 54-inch interceptor will be constructed from the West Slough CSO to convey the collected screenings to the excess flow facilities at the West WWTP. New fine screens will be installed in the existing channels ahead of the existing West WWTP excess flow settling
tanks to recapture the transferred solids to prevent accumulation of these solids in the settling tanks and/or release to Sugar Creek.

c. The existing Plant #2 at the West WWTP, designed for secondary treatment, is currently not in use. This plant will be converted to excess flow treatment to allow total excess flow treatment capacity at the West WWTP up to 49.6 MGD.
B. Alternative Cost Analysis

Tables 1A through 3A provide a summary of estimated costs for Alternatives 1 through 3. The estimated costs for these alternatives is as follows:

Alternative 1 – CSO Interceptors and Storage Lagoon - $16,233,000

Alternative 2 – Storage at CSO Outfalls - $14,578,000

Alternative 3 – Screening at CSO Outfalls - $8,100,000

Detailed costs for Alternative 1 can be found in Tables 4A through 6A.

Detailed costs for Alternative 2 can be found in Table 7A.

Detailed costs for Alternative 3 can be found in CSO Facility Planning Studies completed on 11-15-00 and 8-02.
Table 1A
Table 2A
Table 3A
Table 4A
Table 4A – pg 2
Table 7A
C. Hydraulic Modeling/System Performance

Hydraulic Modeling

Flow monitors have been installed at the Graham Street CSO location since the beginning of 2001. This flow data was used as the basis for modeling the proposed CSO treatment system in the April 2003 report. Flow monitors were subsequently installed at the West Slough CSO location in Spring 2003 to obtain additional data to aid in the design of the CSO facilities.

In June and July, 2003, the communities combined sewer service area experienced three storms of greater intensity than that seen in the previous two years of monitoring at the Graham Street CSO location. These storms, along with data previously compiled, form the basis of the model used to evaluate the performance of the three alternatives previously discussed.

These three storms were compared to Illinois State Water Survey circular of the “Frequency Distributions of Heavy Rainstorms in Illinois”. Using this data, each storm was classified based on estimated recurrence interval. Table 8A shows amount of rainfall measured. The 6/28/03 rain was estimated to be a 2-Year Rain (probability of recurring every two years). The 7/8/03 rain was estimated to be a 5-Year Rain (probability of recurring every five years). The 7/9/03 rain was estimated to be a 100-Year Rain (probability of recurring every 100 years).

A hydrograph of each of these storms is provided in Figures 2A to 4A. Cumulative volume of CSO discharged during each of these storms is provided in Figures 5A to 7A.

Each hydrograph represents the flowrate of CSO discharge from the combined locations of the Hungarian Club CSOs, Graham Street CSO, and the West Slough CSO. These CSO locations represent the majority of CSO discharge in the
communities combined sewer service area. Actual flowrates were measured at the Graham Street CSO and West Slough CSO. Flow monitors are not available for the Hungarian Club CSOs so flowrates were estimated at this location based on capacity of sewers tributary to these CSO outfalls. The Hungarian Club CSO sewers have a capacity of approximately 20% of that of the Graham Street CSO sewers, therefore CSO discharge flow rates from the Hungarian Club CSO was estimated at 20% of the Graham Street CSO discharge.

Peak flow rate of CSO discharge totaling 670 MGD was observed during a 15-minute interval on July 9, 2003. This is a combined rate from all three CSO locations. Peak flow rate from each of the CSO locations did not necessarily occur at the same 15-minute interval. Peak flow rate observed from the Graham Street CSO was 117 MGD. Peak flow rate observed from the West Slough CSO was 540 MGD. These flow rates were used as the basis for sizing CSO interceptors from the Graham Street CSO and West Slough CSO locations. This differs from the original report which sized the interceptors based on maximum upstream sewer capacity. Basis for sizing the interceptor from the Hungarian Club CSOs was to match capacity of all influent sewers draining to each of the Hungarian Club CSO discharge points. The Graham Street CSO and West Slough CSO discharges will remain open in the event CSO discharge exceeds the rated capacity of the interceptors or the 100 MGD CSO pump station, or the CSO lagoon is filled to capacity.
Table 8A
Figure 2A
Figure 6A
System Performance

Each of the CSO treatment alternatives, as described previously, was modeled to determine its system performance during the 2-, 5- and 100-Year Rain Events experienced by the existing combined sewer system. Rain events between the 5-Year and 100-Year events were extrapolated. Results of this analysis are provided in Table 9A.

Each alternative was modeled to determine its ability to capture combined sewer overflow for varying levels of treatment. Treatment levels varied from screening only, primary treatment, and secondary/tertiary treatment.

All three alternatives were designed to have the ability to screen all CSO discharges described. As shown in the table, each alternative provides 100% capture of each rain event for screening. In other words, no overflow would occur without being first screened. Addition of screens in each alternative would occur in phases. The first phase of the project would construct structures, which would have baffles to prevent the discharge of floatables and solids and, depending on the alternative, some screens would be installed. After completion of the first phase of construction, system monitoring would take place to determine the extent that additional screens may be needed (frequency of use and screen capacity).

Alternative 3 would screen CSO discharge but not provide any additional treatment. While this alternative would comply with the intent of the Nine Minimum Controls, it may not satisfy anticipated future water quality standards of the USEPA CSO Control Policy.

Alternatives 1 and 2 provide both primary and secondary/tertiary treatment of CSO discharges. Alternative 1 would capture for full treatment, all CSO discharges up to and including a 5-Year Rain Event. During the 100-Year Rain Event, as experienced on July 9, 2003, Alternative 1 would have captured for
treatment 80% of the 96.8 MG of overflow discharged. On average, Alternative 1 would allow less than one CSO discharge/year to occur that would not be fully treated. At the point at which overflow does occur, the interceptors have been aggressively scoured, and “first flush” wastewater has been entirely transferred to the CSO lagoons via the proposed CSO interceptors or the West WWTP via the existing collection system.

Alternative 2 would provide only 80% of primary treatment and 59% of secondary/tertiary treatment for CSO discharges in a Two-Year Rain Event. On average, it is estimated that Alternative 2 would allow less than four discharges/year to occur that would not be fully treated.

Both Alternatives 1 and 2 meet the “Presumption” Approach for evaluation of alternatives as described in the USEPA CSO Control Policy. The Presumption Approach provides criteria for meeting water quality standards of the receiving stream. The Presumption Approach requires:

- no more than an average of four overflow events per year
- the elimination or the capture for treatment of no less than an average of 85% by volume of the combined sewer overflow
- the elimination or removal of no less than the mass of the pollutants for the volumes of overflow captured as described above
Table 9A
The estimated average CSO discharge that occurs from the major CSO outfalls (Hungarian Club, Graham Street and West Slough) in the BNWRD combined sewer service area each year is 136 MG. This annual discharge volume includes the average contribution of storms in excess of the average year storm. Alternative 1 would capture 99.6% of this volume for primary treatment and secondary/tertiary treatment. Alternative 2 would capture 95.1% of this volume for primary treatment and 88.7% of this volume for secondary/tertiary treatment.
D. Recommendation of Proposed Alternative/Cost Performance Consideration

Both Alternatives 1 and 2 meet the goals established for the Long-Term CSO Control Plan. Alternative 3 falls short of these goals in that it will not improve water quality of the receiving stream and does not maximize treatment capability through the existing wastewater treatment facilities.

Alternative 1 provides capture for treatment of all overflows occurring in a 5-year rain or less. Modeling suggests that the entire overflow in this storm event could be conveyed to a lagoon for storage. This captured volume could then be transferred to the existing wastewater treatment facility for secondary/tertiary treatment as capacity becomes available at the WWTP after the storm event. In comparison, Alternative 2 would provide for capture of only 37% of the overflow for the same 5-year storm event.

The estimated number of untreated overflows per year occurring with Alternative 1 would be less than one/year, while Alternative 2 would have on an average between one and four untreated overflows/year.

The estimated cost of Alternative 1 is $16,233,000. The estimated cost of Alternative 2 is $14,578,000.

Although Alternative 1 is approximately 10% more costly than Alternative 2, Alternative 1 provides a substantially greater level of capture and treatment of overflows. This level of treatment will reduce the mass of pollutants entering Sugar Creek and allow for the highest level of water quality improvement that is practicable.
In addition, Alternative 1 provides a single CSO treatment facility that is located adjacent to the existing wastewater treatment plant, for ease of access and maintenance. In comparison, Alternative 2 provides CSO treatment facilities at remote locations that will be difficult to operate and maintain.

From a water quality and operational perspective, Alternative 1 provides substantial benefits over other alternatives considered, at a reasonable cost. Alternative 1 exceeds the requirements for CSO capture and treatment established by the USEPA CSO Control Policy. For these reasons, Alternative 1 is recommended for the Long-Term CSO Control Plan for the Bloomington and Normal Water Reclamation District and City of Bloomington.
V. DISINFECTION CONSIDERATION

The BNWRD currently has a disinfection exemption for the main outfall at the West Wastewater Treatment Plant. As previously described, 99.6% of the overflows currently experienced, will be eventually diverted through the West WWTP for treatment after the proposed CSO improvements are in place.

Remaining overflows at the West Slough CSO and Graham Street CSO will only occur during storm events recurring at intervals greater than every five years. These overflows would also only occur after a majority of the overflow was captured and stored for further treatment. Disinfection of these remaining CSOs should not be required due to the low volume, low frequency occurrence. Disinfection would not be required to comply with water quality standards of the receiving stream and, as such, should not be required.
VI. PUBLIC PARTICIPATION

The public has been made aware of the CSO Control Plan throughout the planning process and has had the opportunity to be involved and comment at certain stages of this planning.

In 2001, the initial Finding of No Significant Impact (FONSI) was published for the State Tribal Assistance Grant (STAG), which was used for partial funding of the 60-inch CSO Interceptor from the Hungarian Club CSOs to the Graham Street CSO location. The FONSI provided a description of the CSO project and described associated environmental impacts and benefits of the project.

On August 16, 2003, a Notice of Availability for a revised FONSI was published in the local newspaper, the Pantagraph, as well as distributed to the City of Bloomington, Town of Normal, McLean County and Bloomington Township. This revised FONSI reflects the proposed scope of the CSO project as it is currently described in this Long-Term CSO Control Plan. The actual FONSI was made available at the City of Bloomington and Town of Normal Public Libraries.

Additional public hearings and comment periods will take place to obtain financing through the Low Interest IEPA loan funding process.
VII. POST CONSTRUCTION MONITORING

A. Flow Monitoring

Flow meters are installed in the existing Graham Street CSO and West Slough CSO outfalls. These flow meters will remain. Additional flow meters will be installed to monitor the total CSO flow entering the CSO Storage Lagoon.

B. Water Level

Water levels will be measured at the Graham Street CSO Overflow Structure and at the West Slough CSO Overflow Structure to monitor overflow frequency. Water level will also be monitored at all pump stations and in the CSO Lagoon.

C. Water Quality

Water quality is measured on a daily basis upstream and downstream of the wastewater treatment plant outfall. Water quality is monitored on a weekly basis upstream of CSO outfalls. Water quality parameters monitored include Dissolved Oxygen, pH, ammonia, turbidity and BOD.

Stream surveys are performed on a regular basis to determine the type of fish species found in Sugar Creek.

D. CSO Outfall Inspections

Remaining CSO outfalls will be monitored in accordance with the CSO Operational and Maintenance Plan.
VIII. IMPLEMENTATION

Revenue/Financing Sources

The CSO Improvements will be financed with a combination of general revenue funds, a State Tribal Assistance Grant (STAG), and a low interest IEPA loan.

The 60-inch CSO Interceptor from the Hungarian Club CSOs to the Graham Street CSO location has been financed with a combination of general revenue funds and the STAG grant.

The remaining CSO Interceptors and CSO Lagoon will be financed with a low interest IEPA loan. Repayment of this loan will occur over a 20-year period. Dedicated payments will be made by the BNWRD with general revenue funds and through an agreement with the City of Bloomington. The City will reimburse BNWRD with a proposed Storm Water Utility fee charged to all residential and commercial properties within the City. Property owners will be assessed a fee on their monthly bill for access to storm water utilities based on the drainage area and characteristics of the property.

The CSO Interconnections at the Hungarian Club area will be completed after the CSO Interceptors and Lagoon are operational. These interconnections will be financed by the BNWRD through general revenue funds.
Project Schedule

Submit Addendum to Long-Term CSO Control Plan - 9-6-03
IEPA technical approval of CSO Control Plan/Facility Planning Study - 10-03
Issuance of Preliminary Environmental Impact Determination (PEID) - 11-03
Complete public hearings and comment period for IEPA loan - 12-03

90% Design Completion - 12-03
Submit Design to IEPA - 12-03

Obtain easements for interceptor construction - 1-04
Obtain IEPA Construction Permit - 3-04
Design Completion - 3-04

Establish Dedicated Source of Revenue - 3-04
Obtain approved Facility Plan - 3-04
Loan Commitment received - 3-04

Advertise for bid (Lagoon and CSO Interceptors) - 4-04
Let bids (45 days after advertisement) - 5-04
Receive Loan Agreement - 6-04

Begin construction (Lagoon and CSO Interceptors) - 7-04
Complete construction (Lagoon and CSO Interceptors) - 12-05

Advertise for bid (Hungarian Club CSO Interconnections) - 1-06
Let bids (Hungarian Club CSO Interconnections) - 2-06

Begin Construction (Hungarian Club CSO Interconnections) - 3-06
Complete Construction (Hungarian Club CSO Interconnections) - 9-06

CSO Project Complete - 9-06