ILLINOIS POLLUTION CONTROL BOARD
May 28, 1987

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| IN THE MATTER OF: | ) | |
| | ) | |
| THE JOINT PETITION OF THE CITY OF WATSEKA AND THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY FOR EXCEPTION TO THE COMBINED SEWER OVERFLOW REGULATIONS | ) | PCB 85-219 |

MR. JEFFERY FORT, MR. FREDERICK MOORE, JR., MARTIN, CRAIG, CHESTER & SONNENSCHEIN AND MR. DALE STROUGH, FLEMING AND STROUGH APPEARED ON BEHALF OF THE CITY OF WATSEKA; AND

MS. KATHLEEN BASSI APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by J.D. Dumelle):

This matter comes before the Board upon a December 30, 1985 joint petition filed by the City of Watseka (Watseka) and the Illinois Environmental Protection Agency (Agency) for an exception to 35 Ill. Adm. Code 306.305(a) and (b) of the Board's combined sewer overflow (CSO) regulations based on minimal discharge impact. Hearing was held on March 25, 1986, at which testimony and exhibits were presented. There was no disagreement as to the facts. The Board entered an Interim Order on December 18, 1986, requesting additional information to which the Agency responded on January 29, 1987.

Watseka admits that existing overflows from its combined sewer system cause violations of water quality standards. However, Watseka contends that after completion of proposed improvements to that combined sewer system, the resulting overflows will have minimal impact on the Iroquois River and Sugar Creek (the receiving streams) and will not restrict stream use. Watseka further contends that compliance with the Board's CSO regulations requiring CSO treatment facilities estimated to cost an additional $1,072,000 would produce little benefit beyond that realized by the proposed improvements.

Watseka, population 5,205, is located in east central Illinois south of the Iroquois River and east of Sugar Creek at the confluence of the two streams. Watseka serves as the county seat for Iroquois County.

Watseka is served by 5.6 miles of separate sanitary sewers and 19.6 miles of combined sewers all collecting wastes from 2,300 sewer users and draining 710 acres. Three sewer interceptors having a total capacity of 26.2 million gallons per

day (MGD) transport sewage to the wastewater treatment plant (WWTP) which provides secondary treatment and disinfection for dry weather flows. The existing treatment plant, constructed in 1956, has a dry weather flow capacity of 0.8 MGD and a maximum capacity of 2.0 MGD. The WWTP discharges effluent to the Iroquois River. In addition, two interceptors having a combined capacity in excess of 6.83 MGD convey flow to the Mulberry Street pump station which has a dry weather capacity of approximately 0.35 MGD. The Mulberry street pump station discharges into the interceptor system tributary to the WWTP. (R. at 36-37).

Five combined sewer overflows exist on the Watseka sewer system. Two overflows located near the treatment plant have a combined capacity of approximately 26.0 MGD and bypass excess flows from the interceptors directly to the Iroquois River. Another overflow located in the same area, the Kay Street overflow, has a capacity of 12.0 MGD and bypass excess flows from the interceptors directly to the Iroquois River. The two remaining overflow points, the Mulberry Street and Maple Street overflows, have a capacity of 10.0 MGD and 4.4 MGD, respectively, and discharge to Sugar Creek. (R. at 37).

For the past twenty years Watseka has attempted to reduce the wastewater load on its WWTP. Such efforts include separating out storm flows from the sanitary sewer system, adopting a downspout disconnection ordinance in 1985 and requiring that new developments provide stormwater retention and separate stormwater and sanitary sewers.

For one-year, one-hour design storm with a rainfall intensity of 1.2 inches per hour, the peak first flush rates and volumes and the associated BOD and suspended solids (SS) levels as experienced in Watseka are as follows:

| Sewer Service area | Peak First Flush Flow (MGD) | First Flush Volume (gal.) | BOD (pounds) | SS (pounds) |
|---|---|---|---|---|
| Interceptors tributary to WWTP and Iroquois River | 14.96 | 435,000 | 614 | 2,400 |
| Interceptors tributary to Mulberry St. Pump | 6.09 | 224,300 | 269 | 1,577 |
| Total | 21.05 | 659,300 | 883 | 3,977 |

In the vicinity of Watseka, the predominant uses of the Iroquois River and Sugar Creek are rural and agricultural drainage. Recreational uses include fishing and canoeing.

Watseka asserts that there is very little private access to the receiving streams with the only public boat access being located upstream from to the wastewater treatment plant discharge and downstream from the wastewater treatment plant discharge and downstream from the Mulberry Street pump station CSO outfall. (R. 79).

Watseka has submitted three studies in support of its petition for CSO exception. The Phase I study (Exhibit 2B) provides the background information on the Watseka sewer system, the receiving streams and the drainage area tributary to each overflow. The Phase II study (Exhibit 2C) consists of the preliminary stream inspection which includes a physical inspection of the overflow points, a side stream property investigation and an inspection of stream hydraulic and morophological factors. The third study consists of photographs of stream sediment samples. (Exhibit 2F).

The Phase II study (Exhibit 2C) documents the CSO-related impacts on the receiving streams and on the area in the vicinity of each CSO outfall. The study concluded that the WWTP outfalls cause pollution. However, the study concluded that it was not persistent or long-lasting at any areas except the outlet to the river and was limited to perhaps a strip 100 feet long and 10 feet wide. The same conclusion was reached for the Mulberry Street pumping station CSO outfall. For the Kay Street CSO outfall, the study concluded that no notable adverse pollution effects were found. The study pointed out that this overflow is considered mostly storm sewer and carries minimal sanitary sewage overflow. For the Maple Street outfall, the study concluded that no notable adverse pollutional effects were found. However, the study pointed out that even though this overflow point was not sampled during the First Flush Analysis, City personnel have indicated that sanitary sewage overflows from this overflow point during storm conditions. (Exhibit 2C at 17-18).

Watseka evaluated six alternatives to achieve compliance, three of which were considered for further study. These three consist of Full Compliance, Partial Compliance and Partial Compliance with Kay Street overflow. Watseka has chosen to implement the last alternative because it has the lowest total capital cost and lowest present worth. Furthermore, Watseka believes that the removal of an additional 168 lbs. of BOD and 407 lbs. of SS per 1-year, 1-hour storm event does not justify an additional expenditure of $766,000 in construction costs.

The Full Compliance alternative would provide complete treatment of all dry weather flows and first flush flows. Excess flows (up to 10 times dry weather flow) would be captured and transported to the WWTP and receive primary treatment. The total construction cost of this alternative was estimated to be $4.0 million and involve annual operation and maintenance costs of $207,100.

The Partial Compliance alternative would provide complete treatment of all dry weather flows and first flush flows. Flows greater than 2.5 times dry weather flow would be discharged without treatment following first flush capture. The total construction cost of this alternative was estimated to be $3.3 million and involve annual operation and maintenance costs of $197,100.

The Partial Compliance with the Kay Street overflow alternative would capture and transport to the treatment plant the first flush flows from the Maple Street, Mulberry Street and WWTP CSO outfalls. After these flows are captured and transported, only flows up to 2.5 times dry weather flow will be transported to the treatment plant. The remaining flows for the Maple Street and Mulberry Street overflows will be discharged to Sugar Creek via the Mulberry Street overflow.* The remaining flows for the WWTP will be discharged to the Iroquois River via the WWTP bypass. For the Kay street CSO, only flows up to 2.5 times dry weather flow will be directed to the treatment plant. This will be provided by existing facilities. No first flush flows from the Kay Street CSO will be directed to the treatment plant. Other additions include upgrading the pumping facilities at the Mulberry Street pumping station and construction a new first flush pumping station for the first flush flows at the two WWTP overflows and a first flush storage facility. Lastly, a new final clarifier and an effluent pumping station which must be constructed to prevent flooding during high river stages are proposed.

Watseka contends that the recommended proposal will result in a 70% reduction in SS and a 36% reduction in BOD being discharged to the receiving streams. It was estimated that full compliance would result in an 80% reduction in SS and 55% reduction in BOD being discharged to the receiving streams.

The total construction cost of the recommended alternative was estimated to be $2.0 million and involve annual operation and maintenance of $193,000. Construction of the recommended alternative will be phased in over a twenty year period. Phase I will include construction of the necessary facilities to capture the first flush flows that are tributary to the WWTP. Phase I is expected to be completed in June, 1989 with construction costs being $1.2 million and annual operation and maintenance costs being $17,000. Phase II will include construction of the necessary improvements to capture and transport the first flush to the treatment plant. Phase II construction is scheduled to commence in the Spring of 1993 and to be completed in 1994 with

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* The Maple Street overflow is located on an interceptor which is tributary to the Mulberry street pumping station where the Mulberry Street CSO outfall is located.

construction costs being $932,000 and annual operation and maintenance costs being $16,000. Lastly, Phase III will include construction of modifications and additional treatment facilities at the WWTP. Phase III construction is scheduled to commence in the Spring of 2003 and to be completed late in 2003 or in 2004 with construction costs being $619,000 and no annual operation and maintenance costs.

Based upon the evidence presented by Watseka jointly with the Agency and the factors set forth in Section 306.361(a), the Board concludes that the record supports the granting of an exception to Watseka from Sections 306.305(a) and (b). While the Phase II study observed the presence of isolated sludge deposits, these deposits were small in size. The most notable sludge deposit occurs at the point where the discharge from the WWTP CSO outfalls enters the Iroquois River. These outfalls discharge to a slough which carries the flow to the Iroquois River. At the outlet to the river a pool exists which is caused by a fallen tree. This pool traps material which would otherwise have entered the river and been dispersed. Another sludge deposit occurs at the Mulberry Street pumping station CSO outfall. This outfall discharges twenty feet back from the bank of the Sugar Creek in an area that pools. A sludge deposit was noted at the pool's outlet near the bank of the Sugar Creek but disappeared within a few feet of the bank.

Of the alternatives evaluated by Watseka, the Board believes that the Full Compliance alternative would not result in any appreciable environmental benefit over and above the benefit achieved by the recommended alternative and, therefore, is not economically justified. Also, the Partial Compliance alternative is not economically justified in that it would require Watseka to spend an additional $137,000 for construction and an additional $4,100 for annual O/M expenses to transport the first flush of storm flows from the Kay Street overflow to the wastewater treatment plant. The Kay Street overflow activates during the later stages of a rainfall event and, therefore, has a more dilute flow in terms of SS and BOD. (R. at 38). In addition, most sewers tributary to the Kay Street CSO are separate storm sewers and drainage tiles. (R. at 42).

Mr. Ernest Grove, Mayor of Watseka, testified that Watseka cannot pay for the recommended improvements on its own within its general obligation authority. (R. at 14). Additional economic concerns have been expressed including the fact that approximately 25% of the population in Watseka is composed of senior citizens who are on fixed incomes and who would be severely affected by any increase in taxes to pay for the necessary improvements. (R. at 12). Such a tax increase could also result in the City's largest employer moving out of Watseka. (R. at 16). However, Watseka was recently awarded a Build Illinois appropriation of $367,000 for FY87. Watseka has

evidenced its intentions to proceed with the project by representing that it will apply those funds to Phase I improvements should the Board grant the exception.* Thus, Watseka believes that the project recommended by the Agency is now within its budget.

The Board concurs with the Agency's assessment that, while swift completion of the entire project would be most effective, the recommended phased approach is acceptable because it mitigates the economic impact on Watseka without substantial detriment to the environment. Once Phase I improvements are completed and operational, a substantial number of the CSO-related impacts will be resolved. Therefore, the Board will grant Watseka an exception to 35 Ill. Adm. Code 306.305(a) and (b), subject to certain conditions listed below.

ORDER

1. The City of Watseka (Watseka) is hereby granted an exception from 35 Ill. Adm. Code 306.305(a) as such provision relates to the first flush of storm flows for combined sewer overflows to the Iroquois River from the Kay Street overflow.

2. Watseka is hereby granted an exception from 35 Ill. Adm. Code 306.305(b), for all combined sewer overflows to Sugar Creek and the Iroquois River.

3. Watseka shall submit plans and specifications to the Agency by August 31, 1987, for Phase I of the proposed CSO improvements, as described in the amended Municipal Compliance Plan dated June 30, 1986. The Phase I improvements shall be completed and operational by June 30, 1989.

4. The Phase II CSO improvements, as described in the amended Municipal Compliance Plan dated June 30, 1986, must be completed and operational by June 30, 1994. Watseka shall provide a more detailed schedule of implementation for Phase II CSO improvements by July 1, 1988.

5. No later than December 31, 1990, for Phase I improvements, and December 31, 1995, for Phase II improvements, Watseka shall report to the Agency on performance and effectiveness of improvement including

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* See Response to Board's Request for Information, filed January 29, 1987. Further, Watseka's letter filed May 11, 1987, requesting an expedited decision implies an ability to fund the project.

extent of overflow reduction and on follow-up stream inspections to ensure that there are no observable water quality violations attributable to the overflows.

6. This grant of exception does not preclude the Agency from exercising its authority to require as a permit condition a CSO monitoring program sufficient to assess compliance with this exception and any other Board regulations and other controls, if needed, for compliance, including compliance with water quality standards.

7. This grant of exception is not to be construed as affecting the enforceability of any provisions of this exception, other Board regulations, or the Environmental Protection Act.

IT IS SO ORDERED.

Board Member B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 28th day of May, 1987 by a vote of 5-1.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board