

CITY OF ALTON, ILLINOIS  
COMBINED SEWER OVERFLOW  
OPERATIONAL AND MAINTENANCE PLAN

February, 1997  
(Revised - November, 2006)

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# CHAPTER 1

## INTRODUCTION/EXECUTIVE SUMMARY

### INTRODUCTION

Combined sewers in the City of Alton were designed to convey wastewater and storm water in a single conduit to a point of discharge to surface waters. Later smaller interceptor sewers were constructed to intercept the dry weather (wastewater) flows and transport the wastewater to a treatment plant. During wet weather, runoff enters the combined sewers resulting in the discharge of a mixture of wastewater and storm water to surface waters. Because of this, Combined Sewer Overflows (CSO) constitutes a source of pollution in receiving waters in the Alton area.

Capital Improvement options for the abatement of the City's CSOs were investigated beginning in the late 1970's and the cost effective alternative CSO facilities, which were approved by the Illinois Environmental Protection Agency and the Illinois Pollution Control Board, were constructed by the City.

In addition to the construction of the CSO facilities, the City has made improvements to their combined sewer systems which has resulted in the reduction in the volume of CSOs that are discharged into the watershed as follows:

1. During the mid to late 1960's, several separate storm sewer systems were constructed to remove storm water inlets from the combined sewer system which in turn reduced the volume of CSOs being discharged.
2. In 1997, one of the City's CSO outfalls was eliminated by redirecting the flow to an adjacent CSO outfall as a first step in the separation of sanitary sewage and storm water in that area.
3. In 2004, in one of the City's small combined sewer areas separate storm and sanitary sewers were established and its CSO outfall eliminated. Also, at the present time, improvements are underway to eliminate



another CSO outfall by separating the sanitary sewage from the storm water in that area.

While the CSO facilities constructed to date by the City of Alton have reduced the amount of overflows in the combined sewer system, they did not eliminate them. The City must continue to abate CSOs to comply with Federal and State regulations.

This Combined Sewer System Operational and Maintenance Plan evaluates the capabilities of the existing facilities to maximize reduction of overflows. A Pollution Prevention Plan for combined sewer overflows developed by the City of Alton, a copy of which is attached as Appendix VI, is an integral part of this Combined Sewer System Operational and Maintenance Plan. The Pollution Prevention Plan embodies the nine minimum controls contained in the National CSO Control Policy. This plan is most effective in reducing or eliminating CSOs from low intensity or low volume rainfall/runoff events and has the advantage of reducing pollutant loadings without embarking on an additional major capital improvement program.

The following sections summarize existing conditions and recommendations for reducing CSOs.

## **EXECUTIVE SUMMARY**

### Existing Facilities

The City of Alton operates a system of sewers and a wastewater treatment plant which provides secondary treatment of wastewater. The older southwest portion of the City is served by combined sewers. There are separate sanitary sewers in the east and north portions of the City. Alton also provides conveyance and wastewater treatment services for the Village of Bethalto and for a portion of the Village of Godfrey.

There are currently three minor and three major combined sewer service areas in the City all of which utilize the South Side Interceptor to convey dry weather flow to the treatment plant. CSOs from four of the combined sewer service areas discharge directly to the Mississippi River. CSOs from the remaining two service areas discharge

to the Mississippi River via the Wood River Drainage and Levee District impoundment area.

#### Analysis of the Collection and Treatment System

The physical features of the collection and treatment system, its administration and maintenance programs were evaluated to determine opportunities for reducing overflows, and to understand the limitations in the system. This analysis, in part, was undertaken in the development of the aforementioned Pollution Prevention Plan. Based on these analyses the following system strengths were identified:

1. The entire capacity of the South Side Interceptor is being utilized to convey CSOs to the treatment plant.
2. The City has an established, well organized maintenance program to clean sewers and catch basins, and to identify and repair sewers requiring rehabilitation.
3. Potential exists for the in-line storage in the Shields Valley Combined Sewer Service Area.
4. When this Operational and Maintenance Plan was completed in 1997, apparent infiltration/inflow problems in the separate sanitary sewer service areas was reducing the treatment plants' capacity to treat CSOs during extreme wet weather conditions. To counteract this condition, the City is currently constructing an excess flow wastewater detention facility to temporarily divert wastewater away from its East Side Interceptor during wet weather periods. Also, working with Bethalto and Godfrey, the City has been able to establish a definitive plan and timetable for controlling infiltrations/inflow into the separate sanitary sewer systems of each community which will result in the combined peak flows from the three communities into the East Side Interceptor being limited to 12.5 mgd.

5. In 2004, the City completed a comprehensive plan for Wastewater Facilities. Portions of the plan, when implemented, will result in the reduction of CSOs from the City's combined sewer systems.
6. The City has developed a specific preventative maintenance program for the facilities located at each of the City's five overflow outfall locations to ensure the elimination of dry weather overflows at these locations.
7. The City has developed a detailed O & M schedule for sewers and wastewater facilities which are directly related to the City's CSOs.

The weakness in the system include:

1. No in-line storage capabilities exist in the Piasa Valley Combined Sewer Service Area.
2. No in-line storage capabilities exist in the Central Avenue Combined Sewer Service Area unless critical sewer service connections can be redirected.
3. Three small and one large combined sewer service area CSO outfalls are subject to flooding by the Mississippi River. During the time period when flooding occurs, the entire discharge from these combined sewers is directed to the river.

## **RECOMMENDATIONS**

Within a one year period, it is recommended that the following be accomplished as a part of the LTCP:

1. Complete the establishment of separate sanitary sewers and storm sewers in the Summit Street CSSA and eliminate the Summit Street CSO overflow outfall.
2. Complete the construction of the City's Excess Flow wastewater detention facilities.

3. Incorporate into the LTCP the four recommendations for improvements to the City's sewer system contained in the City's 2004 "Wastewater Facilities Comprehensive Plan" that will result in the reduction of CSO's from the City's combined sewers.
4. Investigate feasibility of additional combined sewer separations.
5. Investigate feasibility of removal of sanitary sewer portions of CSSA's from the combined sewers.
6. Complete the characterization, monitoring and modeling of the combined sewer system.

Within a two year period, it is recommended that the following be accomplished:

1. Complete and submit the City's Long Term Control Plan to the Illinois Environmental Protection Agency for review and approval.

## CHAPTER 2

### ALTON SYSTEM INVENTORY

The purpose of this chapter is to describe the existing wastewater system and how it operates. The system components are summarized below and then described in detail in the other sections of the chapter.

The City of Alton owns and operates combined sewers for the collection of sanitary wastewater and rainfall runoff, separate sanitary sewers collecting wastewater only, interceptor sewers, and a secondary wastewater treatment facility. A combination of wastewater and runoff from the combined sewer service areas (CSSA) overflows from combined sewers and is discharged by design to the Mississippi River during wet weather conditions. Combined sewer service areas, overflow points, and interceptor designations are illustrated on Exhibit A enclosed at the back of this document. The City's separate sanitary sewer service area and wastewater treatment plant location is also shown on Exhibit A.

#### **SYSTEM COMPONENTS SUMMARY**

##### Interceptors

For purposes of this operational and maintenance plan, certain sewers have been designated interceptors. These interceptors are the conveyance facilities to direct wastewater flows to the treatment plant. The South Side Interceptor begins at the west side of the City, south of the Turner tract CSSA; extends southeasterly parallel to the Mississippi River; intercepts the dry weather flow from the City's three large and four small CSSA's and directs the flow to the wastewater treatment plant via the South Side Interceptor Sewage Pumping Station. The East Side Interceptor begins near the north corporate limits of the City at Humbert Road; extends southeasterly and southerly at the east side of City; collects the flow from the City's separate sanitary sewers; and directs the flow by gravity to the wastewater treatment plant. In addition, the East Side

Interceptor receives the flow from the separate sanitary sewers in the southeast part of the Village of Godfrey via the Black Creek & Coal Branch Interceptors and from the entire separate sanitary sewer systems of Bethalto, Moro, Meadowbrook, Cottage Hills, and Rosewood Heights via the Bethalto Interceptor connection to the East Side Interceptor.

#### Combined Sewer Services Areas

Three major drainage areas (Piasa Valley, Central Avenue, and Shields Valley) and four minor drainage areas (Turner Tract, Bluff Street, Summit Street, and State Street) illustrated on Exhibit A are served by combined sewers. The major areas vary in size from 1455 to 470 acres. The minor areas vary in size from 100 acres down to 25 acres. The characteristics of each area are discussed in the following sections.

#### Separate Sanitary Sewer Service Areas

There are three principle separate sanitary sewer service areas (Alton, Bethalto and Godfrey). Currently the approximate division of flow from the overall service area is Alton 45%, Bethalto 45%, and Godfrey 10%.

#### Wastewater Treatment Plant

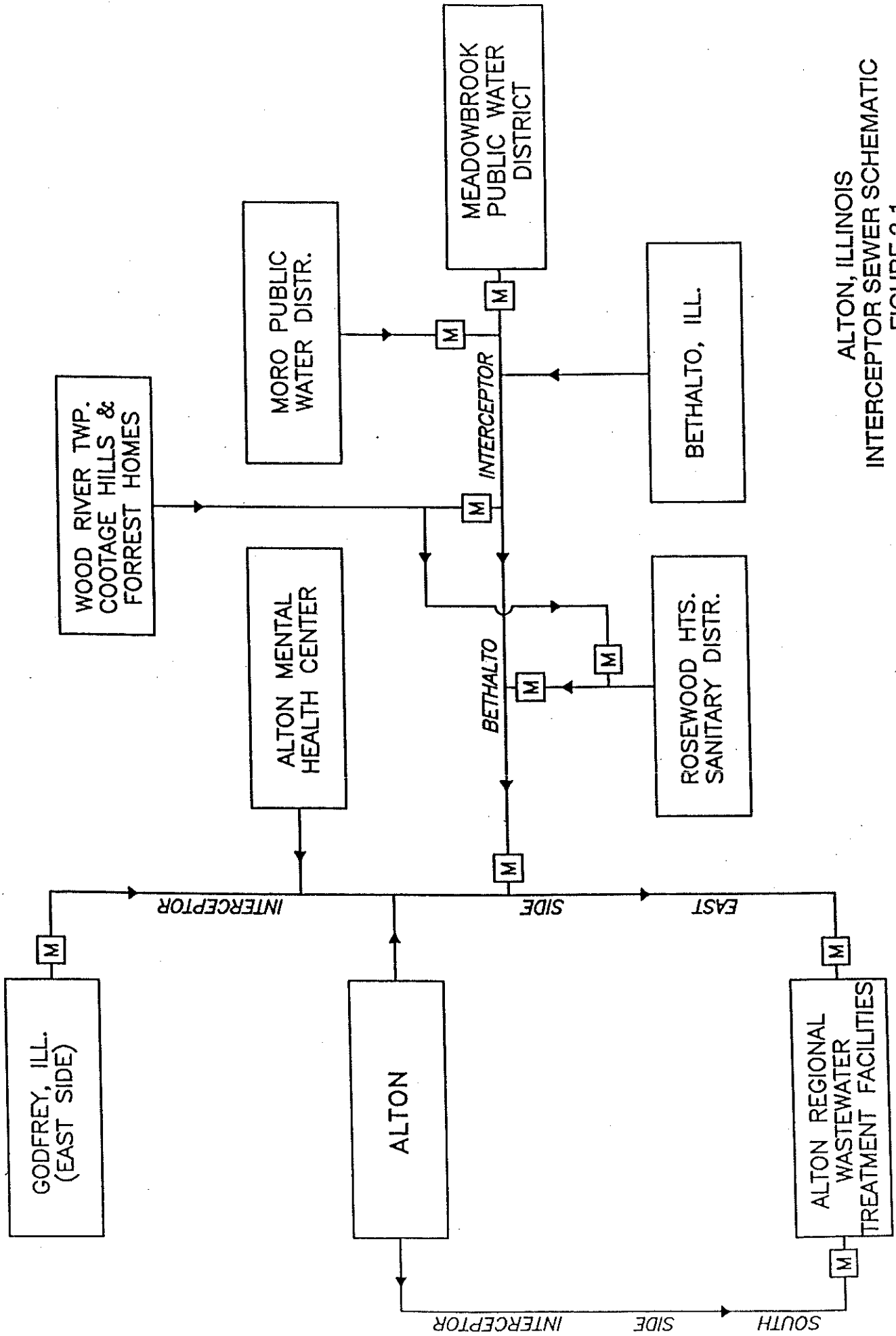
The treatment plant makes up the final component of the collection and treatment system. The City of Alton operates a secondary treatment plant which has preliminary treatment, primary settling, activated sludge secondary treatment, and final settling. Solids are digested, dewatered and disposed of by land application.

### **INTERCEPTORS**

The interceptor system, as defined for this plan, consists of the small and large diameter sewers which convey wastewater to the treatment plant. A summary listing of segments of the interceptor system is provided in Table 2-1.

#### South Side Interceptor

The South Side Interceptor is the conveyance facility for the flows from all the City's combined sewers and a small part of the City's separate sanitary sewers. The



ALTON, ILLINOIS  
 INTERCEPTOR SEWER SCHEMATIC  
 FIGURE 2-1

M DENOTES FLOW MEASUREMENT FACILITY

capacity of this sewer and the sewage pumping station which serves it determines the volume of combined sewage that can be transported to the sewage treatment plant.

A detailed description of the South Side Interceptor and the means by which the flow from the seven CSSA's is intercepted by the South Side Interceptor is contained in the Combined Sewer Overflow (CSO) Phase I Report, attached as Appendix I. The Phase I Report also describes the operation of the South Side Interceptor and the intercepting facilities with the respect to water levels in the Mississippi River and the Wood River Drainage & Levee District impoundment.

#### East Side Interceptor

The East Side Interceptor sewer conveys wastewater flow from the separate sanitary sewer systems of the City of Alton, Village of Bethalto and environs; and southeast part of the Village of Godfrey. There are no known points of overflow or emergency by-pass on the East Side Interceptor.

The East Side Interceptor was constructed in 1964-65 to eliminate several small existing treatment plants then outside City limits and to provide additional outlet for unsewered areas that would minimize pumping requirements when sewers were constructed. Following the construction of the primary treatment facilities, by the City of Alton, the East Side Interceptor was expanded; the "Milton Area" lying to the east and north of the then City limits annexed to the City; and sanitary sewers were constructed throughout the Milton Area and connected to the East Side Interceptor and its tributary sewers. Dates of construction of the tributary sewers were Upper Alton trunk sewer 1964; East Side Interceptor sewer extension 1965; and Holly Hill trunk sewer 1966. Also, about the same time the City of Alton contracted with Bethalto and Godfrey to expand the Alton Wastewater Treatment Facilities to provide treatment of Bethalto and Godfrey wastewater and make the East Side Interceptor sewer available for conveyance of their wastewater to the treatment plant. The Bethalto Interceptor was constructed in 1973 and the Godfrey Coal Branch and Black Creek interceptors were constructed in



1975 and 1976. The construction of a 10.5 mgd secondary treatment facility was completed in 1977. Subsequent to Bethalto connecting to the East Side Interceptor, they in turn contracted with Wood River Township, the Rosewood Heights Sanitary Sewer District, the Moro Public Water District, and the Meadowbrook Public Water District to convey the wastewater from those entities to the Alton Wastewater Treatment Facility via the Bethalto and East Side Interceptor sewers. In addition, the sewage from the Alton Mental Health is directed into the East Side Interceptor sewer. A schematic diagram showing the users of the East Side Interceptor sewer is attached as Figure 2-1. The locations of the interceptor and trunk sewers is shown on Exhibit A.

This interceptor begins at the wastewater treatment plant and is 42 inches in diameter. The first segment extends northerly parallel to Wood River and within the area protected from flooding by the Wood River Drainage & Levee District levee for a distance of approximately 3,200 feet to a point where the interceptor crosses under the levee. From this point the 42 inch diameter interceptor continues northerly parallel to and within the flood plain of Wood River a distance of approximately 1,400 feet to the point where the 32 inch diameter Bethalto Interceptor connection occurs. From this point the 42 inch diameter interceptor continues northerly, generally following the west fork of Wood River a distance of approximately 7,400 feet where the sewer size decreases to 36 inch diameter. The remainder of the East Side Interceptor is approximately 15,000 feet long and is located along the west fork of Wood River and Coal Branch Creek. The interceptor decreases in size along this segment and is 21 inches in diameter at its terminus at the City's north corporation limits where the separate sanitary sewer system in the southeast part of Godfrey connects.

This interceptor sewer, its tributaries, and the Bethalto and Godfrey Interceptor and trunk sewers convey sewage from sanitary sewage collection systems that vary from modern systems to very old sewers, all of which are susceptible to infiltration and inflow to varying degrees. Inflow from illegal downspout, foundation and yard drain

connections into those sewage collection systems is an existing problem which is very hard to police and control.

Typically during prolonged wet weather periods, infiltration into the collection systems throughout the sewer area increases the flow into the East Side Interceptor. When these wet weather periods are combined with a heavy rainstorm the added inflow into the collection systems further increases the flow into the interceptor.

Since the East Side Interceptor serves a very large area and almost all of the flow reaches the interceptor by gravity, there have been times when the flow into the interceptor exceeded its' capacity with resultant surcharging at certain locations and localized basement flooding.

A study of flooding in the East Side Interceptor was conducted in June of 1987 and continued in April of 1988. Temporary flow meters were installed at various locations on the interceptor sewer system to measure both dry weather and wet weather flows. Over a period of time, average dry weather flows were established at the flow meter locations. Rainfalls occurring on November 22, 1987 and January 14, 1988 produced flows that when compared with the average dry weather flows produced the following results:

<u>Location</u>	<u>Percent Above Average Flow</u>	
	<u>November</u>	<u>January</u>
Holly Hill Interceptor	82.0	68.7
Upper Alton Interceptor	47.1	88.8
East Side Trunk Sewer	41.2	58.6

This indicated that the areas contributing the most to additional wet weather flow are those served by the Holly Hill and Upper Alton Interceptors. These branches also were the only two locations where surcharging occurred during the study period. This surcharging was not great enough, however, to produce reports of basement flooding.

Infiltration (seeping of groundwater into the system through cracks or joints in pipes and manholes) is also a concern and was measured in this study by comparing the average flow after a wet period to that of a dry period. In analyzing the wet period, the daily flow must return to a steady state after the inflow peak to be meaningful. Flow charts for the wastewater plant influent from the East Side Interceptor and the Godfrey Influent to the East Side Trunk Sewer indicate that the average daily flows in October (dry) range from 17 to 22 percent less than average daily flows in January (wet) during the study period.

The continuation of the study began in April of 1988 and concluded in October 1988. The results of this study paralleled those of the prior study and as in the original study there were no wet weather periods during the time of the study that produced reports of basement flooding.

Since the time of the studies, persistent basement flooding problems in sewers immediately adjacent to the interceptor at Aberdeen Avenue and at Western Drive prompted the City to undertake a project that relieved the flooding problems in these areas.

In 1996, with the cooperation and participation of Bethalto and Godfrey, a pumping station and control structure was constructed at each of the problem areas. Together they are designed to automatically isolate the sewers in the problem areas from the interceptor when the interceptor surcharges and to pump the flow from those areas into the interceptor during the periods of surcharging.

While these improvements have corrected the basement flooding problems, it has not reduced the surcharging of the interceptor during wet weather periods.

Flow measurement data obtained from the flow measurement facilities that record the wastewater flows from Bethalto and Godfrey indicate that these communities are also contributing excess flows to the interceptor sewer. During extreme wet weather

conditions the capacity of these flow meters is exceeded and the actual peak flow rate is unknown.

A review of the 2002 flow measurement data obtained from the flow meter at the wastewater treatment plant which measures the flow from the East Side Interceptor indicates that on seven days in May (the wettest month of the year to date) the total daily flow reaching the treatment plant exceeded 12.5 mg, the highest flow of 19.36 mg being reached on May 7<sup>th</sup>. On three of these days, a peak flow rate in excess of 21.0 mgd, the meter capacity, was experienced.

The treatment plant peak flow capacity is 26.25 mgd and the City's NPDES Permit required that up to 13.7 mgd of that peak flow capacity be allocated to the treatment of combined sewage flows from the South Side Interceptor leaving 12.5 mgd peak flow capacity available for the East Side Interceptor. When the peak flow rate in the East Side Interceptor exceeds 8,680 gpm (12.5 mgd) the City must reduce the pumpage of sewage from the South Side Interceptor to the treatment plant to an amount less than 9,514 gpm (13.7 mgd) in order not to flood the plant.

It is important to note that the peak flow rate is critical in this instance and a maximum daily flow of 12.5 mg in the East Side Interceptor does not insure that the required maximum pumping rate at the South Side Interceptor pumping station can be maintained.

The Intergovernmental Agreements between Alton, Bethalto, and Godfrey for the purchase of wastewater conveyance and treatment services (see Appendix IV and V) provides the following wastewater flow allowances for each community:

	<u>Maximum (mgd)</u>	<u>Average (mgd)</u>
Alton	4.38	1.75
Bethalto	6.25	2.50
Godfrey	<u>1.87</u>	<u>0.75</u>
TOTAL	12.50	5.0

The Agreements also provide the following relating to maximum (peak) flows:

"In the event the daily maximum flow in the East Side Interceptor Sewer exceeds the 12.5 mgd in a 24 hours period, Alton will notify Bethalto and Godfrey of the occurrence and will provide the Participants with the flow contributed by Bethalto, Godfrey and Alton during that period. If the daily flow in the East Side Interceptor sewer exceeds 12.5 mgd for at least one day in any consecutive three month period, Alton will arrange a meeting of all Participants to review the daily flow data and to reach an agreement on the corrective action to be taken by the Participants to maintain a maximum daily flow in the East Side Interceptor Sewer at or below 12.5 mgd. If an agreement can not be reached by the Participants within six months of the initial meeting, determination of the corrective action to be taken shall be achieved by arbitration as set out in Article IV of this Agreement."

While the City of Alton has an ongoing program of reducing infiltration and inflow into its sewer system by the lining or replacement of sewers with joints that are leaking badly, there is a large body of evidence that, from a practical standpoint, these excess flows cannot be eliminated from the sanitary sewer system. This conclusion has also been reached by Godfrey and Bethalto.

After a series of meetings with Godfrey and Bethalto representatives, it was concluded by all parties that excess flow detention facilities should be constructed to intercept and detain all peak wastewater flow rates in excess 8,680 gpm (12.5 mgd) in the East Side Interceptor.

It was further concluded that each community should design, construct, maintain, and operate their own detention facilities with each community's facilities being able to

limit their peak flow rate and daily total discharge into the East Side Interceptor as follows:

	<u>Peak Flow Rate</u> (gpm)	<u>Maximum Daily Flow</u> (mgd)
Alton	3,040	4.38
Bethalto	4,340	6.25
Godfrey	1,300	1.87

On September 14, 2006, the City awarded a contract for the construction of their excess flow detention facilities, which are presently under construction.

The City's excess flow detention facilities are being constructed adjacent to the East Side Interceptor; downstream of the Holly Hills and Upper Alton trunk sewer connections; and upstream of the Aberdeen sewer connection to the interceptor.

The location of these facilities is shown on Exhibit A.

The excess flow detention facilities will consist of the following:

1. A diversion structure constructed on the 42 inch diameter East Side Interceptor designed to divert the City of Alton's excess flows from the interceptor. The structure will contain a screen device to insure that large and floating material in the interceptor sewer would stay in the sewer and not be diverted with the excess flow.

The diversion of the excess flow would be accomplished by utilizing an overflow weir in the structure that would divert the flow from the interceptor sewer when the following peak flow conditions had been reached:

- a. Peak flow rate from Bethalto reaches the allowable 4,340 gpm with their detention facilities in place.

- b. Peak flow rate from Godfrey reaches the allowable 1,300 gpm with their detention facilities in place.
  - c. Peak flow rate from Alton upstream of the diversion structure reaches a value that when combined with the peak wet weather flow rate from Alton's sewers downstream of the structure reaches the allowable 3,040 gpm.
2. A gravity sewer, a sewage pumping station with a pumping capacity of 2,900 gpm and a sewage force main will direct the diverted excess flow from the diversion structure to the detention facility.
3. A wastewater detention facility consisting of a fenced area with an open earthen basin will act as a storage lagoon for the diverted excess flow. The lagoon bottom and interior slopes will be sealed. Aeration equipment will be installed in the lagoon to insure that adequate dissolved oxygen levels are maintained at all times in the lagoon. The holding capacity of the lagoon will be 6,652,800 gallons.
4. A control structure will provide for a controlled release of the excess flow stored in the lagoon back to the interceptor sewer at the end of the excess flow period. The control structure will provide for a minimum water depth of 6 feet in the lagoon at all times and insure that the maximum water depth in the lagoon will not exceed 14 feet by providing a separate unvalved overflow to direct any excess flow exceeding the capacity of the lagoon back to the interceptor sewer. The ability to drain the lagoon for long term maintenance purposes will also be provided.
5. Since the location of the excess flow facilities will be isolated from the treatment plant site, it will be necessary to provide control facilities at the wastewater treatment plant that will allow the treatment plant personnel to

operate the aeration equipment in the lagoon and the motor operated sluice gate in the outlet control structure.

Also, it will be necessary to have monitoring equipment located at the treatment plant that will provide indication of the following:

- a. Pump station operation.
- b. Aeration equipment operation.
- c. Sluice gate operation (open and closed).
- d. Dissolved oxygen level of wastewater in the detention lagoon.
- e. Water leveling the detention lagoon.
- f. Wastewater flow rate when excess flows are being returned to the sewer system.

The portion of the operation and control equipment that will be required at the detention facility site will be housed in a control building at the pumping station.

6. Concurrent with the construction of the excess flow detention facilities the City will construct and operate new flow measurement facilities on the East Side Interceptor just downstream from the junction of the Godfrey Coal Branch and Black Creek trunk sewers and on the Bethalto Interceptor sewer just upstream of its connection to the East Side Interceptor. The flow measurement devices will be capable of accurately measuring the flow in partially filled, 100% full pipes, and pipes operating under a head.

The total cost of the described excess flow detention and flow measurement facilities will be \$2,600,000.00 and will be operational in early 2007.

The Villages of Bethalto and Godfrey have begun the planning and design of their excess flow detention facilities.



## **COMBINED SEWER SERVICE AREAS**

The older west part of the City of Alton is served by combined sewer systems which drain south toward the Mississippi River. At one time, all combined sewer flow was discharged into the river or the levee district impoundment without treatment, but in the mid 1960's the South Side Interceptor sewer was constructed which parallels the river and carries the dry weather flows southeast to the sewage treatment plant. During periods of excessive runoff, the combined sewers still overflow into the river.

Originally there were three large CSSA's (Piasa Valley, Central Avenue, Shields Valley) and four smaller CSSA's (Turner Tract, Bluff Street, Summit Street, State Street). A detailed description of the outfall for each of the CSSA's is contained in the Combined Sewer Overflow Phase I Report, attached as Appendix I.

### Turner Tract CSSA

The Turner Tract CSSA is the western most drainage area served by combined sewers. This area is located on the high plateau above the Mississippi River bluffs; contains approximately 100 acres; and land use is residential. The extreme western part of the area is served by separate sanitary sewers which drain into the combined sewer system. The population of the area is approximately 670.

### Bluff Street and Summit Street CSSA

The Bluff Street and Summit Street CSSA's are adjacent to each other and are located immediately above the Mississippi River bluffs, each with an outfall that drops down the bluff face before being intercepted by the South Side Interceptor. These areas combined have an acreage of approximately 70 acres and land use is residential with a population of about 340.

The Bluff Street combined sewers have been separated and the Summit Street combined sewers are in the process of being separated by the construction of sewers

necessary to effect the separations and by removal of storm water inlets from the existing combined sewers.

The Bluff Street CSO outfall has been eliminated and the Summit Street CSO outfall will be eliminated in 2007.

#### State Street CSSA

The upper part of State Street CSSA occupies a narrow ridge containing residential properties and is located just west of the Piasa Valley CSSA. The remainder of the area is located within the west edge of the City's old downtown commercial district with the lower end located in the flood plain of the Mississippi River. The area is approximately 45 acres in size and has a population of approximately 380.

In 1997, the original outfall for the State Street CSSA was eliminated by redirecting the flow to the outfall for the adjacent Piasa Valley CSSA.

#### Piasa Valley CSSA

The Piasa Valley sewer district occupies approximately 1,455 acres in the central west part of the City. It is the largest of the seven separate CSSAs. This area is approximately bounded on the east by Langdon Street and Martin Luther King Drive, on the north by Delmar Avenue and on the west by Belle Street, 9th Street and State Street. The population of this area is estimated at 9,600.

The Piasa Valley area is characterized by very rough terrain. From the north ridge of the valley at Delmar Avenue to the south floor of the valley at the Mississippi River, distance about 2 miles, there is a difference in vertical elevation in excess of 215 feet. In some places valley slopes are in excess of 50%. In the west central and northern part of this area, the street pattern was laid out originally to follow the ridges and valleys, but in the southeastern part of the area they were laid out on a grid system. The heart of the old business district is located within this area. Most of the southern part of the area is commercial in character with some light industry. The central and north parts of the area that have been developed are largely residential. Development

in the central and northern parts of the Piasa Valley CSSA has been curtailed due to very rough terrain.

A large part (approximately 70%) of the area within the Piasa Valley CSSA is served by separate sanitary sewers which drain into the combined sewer system before reaching the South Side Interceptor.

#### Central Avenue CSSA

The Central Avenue CSSA occupies approximately 470 acres within the City limits in the south central part of the City. This area is situated between the Shields Valley CSSA on the north and east and the Piasa Valley CSSA on the west. The population is estimated at 5,840.

The Central Avenue area is characterized by steep slopes, some in excess of 20%. The street pattern was laid out originally on a grid system in the lower reaches of the valley but follows the ridges and valley floor in the upper reaches. Most of the northern part of the area is residential in character while the southern portion is largely commercial with a few small industries. Most of the streets in the areas have permanent type surface of one kind or another, namely brick, concrete, asphalt over brick and asphalt over concrete. No separate sanitary sewers exist in the Central Avenue CSSA.

#### Shields Valley CSSA

The Shields Valley CSSA occupies approximately 1,400 acres within the City limits on each side of Shields Branch in the east central part of the City. This area is roughly bounded on the north by Oakwood Avenue, on the west by Central Avenue and on the east by Washington Avenue. The population is estimated at 4,670.

The Shields Valley area is characterized by very rough terrain. In some places valley slopes are as steep as 65%. The street pattern was laid out originally to roughly follow the ridges and valleys. Some streets, however, cross valleys on fills. In several locations, street grades exceed 15%. Located within the valley is the Rock Springs Park

and Golf Course. Most of the built-up area is residential in character, although a small portion at the south end is commercial and industrial.

Sewers serving approximately 60% of the east part of the area are separate sanitary sewers which discharge into the combined sewer system before the flow is intercepted by the South Side Interceptor.

CSSA Overflow Outfall Locations

Each CSSA described herein, with the exception of the State Street CSSA, has an overflow outfall as shown on Exhibit A. The latitude and longitude of each outfall is as follows:

<u>Name of CSSA</u>	<u>NPDES Permit Outfall Number</u>	<u>Latitude</u>	<u>Longitude</u>
Shields Valley	002	38°-53'-05"	90°-09'-34"
Central Avenue	003	38°-53'-08"	90°-10'-13"
Piasa Valley	004	38°-53'-20"	90°-11'-13"
Summit Street (1)	005	38°-53'-33"	90°-11'-43"
Bluff Street (2)	006		
Turner Tract	007	38°-54'-09"	90°-11'-58"
State Street (3)	008		

- (1) Combined sewers and CSO outfall to be eliminated in 2007.
- (2) Combined sewers and CSO outfall eliminated in 2004.
- (3) CSO outfall was eliminated in 1997.

A detailed description of each original overflow outfall is contained in Appendix I.

**SEPARATE SANITARY SERVICE AREA**

The City of Alton conveys and treats wastewater from an area served by separate sanitary sewers only. This area is located on the north and east sides of the City and consists of the remaining area within the City limits which is outside the seven previously described CSSA's.

In addition, the separate sanitary service areas outside of and adjacent to the north and east corporate limits of the City, contribute wastewater to the City's East Side Interceptor and wastewater treatment facilities. These service areas consist of the entire sanitary sewer systems of Bethalto, Cottage Hills, Rosewood Heights, Moro and Meadowbrook via the Bethalto Interceptor and the southeast part of the Godfrey sanitary sewer systems.

The annual average flows from each separate sanitary sewer areas for the year ending March 31, 2006 based on recorded flows were as follows:

Alton	1.24 mgd
Bethalto Interceptor	1.60 mgd
Godfrey	<u>0.41</u> mgd
Total	3.25 mgd

Seasonal variations of the total flow in the separate sanitary sewer areas as received at the Alton Wastewater Treatment Plant via the East Side Interceptor during the same time period were as follows:

Average Dry Weather Flow	3.1 mgd
Average Wet Weather Flow	3.9 mgd
Normal Peak Wet Weather Flow	12.0 mgd

#### **WASTEWATER TREATMENT PLANT**

The existing Alton sewage treatment facilities have evolved from the addition of secondary treatment units added to an originally constructed primary treatment plant. The result is (as shown on Figure 2-2) a contact stabilization treatment scheme employing primary settling for only a portion of the influent.

The original sewage treatment plant was constructed in 1964, and consisted of flow measurement (Parshall flume) screening (comminator) grit removal of the aerated type, primary clarification, effluent pumping, anaerobic sludge digestion and sludge lagoons. The improvements also included a pumping station and force main to convey



flows from the South Side Interceptor sewer. The plant was designed for a population equivalent of 60,000, and to provide primary treatment for a design flow of 6.0 mgd.

Bids were received in November, 1973 for enlarging and upgrading the plant for the purpose of increasing the capacity and to meet more stringent effluent requirements. Because of default on the part of the General Contractor, the construction was not completed until 1977. Flow was first directed into the new treatment facilities in January 1978. In March 1978 chlorination facilities were added.

The treatment facilities as they now exist were designed for a population equivalent of 105,000 people, an average design flow of 10.5 mgd, and a peak design flow of 26.25 mgd. The existing facilities now consist of the following:

Flow Measurement - Two Parshall Flumes, one measuring the flow received from the south interceptor pumping station, the other measuring the flow received through the east interceptor.

Screening and Grit Removal - In 1999, the original screening and grit removal equipment was removed and replaced with the following:

1. Two self-cleaning filter/screens with compactors and screenings washers. Each unit has a hydraulic capacity of 13.125 mgd.
2. Two vortex grit chambers including grit pumps, grit concentrators, and screw classifier. Each unit has a hydraulic capacity of 13.125 mgd.

In addition to the equipment replacement, a new preliminary treatment building was construction to house the new equipment.

Primary Clarifiers - Two circular clarifiers each 60'-0" in diameter. In design, it was assumed that a flow of 4.72 mgd (45% of the 10.5 mgd design flow) would be routed through the primary clarifiers, with the effluent from the clarifiers to be mixed with the flow routed around the clarifiers. The sludge from the clarifiers would go to anaerobic digesters.

Aeration-Reaeration - Five tanks, each 30' W x 192' L x 15' D, having a total volume of 433,000 cubic feet are provided for aeration and reaeration. The calculated design loading on the aeration-reaeration tanks, assuming partial removal of BOD and SS by the primary clarifiers, is 35#BOD/100 cu. ft.

Secondary Clarifiers - Two circular clarifiers, each 100'-0" in diameter, are provided. The resultant surface settling rate, at design flow, is 670 gallons/sq. ft./day.

Effluent Pumping - Three pumps, having capacities of 3,300, 5,700 and 9,200 GPM, are provided to pump the effluent during periods of high river stage.

Standby Power - An engine generator set is provided to furnish standby power to one of the two smaller effluent pumps, one pump in the spray water pumping station, the chlorination building, and both comminutors during periods of prime power outage.

Anaerobic Digester - Two anaerobic digesters are provided to receive the sludge from the primary clarifiers. Each of these digesters is 40 feet in diameter for a total volume of 66,000 cubic feet. In 2002, a dual membrane pressurized digester gas holder cover system was installed on each digester to replace the floating covers. Also a new biosolids mixing system and heater/heat exchanger were installed.

Aerobic Digestion - Three tanks, each 30' W x 192' L x 15' D for a total volume of 259,000 cubic feet are provided for aerobic digestion. This provides a capacity for the load on these digesters of 3.38 cubic feet per capita.

Blowers - Four centrifugal blowers are provided, each having a capacity of 7550 SCFM for a total firm capacity of 22,650 SCFM. The fourth blower is intended to be a spare.

Chlorination - Facilities were constructed for storage of chlorine in 1-ton cylinders. An evaporator and two chlorinators are provided. Each of the chlorinators has a capacity of 2000 pounds/24 hours. The effluent sewer serves for chlorine contact, with a retention of 17 minutes of design peak flow. Chlorination of the effluent is required and provided May through October only.



Belt Filter Presses - In 2002, two 2.0 meter belt filter presses and accessories were installed in the existing filter building to dewater aerobically and anaerobically digested sludge. The filter presses replaced the originally installed air floatation thickener and vacuum filters.

Sludge Drying Beds - A total of 30,800 sq. ft. of sludge drying beds can be used to dewater aerobically and anaerobically digested sludge, but they are primarily used for dewatered sludge storage now that the belt filter presses are in operation.

Sludge Storage - On site sludge storage areas are provided to allow for additional drying of the dewatered sludge and to store sludge during periods when land application is not possible.

The NPDES permits require that the effluent meet a standard of 20 mg/l BOD and 25 mg/l SS, with discharge to the Mississippi River. Discharge to Wood River is prohibited except under certain conditions.

#### Wastewater Flows

Wastewater flows reach the treatment plant from two sources, the South Side Interceptor which collects flows from the City's seven CSSA's and the East Side Interceptor which collects flows from the separate sanitary service area of the City and the sanitary sewer systems of adjoining communities as previously described.

The current average daily flow from the South Side Interceptor is 3.48 mgd with the peak wet weather flow being 13.7 mgd (the capacity of the South Side Interceptor pumping station).

The current average daily flow from the East Side Interceptor is 3.25 mgd. Peak wet weather flows in the East Side Interceptor vary depending on the duration of the wet weather period. The maximum wet weather flows are between 14 to 22 mgd during extreme wet weather periods which occur at infrequent intervals.

Since the peak capacity of the wastewater treatment plant is 26.25 mgd, the maximum flow that can be accommodated from the East Side Interceptor is 12.5 mgd

when the South Side Interceptor pump station is delivering its maximum flow of 13.7 mgd. When the flow in the East Side Interceptor exceeds 12.5 mgd, the pumping rate at the South Side Interceptor pump station must be reduced in order not to flood the treatment plant. This results in a corresponding reduction in the amount of CSO's that are intercepted and treated.

As previously indicated, in order to correct this problem, Alton, Bethalto and Godfrey are in the process of constructing excess flow detention facilities to limit the peak flow in the East Side Interceptor to 12.5 mgd.

#### Treatment Plant Outfall Sewer

The treatment plant outfall sewer is 42 inches in diameter and approximately 5,100 feet in length. As the outfall sewer leaves the treatment plant site it penetrates the levee system that protects the plant site and the surrounding property from flooding by the Mississippi River and Wood River. At the end of the levee crossing a gatewell and emergency outfall is located on the outfall sewer to allow the treatment plant effluent to be pumped directly to Wood River during high river stages. From the gatewell the outfall sewer follows the riverside levee berm along the west bank of Wood River to a point of discharge of the outfall sewer at the Mississippi River bank at longitude 90°-07'-05" and latitude 38°-51'-39".

The treatment plant and its outfall sewer is shown on Exhibit A.

## CHAPTER 3

### ADMINISTRATIVE CONTROLS

The preparation of an operational and maintenance plan to control CSO's including a review of administrative controls. This chapter describes the administrative controls that have been established by the City and includes recommendations for modifying them to be consistent with the objectives of the operational and maintenance plan.

#### **NPDES REQUIREMENT**

The City of Alton is subject to the rules and regulations promulgated by the Illinois Pollution Control Board which establishes procedures for issuance of National Pollution Discharge Elimination Systems (NPDES) permits by the Illinois Environmental Protection Agency (IEPA).

Alton's current NPDES Permit #IL0027464, issued October 31, 2005 with an effective date of January 1, 2006 has an expiration date of December 31, 2010. The permit establishes effluent limits for discharges from the treatment plant outfalls (001) to the Mississippi River and the treatment plant emergency high level bypass (009) to Wood River.

In addition the permit authorizes overflow discharges from the six overflow outfalls (002 through 007 inclusive) previously described.

Other provisions of the permit which the City is adhering to are as follows:

1. Monitor and report sludge production.
2. Prepare and submit monthly Discharge Monitoring Reports for treatment plant discharge.
3. Monitor and report monthly on discharges from the CSO outfalls.
4. Submit a CSO Long-Term Control Plan to IEPA 24 months from the effective date of the NPDES Permit.

A copy of the City's NPDES Permit is included as Appendix II.

The City of Alton has several methods of controlling sewer usage. These include the Sewer Use Ordinance and service contracts which are described in this section.

### **CITY SEWER USE ORDINANCE**

The Sewer Use Ordinance defines procedures for making connections to the City system, gives construction requirements, and limits pollutants which may be discharged to the sewer system. A copy of the Sewer Ordinance is reproduced in Appendix III. Major elements of the ordinance include:

1. Connection to the City sewer system shall be made long as sewer service is within 200 feet of the property line. Each building is required to have a separate and independent lateral. Acceptable materials for laterals and construction procedures are established.
2. Prohibited discharges to the sewer system are listed.
3. Grease, oil, and interceptors (traps) may be required on the recommendation of the City Engineer. Accessibility of the traps for inspection and maintenance is required.
4. Industrial waste dischargers may be required to install monitoring manholes, and allow periodic sampling by City.
5. There is a prohibition of discharge to storm sewers other than storm water.
6. A rate schedule for sewer service is established.

The following sections have recently been added to the City's Sewer Use Ordinance regarding combined sewers:

#### New Connections to Combined Sewer System (Section 8-1-72):

"All new connections tributary to the combined sewer system of the City of Alton shall comply with the following provisions:

1. New construction tributary to the combined sewer system shall be designed to minimize and/or delay inflow contributions to the combined sewer system.
2. New building domestic waste connections to the combined sewer system shall be distinct from building inflow connections to facilitate disconnection if a storm sewer becomes available within 200 feet of the building."

Disconnection of Inflow Sources on Combined Sewer System (Section 8-1-73):

"Inflow sources on the combined sewer system at the City of Alton shall be removed from the combined sewer system and connected to a storm sewer within 90 days if a storm sewer becomes available within 200 feet of the inflow source."

**SERVICE CONTRACTS**

The City of Alton provides wastewater conveyance and treatment services for the Village of Bethalto, Illinois and the Village of Godfrey, Illinois on a contractual basis. Each contract is identical except as follows:

1. Capacity allocations for Bethalto is 2.5 mgd daily average dry weather flow and 6.25 mgd peak daily flow.
2. Capacity allocation for Godfrey is 0.75 mgd daily average dry weather flow and 1.87 mgd peak daily flow.

Each entity is responsible for reading and maintaining the flow meters that record flows into the East Side Interceptor.

A copy of the Bethalto service contract is reproduced in Appendix IV. A copy of the Godfrey service contract is reproduced in Appendix V. It should be noted that the service contracts impose the provisions of Alton's Sewer Use Ordinance on the Bethalto and Godfrey users.

## RECOMMENDATIONS

As indicated in Chapter 2, peak flows at the Wastewater Treatment Plant exceed the plant capacity during extreme wet weather periods resulting in a decrease in the interception and treatment of the City's CSOs during those periods. These excess flows are a result of the East Side Interceptor flows exceeding 12.5 mgd. Also, as indicated in Chapter 2, the City of Alton, Village of Bethalto and Village of Godfrey are in the process of constructing excess flow detention facilities which will enable the communities to maintain a maximum flow of 12.5 mgd in the East Side Interceptor.

Article II Section 1 of the service contracts with Bethalto and Godfrey sets out the maximum flow allocations for each community and reads as follows:

"Section 1. Maximum Flow: The daily design flow capacity of Alton's regional wastewater treatment plant is presently 10.5 mgd for design average flow (DAF) and 26.25 mgd for design maximum flow (DMF). The daily design flow capacity allocated to the East Side Interceptor Sewer is presently 5.0 mgd for DAF and 12.5 mgd for DMF.

The wastewater flow capacity in the East Side Interceptor Sewer allocated to each participant is as follows:

### ALTON

A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period...1.75 mgd.

B. Daily Maximum Flow - Total volume over 24 hour period...4.38 mgd.

### BETHALTO

A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period...2.5 mgd.

B. Daily Maximum Flow - Total volume over 24 hour period...6.25 mgd.

### GODFREY

A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period...0.75 mgd.

B. Daily Maximum Flow - Total volume over 24 hour period...1.87 mgd.

The design DMF and DAF values are subject to changes that may be specified in subsequent NPDES Permits issued by IEPA.

In the event the daily maximum flow in the East Side Interceptor Sewer exceeds the 12.5 mgd in a 24 hour period, Alton will notify Bethalto and Godfrey of the occurrence and will provide the participants with the flow contributed by Bethalto, Godfrey and Alton during that period. If the daily flow in the East Side Interceptor sewer exceeds 12.5 mgd for at least one day in any consecutive three month period, Alton will arrange a meeting of all participants to review the daily flow data and to reach an agreement on the corrective action to be taken by the participants to maintain a maximum daily flow in the East Side Interceptor Sewer at or below 12.5 mgd. If an agreement can not be reached by the participants within six months of the initial meeting, determination of the corrective action to be taken shall be achieved by arbitration as set out in Article IV of this Agreement."

In order to ensure that the goal of maintaining a 13.7 mgd (9,514 gpm) peak flow capacity for the City's combined sewage flows at the treatment plant is met, a peak flow rate of 8,680 gpm (12.5 mgd) must be maintained in the East Side Interceptor.

It is recommended that Article II Section 1 be revised to establish a maximum flow rate for each community as follows:

" Section 1. Maximum Flow: The daily design flow capacity of Alton's regional wastewater treatment plant is presently 10.5 mgd for design average flow (DAF) and 26.25 mfd for design maximum flow (DMF). The daily design flow capacity allocated to the East Side Interceptor Sewer is presently 5.0 mgd for DAF and 12.5 mgd for DMF.

The wastewater flow capacity in the East Side Interceptor Sewer allocated to each participant is as follows:

ALTON

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period... 1.75 mgd.
- B. Daily Maximum Flow - Total volume over 24 hour period... 4.38 mgd.
- C. Maximum Flow Rate - Maximum rate over a 1 hour period... 3,040 gpm.

BETHALTO

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period... 2.5 mgd.
- B. Daily Maximum Flow - Total volume over 24 hour period... 6.25 mgd.
- C. Maximum Flow Rate - Maximum rate over a 1 hour period... 4,340 gpm.

GODFREY

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period... 0.75 mgd.
- B. Daily Maximum Flow - Total volume over 24 hour period... 1.87 mgd.
- C. Maximum Flow Rate - Maximum rate over a 1 hour period... 1,300 gpm.

The design DMF and DAF values are subject to changes that may be specified in subsequent NPDES Permits issued by IEPA.

In the event the daily maximum flow in the East Side Interceptor Sewer exceeds the 12.5 mgd in a 24 hour period or 8,680 gpm in a 1 hour period, Alton will notify Bethalto and Godfrey of the occurrence and will provide the participants with the flow contributed by Bethalto, Godfrey and Alton during that period. If the daily flow in the East Side Interceptor sewer exceeds 12.5 mgd for at least one day in any consecutive three month period or 8,680 gpm for at least one hour in any consecutive 3 week period, Alton will arrange a meeting of all participants to review the daily flow data and to reach an agreement on the corrective action to be taken by the participants to maintain a maximum daily flow in the East Side Interceptor Sewer at or below 12.5 mgd and a maximum flow rate at or below 8,680 gpm. If an agreement can not be reached by the participants within six months of the initial meeting, determination of the corrective action to be taken shall be achieved by arbitration as set out in Article IV of this Agreement."

## CHAPTER 4

### MAINTENANCE PROGRAM

The City of Alton has a Sewer Maintenance Division with a comprehensive program for sewer maintenance. The sewer maintenance program was reviewed as part of the overall operational plan. This chapter provides a detailed written description of the program.

#### **DEPARTMENT OF PUBLIC WORKS**

##### Personnel

Two divisions of Public Works are directly involved with the O & M program. These are Sewer Maintenance and Wastewater Treatment. The Street Division also is involved because street sweeping is a part of the O & M Program.

Sewer Maintenance has six regular maintenance employees. Wastewater Treatment Plant has seven regular employees. Sewer Maintenance has an operations supervisor, who is under the Superintendent of the Wastewater Treatment Plant (this is the "Operator in Charge"). Wastewater Treatment Plant has two supervisors, they are also under the "Operator in Charge."

##### Schedule

The City has been divided into three (3) regular maintenance areas. Regular maintenance tasks include sewer cleaning, catch basin cleaning, combined sewer overflow monitoring, sewer and storm system repair and emergency response.

The sewer system is on a preventive maintenance schedule. This "PM" list is formulated by prioritizing problem areas (i.e...stoppages, odor complaints, known root problems, etc.). This "PM" schedule is taken from computer print-outs on a monthly basis (see record keeping).



### Overflow Inspection

Combined Sewer Overflow Weirs - These are checked after each rain from worksheets. The CSO outfall overflow points described in Appendix I are checked twice a week, normally Monday and Friday. The structures with mechanical gates are exercised and maintenance pulled every six months. Visual inspection of weirs and structures are made during bi-weekly checks.

All of the City's CSO's are weir type which require little maintenance on the weir itself. The worksheet is filled out and returned to the Supervisor along with the employee's daily worksheet. The evidence of overflow discharge or any problem is noted on these sheets. Any problem at a CSO or combined sewer structure is investigated immediately to determine if immediate action is needed.

### Sewer Cleaning

The City of Alton owns various machines which are utilized in sewer cleaning. (A detailed listing is included on pages 3 and 4 of the City's "Pollution Prevention Plan" which is attached as Appendix VI.) A "Vactor 2100" which is a rodder-jet is used for most cleaning of the sewer and storm systems. This machine is capable of cleaning 700' of sewer w/80 gallon per minute of water at 2500 psi pressure. The "Vactor 2100" is a combination machine which jets and vacuums. This machine will "vac" debris deposited in manholes while jetting lines with grit deposits. This is also used in catch basin and inlet cleaning. The City also uses a "Stetco" catch basin cleaner. This hoist-clam truck can be used in either sewer or storm systems to remove solids. The City also owns a "Cues" camera. This is used to inspect and record problem areas. Almost all sewer jetting is done using mechanical root saws, except for large diameter lines.

The interceptor line ("South Side") was cleaned in 1994. Approximately 75% of the system was cleaned at that time. The interceptor sewer is checked for material build-up and debris periodically, once during the summer or any time any indication of restriction or dry weather overflow occurs.

### Catch Basin and Inlet Cleaning

Inlets (Grated) - Area cleaned and or checked after any rain that causes water movement in street gutters. These are cleaned from checklists which list address and number of inlets at location. Also, the City's detailed sewer maps show the location of inlets.

Inlets (Catch Basin Type) - These are cleaned from checklists. The inlets are checked a minimum of twice a year from these lists. (The inlets are cleaned and/or checked as needed in response to complaints.) The areas that have high loading of leaves in the fall are swept with the Street Sweeper on a regular basis. A leaf vacuum unit is used in areas of the City that have heavy accumulations of leaves in the gutter.

### Street Cleaning

The City of Alton has a street sweeping program that reduces debris and litter from washing into the catch basins and inlets. This unit runs 5 days a week unless weather prohibits it's use. This is especially helpful during the fall when leaves are a problem at inlets and catch basins.

At this time the City of Alton has one sweeper on the regular sweeping schedule. The City has a back-up unit which can be utilized when necessary. During periods when heavy loading of leaves occur a leaf vacuum is utilized to further minimize leaves from entering the sewer system.

### Screen Cleaning

The bar screen at the South Side Interceptor has an automated cleaning cycle. this is capable of cleaning itself for 15 minutes out of 30 minutes. The bar screen is checked during and after rainfall or any high flow events.

### Controlling Dry Weather Overflows

The City's Sewer Maintenance crews make periodic checks of creeks, ditches and valleys for signs of overflowing sewers. The overflows themselves are checked bi-weekly from checklists. They are also checked during and after each rain. The City's

preventative maintenance schedule also helps to control stoppages in the system. Sewer Maintenance crews make "sanitary checks" which help to find problems before an overflow or a problem of a back-up occurs.

#### Regulating Diversion and Bypass Valves

The overflow valves are closed at elevation 419.60 MSL (mean sea level) at Third & Piasa and State & Broadway. The Lincoln Douglas valve is closed at elevation 426.00 MSL. This is "River Stage" which is faxed to our office each day. The Marina gate is closed after the river rises enough to compromise the structure (see Appendix I, Section 2).

#### Routine Pump/Lift Station Inspection and Preventive Maintenance

The preventive maintenance schedules for the sewer system lift stations have been established according to the manufacturers recommended schedule.

Lift stations located on the sewage collection system are equipped with local visual and audible alarms in the event of a pump station malfunction. The South Side Interceptor lift station is electronically monitored with alarms, both audible and visual, which are located at the wastewater treatment plant building. The alarms are also relayed to the Police Department when the treatment plant is unmanned.

Schedules include daily, weekly, monthly, quarterly, semi-annually, and yearly checks which are done from checklists.

#### Sewer Inspection and Repair

The City of Alton uses its "Cues" camera unit to inspect sewer and sanitary lines for damage. This is especially valuable as a follow-up after a stoppage has occurred. By identifying the problem area, steps to remedy the problem can be developed.

While the City does not have a schedule to televise its sewers, the camera unit is used frequently. Investigating problems, finding inflow and infiltration points, locating laterals and checking line integrity are operations utilizing this unit. The camera unit is also used to verify illegal connections to the sewer system.

Inspectors from the Office of Public Affairs make inspections of new construction and expansions of businesses. Public Works and Public Affairs which includes plumbing, building, and sewer inspectors, meet at pre-construction meetings to preview plans for construction.

Stoppages caused by grease, petroleum products or other illegal substances are traced to their source. The City aggressively pursues these offenses to facilitate the elimination of further problems.

The City has had several sewer lines "lined" after finding broken areas, infiltration and missing pipe. They also have pending "lining" projects. New sections including installation of a manhole are being budgeted for future "lining."

The City has and will continue to do all repair work that is in the scope of it's resources. They have trench-jacks (Tren-shor) and adjustable height trench shields which allows them to be able to safely excavate to 12'. This allows the City to do most repairs to sewer and storm systems. Rehabs and replacement of whole systems are generally contracted outside the City forces.

#### Elimination of Inflow Sources

As previously indicated, the East Side Interceptor which receives flow from the separate sanitary service areas experiences excess flows during wet weather periods.

The City of Alton Sewer Department is currently canvassing the southeastern portion of its separate sanitary service area for illegal surface water connections. Most of these consist of downspouts and driveway drains. The City will continue to expand the canvas area until all areas are eliminated as possible inflow sources.

#### Non-Routine Maintenance and Emergency Situations

During non-working hours the City Police Department has a list of Supervisors who are on call 24 hours a day. These Supervisors carry pagers at all times. This procedure includes both the Sewer Maintenance Division and Wastewater Treatment Plant.

## Record Keeping

Sewer Maintenance uses software for its record keeping. This software (G.B.A. Master Series) tracks sewer and storm systems, history of complaints, repair records, manages preventive maintenance schedules, T.V. history and catch basin and inlet repair. Work orders are generated for each activity and are recorded in the G.B.A. Master Series program and a file card system.

The wastewater treatment plant uses "Mapcon" for record keeping and preventive maintenance scheduling.

A summary of all activities is generated monthly from daily work schedules on a monthly sewer maintenance report. Table 4-1 is a copy of the report form.

## Sewer Complaints

All complaints are investigated by Sewer Maintenance crews and/or Supervisors. The resulting work orders are entered into the G.B.A. Master Series program after completion. Most stoppages are caused by root infiltration or grease from food establishments. Sewer back-ups due to storm overloading in the CSO areas have been reduced significantly since the implementation of a revised PM schedule and inspection plus the installation of a bypass storm line at Lincoln and McKinley. This bypass line connected two (2) existing manholes with a larger line making a more direct route for water flow into the larger system. Several projects like the Lincoln and McKinley projects have been completed by the City to relieve overloaded sewers in past years.

## **RECOMMENDATIONS**

While the City has a comprehensive program for sewer maintenance, it is recommended that a review process be established which will focus on the operation and maintenance procedures that have a direct relationship to the City's CSOs.

The Public Works Department personnel should continue to refine their procedures and develop more detailed O & M schedules which will accomplish the following:

1. Reduce solids and floatables in the CSOs.
2. Eliminate dry weather overflows.

Also, it is recommended that the Public Works Department continue to inventory of the City's sewer system which contains the following information:

1. Sewer materials.
2. Sewer conditions.
3. Sewer age
4. Location of bottlenecks in sewer system.
5. Projected growth (if any) in areas tributary to combined sewers.

This information coupled with the information already contained on the City's sewer system maps and diagrams will enable the City to better plan for needed sewer repairs and replacements which will in turn insure that the potential incidents of dry weather overflows in the sewer system will be eliminated.

SEWER MAINTENANCE Monthly Report		Week Of:		Week Of:		Week Of:		Week Of:		Grand Total	
		Number	Hours	Number	Hours	Number	Hours	Number	Hours	Number	Hours
Category											
Main Checks	Main Stoppages									0	0
	Owner Problems									0	0
Preventive Maintenance										0	0
Jetting P.M.	-# of Feet									0	0
	-Gal. of Water									0	0
Result of Stoppages										0	0
Jetting Stoppages	-# of Feet									0	0
	-Gal. of Water									0	0
Catch Basins Cleaned										0	0
Grates Cleaned										0	0
Connections Dyed										0	0
Cavities Dyed	System Problem									0	0
	Owner Problem									0	0
Catch Basins Repaired										0	0
Grates Repaired										0	0
Manholes Repaired/Adjusted										0	0
Sewer Repairs										0	0
Inspections - New Sewer Taps										0	0
Inspections - Sewer Repairs										0	0
Catch Basins/Manholes Constructed										0	0
Manhole Inspections										0	0
Sanitary Checks										0	0
Downspout Connection Checks										0	0
Investigation Misc. Reported Problems										0	0
Demolitions										0	0
Misc. Assistance to Other Divs./Depts.										0	0
Callouts										0	0
Overflows Checked										0	0
Open Ponding										0	0
In Shop Maintenance										0	0
TV inspections										0	0
TOTAL HOURS			0		0		0		0		0

Table 4-1

## CHAPTER 5

### OVERFLOW CONTROL STRATEGY

The objectives of the Alton Combined Sewer Operational and Maintenance Plan is to reduce the volume and frequency of CSOs in the City's CSSA's using existing facilities, including those recently constructed for this specific purpose.

Recommendations for on-going monitoring to determine if there are other long term solutions that can be implemented to gain greater control of overflows are also described.

#### **FACILITIES PLANNING**

In 1978 the City began the process of developing a control strategy for combined sewer overflows by initiating a Facilities Planning Study which dealt with the City's CSOs; their effect on the receiving stream (Mississippi River); and the alternative methods of filling the primary need to provide additional facilities to comply with Illinois Pollution Control Board Rules and Regulations.

The alternatives presented in the study represented different levels of interception of combined sewer flows and provided estimates of cost and BOD discharged annually for each alternative. These estimates were used to compare cost vs. reduction of BOD.

Five levels of CSO control alternatives were analyzed in the facilities planning work. They ranged from utilizing the existing system with no improvements to the facilities necessary to provide complete compliance with the regulations.

The facilities necessary to provide complete compliance with the CSO regulations (Alternate A-4A) would involve large diameter sewers to convey first flush flows and flow equal to 10 times the dry weather flow to excess flow storage and treatment facilities; the construction of a high capacity pumping station; the construction of storage facilities for first flush and primary clarification and chlorination with retention



for 10 times dry weather flow. Additional pumping and force main capacity would be required at the location of the South Side Pumping Station. A major expansion of the treatment plant would also be required.

The studies of the alternatives to meet combined sewer overflow regulations indicated that the cost of those facilities required to fully meet the regulations were excessive as compared to the impact of the combined sewer overflow on the Mississippi River.

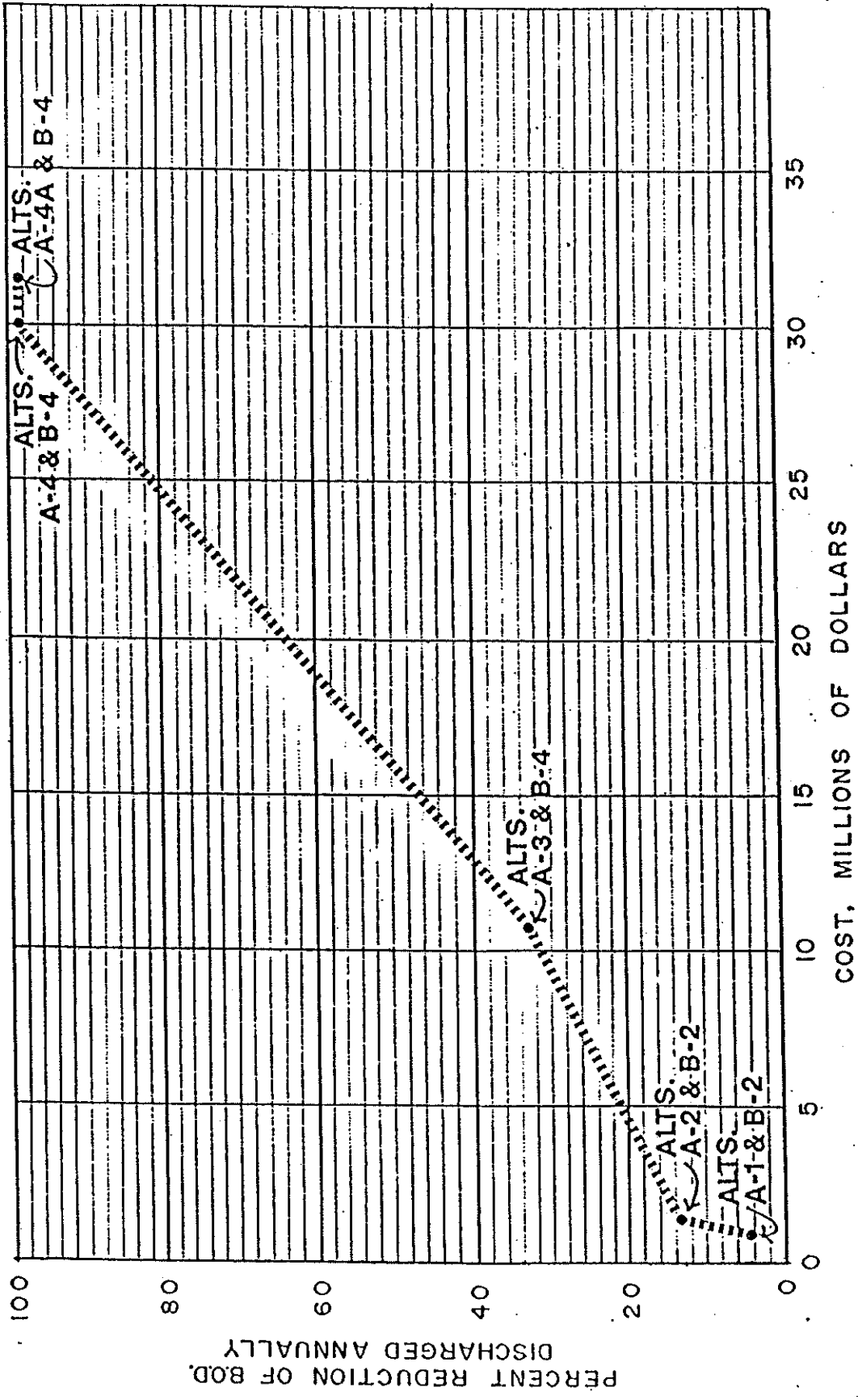
Of the five alternatives evaluated in the facilities plan Alternative A-2 was selected. With this alternative, portions of the present interceptor system would be upgraded so that the full capacity of the existing gravity interceptor sewer would be utilized.

The improvements for this alternative would include increasing the capacity of the Shield Valley structures and increasing the peak pumping capacity of the South Side Pumping Station to 13.7 mgd.

The estimated cost of the various alternatives compared to percent reductions in BOD is illustrated graphically on attached Figure 5-1 and summarized in Table 5-1. Please note that Alternatives B-1, B-2, B-3 and B-4 relate to work by the Corps of Engineers involving improvements to the Piasa-State Street outlets necessary to mitigate the effects of relocation of Lock and Dam No. 26. Alternate B-1 was implemented by the Corps of Engineers.

The recommended alternative consisted of a facility which provided less than full compliance with the regulations and therefore the City of Alton was required to file a petition with the Illinois Pollution Control Board for a site specific exception to regulations.

On May 19, 1988, the Pollution Control Board adopted a site specific amendment to the regulations which, in part, established minimum requirements relating to the City's CSO's, as follows:



ALTON SUB-AREA FACILITIES PLAN REPORT  
 B.O.D. REDUCTION FOR VARIOUS  
 ALTERNATIVE IMPROVEMENTS  
 SOUTHSIDE INTERCEPTOR  
 ALTON FACILITIES PLAN

Sheppard, Morgan & Schwaab, Inc.  
 CHAFFORD, MURPHY & TILL, Inc.  
 Consulting Engineers

Figure 5-1

Table 5-1

SUMMARY OF COST VERSUS BOD<sub>5</sub> REDUCTION  
FOR THE VARIOUS ALTERNATIVE IMPROVEMENTS

<u>ALTERNATE</u>	<u>ESTIMATED PROJECT COSTS*</u>	<u>PERCENT BOD<sub>5</sub> REDUCTION(1)</u>
<u>A-1 No Increase In Intercepted Flow</u>		
Existing Condition @ Piasa	\$ 0	0
With Alt. B-1 @ Piasa	340,100	2.8
With Alt. B-2 @ Piasa	803,700	4.2
<u>A-2 Full Utilization Of Existing Facilities</u>		
Existing Condition @ Piasa	611,000	8.8
With Alt. B-1 @ Piasa	951,100	11.6
With Alt. B-2 @ Piasa	1,414,700	13
<u>A-3 Intercept &amp; Treat. 12.5 x DWF (25 MGD Peak Flow)</u>		
Existing Condition @ Piasa	9,554,000	28.6
With Alt. B-3 @ Piasa	10,274,000	31.4
With Alt. B-4 @ Piasa	10,806,900	32.8
<u>4 Intercept, Store &amp; Treat First Flush (600 MGD Peak Flow Plus 47 MG Storage)</u>		
Existing Condition @ Piasa	28,648,000	94.2
With Alt. B-3 @ Piasa	29,368,000	97
With Alt. B-4 @ Piasa	29,900,900	98.4
<u>A-4A Intercept, Store &amp; Treat First Flush and Primary Treatment of 10. x DWF above First Flush Volume</u>		
Existing Condition @ Piasa	30,100,000	95.2
With Alt. B-3 @ Piasa	30,820,000	98
With Alt. B-4 @ Piasa	31,357,900	99

Exhibit 10.1 graphically illustrates the information contained in this table. For that purpose the Alternate which gives the greatest degree of flood protection to the Piasa interceptor was selected.

- (i) Percent BOD<sub>5</sub> reduction refers to the percent decrease, from present condition, in average annual BOD<sub>5</sub> load discharged to the Mississippi River from system discharges.

\* 1980 Cost Data

"b) Discharges from the City of Alton at Mississippi River miles 201.66 (Shields Valley), 202.24 (Central Avenue), 203.12 (Piasa Outlet), 203.22 (State Street Outlet), 203.61 (Summit Street), 203.87 (Bluff Street) and 204.30 (Turner Tract), shall be subject to the following conditions:

- 1) The overflow structure and the associated interceptor sewer shall be protected against intrusion by flood waters and be maintained operational at flood stages from Mississippi River backflow for a 25-year Mississippi River flood stage, except as follows:

Overflow Structure	River Mile	Protection Level Mean Sea Level (MSL) River Stage
Piasa Outlet	203.12	420.0 MSL
State Street Outlet	203.22	420.0 MSL
Summit Street	203.61	426.7 MSL
Bluff Street	203.87	426.7 MSL
Turner Tract	204.30	426.7 MSL

- 2) The City of Alton shall maintain the South Side Interceptor sewer system in such working condition so as to ensure that the system will flow at a maximum capacity.
  - 3) No later than the date of completion of Lock and Dam 26 the South Side Interceptor pumping station shall be upgraded to a design capacity of a minimum of 13.7 million gallons per day.
- c) Discharge from the combined sewer overflows designated in paragraph (b) shall not be subject to the treatment requirements of Section 306.305(a) and (b) provided that:

- 1) The City of Alton shall maintain the South Side Interceptor sewer system in such working condition so as to ensure that the system will flow at a maximum capacity.
- 2) The South Side Interceptor pump station shall be graded to a design capacity of a minimum of 13.7 million gallons per day."

Note: The entire text of the site specific amendment is attached as Appendix

## VII.

Another function of the facilities planning process was to measure dry weather flows in the combined sewers; intercepting capacities of existing intercepting chambers and devices; and to estimate annual overflow volumes and pollutant discharges from the City's CSO's.

Table 5-2 shows the results of dry weather flow measurements and intercepting capacity determinations.

Estimates of the overflow volumes and pollutant loads resulting from an average annual set of rainfall events are presented for each of the seven combined sewer overflow points in Table 5-3. These estimates were derived from a computer model based on a method of determining these parameters developed by C. K. Chen and W. W. Saxon.

The tables indicate that relatively little overflow results from the first three overflow points (Turner Tract, Bluff Street, Summit Street). Furthermore, overflow is likely to occur only during the larger storms of the set of average annual rainfall events. On an annual basis, these three overflow points discharge an average of 1.1 million gallons or 0.003 mgd. The lowest recorded average flow on the river at Alton during the years 1940-1969 was 47,250 cfs or 30,540 mgd. The average flow for this 30 year period was 96,300 cfs or 62,240 mgd. The dilution ratios were thus 10.2 million to one for the lowest flow year and 20.7 million to one for the average year.

CAPACITY OF EXISTING SOUTHSIDE INTERCEPTOR SYSTEM IN TERMS OF DRY WEATHER FLOW

Source Of Flow	Average Dry Weather Flow			Intercepting Chamber			Interceptor Sewer	
	Combined Sewers Each Source (MGD)	Sanitary Sewers Each Source (MGD)	Sanitary Sewers Cumulative (MGD)	Inter. Capacity (MGD)	"n" Value <sup>1</sup>	Full Capacity (MGD)	"n" Value <sup>2</sup>	
<u>Southside Interceptor</u>								
Turner Tract	0.11	-	-	2.0	18	2.2	20	
Grand Ave. Vicinity	-	0.05	0.05	-	-	3.5	31	
Bluff Street	0.02	-	0.05	0.65	33	2.3	17	
Summit Street	0.04	-	0.05	0.38	10	2.4	13	
State Street	0.09	-	0.05	1.7	19	2.6	0.5	
Piasa Valley	1.10	-	0.05	5.8	5.3	6.4	5.8	
Central Avenue	0.52	-	-	2.3	4.4	8.4	5.2	
Owens-Illinois Co.	-	0.08	-	-	-	8.4	5.1	
Shield Valley Conn. Total To Pump Station	0.32	0.38	0.08	-	-	13.7	6.5	
<u>Shields Valley Interceptor</u>								
From Trunk Sewer	0.30	-	-	2.6	8.7	2.6	8.7	
All Combined Sewers	0.32	-	-	3.3	10	6.1	19	
Old Upper Alton Outlet Sewer	-	0.38	0.38	-	-	6.1	16	

Notes: 1. "n" value is the ratio of intercepting capacity to the combined sewer DWF for that chamber.  
 2. "n" value is the ratio of full capacity of sewer (less peak sanitary flow) to the cumulative combined sewer DWF.

ANALYSIS OF COMBINED SEWER OVERFLOWS

CSSA	Surface Runoff per year (Mgal)	Number of Overflow Events/Year	Volume Overflow per year (Mgal)	Sanitary Wastewater Lost/Year (Mgal)	BOD-5 Lost/Year (1000#)	TSS Lost/Year (1000#)
Turner Tract	14.7	11	0.73	0.05	0.8	7
Bluff Street	1.14	0	0.0	0.0	0.0	0
Summit Street	3.45	27	0.37	0.04	0.4	3
**State Street	16.45	27	1.81	0.10	1.9	17
**Piasa Valley	350.5	82	286.83*	15.08*	296.5*	2,630*
Central Avenue	163.85	82	138.68*	7.50*	143.3*	1,271*
Shields Valley	325.52	82	282.04*	5.06*	291.5*	2,586*
	875.61		710.46*	27.83*	737.4*	6,514*

\*Prior to construction of CSO Facilities

\*\* State Street overflow now combined with the Piasa Valley overflow.

The overflow estimates for the three major structures (Piasa Valley, Central Avenue, Shields Valley), which are shown in Table 5-2 is based on intercepting capacities that existed prior to the construction of the CSO facilities when the pumping capacity of the South Side Pump Station was 8.7 mgd. To account for the lesser capacity at the end of the interceptor, the capacity of each chamber was proportionately reduced so that the sum would be 8.7 mgd. Also, the two intercepting points along the Shields Valley interceptor branch were combined and treated as one overflow point in the original overflow analysis.

Virtually all of the CSOs discharged annually comes from the State Street, Piasa Valley, Central Avenue and Shields Valley sewer districts. Overflow occurs during all but the smallest rainfall events at the three major overflow structures. The State Street and Piasa Valley overflows, which empty directly into the river, discharge an annual volume of 289 million gallons. The peak overflow discharged from these two districts during the largest of the storms is estimated to be 99 mgd. From the Central Avenue and Shields Valley districts, approximately 421 million gallons is discharged annually into the impoundment and the peak flow during the largest storm is 136 mgd.

#### **IMPLEMENTATION OF FACILITIES PLAN**

The CSO treatment alternative selected by the City of Alton and approved by Illinois EPA and the Illinois Pollution Control Board has been briefly described in the proceeding section.

With the construction of this alternative by the City, portions of the present interceptor system were upgraded so that the full 13.7 mgd capacity of the South Side Interceptor would be utilized.

The first improvement for this alternative was to increase the intercepting capacity of the Shields Valley structures. The capacity at the first (upstream) structure was increased by installing a new intercepting weir and 12 inch interceptor sewer which was tied into the regulating chamber downstream. This increased the intercepting



capacity at the regulating chamber to 4.4 mgd. When added to the peak flow of 1.0 mgd from the old Upper Alton sanitary sewer, this improvement utilizes a greater portion of the 6.1 mgd capacity of the existing 21 inch Shields Valley Interceptor branch. In addition, this increased the flow into the 36 inch interceptor to a total of 13.7 mgd.

The capacities of Piasa Valley and Central Avenue intercepting structures were not increased in this alternative since the intercepting capacities are already equal to the capacity of the sewers they empty into. Also, the capacity of the interceptor sewer upstream of the Piasa structure is fully utilized now and there was no need for any improvements in that area.

The major improvement for this alternative was to increase the peak pumping capacity of the South Side Interceptor pumping station to 13.7 mgd. This involved replacing the three existing pumps and installing a new 18 inch force main from the pump station to the treatment plant.

The chief benefit of this improvement is the reduction of the average annual overflow volume of BOD<sub>5</sub> load which is discharged from the combined sewer system during runoff events. To estimate how much overflow volume is reduced, the Chen-Saxton method was applied using the larger intercepting capacities. It was found that this alternative would reduce the overflow volume of BOD<sub>5</sub> by 11.6% on an average annual basis (see Table 5-1 attached). This project was completed in 1994 at a total cost of \$1,154,319, including engineering. Funding for the project was through the Illinois EPA Revolving Fund Loan program.

In May of 2004, the City completed a "Wastewater Facilities Comprehensive Plan". The comprehensive plan contains recommendations for improvements to the City's overall sewage collection system and wastewater treatment facilities.

Recommended improvements in four of the City's CSSA's will result in the reduction of CSO's from the City's combined sewers and the elimination of three CSO outfalls when implemented. These improvements are briefly described as follows:

1. State Street/Piasa Valley CSSA - construct a storm sewer extension to remove two storm water inlets from the Elm Street combined sewer.
2. Shields Valley CSSA - construct an extension to the Shields Valley Interceptor sewer to a connection with the sanitary sewer portions of the Shields Valley CSSA. Also relocate the dry weather flow intercepting manhole to the upper end of the interceptor sewer extension.
3. Turner Tract CSSA - construct storm and sanitary sewers necessary to effect a separation of the entire Turner tract CSSA and eliminate its CSO outfall.
4. Bluff Street/Summit Street CSSA - construction of sanitary sewers and removal of storm water inlets from the existing combined sewers as necessary to effect the separations of the entire Bluff Street/Summit Street CSSA and eliminate both CSO outfalls. As previously mentioned, the Bluff Street separation has been completed and the Summit Street separation is under way at this time.

Sections 5, 7, 8 and 9 of the Comprehensive Plan describe these recommended improvements in greater detail and are included as Appendix VIII.

#### **POLLUTION PREVENTION PLAN**

In 1996 the City completed the development of a Pollution Prevention Plan in order to comply with the nine minimum controls contained in the National CSO Control Policy.

This short term plan established the following:

1. A program to insure proper operation and maintenance for the sewer system and CSOs.
2. Maximization of use of the collection system for storage.
3. Review and modification of pretreatment requirements to assure CSO impacts are minimized.

4. Maximization of flows to the Wastewater Treatment Plant as accomplished by construction of City's CSO facilities.
5. Procedures for prohibition of CSOs during dry weather.
6. Control of solids and floatable materials in CSO.
7. Pollution prevention programs which focus on source control activities.
8. Establish public notification procedures regarding CSO occurrences.
9. Monitoring to characterize CSO impacts and the effectiveness of CSO controls.

Attached as Appendix VI is a copy of the City's Pollution Prevention Plan.

#### **LONG TERM CONTROL PLAN**

With the City's Pollution Prevention Plan in place, the cost segment of the overall overflow control strategy is the establishment of a long term control plan (LTCP) that can be incrementally implemented with overflow reduction at each step. Following are the recommendations for the long term control plan:

##### Increase Use of Collection System for Storage

The CSO facilities planning study and the Pollution Prevention Plan concluded that the four small CSSAs (Turner Tract, Bluff Street, Summit Street and State Street) experience only a small amount of CSOs annually and the small pipe sizes of the combined sewers do not provide potential for storage of CSOs. The three larger CSSAs (Piasa Valley, Central Avenue and Shield Valley) have fixed overflow weirs which presently provide sewer system storage of CSOs until the capacity of the intercepting structure for each CSSA is reached.

Increased use of the collection system for storage in these three CSSAs was investigated in the development of the Pollution Prevention Plan with the following determinations:

1. The only potential for additional storage of CSOs in the Piasa Valley CSSA is by utilizing localized detentions in the undeveloped areas in the upstream water shed.
2. In the Central Avenue CSSA the use of the Combined Sewer System (CSS) for additional storage of CSOs will require that some sewer connections near the downstream end of the CSS be rerouted to prevent sewage back-ups in these connectors.
3. The Shields Valley CSS has potential for being able to provide additional storage of CSOs. Also localized upstream detention in the secondary water sheds may be feasible.

It is recommend that additional monitoring of overflows in the three larger CSSA be undertaken for a period of two years to better establish the quantity and duration of overflows in these CSSAs.

Also field data in the form of sewer elevations, sewer grades, basement elevations of potentially affected properties and other topographical data should be gathered. This additional data coupled with the collected overflow information will enable the City to determine if additional storage of CSOs can be achieved.

#### Additional Measures to Control Solids and Floatables in CSO

The additional monitoring over the two year period as previously recommended should also identify the amount of solids and floatables in the CSOs; their deposition in the downstream water shed; the ability to retrieve the solids and floatables once they are deposited; and the cumulative detrimental effect the escaped solids and floatables on the downstream water shed. This additional data will provide the information necessary to determine if routine clean-up of the water shed downstream of the overflows is adequate or if additional measures to control floatables and solids in the CSOs are necessary.

### Eliminate Dry Weather Overflows

The five current overflow outfall locations described in Appendix I are the only location in the overall Alton sewer system where dry weather overflows can also occur. The City's Pollution Prevention Plan has established bi-weekly checks of these overflow locations to monitor the condition of the dry weather flow intercepting devices.

It is recommended that with the bi-weekly inspection, records be kept of solids or trash build-up at the intercepting weirs and intercepting chambers. By the end of a one year period of keeping these records the City should be able to establish a preventative maintenance schedule for these intercepting facilities that will eliminate dry weather overflows altogether.

### Investigate Additional Combined Sewer Separation

As previously indicated, the City's Wastewater Facilities Comprehensive Plan recommends that the Turner tract and Bluff Street/Summit Street combined sewers be separated.

It is recommended that the City investigate the feasibility of separating the State Street portion of the State Street/Piasa Valley CSSA. If that separation can be accomplished, all CSO outfalls upstream of the Piasa Valley CSSA outfall will be eliminated and the portion of the South Side Interceptor that is outside the Mississippi River levee protection can be "flood proofed" and remain operational during high river stages. This will eliminate the current situation where raw sewage is discharged to the river when the river level reaches elevation 427.6 MSI.

### Investigate Removal of Sanitary Sewer Portions of the CSSA's from the Combined Sewers

The Piasa Valley and Shields Valley CSSA's have large areas that are served by separate sanitary sewers which drain into the combined sewers. If it is found to be feasible to remove the sanitary sewage flow from the combined sewers and direct it to the South Side Interceptor, CSO's will be reduced.

Determine Other Steps Necessary to Complete the Long Term Control Plan

Working with State and Federal EPA's complete a long term control plan that combined with CSO reduction improvements (ie. separation) will meet the Agencies water quality requirements for CSO's and be within the City's financial capability to complete. Also, an implementation schedule for the long term control plan, acceptable to the Agencies, will need to be established.

# APPENDIX I

(Revised - November 2006)

**CITY OF ALTON, ILLINOIS**  
**Combined Sewer Overflows**  
**Phase 1 Report**  
**Background Information and Sensitive Area Considerations**

**1. General:**

The west part of the City of Alton is served by combined sewer systems which drain south toward the Mississippi River. At one time, all combined sewer flow was discharged into the river or the levee district impoundment without treatment, but in the mid 1960's the south side interceptor sewer was constructed which parallels the river and carries the dry weather flows southeast to the sewage treatment plant. During periods of excessive runoff, the combined sewers still overflow into the river. The interceptor system collects flow from three large combined sewer systems (Piasa Valley, Central Avenue, Shields Valley) and three smaller combined sewer systems (Turner Tract, Summit Street, State Street). The State Street combined sewer system has now been combined with Piasa Valley combined sewer system and its outfall to the river has been eliminated. The essential features of the combined sewer systems and the interceptor sewer are listed in attached Table 1. A map showing the portions of the City served by combined sewers and separate sanitary sewers is attached as Exhibit A. The map also shows the location of each overflow outfall.

The south side interceptor begins at a manhole on the west side of the city, south of the Turner Tract and just north of the Great River road (Illinois Route 100). Flow from both the combined sewers and the separate sanitary sewers in the Turner Tract area empties into a 36" sewer and then goes into the beginning of the 12" interceptor sewer at an intercepting structure located where the 36" sewer enters the McInerney Street right-of-way. When the 12" interceptor is full at the intercepting structure, the water spills over into a 42" overflow pipe. The overflow is carried a distance of 25 feet and then discharged into an open ditch approximately 1700 ft. long located in the McInerney Street and Grand Avenue right-of-way. The open ditch which is normally dry terminates



at the north side of the Great River Road where the overflow together with the local surface runoff enters a highway culvert which empties into the Mississippi River.

From the initial manhole the 12" interceptor heads southeast and east along the Great River Road where it increases in size to 15" and intercepts the flow from one small combined sewer system (Summit Street). This connection utilizes a leaping weir control in which a portion of the combined sewer invert is removed and a rounded weir plate installed. During low flow periods, the flow drops through the opening into the interceptor, but during periods of higher flow, much of the water leaps across the opening and continues as overflow to the river.

The leaping weir interceptor manhole is for the 18" combined sewer which drops vertically along the face of the bluff from Summit Street. Intercepted flows from the Summit Street combined sewer system are carried to the main interceptor by means of 108 feet of 8" pipe, while the overflows pass through an 18" pipe and discharge directly to the river.

For each of the four remaining combined sewer systems, flow from the combined sewer is diverted into a regulating chamber before entering the interceptor. At each chamber, flow passes through an opening in the chamber wall and on to the interceptor sewer. The opening in the chamber wall is controlled by a manually operated sluice gate.

The first regulating chamber is located in front of the Con-Agra Mill at State Street and Broadway where the interceptor size has increased to 18". Dry weather flows in the 36" State Street combined sewer system are diverted through the intercepting chamber and into the 18" interceptor utilizing a 12" sewer. The overflow continues to the Piasa Valley overflow outfall in a 42" sewer along W. Broadway.

The second regulatory chamber is located at the intersection of Third and Piasa Streets. A low dam across the Piasa nine-foot arch sewer diverts the dry weather flow

in the Piasa Valley combined sewer system into the regulatory chamber where the flow continues in a 24" sewer to the interceptor sewer which has increased in size to 27".

The next interceptor connection is for the Central Avenue combined sewer system. three combined sewer branches (84", 72", 60") merge just upstream of the interceptor connection into two pipes (96", 72"). At the point where these pipes discharge into an open ditch, there is a low dam which diverts the flow into the regulating chamber. The intercepted flow then passes through an 18" pipe and joins the other intercepted flows in the interceptor which has increased in size to 30". Overflow from the Central Avenue combined sewer system discharges into a 1500-foot long open ditch before entering an impoundment area adjacent to the flood control levees operated by the Wood River Drainage and Levee District. The impoundment area serves to temporarily store surface runoff from the area behind the levee during high stages of the Mississippi River when natural drainage to the river is blocked.

After passing through the impoundment area the overflow reaches the Mississippi river through twin 60" drainage structures that pass under the levee just downstream of Lock and Dam #26. During high stages of the river these drains are closed and pumping facilities are available to pump impounded water to the river.

Shields Valley is the last combined sewer system which is connected to the south side interceptor. The district consists of the Shields Valley drainage area which is served by combined sewers and an area to the east of Washington Avenue which is served by separate sanitary sewers. Flow from the combined sewer area is intercepted at two points and diverted into the upper end of the Shields valley interceptor branch. The first intercepting point picks up flow from the Shields Valley trunk sewer which serves most of the combined sewer area. This intercepting structure consists of a diversion dam and an inlet to the 18" interceptor and is located approximately 1,000 feet south of the Broadway-Washington intersection. Combined sewer flow which tops the diversion dam spills into the paved Shields Valley ditch. The intercepted flow is carried

530 feet to the second intercepting chamber which also receives combined sewer flow from a 36" sewer which serves a small area along Washington Avenue. The mixed flow then passes through a regulating chamber (of the type described earlier) and into the 21" Shields Valley interceptor. Excessive flows to this intercepting chamber will top an overflow weir and spill into the paved ditch. The ditch carries the overflow to the aforementioned levee district impoundment area. The overflow from the Shields Valley combined sewer system follows the same path through the impoundment area as described for the Central Avenue overflow.

A 15" sanitary sewer connects to the interceptor a short distance downstream of the regulating chamber and has no provision for overflow. This sewer serves the separately sewered areas in the eastern portion of the Shields Valley area. Past the sanitary sewer connection, the Shields Valley interceptor sewer extends 1,650 feet south and empties into the south side interceptor sewer. After the connection with the Shields Valley interceptor branch, the south side interceptor continues 1.1 miles southeast to the south side interceptor pumping station.

At the pumping station, the south side interceptor empties into the wet well and normal dry weather and wet weather flows are continuously pumped by pumping facilities having a peak capacity of 13.7 MGD which is equal to the capacity of the south side interceptor. From the pumping station, the intercepted flow is carried 4,400 feet to the sewage treatment plant.

**2. Operation of Facilities with Respect to Water Levels in the Mississippi River and Wood River Levee District Impoundment:**

All of the combined sewer overflows outlet into either the Mississippi River or the Levee District impoundment. If abnormally high water level conditions occur in either one, the water can back up into the intercepting chambers and into the interceptor sewer (except for the Turner Tract outlet which is above maximum river flood level). The water level at which each of the intercepting chambers would become backed up is

shown in table 1 as the elevation of the control. The water level of the river will usually rise high enough in the spring of each year to at least flood the Piasa Valley and State Street chambers, the lowest of the seven overflows which drain into the river. The levee district impoundment, on the other hand, will rise too high only during continuous severe rainfall events which occur while the pumps are being used to drain the impoundment. Past experience indicates that this rarely if ever occurs.

To prevent backflow into the interceptor sewer, there must be facilities to close off the intercepting chambers from the interceptor sewer.

As previously stated, all except the Turner Tract, and Summit Street intercepting chambers have manual sluice gates or gate valves which can be closed to prevent the river or impoundment from backing up into the interceptor. Since the Turner Tract outlet is above river flood level, only the Summit Street outlet is without a means to prevent the river from backing up into the interceptor. To prevent the flooding of the interceptor from these outlets, a gate well structure has been placed on the interceptor just downstream of the Piasa Valley intercepting chamber to shut off the interceptor flow upstream of that point. At the time the gate in the gatewell structure is closed, (River level 426.70 MSL) the Piasa Valley and State Street gates will already have been closed due to their lower control elevation.

### **3. Water Quality and Uses of Receiving Stream:**

As previously stated, all overflows from the Alton combined sewer systems are discharged to the Mississippi River, either directly or through the Wood River Drainage and Levee District impoundment area.

Along the Mississippi River, Alton is located downstream of the mouth of the Illinois River and upstream of the Missouri River. At Alton the river has a drainage area of 171,500 sq. mi. and the flow has averaged 96,300 cfs since 1939. The 7-day low flow expected to occur once every 10 years is 21,470 cfs.

The uses of the Mississippi River within the combined sewer overflow area, which is considered part of the Upper Mississippi River, include navigation, commercial, fishing, water supply and recreation. The entire river is regulated by a series of lock and dam structures which maintain minimum water depths in the channel and permit barge traffic to move up and down the river. Lock and Dam No. 26 at Alton maintains an upper pool which extends upstream beyond Grafton, Illinois, where the Illinois river empties into the Mississippi. Under normal conditions, the pool level at Alton is kept at elevation 419 so that the water level at Grafton will be elevation 420. Occasionally when high flows are anticipated, the pool at Alton can be brought down as low as elevation 414 to prevent excessively high stages at Grafton. Downstream of Alton the lower pool is controlled by Dam No. 27 which is located near St. Louis. The lower pool at Alton has a minimum level of elevation 395 and is below elevation 402 approximately half of the time. When extremely high flows occur, the gates on the dam are fully open and the upper and lower pools are at virtually the same level.

The lock and dam structure at Alton has recently been replaced by a new structure two miles downstream from its original location which will be able to handle a greater volume of barge traffic.

The primary use of the Mississippi particularly in the vicinity of Alton, which is strategically located between the Mississippi confluences with the Missouri and Illinois rivers, is barge transportation. Information compiled by the Corps of Engineers indicates that the present volume of barge traffic amounts to 73 million tons per year. The new facilities will allow for an 18 percent increase to 86 million tons per year. Most of the barge traffic through Pool 26 is confined to the Illinois side of the river since the lock facilities area located on that side. Also, numerous docking facilities for loading, unloading, repairs, etc., are located along the Alton area shoreline and downstream of Lock and Dam No. 26. The docking facilities and the movement of the tows generally preclude other uses of the river within the combined sewer overflow area.

The Corps of Engineers "Final Environmental Statement Locks and Dam No. 26" dated July 1976, gives the following information on commercial fishing:

Commercial fishing has been practiced on the river from Minneapolis to St. Louis since the late 1800's. Over the last two decades harvests have remained relatively stable at about 10 million pounds annually. The most productive reaches of the river are Lake Pepin (Pool 4) and Lake Keokuk (Poll 19). The majority of the sport and commercial catch (63 percent) is taken from the main channel borders, river lakes and ponds, and sloughs. About 22 percent of the catch is harvested in the tailwaters and side channel habitats. The remaining 15 percent of the catch comes from the main channel.

Further information from Corps of Engineers sources indicate that commercial fishing is not as prevalent in the Alton - St. Louis area as it is in the remainder of the Upper Mississippi River.

The Mississippi River is also used extensively for water supply. The Illinois-American Water Company operates a water treatment facility upstream of the combined sewer overflow area. Numerous communities downstream of Alton, such as St. Louis and East St. Louis, utilize the river for their potable water supply. The first intake of Mississippi water for public water purposes, downstream of Alton, is the Illinois-American Water Company's (formerly the East St. Louis Water Company) intake located just upstream of the Chain of Rocks Bridge (I-270) approximately 12 miles below Alton. Two other intakes are located in the St. Louis area, the St. Louis intake just downstream of the I-270 bridge and another Illinois-American Water Company intake located just north of the Eads bridge.

Recreational usage provides the greatest potential form human contact with the waters of the Mississippi. The proximity to the large metropolitan area of St. Louis -

East St. Louis results in high recreational usage of the Pool 26 area. The current estimate of usage as contained in the aforementioned Environmental Statement is 3 million annual visitations. The vast majority of the usage takes place upstream and towards the Missouri side. Recreational boating, a prime component of the total recreational usage, is conducted primarily upstream of the Alton Pool as evidenced by the fact that there are more recreational boat lockages through Lock 25 than through Lock 26.

The only surface water body located entirely within the combined sewer overflow area is the Wood River Levee District Impoundment which was created by construction of the levee system. Previously the area would have been considered a slough or side channel but construction of the levee has isolated the area from river flow. Inflow to the impoundment results primarily from watershed runoff and secondarily from seepage through levee relief wells when the river stage is high. Inflow to the impoundment results primarily from watershed runoff. Half of the drainage area is served by combined sewers and lies within the Central Avenue and Shields Valley combined sewer districts. The runoff from this area reaches the impoundment only when the Central Avenue and Shields Valley combined sewers overflow. The other half of the drainage area contributes only surface runoff, and includes the levee district itself and a small area in the eastern part of the Shields Valley sewer district which is served by separate storm sewers.

Drainage of the impoundment is accomplished by gravity flow, through two large culverts (twin 60's), when the river stage is low (below elev. 406) and by pumping when the river stage is high.

Presently the impoundment is used only as a drainage ditch and for interior flood storage. Consequently, the impoundment, which was channelized in 1974 to improve low flow drainage and provide for increased vegetation, has practically no flow except during and following runoff events. During much of any particular year, the

impoundment area is dry except for water retained to a level corresponding to the river elevation.

Neither the Mississippi River or the impoundment area within the combined sewer overflow area is designated as an Outstanding Natural Resource. Water in the immediate areas of the discharge points has not been found to contain either shellfish beds or endangered aquatic species or their habitat. No discharges are within the protection area for drinking water intake structures

**4. Description of Overflow Outfall Locations - Sensitive Area Considerations:**

A general description of the water quality and uses of the overflow receiving stream (Mississippi River) is contained in the preceding paragraphs. Zoning, drainage areas and contributing population in each combined sewer area is shown on attached table 2. there are presently no industrial discharges to any of the Alton combined sewers nor does the surface water runoff from any industrial sites discharge to the combined sewers. All industries generating wastes within the combined sewer areas provided their own treatment and discharge their treated wastes directly to the Mississippi River.

A brief description of each overflow outfall location and surrounding land use is as follows:

1. Turner Tract: Land use at this outfall location consists of a river barge loading facility operated by Archer Daniels Midland Co. just downstream of the overflow discharge point. The location is now fully developed and there is little or no potential for further industrial growth in this area. Due to the barge and tow boat activity along the river shoreline at this location, there is no potential for human contact activities at this overflow outfall location. The open ditch portion of this overflow upstream of the outfall has little potential for human contact activities due to the isolated location of the ditch which is



located in an unimproved street right-of-way adjacent to an abandoned surface limestone quarry and undeveloped land.

2. Summit Street: Land use at this outfall location consists of a sand plant with barge unloading and sand conveying facilities. The location is now fully developed and only an expansion of the existing sand plant activities would cause industrial growth at this location. Human contact activities at this overflow outfall location is not possible due to the barge unloading facilities at the shoreline.
3. Piasa Valley/State Street: Land use at this outfall location consists of the shore facilities of the Alton Belle Casino gambling boat. There is a potential for a modest expansion of these land facilities in the future. There is no potential for human contact activities at this overflow outfall location due to the gambling boat activities which include cruises every two hours, 18 hours per day, 7 days per week.
4. Central Avenue: Land use at this outfall location consists of park and recreation activities. Russell Commons Park has been developed for a distance of 1200 feet on both sides of the overflow outfall ditch leading to the impoundment area. The ditch side slopes are very steep and heavily vegetated. At the upper end of the ditch where the overflow occurs, a six foot high chain link fence separates the ditch from the park area. The development plan for Russell Commons Park fully utilized the area around the outfall and further expansion of the park facilities is not anticipated. There is little potential for human contact activities at the overflow outfall location due to the inaccessibility of the outfall ditch. The impoundment area is not accessible because it is privately owned by the adjoining industries and controlled by the Wood River Drainage and Levee District.

5. Shields Valley: Land use at this overflow outfall location is for industrial purposes. there is considerable potential for further industrial expansion in the vicinity of this overflow. There is little potential for human contact activities at this location since the property surrounding the overflow and the adjacent impoundment area is privately owned and used for industrial purposes.

With the foregoing observations, the City has concluded that the locations of combined sewer overflow outfalls are not sensitive areas as defined in Paragraph 7, Special Condition 15 of the City's NPDES Permit.

SPECS\ALTON\CSO\OPERATIONAL AND MAINTENANCE PLAN - 2008\PHASE 1 REPORT.DOC

TABLE 1

## ALTON SOUTHSIDE COMBINED SEWER, INTERCEPTOR AND OVERFLOW FACILITIES

<u>Sewer Service Area</u>	<u>Type of Sewer System</u>	<u>Combined Sewer Size At Intercepting Chamber</u>	<u>Type of Control</u>	<u>Elevation Of Control<sup>1</sup></u>	<u>Operating Equipment</u>	<u>Type of Overflow</u>	<u>Interceptor Sewer Diameter</u>
<u>Southside Interceptor</u>							
Turner Tract	Combined & Separate	36"	Elevated Over-flow Pipe	-	None	36" Pipe	12"
Grand Ave.	Separate	8" San.	-	-	None	None	15"
Summit St.	Combined	18"	Leaping Weir	426.7	None	18" Pipe	18"
State St.	Combined	36"	Diversion Dam & Regulating Cmbr.	420.0	Sluice Gate	42" Pipe	18"
Plasa Valley	Combined & Separate	9.5' Wide Arch	Diversion Dam & Regulating Cmbr.	420.0	Sluice Gate	9.5' Wide Arch	27"
Central Ave.	Combined	72" , 96"	Diversion Dam & Regulating Cmbr.	410.7	Sluice Gate	Open Ditch	30"
Shields Valley	Combined & Separate	21" (Interc. Branch)	-	-	-	None	36"
<u>Shields Valley Interceptor Branch</u>							
Shields Valley (Most)	Combined	16' Wide Arch	Diversion Dam	415.7	None	Paved Channel	18"
Shields Valley (All comb. sewer)	Combined	36" (Comb.) 18" (Interc.)	Diversion Dam & Regulating Cmbr.	414.3	Sluice Gate	Paved Channel	21"
Old Upper Alton Outlet Sewer	Separate	16" (San.)	-	-	-	None	21"

Note: 1. If receiving water for overflow (Mississippi River or impoundment) reaches this level, water can backflow into interceptor.

TABLE 2

ALTON COMBINED SEWER SYSTEMS AND OVERFLOWS

<u>Combined Sewer Area</u>	<u>Zoning Classification @ Overflow</u>	<u>Total Drainage Area (Ac.)</u>	<u>Estimated Tributary Population</u>
Turner Tract	Heavy Industrial	100	670
Summit Street	Heavy Industrial	45	220
State Street (1)	Central Business	45	380
Piasa Valley	Central Business	1455	9600
Central Avenue	Public Land	470	5840
Shields Valley	Heavy Industrial	1400	4670

(1) Now a part of Piasa Valley overflow outfall

# APPENDIX II



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-3397  
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/782-0610

November 28, 2007

City of Alton  
101 East Third Street  
Alton, Illinois 62002

Re: City of Alton STP  
NPDES Permit No. IL0027464  
Modification of NPDES Permit (After Public Notice)

Gentlemen:

The Illinois Environmental Protection Agency has reviewed the request for modification of the above-referenced NPDES Permit and issued a public notice based on that request. The final decision of the Agency is to modify the Permit as follows:

To change the submittal date for the CSO Long-Term Control Plan from 24 months from the effective date of this Permit to August 31, 2009 and to eliminate Outfalls 005 and 006 pursuant to your letter of October 22, 2007. Elimination of outfalls is considered a minor modification under 40 CFR 122.63 and does not need to be Public Noticed.

Enclosed is a copy of the modified Permit. You have the right to appeal this modification to the Illinois Pollution Control Board within a 35 day period following the modification date shown on the first page of the permit.

Should you have any question or comments regarding the above, please contact Richard E. Pinneo of my staff.

Sincerely,

Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAK:REP:07081602.bah

Attachment: Modified Permit

cc: Records  
Compliance Assurance Section  
Facility  
Missouri  
SWIMPC

NPDES Permit No. IL0027464

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Modified (NPDES) Permit

Expiration Date: December 31, 2010

Issue Date: October 31, 2005

Effective Date: January 1, 2006

Modification Date: November 28, 2007

Name and Address of Permittee:

City of Alton  
101 East Third Street  
Alton, Illinois 62002

Facility Name and Address:

City of Alton STP  
19 Chesson Lane  
Alton, Illinois  
(Madison County)

Receiving Waters: Mississippi River

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of the Ill. Adm. Code, Subtitle C, Chapter I, and the Clean Water Act (CWA), the above-named Permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the Permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.



Alan Keller, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

SAK:REP:07081602.bah

NPDES Permit No. IL0027464

Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 001 STP Outfall

Load limits computed based on a design average flow (DAF) of 10.50 MGD (design maximum flow (DMF) of 26.25 MGD).

Excess flow facilities (if applicable) shall not be utilized until the main treatment facility is receiving its maximum practical flow.

From the modification date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter	LOAD LIMITS lbs/day DAF (DMF)*			CONCENTRATION LIMITS MG/L			Sample Frequency	Sample Type	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum			
Flow (MGD)							Continuous		
CBOD <sub>5</sub> **	1751 (4378)	3503 (8757)		20	40		2 days/week	Composite	
Suspended Solids	2189 (5473)	3941 (9852)		25	45		2 days/week	Composite	
pH	Shall be in the range of 6 to 9 Standard Units						2 days/week	Grab	
Fecal Coliform***	Daily Maximum shall not exceed 400 per 100 mL (May through October)						2 days/week	Grab	
Chlorine Residual***							0.75	2 days/week	Grab

\*Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

\*\*Carbonaceous BOD<sub>5</sub> (CBOD<sub>5</sub>) testing shall be in accordance with 40 CFR 136.

\*\*\*See Special Condition 8.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

Fecal Coliform shall be reported on the DMR as daily maximum.

pH shall be reported on the DMR as a minimum and a maximum.

Chlorine Residual shall be reported on DMR as daily maximum.



NPDES Permit No. IL0027464

Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 009 Secondary Treatment Outfall to Wood River Creek (See Special Condition 13)

Discharge from this outfall is prohibited except when: 1.) River stage on the Mississippi River is at or above the 25 year flood elevation and the dilution ratio in Wood River Creek is at least 500% of the flow discharged; or, 2.) the requirements of Special Condition 13 are fully complied with.

Load limits computed based on a design average flow (DAF) of 10.50 MGD (design maximum flow (DMF) of 26.25 MGD).

From the modification date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter	LOAD LIMITS lbs/day			CONCENTRATION LIMITS MG/L			Sample Frequency	Sample Type	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum			
Flow (MGD)							Continuous		
Dilution Ratio	Shall not be less than 500%						Daily When Discharging		
CBOD <sub>5</sub> **	1751 (4378)	3503 (8757)		20	40		Daily When Discharging	Composite	
Suspended Solids	2189 (5473)	3941 (9852)		25	45		Daily When Discharging	Composite	
pH	Shall be in the range of 6 to 9 Standard Units						Daily When Discharging	Grab	
Fecal Coliform***	Daily Maximum shall not exceed 400 per 100 mL (May through October)						Daily When Discharging	Grab	
Chlorine Residual***							0.75	Daily When Discharging	Grab
Ammonia Nitrogen as (N)									
March-May/Sept.-Oct.	455 (1138)	1147 (2868)	1314 (3284)	5.2	13.1	15.0	Daily When Discharging	Composite	
June-August	298 (744)	744 (1861)	1314 (3284)	3.4	8.5	15.0	Daily When Discharging	Composite	
Nov.-Feb.	1112 (2780)		1314 (3284)	12.7		15.0	Daily When Discharging	Composite	

\*Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

\*\*Carbonaceous BOD<sub>5</sub> (CBOD<sub>5</sub>) testing shall be in accordance with 40 CFR 136.

\*\*\*See Special Condition 8.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

Fecal Coliform shall be reported on the DMR as daily maximum.

pH shall be reported on the DMR as a minimum and a maximum.

Chlorine Residual shall be reported on DMR as daily maximum.

Dilution Ratio shall be calculated every day that discharge from this outfall occurs and shall be reported on the DMR as a minimum.

For this calculation, Wood River Creek flow shall be measured upstream so as not to be impacted by Mississippi River back water.

Report the number of days of discharge in the comments section of the DMR.

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Influent Monitoring, and Reporting

The influent to the plant shall be monitored as follows:

Parameter	Sample Frequency	Sample Type
Flow (MGD)	Continuous	
BOD <sub>5</sub>	2 days/week	Composite
Suspended Solids	2 days/week	Composite

Influent samples shall be taken at a point representative of the influent.

Flow (MGD) shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

BOD<sub>5</sub> and Suspended Solids shall be reported on the DMR as a monthly average concentration.

NPDES Permit No. IL0027464

Special Conditions

SPECIAL CONDITION 1. This Permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws, regulations, or judicial orders. The IEPA will public notice the permit modification.

SPECIAL CONDITION 2. The use or operation of this facility shall be by or under the supervision of a Certified Class 1 operator.

SPECIAL CONDITION 3. The IEPA may request in writing submittal of operational information in a specified form and at a required frequency at any time during the effective period of this Permit.

SPECIAL CONDITION 4. The IEPA may request more frequent monitoring by permit modification pursuant to 40 CFR § 122.63 and Without Public Notice in the event of operational, maintenance or other problems resulting in possible effluent deterioration.

SPECIAL CONDITION 5. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 6. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 7. This Permit may be modified to include requirements for the Permittee on a continuing basis to evaluate and detail its efforts to effectively control sources of infiltration and inflow into the sewer system and to submit reports to the IEPA if necessary.

SPECIAL CONDITION 8. Fecal Coliform limits for Discharge Numbers 001 and 009 are effective May thru October. Sampling of Fecal Coliform is only required during this time period.

The total residual chlorine limit is applicable at all times. If the Permittee is chlorinating for any purpose during the months of November through April, sampling is required on a daily grab basis. Sampling frequency for the months of May through October shall be as indicated on effluent limitations, monitoring and reporting page of this Permit.

SPECIAL CONDITION 9. The Permittee shall monitor the effluent and report concentrations (in mg/L) of the following listed parameters eighteen (18) months prior to the expiration date and again at twelve (12) months prior to the expiration date. The sample shall be a 24-hour effluent composite except as otherwise specifically provided below and the results shall be submitted on Discharge Monitoring Report Forms to IEPA unless otherwise specified by the IEPA. The parameters to be sampled and the minimum detection limits to be attained are as follows:

<u>STORET CODE</u>	<u>PARAMETER</u>	<u>Minimum detection limit</u>
01002	Arsenic	0.05 mg/L
01007	Barium	0.5 mg/L
01027	Cadmium	0.001 mg/L
01032	Chromium (hexavalent) (grab)	0.01 mg/L
01034	Chromium (total)	0.05 mg/L
01042	Copper	0.005 mg/L
00718	Cyanide (grab) (weak acid dissociable)	5.0 ug/L
00720	Cyanide (grab not to exceed 24 hours) (total)	5.0 ug/L
00951	Fluoride	0.1 mg/L
01045	Iron (total)	0.5 mg/L
01046	Iron (Dissolved)	0.5 mg/L
01051	Lead	0.05 mg/L
01055	Manganese	0.5 mg/L
71900	Mercury (grab) (using USEPA Method 1631 or equivalent)	1.0 ng/L*
01067	Nickel	0.005 mg/L
00556	Oil (hexane soluble or equivalent) (Grab Sample only)	5.0 mg/L
02730	Phenols (grab)	0.005 mg/L
01147	Selenium	0.005 mg/L
01077	Silver (total)	0.003 mg/L
01092	Zinc	0.025 mg/L

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Special Conditions

Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solid, suspended or dissolved, elemental or combined, including all oxidation states.

\*1.0 ng/L = 1 part per trillion.

**SPECIAL CONDITION 10.** The Permittee has undergone a Monitoring Reduction review and the influent and effluent sample frequency has been reduced for BOD<sub>5</sub>, CBOD<sub>5</sub>, Suspended Solids, pH and Dissolved Oxygen due to sustained compliance. The IEPA will require that the influent and effluent sampling frequency for these parameters be increased to 5 days/week if effluent deterioration occurs due to increased wasteload, operational, maintenance or other problems. The increased monitoring will be required Without Public Notice when a permit modification is received by the Permittee from the IEPA.

**SPECIAL CONDITION 11.** During January of each year the Permittee shall submit annual fiscal data regarding sewerage system operations to the Illinois Environmental Protection Agency/Division of Water Pollution Control/Compliance Assurance Section. The Permittee may use any fiscal year period provided the period ends within twelve (12) months of the submission date.

Submission shall be on forms provided by IEPA titled "Fiscal Report Form For NPDES Permittees".

**SPECIAL CONDITION 12.** The Permittee shall conduct biomonitoring of the effluent from Discharge Number(s) 001.

Biomonitoring

1. Acute Toxicity - Standard definitive acute toxicity tests shall be run on at least two trophic levels of aquatic species (fish, invertebrate) representative of the aquatic community of the receiving stream. Testing must be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fifth Ed.) EPA/821-R-02-012. Unless substitute tests are pre-approved; the following tests are required:
  - a. Fish - 96 hour static LC<sub>50</sub> Bioassay using fathead minnows (*Pimephales promelas*).
  - b. Invertebrate 48-hour static LC<sub>50</sub> Bioassay using *Ceriodaphnia*.
2. Testing Frequency - The above tests shall be conducted using 24-hour composite samples unless otherwise authorized by the IEPA. Samples must be collected in the 18th, 15th, 12th, and 9th month prior to the expiration date of this Permit.
3. Reporting - Results shall be reported according to EPA/821-R-02-012, Section 12, Report Preparation, and shall be submitted to IEPA, Bureau of Water, Compliance Assurance Section within one week of receipt from the laboratory. Reports are due to the IEPA no later than the 16th, 13th, 10th, and 7th month prior to the expiration date of this Permit.
4. Toxicity Reduction Evaluation - Should the results of the biomonitoring program identify toxicity, the IEPA may require that the Permittee prepare a plan for toxicity reduction evaluation and identification. This plan shall be developed in accordance with Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833B-99/002, and shall include an evaluation to determine which chemicals have a potential for being discharged in the plant wastewater, a monitoring program to determine their presence or absence and to identify other compounds which are not being removed by treatment, and other measures as appropriate. The Permittee shall submit to the IEPA its plan for toxicity reduction evaluation within ninety (90) days following notification by the IEPA. The Permittee shall implement the plan within ninety (90) days or other such date as contained in a notification letter received from the IEPA.

The IEPA may modify this Permit during its term to incorporate additional requirements or limitations based on the results of the biomonitoring. In addition, after review of the monitoring results, the IEPA may modify this Permit to include numerical limitations for specific toxic pollutants. Modifications under this condition shall follow public notice and opportunity for hearing.

**SPECIAL CONDITION 13.** Discharge Number 009 is an emergency high level bypass. Discharges from this overflow, other than when the Mississippi River is at or above 25-year flood elevation and when 5:1 dilution exists in Wood River Creek, are subject to the following conditions:

- (1) Definitions
  - (i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

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Special Conditions

- (ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- (2) Bypass not exceeding limitations. The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if at least a 5:1 dilution ratio is maintained in Wood River Creek and if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (3) and (4) of this section.
- (3) Notice
  - (i) Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
  - (ii) Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required in Standard Condition 12(e) of this Permit (24-hour notice).
- (4) Prohibition of bypass. Bypass is prohibited, and the IEPA may take enforcement action against a Permittee for bypass, unless:
  - (i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
  - (ii) There was no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
  - (iii) The Permittee submitted notices as required under Standard Condition 12(e) of this Permit.
- (5) Emergency Bypass when discharging, shall be monitored daily by grab sample for BOD<sub>5</sub> and Suspended Solids. The Permittee shall submit the monitoring results on Discharge Monitoring Report forms using one such form for each month in which bypassing occurs. The Permittee shall specify the number of discharges per month that occur and shall report this number in the quantity daily maximum column. The Permittee shall report the highest concentration value of BOD<sub>5</sub> and Suspended Solids discharged in the concentration daily maximum column.

SPECIAL CONDITION 14. For the duration of this Permit, the Permittee shall determine the quantity of sludge produced by the treatment facility in dry tons or gallons with average percent total solids analysis. The Permittee shall maintain adequate records of the quantities of sludge produced and have said records available for IEPA inspection. The Permittee shall submit to the IEPA, at a minimum, a semi-annual summary report of the quantities of sludge generated and disposed of, in units of dry tons or gallons (average total percent solids) by different disposal methods including but not limited to application on farmland, application on reclamation land, landfilling, public distribution, dedicated land disposal, sod farms, storage lagoons or any other specified disposal method. Said reports shall be submitted to the IEPA by January 31 and July 31 of each year reporting the preceding January thru June and July thru December interval of sludge disposal operations.

**Duty to Mitigate.** The Permittee shall take all reasonable steps to minimize any sludge use or disposal in violation of this Permit.

Sludge monitoring must be conducted according to test procedures approved under 40 CFR 136 unless otherwise specified in 40 CFR 503, unless other test procedures have been specified in this Permit.

**Planned Changes.** The Permittee shall give notice to the IEPA on the semi-annual report of any changes in sludge use and disposal.

The Permittee shall retain records of all sludge monitoring, and reports required by the Sludge Permit as referenced in Standard Condition 12(e) for a period of at least five (5) years from the date of this Permit.

If the Permittee monitors any pollutant more frequently than required by the Sludge Permit, the results of this monitoring shall be included in the reporting of data submitted to the IEPA.

NPDES Permit No. IL0027464

Special Conditions

Monitoring reports for sludge shall be reported on the form titled "Sludge Management Reports" to the following address:

Illinois Environmental Protection Agency  
Bureau of Water  
Compliance Assurance Section  
Mail Code #19  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

SPECIAL CONDITION 15.

AUTHORIZATION OF  
COMBINED SEWER AND TREATMENT PLANT DISCHARGES

The IEPA has determined that at least a portion of the collection system consists of combined sewers. References to the collection system and the sewer system refer only to those parts of the system which are owned and operated by the Permittee unless otherwise indicated. The Permittee is authorized to discharge from the overflow(s)/bypass(es) listed below provided the diversion structure is located on a combined sewer and the following terms and conditions are met:

<u>Discharge Number</u>	<u>Location</u>	<u>Receiving Water</u>
002	Shields Valley	Mississippi River (through impoundment area)
003	Central Avenue	Mississippi River (through impoundment area)
004	Piasa Street	Mississippi River (Pool of Lock & Dam #26)
007	Turner Street	Mississippi River (Pool of Lock & Dam #26)

Treatment Requirements

1. All combined sewer overflows and treatment plant bypasses shall be given sufficient treatment to prevent pollution and the violation of applicable water quality standards. Sufficient treatment shall consist of the following:
  - a. Treatment as described in PCB R82-7 and dated May 19, 1988 shall be provided. The terms and conditions of this Board Order are hereby incorporated by reference as if fully set forth herein; and,
  - b. Any additional treatment, necessary to comply with applicable water quality standards and the federal Clean Water Act, including any amendments made by the Wet Weather Water Quality Act of 2000.
2. All CSO discharges authorized by this Permit shall be treated, in whole or in part, to the extent necessary to prevent accumulations of sludge deposits, floating debris and solids in accordance with 35 Ill. Adm. Code 302.203 and to prevent depression of oxygen levels below the applicable water quality standards.
3. Overflows during dry weather are prohibited. Dry weather overflows shall be reported to the IEPA pursuant to Standard Condition 12(e) of this Permit (24 hour notice).
4. The collection system shall be operated to optimize transport of wastewater flows and to minimize CSO discharges.
5. The treatment system shall be operated to maximize treatment of wastewater flows.

NPDES Permit No. IL0027464

Special ConditionsNine Minimum Controls

6. The Permittee shall comply with the nine minimum controls contained in the National CSO Control Policy published in the Federal Register on April 19, 1994. The nine minimum controls are:
- a. Proper operation and maintenance programs for the sewer system and the CSOs (Compliance with this Item shall be met through the requirements imposed by Paragraph 8 of this Special Condition);
  - b. Maximum use of the collection system for storage (Compliance with this Item shall be met through the requirements imposed by Paragraphs 1, 4, and 8 of this Special Condition);
  - c. Review and modification of pretreatment requirements to assure CSO impacts are minimized (Compliance with this Item shall be met through the requirements imposed by Paragraph 9 of this Special Condition);
  - d. Maximization of flow to the POTW for treatment (Compliance with this Item shall be met through the requirements imposed by Paragraphs 4, 5, and 8 of this Special Condition);
  - e. Prohibition of CSOs during dry weather (Compliance with this Item shall be met through the requirements imposed by Paragraph 3 of this Special Condition);
  - f. Control of solids and floatable materials in CSOs (Compliance with this Item shall be met through the requirements imposed by Paragraphs 2 and 8 of this Special Condition);
  - g. Pollution prevention programs which focus on source control activities (Compliance with this Item shall be met through the requirements imposed by Paragraph 6 of this Special Condition, **See Below**);
  - h. Public notification to ensure that citizens receive adequate information regarding CSO occurrences and CSO impacts (Compliance with this Item shall be met through Paragraphs 7 and 12 of this Special Condition); and,
  - i. Monitoring to characterize impacts and efficiency of CSO controls (Compliance with this Item shall be met through the requirements imposed by Paragraphs 10 and 11 of this Special Condition).

A pollution prevention plan (PPP) shall be developed by the Permittee unless one has already been prepared for this collection system. Any previously-prepared PPP shall be reviewed, and revised if necessary, by the Permittee to address the items contained in Chapter 8 of the U.S. EPA guidance document, Combined Sewer Overflows, Guidance For Nine Minimum Controls, and any items contained in previously-sent review documents from the IEPA concerning the PPP. Combined Sewer Overflows, Guidance For Nine Minimum Controls is available on line at <http://www.epa.gov/npdes/pubs/owm0030.pdf>. The PPP (or revised PPP) shall be presented to the general public at a public information meeting conducted by the Permittee within nine (9) months of the effective date of this Permit. The Permittee shall submit documentation that the pollution prevention plan complies with the requirements of this Permit and that the public information meeting was held. Such documentation shall be submitted to the IEPA within twelve (12) months of the effective date of this Permit and shall include a summary of all significant issues raised by the public, the Permittee's response to each issue, and two (2) copies of the "CSO Pollution Prevention Plan Certification" one (1) with original signatures. This certification form is available online at <http://www.epa.state.il.us/water/permits/waste-water/forms/cso-pol-prev.pdf>. Following the public meeting, the Permittee shall implement the pollution prevention plan within one (1) year and shall maintain a current pollution prevention plan, updated to reflect system modifications, on file at the sewage treatment works or other acceptable location and made available to the public. The pollution prevention plan shall be submitted to the IEPA upon written request.

Sensitive Area Considerations

7. Pursuant to Section II.C.3 of the federal CSO Control Policy of 1994, sensitive areas are any water likely to be impacted by a CSO discharge which meet one or more of the following criteria: (1) designated as an Outstanding National Resource Water; (2) found to contain shellfish beds; (3) found to contain threatened or endangered aquatic species or their habitat; (4) used for primary contact recreation; or, (5) within the protection area for a drinking water intake structure.

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The IEPA has tentatively determined that none of the outfalls listed in this Special Condition discharge to sensitive areas. However, if information becomes available that causes the IEPA to reverse this determination, the IEPA will notify the Permittee in writing. Within three (3) months of the date of notification, or such other date contained in the notification letter, the Permittee shall submit two (2) copies of either a schedule to relocate, control, or treat discharges from these outfalls. If none of these options are possible, the Permittee shall submit adequate justification at that time as to why these options are not possible. Such justification shall be in accordance with Section II.C.3 of the National CSO Control Policy.

Operational and Maintenance Plans

8. The IEPA reviewed and conditionally accepted a CSO operational and maintenance plan "CSO O&M plan" on August 1, 1997 prepared for this sewerage system. The Permittee shall review and revise, if needed, the CSO O&M plan to reflect system changes.

The CSO O&M plan shall be presented to the general public at a public information meeting conducted by the Permittee within nine (9) months of the effective date of this Permit. The Permittee shall submit documentation that the CSO O&M plan complies with the requirements of this Permit and that the public information meeting was held. Such documentation shall be submitted to the IEPA within twelve (12) months of the effective date of this Permit and shall include a summary of all significant issues raised by the public, the Permittee's response to each issue, and two (2) copies of the "CSO Operational Plan Checklist and Certification", one (1) with original signatures. Copies of the "CSO Operational Plan Checklist and Certification" are available online at <http://www.epa.state.il.us/water/permits/waste-water/forms/cso-checklist.pdf>. Following the public meeting, the Permittee shall implement the CSO O&M plan within one (1) year and shall maintain a current CSO O&M plan, updated to reflect system modifications, on file at the sewage treatment works or other acceptable location and made available to the public. The CSO O&M plan shall be submitted to the IEPA upon written request.

The objectives of the CSO O&M plan are to reduce the total loading of pollutants and floatables entering the receiving stream and to ensure that the Permittee ultimately achieves compliance with water quality standards. These plans, tailored to the local governments's collection and waste treatment systems, shall include mechanisms and specific procedures where applicable to ensure:

- a. Collection system inspection on a scheduled basis;
- b. Sewer, catch basin, and regulator cleaning and maintenance on a scheduled basis;
- c. Inspections are made and preventive maintenance is performed on all pump/lift stations;
- d. Collection system replacement, where necessary;
- e. Detection and elimination of illegal connections;
- f. Detection, prevention, and elimination of dry weather overflows;
- g. The collection system is operated to maximize storage capacity and the combined sewer portions of the collection system are operated to delay storm entry into the system; and,
- h. The treatment and collection systems are operated to maximize treatment.

Sewer Use Ordinances

9. The Permittee, within six (6) months of the effective date of this Permit, shall review and where necessary, modify its existing sewer use ordinance to ensure it contains provisions addressing the conditions below. If no ordinance exists, such ordinance shall be developed and implemented within six (6) months from the effective date of this Permit. Upon completion of the review of the sewer use ordinance(s), the Permittee shall submit two (2) copies of a completed "Certification of Sewer Use Ordinance Review", one (1) with original signatures. Copies of the certification form can be obtained on line at <http://www.epa.state.il.us/water/permits/waste-water/forms/sewer-use.pdf>. The Permittee shall submit copies of the sewer use ordinance(s) to the IEPA upon written request. Sewer use ordinances are to contain specific provisions to:
- a. Prohibit introduction of new inflow sources to the sanitary sewer system;



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- b. Require that new construction tributary to the combined sewer system be designed to minimize and/or delay inflow contribution to the combined sewer system;
- c. Require that inflow sources on the combined sewer system be connected to a storm sewer, within a reasonable period of time, if a storm sewer becomes available;
- d. Provide that any new building domestic waste connection shall be distinct from the building inflow connection, to facilitate disconnection if a storm sewer becomes available;
- e. Assure that CSO impacts from non-domestic sources are minimized by determining which non-domestic discharges, if any, are tributary to CSOs and reviewing, and, if necessary, modifying the sewer use ordinance to control pollutants in these discharges; and,
- f. Assure that the owners of all publicly owned systems with combined sewers tributary to the Permittee's collection system have procedures in place adequate to ensure that the objectives, mechanisms, and specific procedures given in Paragraph 8 of this Special Condition are achieved.

The Permittee shall enforce the applicable sewer use ordinances.

Long-Term Control Planning and Compliance with Water Quality Standards

- 10. a. Pursuant to Section 301 of the federal Clean Water Act, 33 U.S.C. § 1311 and 40 CFR § 122.4, discharges from the CSOs, including the outfalls listed in this Special Condition and any other outfall listed as a "Treated Combined Sewage Outfall", shall not cause or contribute to violations of applicable water quality standards or cause use impairment in the receiving waters. In addition, discharges from CSOs shall comply with all applicable parts of 35 Ill. Adm. Code 306.305(a), (b), (c), and (d).
- b. The Permittee shall develop a Long-Term CSO Control Plan (LTCP) for assuring that the discharges from the CSOs (treated or untreated) authorized in this Permit comply with Paragraph 10.a above and all applicable standards, including water quality standards. Two (2) copies of the LTCP shall be submitted to the IEPA by August 31, 2009. The LTCP shall contain all applicable elements of Paragraph 10.c below including a schedule for implementation and provisions for re-evaluating compliance with applicable standards and regulations after implementation. The LTCP shall be:
  - 1. Consistent with Section II.C.4.a.i of the Policy; or,
  - 2. Consistent with either Section II.C.4.a.ii, Section II.C.4.a.iii, or Section II.C.4.b of the Policy and be accompanied by data sufficient to demonstrate that the LTCP, when completely implemented, will be sufficient to meet water quality standards.
- c. Pursuant to the Policy, the required components of the LTCP include the following:
  - 1. Characterization, monitoring, and modeling of the Combined Sewer System (CSS);
  - 2. Consideration of Sensitive Areas;
  - 3. Evaluation of alternatives;
  - 4. Cost/Performance considerations;
  - 5. Revised CSO Operational Plan;
  - 6. Maximizing treatment at the treatment plant;
  - 7. Implementation schedule;
  - 8. Post-Construction compliance monitoring program; and
  - 9. Public participation.

Following submittal of the LTCP, the Permittee shall respond to any initial IEPA review letter in writing within ninety (90) days of the date of such a review letter, and within thirty (30) days of any subsequent review letter(s), if any. Implementation of the LTCP shall be as indicated by IEPA in writing or other enforceable mechanism.

Monitoring, Reporting and Notification Requirements

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11. The Permittee shall monitor the frequency of discharge (number of discharges per month) and estimate the duration (in hours) of each discharge from each outfall listed in this Special Condition. Estimates of storm duration and total rainfall shall be provided for each storm event.

For frequency reporting, all discharges from the same storm, or occurring within 24 hours, shall be reported as one. The date that a discharge commences shall be recorded for each outfall. Reports shall be in the form specified by the IEPA and on forms provided by the IEPA. These forms shall be submitted to the IEPA monthly with the DMRs and covering the same reporting period as the DMRs. Parameters (other than flow frequency), if required in this Permit, shall be sampled and reported as indicated in the transmittal letter for such report forms.

12. A public notification program in accordance with Section II.B.8 of the federal CSO Control Policy of 1994 shall be developed employing a process that actively informs the affected public. The program shall include at a minimum public notification of CSO occurrences and CSO impacts, with consideration given to including mass media and/or Internet notification. The Permittee shall also consider posting signs in waters likely to be impacted by CSO discharges at the point of discharge and at points where these waters are used for primary contact recreation. Provisions shall be made to include modifications of the program when necessary and notification to any additional member of the affected public. The program shall be presented to the general public at a public information meeting conducted by the Permittee. The Permittee shall conduct the public information meeting within nine (9) months of the effective date of this Permit. The Permittee shall submit documentation that the public information meeting was held, shall submit a summary of all significant issues raised by the public and the Permittee's response to each issue and shall identify any modifications to the program as a result of the public information meeting. The Permittee shall submit the public information meeting documentation to the IEPA and implement the public notification program within twelve (12) months of the effective date of this Permit. The Permittee shall submit copies of the public notification program to the IEPA upon written request.
13. If any of the CSO discharge points listed in this Special Condition are eliminated, or if additional CSO discharge points, not listed in this Special Condition, are discovered, the Permittee shall notify the IEPA in writing within one (1) month of the respective outfall elimination or discovery. Such notification shall be in the form of a request for the appropriate modification of this NPDES Permit.

Summary of Compliance Dates in this CSO Special Condition

14. The following summarizes the dates that submittals contained in this Special Condition are due at the IEPA (unless otherwise indicated):

Submission of CSO Monitoring Data (Paragraph 11)	25th of every month
Elimination of a CSO or Discovery of Additional CSO Locations (Paragraph 13)	1 month from discovery or elimination
Control (or Justification for No Control) of CSOs to Sensitive Areas (Paragraph 7)	3 months from IEPA notification
Certification of Sewer Use Ordinance Review (Paragraph 9)	6 months from the effective date of this Permit
Conduct Pollution Prevention, OMP, and PN Public Information Meeting (Paragraphs, 6, 8 and 12) <b>No Submittal Due with this Milestone</b>	9 months from the effective date of this Permit
Submit Pollution Prevention Certification, OMP Certification, and PN Information Meeting Summary (Paragraphs, 6, 8 and 12)	12 months from the effective date of this Permit
Submit CSO Long-Term Control Plan (Paragraph 10)	August 31, 2009

All submittals listed in this Special Condition can be mailed to the following address:

Illinois Environmental Protection Agency  
 Division of Water Pollution Control  
 1021 North Grand Avenue East  
 Post Office Box 19276  
 Springfield, Illinois 62794-9276

Attention: CSO Coordinator, Compliance Assurance Section

All submittals hand carried shall be delivered to 1021 North Grand Avenue East.

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Reopening and Modifying this Permit

15. The IEPA may initiate a modification for this Permit at any time to include requirements and compliance dates which have been submitted in writing by the Permittee and approved by the IEPA, or other requirements and dates which are necessary to carry out the provisions of the Illinois Environmental Protection Act, the Clean Water Act, or regulations promulgated under those Acts. Public Notice of such modifications and opportunity for public hearing shall be provided.

SPECIAL CONDITION 16. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (eDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the eDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/edmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 25th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using eDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

Attention: Compliance Assurance Section, Mail Code # 19

ATTACHMENT H

Standard Conditions

Definitions

**Act** means the Illinois Environmental Protection Act, Ch. 111 1/2 Ill. Rev. Stat., Sec. 1001-1052 as Amended.

**Agency** means the Illinois Environmental Protection Agency.

**Board** means the Illinois Pollution Control Board.

**Clean Water Act** (formerly referred to as the Federal Water Pollution Control Act) means Pub. L. 92-500, as amended. 33 U.S.C. 1251 et seq.

**NPDES** (National Pollutant Discharge Elimination System) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318 and 405 of the Clean Water Act.

**USEPA** means the United States Environmental Protection Agency.

**Daily Discharge** means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

**Maximum Daily Discharge Limitation** (daily maximum) means the highest allowable daily discharge.

**Average Monthly Discharge Limitation** (30 day average) means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

**Average Weekly Discharge Limitation** (7 day average) means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

**Best Management Practices (BMPs)** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Aliquot** means a sample of specified volume used to make up a total composite sample.

**Grab Sample** means an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.

**24 Hour Composite Sample** means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

**8 Hour Composite Sample** means a combination of at least 3 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over an 8-hour period.

**Flow Proportional Composite Sample** means a combination of sample aliquots of at least 100 milliliters collected at periodic intervals such that either the time interval between each aliquot or the volume of each aliquot is proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot.

- (1) **Duty to comply.** The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or for denial of a permit renewal application. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.
- (2) **Duty to reapply.** If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. If the permittee submits a proper application as required by the Agency no later than 180 days prior to the expiration date, this permit shall continue in full force and effect until the final Agency decision on the application has been made.
- (3) **Need to halt or reduce activity not a defense.** It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (4) **Duty to mitigate.** The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- (6) **Proper operation and maintenance.** The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up, or auxiliary facilities, or similar systems only when necessary to achieve compliance with the conditions of the permit.

- (6) **Permit actions.** This permit may be modified, revoked and reissued, or terminated for cause by the Agency pursuant to 40 CFR 122.62. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- (7) **Property rights.** This permit does not convey any property rights of any sort, or any exclusive privilege.
- (8) **Duty to provide information.** The permittee shall furnish to the Agency within a reasonable time, any information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with the permit. The permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this permit.
- (9) **Inspection and entry.** The permittee shall allow an authorized representative of the Agency, upon the presentation of credentials and other documents as may be required by law, to:
  - (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
  - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - (d) Sample or monitor at reasonable times, for the purpose of assuring permit compliance, or as otherwise authorized by the Act, any substances or parameters at any location.
- (10) **Monitoring and records.**
  - (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
  - (b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of this permit, measurement, report or application. This period may be extended by request of the Agency at any time.
  - (c) Records of monitoring information shall include:
    - (1) The date, exact place, and time of sampling or measurements;
    - (2) The individual(s) who performed the sampling or measurements;
    - (3) The date(s) analyses were performed;
    - (4) The individual(s) who performed the analyses;
    - (5) The analytical techniques or methods used; and
    - (6) The results of such analyses.
  - (d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit. Where no test procedure under 40 CFR Part 136 has been approved, the permittee must submit to the Agency a test method for approval. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.
- (11) **Signatory requirement.** All applications, reports or information submitted to the Agency shall be signed and certified.
  - (a) **Application.** All permit applications shall be signed as follows:
    - (1) For a corporation: by a principal executive officer of at least the level of vice president or a person or position having overall responsibility for environmental matters for the corporation;
    - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
    - (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.
  - (b) **Reports.** All reports required by permits, or other information requested by the Agency shall be signed by a person described in paragraph (a) or by a duly authorized representative of that person. A person is a duly authorized representative only if:
    - (1) The authorization is made in writing by a person described in paragraph (a); and
    - (2) The authorization specifies either an individual or a position responsible for the overall operation of the facility, from which the discharge originates, such as a plant manager, superintendent or person of equivalent responsibility; and
    - (3) The written authorization is submitted to the Agency.

# APPENDIX III

## CHAPTER 10

**SEWERS AND SEWAGE DISPOSAL**

## SECTION:

- 6-10- 1: Definitions
- 6-10- 2: Connection To Public Sewer Required
- 6-10- 3: Permit Requirements
- 6-10- 4: Rates And Charges
  - 6-10- 4- 1: Sewer Service Charges
  - 6-10- 4- 2: Adjustment Of Rate; Unusual Circumstances
  - 6-10- 4- 3: Frontage Fees For Tapping Certain Sewers
  - 6-10- 4- 4: Industrial Waste Surcharge
  - 6-10- 4- 5: Delinquent Payments; Penalty
  - 6-10- 4- 6: Use Of Funds
  - 6-10- 4- 7: Notice Of Liability
- 6-10- 5: Connections
  - 6-10- 5- 1: Owner To Repair Lateral
  - 6-10- 5- 2: Separate Connections Required
  - 6-10- 5- 3: Use Of Old Connections (Rep. by Ord. 6667, 7-10-2002)
  - 6-10- 5- 4: Specifications For Connections, Laterals
  - 6-10- 5- 5: Connection To Public Sewer
  - 6-10- 5- 6: Connections From Existing Establishments
  - 6-10- 5- 7: Installation Or Repair Prior To Street Improvement
  - 6-10- 5- 8: Time For Compliance
  - 6-10- 5- 9: Neglect Or Failure To Install Or Extend Services
  - 6-10- 5-10: Sewer Connections Within Corporate Limits
  - 6-10- 5-11: Sewer Connections Outside Corporate Limits
  - 6-10- 5-12: Discharge Into; Connection To Storm Drains
  - 6-10- 5-13: Connection Of Surface Drains
  - 6-10- 5-14: Grease, Oil And Sand Interceptors
  - 6-10- 5-15: New Connections To Combined Sewer System
  - 6-10- 5-16: Disconnection Of Inflow Sources On Combined Sewer System
  - 6-10- 5-17: Prohibited Materials
- 6-10- 6: Discharges To System
  - 6-10- 6- 1: Unsanitary Discharge
  - 6-10- 6- 2: Discharge Into Watercourses
- 6-10- 7: Industrial Wastes
  - 6-10- 7- 1: Prohibited Wastes
  - 6-10- 7- 2: Access To Industrial Wastes

- CITY ENGINEER:** The regularly appointed City Engineer of the City, his authorized deputy, agent or representative.
- COMBINED SEWER:** A sewer receiving both surface water runoff and sewage, and so designated by the Director of Public Works.
- COMPATIBLE POLLUTANT:** The biochemical oxygen demand, suspended solids, pH and fecal coliform bacteria, plus additional pollutants identified in the NPDES permit if the publicly owned treatment works was designed to treat such pollutants, and in fact does remove such pollutants to a substantial degree. Examples of such additional pollutants may include: chemical oxygen demand, total organic carbon, phosphorus and phosphorus compounds, nitrogen and nitrogen compounds and fats, oils and greases of animal or vegetable origin except as prohibited under prohibited wastes.
- DEBT SERVICE CHARGE:** The amount to be paid each billing period for payment of interest, principal and coverage of (loan, bond, etc.) outstanding and shall be computed by dividing the annual debt service by the number of users connected to the wastewater facilities.
- FIELD TILE:** Any drainage facility usually, but not necessarily, consisting of pervious, unflanged jointed tile or other media laid for the prime purpose of draining away surface or subsurface waters and not designed for the carrying of sewage.
- FORCE MAIN:** A conduit or pipe for carrying pumped sewage under pressure to a point where gravity will carry the sewage to the place of treatment or disposal.
- GARBAGE:** All animal, fruit and other vegetable matter, all organic refuse resulting from the preparation of

NONINDUSTRIAL USER:	That user which has been determined as introducing primarily segregated domestic wastewater into the system.
OPERATION AND MAINTENANCE COSTS:	All costs, direct and indirect, (other than debt service) necessary to ensure adequate wastewater treatment on a continuing basis, conform with related Federal, State and local requirements and assure optimal long term facility management. These costs include depreciation and replacement.
pH:	The logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution. It shall be determined by one of the procedures outlined in <i>Standard Methods</i> .
PERSON:	Any individual, firm, company, association, society, corporation or group.
PROPERLY SHREDDED GARBAGE:	The wastes from the preparation, cooking and dispensing of food and produce which has been ground or shredded to such degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half inch ( $1/2$ " ) in any dimension.
PUBLIC SEWER:	A sewer in which all owners of abutting properties have equal rights or which is controlled by public authorities.
REPLACEMENT:	Expenditures for obtaining and installing equipment, accessories or appurtenances which are necessary during the service life of the treatment works to maintain the capacity and performance for which such works were designed and constructed. The term "operation and maintenance" includes replacement.
SANITARY SEWER:	A sewer which carries sewage, to which storm, surface and ground waters are not intentionally admitted and so designated by the Director of Public Works.



<b>STANDARD METHODS:</b>	The examination and analytical procedures set forth in the most recent edition of "Standard Methods For The Examination Of Water, Sewage And Industrial Wastes", published jointly by the American Public Health Association, the American Waterworks Association and the Federation of Sewage and Industrial Wastes Association.
<b>STORM SEWER OR STORM DRAIN:</b>	A sewer which carries storm and surface water and drainage, but excludes sewage.
<b>STREET EXCAVATION:</b>	Any digging in, excavation of, or disturbance of the surface or subsurface of any public street, avenue, alley or other public way between the platted or dedicated lines thereof, for making any installation, or renewals, or repairs, or removals or relocations of private service connections, whether for gas, water, sewer or other utility or accommodations.
<b>SURCHARGE:</b>	The assessment in addition to the basic user charge and debt service charge which is levied on those persons whose wastes are greater in strength than the concentration values established in subsection 6-10-4-4A of this chapter.
<b>SUSPENDED SOLIDS:</b>	Solids that either float on the surface of, or are in suspension in water, sewage or other liquids, and which are removable by a laboratory filtering device. Quantitative determination of suspended solids shall be made in accordance with procedures set forth in standard methods.
<b>USER CHARGE:</b>	A charge levied on all users of the public sewer system and treatment works for the cost of operation and maintenance thereof.
<b>WATERCOURSE:</b>	A channel in which a flow in water occurs, either continuously or intermittently. (Ord. 3085, 9-13-1961; amd. Ord. 3130, 6-27-1962; Ord. 4326, 7-12-1978; Ord. 4544, 8-27-1980; Ord. 4592, 2-11-1981)

**6-10-3: PERMIT REQUIREMENTS:****A. Permit Required:**

1. No unauthorized person shall uncover, or make any connections with or opening into, use, alter or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the public works director. (Ord. 3085, 9-13-1961; amd. Ord. 4089, 4-14-1976)

2. Hereafter, no person shall tap or cause to be tapped or to be connected to, or suffer or cause to flow or to drain, or to continue to flow or drain into the public sewer system of the city the effluent of any source or sources of sewage, without first obtaining a permit therefor and complying with the regulations governing the securing of such permits, and the making and use of connections to the city sewer system, whether such city systems lie wholly or partly within or without the boundary limits of the city. (Ord. 3085, 9-13-1961)

**B. Application For Permit:** The city of Alton shall provide appropriate forms to apply for the written permit required by subsection A of this section. An application fee shall be payable to the city of Alton prior to the issuance of any permit according to the following schedule:

1. For a single-family residential structure to be served, the tap-on fee shall be six hundred dollars (\$600.00) effective January 1, 2004, through December 31, 2008, and after December 31, 2008, the fee shall be one thousand dollars (\$1,000.00).

2. The tap-on fee for residential properties, other than single-family residential structures, including, but not limited to, hotels, apartment buildings, group homes, nursing homes, or residential condominiums, shall be six hundred dollars (\$600.00) for the first residential unit of any structure, and three hundred dollars (\$300.00) for each additional residential unit of any structure effective January 1, 2004, through December 31, 2008, and after December 31, 2008, the fee shall be one thousand dollars (\$1,000.00) for the first residential unit of any structure and five hundred dollars (\$500.00) for each additional residential unit of any structure.

3. The tap-on fee due for any other person or entity applying for a permit to make connection with or open into the sanitary sewer system of the city of Alton for other than residential purposes shall be determined by the size of the water line serving the structure or establishment utilizing the sanitary sewer connection. The permit

tion of the requirements of this chapter shall hereafter be issued under the provisions of tapping of or connection to sewers in the city. (Ord. 3085, 9-13-1961)

- D. **Waiver Of Fees:** Recognizing that Piasa Area Habitat for Humanity is a not for profit corporation whose main purpose is to upgrade and improve current housing stock and to provide better housing for lower income people within the city of Alton and elsewhere, the sewer tap on and sewer inspection fees required by this section shall be waived with regard to any properties owned by or contracted to be improved by Piasa Area Habitat for Humanity. With the exception of the waiver of the fee, Piasa Area Habitat for Humanity shall in all other respects be required to comply with the provisions of this chapter and to obtain all appropriate permits. (Ord. 6924, 11-22-2005)

**6-10-4: RATES AND CHARGES:**

**6-10-4-1: SEWER SERVICE CHARGES:** Except as provided in section 6-10-4-2 of this chapter, a sewer service charge is hereby levied against each improved lot, parcel of land or premises which is connected with or served by the sewerage system of the city, or which may be connected with said sewerage system, or which have such sewers available for connection, or which otherwise discharge sewage, industrial waste, water or other liquids into the city sewerage system, and the city comptroller is hereby directed to make said charges on behalf of the city.

- A. **Charges:** Such sewer service charges shall be calculated and billed on a quarterly basis and shall be as follows: (Ord. 4326, 7-12-1978)

1. **Residential Charge:** The total quarterly service charge against any such lot, parcel of land or premises upon which is located a "single-family residential unit", as defined in section 6-10-1 of this chapter, shall be thirty six dollars (\$36.00) effective January 1, 2004, and continuing until January 1, 2006, at which time said service charge shall be increased to thirty nine dollars (\$39.00). The total quarterly sewer service charge against any such lot, parcel of land or premises upon which is located a residential dwelling, other than said single-family residential unit, shall be thirty six dollars (\$36.00) effective January 1, 2004, and continuing until January 1, 2006, at which time said service charge shall be increased to thirty nine dollars (\$39.00), multiplied by the number of single-family units contained thereon.

d. In the event only commercial or industrial lot, parcel of land or premises which is subject to a sewer service charge under this chapter and which is not a user of water supplied by the Illinois American Water Company, or derives a portion of its water from sources other than the Illinois American Water Company, then the occupant of such lot, parcel of land or premises shall install and maintain at his expense a meter or other measuring device acceptable to the city engineer for the purpose of measuring water received on or sewage discharged from such lot, parcel of land or premises. In the event the owner or occupant fails to install such meter or measuring device, then the city engineer shall estimate or compute the amount of water used and such estimate or computation shall be the basis of the sewer service charge. Access to such meter or measuring device as may be installed shall be given to the city engineer, his employees or agents, at any reasonable time for the purpose of reading, inspecting, testing or repairing of such meter or other measuring device. In such cases, charges shall be based upon the aggregate quantity of water received, as measured by all such meters. (Ord. 4326, 7-12-1978; amd. Ord. 6786, 12-17-2003)

- B. Proration Of Charge: If, after this chapter becomes effective, an improved lot, parcel of land or premises then becomes subject to a sewer service charge under this chapter, the charge for the first payment period shall be based upon a per diem pro rata amount of the charge set forth above for such lot, parcel of land or premises.
- C. Interceptor Sewer And Sewage Treatment Charge: The sanitary sewer charge established in this section for premises connected to the city of Alton sanitary sewage collection system and all contract rates with other municipalities and sanitary sewer districts for discharge of sewage directly into the city's interceptor sewers shall include:

1. A sewer use charge for operation, maintenance and replacement of the waste treatment facility known as the Alton secondary sewage treatment facility (federal grant #C171182) to be established pursuant to guidelines contained in section 204(b)2 of the federal water pollution control act and regulations issued thereunder in such amount as to assure that each recipient of waste treatment services will pay its proportionate share of the cost of operation and maintenance including replacement of such facility in order to equitably distribute such costs to pollutant source and to promote self-sufficiency of said treatment works with respect to operation and maintenance costs, and

- D. **Review Of Sewer Service Charges:** All sewer service charges shall be reviewed annually and revised periodically to reflect actual treatment works operation and maintenance costs. (Ord. 4326, 7-12-1978)
- E. **Charges Owed By City, Other Political Subdivisions:** Charges for sewerage service shall be paid by the City and all other municipal corporations and political subdivisions in the same manner and on the same basis as any other user under similar circumstances. (Ord. 3085, 9-13-1961)

**6-10-4-2: ADJUSTMENT OF RATE; UNUSUAL CIRCUMSTANCES: If:**

a) a lot, parcel of land or premises discharges sewage or industrial waste into the sanitary sewerage system, either directly or indirectly, and b) the amount of water received is such that the rate or charge will be in excess of the minimum monthly charge therefor, and c) if it can be shown to the satisfaction of the Director of Public Works that the use of water is such that a large portion of or all water is used in manufactured products (such as ice, beverages, canned foods), and the same is transported in containers away from the premises, or is lost by evaporation or irrigation, and that a portion of the water measured by the water meter or meters does not and cannot enter the sanitary sewerage system, then and in that event, the Director is hereby authorized to determine, in such manner and such method as may be practicable, the percentage of the water measured by the meter or meters, which enters the sanitary sewerage system. In such case, the charges and rates shall be based upon the percentage of the metered water which enters the sanitary sewerage system as determined by the Director. In such cases the Director is authorized to require or to permit the installation of other or additional meters in such a manner that the quantity of water which actually enters the sanitary sewerage system may be determined, in which event, the charges or rates shall be based upon the amount of water so shown actually to enter the sanitary sewerage system. Charges and rates determined as provided in this Section shall be not less than the minimum rate established in Section 6-10-4-1 of this Chapter for each meter and the amount to be paid in any month shall be not less than the aggregate of the minimum bill established for all meters used to measure the water received for such lot, parcel of land or premises. (Ord. 3165, 3-13-1963; amd. Ord. 4089, 4-14-1976)

In the event of a failure to obtain the metered measurement of water delivered to a commercial or industrial lot, parcel of land or premises, subject to a sewer service charge under this Chapter, because of a temporary defect in the meter or meters serving such premises or for a

**6-10-4-4: INDUSTRIAL WASTE SURCHARGE:**

- A. Whenever sewage or industrial waste discharged from any lot, parcel of land or premises in the sanitary sewerage system has a suspended solids content in excess of two hundred fifty milligrams per liter (250 mg/l) or BOD in excess of two hundred milligrams per liter (200 mg/l), as determined by tests conducted or supervised by the City, there shall be an additional charge or surcharge at the rate of nine cents (\$0.09) per pound of suspended solids in excess of two hundred fifty (250) pounds per one million (1,000,000) pounds of sewage and an additional charge or surcharge at the rate of eleven cents (\$0.11) per pound of BOD in excess of two hundred (200) pounds per one million (1,000,000) pounds of sewerage. (Ord. 5437, 3-28-90, eff. 4-1-1990)
- B. Whenever sewage or industrial waste discharged from any lot, parcel of land or premises shall have a hydrogen ion concentration (pH) lower than five and five-tenths (5.5) or higher than nine and five-tenths (9.5), thereby causing interference with the operation of the sewerage system, the Director of Public Works shall give written notice to the owner or occupant of such lot, parcel of land or premises responsible stating that unless corrective measures shall be taken to eliminate such variation, the charges or rates imposed for the use of the sewerage system shall be increased twenty five percent (25%) or that the sewerage service to such lot, parcel of land or premises shall be discontinued. Within thirty (30) days after receipt of such notice, it shall be the duty of the owner or occupant responsible for the discharge of such sewage or industrial waste to take measures which, in the opinion of the Director, will eliminate the variation in the hydrogen ion concentration of the sewage so discharged into the sanitary sewerage system. If such corrective measures are not taken then the charges and rates for the use of the sewerage system shall be increased by twenty five percent (25%). The Director may report the facts and circumstances to the Council which may order the discontinuance of the sewage or industrial waste discharge into the sanitary sewerage system. (Ord. 3165, 3-13-1963; amd. Ord. 4089, 4-14-1976; Ord. 5368, 8-9-1989)

3. The date when such amount became delinquent. (Ord. 3085, 9-13-1961)

C. Civil Action: The city shall also have the right and power, from time to time, to sue the owner, occupant or user of that real estate in a civil action to recover money due for delinquent sewerage services, plus a reasonable attorney fee to be fixed by the court. (Ord. 4506, 4-23-1980)

D. Ownership And Occupancy: Change of ownership or occupancy of premises found delinquent shall not be cause for reducing or eliminating these penalties. (Ord. 3085, 9-13-1961)

E. Discontinue Service:

1. In the event of failure to pay sewer service or surcharges after they become delinquent, the city shall have the right to remove or close sewer connections and enter upon the property for accomplishing such purposes.

The expense of such discontinuance, removal or closing, as well as the expense of restoring service, shall likewise be a debt due to the city and a lien upon the property and may be recovered by a civil action in the name of the city against the property owner, the occupant or user, or both.

2. Sewer service shall not be restored until all charges, including the expense of removal, closing and restoration shall have been paid. (Ord. 3085, 9-13-1961)

F. Discontinuance Agreement: The mayor and appropriate officials of the city of Alton are hereby authorized to enter into discontinuance agreements with any and all public utility corporations serving the residents or properties located in the city with water service pursuant to the provisions of 65 Illinois Compiled Statutes 5/11-141-7 to contract to shut off the water supply from the system of any such Illinois public utility corporations to any premises at which the user charges for sewer service supplied by the city are delinquent for more than thirty (30) days. Any such discontinuance agreements entered into by the mayor or appropriate officials of the city prior to the effective date hereof are hereby ratified and confirmed. Any new discontinuance agreement to be entered into on behalf of the city shall be contingent upon approval of the city council by resolution. (Ord. 7005, 5-9-2007)

6-10-5-1

6-10-5-2

may directly or indirectly be occasioned by the installation of such sewer lateral. (Ord. 6451, 12-8-1999)

6-10-5-2: **SEPARATE CONNECTIONS REQUIRED:** A separate and independent sanitary sewer connection shall be provided for every building, except that where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through the property, or through an adjoining alley, court, yard or driveway, the sewer from the front building may be extended to the rear building and the whole considered as one sewer (except for sewer service charges accruing from such buildings or properties). (Ord. 3085, 9-13-1961)

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6-10-5-3

6-10-5-4

6-10-5-3: **USE OF OLD CONNECTIONS:** (Rep. by Ord. 6667, 7-10-2002)

6-10-5-4: **SPECIFICATIONS FOR CONNECTIONS, LATERALS:**

A. Comply With Codes:

1. All new private sewers within a building or within five feet (5') of any part of a building or within ten feet (10') of a water service pipe, shall be constructed of materials and in a manner approved for such location by the building code of the city<sup>1</sup>. New private sanitary sewers beyond the limits described above for connection with the public sewers shall be one of the following: a) cast iron soil pipe - ASTM specification A74; b) vitrified clay sewer pipe - ASTM specification C13, or C200; c) concrete sewer pipe - ASTM specification C14, C75 or C76; or d) polyvinyl chloride sewer pipe - ASTM specification D3034.

2. Any pipe material not conforming to the requirements of the above ASTM specifications will not be permitted unless specific approval is obtained in advance from the director of public works. (Ord. 4447, 7-25-1979)

B. Size And Slope:

1. The size and slope of the building or property sewer shall be subject to the approval of the director of public works, but in no event shall the size be less than four inch (4") cast iron soil pipe or six inch (6") vitrified clay pipe, concrete pipe or polyvinyl chloride pipe.

2. The slope of such pipe shall not be less than one-eighth inch ( $\frac{1}{8}$ " ) per foot. Any pipe laid longitudinally in public streets, alleys or easements which could connect more than one service sewer or could be extended to connect more than one service sewer shall be not less than eight inches (8") in diameter, shall be laid on a grade of not less than four feet (4') per one thousand feet (1,000'), and shall be constructed to a maximum depth to permit further extension thereto. Sewers installed longitudinally in a public street, alley or easement shall be constructed in accordance with plans and specifications prepared by a registered professional engineer,

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1. See section 9-1-1 of this code.

this drainage system. The Director of Public Works may, at his discretion, require the additional protection of a concrete envelope on such joints.

6. Joints in any pipe may be made of a material other than those shown above if prior approval is obtained from the Director of Public Works. (Ord. 4447, 7-25-1979)

**6-10-5-5: CONNECTION TO PUBLIC SEWER:** The connection of the building or property sewer shall be made at a "Y" or "T" branch, if such branch is available at a suitable location. If no properly located "Y" or "T" branch is available, a "Y" or "T" will be installed, unless the main sewer is eighteen inches (18") in diameter or larger. In the latter event, a neat hole may be cut into the public sewer to receive the building or property sewer. A "saddle" shall be used to make such connections, the spigot end to extend not past the inner surface of such sewer. The center line of the building sewer at the point of connection shall be at the same or a higher elevation as the center line of the public sewer. A smooth neat joint shall be made, and the connection made secure and watertight by encasement, if necessary, in concrete. In all cases where a hole must be cut into the public sewer to receive the building or property sewer the proposed connection must be inspected by the Director of Public Works prior to encasement in concrete. Other fittings may be used for the connection only when approved by the Director. The applicant for a permit to tap the public sewer shall notify the Director when such sewer is ready for inspection and connection to the public sewer. Connection shall be made under the supervision of the Director. After the effective date of this Chapter, all sewers laid within the streets, alleys or other public ways of the City, or within areas adjacent to the City, for the purpose of connecting sources of sewage with a sanitary sewer system of the City, shall be constructed in accordance with the requirements and procedures described in this Chapter. No existing or new drain tile or foundation tile which could or does collect surface or subsurface water shall hereafter be connected directly or indirectly to the sanitary sewer system of the City. (Ord. 3085, 9-13-1961; amd. Ord. 4089, 4-14-1976)

**6-10-5-6: CONNECTIONS FROM EXISTING ESTABLISHMENTS:** The sewer systems from any residences or commercial establishments which have existing sewer systems on the effective date of this Chapter shall be made as nearly as possible to fully comply with this Chapter. Where existing house sewer systems combine sanitary sewage with roof drains or foundation drains or drain tile capable of collecting surface or subsurface water, and when the Director of Public Works has

**6-10-5-9: NEGLECT OR FAILURE TO INSTALL OR EXTEND SERVICES:** Upon the neglect or failure of public utilities and others to lay, extend, repair or rehabilitate service pipe, conduits, laterals or other underground facilities as herein required, said public utilities or other owners of such facilities shall be prohibited from cutting through the surface or from tunneling under such cement or other improved surface and roadbed, or in any way disturbing the same for a period of five (5) years from date of completion of such improvement, except to eliminate a hazardous condition threatening public health, safety or welfare or to extend a new service to a property not previously served, except upon written application to the Director of Public Works, who may grant at his discretion, permission subject to compliance by the property owner with such conditions as he shall deem desirable and necessary under the circumstances for the protection of the public improvement and for its restoration to good condition after the petitioner has completed the work provided for under the permit granted by the Director. (Ord. 3085, 9-13-1961; amd. Ord. 4089, 4-14-1976)

**6-10-5-10: SEWER CONNECTIONS WITHIN CORPORATE LIMITS:**

Applications to connect to or use, or to continue to use connections to the City's sewer system shall be made as provided in this Chapter, the permit for which shall contemplate the making of a sewer connection approximately in front of the lot from which the building or property sewer originates. When it is necessary to extend the sewer for more than thirty feet (30') beyond the property line from which it emerges into the street, there shall be made an additional charge for street excavation for the purpose of making the sewer connection on the following basis:

- A. Covered by the original permit fee, an extension of not to exceed thirty feet (30') beyond the lot line from which it emerges.
- B. For each additional foot in an unimproved street surface, fifty cents (\$0.50) per linear foot.
- C. For each additional foot in an asphalt improved surface, or a street improved with any other type of flexible pavement, one dollar (\$1.00) per linear foot.
- D. For each additional foot in a brick or concrete street, or other street surface with rigid pavement, two dollars (\$2.00) per linear foot.

**6-10-5-14: GREASE, OIL AND SAND INTERCEPTORS:**

- A. Grease, oil and sand interceptors shall be provided when required by the plumbing code of the city<sup>1</sup>, and in addition shall be provided when, in the opinion of the director of public works or his designee, they are necessary to the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand or any harmful ingredients; except that such interceptors shall not be required for nonmultiple type private living quarters or dwelling units. All interceptors shall be of a type and capacity as outlined in subsection B of this section and shall be so located as to be readily and easily accessible for cleaning and inspection. Grease and oil interceptors shall be constructed of impervious materials (cast iron, steel, fiberglass or other approved material) capable of withstanding abrupt and extreme changes in temperature. They shall be substantial in construction, watertight and equipped with easily removable covers, which when bolted in place shall be gastight and watertight. Where installed all grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times. (Ord. 6384, 5-12-1999)
- B. This section will apply to all businesses capable of producing grease or other prohibited wastes as set forth in section 6-10-7-1 of this chapter.
- All required businesses will install an approved grease trap of at least seven hundred fifty (750) gallon capacity. The trap will have two (2) access openings for cleaning. The baffles must be mechanically connected to the structure. In the event of space limitations in the installation of this seven hundred fifty (750) gallon trap, a waiver must be obtained from the public works director before an inside trap can be considered. The inside trap will be sized by making the volume equal to or greater than double the total volume of the sinks wasting into the trap. (Ord. 6574, 4-25-2001)
- C. No garbage disposals or food grinders are to be installed or used.
- D. Oil interceptors shall be sized according to the state of Illinois plumbing code. The plumbing inspector for the city shall verify sizing and requirements. (Ord. 6384, 5-12-1999)

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1. See section 9-1-1 of this code.

owned or controlled by the public or such designated substances or things, by reason of rain or other natural causes, such named substances or things would be carried or conducted into the sewage system or into any sewer in the city. All floor drains, catch basins and inlets, up to and including a six inch (6") opening, shall be fitted and covered and kept covered with approved cast iron grates, or other type covering approved by the superintendent of public works, to retain all foreign matter and substances likely to clog and obstruct sewers and not proper sewage nor susceptible to sewage treatment. (Ord. 6667, 7-10-2002)

**6-10-6: DISCHARGES TO SYSTEM:**

**6-10-6-1: UNSANITARY DISCHARGE:** It shall be unlawful for any person, by himself or by permission of others, to place, deposit, emit or discharge, in an unsanitary manner or with unsanitary or offensive results, on public or private property within the city, or in any area or into facilities under the jurisdiction of the city, any human or animal excrement, garbage, industrial or other objectionable waste. (Ord. 3085, 9-13-1961; amd. 1999 Code)

**6-10-6-2: DISCHARGE INTO WATERCOURSES:** It shall be unlawful to discharge to any natural outlet or into any open ditch or spillway, within the city, or in any area under the jurisdiction of the city, any sanitary sewage, industrial or manufacturing wastes or polluted waters, except where suitable treatment has been provided in accordance with the provisions of this chapter and the discharge does not enter the sanitary or combined sewer system of the city. (Ord. 3085, 9-13-1961; amd. 1999 Code)

**6-10-7: INDUSTRIAL WASTES:**

**6-10-7-1: PROHIBITED WASTES:**

- A. No person shall discharge or cause to be discharged any storm water, surface water, ground water, roof runoff, subsurface drainage, uncontaminated cooling water or unpolluted industrial process waters to any sanitary sewer.

2. Any water or waste containing fats, wax, grease or oils, whether emulsified or not, in excess of one hundred milligrams per liter (100 mg/l) or containing substances which may solidify or become viscous at temperatures between thirty two degrees Fahrenheit (32°F) and one hundred fifty degrees Fahrenheit (150°F). (Ord. 4326, 7-12-1978)

3. (Rep. by Ord. 6571, 4-25-2001)

4. Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

5. Any waters or wastes containing in excess of the following concentrations and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement to such degree that any such material received in the composite sewage at the treatment works exceeds the limits established by the city engineer for such materials:

<u>Waste Or Chemical</u>	<u>Concentration mg/l</u>
Boron	1.0
Cadmium	2.0
Chromium (hexavalent)	5.0
Chromium (trivalent)	10.0
Chlorine demand	30.0
Copper	3.0
Cyanide	2.0
Iron	15.0
Lead	0.1
Nickel	3.0
Oil and grease, etc. (carbon tetrachloride extraction)	100.0
Phenols	0.5
Zinc	2.0

6. Any waters or wastes containing phenols or other taste or odor producing substances, in such concentrations exceeding limits which may be established by the city engineer as necessary, after treatment of the composite sewage, to meet the requirements of the state, federal or other public agencies of jurisdiction for such discharge to the receiving water.

1. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
  2. Any waters or wastes containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance or create any hazard in the receiving waters of the sewage treatment plant, including but not limited to cyanides in excess of two milligrams per liter (2 mg/l) as CN in the wastes as discharged to the public sewer.
  3. Any waters or wastes having a pH lower than six (6.0), or having other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works.
- D. No person shall discharge or cause to be discharged the following described substances, materials, waters or wastes if it appears likely in the opinion of the City Engineer that such wastes can harm either the sewers, sewage treatment process or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property or constitute a nuisance. In forming his opinion as to the acceptability of these waters, the City Engineer will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant and other pertinent factors.

The substances prohibited are:

1. Any liquid or vapor having a temperature higher than one hundred fifty degrees Fahrenheit (150°F).
2. Any water or waste containing fats, wax, grease or oils, whether emulsified or not, in excess of one hundred milligrams per liter (100 mg/l) or containing substances which may solidify or become viscous at temperatures between thirty two degrees Fahrenheit (32°F) and one hundred fifty degrees Fahrenheit (150°F).
3. Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths ( $\frac{3}{4}$ ) horsepower or greater shall be subject to the review and approval of the City Engineer.

dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).

b. Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

c. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.

d. Unusual volume of flow or concentration of wastes constituting "slugs" as defined in Section 6-10-7-5 of this Chapter.

10. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

- E. The admission into the public sewers of any waters or wastes having: 1) five (5) day biochemical oxygen demand greater than two hundred milligrams per liter (200 mg/l), or 2) containing more than two hundred fifty milligrams per liter (250 mg/l) of suspended solids, or 3) containing any quantity of substances having the characteristics described in subsection D of this Section, or 4) having an average daily flow greater than two percent (2%) of the average daily sewage flow of the City shall be subject to the review and approval of the City Engineer. Owner shall provide at his own expense pretreatment facilities necessary to meet the standards provided in chapter 1, Environmental Protection Agency, Rules and Regulations subchapter D, Water Programs Part 128-Pretreatment Standards, Federal Register Volume 38, No. 215, Thursday, November 8, 1973, and amendments thereto. Plans, specifications and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the City Engineer and of the Illinois Sanitary Water Board of the State of Illinois, and no construction of such facilities shall be commenced until said approvals are obtained in writing.
- F. If any waters or wastes are discharged, or are proposed to be discharged, to the public sewers, which waters contain the substances or possess the characteristics enumerated in subsection D of this Section, and which in the judgment of the City Engineer may have a deleterious effect upon the sewage works, processes,



service. The Director shall obtain the concurrence of the sewage treatment plant attorney before initiating action. Methods of informal notice shall include, but not be limited to, any of the following: personal conversation between the industrial user and sewage treatment plant employees, telephone calls, letters, hand delivered messages or notices posted at the industrial user's premises or point of discharge.

J. Protection against undesirable discharges required:

1. Each industrial user having the ability to cause interference with the sewage treatment plant or to violate the regulatory provisions of this Chapter shall provide protection from accidental discharge to the sewer treatment plant of prohibited materials or other substances regulated by this Chapter. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner or user's own cost and expense.

2. All industrial users whose wastewater includes or could include compatible or incompatible pollutants in amounts great enough to cause interference with the sewage treatment plant must have detailed plans on file at the sewage treatment plant showing facilities and operating procedures to provide protection from accidental discharge. No industrial user who begins contributing to or could contribute such pollutants to the sewage treatment plant after the effective date of this Chapter shall be permitted to introduce such pollutants into the sewage treatment plant until accidental discharge facilities and procedures, as appropriate, have been approved by the sewage treatment plant and installed by the industrial user. Review and approval of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify its facility as necessary to meet the requirements of this Chapter.

3. In the case of an accidental or deliberate discharge of compatible or incompatible pollutants which may cause interference at the sewage treatment plant or will pass through the sewage treatment plant or violate requirements of this Chapter, it shall be the responsibility of the industrial user to immediately telephone and notify the sewage treatment plant of the incident. The notification shall include name of caller, location and time of discharge, type of wastewater, concentration and volume.

4. Within fifteen (15) days following such an accidental or deliberate discharge from the industrial user, such user shall submit to the sewage treatment plant a detailed written report describing the cause

control manholes or access facilities and related equipment shall be approved by the Director prior to the beginning of construction.

**B. Inspection, Sampling And Records Keeping:**

1. The sewage treatment plant or its representative may inspect the facilities of all industrial users to ascertain whether the purposes of this Chapter are being met and if all requirements of the Chapter are being complied with. Persons or occupants of premises in which a discharge source or treatment system is located or in which records are kept shall allow the sewage treatment plant or its representative ready access upon presentation of credentials at reasonable times to all parts of said premises for the purposes of inspection, sampling, examination and photocopying of records, required to be kept by this Chapter, and in the performance of any of their duties. The sewage treatment plant shall have the right to set up on the industrial user's property such devices as are necessary to conduct sampling, monitoring and metering operations. Where an industrial user has security measures in force which would require suitable identification necessary, arrangements with their security guards so that upon presentation of suitable identification, personnel from the sewage treatment plant shall be permitted to enter immediately for the purpose of performing their specific responsibilities. Such arrangements shall be made by all industrial users with their security guards within thirty (30) days of the passage of this Chapter.

2. Industrial users and the sewage treatment plant shall maintain records of all information resulting from any monitoring activities required by this Chapter, and shall include:

- a. The date, exact place, method and time of sampling and the names of the person or persons taking the samples;
- b. The dates analyses were performed;
- c. Who performed the analyses;
- d. The analytical techniques/methods used; and
- e. The results of such analyses.

3. The sewage treatment plant and industrial users shall maintain such records for a minimum of three (3) years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user

Public Works. A discharge into the public sewers in excess of twenty five thousand (25,000) gallons in any one day shall not be considered a slug if it is determined by the City Engineer that the maximum discharge rate will not result in a hydraulic overloading of the downstream sewerage facilities. (Ord. 3085, 9-13-1961; amd. Ord. 4089, 4-14-1976; Ord. 4326, 7-12-1978)

6-10-7-6: **CONTRACTS WITH INDUSTRIAL USERS:** The City shall have and reserves unto itself the right to enter into various contracts with significant industrial users for the disposal of industrial wastes upon such terms and conditions as may be deemed appropriate by the City officials and upon approval of the Mayor. (Ord. 4923, 6-26-1985)

6-10-8: **PRIVIES AND PRIVATE SYSTEMS:**

6-10-8-1: **PRIVIES PROHIBITED:** Except as hereinafter provided, it shall be unlawful to construct or to maintain any privy, privy vault, septic tank, cesspool or other facility intended or used for the disposal of sewage. (Ord. 3085, 9-13-1961)

6-10-8-2: **PRIVATE SEWAGE DISPOSAL:**

- A. Permitted: Where a public sanitary sewer or combined sewer is not available for sewage service under the provisions of Section 6-10-2 of this Chapter, the building or property sewer shall be connected to a private sewage disposal system complying with the provisions of this Chapter. (Ord. 3085, 9-13-1961)
- B. Permit Required: Before commencement of construction of a private sewage disposal system, the owner shall first obtain a written permit, issued by the Director of Public Works. Application for such permit shall be made on a form furnished by the City, which the applicant shall supplement by such plans, specifications or other information as are deemed as necessary by the Director. A private sewage disposal permit and inspection fee of twenty dollars (\$20.00) shall be paid to the City at the time the application is filed. The fee shall be in addition to any fee or deposit required for excavating in a street or other public way. (Ord. 3085, 9-13-1961; amd. Ord. 4089, 4-14-1976)
- C. Design Requirements: The type, capacities, location and layout of a private sewage disposal system shall comply with all the

6-10-10: **WASTEWATER HAULERS:**

A. **Use Of Sewage Treatment Plant:** Wastewater haulers shall use the Alton sewage treatment plant as the only site for final disposal within the City, and shall be permitted to use the sewage treatment plant of the City at such times and places as may from time to time be designated by the City.

B. **Permit Required, Fee:** Such wastewater haulers shall first obtain a permit to use such facilities, which permit shall be annual beginning January 1 of each year, and which permit shall cost fifteen dollars (\$15.00).

C. **Sewage Treatment Plant Charges:** In addition to permit fees herein established, there shall be the following charges:

For domestic wastewater sources up to 1,000 gallon tanks . . . . . \$10.00 per load

For domestic wastewater sources 1,001 gallon tanks and over . . . . . \$16.00 per load

For nondomestic sources . . . . . \$2.00 per 100 gallons

Each hauler of nondomestic waste, if hauling less than a full load, shall have a sight glass or other acceptable gauging device, calibrated in one hundred (100) gallon increments.

D. **Use Restrictions And Regulations:**

1. Wastewater haulers shall be permitted only to dump loads which are of acceptable matter and do not contain substances prohibited in Section 6-10-7-1 of this Chapter which includes the prohibition of waste from grease traps.

2. All wastewater haulers having permits must purchase, at the designated office of the City, load vouchers in advance of dumping. Load vouchers shall be used to pay for each load as it is dumped at sewage treatment plant designated facility. Vouchers are nontransferable and shall be valid for a maximum period of thirty (30) days after expiration of the permit year in which purchased.

3. Each load delivered to the treatment plant must have a wastewater haulers source information sheet properly filled out by the operator on duty and signed by the wastewater hauler.

thereof. The offender shall, within the period of time stated in such notice, permanently cease all such violations. (Ord. 3085, 9-13-1961)

- C. **Penalty:** Any person who shall continue any violation beyond the time limit provided for in subsection B of this Section shall be fined as provided in Section 1-4-1 of this Code. Each day on which any such violation shall continue shall be deemed a separate offense. (Ord. 3085, 9-13-1961; amd. Ord. 4255, 11-23-1977; 1999 Code)
- D. **Liability For Damages:** Furthermore, any person violating any of the provisions of this Chapter shall become liable to the City for any expense, loss or damages occasioned to the City by reason of such violation. Such expense, loss or damages occasioned to the City by such violation shall be paid within thirty (30) days after the rendition of a bill therefor. If not paid within thirty (30) days, such charges shall be deemed, and are hereby declared to be delinquent, and there shall be added a delinquency charge of one percent (1%) for every thirty (30) days that said bill is delinquent. This charge, if not paid within one year, shall become a lien against the real estate and the City Treasurer shall promptly file a notice of such lien in the office of the Recorder of Deeds, Madison County. This notice shall consist of a sworn statement of the City Treasurer setting forth:
1. A declaration of such real estate sufficient for the identification thereof.
  2. The amount of money due for reason of the expense, loss or damages occasioned to the City by the violation mentioned above, including delinquency charges.
  3. The date when such amount became delinquent. (Ord. 3085, 9-13-1961; amd. 1999 Code)

## CHAPTER 11

**STORM SEWERS**

## SECTION:

- 6-11-1: Downspouts; Connection Prohibited
- 6-11-2: Sever Connections
- 6-11-3: Discharge Into Storm Sewers
- 6-11-4: Violation
- 6-11-5: Storm Drains; Design Requirements

6-11-1: **DOWNSPOUTS; CONNECTION PROHIBITED:** No person shall connect any downspout or other similar device designed to carry away storm waters into any sanitary sewers embraced within the sewer system of the City. (Ord. 2096, 7-22-1942)

6-11-2: **SEVER CONNECTIONS:** Any person who has connections of any downspout or similar device designed to carry away storm waters into sanitary sewers embraced within the sewer system of the City shall, upon notice from the City Engineer, sever said connections within ten (10) days from the giving of said written notice and upon failure to sever said connections, complaint shall be filed by the City Engineer charging said person with a violation of this Chapter, and the City Engineer or other proper officials of the City are hereby vested with power and authority to prosecute said suit or suits so filed until the condition has been remedied. (Ord. 2096, 7-22-1942)

6-11-3: **DISCHARGE INTO STORM SEWERS:**

- A. No person, public or private, shall discharge or empty any type sewage including the effluent of septic tanks or other sewage treatment devices, or any domestic, commercial or industrial waste or any putrescible liquids, or cause the same to be discharged or emptied in any manner into open hitches along or into any drain or drainage structure installed solely for street or highway drainage

- B. **Outfall Pipes:** All outfall pipes shall conform to one of the types listed in subsection 6-10-5-4A of this Chapter. Joints shall conform to subsection 6-10-5-4D of this Chapter. No corrugated metal pipes are to be used. All outfall pipes must be a minimum diameter of eight inches (8").
- C. **Construction Of Basin:** Catch basin walls shall be constructed of precast concrete or poured concrete. Concrete block may not be used. All finished construction (including stone) must be at grade to surrounding curb and earth.
- D. **Sump And Bottom:** Catch basin sumps must be poured concrete and tied into the front wall and sides of the throat. Catch basin bottoms must be constructed of poured concrete and finished to allow all water to drain towards outfall pipe.
- E. **Grated Inlets:** Construction of grated inlets to be allowed only on approval of the Director of Public Works.
- F. **Permits:** Permit for construction of catch basins shall be made prior to construction for each structure. Excavation permits must be obtained before excavating in City property. Inspection shall be made by a designated employee of the City. (Ord. 5997, 8-9-1995)

# APPENDIX IV



7/2/92

## AN INTERGOVERNMENTAL AGREEMENT

BETWEEN THE CITY OF ALTON, ILLINOIS AND THE VILLAGE OF BETHALTO, ILLINOIS PROVIDING FOR THE SALE AND PURCHASE OF WASTEWATER CONVEYANCE AND TREATMENT SERVICES.

This Agreement is made and entered into between and among the City of Alton, Illinois (hereinafter "Alton") and the Village of Bethalto, Illinois (hereinafter "Bethalto") (both parties collectively being hereinafter called the "Participants").

### ARTICLE I

#### GENERAL PROVISIONS

Section 1. Pursuant to the provisions of Article VII, Section 10 of the 1970 Illinois Constitution and the Intergovernmental Cooperation Act (Chapter 127, Section 741 et seq., Illinois Revised Statutes) the Participants hereby contract and agree to continue the use of the already developed regional wastewater facility consisting of the Alton Wastewater Treatment Plant located on Chessen Lane in Alton, Illinois and the Alton East Side Interceptor Sewer as constructed in 1964-65 (hereinafter "regional wastewater facilities") to convey, treat, and dispose of the wastewater of the Participants

Section 2. This Agreement supersedes all previous agreements between Alton and Bethalto relating to the regional wastewater conveyance and treatment services.

Section 3. Alton, as a regional wastewater treatment facility, agrees to accept sewage from Bethalto at the Alton manhole located at Station 60+28.20 on Alton's East Side Interceptor Sewer for conveyance, secondary treatment, and disposal in accordance with water quality standards of the Illinois Environmental Protection Agency and the comparable federal agency having jurisdiction in such matters.

Section 4. Alton, as a regional wastewater treatment facility, by separate intergovernmental agreement, agrees to accept sewage from Godfrey at Godfrey's Coal Branch Interceptor Sewer Manhole #21 and Black Creek Interceptor Sewer Manhole #12.5 located at Alton's corporate limits for conveyance, secondary treatment, and disposal in accordance with water quality standards of the Illinois Environmental Protection Agency and the comparable federal agency having jurisdiction in such matters.

ARTICLE II

CAPACITY ALLOCATION

Section 1. Maximum Flow: The daily design flow capacity of Alton's regional wastewater treatment plant is presently 10.5 MGD for design average flow (DAF) and 26.25 MGD for design maximum flow (DMF). The daily design flow capacity allocated to the East Side Interceptor Sewer is presently 5.0 MGD for DAF and 12.5 MGD for DMF.

The wastewater flow capacity in the East Side Interceptor Sewer allocated to each participant is as follows:

ALTON

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period . . . 1.75 MGD
- B. Daily Maximum Flow - Total volume over 24 hour period . . . 4.38 MGD

BETHALTO

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period . . . 2.5 MGD
- B. Daily Maximum Flow - Total volume over 24 hour period . . . 6.25 MGD

GODFREY

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period . . . 0.75 MGD
- B. Daily Maximum Flow - Total volume over 24 hour period . . . 1.87 MGD

The design DMF and DAF values are subject to changes that may be specified in subsequent NPDES Permits issued by IEPA.

In the event the daily maximum flow in the East Side Interceptor Sewer exceeds the 12.5 MGD in a 24 hour period, Alton will notify Bethalto and Godfrey of the occurrence and will provide the Participants with the flow contributed by Bethalto, Godfrey and Alton during that period. If the daily flow in the East Side Interceptor sewer exceeds 12.5 MGD for at least one day in any consecutive three month period, Alton will arrange a meeting of all Participants to review the daily flow data and to reach an agreement on the corrective action to be taken by the Participants to maintain a maximum daily flow in the East Side Interceptor Sewer at or below 12.5 MGD. If an agreement can not be reached by the Participants within six months of the initial meeting, determination of the corrective action to be taken shall be achieved by arbitration as set out in Article IV of this Agreement.

Section 2. Maximum Loadings: If the average daily BOD and suspended solids loading in the East Side Interceptor Sewer at the Alton Wastewater Treatment Plant exceeds 200 mg/l and 250 mg/l respectively based on any 12 consecutive month period, Alton will provide notification that all participants (Alton, Bethalto, and Godfrey) will be required to purchase and install wastewater sampling equipment to provide for sampling of their wastewater flows in accordance with Article III, Section 3.B. of this Agreement. At any time prior to that occurrence, Alton reserves the right to install portable sampling equipment to sample and test Bethalto's discharge into the regional wastewater facilities. If the average daily BOD and suspended solids loading exceeds 200 mg/l and 250 mg/l respectively for any 6 consecutive month period, Alton will provide notification that all Participants (Alton, Bethalto, and Godfrey) will be required to purchase and install wastewater sampling equipment to provide for sampling of their wastewater flows in accordance with Article III, Section 3.B. of this Agreement. If the results of the sampling of Bethalto's flow indicates the BOD and suspended solids loading contributed by Bethalto exceeds 200 mg/l and 250 mg/l respectively, Bethalto shall pay the surcharges stated in Article III, Section 2.D.2 of this Agreement.

In addition Bethalto agrees to enforce its sewer use ordinances to insure that its sewage discharge into the regional wastewater facility does not violate the provisions of Title 8, Chapter 1, (Sewers and Sewage Disposal) of Alton's current City Code relating to wastewater characteristics, or any subsequent revisions thereto.

Section 32 through 40 inclusive to Title 8, Chapter 1 of said Code, attached as Appendix IX, shall apply to Bethalto's discharge into the regional wastewater facility and shall apply to Bethalto's users.

### ARTICLE III

#### TERMS OF SERVICE

Section 1. Sewer Use Ordinance: Under the terms of this Agreement, Alton and Bethalto shall maintain and implement a state approved (IEPA) User Charge System. Alton and Bethalto agree that its User Charge Systems will collect sufficient funds to satisfy the obligations created by the terms of this Agreement, and that each municipality further agrees to modify the rates through their respective User Charge Systems from time to time in order to remain current or cure any delinquencies in their obligations under this Agreement.

Section 2. Allocation of Costs: Under the terms of this Agreement, Alton and Bethalto agree to share in their proportional costs associated with the Alton Regional Wastewater Facilities as hereinafter set forth.

- A. Operation, Maintenance, and Replacement (O, M & R) Costs: O, M & R costs for the regional system (excepting scheduled replacement reserves at the treatment plant) shall be allocated to the municipalities which are parties to this Agreement on the following basis:

1. The calculation of O, M & R user charges for each year shall be determined by using the actual O, M & R costs for the regional wastewater facilities for the previous fiscal year (April 1 to March 31) as a basis for the monthly charges, provided however, the total amount of any BOD or suspended solids surcharges paid by Godfrey or Bethalto or Credited by Alton during the year shall be deducted from the total annual sewage treatment plant O, M & R costs to arrive at the total annual O, M & R cost to be distributed among the Participants. Attached as Appendix I, II, and III to this Agreement are sample costs of the actual cost sheets showing the items of cost to be distributed among the Participants in the regional wastewater facilities.
  2. The allocation of cost to each Participant shall be determined annually based on the allocation of cost formulas set forth in Appendix VII.
- B. Replacement Reserves for Scheduled Treatment Plant Items: The cost of maintaining a reserve account for the replacement of specific major equipment items at the treatment plant shall be allocated to the municipalities which are parties to the agreement on the following basis:
1. Each year an amount equal to the total annual depreciation amount for the specific equipment items listed in Appendix IV shall be put aside in a separate account for the replacement of these equipment items.
  2. Allocation of cost to each Participant shall be determined annually based on the allocation of cost formula set forth in Appendix VII.
  3. The scheduled equipment items and the annual replacement reserve amount may be amended from time to time upon mutual agreement of the Participants in order to adequately fund the account.
  4. In the event the replacement of a scheduled equipment item causes the reserve account to be depleted, the unfunded portion of the replacement cost shall be allocated to the Participants based on the allocation of cost formula set forth in Appendix VII. The provisions of this paragraph shall not take effect until the fiscal year beginning April 1, 1994.
  5. Should the replacement reserve account total reach the total amount shown on Appendix IV, deposits to that account shall cease until an expenditure is made from that account, at which time deposits shall resume and continue until the such time as the total amount shown on Appendix IV is again reached.

C. Debt Service: Debt service costs for the facilities which compose the regional wastewater facilities shall be allocated to the participating municipalities on the following basis:

1. Bethalto shall pay Alton an annual debt service charge for the indebtedness incurred as a result of the 1962 and 1974 Revenue Bond Issues in accordance with the cost allocation formulas set forth in Appendix VIII. Bond retirement schedules for the 1962 and 1974 Revenue Bonds are shown on Appendix V and VI respectively.
2. All future debt service resulting from major capitol improvements to the regional wastewater facilities shall be allocated to the Participant using the facilities jointly in proportions to the use of the facilities by each Participant, based on flow. Alton agrees to fully inform Bethalto the reason for and the nature of these capitol improvements and the method of financing to be utilized.

D. Miscellaneous Costs:

1. In such instances where Bethalto will in the future reach agreement with Alton to construct sewer extensions which connect directly into Alton's wastewater collection system and does not utilize the regional wastewater collection facilities described in Article I, Sections 3 and 4 of this Agreement, Bethalto shall pay Alton for the conveyance and treatment of Bethalto's wastewater at the user charge rates established by Alton's User Charge System for Alton's residential and commercial customers. The present Alton residential user charge is \$24.00 per quarter per residential user and the commercial user charge is \$1.24 per 1,000 gallons of metered water use, billed quarterly, plus a quarterly billing charge of \$7.10.
2. Bethalto, Godfrey, and Alton shall be assessed surcharges as established by Alton's User Charge System for wastewater discharged into the regional wastewater facilities which exceed the maximum limits for BOD and suspended solids established in Article II, Section 2 of this Agreement. Present surcharge rates are \$0.11 per lb. BOD in excess of 200 mg/l and \$0.09 per lb. suspended solids in excess of 250 mg/l.

The surcharge rates may be adjusted as required periodically as justified by a written engineering study and report presented at the annual meeting described in this Article III, Section 4.A.3.

3. Cost for industrial pre-treatment programs shall be maintained separately from all of the costs and shall be charged to the individual industrial users on the basis of the costs of the service rendered to each industry. No cost for the industrial pre-treatment program shall be allocated to the participating municipalities.
4. Cost for billing and collection of sewer use charges for individual users of the various collection systems shall be the respective responsibility of each municipality.

Section 3. Metering, Sampling, and Billing: Under the terms of this Agreement, the municipalities agree to the metering, sampling, and billing responsibilities and procedures hereinafter set forth.

- A. Bethalto will operate, maintain, and repair at their expense metering stations, including metering equipment, to measure and record total flows into the regional wastewater facilities. Alton shall employ a third party, acceptable to Godfrey and Bethalto, to calibrate the metering equipment of all Participants annually, the cost of which shall be considered a part of the treatment plant O, M & R costs to be shared. Said third party shall furnish results of each calibration to all Participants. If the metering station is not operating properly or if the meter should fail to register for any period, Alton shall record the amount of flow for the same period of the previous year plus or minus a percentage increase or decrease that would equal the increase or decrease based on the previous twelve (12) months reading over the same period the prior year. In the event Bethalto consistently fails to adequately operate and maintain their metering equipment, after written notification, Alton reserves the right to install, operate and maintain its own metering station, at Bethalto's cost, to meter and record their total flows into the regional wastewater facilities.

Alton shall have access to Bethalto's metering station for the purpose of inspecting and reading the meters therein and for measuring the quantity of sewage being discharged into Alton's East Side Interceptor Sewer. Alton will read the meter on or about the first day of each month and furnish Bethalto with said reading on or about the tenth (10) day of each month.

- B. In the event as the terms of Article II, Section 2 of this Agreement are imposed due to BOD and suspended solids loadings in the East Side Interceptor Sewer, Bethalto shall purchase and install, at their expense, flow proportional wastewater sampling facilities to provide for continuous sampling of their flows into the regional wastewater facilities. Before purchase, the type of equipment shall be reviewed and approved by all three (3) Regional Wastewater Participants. Alton will operate, maintain, and replace the flow sampling equipment and include this cost as a part of the annual regional treatment plant operating and maintenance expense. Alton will be responsible

for sampling and testing the wastewater flows at all three locations a minimum of two times per week. Collection of all Participants samples shall be done on the same day as close in time as practical.

The wastewater BOD and SS loading by Alton shall be obtained after subtracting out the contribution by Bethalto and Godfrey from the Alton East Interceptor sampler test results.

- C. Alton will bill Bethalto monthly based upon the terms of this Agreement. Payment will be due in thirty (30) days. A penalty of ten percent (10%) per month, or part thereof, shall be charged for each and every overdue bill after it becomes thirty (30) days delinquent.
- D. Each municipality shall bill its individual users based on its respective User Charge System at a rate to cover all necessary bills from Alton; Amortization of Debt Service; and operation, maintenance, and replacement costs.

Section 4. Payment: Under the terms of this Agreement, payment by Bethalto for wastewater conveyance and treatment services provided by Alton shall be as hereinafter set forth.

- A. Payment by Bethalto for their allocation of the costs described in Article III, Section 2.A., B., and C. of this Agreement shall be made monthly in the amount of one-twelfth (1/12) of their total annual allocation, determined as follows:
  - 1. On or before June 1st of each year, Alton will furnish to Bethalto O, M & R cost sheets (samples attached to this Agreement as Appendix I, II, and III) showing actual costs for the fiscal year ending March 31st, together with the total annual flow data for each Participant for the corresponding time period.
  - 2. On or before June 1st of each year, Alton will furnish to Bethalto cost allocation calculations (samples attached to this Agreement as Appendix VII and VIII) showing Bethalto's cost allocation for the year ending March 31st, together with an annual accounting of the treatment plant equipment replacement reserve account balance.
  - 3. Bethalto's cost allocation, determined from the actual costs for the year ending March 31st shall be reviewed by Bethalto and, subject to the provisions of Article IV of this Agreement, shall become effective August 1st each year. The August billing by Alton will reflect the new annual monthly rate and will be due within 30 days of the billing date in accordance with Article III, Section 3.C. of this Agreement. During the period from June 15th to July 15th an annual meeting will be scheduled by Alton to review the annual costs and cost allocations with Bethalto and Godfrey and to answer any questions raised by the Participants.

- B. Payment by Bethalto for the costs described in Article III, Section 2.D. of this Agreement, shall be made monthly in accordance with the terms set forth in said Section 2.D.

#### ARTICLE IV

##### ARBITRATION

Section 1. In the event of a dispute concerning the measurement of flow, BOD loading, SS loading, or calculation of user charges and expenses, the remedy to the aggrieved party shall be determined by arbitration.

- A. Upon occurrence of a dispute, either party may petition the other in writing, for arbitration. The Respondent shall answer the Petitioner within thirty (30) days of receipt of the notification of dispute. After thirty (30) days, or upon answer by the Respondent, whichever occurs first, the Petitioner may arrange for the dispute to be heard by a three member arbitration panel (hereinafter "Panel").

The Panel shall consist of a representative appointed by Bethalto, a representative appointed by Alton, and a third member mutually agreeable to the two appointed Panel members. Panel members shall be Registered Professional Engineers experienced in the installation and operation of municipal wastewater facilities.

The Panel shall have the power to make dispositional orders that are enforceable by court proceedings, if necessary.

- B. All expenses, salaries of the Arbitrator selected by each municipality shall be at the expense of that municipality. All expenses, salaries, etc. of the mutually agreed upon Arbitrator shall be shared equally by the parties.
- C. The decision of the Arbitrators shall be retroactively applied to the August 1st effective date of the annual allocation as established in Article III, Section 4.A. of this Agreement.

#### ARTICLE V

##### DEFAULT

Section 1. In the event of a breach of or failure to perform any duties and obligations set forth herein by one or more of the Participants, except those matters subject to arbitration pursuant to Article IV, any Participant by a majority vote of their corporate authorities can request a hearing default. The party claiming default (the Claimant) shall notify the other party (Respondent) in writing of the nature of the alleged default. The Respondent shall have thirty (30) days in which to answer the allegation. Subsequent to the response, there will be a ninety (90) day period during which the parties shall meet and negotiate to attempt to resolve the matters. Failure to



resolve the matter within the ninety (90) day period may be cause for the Claimant to resort to normal legal channels to be taken in Madison County for the resolution of the unresolved matters.

## ARTICLE VI

### MISCELLANEOUS

Section 1. This Agreement shall be in force through the year 2012 and shall continue thereafter for successive periods of ten (10) years until terminated or modified by agreement of Participants. No termination shall be effective without the consent of Bethalto until until five (5) years after written notice from Alton to Bethalto of such intended termination. No termination shall be effective without the consent of Alton until five (5) years after written notice from Bethalto to Alton of such intended termination.

Section 2. Wastewater Facilities Improvements: In the event that Alton is required by an authority to upgrade or in any way modify its treatment plant or East Side Interceptor Sewer, during the term of this Agreement, Bethalto agrees to share in the costs thereof in proportion to the use of the facilities by each Participant, except they shall not share in any mandated improvements or other improvements utilized exclusively by any other Participant.

Section 3. Records: The Participants have the right to access and copy any and all books, documents and records relating to the purpose and intent of this Agreement and the performance of all Participants. All Participants shall comply with all Federal and State laws regarding public access to documents.

Section 4. Amendment: This Agreement may be amended at any time upon the unanimous written consent of the Participants.

Section 5. Regulatory Agencies: This Agreement is subject to such rules, regulations, or laws that may be applicable to similar agreements in this State and Bethalto, Godfrey and Alton will collaborate in obtaining such permits, certificates, or the like, as may be required to comply therewith.

Section 6. Separability: If any section, subsection, sentence or clause of this Agreement shall be adjudged unconstitutional, or otherwise unlawful, such adjudication shall not affect the validity of the Agreement as a whole or of any part not adjudged unconstitutional.

Section 7. Entire Agreement: This Agreement represents the entire understanding of the parties. No representations, warranties, promises, covenants or undertakings, other than those expressly set forth herein, have been made by either party to the other.

Section 8. Execution and Effective Date:

- A. This Agreement shall be signed, executed and attested by duly authorized officials of appropriate authority and position for each party to this Agreement. At the time of the signing, execution and attestation of the Agreement, each party shall attach to the Agreement a duly certified copy of the appropriate Ordinance which binds that party to this Agreement. It is the intention of each party to have a duplicate original of this Agreement; thus, each party will sign two duplicate original Agreements and provide two copies of the Ordinances of acceptance.
  
- B. This Agreement shall become effective on the date of execution by all parties to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this document on the dates written below.

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

CITY OF ALTON, ILLINOIS

VILLAGE OF BETHALTO, ILLINOIS

\_\_\_\_\_  
Edward D. Voumard, Jr., Mayor

\_\_\_\_\_  
William F. Stephenson, President  
Board of Trustees

ATTEST:

ATTEST:

\_\_\_\_\_  
Robert Pace, City Clerk

\_\_\_\_\_  
Mary Meyer, Village Clerk

SRD:19

APPENDIX I

DEPARTMENT 1710 - SEWAGE TREATMENT PLANT

ELIGIBLE O, M & R COSTS TO BE SHARED

Personal Services

7020 Payroll  
7050 IMRF  
7070 Life Insurance  
7080 FICA  
7090 Health & Accident Insurance

Commodities

7270 Postage  
7310 Office Supplies  
7410 Field Supplies  
7610 Gas & Other Fuels  
7710 Automotive Supplies  
7810 Other O & M Supplies

Contractual Services

8020 Professional Services  
8030 Engineering Services  
8070 Towel & Laundry Services  
8200 Memberships Dues Etc.  
8220 Contract Work Not Otherwise Specified  
8510 Telephone & Telegraph  
8610 Travel & Subsistence  
9010 Printing Binding Advertising  
9050 Public Liability & Property Damage Insurance  
9210 Gas  
9230 Electric Light & Power  
9250 Water  
9270 Sewer Service Charge  
9310 Repair of Buildings  
9340 Repair of Machines & Equipment  
9420 Rent of Equipment  
9550 Freight & Express  
9590 Cleaning & Painting

Capital Outlay

9710 Machinery & Equipment\*  
9720 Construction Materials  
9750 Other Improvements

\* NOTE: Replacement of Scheduled Treatment Plant Equipment Items Not Included  
- See Appendix IV for Those Items

APPENDIX II

DEPARTMENT 1711 - SEWER MAINTENANCE

ELIGIBLE O, M & R COSTS TO BE SHARED

Personal Services

7020 Payroll  
7050 IMRF  
7060 Workmens Compensation  
7070 Life Insurance  
7080 FICA  
7090 Health & Accident Insurance

Commodities

7270 Postage  
7310 Office Supplies  
7410 Field Supplies  
7610 Gas & Other Fuels  
7710 Automotive Supplies  
7810 Other O & M Supplies

Contractual Services

8020 Professional Services  
8030 Engineering Services  
8070 Towel & Laundry Services  
8200 Memberships Dues Etc.  
8220 Contract Work Not Otherwise Specified  
8510 Telephone & Telegraph  
8610 Travel & Subsistence  
9010 Printing Binding Advertising  
9210 Gas  
9230 Electric Light & Power  
9250 Water  
9270 Sewer Service Charge  
9310 Repair of Buildings  
9340 Repair of Machines & Equipment  
9370 Other Repairs  
9410 Rent of Land & Building Etc.  
9420 Rent of Equipment  
9550 Freight & Express

Capital Outlay

9710 Machinery & Equipment  
9720 Construction Materials  
9750 Other Improvements

NOTE: 3.5% of Sewer Maintenance Chargeable to East Side Interceptor

APPENDIX III

DEPARTMENT 1502 - PUBLIC WORKS SEWER

ELIGIBLE O, M & R COSTS TO BE SHARED

Personal Services

7020 Payroll  
7050 IMRF  
7070 Life Insurance  
7080 FICA  
7090 Health & Accident Insurance

Commodities

7270 Postage  
7310 Office Supplies  
7610 Gas & Other Fuels  
7710 Automotive Supplies

Contractual Services

8020 Professional Services  
8030 Engineering Services  
8200 Memberships Dues Etc.  
8220 Contract Work Not Otherwise Specified  
8610 Travel & Subsistence  
9340 Repair of Machines & Equipment  
9420 Rent of Equipment

Capital Outlay

9710 Machinery & Equipment

NOTE: 50% of Public Works Sewer Chargeable to Department 1711, Sewer Maintenance and 50% Chargeable to Department 1710, Sewage Treatment Plant

SRD:19

APPENDIX IV

ANNUAL REPLACEMENT COST ALLOCATION FOR SEWAGE TREATMENT PLANT EQUIPMENT

<u>Items</u>	<u>Total Cost \$</u>	<u>Useful Life Years</u>	<u>Annual Depreciation %</u>	<u>Amount Annual Depreciation &amp;</u>
Comminutor	\$ 25,235	20	5	1,262
Aeration Tank Equipment and Accessories	183,160	20	5	9,158
Secondary Tank and Clarifier Equipment	166,450	25	4	6,658
Return Sludge Pumps and Motors - Primary	24,676	20	5	1,234
Spray Water System Equipment	24,084	20	5	1,204
Filter Thickening Equipment and Accessories	384,450	25	4	15,338
Blowers - 4 Original	94,210	25	4	3,768
Chlorination Equipment	29,113	20	4	1,165
Chain Link Fence	12,242	10	10	1,224
Effluent Pumps and Motors	20,619	20	5	1,031
Storm Water Pumps and Motors	8,425	20	5	421
Grit Chamber Equipment	9,187	20	4	367
Primary Tank Mechanisms	18,373	15	6-1/2	1,194
Digester Floating Covers	68,340	20	5	3,417
Digester Mechanisms - Excluding Heat Exchanger	11,637	15	6-1/2	759
Electrical - Main Switch Gear	230,000	25	4	9,200
Standby Generator Set - Stationary	<u>30,000</u>	25	4	<u>1,200</u>
Total	\$815,474			\$58,600

NOTE: Parts Replacements (Including Motors) on Above Items Costing Less than \$5,000.00 Considered to be Repairs

SRD:19

APPENDIX V

DEBT SERVICE SCHEDULE

Sewer Revenue Bonds  
 Dated April 1, 1962  
 Amount Issued \$4,840,000

<u>Year</u>	<u>Rate</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
1992	3.40	\$185,000	\$95,445	\$280,445
1993	3.40	195,000	89,155	284,155
1994	3.40	205,000	82,525	287,525
1995	3.40	220,000	75,555	295,555
1996	3.50	235,000	68,075	303,075
1997	3.50	245,000	59,850	304,850
1998	3.50	260,000	51,275	311,275
1999	3.50	275,000	42,175	317,175
2000	3.50	295,000	32,550	327,550
2001	3.50	310,000	22,225	332,225
2002	3.50	325,000	11,375	336,375

SRD:19

APPENDIX VI

DEBT SERVICE SCHEDULE

Sewer Revenue Bonds  
Dated January 1, 1974  
Amount Issued \$1,300,000

<u>Year</u>	<u>Rate</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
1992	6.50	\$50,000	\$29,250	\$79,250
1993	6.50	50,000	26,000	76,000
1994	6.50	50,000	22,750	72,750
1995	6.50	50,000	19,500	69,500
1996	6.50	50,000	16,250	66,250
1997	6.50	50,000	13,000	63,000
1998	6.50	50,000	9,750	59,750
1999	6.50	50,000	6,500	56,500
2000	6.50	50,000	3,250	53,250

SRD:19



APPENDIX VII

ALLOCATION OF OPERATION, MAINTENANCE AND REPLACEMENT COST FORMULA

(With Sample Calculations Using Flows & Costs for Fiscal Year Ending March 31, 1991)

A. Treatment Plant O, M & R

Percent Usage:

$$\text{Bethalto's Share} = \frac{\text{Bethalto's Total Annual Flow}}{\text{Total Annual Treatment Plant Flow}} = \% \text{ Usage}$$

$$\frac{904,875 (1,000 \text{ gal})}{3,135,690 (1,000 \text{ gal})} = 28.86\%$$

Cost Share:

$$\text{Bethalto's Total} = \% \text{ Usage} \times (\text{Total Cost of All Items in Appendix I and IV} + 50\% \text{ Treatment Cost of Total Cost of All Items in Appendix III)}$$

$$28.86\% \times (\$817,662 + \$58,600 + \$19,208) = \$258,432.64$$

B. East Side Interceptor O, M & R

Percent Usage:

$$\text{Bethalto's Share} = \frac{\text{Bethalto's Total Annual Flow}}{\text{Total Annual East Side Interceptor Flow (Measured at Treatment Plant)}} = \% \text{ Usage}$$

$$\frac{904,875 (1,000 \text{ gal})}{1,803,146 (1,000 \text{ gal})} = 50.18\%$$

Cost Share:

$$\text{Bethalto's Total Sewer} = \% \text{ Usage} \times 3.5\% \times (\text{Total Cost of All Items in Appendix II} + 50\% \text{ of Total Cost of All Items in Appendix III})$$

Maintenance Cost

$$50.18\% \times 3.5\% \times (\$330,178 + \$19,208) = \$6,136.27$$

APPENDIX VIII

ALLOCATION OF DEBT SERVICE COST FORMULA

(With Sample Calculations Using Flows & Costs for Fiscal Year Ending March 31, 1991)

Distribution of Annual Debt Service

A. 1962 Revenue Bond Issue (See Appendix V)

1. 5% of Annual Debt Service is Chargeable to East Side Interceptor Downstream of Bethalto Connection

$$5\% \times \$271,055 = \$13,552.75$$

2. 12.3% of Annual Debt Service is Chargeable to East Side Interceptor Upstream of Bethalto Connection

$$12.3\% \times \$271,055 = \$33,339.77$$

3. 16.1% of Annual Debt Service is Chargeable to Treatment Plant

$$16.1\% \times \$271,055 = \$43,639.86$$

B. 1974 Revenue Bond Issue (See Appendix VI)

1. 100% of Annual Debt Service is Chargeable to Treatment Plant

$$100\% \times \$82,500 = \$82,500$$

Treatment Plant Debt Service

Percent Usage:

$$\text{Bethalto's Share} = \frac{\text{Bethalto's Total Annual Flow}}{\text{Total Annual Treatment Plant Flow}} = \% \text{ Usage}$$

$$\frac{904,875 \text{ (1,000 gal)}}{3,135,690 \text{ (1,000 gal)}} = 28.86\%$$

APPENDIX VIII

ALLOCATION OF DEBT SERVICE COST FORMULA (Cont.)

(With Sample Calculations Using Flows & Costs for Fiscal Year Ending March 31, 1991)

Cost Share:

Bethalto's Treatment Plant = % Usage x (16.1% of 1962 Bond Issue Service + 100%  
Debt Service Cost of 1974 Bond Issue Debt Service)

$$28.86\% \times (\$43,639.86 + \$82,500) = \$36,403.96$$

East Side Interceptor Debt Service

Percent Usage:

Bethalto's Share =  $\frac{\text{Bethalto's Total Annual Flow}}{\text{Total Annual East Side Interceptor Flow}}$  = % Usage  
(Measured at Treatment Plant)

$$\frac{904,875 (1,000 \text{ gal})}{1,803,140 (1,000 \text{ gal})} = 50.18\%$$

Cost Share:

Bethalto's East Side Interceptor = % Usage x 5% of 1962 Bond Issue Debt Service  
Debt Service Cost

$$50.18\% \times \$13,552.75 = \$6,800.77$$

SRD:19

APPENDIX IX

EXCERPT FROM CITY OF ALTON MUNICIPAL CODE, TITLE 8, CHAPTER 1

8-1-32

8-1-32: PROHIBITED MATERIALS: It shall be unlawful and it is prohibited for any person to place or throw or cause or permit to be placed or thrown into the sewage system, or into any sewer, sewer lateral, manhole, catch basin or inlet or other appurtenances to the sewerage system within the City, any wood or metal or anything made of wood or metal or constructed partly of wood or partly of metal; or glass, glass bottles, or glass in any form; or crockery or broken crockery; dishes, china, broken chinaware; or gasoline, grease or tar or lubricants in any form; or bones, furs, offal from slaughter houses or from slaughtering, from meat markets, groceries or from poultry houses or poultry

packing, or poultry dressing plants, and all such waste matter from whatever source or wherever created or produced; or brick, brickbats, clay or concrete tile, or pieces of clay or concrete tile or clay tile materials or concrete in any form; or stone, sand, gravel or cinders; leather in any form; or cloth, clothing, burlap, gunny sacks or pieces or parts thereof in any form, or plastic bags; or plastic sheeting in any form; or weeds, grass, corn husks, corn stalks, corn cobs or other vegetable growth, vegetable tops, vegetable and fruit peelings, and other vegetable and fruit wastes; and all matter not susceptible of being carried in solution in water, and not proper sewage, requiring sewage treatment, nor susceptible of sewage treatment. No person shall place or throw or cause to be placed or thrown any of the designated substances or things upon floors or surfaces or into open ditches or drains adjacent to any manhole, catch basin or inlet, either owned or controlled by the public or such designated substances or things, by reason of rain or other natural causes, such named substances or things would be carried or conducted into the sewage system or into any sewer in the City. All floor drains, catch basins and inlets, up to and including a six inch (6") opening, shall be fitted and covered and kept covered with approved cast iron grates, or other type covering approved by the Superintendent of Public Works, to retain all foreign matter and substances likely to clog and obstruct sewers and not proper sewage nor susceptible to sewage treatment. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76)

8-1-33: **CONNECTION OF SURFACE DRAINS:** Hereafter, it shall be unlawful for the owner, occupant or agent of any building or structure or real property either by himself or with others to connect or cause to be connected to the building or property sanitary sewer the drainage of any storm water from any roof, yard, lot surface or drain tile. Such drainage shall be permitted to follow the natural watershed; or in case a storm sewer system is available, such storm drainage shall be connected directly with such storm sewer system; in any case avoiding the dilution of the sanitary sewage load or establishing back pressure tending to discharge sewage into basements, cellars or house fixtures. (Ord. 3085, 9-13-61)

8-1-34: **GREASE, OIL AND SAND INTERCEPTORS:** Grease, oil and sand interceptors shall be provided when required by the Plumbing Code of the City, and in addition shall be provided when in the opinion of the Superintendent of Public Works, they are necessary to the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand or any harmful ingredients; except that such interceptors shall not be required for non-multiple type private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Superintendent of Public Works and shall be so located as to be readily and easily accessible for cleaning and inspection. Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be substantial in construction, water tight and equipped with easily removable covers, which when bolted in place shall be gas tight and water tight. Where installed all grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76)

## 8-1-35: PROHIBITED WASTES:

- (A) No person shall discharge or cause to be discharged any storm water, surface water, ground water, roof runoff, subsurface drainage, uncontaminated cooling water or unpolluted industrial process waters to any sanitary sewer.
- (B) Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm drains, or to a natural outlet approved by the City Engineer. Industrial cooling water or unpolluted process waters may be discharged on approval of the City Engineer to a storm drain or natural outlet.
- (C) No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers without an NPDES permit; all exclusions and discharges allowed shall conform to NPDES requirements and Federal and State regulations.
1. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
  2. Any waters or wastes containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance or create any hazard in the receiving waters of the sewage treatment plant, including but not limited to cyanides in excess of two (2) mg/l as CN in the wastes as discharged to the public sewer.
  3. Any waters or wastes having a pH lower than 6.0, or having other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works.
- (D) No person shall discharge or cause to be discharged the following described substances, materials, waters or wastes if it appears likely in the opinion of the City Engineer that such wastes can harm either the sewers, sewage treatment process or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property or constitute a nuisance. In forming his opinion as to the acceptability of these waters, the City Engineer will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant and other pertinent factors.

The substances prohibited are:

1. Any liquid or vapor having a temperature higher than 150° F. (65° C).
2. Any water or waste containing fats, wax, grease or oils, whether emulsified or not, in excess of 100 mg/l or containing substances which may solidify or become viscous at temperatures between 32° F. and 150° F. (0° and 65° C).
3. Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (¾) horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the City Engineer.
4. Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

- D) 5. Any waters or wastes containing in excess of the following concentrations and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement to such degree that any such material received in the composite sewage at the treatment works exceeds the limits established by the City Engineer for such materials.

<u>Waste or Chemical</u>	<u>Concentration mg/l</u>
Boron	1.0
Chromium (Hexavalent)	5.0
Chromium (Trivalent)	10.0
Copper	3.0
Cyanide	2.0
Iron	15.0
Lead	0.1
Nickel	3.0
Oil & Grease, etc. (Carbon Tetrachloride Extraction)	100.0
Zinc	2.0
Cadmium	2.0
Chlorine Demand	30.0
Phenols	0.5

6. Any waters or wastes containing phenols or other taste or odor-producing substances, in such concentrations exceeding limits which may be established by the City Engineer as necessary, after treatment of the composite sewage, to meet the requirements of the State, Federal or other public agencies of jurisdiction for such discharge to the receiving water.

7. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the City Engineer in compliance with applicable State or Federal regulations.

8. Any waters or wastes having a pH in excess of 10.5.

9. Materials which exert or cause:

(1) Unusual concentrations of inert suspended solids (such as, but not limited to, Fuller's earth, lime slurries and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).

(2) Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

(3) Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.

(4) Unusual volume of flow or concentration of wastes constituting "slugs" as defined herein.

10. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

- (E) The admission into the public sewers of any waters or wastes having (a) 5-day biochemical oxygen demand greater than two hundred (200) milligrams per liter, or (b) containing more than two hundred fifty (250) milligrams per liter of suspended solids, or (c) containing any quantity of substances having the characteristics described in subsection (D) of this Section, or (d) having an average daily flow greater than two percent (2%) of the average daily sewage flow of the City of Alton shall be subject to the review and approval of the City Engineer. Owner shall provide at his own expense pre-treatment facilities necessary to meet the standards provided in Chapter 1, Environmental Protection Agency, Rules and Regulations Sub-Chapter D, Water Programs Part 128-Pretreatment Standards, Federal Register Volume 38, No. 215, Thursday, November 8, 1973, and amendments thereto. Plans, specifications and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the City Engineer and of the Illinois Sanitary Water Board of the State of Illinois, and no construction of such facilities shall be commenced until said approvals are obtained in writing.
- (F) If any waters or wastes are discharged, or are proposed to be discharged, to the public sewers, which waters contain the substances or possess the characteristics enumerated in subsection (D) of this Section, and which in the judgment of the City Engineer may have a deleterious effect upon the sewage works, processes, equipment or receiving waters, or which otherwise create a hazard to life or constitute a public nuisance, the City Engineer may:
1. Reject the wastes,
  2. Require pretreatment to an acceptable condition for discharge to the public sewers,
  3. Require control over the quantities and rates of discharge,
  4. Require payment to cover the added cost of handling and treating the wastes as provided in general ordinances of the City of Alton establishing rates and charges. If the City Engineer permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the City Engineer, and subject to the requirements of all applicable codes, ordinances and laws.
- (G) Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.
- (H) No statement contained in this Article shall be construed as preventing any special agreement or arrangement between the City of Alton and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the City of Alton for treatment, subject to payment therefor by the industrial concern. (Ord. 4326, 7-12-78)



- (I) Any industrial user is subject to immediate disconnection of service whenever immediate disconnection is required to halt or prevent any discharge of pollutants to the sewage treatment plant which reasonably appears to the Public Works Administrator or his designated subordinate to present an imminent endangerment to the health or welfare of persons.

The Public Works Administrator or his designated subordinate shall have the authority, after informal notice to the industrial user, to immediately and effectively halt or prevent any discharge of pollutants to the sewage treatment plant that reasonably appears to present an imminent endangerment to the health or welfare of persons. When the Public Works Administrator or his designated subordinate determines that such an emergency situation exists, he shall issue a verbal order (followed immediately by a written order) to the industrial user stating the problem and requiring immediate cessation of the discharge. The Public Works Administrator's or his designated subordinate's actions may include disconnection of wastewater collection service. The Public Works Administrator or his designated subordinate shall obtain the concurrence of the sewage treatment plant attorney before initiating action. Methods of informal notice shall include, but not be limited to, any of the following: personal conversation between the industrial user and sewage treatment plant employees, telephone calls, letters, hand delivered messages or notices posted at the industrial user's premises or point of discharge.

- (J) Protection Against Undesirable Discharges Required:

1. Each industrial user having the ability to cause interference with the sewage treatment plant or to violate the regulatory provisions of this Chapter shall provide protection from accidental discharge to the sewer treatment plant of prohibited materials or other substances regulated by this Chapter. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner or user's own cost and expense.

2. All industrial users whose wastewater includes or could include compatible or incompatible pollutants in amounts great enough to cause interference with the sewage treatment plant must have detailed plans on file at the sewage treatment plant showing facilities and operating procedures to provide protection from accidental discharge. No industrial user who begins contributing to or could contribute such pollutants to the sewage treatment plant after the effective date of this Chapter shall be permitted to introduce such pollutants into the sewage treatment plant until accidental discharge facilities and procedures, as appropriate, have been approved by the sewage treatment plant and installed by the industrial user. Review and approval of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify its facility as necessary to meet the requirements of this Chapter.

3. In the case of an accidental or deliberate discharge of compatible or incompatible pollutants which may cause interference at the sewage treatment plant or will pass through the sewage treatment plant or violate requirements of this Chapter, it shall be the responsibility of the industrial user to immediately

J,3) telephone and notify the sewage treatment plant of the incident. The notification shall include name of caller, location and time of discharge, type of wastewater, concentration and volume.

4. Within fifteen (15) days following such an accidental or deliberate discharge from the industrial user, such user shall submit to the sewage treatment plant a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Follow-up reports may be required by the sewage treatment plant as needed. Such report, or reports, shall not relieve the industrial user of any expense, loss, damage or other liability which may be incurred as a result of damage to the sewage treatment plant, fish kills, or any other damage to person or property; nor shall such report relieve the user of any fines, civil penalties or other liability which may be imposed by this Chapter or otherwise. Failure to report accidental or deliberate discharges may, in addition to any other remedies available to the sewage treatment plant, result in the revocation of the discharger's wastewater discharge permit.

5. The industrial user shall control production of all discharges to the extent necessary to maintain compliance with all applicable regulations upon reduction, loss or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement includes the situation where, among other things, the primary source of power of the treatment facility is reduced, lost or fails.

6. A notice in English and the language of common use shall be permanently posted on the industrial user's bulletin board or other prominent place advising employees who to call in the event of an accidental or illegal discharge. Employers shall insure that all employees who are in a position to cause, discover or observe such discharge are advised of the emergency notification procedures. (Ord. 4924, 6-26-85)

8-1-36: ACCESS TO INDUSTRIAL WASTES:

(A) Access to Industrial Wastes: The Superintendent of Public Works may require any person discharging industrial wastes into a public sewer to construct and maintain one or more control manholes for access points to facilitate observation, measurement and sampling of his wastes, including domestic sewage. Control manholes or access facilities shall be located and built in a manner acceptable to the Superintendent of Public Works. If measuring devices are to be permanently installed, they shall be of a type acceptable to the Superintendent of Public Works. Control manholes, access facilities and related equipment shall be installed by the person discharging the waste, at his expense, and shall be maintained by him so as to be in a safe condition, accessible and in proper operating condition at all times. Plans for the installation of all control manholes or access facilities and related equipment shall be approved by the Superintendent of Public Works prior to the beginning of construction.

(B) Inspection, Sampling and Records Keeping:

1. The sewage treatment plant or its representative may inspect the facilities of all industrial users to ascertain whether the purposes of this Chapter are being met and if all requirements of the Chapter are being complied with. Persons or occupants of premises in which a discharge source or treatment system is located or in which records are kept shall allow the sewage treatment plant or its representative ready access upon presentation of credentials at reasonable times to all parts of said premises for the purposes of inspection, sampling, examination and photocopying of records, required to be kept by this Chapter, and in the performance of any of their duties. The sewage treatment plant shall have the right to set up on the industrial user's property such devices as are necessary to conduct sampling, monitoring and metering operations. Where an industrial user has security measures in force which would require suitable identification necessary, arrangements with their security guards so that upon presentation of suitable identification, personnel from the sewage treatment plant shall be permitted to enter immediately for the purpose of performing their specific responsibilities. Such arrangements shall be made by all industrial users with their security guards within thirty (30) days of the passage of this Chapter.

2. Industrial users and the sewage treatment plant shall maintain records of all information resulting from any monitoring activities required by this Chapter, and shall include:

(a) The date, exact place, method and time of sampling and the names of the person or persons taking the samples;

(b) The dates analyses were performed;

(c) Who performed the analyses;

(d) The analytical techniques/methods used; and

(e) The results of such analyses.

3. The sewage treatment plant and industrial users shall maintain such records for a minimum of three (3) years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user or operation of the sewage treatment plant pretreatment program or when requested by the regional administrator or the Director of IEPA. (Ord. 4925, 6-26-85)

8-1-37: ANALYSIS OF INDUSTRIAL WASTES: Industrial wastes discharged into the public sewers shall be subject to periodic inspection and a determination of character and concentration of said wastes. The determination shall be made as often as may be necessary by the Superintendent of Public Works. Samples shall be collected in such a manner as to be representative of the composition of the wastes. The sampling may be accomplished either manually or by the use of

mechanical equipment acceptable to the Superintendent of Public Works. Installation, operation and maintenance of the sampling facilities, when required, shall be the responsibility of the person discharging the waste. Access to sampling locations shall be granted to the Superintendent of Public Works or his duly authorized representative at all reasonable times. Every care shall be exercised in the collection of samples to insure their preservation in a state comparable to that at the time sample was taken.

8-1-38: LABORATORY PROCEDURES: Laboratory procedures used in the examination of industrial waste shall be those set forth in "Standard Methods". However, alternate methods for certain analysis of industrial wastes may be used subject to mutual agreement between the Superintendent of Public Works and the person discharging such wastes. Determination of the character and concentration of the industrial wastes shall be made by the person discharging them, or his agent. The City may make its own analysis of the waste and these determinations shall be binding as a basis for charges.

8-1-39: DISCHARGE OF SLUGS: No person shall cause the discharge of slugs of water or waste. Each person producing a discharge into the public sewers in excess of twenty five thousand (25,000) gallons in any one day, shall construct and maintain at his own expense a suitable storage and flow control facility to insure equalization of discharge over a twenty four (24) hour period or shall provide some other

(See following page for remainder of Section 8-1-39)

8-1-39

equivalent arrangement acceptable to the Superintendent of Public Works. This facility shall have a capacity of at least eighty percent (80%) of the total normal volume of a twenty four (24) hour production period, and the outlet to the sewer shall be equipped with a rate discharge controller or other approved device, the regulation of which shall be directed by the Superintendent of Public Works. A discharge into the public sewers in excess of twenty five thousand (25,000) gallons in any one day shall not be considered a slug if it is determined by the City Engineer that the maximum discharge rate will not result in a hydraulic overloading of the downstream sewerage facilities. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76; amd. Ord. 4326, 7-12-78)

8-1-40: ENTRY ONTO SERVICED PROPERTIES: The Superintendent of Public Works, his authorized deputy, agent, representative or other duly authorized employees of the City bearing proper credentials and identification, shall be permitted to enter upon all serviced properties at any reasonable hour for the purpose of inspection, observation, measurement, sampling and testing in accordance with the provisions of this Chapter. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76)

# APPENDIX V

7/2/92

## AN INTERGOVERNMENTAL AGREEMENT

BETWEEN THE CITY OF ALTON, ILLINOIS AND THE GODFREY TOWNSHIP UTILITY BOARD PROVIDING FOR THE SALE AND PURCHASE OF WASTEWATER CONVEYANCE AND TREATMENT SERVICES.

This Agreement is made and entered into between and among the City of Alton, Illinois (hereinafter "Alton") and the Godfrey Township Utility Board (hereinafter "Godfrey") (both parties collectively being hereinafter called the "Participants").

### ARTICLE I

#### GENERAL PROVISIONS

Section 1. Pursuant to the provisions of Article VII, Section 10 of the 1970 Illinois Constitution and the Intergovernmental Cooperation Act (Chapter 127, Section 741 et seq., Illinois Revised Statutes) the Participants hereby contract and agree to continue the use of the already developed regional wastewater facility consisting of the Alton Wastewater Treatment Plant located on Chessen Lane in Alton, Illinois; the Alton East Side Interceptor Sewer as constructed in 1964-65; and the downstream ends of the Godfrey Coal Branch and Black Creek Interceptor Sewers as constructed in 1975-76 (hereinafter "regional wastewater facilities") to convey, treat, and dispose of the wastewater of the Participants

Section 2. This Agreement supersedes all previous agreements between Alton and Godfrey relating to the regional wastewater conveyance and treatment services.

Section 3. Alton, as a regional wastewater treatment facility, agrees to accept sewage from Godfrey at Godfrey's Coal Branch Interceptor Sewer Manhole #21 and Black Creek Interceptor Sewer Manhole #12.5 locate at Alton's present corporate limits for conveyance, secondary treatment, and disposal in accordance with water quality standards of the Illinois Environmental Protection Agency and the comparable federal agency having jurisdiction in such matters.

Section 4. Alton, as a regional wastewater treatment facility, by separate intergovernmental agreement, agrees to accept sewage from Bethalto at the Alton manhole located at Station 60+28.20 on Alton's East Side Interceptor Sewer for conveyance, secondary treatment, and disposal in accordance with water quality standards of the Illinois Environmental Protection Agency and the comparable federal agency having jurisdiction in such matters.

ARTICLE II

CAPACITY ALLOCATION

Section 1. Maximum Flow: The daily design flow capacity of Alton's regional wastewater treatment plant is presently 10.5 MGD for design average flow (DAF) and 26.25 MGD for design maximum flow (DMF). The daily design flow capacity allocated to the East Side Interceptor Sewer is presently 5.0 MGD for DAF and 12.5 MGD for DMF.

The wastewater flow capacity in the East Side Interceptor Sewer allocated to each participant is as follows:

ALTON

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period . . . 1.75 MGD
- B. Daily Maximum Flow - Total volume over 24 hour period . . . 4.38 MGD

BETHALTO

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period . . . 2.5 MGD
- B. Daily Maximum Flow - Total volume over 24 hour period . . . 6.25 MGD

GODFREY

- A. Daily Average Dry Weather Flow - Average daily flow of three lowest flow months in any consecutive twelve month period . . . 0.75 MGD
- B. Daily Maximum Flow - Total volume over 24 hour period . . . 1.87 MGD

The design DMF and DAF values are subject to changes that may be specified in subsequent NPDES Permits issued by IEPA.

In the event the daily maximum flow in the East Side Interceptor Sewer exceeds the 12.5 MGD in a 24 hour period, Alton will notify Bethalto and Godfrey of the occurrence and will provide the Participants with the flow contributed by Bethalto, Godfrey and Alton during that period. If the daily flow in the East Side Interceptor sewer exceeds 12.5 MGD for at least one day in any consecutive three month period, Alton will arrange a meeting of all Participants to review the daily flow data and to reach an agreement on the corrective action to be taken by the Participants to maintain a maximum daily flow in the East Side Interceptor Sewer at or below 12.5 MGD. If an agreement can not be reached by the Participants within six months of the initial meeting, determination of the corrective action to be taken shall be achieved by arbitration as set out in Article IV of this Agreement.



Section 2. Maximum Loadings: If the average daily BOD and suspended solids loading in the East Side Interceptor Sewer at the Alton Wastewater Treatment Plant exceeds 200 mg/l and 250 mg/l respectively based on any 12 consecutive month period, Alton will provide notification that all participants (Alton, Bethalto, and Godfrey) will be required to purchase and install wastewater sampling equipment to provide for sampling of their wastewater flows in accordance with Article III, Section 3.B. of this Agreement. At any time prior to that occurrence, Alton reserves the right to install portable sampling equipment to sample and test Godfrey's discharge into the regional wastewater facilities. If the average daily BOD and suspended solids loading exceeds 200 mg/l and 250 mg/l respectively for any 6 consecutive month period, Alton will provide notification that all Participants (Alton, Bethalto, and Godfrey) will be required to purchase and install wastewater sampling equipment to provide for sampling of their wastewater flows in accordance with Article III, Section 3.B. of this Agreement. If the results of the sampling of Godfrey's flow indicates the BOD and suspended solids loading contributed by Godfrey exceeds 200 mg/l and 250 mg/l respectively, Godfrey shall pay the surcharges stated in Article III, Section 2.D.2 of this Agreement.

In addition Godfrey agrees to enforce its sewer use ordinances to insure that its sewage discharge into the regional wastewater facility does not violate the provisions of Title 8, Chapter 1, (Sewers and Sewage Disposal) of Alton's current City Code relating to wastewater characteristics, or any subsequent revisions thereto.

Section 32 through 40 inclusive to Title 8, Chapter 1 of said Code, attached as Appendix IX, shall apply to Godfrey's discharge into the regional wastewater facility and shall apply to Godfrey's users.

### ARTICLE III

#### TERMS OF SERVICE

Section 1. Sewer Use Ordinance: Under the terms of this Agreement, Alton and Godfrey shall maintain and implement a state approved (IEPA) User Charge System. Alton and Godfrey agree that its User Charge Systems will collect sufficient funds to satisfy the obligations created by the terms of this Agreement, and that each municipality further agrees to modify the rates through their respective User Charge Systems from time to time in order to remain current or cure any delinquencies in their obligations under this Agreement.

Section 2. Allocation of Costs: Under the terms of this Agreement, Alton and Godfrey agree to share in their proportional costs associated with the Alton Regional Wastewater Facilities as hereinafter set forth.

- A. Operation, Maintenance, and Replacement (O, M & R) Costs: O, M & R costs for the regional system (excepting scheduled replacement reserves at the treatment plant) shall be allocated to the municipalities which are parties to this Agreement on the following basis:
1. The calculation of O, M & R user charges for each year shall be determined by using the actual O, M & R costs for the regional wastewater facilities for the previous fiscal year (April 1 to March 31) as a basis for the monthly charges, provided however, the total amount of any BOD or suspended solids surcharges paid by Godfrey or Bethalto or Credited by Alton during the year shall be deducted from the total annual sewage treatment plant O, M & R costs to arrive at the total annual O, M & R cost to be distributed among the Participants. Attached as Appendix I, II, and III to this Agreement are sample costs of the actual cost sheets showing the items of cost to be distributed among the Participants in the regional wastewater facilities.
  2. The allocation of cost to each Participant shall be determined annually based on the allocation of cost formulas set forth in Appendix VII.
- B. Replacement Reserves for Scheduled Treatment Plant Items: The cost of maintaining a reserve account for the replacement of specific major equipment items at the treatment plant shall be allocated to the municipalities which are parties to the agreement on the following basis:
1. Each year an amount equal to the total annual depreciation amount for the specific equipment items listed in Appendix IV shall be put aside in a separate account for the replacement of these equipment items.
  2. Allocation of cost to each Participant shall be determined annually based on the allocation of cost formula set forth in Appendix VII.
  3. The scheduled equipment items and the annual replacement reserve amount may be amended from time to time upon mutual agreement of the Participants in order to adequately fund the account.
  4. In the event the replacement of a scheduled equipment item causes the reserve account to be depleted, the unfunded portion of the replacement cost shall be allocated to the Participants based on the allocation of cost formula set forth in Appendix VII. The provisions of this paragraph shall not take effect until the fiscal year beginning April 1, 1994.

5. Should the replacement reserve account total reach the total amount shown on Appendix IV, deposits to that account shall cease until an expenditure is made from that account, at which time deposits shall resume and continue until the such time as the total amount shown on Appendix IV is again reached.

C. Debt Service: Debt service costs for the facilities which compose the regional wastewater facilities shall be allocated to the participating municipalities on the following basis:

1. Godfrey shall pay Alton an annual debt service charge for the indebtedness incurred as a result of the 1962 and 1974 Revenue Bond Issues in accordance with the cost allocation formulas set forth in Appendix VIII. Bond retirement schedules for the 1962 and 1974 Revenue Bonds are shown on Appendix V and VI respectively.
2. All future debt service resulting from major capitol improvements to the regional wastewater facilities shall be allocated to the Participant using the facilities jointly in proportions to the use of the facilities by each Participant, based on flow. Alton agrees to fully inform Godfrey the reason for and the nature of these capitol improvements and the method of financing to be utilized.

D. Miscellaneous Costs:

1. In such instances where Godfrey has in the past or will in the future reach agreement with Alton to construct sewer extensions which connect directly into Alton's wastewater collection system and does not utilize the regional wastewater collection facilities described in Article I, Sections 3 and 4 of this Agreement, Godfrey shall pay Alton for the conveyance and treatment of Godfrey's wastewater at the user charge rates established by Alton's User Charge System for Alton's residential and commercial customers. The present Alton residential user charge is \$24.00 per quarter per residential user and the commercial user charge is \$1.24 per 1,000 gallons of metered water use, billed quarterly, plus a quarterly billing charge of \$7.10.
2. Bethalto, Godfrey, and Alton shall be assessed surcharges as established by Alton's User Charge System for wastewater discharged into the regional wastewater facilities which exceed the maximum limits for BOD and suspended solids established in Article II, Section 2 of this Agreement. Present surcharge rates are \$0.11 per lb. BOD in excess of 200 mg/l and \$0.09 per lb. suspended solids in excess of 250 mg/l.

The surcharge rates may be adjusted as required periodically as justified by a written engineering study and report presented at the annual meeting described in this Article III, Section 4.A.3.

3. Cost for industrial pre-treatment programs shall be maintained separately from all of the costs and shall be charged to the individual industrial users on the basis of the costs of the service rendered to each industry. No cost for the industrial pre-treatment program shall be allocated to the participating entities.
4. Cost for billing and collection of sewer use charges for individual users of the various collection systems shall be the respective responsibility of each entity.

Section 3. Metering, Sampling, and Billing: Under the terms of this Agreement, the entities agree to the metering, sampling, and billing responsibilities and procedures hereinafter set forth.

- A. Godfrey will operate, maintain, and repair at their expense metering stations, including metering equipment, to measure and record total flows into the regional wastewater facilities. Alton shall employ a third party, acceptable to Godfrey and Bethalto, to calibrate the metering equipment of all Participants annually, the cost of which shall be considered part of the treatment plant O, M & R costs to be shared. Said third party shall furnish results of each calibration to all Participants. If the metering station is not operating properly or if the meter should fail to register for any period, Alton shall record the amount of flow for the same period of the previous year plus or minus a percentage increase or decrease that would equal the increase or decrease based on the previous twelve (12) months reading over the same period the prior year. In the event Godfrey consistently fails to adequately operate and maintain their metering equipment, Alton, after written notification, reserves the right to install, operate and maintain its own metering station, at Godfrey's cost, to meter and record their total flows into the regional wastewater facilities.

Alton shall have access to Godfrey's metering stations for the purpose of inspecting and reading the meters therein and for measuring the quantity of sewage being discharged into Alton's East Side Interceptor Sewer. Alton will read the meters on or about the first day of each month and furnish Godfrey said readings on or about the tenth (10) day of each month.

- B. In the event as the terms of Article II, Section 2 of this Agreement are imposed due to BOD and suspended solids loadings in the East Side Interceptor Sewer, Godfrey shall purchase and install, at their expense, flow proportional wastewater sampling facilities to provide for continuous sampling of their flows into the regional wastewater facilities. Before purchase, the type of equipment shall be reviewed and approved by all three (3) Regional Wastewater Participants.

Alton will operate, maintain, and replace the flow sampling equipment and include this cost as a part of the annual regional treatment plant operating and maintenance expense. Alton will be responsible for sampling and testing the wastewater flows at all three locations a minimum of two times per week. Collection of all Participants samples shall be done on the same day as close in time as practical.

The wastewater BOD and SS loading by Alton shall be obtained after subtracting out the contribution by Bethalto and Godfrey from the Alton East Interceptor sampler test results.

- C. Alton will bill Godfrey monthly based upon the terms of this Agreement. Payment will be due in thirty (30) days. A penalty of ten percent (10%) per month, or part thereof, shall be charged for each and every overdue bill after it becomes thirty (30) days delinquent.
- D. Each entity shall bill its individual users based on its respective User Charge System at a rate to cover all necessary bills from Alton; Amortization of Debt Service; and operation, maintenance, and replacement costs.

Section 4. Payment: Under the terms of this Agreement, payment by Godfrey for wastewater conveyance and treatment services provided by Alton shall be as hereinafter set forth.

- A. Payment by Godfrey for their allocation of the costs described in Article III, Section 2.A., B., and C. of this Agreement shall be made monthly in the amount of one-twelfth (1/12) of their total annual allocation, determined as follows:
  - 1. On or before June 1st of each year, Alton will furnish to Godfrey O, M & R cost sheets (samples attached to this Agreement as Appendix I, II, and III) showing actual costs for the fiscal year ending March 31st, together with the total annual flow data for each Participant for the corresponding time period.
  - 2. On or before June 1st of each year, Alton will furnish to Godfrey cost allocation calculations (samples attached to this Agreement as Appendix VII and VIII) showing Godfrey's cost allocation for the year ending March 31st, together with an annual accounting of the treatment plant equipment replacement reserve account balance.
  - 3. Godfrey's cost allocation, determined from the actual costs for the year ending March 31st shall be reviewed by Godfrey and, subject to the provisions of Article IV of this Agreement, shall become effective August 1st each year. The August billing by Alton will reflect the new annual monthly rate and will be due within 30 days of the billing date in accordance with Article III, Section 3.C. of this Agreement. During the period from June

15th to July 15th an annual meeting will be scheduled by Alton to review the annual costs and cost allocations with Bethalto and Godfrey and to answer any questions raised by the Participants.

- B. Payment by Godfrey for the costs described in Article III, Section 2.D. of this Agreement, shall be made monthly in accordance with the terms set forth in said Section 2.D.

#### ARTICLE IV

##### ARBITRATION

Section 1. In the event of a dispute concerning the measurement of flow, BOD loading, SS loading, or calculation of user charges and expenses, the remedy to the aggrieved party shall be determined by arbitration.

- A. Upon occurrence of a dispute, either party may petition the other, in writing, for arbitration. The Respondent shall answer the Petitioner within thirty (30) days of receipt of the notification of dispute. After thirty (30) days, or upon answer by the Respondent, whichever occurs first, the Petitioner may arrange for the dispute to be heard by a three member arbitration panel (hereinafter "Panel").

The Panel shall consist of a representative appointed by Godfrey, a representative appointed by Alton, and a third member mutually agreeable to the two appointed Panel members. Panel members shall be Registered Professional Engineers experienced in the installation and operation of municipal wastewater facilities.

The Panel shall have the power to make dispositional orders that are enforceable by court proceedings, if necessary.

- B. All expenses, salaries of the Arbitrator selected by each municipality shall be at the expense of that municipality. All expenses, salaries, etc. of the mutually agreed upon Arbitrator shall be shared equally by the parties.
- C. The decision of the Arbitrators shall be retroactively applied to the August 1st effective date of the annual allocation as established in Article III, Section 4.A. of this Agreement.

#### ARTICLE V

##### DEFAULT

Section 1. In the event of a breach of or failure to perform any duties and obligations set forth herein by one or more of the Participants, except those matters subject to arbitration pursuant to Article IV, any Participant by a

majority vote of their corporate authorities can request a hearing default. The party claiming default (the Claimant) shall notify the other party (Respondent) in writing of the nature of the alleged default. The Respondent shall have thirty (30) days in which to answer the allegation. Subsequent to the response, there will be a ninety (90) day period during which the parties shall meet and negotiate to attempt to resolve the matters. Failure to resolve the matter within the ninety (90) day period may be cause for the Claimant to resort to normal legal channels to be taken in Madison County for the resolution of the unresolved matters.

## ARTICLE VI

### MISCELLANEOUS

Section 1. This Agreement shall be in force through the year 2012 and shall continue thereafter for successive periods of ten (10) years until terminated or modified by agreement of Participants. No termination shall be effective without the consent of Godfrey until until five (5) years after written notice from Alton to Godfrey of such intended termination. No termination shall be effective without the consent of Alton until five (5) years after written notice from Godfrey to Alton of such intended termination.

Section 2. Wastewater Facilities Improvements: In the event that Alton is required by an authority to upgrade or in any way modify its treatment plant or East Side Interceptor Sewer, during the term of this Agreement, Godfrey agrees to share in the costs thereof in proportion to the use of the facilities by each Participant, except they shall not share in any mandated improvements or other improvements utilized exclusively by any other Participant.

Section 3. Records: The Participants have the right to access and copy any and all books, documents and records relating to the purpose and intent of this Agreement and the performance of all Participants. All Participants shall comply with all Federal and State laws regarding public access to documents.

Section 4. Amendment: This Agreement may be amended at any time upon the unanimous written consent of the Participants.

Section 5. Regulatory Agencies: This Agreement is subject to such rules, regulations, or laws that may be applicable to similar agreements in this State and Bethalto, Godfrey and Alton will collaborate in obtaining such permits, certificates, or the like, as may be required to comply therewith.

Section 6. Separability: If any section, subsection, sentence or clause of this Agreement shall be adjudged unconstitutional, or otherwise unlawful, such adjudication shall not affect the validity of the Agreement as a whole or of any part not adjudged unconstitutional.

Section 7. Entire Agreement: This Agreement represents the entire understanding of the parties. No representations, warranties, promises, covenants or undertakings, other than those expressly set forth herein, have been made by either party to the other.

Section 8. Execution and Effective Date:

- A. This Agreement shall be signed, executed and attested by duly authorized officials of appropriate authority and position for each party to this Agreement. At the time of the signing, execution and attestation of the Agreement, each party shall attach to the Agreement a duly certified copy of the appropriate Ordinance which binds that party to this Agreement. It is the intention of each party to have a duplicate original of this Agreement; thus, each party will sign two duplicate original Agreements and provide two copies of the Ordinances of acceptance.
- B. This Agreement shall become effective on the date of execution by all parties to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this document on the dates written below.

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

CITY OF ALTON, ILLINOIS

GODFREY TOWNSHIP UTILITY BOARD

\_\_\_\_\_  
Edward D. Voumard, Jr., Mayor

\_\_\_\_\_  
Keith Sherman, Chairman  
Board of Trustees

ATTEST:

ATTEST:

\_\_\_\_\_  
Robert Pace, City Clerk

\_\_\_\_\_  
Helen Eales, Secretary

SRD:19



APPENDIX I

DEPARTMENT 1710 - SEWAGE TREATMENT PLANT

ELIGIBLE O, M & R COSTS TO BE SHARED

Personal Services

7020 Payroll  
7050 IMRF  
7070 Life Insurance  
7080 FICA  
7090 Health & Accident Insurance

Commodities

7270 Postage  
7310 Office Supplies  
7410 Field Supplies  
7610 Gas & Other Fuels  
7710 Automotive Supplies  
7810 Other O & M Supplies

Contractual Services

8020 Professional Services  
8030 Engineering Services  
8070 Towel & Laundry Services  
8200 Memberships Dues Etc.  
8220 Contract Work Not Otherwise Specified  
8510 Telephone & Telegraph  
8610 Travel & Subsistence  
9010 Printing Binding Advertising  
9050 Public Liability & Property Damage Insurance  
9210 Gas  
9230 Electric Light & Power  
9250 Water  
9270 Sewer Service Charge  
9310 Repair of Buildings  
9340 Repair of Machines & Equipment  
9420 Rent of Equipment  
9550 Freight & Express  
9590 Cleaning & Painting

Capital Outlay

9710 Machinery & Equipment\*  
9720 Construction Materials  
9750 Other Improvements

\* NOTE: Replacement of Scheduled Treatment Plant Equipment Items Not Included  
- See Appendix IV for Those Items

APPENDIX II

DEPARTMENT 1711 - SEWER MAINTENANCE

ELIGIBLE O, M & R COSTS TO BE SHARED

Personal Services

7020 Payroll  
7050 IMRF  
7060 Workmens Compensation  
7070 Life Insurance  
7080 FICA  
7090 Health & Accident Insurance

Commodities

7270 Postage  
7310 Office Supplies  
7410 Field Supplies  
7610 Gas & Other Fuels  
7710 Automotive Supplies  
7810 Other O & M Supplies

Contractual Services

8020 Professional Services  
8030 Engineering Services  
8070 Towel & Laundry Services  
8200 Memberships Dues Etc.  
8220 Contract Work Not Otherwise Specified  
8510 Telephone & Telegraph  
8610 Travel & Subsistence  
9010 Printing Binding Advertising  
9210 Gas  
9230 Electric Light & Power  
9250 Water  
9270 Sewer Service Charge  
9310 Repair of Buildings  
9340 Repair of Machines & Equipment  
9370 Other Repairs  
9410 Rent of Land & Building Etc.  
9420 Rent of Equipment  
9550 Freight & Express

Capital Outlay

9710 Machinery & Equipment  
9720 Construction Materials  
9750 Other Improvements

NOTE: 3.5% of Sewer Maintenance Chargeable to East Side Interceptor

APPENDIX III

DEPARTMENT 1502 - PUBLIC WORKS SEWER

ELIGIBLE O, M & R COSTS TO BE SHARED

Personal Services

7020 Payroll  
7050 IMRF  
7070 Life Insurance  
7080 FICA  
7090 Health & Accident Insurance

Commodities

7270 Postage  
7310 Office Supplies  
7610 Gas & Other Fuels  
7710 Automotive Supplies

Contractual Services

8020 Professional Services  
8030 Engineering Services  
8200 Memberships Dues Etc.  
8220 Contract Work Not Otherwise Specified  
8610 Travel & Subsistence  
9340 Repair of Machines & Equipment  
9420 Rent of Equipment

Capital Outlay

9710 Machinery & Equipment

NOTE: 50% of Public Works Sewer Chargeable to Department 1711, Sewer Maintenance and 50% Chargeable to Department 1710, Sewage Treatment Plant

SRD:19

APPENDIX IV

ANNUAL REPLACEMENT COST ALLOCATION FOR SEWAGE TREATMENT PLANT EQUIPMENT

<u>Items</u>	<u>Total Cost \$</u>	<u>Useful Life Years</u>	<u>Annual Depreciation %</u>	<u>Amount Annual Depreciation &amp;</u>
Comminutor	\$ 25,235	20	5	1,262
Aeration Tank Equipment and Accessories	183,160	20	5	9,158
Secondary Tank and Clarifier Equipment	166,450	25	4	6,658
Return Sludge Pumps and Motors - Primary	24,676	20	5	1,234
Spray Water System Equipment	24,084	20	5	1,204
Filter Thickening Equipment and Accessories	384,450	25	4	15,338
Blowers - 4 Original	94,210	25	4	3,768
Chlorination Equipment	29,113	20	4	1,165
Chain Link Fence	12,242	10	10	1,224
Effluent Pumps and Motors	20,619	20	5	1,031
Storm Water Pumps and Motors	8,425	20	5	421
Grit Chamber Equipment	9,187	20	4	367
Primary Tank Mechanisms	18,373	15	6-1/2	1,194
Digester Floating Covers	68,340	20	5	3,417
Digester Mechanisms - Excluding Heat Exchanger	11,637	15	6-1/2	759
Electrical - Main Switch Gear	230,000	25	4	9,200
Standby Generator Set - Stationary	<u>30,000</u>	25	4	<u>1,200</u>
Total	\$815,474			\$58,600

NOTE: Parts Replacements (Including Motors) on Above Items Costing Less than \$5,000.00 Considered to be Repairs

SRD:19

APPENDIX V

DEBT SERVICE SCHEDULE

Sewer Revenue Bonds  
Dated April 1, 1962  
Amount Issued \$4,840,000

<u>Year</u>	<u>Rate</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
1992	3.40	\$185,000	\$95,445	\$280,445
1993	3.40	195,000	89,155	284,155
1994	3.40	205,000	82,525	287,525
1995	3.40	220,000	75,555	295,555
1996	3.50	235,000	68,075	303,075
1997	3.50	245,000	59,850	304,850
1998	3.50	260,000	51,275	311,275
1999	3.50	275,000	42,175	317,175
2000	3.50	295,000	32,550	327,550
2001	3.50	310,000	22,225	332,225
2002	3.50	325,000	11,375	336,375

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APPENDIX VI

DEBT SERVICE SCHEDULE

Sewer Revenue Bonds  
Dated January 1, 1974  
Amount Issued \$1,300,000

<u>Year</u>	<u>Rate</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
1992	6.50	\$50,000	\$29,250	\$79,250
1993	6.50	50,000	26,000	76,000
1994	6.50	50,000	22,750	72,750
1995	6.50	50,000	19,500	69,500
1996	6.50	50,000	16,250	66,250
1997	6.50	50,000	13,000	63,000
1998	6.50	50,000	9,750	59,750
1999	6.50	50,000	6,500	56,500
2000	6.50	50,000	3,250	53,250

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APPENDIX VII

ALLOCATION OF OPERATION, MAINTENANCE AND REPLACEMENT COST FORMULA

(With Sample Calculations Using Flows & Costs for Fiscal Year Ending March 31, 1991)

A. Treatment Plant O, M & R

Percent Usage:

$$\text{Godfrey's Share} = \frac{\text{Godfrey's Total Annual Flow}}{\text{Total Annual Treatment Plant Flow}} = \% \text{ Usage}$$
$$\frac{229,351 (1,000 \text{ gal})}{3,135,690 (1,000 \text{ gal})} = 7.31\%$$

Cost Share:

$$\text{Godfrey's Total Treatment Cost} = \% \text{ Usage} \times (\text{Total Cost of All Items in Appendix I and IV} + 50\% \text{ of Total Cost of All Items in Appendix III})$$
$$7.31\% \times (\$817,662 + \$58,600 + \$19,208) = \$65,458.86$$

B. East Side Interceptor O, M & R

Percent Usage:

$$\text{Godfrey's Share} = \frac{\text{Godfrey's Total Annual Flow}}{\text{Total Annual East Side Interceptor Flow (Measured at Treatment Plant)}} = \% \text{ Usage}$$
$$\frac{229,351 (1,000 \text{ gal})}{1,803,146 (1,000 \text{ gal})} = 12.72\%$$

Cost Share:

$$\text{Godfrey's Total Sewer Maintenance Cost} = \% \text{ Usage} \times 3.5\% \times (\text{Total Cost of All Items in Appendix II} + 50\% \text{ of Total Cost of All Items in Appendix III})$$
$$12.72\% \times 3.5\% \times (\$330,178 + \$19,208) = \$1,555.46$$

APPENDIX VIII

ALLOCATION OF DEBT SERVICE COST FORMULA

(With Sample Calculations Using Flows & Costs for Fiscal Year Ending March 31, 1991)

Distribution of Annual Debt Service

A. 1962 Revenue Bond Issue (See Appendix V)

1. 5% of Annual Debt Service is Chargeable to East Side Interceptor Downstream of Bethalto Connection

$$5\% \times \$271,055 = \$13,552.75$$

2. 12.3% of Annual Debt Service is Chargeable to East Side Interceptor Upstream of Bethalto Connection

$$12.3\% \times \$271,055 = \$33,339.77$$

3. 16.1% of Annual Debt Service is Chargeable to Treatment Plant

$$16.1\% \times \$271,055 = \$43,639.86$$

B. 1974 Revenue Bond Issue (See Appendix VI)

1. 100% of Annual Debt Service is Chargeable to Treatment Plant

$$100\% \times \$82,500 = \$82,500$$

Treatment Plant Debt Service

Percent Usage:

$$\text{Godfrey's Share} = \frac{\text{Godfrey's Total Annual Flow}}{\text{Total Annual Treatment Plant Flow}} = \% \text{ Usage}$$

$$\frac{229,351 (1,000 \text{ gal})}{3,135,690 (1,000 \text{ gal})} = 7.31\%$$

Cost Share:

$$\text{Godfrey's Treatment Plant Debt Service Cost} = \% \text{ Usage} \times (\text{16.1\% of 1962 Bond Issue Service} + \text{100\% of 1974 Bond Issue Debt Service})$$

$$7.31\% \times (\$43,639.86 + \$82,500) = \$9,220.82$$



APPENDIX VIII

ALLOCATION OF DEBT SERVICE COST FORMULA (Cont.)

(With Sample Calculations Using Flows & Costs for Fiscal Year Ending March 31, 1991)

East Side Interceptor Debt Service

Percent Usage:

Godfrey's Share =

1. Upstream of Bethalto Connection =  $\frac{\text{Godfrey's Total Annual Flow}}{\text{Total Annual East Side Interceptor Flow - Bethalto Total Annual Flow - 35,386,000 gal.}}$  = % Usage  

$$\frac{229,351,000}{1,803,146,000 - 904,875,000 - 35,386,000} = 26.58\%$$
  
2. Downstream of Bethalto Connection =  $\frac{\text{Godfrey's Total Annual Flow}}{\text{Total Annual East Side Interceptor Flow (Measured at Treatment Plant)}}$  = % Usage  

$$\frac{229,351 (1,000 \text{ gal})}{1,803,146 (1,000 \text{ gal})} = 12.72\%$$

Cost Share:

Godfrey's East Side Interceptor Dept Service Cost =

1. Upstream of Bethalto Connection = % Usage (upstream) x 12.3% of 1962 Bond Issue Debt Service  

$$26.58\% \times \$33,339.77 = \$8,861.71$$
  
2. Downstream of Bethalto Connection = % Usage (downstream) x 5% of 1962 Bond Issue Debt Service  

$$12.72\% \times \$13,552.75 = \$1,723.91$$

SRD:19

APPENDIX IX

EXCERPT FROM CITY OF ALTON MUNICIPAL CODE, TITLE 8, CHAPTER 1

8-1-32

8-1-32: PROHIBITED MATERIALS: It shall be unlawful and it is prohibited for any person to place or throw or cause or permit to be placed or thrown into the sewage system, or into any sewer, sewer lateral, manhole, catch basin or inlet or other appurtenances to the sewerage system within the City, any wood or metal or anything made of wood or metal or constructed partly of wood or partly of metal; or glass, glass bottles, or glass in any form; or crockery or broken crockery; dishes, china, broken chinaware; or gasoline, grease or tar or lubricants in any form; or bones, furs, offal from slaughter houses or from slaughtering, from meat markets, groceries or from poultry houses or poultry

packing, or poultry dressing plants, and all such waste matter from whatever source or wherever created or produced; or brick, brickbats, clay or concrete tile, or pieces of clay or concrete tile or clay tile materials or concrete in any form; or stone, sand, gravel or cinders; leather in any form; or cloth, clothing, burlap, gunny sacks or pieces or parts thereof in any form, or plastic bags; or plastic sheeting in any form; or weeds, grass, corn husks, corn stalks, corn cobs or other vegetable growth, vegetable tops, vegetable and fruit peelings, and other vegetable and fruit wastes; and all matter not susceptible of being carried in solution in water, and not proper sewage, requiring sewage treatment, nor susceptible of sewage treatment. No person shall place or throw or cause to be placed or thrown any of the designated substances or things upon floors or surfaces or into open ditches or drains adjacent to any manhole, catch basin or inlet, either owned or controlled by the public or such designated substances or things, by reason of rain or other natural causes, such named substances or things would be carried or conducted into the sewage system or into any sewer in the City. All floor drains, catch basins and inlets, up to and including a six inch (6") opening, shall be fitted and covered and kept covered with approved cast iron grates, or other type covering approved by the Superintendent of Public Works, to retain all foreign matter and substances likely to clog and obstruct sewers and not proper sewage nor susceptible to sewage treatment. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76)

8-1-33: CONNECTION OF SURFACE DRAINS: Hereafter, it shall be unlawful for the owner, occupant or agent of any building or structure or real property either by himself or with others to connect or cause to be connected to the building or property sanitary sewer the drainage of any storm water from any roof, yard, lot surface or drain tile. Such drainage shall be permitted to follow the natural watershed; or in case a storm sewer system is available, such storm drainage shall be connected directly with such storm sewer system; in any case avoiding the dilution of the sanitary sewage load or establishing back pressure tending to discharge sewage into basements, cellars or house fixtures. (Ord. 3085, 9-13-61)

8-1-34: GREASE, OIL AND SAND INTERCEPTORS: Grease, oil and sand interceptors shall be provided when required by the Plumbing Code of the City, and in addition shall be provided when in the opinion of the Superintendent of Public Works, they are necessary to the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand or any harmful ingredients; except that such interceptors shall not be required for non-multiple type private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Superintendent of Public Works and shall be so located as to be readily and easily accessible for cleaning and inspection. Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be substantial in construction, water tight and equipped with easily removable covers, which when bolted in place shall be gas tight and water tight. Where installed all grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76)

## 8-1-35: PROHIBITED WASTES:

- (A) No person shall discharge or cause to be discharged any storm water, surface water, ground water, roof runoff, subsurface drainage, uncontaminated cooling water or unpolluted industrial process waters to any sanitary sewer.
- (B) Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm drains, or to a natural outlet approved by the City Engineer. Industrial cooling water or unpolluted process waters may be discharged on approval of the City Engineer to a storm drain or natural outlet.
- (C) No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers without an NPDES permit; all exclusions and discharges allowed shall conform to NPDES requirements and Federal and State regulations.
1. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
  2. Any waters or wastes containing toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance or create any hazard in the receiving waters of the sewage treatment plant, including but not limited to cyanides in excess of two (2) mg/l as CN in the wastes as discharged to the public sewer.
  3. Any waters or wastes having a pH lower than 6.0, or having other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the sewage works.
- (D) No person shall discharge or cause to be discharged the following described substances, materials, waters or wastes if it appears likely in the opinion of the City Engineer that such wastes can harm either the sewers, sewage treatment process or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property or constitute a nuisance. In forming his opinion as to the acceptability of these waters, the City Engineer will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant and other pertinent factors.
- The substances prohibited are:
1. Any liquid or vapor having a temperature higher than 150° F. (65° C).
  2. Any water or waste containing fats, wax, grease or oils, whether emulsified or not, in excess of 100 mg/l or containing substances which may solidify or become viscous at temperatures between 32° F. and 150° F. (0° and 65° C).
  3. Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (¾) horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the City Engineer.
  4. Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.

- D) 5. Any waters or wastes containing in excess of the following concentrations and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement to such degree that any such material received in the composite sewage at the treatment works exceeds the limits established by the City Engineer for such materials.

<u>Waste or Chemical</u>	<u>Concentration mg/l</u>
Boron	1.0
Chromium (Hexavalent)	5.0
Chromium (Trivalent)	10.0
Copper	3.0
Cyanide	2.0
Iron	15.0
Lead	0.1
Nickel	3.0
Oil & Grease, etc. (Carbon Tetrachloride Extraction)	100.0
Zinc	2.0
Cadmium	2.0
Chlorine Demand	30.0
Phenols	0.5

6. Any waters or wastes containing phenols or other taste or odor-producing substances, in such concentrations exceeding limits which may be established by the City Engineer as necessary, after treatment of the composite sewage, to meet the requirements of the State, Federal or other public agencies of jurisdiction for such discharge to the receiving water.

7. Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the City Engineer in compliance with applicable State or Federal regulations.

8. Any waters or wastes having a pH in excess of 10.5.

9. Materials which exert or cause:

(1) Unusual concentrations of inert suspended solids (such as, but not limited to, Fuller's earth, lime slurries and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).

(2) Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

(3) Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.

(4) Unusual volume of flow or concentration of wastes constituting "slugs" as defined herein.

10. Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

- (E) The admission into the public sewers of any waters or wastes having (a) 5-day biochemical oxygen demand greater than two hundred (200) milligrams per liter, or (b) containing more than two hundred fifty (250) milligrams per liter of suspended solids, or (c) containing any quantity of substances having the characteristics described in subsection (D) of this Section, or (d) having an average daily flow greater than two percent (2%) of the average daily sewage flow of the City of Alton shall be subject to the review and approval of the City Engineer. Owner shall provide at his own expense pre-treatment facilities necessary to meet the standards provided in Chapter 1, Environmental Protection Agency, Rules and Regulations Sub-Chapter D, Water Programs Part 128-Pretreatment Standards, Federal Register Volume 38, No. 215, Thursday, November 8, 1973, and amendments thereto. Plans, specifications and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the City Engineer and of the Illinois Sanitary Water Board of the State of Illinois, and no construction of such facilities shall be commenced until said approvals are obtained in writing.
- (F) If any waters or wastes are discharged, or are proposed to be discharged, to the public sewers, which waters contain the substances or possess the characteristics enumerated in subsection (D) of this Section, and which in the judgment of the City Engineer may have a deleterious effect upon the sewage works, processes, equipment or receiving waters, or which otherwise create a hazard to life or constitute a public nuisance, the City Engineer may:
1. Reject the wastes,
  2. Require pretreatment to an acceptable condition for discharge to the public sewers,
  3. Require control over the quantities and rates of discharge,
  4. Require payment to cover the added cost of handling and treating the wastes as provided in general ordinances of the City of Alton establishing rates and charges. If the City Engineer permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the City Engineer, and subject to the requirements of all applicable codes, ordinances and laws.
- (G) Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.
- (H) No statement contained in this Article shall be construed as preventing any special agreement or arrangement between the City of Alton and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the City of Alton for treatment, subject to payment therefor by the industrial concern. (Ord. 4326, 7-12-78)

- (I) Any industrial user is subject to immediate disconnection of service whenever immediate disconnection is required to halt or prevent any discharge of pollutants to the sewage treatment plant which reasonably appears to the Public Works Administrator or his designated subordinate to present an imminent endangerment to the health or welfare of persons.

The Public Works Administrator or his designated subordinate shall have the authority, after informal notice to the industrial user, to immediately and effectively halt or prevent any discharge of pollutants to the sewage treatment plant that reasonably appears to present an imminent endangerment to the health or welfare of persons. When the Public Works Administrator or his designated subordinate determines that such an emergency situation exists, he shall issue a verbal order (followed immediately by a written order) to the industrial user stating the problem and requiring immediate cessation of the discharge. The Public Works Administrator's or his designated subordinate's actions may include disconnection of wastewater collection service. The Public Works Administrator or his designated subordinate shall obtain the concurrence of the sewage treatment plant attorney before initiating action. Methods of informal notice shall include, but not be limited to, any of the following: personal conversation between the industrial user and sewage treatment plant employees, telephone calls, letters, hand delivered messages or notices posted at the industrial user's premises or point of discharge.

- (J) Protection Against Undesirable Discharges Required:

1. Each industrial user having the ability to cause interference with the sewage treatment plant or to violate the regulatory provisions of this Chapter shall provide protection from accidental discharge to the sewer treatment plant of prohibited materials or other substances regulated by this Chapter. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner or user's own cost and expense.

2. All industrial users whose wastewater includes or could include compatible or incompatible pollutants in amounts great enough to cause interference with the sewage treatment plant must have detailed plans on file at the sewage treatment plant showing facilities and operating procedures to provide protection from accidental discharge. No industrial user who begins contributing to or could contribute such pollutants to the sewage treatment plant after the effective date of this Chapter shall be permitted to introduce such pollutants into the sewage treatment plant until accidental discharge facilities and procedures, as appropriate, have been approved by the sewage treatment plant and installed by the industrial user. Review and approval of such plans and operating procedures shall not relieve the industrial user from the responsibility to modify its facility as necessary to meet the requirements of this Chapter.

3. In the case of an accidental or deliberate discharge of compatible or incompatible pollutants which may cause interference at the sewage treatment plant or will pass through the sewage treatment plant or violate requirements of this Chapter, it shall be the responsibility of the industrial user to immediately

J,3) telephone and notify the sewage treatment plant of the incident. The notification shall include name of caller, location and time of discharge, type of wastewater, concentration and volume.

4. Within fifteen (15) days following such an accidental or deliberate discharge from the industrial user, such user shall submit to the sewage treatment plant a detailed written report describing the cause of the discharge and the measures to be taken by the user to prevent similar future occurrences. Follow-up reports may be required by the sewage treatment plant as needed. Such report, or reports, shall not relieve the industrial user of any expense, loss, damage or other liability which may be incurred as a result of damage to the sewage treatment plant, fish kills, or any other damage to person or property; nor shall such report relieve the user of any fines, civil penalties or other liability which may be imposed by this Chapter or otherwise. Failure to report accidental or deliberate discharges may, in addition to any other remedies available to the sewage treatment plant, result in the revocation of the discharger's wastewater discharge permit.

5. The industrial user shall control production of all discharges to the extent necessary to maintain compliance with all applicable regulations upon reduction, loss or failure of its treatment facility until the facility is restored or an alternative method of treatment is provided. This requirement includes the situation where, among other things, the primary source of power of the treatment facility is reduced, lost or fails.

6. A notice in English and the language of common use shall be permanently posted on the industrial user's bulletin board or other prominent place advising employees who to call in the event of an accidental or illegal discharge. Employers shall insure that all employees who are in a position to cause, discover or observe such discharge are advised of the emergency notification procedures. (Ord. 4924, 6-26-85)

8-1-36: ACCESS TO INDUSTRIAL WASTES:

(A) Access to Industrial Wastes: The Superintendent of Public Works may require any person discharging industrial wastes into a public sewer to construct and maintain one or more control manholes for access points to facilitate observation, measurement and sampling of his wastes, including domestic sewage. Control manholes or access facilities shall be located and built in a manner acceptable to the Superintendent of Public Works. If measuring devices are to be permanently installed, they shall be of a type acceptable to the Superintendent of Public Works. Control manholes, access facilities and related equipment shall be installed by the person discharging the waste, at his expense, and shall be maintained by him so as to be in a safe condition, accessible and in proper operating condition at all times. Plans for the installation of all control manholes or access facilities and related equipment shall be approved by the Superintendent of Public Works prior to the beginning of construction.



(B) Inspection, Sampling and Records Keeping:

1. The sewage treatment plant or its representative may inspect the facilities of all industrial users to ascertain whether the purposes of this Chapter are being met and if all requirements of the Chapter are being complied with. Persons or occupants of premises in which a discharge source or treatment system is located or in which records are kept shall allow the sewage treatment plant or its representative ready access upon presentation of credentials at reasonable times to all parts of said premises for the purposes of inspection, sampling, examination and photocopying of records, required to be kept by this Chapter, and in the performance of any of their duties. The sewage treatment plant shall have the right to set up on the industrial user's property such devices as are necessary to conduct sampling, monitoring and metering operations. Where an industrial user has security measures in force which would require suitable identification necessary, arrangements with their security guards so that upon presentation of suitable identification, personnel from the sewage treatment plant shall be permitted to enter immediately for the purpose of performing their specific responsibilities. Such arrangements shall be made by all industrial users with their security guards within thirty (30) days of the passage of this Chapter.

2. Industrial users and the sewage treatment plant shall maintain records of all information resulting from any monitoring activities required by this Chapter, and shall include:

(a) The date, exact place, method and time of sampling and the names of the person or persons taking the samples;

(b) The dates analyses were performed;

(c) Who performed the analyses;

(d) The analytical techniques/methods used; and

(e) The results of such analyses.

3. The sewage treatment plant and industrial users shall maintain such records for a minimum of three (3) years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the industrial user or operation of the sewage treatment plant pretreatment program or when requested by the regional administrator or the Director of IEPA. (Ord. 4925, 6-26-85)

8-1-37: ANALYSIS OF INDUSTRIAL WASTES: Industrial wastes discharged into the public sewers shall be subject to periodic inspection and a determination of character and concentration of said wastes. The determination shall be made as often as may be necessary by the Superintendent of Public Works. Samples shall be collected in such a manner as to be representative of the composition of the wastes. The sampling may be accomplished either manually or by the use of

mechanical equipment acceptable to the Superintendent of Public Works. Installation, operation and maintenance of the sampling facilities, when required, shall be the responsibility of the person discharging the waste. Access to sampling locations shall be granted to the Superintendent of Public Works or his duly authorized representative at all reasonable times. Every care shall be exercised in the collection of samples to insure their preservation in a state comparable to that at the time sample was taken.

8-1-38: LABORATORY PROCEDURES: Laboratory procedures used in the examination of industrial waste shall be those set forth in "Standard Methods". However, alternate methods for certain analysis of industrial wastes may be used subject to mutual agreement between the Superintendent of Public Works and the person discharging such wastes. Determination of the character and concentration of the industrial wastes shall be made by the person discharging them, or his agent. The City may make its own analysis of the waste and these determinations shall be binding as a basis for charges.

8-1-39: DISCHARGE OF SLUGS: No person shall cause the discharge of slugs of water or waste. Each person producing a discharge into the public sewers in excess of twenty five thousand (25,000) gallons in any one day, shall construct and maintain at his own expense a suitable storage and flow control facility to insure equalization of discharge over a twenty four (24) hour period or shall provide some other

(See following page for remainder of Section 8-1-39)

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equivalent arrangement acceptable to the Superintendent of Public Works. This facility shall have a capacity of at least eighty percent (80%) of the total normal volume of a twenty four (24) hour production period, and the outlet to the sewer shall be equipped with a rate discharge controller or other approved device, the regulation of which shall be directed by the Superintendent of Public Works. A discharge into the public sewers in excess of twenty five thousand (25,000) gallons in any one day shall not be considered a slug if it is determined by the City Engineer that the maximum discharge rate will not result in a hydraulic overloading of the downstream sewerage facilities. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76; amd. Ord. 4326, 7-12-78)

8-1-40: ENTRY ONTO SERVICED PROPERTIES: The Superintendent of Public Works, his authorized deputy, agent, representative or other duly authorized employees of the City bearing proper credentials and identification, shall be permitted to enter upon all serviced properties at any reasonable hour for the purpose of inspection, observation, measurement, sampling and testing in accordance with the provisions of this Chapter. (Ord. 3085, 9-13-61; amd. Ord. 4089, 4-14-76)

CITY OF ALTON, ILLINOIS  
POLLUTION PREVENTION PLAN  
FOR  
COMBINED SEWER OVERFLOWS

September, 1996  
(Revised - November, 2006)

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CITY OF ALTON, ILLINOIS  
POLLUTION PREVENTION PLAN  
FOR  
COMBINED SEWER OVERFLOWS

**1. INTRODUCTION**

The Pollution Prevention Plan that follows is to provide documentation to demonstrate that the City of Alton is complying with the nine minimum controls contained in the National Combined Sewer Overflow (CSO) Control Policy.

Attached as an Appendix to this plan is the City's "Combined Sewer Overflow Phase I Report" which provides background information relative to the combined sewers and their outfall interception points. References to the Appendix will be made throughout the plan.

**2. OPERATION AND MAINTENANCE PROGRAM**

**2.1 Organizational Structure**

Two divisions of Public Works are directly involved with the O&M program. These are Sewer Maintenance and Wastewater Treatment. The Street Division also is involved because street sweeping and a part of the O&M Program.

Sewer Maintenance has six regular maintenance employees. Wastewater Treatment Plant has eight operation and maintenance regular employees. Sewer Maintenance has an operations supervisor, who is under the Superintendent of the Wastewater Treatment Plant (this is the "Operator in Charge"). Wastewater Treatment Plant has two supervisors and one laboratory supervisor/technician, they are also under the "Operator in Charge."

**2.2 Budget**

The regular meetings for planning and budgeting are held during the first month of the year to establish the O&M budget for the fiscal year beginning April 1st.

**2.3 Critical Facilities**

The critical elements of the Combined Sewer System are the following:

- A. Six CSO weirs on the Southside Interceptor Sewer:
  - 1. Shields Valley
  - 2. Central Avenue
  - 3. Piasa Valley
  - 4. State Street (combined with Piasa Valley overflow outfall)
  - 5. Summit Street
  - 6. Turner Tract

- B. Inlets connected to Combined Sewer System:
  - 1. Grated Inlets
  - 2. Catch Basin Type Inlets (curb opening)

## **2.4 Procedures for Routine Maintenance**

- A. Combined Sewer Overflow Weirs - These are checked after each rain from worksheets. The CSO outfall overflow points described in the Appendix are checked twice a week, normally Monday and Friday. The structures with mechanical gates are exercised and maintenance pulled every six months. Visual inspection of weirs and structures are made during bi-weekly checks.
- B. Inlets (Grated) - Area cleaned and or checked after any rain that causes water movement in street gutters. These are cleaned from checklists which list address and number of inlets at location. Also, the City's detailed sewer maps show the location of inlets.
- C. Inlets (Catch Basin Type) - These are cleaned from checklists. The inlets are checked a minimum of twice a year from these lists. (The inlets are cleaned and or checked as needed in response to complaints.) The areas that have high loading of leaves in the fall are swept with the Street Sweeper on a regular basis.

## **2.5 Non-Routine Maintenance and Emergency Situations**

During non-working hours the City Police Department has a list of Supervisors who are on call 24 hours a day. These Supervisors carry pagers at all times. This procedure includes both the Sewer Maintenance Division and Wastewater Treatment Plant.

## **2.6 Inspections**

All of the City's CSO's are weir type which require little maintenance on the weir itself. The worksheet is filled out and returned to the Supervisor along with the employee's daily worksheet. The evidence of overflow discharge or any problem is noted on these sheets. Any problem at a CSO or combined sewer structure is investigated immediately to determine if immediate action is needed.

## **2.7 Training**

- A. All employees in Sewer Maintenance are instructed on confined entry procedures, traffic safety and general safety at the work site. All employees are given the opportunity to operate and familiarize themselves with equipment involved in their jobs. Periodic safety films are shown to the group as a whole.
- B. All employees go through a period of training where they are with a trained person who instructs the employee on proper procedures. The Supervisor checks progress regularly during this time.

## 2.8 O&M Equipment

The following equipment is utilized by the two Public Works Divisions for the O&M program:

1. Camera/Truck - Investigation of sewer and prioritizing those that require attention.
2. Jet/Vacuum Truck - Routine and emergency cleaning of sewers and catch basins.
3. Jet Rodder Truck - Routine and emergency cleaning of sewers.
4. Catch Basin Cleaning Truck - Routine and emergency cleaning of catch basins and inlets, ditches, culverts, and lifting needs associated with sewer maintenance.
5. Three One Ton Crew Trucks - Used by cleaning crews for both routine and emergency investigation, cleaning and repair work.
6. Backhoe/Loader Tractor - Excavation of sewers for repair and/or replacement.
7. Skid Steer Loader - Channel cleaning and small repair work associated with sewers.
8. Air Compressor/Jack Hammer.
9. 36" Diameter Concrete Saw.
10. Hydraulic Concrete Breaker.
11. Shoring/Trench Shields - Used for excavation up to 14 feet deep.
12. Utility Trailer - For equipment mobilization.
13. Inflatable Plugs - Up to 30" diameter for bypass pumping between manholes.
14. Emergency 4" Diesel Trailer Mounted Pump - For bypass pumping around manhole.
15. Emergency Generator – Capable of providing power for City pumping stations.
16. Safety Equipment - Manlift, gas monitors, harnesses, traffic control devices, ventilators used in underground repair and confined space entry.
17. Two Street Sweepers - Routine and emergency street sweeping.

18. Emergency 8" Diesel Trailer Mounted Pump

## 2.9 Periodic Review of O&M Plans

O&M procedures are evaluated and modified as necessary during routine cleaning and before Spring and Fall rainy seasons. These practices will be modified after the completion of the Long Term Control Plan (LTCP) to include newly agreed upon CSO controls, if necessary.

## 3. MAXIMUM USE OF COLLECTION SYSTEM FOR STORAGE

### 3.1 General

The Appendix to this plan (Appendix I) provides a brief description of the City's overall Combined Sewer System (CSS) and the Southside interceptor sewer and structures that direct the dry weather flows from the CSS to the wastewater treatment plant. Exhibit A of the Appendix shows location of the combined sewer areas in the City, the interceptor system, and the Mississippi River which receives the overflows from the CSS. Table 2 of the Appendix shows the drainage area and population of each of the City's seven combined sewer areas which make-up the overall CSS.

### 3.2 Considerations

- A. Small Combined Sewer Areas - As indicated in the Appendix, three of the combined sewer areas (Turner Tract, Summit Street and State Street) are small and consequently so are their outlets sewer sizes at the point of overflow (see Appendix Table 1). It is noted that these three areas are all at the west end of the CSS which is adjacent to the Mississippi River bluffs. The topography in this area is very steep and cut with deep valleys away from the bluff face.

In these areas the use of the sewer system itself for storage of CSO's is not practical due to the limited volume available in the small pipe sizes. Localized upstream, off sewer detention is also not practical due to the steep topography in the area.

The investigations into the use of the sewer system for storage in these three areas have concluded that the maximum benefits of storage can be derived from a more intensified program of sewer cleaning and maintenance in the areas adjacent to combined sewer intercepting structures. This program has been put in place by the City.

- B. Large Combined Sewer Areas - The three large combined sewer areas, Piasa Valley, Central Avenue, and Shields Valley each provide a different potential for storage of CSO's in the collection system as follows:
1. Piasa Valley Area - This CSS has the largest watershed at 1,455 acres and is the first major watershed east of the end of the Mississippi River bluffs at Alton. The outfall sewer at the point of interception is a 9.5 foot wide concrete reinforced stone arch which is located under Piasa



Street in the heart of the Central Business District and is one of the oldest sewers in the CSS. A 15 inch high concrete weir dam constructed across the floor of this sewer diverts up to 2.5 times the average dry weather flow from the sewer into the intercepting sewer system. In its' present configurations the Piasa Valley Sewer capacity is limited to an approximate ten year frequency storm upstream of its' outlet. There is a history of flooding of this sewer with resultant property damage. On two occasions in the past the sewer failed under surcharged conditions and had to be rebuilt.

Other than the storage already provided by the existing diversion dam, the use of the Piasa Valley outlet sewer to store CSO's is not considered practical due to the age of the sewer and its' vulnerability to flooding. The more intensive program of sewer cleaning and maintenance of the portion of the sewer system adjacent to the intercepting structures instituted by the City is the best means of maximizing storage of CSO's in the Piasa outfall sewer.

Investigations to date indicate that the best potential for storage of CSO's in the Piasa Valley CSS is to utilize localized detention in upstream watersheds within the Piasa Valley area. Such detention facilities are already in place in the watershed areas adjacent to the recently relocated U.S. Route 67. This potential will be further analyzed in the development of the City's LTCP.

2. Central Avenue Area - This CSS has a watershed of 470 acres which is fully developed into residential and commercial properties. The watershed consists of side hill drainage above the flooding plain of the Mississippi River where the Central Avenue combined sewer outfall is located. While outfall is located in the flood plain, it is within the flood protection levee of the Wood River Drainage and Levee District.

The Central Avenue CSS consists of three branch sewers 84", 72" and 60" in diameter at the outfall. An 18 inch high concrete weir dam constructed across the floor of the outfall headwall which receives the flow from the three branch sewers, diverts up to 2.5 times the dry weather flow from the CSS into the interceptor sewer, thus providing storage of a portion of the CSO's in the CSS.

The portions of the three branch sewers that are located within the aforesaid flood plain are on flat grades and are relatively shallow in depth. Most of the commercial properties are also located within the flood plain area.

The combination of the flat grades and shallow depth of the branch sewers and commercial properties with basements connected to the sewer causes flooding to occur during intense rain events. To date at least three properties are known to flood during these occurrences. Trying to increase storage of CSO's in this CSS beyond that already provided by the concrete weir dam would only further aggravate the

flooding problem. Further investigations into the possibility of increasing the CSO storage in this CSS by removing and re-routing the flow from the problem properties will be undertaken during the development of the City's LTCP.

The current City program of intensified cleaning and maintenance of sewers in the areas adjacent to the intercepting structures serves to maximizing the storage available in this CSS.

Due to the full development of the area and the side hill nature of the watershed, localized upstream detention of storm water is not practical for this combined sewer area.

3. Shields Valley Area - The 1,400 acre watershed of the Shield Valley area is nearly as large as that of the Piasa Valley watershed. However, the sewer at the outfall consists of a 16 foot wide arch giving it considerably more capacity than the Piasa Valley outfall.

A 15 inch high concrete weir dam constructed across the paved concrete outlet channel adjacent to the downstream end of the 16 foot arch sewer coupled with another diversion dam further downstream divert in excess of 2.5 times the dry weather flow from the Shield Valley CSS into the City's interceptor sewer system.

Detailed analysis will be made of the potential for increased storage of CSO's in the 16 foot wide arch and also for localized upstream detention in the secondary watersheds within the Shields Valley area as a part of the LTCP.

The storage provided by the concrete weir dams and the program of increased sewer maintenance and cleaning previously described is presently the means of maximizing the use of the collection system for storage in this CSS.

#### **4. REVIEW AND MODIFICATION OF PRE-TREATMENT REQUIREMENTS TO ASSURE CSO IMPACTS ARE MINIMIZED**

As described and shown in the Appendix, only the west part of the City is served by combined sewers. Also, the major industrial facilities within and adjacent to the City provide their own sewage treatment with treated wastewater being discharged directly to the Mississippi River.

In past years the City has conducted on site sampling and testing of non-domestic wastewater that reaches the sewer system and determined that there were no significant non-domestic discharges to the Alton sewer system and a pre-treatment program for the City was not required.

The Illinois EPA has concurred in this finding and consequently has not required that the City establish and administer a pre-treatment program.

At the time the City was exempted from the pre-treatment program, they were required through their NPDES permit to test their wastewater for priority pollutants to verify that there were no significant non-domestic discharges to the City's sewer system.

Testing for priority pollutants in the City's wastewater flows has now been eliminated from the City's NPDES permit requirements due to the low level or absence of these pollutants found in the City's wastewater during the time the testing was required.

## **5. MAXIMIZATION OF FLOWS TO THE WASTEWATER TREATMENT PLANT**

Prior Facilities Planning Studies conducted for the City focused in part on the City's CSO's and the alternative methods of filling the primary need to provide additional facilities to comply with Illinois Pollution Control Board rules and regulations.

The studies concluded that the cost effective method of dealing with the City's CSO's was to provide the facilities that would fully utilize the capacity of the City's 36" diameter Southside Interceptor Sewer which intercepts the flow from all of the combined sewers. Concurrence with this conclusion was obtained from the Illinois EPA and the Illinois Pollution Control Board.

The improvements need to provide these facilities were as follows:

- A. Increase the intercepting capacity of the Shields Valley intercepting structures to 4.4 MGD which, when coupled with the intercepting capacity of the City's six other intercepting structures would equal 13.7 MGD, the capacity of the 36" Southside Interceptor Sewer.
- B. Upgrade the Southside interceptor sewage pumping station which conveys the flow from the Southside Interceptor sewer to the City's wastewater treatment plant from a capacity of 8.7 MGD to 13.7 MGD.

In 1992, the City awarded a contract to construct the described facilities at a total cost of \$1,154,319.00, including engineering.

These facilities are now in place and are functioning properly.

## **6. ELIMINATION OF CSO'S DURING DRY WEATHER**

The five locations at which CSO's occur in the Alton sewer system during wet weather periods are described in the Appendix and are the only locations where dry weather overflows (DWO's) can also occur.

As indicated in the description of the five overflow locations, they are all readily accessible for observation. Bi-weekly checks of the overflow locations and scheduled maintenance of intercepting structures as described in Section 2 of this plan are the major elements in eliminating DWO's. Also, these bi-weekly checks will also alert sewer maintenance personnel as to when sewer and interceptor structure cleaning is needed to insure proper operation of intercepting facilities. All locations are checked after any rain of 0.5 inches or more.

As the City has additional experience in DWO occurrences, a plan will be developed for eliminating all DWO's as a part of the LTCP.

## **7. CONTROL OF SOLIDS AND FLOATABLE MATERIAL IN CSO'S**

The City's experience to date in the control of solids and floatable material in the combined sewers indicates that the inlet, catch basin, and street cleaning program set out in Section 2 of this plan, plus routine cleaning of the combined sewers, particularly at and near the overflow outfall is the most practical and effective means of controlling solids and floatables in the City's CSO's.

The Piasa Valley outfall sewer is equipped with a closure sluice gate at its point of discharge into the Mississippi River. During normal river conditions, the gate is positioned to act as a baffle to control floatables in the Piasa Valley CSO's. During the bi-weekly checks of the overflow locations as indicated in Section 2 of this plan, the Piasa Valley outfall gatewell structure is also checked for any floating material that is trapped behind the gate. Collected floatables are removed on an as needed basis.

Continuing investigations, particularly in the three large combined sewer systems will be undertaken to determine if other control measures such as baffles or trash racks would prove to be effective means of control of solids and floatable materials in the City's CSO's as a part of the LTCP.

Inlet and catch basin modifications as a means of control have been ruled out due to the resulting increased maintenance requirements and unacceptable increased incidences of street flooding.

## **8. POLLUTION PREVENTION PROGRAMS TO REDUCE CONTAMINANTS IN CSO**

Routine street sweeping by the City's Street Department and enforcement of the City's anti-littering and illegal dumping ordinances by the Public Affairs Department are proving to be effective means of reducing contaminants in the City's CSO's. Also periodic clean-up/pick up campaigns by Pride Incorporated, an area civic group, and by an organization of local high school students have been effective.

The City has instituted the following program in conjunction with it's refuse pick up to reduce contaminants in their CSO's:

1. Pick up of one large item per month in addition to the normal refuse collection at no extra charge (more often than once a month can be arranged for an additional fee).
2. Once a week pick up of yard wastes including leaves. (Residents are prohibited by ordinance from raking leaves into the street gutters and leaving them.)
3. Recycling bins are furnished to all residences in the City. Recycled materials are collected by the refuse hauler.

All new public areas developed by the City include trash receptacles to reduce litter in parks, parking lots, streets and adjacent to public buildings.

The oversight and enforcement by the City's Department of Sewers and Sewage Disposal Chapter of the Alton City Code also provides an effective means of eliminating some contaminants from being contributed to the City's CSO's by commercial and industrial users.

The City Code contains the following provisions:

1. Grease, oil and sand interceptors are required for all establishments with wastewater containing these contaminants in excessive amounts.
2. Industrial users are prohibited from discharging wastes containing objectional or toxic substances in excess of stated concentrations. All prohibited wastes are described in the Code and provision is made in the Code for the City to have access to, sample and test industrial wastes to ensure conformance with the Code.

In order to control products which could damage the environment if allowed to become a part of the City's CSO's, all Parks and Recreation and Public Works personnel who operate equipment which dispense fertilizers or pesticides have received training and are licensed to undertake this kind of work. Also, the City's de-icing salts are stored in an enclosed building to ensure that stormwater runoff from the salt storage area does not contaminate the surrounding watershed.

Although the City does not have its own hazardous waste collection program, Madison County and Municipal agencies within the Alton area sponsor and advertise hazardous waste pick-up programs at various times each year. Items such as partially empty paint cans, solvents, and other hazardous wastes can be dropped off by individuals at advertised locations where they will be picked up and properly disposed of by the sponsoring agency.

The City will evaluate the cost and effectiveness of other pollution prevention programs such as public education if it is determined to be necessary.

## **9. PUBLIC NOTIFICATION**

The Appendix to this plan (Appendix I), which is the Combined Sewer Outflow Phase I Report, concludes that the five locations of the CSO's in the City are not sensitive areas, and further, that they are not accessible to the public. Therefore, for the City of Alton, Public Notification of a CSO is not needed since the public is not directly or indirectly affected by the CSO's.

In the event a major spill of a hazardous substance should occur in the CSS coincidentally with a CSO, the City's Public Works Director will issue a public notification to the local press and radio station indicating the following:

1. Location of the affected area.
2. Identification of the hazardous substance.

3. Steps being taken to address the incident.
4. Expected time frame to complete the clean-up.

## **10. MONITORING TO CHARACTERIZE CSO IMPACTS AND THE EFFICACY OF CSO CONTROLS**

Prior sewer studies and Facilities Planning for the City have characterized the (CSS). Also detailed maps showing location, size, and elevations of the CSS have been prepared by the City which are periodically updated as additions are made to the system.

An ongoing program of monitoring of the CSO's in the City's CSS is being carried out by the Sewer Department personnel. As indicated in Section 2 of this Plan the five CSO outfall overflow points are visited after each rain event and a monitoring report is filled out giving the following information for each outfall:

1. Date
2. Estimated duration of rainfall
3. Estimated amount of rainfall
4. Estimated duration of CSO

The number of daily CSO events in the CSSA's from December 1, 2005 to November 30, 2006 has been 46.

None of the daily CSO events were attributable to gate closures at the Piasa Valley and State Street intercepting structures due to high river levels in the Mississippi River during this one year period. (See Section 2 of Appendix regarding operation of intercepting facilities with respect to varying River levels.)

The City has three "tipping bucket" rainfall gauges located in the west, central and east part of the City in order to best determine the amount of rainfall that is contributed to each individual CSO outfall.

At the Turner tract, Central, and Shields Valley CSO overflow wier dams, the City has installed ultrasonic water level recorders to determine the depth of flow over the wier dam and the duration of the overflow. A velocity meter is also installed at each location so that the volume of each CSO can be calculated.

This metering and measuring equipment has been purchased for the Piasa Valley CSO overflow wier dam and will be installed by the City in the near future.

The information developed from this ongoing program will become a part of the characterization, monitoring, and modeling of the City's CSS for the LTCP.

The development of the LTCP will also include a long-term monitoring plan that will measure the effectiveness of measure implemented in the plan.

# APPENDIX VII

ILLINOIS POLLUTION CONTROL BOARD  
May 19, 1988

IN THE MATTER OF:

PETITION FOR SITE-SPECIFIC RELIEF  
BY THE CITY OF ALTON

)  
)  
) R82-7  
)  
)  
)

ADOPTED RULE. FINAL ORDER.

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

This matter comes before the Board upon the April 15, 1982 filing by the City of Alton (City) of a proposal for site-specific relief from 35 Ill. Adm. Code 304.106 (offensive discharges), 304.120(c) (10/12 mg/l BOD/TSS effluent standards), 304.121 (400 fecal coliform per 100 ml bacteria effluent standard), 304.124 (15 mg/l total suspended solids effluent standard), and from the combined sewer overflow (CSO) provisions at Sections 306.302 (prohibition on expansion of or new CSO service areas), 306.303 (elimination of excess sewer infiltration), 306.304 (prohibition on sanitary sewer overflows), 306.305 (treatment of overflows and bypasses) and 306.306 (compliance dates).

Procedural History

On May 13, 1982, the Board entered an Order seeking clarification of the proposal from the City (47 PCB 117). A merit hearing was held in Alton, Illinois on February 14, 1983. On October 12, 1984, the Illinois Department of Energy and Natural Resources filed its completed economic impact statement (EcIS) with the Board. An economic impact hearing was held in Alton on January 17, 1985.

On May 16, 1985, the Board adopted a proposed rule for First Notice. The proposed rule was published in the Illinois Register (9 Ill. Reg. 8392) on June 7, 1985, which commenced the 45-day comment period. The proponent, City of Alton (City), requested by letter an extension for it to submit its comments and did submit them on August 22, 1985. On October 29, 1985, the Agency filed a letter which stated:

After receipt of Petitioner's response to the First Notice, the Agency personnel involved had a meeting with the City's engineers in an effort to devise an alternate solution that might be acceptable to all parties and consistent with USEPA regulations. Discussions are continuing and at the earliest opportunity information will be



submitted to supplement the record.

However, the negotiations ended without result and the Board received no more information.

The Board adopted a proposed rule for Second Notice on March 27, 1986. The rule, at Second Notice, was modified in response to First Notice comments and the apparent position of the Illinois Environmental Protection Agency (Agency) as evidenced by a permit it issued to the City.

Subsequent to the Board's Second Notice Order, the Agency filed letters with the Board dated April 9 and 17, 1986 stating that this matter was still in the negotiation process with the City and United States Environmental Protection Agency (USEPA). Appended to the April 17 letter was a USEPA preliminary comment dated April 16, 1986. In that preliminary comment, the USEPA suggested that if additional economic data were placed in the record the City might be able to receive an exemption from the requirement that all wastewater be transported to the wastewater treatment plant even up to a 25 year flood event. The City then moved to authorize an additional engineering cost and feasibility study. The Joint Committee on Administrative Rules (JCAR) issued a certification of no objection to the rulemaking on April 17, 1986. The JCAR certification was conditioned upon the Board adding the clause "[n]o later than the date of completion of Lock and Dam No. 26" to proposed Section 304.210(b)(3). (That provision is now Section 304.502(b)(3)).

On May 22, 1986, the Agency filed a request that the Board delay final action until the results of the negotiations were incorporated into the record. In its Order of May 22, 1986, the Board stated that it would "await further comments from the City [City of Alton], the Illinois Environmental Protection Agency ('Agency'), and the USEPA before proceeding with this rulemaking." The Board believed that this was the "most efficient course of action" given the ongoing negotiation process between the City, Agency, and USEPA.

On June 22, 1987, the Agency filed comments (docketed as P.C. #4) in which were included comments of the USEPA. In response to the Agency's and USEPA's comments, the City filed its own comments with the Board on July 27, 1987 (docketed as P.C. #5). The Agency filed comments (docketed as P.C. #6) in response to the City's comments on August 19.

More than one year elapsed since the Board's initial First Notice. Section 5.01(d) of the Illinois Administrative Procedure Act required that the Board again adopt a proposal for First Notice before proceeding further with this rulemaking. Consequently, on January 21, 1988, the Board adopted for First Notice a version of the proposal which had been modified in accordance with the comments recently filed by the City and the

Agency. That proposal was published in the Illinois Register on February 16, 1988. 12 Ill. Reg. 3547. The Board received no public comments during this First Notice period.

On April 7, 1988, the Board proposed the same rule for Second Notice. The Joint Committee on Administrative Rules (JCAR) issued its Certificate of No Objection on May 10, 1988. At the request of JCAR, the Board has made some changes to the version of the rule as it is adopting today. Specifically, JCAR asked the Board to change Sections 306.502(b)(2) and (c)(1). However, it is the Board's position that these changes do not alter the rule in any substantive way.

Before discussing the filings by the City and the Agency, which prompted the Board's second First Notice, the Board will recite the factual background of this matter.

#### Background Information

The City is faced with three problem areas: receiving stream reclassification, CSO elimination (dry and wet weather flows) and wastewater treatment plant (WWTP) upgrade. Prior to 1982, the receiving stream for the WWTP was considered to be the Mississippi River (River) even though it discharged into Wood River Creek (Creek) approximately 1,000 feet from the Mississippi. The receiving stream is now classified by the Agency as the Creek, a low flow stream, thereby imposing stricter standards for BOD and TSS. The City requests relief from the 10/12 mg/l BOD/TSS and 15 mg/l TSS effluent standards (the 15 mg/l standard is for the CSO discharges while the 10/12 standard applies to discharges from the WWTP). The City proposes to meet the prior 20/25 mg/l standards for BOD/TSS for its WWTP discharge.

Besides reclassification difficulties, the City has a CSO problem. There are prohibited overflows from sanitary sewers to the River. In addition, some dry weather flows, the first flush of storm flows, and ten times the average dry weather flow are not being sufficiently treated. The River inundates certain CSO areas when the river pool level is above elevation 415.3 (Pet. 3).

Lastly, to meet standards, the WWTP must be upgraded or the sewer outfall must be extended another 1,000 feet to the River proper.

The City's WWTP provides secondary treatment by the contact stabilization mode which consists of settling and aeration tanks. The WWTP was designed for a population equivalent of 105,000, an average design flow of 10.5 million gallons per day (MGD), and a peak design flow of 26.25 MGD. The service area includes Alton, part of Godfrey Township, and Bethalto. Discharge is to either permitted outfall 001 or to an unpermitted

outfall into the Creek near the WWTP 5,000 feet from the River depending on the elevation of the River (see Pet. Exh. 13). During normal river stages, the discharge is 4,000 feet downstream from the WWTP, which is 1,000 feet from the River below the channel dam. Twenty percent of the time high water prevents discharge below the channel dam at outfall 001 (R. 74). Discharge is then above the channel dam at the unpermitted outfall (See Pet. Exhs. 13, 17).

Besides the WWTP discharge, the City has six permitted discharges from seven combined sewer areas (see Pet. Exhs. 1,2). There are three CSO outlets to the existing pool of Lock and Dam No. 26 (Id. #007, 006, 005) while two CSO's (Piasa, State) join at outlet #004 in the tailwater of the existing locks and dam. "The existing facilities allow overflow of untreated dry weather and storm flows during periods when the river stage below the existing dam (tailwater) is 415.3 mean sea level or higher. A sluice gate in the interceptor sewer must be closed when flood stages of the river exceed elevation 415.3 to prevent flooding of the interceptor system with river water.... Improvements resulting from the Corps of Engineers work to relocate Lock and Dam 26 will result in decreased frequency of such overflows." (Pet. 3). The average amount of CSO's discharged at outfalls 007, 006, and 005 is estimated to be 1.1 million gallons per year (Id.). The estimated annual overflow from the Piasa-State CSO outlet is 290 million gallons per year (Id. 4). The two remaining CSO's (003, 002) discharge to an area known as the Impoundment Area. During normal river stages discharge is by gravity to the River, but at high River stages the discharge is pumped into the river. The estimated annual overflow from these two outlets is 282 million gallons per year (Id. 5).

Before discussing the proposal and the two full compliance options, the relocation of Locks and Dam No. 26 and its effect on this proceeding will be discussed. The relocation is being performed by the U.S. Army Corps of Engineers (Corps). A new lock and dam structure will be located two miles downstream from the present structure. The relocation will change the area covered by Pool 26. The present pool has a normal elevation of 419 feet and a minimal elevation of 414 feet above mean sea level. (See Pet. Exh. 2). The record indicates that the "completion" of the lock and dam relocation, meaning the date at which the new pool will be raised, was scheduled for September 1987 (R. 98; E.R. 32). Three CSO's discharge to the present pool and will be unaffected by the dam relocation: Turner (007), Bluff (006), and Summit (005) (Pet. Exh. 2). The remaining CSO's will be affected. Outfall 004, comprised of the State and Piasa CSO's will be greatly impacted. This outfall discharges below the present dam into the tail waters. Upon dam relocation, the new Pool No. 26 would inundate the Piasa CSO because of the CSO's low control elevation (415.3 feet). The Corps' modifications to lessen this impact to the Piasa CSO will consist of construction

of an eight by eleven foot new outlet sewer, relocation of the Piassa and the State Street intercepting structures, the construction of a separate outlet for the State Street sewer and other miscellaneous construction (Pet. Exh. 6, R. 38-9). These improvements will be paid for by the federal government (R. 91) and will reduce sanitary flow biochemical oxygen demand (BOD) by 69 percent (R. 36-40).

The new pool at elevation 419 will affect the impoundment area which is at elevation 403. The Central and Shields CSO's discharge to this area. A proposed Corps improvement is to relocate the pumping station to the vicinity of the twin 60 pumps. The combination of pumps in one area will combat the increased water seepage from the relief wells of the levee (R. 89). As outfall 001 will be below the new lock and dam, it will be unaffected.

Although there are many different ways to juggle the different control strategies to address the City's three major problems, there are basically three options for the Board to focus on. Two are full compliance options. The first is a CSO and WWTP upgrade and the second is a CSO upgrade with an extension of the WWTP outfall pipe (001) to the Mississippi River. The third option is the proposal favored by the City, which includes limited CSO improvements.

The existing system is described more fully in the petition (Pet. Exh. 14) while the City proposal is described in Petitioner's Exhibit 8. The limited CSO improvements include construction of an interceptor sewer parallel to the southside interceptor, modification of the Shields Valley regulator chamber, installation of a twelve inch interceptor between the Shields Valley and the Shields Valley/Upper Alton intercepting structures, installation of an eighteen inch force main from the southside pumping station to the WWTP, and increasing the peak pumping capacity of the southside pump station from 8.9 MGD to 13.7 MGD (Pet. Exh. 8, R. 42-3). With these improvements, combined sewer overflows would be reduced by 9.1 percent (EcIS at 3-11).

The proposed improvements will cost the City \$885,600 (Pet. Exh. 9, EcIS at 5-3, ER at 12; Exh. D to EcIS) and would reduce the annual BOD discharge from the City by approximately 13 percent (Pet. Exh. 9). The EcIS calculates this to be a nine percent reduction, probably not including alternates B-1 and B-2 (EcIS, 3-11), which will be performed by the Corps (see above; references to alternates B-1,2,3 and 4 on Pet. Exh. 10 are no longer valid; R. 44). The EcIS calculates that the proposal will reduce TSS discharges from the existing system by nine percent (EcIS, 3-11). Ammonia nitrogen would be reduced by 13 percent (Id.).

The two full compliance options both include alternate 4-A,

which provides for a 36 inch force main and increase in pump capacity, additional screening and grit removal, clarification, chlorination, and dewatering equipment (Pet. Exh. 16, ch. 10; Pet. Exh. 7), for storage and treatment of first flush and primary treatment of ten times the dry weather flow above the first flush volume (see EcIS 3-8). The CSO's BOD and TSS discharges would be reduced by 98 percent (EcIS 3-8,-9,-10).

The first full compliance option will be designated Plan A. It consists of alternate 4-A plus an upgrade of the WWTP, including nitrification aeration, diversion and clarifier facilities, return sludge pumping station, blowers, tertiary filters and filter pumping station (EcIS 5-3). The cost for plan A would be the sum of costs for the CSO improvements (\$45,271,200) and WWTP upgrading (\$9,898,800) provisions, totalling \$55,000,000 (Id.). In addition to the pollutant reductions from 4-A concerning CSO discharges, WWTP BOD would be reduced by 80 percent, TSS by 93.1 percent, and ammonia nitrogen by 57 percent (EcIS 3-22).

The second full compliance option will be designated Plan B. It provides for CSO upgrade under alternate 4-A plus extension of the sewer outfall to the River. The total cost would be the sum of the costs for the CSO improvements plus that of the sewer outfall extension, (315,000) or \$45.6 million (EcIS 5-3). The 4-A CSO reductions are also present as in Plan A. Because of the extension of the WWTP outfall to the Mississippi, the upgrade provisions of Plan A are avoided. Under Plan B, the percent reductions from the WWTP are 66 percent BOD, 93.1 percent TSS, and six percent ammonia nitrogen (EcIS 3-22).

The City asserts an arbitrary or unreasonable hardship would be imposed if it had to comply with the regulations (Petition, Exh. 14, p. 13).<sup>1</sup> The two full compliance options, Plan A and B, would cost the City 55.2 million and 45.6 million dollars, respectively, while the City's proposal would cost \$885,000 (ER 11,12). The annual costs under the full compliance options would be 3.7 million and 2.8 million dollars while for the proposal, the annual costs would be \$128,400 (Id.). If the full compliance annual costs are spread over the entire Alton service area, the residential annual sewer service charge could increase between \$91 to \$121 while the nonresidential charge would increase between \$505 and \$680 (EcIS 5-10, -11). Such charges would

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<sup>1</sup> The Board notes that the "arbitrary or unreasonable hardship" standard is that which is applied in a variance proceeding. In a site-specific rulemaking, a petition must demonstrate that it is technically infeasible or economically unreasonable to comply with the general rule. The Board has applied the site-specific rulemaking standard in this proceeding.

increase by two to 299 percent for residences of Godfrey and Bethalto depending upon which assumptions are used (Id.).

As for the environmental impact of the City's discharges, the City testified that the situation is similar to two others studied by the Illinois State Water Survey. One studied the effect of Alton's water treatment plant discharge on the Mississippi, the other analyzed the impact of Peoria's CSO's on the Illinois River (R48-9, 70-1). From the studies the City alleges that there is no evidence of sludge build-up at the overflow point and no localized effects from the CSO's (R70-1). Regarding the ammonia nitrogen concentration of the WWTP discharge in relation to aquatic populations, it is known that the average discharge concentration is approximately 2.45 mg/l while the range is 0.05 to 7 or 8 ppm (R78). The City reports that fish and other aquatic life can migrate over the dam to go upstream in the Creek only 25 percent of the year, which corresponds to the high water elevations of the Mississippi (R. 80; see photo in Pet. Exh. 17).

Evidence which addresses WQS data for the Creek is found in the EcIS at pages 4-4, 4-5. Consistent copper and iron WQS violations have occurred in addition to one silver WQS violation. Agency sampling data upstream of the Creek discharges shows a mean dissolved oxygen (DO) concentration of 8 mg/l with a range of 4.3 to 12.1 mg/l. The DO WQS was violated once in 1982. The mean pH was 7.8 with a range of 7.0 to 8.9 units. The highest ammonia nitrogen concentration during the 1981-1982 period was 0.74 mg/l while the average was less than half of that figure (EcIS 4-7).

Agency sampling data for the years 1980-1982 were obtained for the River at its sampling station immediately below Locks and Dam 26, approximately 300 feet from the Clark Bridge (EcIS 4-17). This station is upstream of the Creek and it is not clear whether it is upstream or downstream of outfall 004 (Pet. Exh. 1). The data shows consistent WQS violations for iron, copper, and fecal coliform. Other WQS violations included two for lead and one for DO in 1980 and two for mercury in 1981 (EcIS, Table 4.2, 4-13, 4-17).

The Agency comments addressed two main concerns. First, the Agency stated that the evidence in the record is insufficient to substantiate economic hardship for dry weather overflows as requested in proposed rule I. Overload of an interceptor due to river backflow into the regulatory chambers should not happen if design criteria are met. The design criteria for such facilities "requires flood protection to maintain operational capability up to a 25-year event and protection of facilities from damage against a 100-year event." (Ag. Comments 1). The evidence shows that river backflow occurs at least eleven days annually. The Agency further stated that the discharge of untreated sanitary sewage into waters of the State would violate Section 301(b) (1)

(B) of the Clean Water Act [33 U.S.C. 1311 (b) (1) (B)]. In its First Notice comments, the Agency requested that the proposal be modified to include adherence to the design criteria for such facilities and to include alternative A-2 in the rule. The Agency's amendatory language to "require the protection and maintenance of the interceptor system from River backflow intrusion for the 25-year flood event" and to require that alternative A-2 be implemented (Ag. Comments 1,2). Recent filings indicated that the Agency is recommending different levels for flood protection.

The evidence of WQS violations in the River for the fecal coliform criterion dictates that any relief given should not aggravate this situation.

The second area addressed was that the City's NPDES permit does not include the alternate discharge point which is 4,000 feet upstream of permitted outfall 001. Furthermore, the potential costs of modifying outfall 001 to handle all WWTP discharges were not discussed in the record. The Agency suggested that the requested relief should only be for permitted outfall 001 and that this should be stated in the rule. The Board notes that this potential problem was raised at the economic hearing yet the City has not suggested a solution. The record is also silent as to potential water quality violations for the 4,000 feet of Wood River Creek below the alternative discharge point. Therefore, the Board will modify the proposed language to reflect the outfall distinction.

As for ammonia nitrogen relief, the Board notes that such relief has not been specifically requested in the proposal or record. Even had such relief been specifically requested in the proposal, there is inadequate data to show that the ammonia nitrogen WQS will not be violated in the Creek, especially in the 4,000 feet between the WWTP and outfall 001. Agency data was from sampling 1.6 miles upstream of outfall 001 and did not include this 4000 foot segment between the WWTP and outfall 001 (EcIS 4-4a). Therefore, the environmental impact of any ammonia nitrogen relief is uncertain and the Board hereby declines to address such relief in the Order.

In adopting today's rule the amounts of BOD and TSS that should be removed for full compliance will most likely end up downstream from Alton. However, the Board finds that the full compliance options are economically unreasonable although technically feasible. The Board further finds that the adopted rule is technically feasible and economically reasonable pursuant to Section 27 of the Environmental Protection Act.

The Board will grant relief from the offensive discharge regulation of Section 304.106.

The Board finds that Alton has justified the need for relief

from the Board's combined sewer overflow regulations. However, the Board agrees with the Agency both that the operational capability of the regulating chambers of the interceptor system should be protected against backflow intrusion by the River and that there should be maximum utilization of the south side interceptor system, including upgrading of the interceptor pump station. The Board is specifically concerned about the need to avoid or significantly reduce the necessity to discharge flows during dry weather because of system overload and malfunction caused by river backflows.

In its Comments, submitted during the first First Notice period, the City stated that after the relocation of Lock and Dam 26, discharges from the Piasa-State Street sewer should not be subject to certain effluent limitations when the mean sea level of the River exceeds 420 feet at River Miles 203.12 and 203.22. In other words, at a level less than the 25-year flood stage. Similarly, the City also contended that it could only flood proof certain combined sewer overflow structures up to specific River levels which are below the 25-year flood stage. In its first Second Notice Order, the Board adopted a version of the proposal which accepted the protection elevations specified by the City. Recent filings and past permitting action by the Agency have indicated that the Agency agrees with such a view.

#### Recent Filings

Attached to its comments of June 22, 1987 the Agency provides copies of correspondence from the USEPA which evaluate the City's proposal. First, the USEPA, in a letter dated August 8, 1986, asserts that the City has not substantiated the need for relief from the BOD<sub>5</sub> and SS effluent limitations of 10/12. The City requests that its WWTP discharges be subject to a 20/25 standard. The USEPA bases its conclusion on the high quality of WWTP effluent as exhibited by recent plant performance. However, the USEPA concurs with the Agency that "no significant water quality influences are likely to result from the relaxation of BOD and suspended solids limitations." (P.C. #4 attachment).

In response, the Agency states that it disagrees with USEPA's recommendation against relief. The Agency explains:

USEPA's position is based on "present plant performance", which ignores the fact that Alton's treatment plant was constructed to receive a design average flow of 10.5 MGD (million gallons per day) and currently receives flows of only about half that amount. Flows to the plant averaged 5.56 MGD in 1984, 5.23 MGD in 1985, and 5.19 MGD in 1986. The reason for the difference between design flow and flows actually received is due to the generally depressed economic



condition of the Alton area, and flows tributary to the treatment plant would be expected to increase as the economic condition of the area improves. More importantly, USEPA's position ignores the fact that the Alton facility was built as a federal grant funded project to meet effluent limitations of 20/25 and not 10/12. The record documents that 20/25 is adequate to protect water quality and the proposed 20/25 limits are certainly more stringent than federal secondary treatment requirements (30/30).

(P.C. #4, p. 1-2)

Finally, with regard to this issue, the Agency believes that the "anti-backsliding" provisions of Section 404 of the re-authorized Clean Water Act would not apply.

The next issue addressed by the Agency in its comments concerns improvements of the sewer system. Specifically, at issue is the cost of improvements to the sewer system which would enable the transport of sewage to the WWTP during River flood conditions up to and including the 25-year flood event. The Agency submitted a letter from Crawford, Murphy & Tilly, Inc. (CMT), consulting engineers for the City, which details the cost of such improvements.

CMT states that a 25-year flood level corresponds to a River elevation of 432.5 feet. According to CMT, improvements on the sewer system to provide flood proofing to such a River level would create expenditures totaling \$6,250,000. CMT states that the City's system is currently protected up to a 2.5 year flood event, which corresponds to a River elevation of 415.3 feet. CMT asserts that the City's current annual debt service for sewer and wastewater treatment plant improvements equates to \$377,000. According to CMT, if flood protection up to the 25-year flood level is instituted, the annual debt service will increase to \$1,000,000. CMT also states that the River's flow above the 2.5 year flood event is in excess of 250,000 cubic feet per second, which is approximately 162 billion gallons per day. Under such circumstances, the City's discharge would be 0.86 million gallons per day which, according to CMT, would amount to 0.0005% of the River's total flow. (P.C. #4 attachment).

The Agency has also submitted a USEPA response to CMT's cost estimate. In a letter dated May 5, 1987, the USEPA states:

Based on our review, we believe that a proper economic analysis was completed (consistent with 40 CFR 131), and due to the circumstances that exist at Alton, bypasses due to high river stages at something less

than the 25-year flood event can be authorized under 40 CFR 122.4(m).

(P.C. #4 attachment)

The Agency is apparently now in agreement with the levels of protection requested by the City (P.C. #6).

In its July 27, 1987 comments, the City addressed two concerns. First, the City states that the protection elevation for the Summit Street overflow structure should be listed at 426.7 feet not 427.0 feet as it was listed in the Board's Second Notice Order of March 27, 1986. The second and more substantive point is that the City proposes language, to be added to the rule, which expressly exempts the City from 35 Ill. Adm. Code 306.305(b). (P.C. #5).

The Agency filed its response to the City's comments on August 19, 1987. The Agency agrees with the City's protected elevation figure for the Summit overflow structure. In addition, the Agency states that since the Summit, Bluff, and Turner structures are all connected, they should be protected to the same elevation. As to the City's request for express relief from 35 Ill. Adm. Code 306.305(b), the Agency responds:

The issue of combined sewer overflow ("CSO") relief must be addressed in the context of the site specific rule change. The City has not formally sought an exception from 35 Ill. Adm. Code 306.305(b). However, even though the exception procedure has not been utilized, the Agency agrees with the Board's previous statement that "...Alton has justified the need for relief from the Board's combined sewer overflow regulations." (Proposed Opinion and Order, May 16, 1985, at p. 7). Actually, wet weather relief for the City should also include Section 306.305(a) as well. This portion of the site specific relief should be promulgated under Part 306, Performance Criteria. Additionally, the CSO's for which relief is sought should be designated by name and location rather than as "all existing combined sewer overflows."

(P.C. #6)

Finally, the Agency suggests some non-substantive alterations to the proposed rule. The Agency suggests that the portion of the rule concerning the BOD<sub>5</sub> and SS effluent limitations for the WWTP be placed under 35 Ill. Adm. Code 304 rather than Part 306. The Board agrees. Also, the Agency

suggests that the rule expressly require that "[t]he south side interceptor pump station shall be upgraded to a design capacity of a minimum of 13.7 million gallons per day." The previous version of the rule lacked the word minimum. The Board also agrees with this change.

In the rule that the Board is adopting today, the Board has altered the protection elevation of the Summit overflow structure in accordance with the City's and the Agency's comments.

As to the requested language regarding an exemption from Section 306.305, the Board concurs with the Agency's position and will adopt the language as suggested by the Agency in its comments.

### ORDER

The Board hereby adopts the following amendments to be filed with the Secretary of State:

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE C: WATER POLLUTION  
CHAPTER I: POLLUTION CONTROL BOARD

PART 304  
EFFLUENT STANDARDS  
SUBPART B: SITE SPECIFIC RULES AND  
EXCEPTIONS NOT OF GENERAL APPLICABILITY

Section 304.210 Alton Wastewater Treatment Plant Discharges

The discharge from the City of Alton's (Alton) sewage treatment works outfall 001 sewer located on Wood River Creek, approximately 1,000 feet from its confluence with the Mississippi River, shall not be subject to Section 304.120(c). Instead, Alton's discharge shall not exceed the following limitations: 20 milligrams per liter for five day biochemical oxygen demand (BOD<sub>5</sub>)(STORET number 00310) and 25 milligrams per liter for total suspended solids (STORET number 00530). Compliance shall be determined consistent with Section 304.120(e).

(Source: Added at, 12 Ill. Reg. effective  
).)

PART 306  
PERFORMANCE CRITERIA

SUBPART F: SITE SPECIFIC RULES AND EXCEPTIONS

Section 306.502 Alton Combined Sewer Overflow Discharges

- a) The discharge from the Piasa-State Street Sewer, defined as being at Mississippi River mile 202.64, shall not be subject

to the provisions of Sections 304.106, 304.120, 304.121 and 304.124 during the following conditions:

- 1) Prior to replacement of the existing Locks and Dam 26, when the tailwater elevation exceeds 415.3 Mean Sea Level (MSL); or
  - 2) After replacement of Locks and Dam 26, where the pool level exceeds elevation 420 MSL at Mississippi River miles 203.12 and 203.22 (Piasa and State Street Outlets relocated).
- b) Discharges from the City of Alton at Mississippi River miles 201.66 (Shields Valley), 202.24 (Central Avenue), 203.12 (Piasa Outlet), 203.22 (State Street Outlet), 203.61 (Summit Street), 203.87 (Bluff Street) and 204.30 (Turner Tract), shall be subject to the following conditions:

- 1) The overflow structures and the associated interceptor sewer shall be protected against intrusion by flood waters and be maintained operational at flood stages from Mississippi River backflow for a 25-year Mississippi River flood stage, except as follows:

Overflow Structure	River Mile	Protection Level Mean Sea Level (MSL) River Stage
Piasa Outlet	203.12	420.0 MSL
State Street Outlet	203.22	420.0 MSL
Summit Street	203.61	426.7 MSL
Bluff Street	203.87	426.7 MSL
Turner Tract	204.30	426.7 MSL

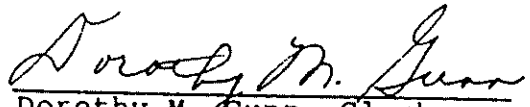
- 2) The City of Alton shall maintain the south side interceptor sewer system in such working condition so as to ensure that the system will flow at a maximum capacity.
  - 3) No later than the date of completion of Lock and Dam 26 the south side interceptor pump station shall be upgraded to a design capacity of a minimum of 13.7 million gallons per day.
- c) Discharges from the combined sewer overflows designated in paragraph (b) shall not be subject to the treatment requirements of Section 306.305(a) and (b) provided that:
- 1) The City of Alton shall maintain the south side interceptor sewer system in such working condition so as to ensure that the system will flow at a maximum capacity.

- 2) The South side interceptor pump station shall be upgraded to a design capacity of a minimum of 13.7 million gallons per day.

(Source: Added at 12 Ill. Reg.  
effective )

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Proposed Opinion and Order was adopted on the 19~~th~~ day of May, 1988, by a vote of 7-0.



Dorothy M. Gunn  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board

# APPENDIX VIII

**CITY OF ALTON, ILLINOIS  
WASTEWATER FACILITIES  
COMPREHENSIVE PLAN  
(Sections 5, 7, 8 and 9 only)**

May, 2004

Prepared by:  
Sheppard, Morgan & Schwaab, Inc.  
Consulting Engineers

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## SECTION 5

### PIASA VALLEY/STATE STREET COMBINED SEWER SERVICE AREA

#### 5.1 General

The Piasa Valley portion of the CSSA occupies approximately 1,455 acres in the central west part of the City. It is the largest of seven separate CSSA's. This area is approximately bounded on the east by Langdon Street and Martin Luther King Drive, on the north by Delmar Avenue and on the west by Belle Street, 9<sup>th</sup> Street and State Street. The population of this area is estimated at 5,560.

The Piasa Valley area is characterized by very rough terrain. From the north ridge of the valley at Delmar Avenue to the south floor of the valley at the Mississippi River, distance about 2 miles, there is a difference in vertical elevation in excess of 215 feet. In some places valley slopes are in excess of 50%. In the west central and northern part of this area, the street pattern was laid out originally to follow the ridges and valleys, but in the southeastern part of the area they were laid out on a grid system. The heart of the old business district is located within this area. Most of the southern part of the area is commercial in character with some light industry. The central and north parts of the area that have been developed are largely residential. Development in the central and northern parts of the Piasa Valley CSSA has been curtailed due to very rough terrain.

A large part (approximately 70%) of the area within the Piasa Valley CSSA is served by separate sanitary sewers which drain into the combined sewer system before reaching the South Side Interceptor.

The upper part of State Street portion of the CSSA occupies a narrow ridge containing residential properties and is located just west of the Piasa Valley CSSA. The remainder of the area is located within the west edge of the City's old downtown commercial district with the lower end located in the flood plain of the Mississippi River. The area is approximately 45 acres in size and has a population of approximately 350.

The Piasa Valley/State Street CSSA contains all of the original stone arch and stone box sewers described in Section 2 of this report. The majority of the combined sewers in the CSSA are constructed of vitrified clay pipe varying in size from 12 inch to 24 inch diameter. A larger 36 inch brick masonry sewer was constructed in 1895 as an outfall for the State Street portion of the CSSA. In 1936 an 8 foot by 8 foot concrete box sewer was constructed to extend the enclosure of Little Piasa Creek from the upper end of the dry masonry stone arch sewer at Ninth Street to the railroad culvert over the creek at 14<sup>th</sup> Street.

The separate sanitary portion of the CSSA consists of sewers varying in size from 8 inches to 21 inches in diameter. The majority pipe material is vitrified clay pipe.

The most recent sanitary sewer construction has taken place in the northwest corner of the CSSA. These sewers are constructed of PVC pipe.



Over the years there have been improvements to the sewer system within the CSSA, the most significant of which were as follows:

- a. In the mid-1960's the original Piasa Valley stone arch sewer was rehabilitated with a reinforced concrete "gunnite" lining and a new cast-in-place reinforced concrete invert. Also a portion of the sewer adjacent to it's crossing of Belle Street was reconstructed with a reinforced concrete box.
- b. Between 1962 and 1968 storm water catch basins were disconnected from the State Street/Elm Street combined sewer and redirected to the nearest open water course to eliminate overloading of the combined sewer.
- c. In 1985 a new 8 foot by 11 foot reinforced concrete box outfall for the Piasa Valley portion of the CSSA was constructed from the intersection of West Broadway and Piasa Streets to the Mississippi River bank as a part of the relocation of Lock & Dam #26 at Alton.
- d. In 1996 a new 48 inch diameter reinforced concrete pipe outfall for the State Street portion of the CSSA was constructed along West Broadway and connected the 8 foot by 11 foot Piasa Valley outfall.

## **5.2 Existing Conditions**

The improvements to the sewer system in this CSSA between 1960 and the present have resulted in the elimination of sewer surcharging and basement back-ups except for one isolated area on the upstream end of the Elm Street sewer where two storm water inlets are still connected to the combined sewer system.

Sewer service is available to all developed areas within the CSSA.

## **5.3 Recommended Improvements**

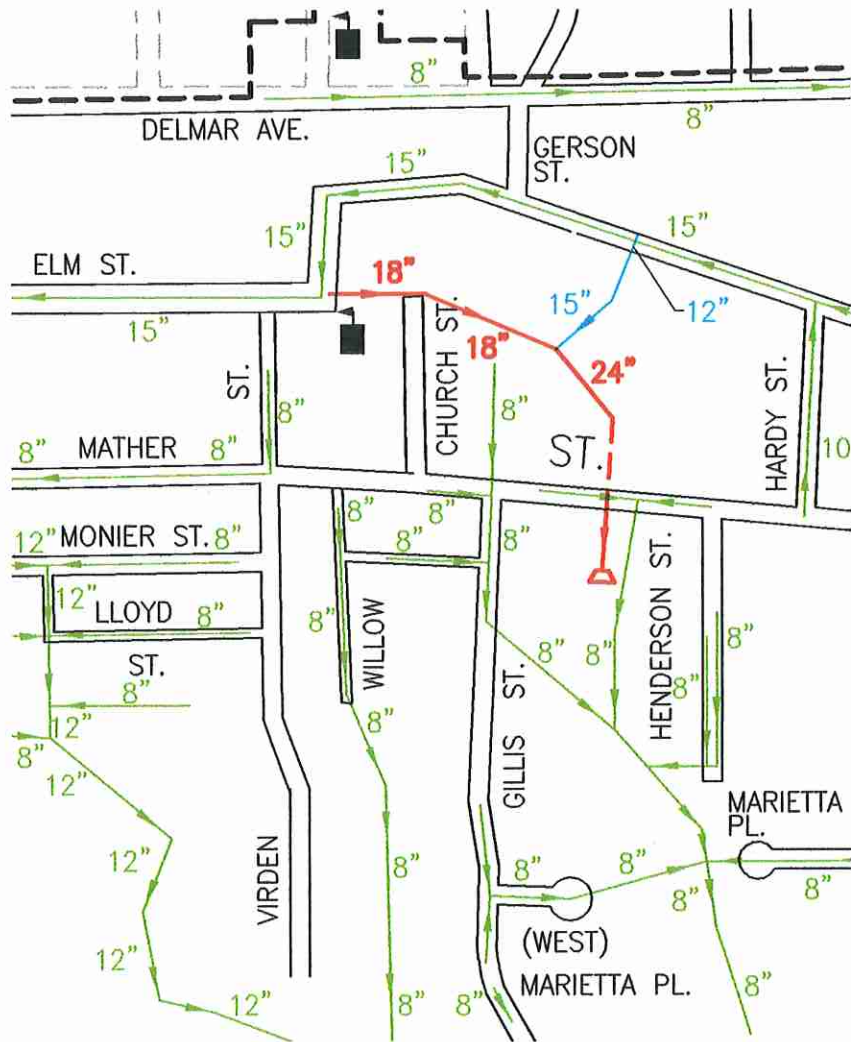
It is recommended that the two inlets on Elm Street that are contributing to the overloading of the combined sewer system be disconnected from the sewer and that a storm sewer be constructed to connect the inlets to the existing storm sewer at the rear of the properties south of Elm Street. The project will also require the lining of a failing portion of the existing storm sewer outlet. The rehabilitation of the sewer is preferable to replacement because the failing portion of the sewer is located between two closely spaced houses and is approximately 17 feet deep. In conjunction with the sewer lining a new special manhole will be required and a portion of an existing 8 inch sanitary sewer adjacent to the new manhole will have to be replaced.

Figure 5.1 shows the location of the proposed combined sewer separation and storm sewer rehabilitation.

#### 5.4 Estimate of Cost

A breakdown of the estimated cost of the Elm Street combined sewer separation and Mather Street storm sewer rehabilitation is as follows:

1.	200 lin. ft. of Sewer Lining @ \$90.00 ..	\$ 18,000.00
2.	270 lin. ft. of 15" Sewer @ \$53.00 .....	14,310.00
3.	50 lin. ft. of 12" Sewer @ \$43.00 .....	2,150.00
4.	4 ea. Manholes @ \$2,200.00 .....	8,800.00
5.	1 ea. Special Manhole @ \$10,000.00 .	10,000.00
6.	3 ea. Inlet Modification, Adjustment & Connection @ \$1,900.00 .....	5,700.00
7.	Sanitary Sewer Reconstruction @ \$6,200.00 .....	6,200.00
8.	Surface Restorations @ \$22,500.00 ...	<u>22,500.00</u>
	Sub-Total	\$ 87,660.00
	Contingencies @ 15%	<u>13,150.00</u>
	Total Estimated Construction Cost	\$100,810.00
	Design & Construction Engineering	<u>17,140.00</u>
	Total Estimated Project Cost	\$117,950.00



**LEGEND**

- EXISTING STORM SEWER
- EXISTING SANITARY/COMBINED SEWER
- PROPOSED STORM SEWER

**PIASA VALLEY/ STATE ST.  
COMBINED SEWER SERVICE AREA  
STORM SEWER EXTENSION**

FIGURE 5.1

## SECTION 7

### SHIELDS VALLEY COMBINED SEWER SERVICE AREA

#### 7.1 General

The Shields Valley CSSA occupies approximately 1,400 acres within the City limits on each side of Shields Branch in the east central part of the City. This area is roughly bounded on the north by Oakwood Avenue, on the west by Central Avenue and on the east by Washington Avenue. The population is estimated at 2,780.

The Shields Valley area is characterized by very rough terrain. In some places valley slopes are as steep as 65%. The street pattern was laid out originally to roughly follow the ridges and valleys. Some streets, however, cross valleys on fills. In several locations, street grades exceed 15%. Located within the valley is the Rock Springs Park and Golf Course. Most of the built-up area is residential in character, although a small portion at the south end is commercial and industrial.

In 1917 as the City's population grew to the north and east, combined sewers were constructed in the west portion of the Shields Valley watershed. The area was designated as the Shields Branch Sewer District. The sewers in this area vary in diameter from 10 inches to 60 inches with the smaller sewers consisting of vitrified clay pipe and the larger ones being constructed of segmental vitrified clay tiles.

In the east portion of Shields Valley watershed some of the City's first separate sanitary sewers were constructed in 1928. These sewers consist of vitrified clay pipe varying in size from 8 inches in diameter to 27 inches in diameter.

Over the years this separate sanitary sewer system has been extended. The latest extension, constructed in 1975, serves the Oakwood Area of the City at the north end of the Shields Valley watershed.

Both of these sewer systems discharge at the upper end of a 10 foot by 16 foot brick arch sewer located at the lower end of the Shields Valley which serves as the outfall for the Shields Valley CSSA. At the downstream end of the Shields Valley outfall, the dry weather flow from the CSSA is intercepted by the Shields Valley branch of the South Side Interceptor and directed to the wastewater treatment plant (see Figure 7.1).

#### 7.2 Existing Conditions

Sewer service is currently available to all of the CSSA and there are no reported failures of the sewer system within this area.

For a number of years there have been periodic complaints by City residents of odors believed to be emitted by the City's sewer system in the vicinity of the intersection of Pearl Street and Joesting Street and within the Joesting Terrace Housing Project.

Consultations with the City's Sewer Department have confirmed that there have been no sewer breaks or overflows found within the combined or sanitary sewer systems when the odor problems have occurred.

Surface water flowing within the paved drainage channel upstream of the trunk sewer has been tested and the presence of sewage in surface water has not been detected.

The foregoing leads to the conclusion that the sewer odor problems that exist in the area are not due to the sewers upstream of the upstream end of the 10' x 16' brick arch Shields Valley outfall sewer.

As previously described, the combined sewer and sanitary sewer system discharge into the upper end of the Shield Valley outfall sewer. It is estimated that the total average daily dry weather flow from these sewers is approximately 660,000 gallons/day and that the peak daily dry weather flow is approximately 2,000,000 gallons/day.

The outfall sewer is approximately 1,800 feet in length and is made up of a reinforced concrete base channel 15'-8" inches wide, 1'-8" deep at the center of the channel, and 1 foot deep at each edge of the channel. The average slope of the channel is 2.6 feet per 1,000 feet. The concrete channel is covered with a circular brick arch having an 8 foot radius. The outfall sewer was constructed in 1916.

During dry weather periods over its entire 1,800 foot length, the concrete base channel of the outfall sewer carries the total raw sewage flows from both the combined and separate sewer systems of the Shields Valley. The configuration of the base channel is such that the estimated average daily dry weather sewage flow in the channel is 3 inches deep in the center of the channel and spreads out 5'-9" across the channel. At estimated peak dry weather flow the depth is 4½ inches and the spread is 8'-9". The flow velocity is 1.02 feet per second at estimated average daily flow rates and 1.90 feet per seconds at estimated peak daily flow rates.

With these flow characteristics present along the entire length of the channel, the solids in the raw sewage tend to settle out and collect along the channel, particularly along the outside edges of the stream of flow where the depth of flow is only a fraction of an inch. Also, the accepted minimum rate of flow necessary to keep sewage solids in suspension is 2 feet per second. The estimated dry weather flow rate in the channel is less than 2 feet per second even at estimated peak daily rates.

Over prolonged dry weather periods it is believed that the sewage solids that settle out along the channel begin to break down, generating hydrogen sulfide and methane gases. Due to the large area above the channel the gases build up inside the trunk sewer and are carried out the open ends of the sewer when atmospheric and prevailing wind conditions are conducive to the movement of air through the large sewer arch.

### **7.3 Recommended Improvements**

It is concluded that the odor problems experienced in this area is the result of the collection of sewage solids along the bottom of the outfall sewer.

To correct this situation it is recommended that the upper end of the Shields Valley branch of the South Side Interceptor be extended within the 10' x 16' arch sewer for its entire length and connected directly to the sanitary sewer portion of the CSSA at a

point just upstream of East Drive. (See Figure 7.1.) At this location the outlet end of the sanitary sewer system passes under a crib type retaining wall and is inaccessible.

Also, just upstream of the upper end of the arch sewer an intercepting manhole would be constructed on the outlet end of the combined sewer portion of the CSSA with a short branch dry weather interceptor connection to the interceptor sewer extension.

The existing sanitary sewers which presently discharge directly into the 10' x 16" arch would also be connected to the extension of the Shields Valley branch of the South Side Interceptor.

Another intercepting manhole would be constructed at Broadway on the existing combined sewer that connects directly to the west side of the arch sewer with a short branch dry weather interceptor connection to the interceptor sewer extension.

A storm sewer would be constructed on Bozza Street extending from the arch sewer to the two inlets at Washington Avenue and Bozza Street so that the existing 20 inch combined sewer that connects to the east side of the arch sewer at Broadway can be converted to a sanitary sewer and be connected directly to the interceptor sewer extension.

These improvements will insure that sewage solids do not enter the Shield Valley outfall sewer except a small amount during wet periods when flow velocities will insure that the solids that do exist will not settle out in the outfall sewer which will eliminate the odor problems that have existed.

Also, these improvements will reduce the amount storm water that enters the interceptor sewer system from this CSSA.

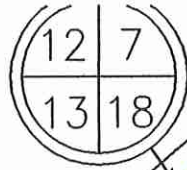
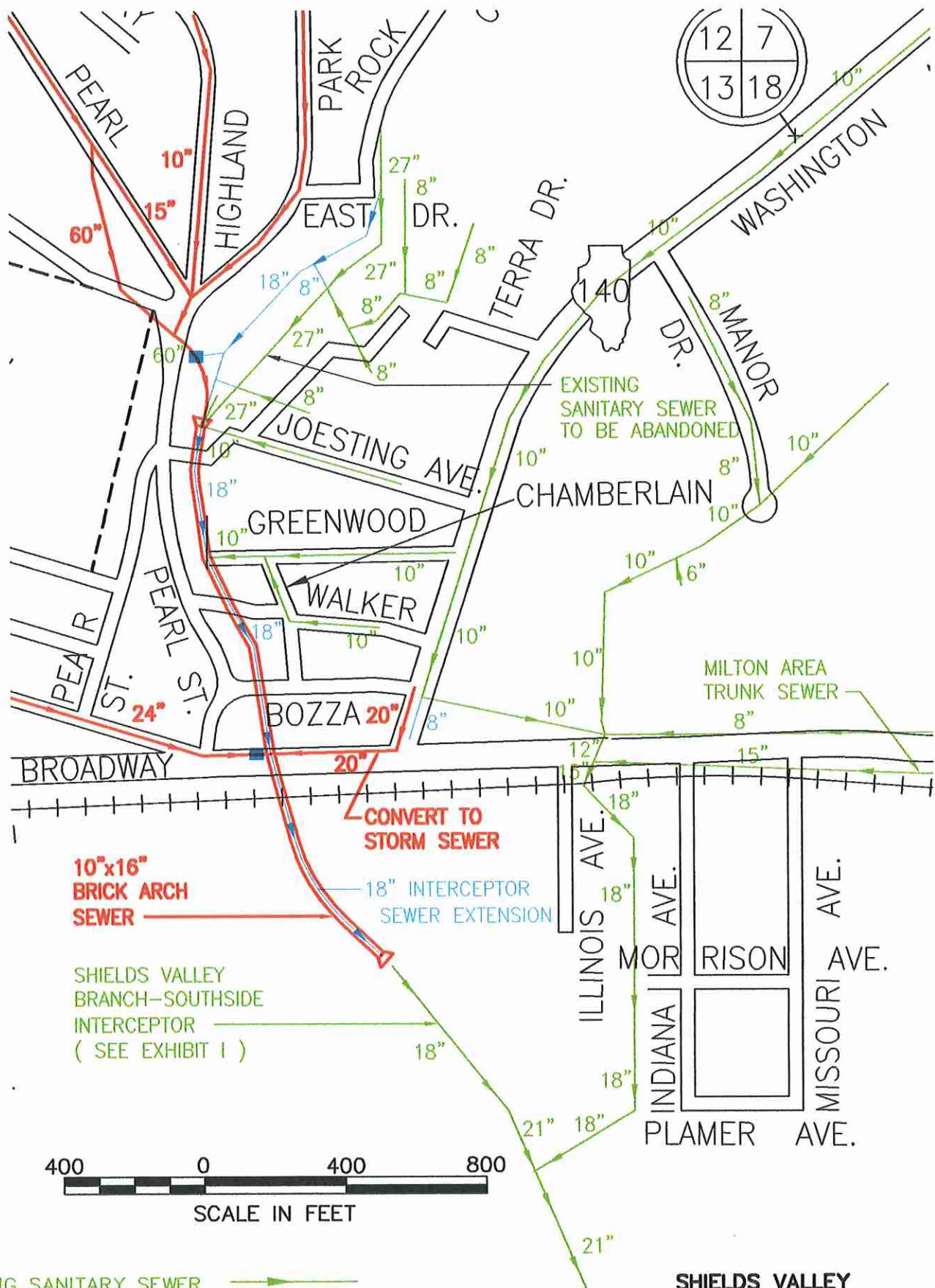
The proposed Shield Valley branch interceptor sewer extension is shown on Figure 7.1.

#### 7.4 Estimate of Cost

A breakdown of the estimated cost of the interceptor sewer extension is as follows:

1.	1,680 lin. ft. of 18" Sewer (in 10'x16' arch sewer) @ \$310.00 .....	\$520,800.00
2.	2 ea. Intercepting Structure @ \$14,000.00 .....	28,800.00
3.	5 ea. Special Manholes @ \$6,000.00 .....	30,000.00
4.	10 ea. Lateral Connections @ \$1,200.00 .....	12,000.00
5.	600 lin. ft. of 18" Sewer @ \$72.00 .....	43,200.00
6.	Concrete Channel Removal & Replacement @ \$23,900.00 .....	23,900.00
7.	4 ea. Manholes @ \$2,200.00 .....	<u>8,800.00</u>
	Sub-Total	\$667,500.00
	Contingencies @ 15%	<u>100,125.00</u>
	Total Estimated Construction Cost	\$767,625.00
	Design & Construction Engineering	<u>138,200.00</u>
	Total Estimated Project Cost	\$905,825.00





400 0 400 800

SCALE IN FEET

**LEGEND**

- EXISTING SANITARY SEWER →
- EXISTING COMBINED SEWER →
- PROPOSED STORM SEWER →
- PROPOSED SANITARY SEWER →
- PROPOSED INTERCEPTING MANHOLE ■

**SHIELDS VALLEY  
COMBINED SEWER SERVICE AREA  
INTERCEPTOR SEWER  
EXTENSION**

FIGURE 7.1



**SECTION 8**  
**TURNER TRACT**  
**COMBINED SEWER SERVICE AREA**

**8.1 General**

The Turner Tract CSSA is the western most drainage area served by combined sewers. This area is located on the high plateau above the Mississippi River bluffs; contains approximately 100 acres; and land use is residential. The extreme western part of the area is served by separate sanitary sewers which drain into the combined sewer system. The population of the area is approximately 560.

The sewers in the Turner Tract CSSA for the most part, were constructed as a single city local improvement project in the late 1920's. The project contained two features that were unique to combined sewer projects at that time. First, since the sewer area was located on the high plateau away from the Mississippi River, the 36 inch diameter combined sewer outfall was stopped at the point where the high plateau stopped and a 12 inch diameter dry weather interceptor was continued from the end of the 36 inch diameter sewer down the steep slope to the Mississippi River.

Secondly, from the terminal ends of the sewer system to the point where the first storm water inlets were connected, the sewer size was limited to 8 inches in diameter for sanitary sewer service only.

The first feature proved not to be successful in that over time the storm water overflow at the outfall end of the combined sewer eroded the steep slope down toward the river and eventually the outfall end of the combined sewer and the upper part of the dry weather interceptor were washed out. To correct this situation, a 36 inch and 42 inch diameter combined sewer outfall was extended down the steep slope approximately 1,150 feet to a point where the ground leveled out and a new dry weather flow interception point could be established. Also, at this location the combined sewer overflow could be maintained in a non-eroding condition. This work was completed in 1989.

The majority of the sewers in the Turner Tract CSSA are constructed of vitrified clay pipe. Reinforced concrete pipe was utilized for the combined sewer outfall extension.

**8.2 Existing Conditions**

Over the years part of the area has experienced basement flooding due to overloading of the combined sewer portion of the CSSA.

In the remainder of the CSSA the sewers are operating properly.

### 8.3 Recommended Improvements

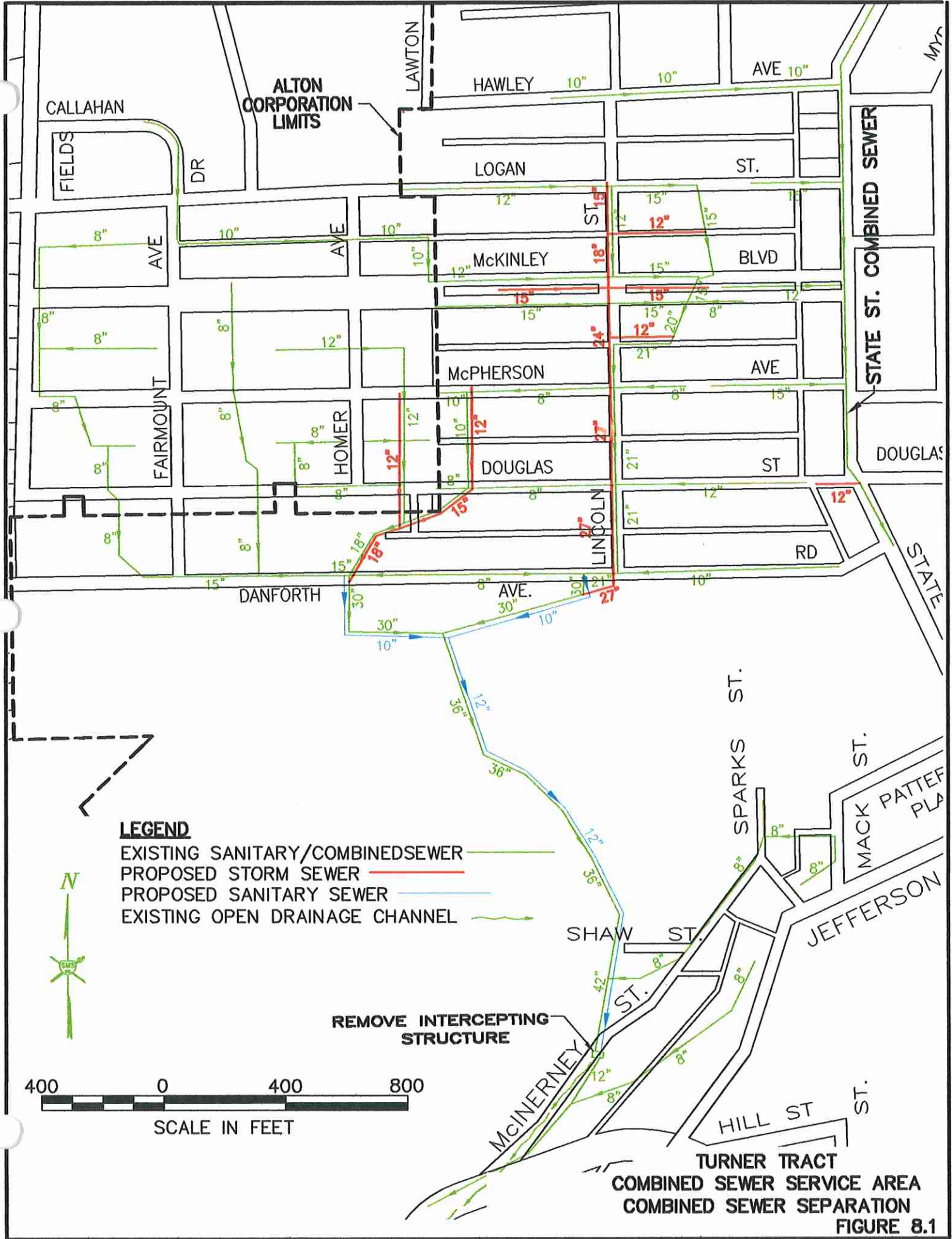
In order to correct the sewer overloading problem it is recommended that the combined sewers be separated throughout the area. Also the sewer separation will eliminate combined sewer overflows from this area.

It has been determined that all of the sewer system south of Danforth Street can function as a separate storm sewer if a parallel sanitary sewer is constructed. North of Danforth new storm sewers will be required to collect storm water from existing catch basins. The existing combined sewer system will then function as the sanitary sewer system. The layout of the proposed combined sewer separation is shown on Figure 8.1.

### 8.4 Estimate of Cost

A breakdown of the estimated cost of achieving a combined sewer separation in the Turner Tract Sewer Service Area is as follows:

1.	1,250 lin. ft. of 10" Sewer @ \$34.00 .....	\$ 42,500.00
2.	2,900 lin. ft. of 12" Sewer @ \$43.00 .....	124,700.00
3.	1,350 lin. ft. of 15" Sewer @ \$53.00 .....	71,550.00
4.	600 lin. ft. of 18" Sewer @ \$72.00 .....	43,200.00
5.	300 lin. ft. of 24" Sewer @ \$80.00 .....	24,000.00
6.	850 lin. ft. of 27" Sewer @ \$85.00 .....	72,250.00
7.	300 lin. ft. of 12" Sewer (bored in place) @ \$300.00 .....	90,000.00
8.	38 ea. Manholes @ \$2,350.00 .....	89,300.00
9.	33 ea. Inlet Modification, Adjustment & Connection @ \$1,900.00 .....	62,700.00
10.	Surface Restorations @ \$63,500.00 .....	<u>63,500.00</u>
	Sub-Total	\$683,700.00
	Contingencies @ 15%	<u>102,550.00</u>
	Total Estimated Construction Cost	\$786,250.00
	Design & Construction Engineering	<u>141,520.00</u>
	Total Estimated Project Cost	\$927,770.00



**LEGEND**

- EXISTING SANITARY/COMBINEDSEWER ————
- PROPOSED STORM SEWER ————
- PROPOSED SANITARY SEWER ————
- EXISTING OPEN DRAINAGE CHANNEL ————

REMOVE INTERCEPTING STRUCTURE



SCALE IN FEET

TURNER TRACT  
COMBINED SEWER SERVICE AREA  
COMBINED SEWER SEPARATION  
FIGURE 8.1

## SECTION 9

### BLUFF STREET/SUMMIT STREET COMBINED SEWER SERVICE AREA

#### 9.1 General

The Bluff Street and Summit Street CSSA's are adjacent to each other and are located immediately above the Mississippi River bluffs, each with an outfall that drops down the bluff face before being intercepted by the South Side Interceptor. These areas combined have an acreage of approximately 70 acres and land use is residential with a population of about 300.

The sewers in these two small CSSA's vary in size from 8 inches in diameter to 12 inches in diameter and are constructed of vitrified clay pipe.

#### 9.2 Existing Conditions

The intercepting devices for these two small CSSA's are a continuing maintenance problem due to low flow conditions. Also, the combined sewer overflow outfall to the Mississippi River at Bluff Street no longer is functioning and its location south of the Great River Road is unknown.

#### 9.3 Recommended Improvements

As is the case with the Turner Tract CSSA, it is recommended that the combined sewers in these two CSSA's be separated.

By disconnecting the existing combined sewer on Bluff Street just upstream of the two existing storm water catch basins at the south end of the street and extending it down the bluff to a connection to the South Side Interceptor and maintaining the existing sewer and catch basins as the storm sewer system for Bluff Street, the sewer system separation for the Bluff Street CSSA will be effected. (The replacement of the failed outfall sewer will also be required to complete the separation.)

For the Summit Street CSSA, by disconnecting the two storm water inlets at the south end of Belleview Street and constructing a storm sewer between the inlets and the culvert under Summit Street at its low point, the sewers in this area will be separated.

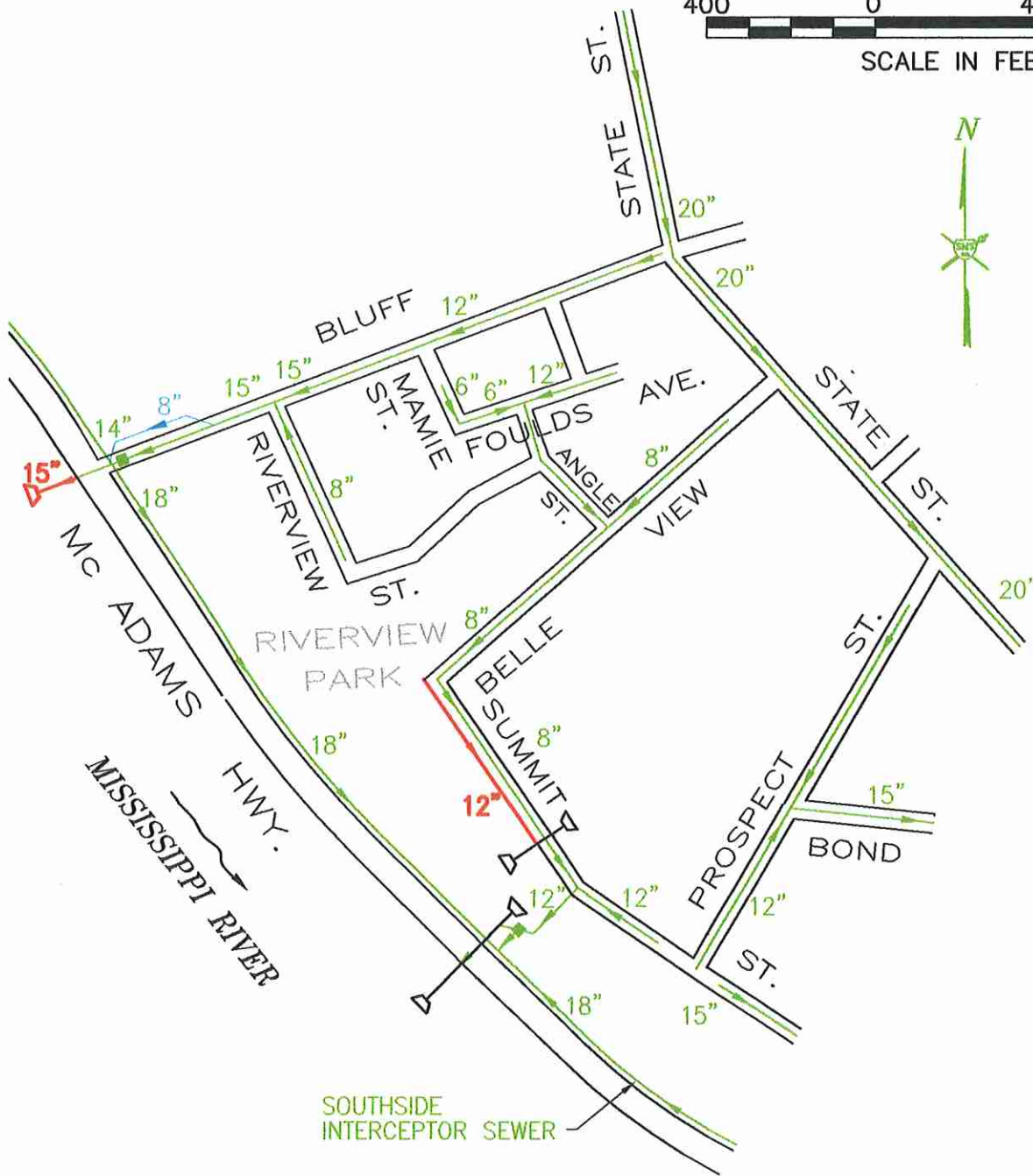
The relatively small amount of construction necessary to separate the combined sewer in these two CSSA's will result in the elimination of two intercepting structures and their associated maintenance as well as eliminating the combined sewer overflows from these areas.

The layout of the described combined sewer separation is shown on Figure 9.1.

#### 9.4 Estimate of Cost

A breakdown of the estimated cost of achieving separation of the combined sewers in the Bluff Street/Summit Street Sewer Service Area is as follows:

1.	150 lin. ft. of 8" Sewer @ \$26.00 .....	\$ 3,900.00
2.	225 lin. ft. of 8" Sewer w/Anchors @ \$155.00 ....	34,875.00
3.	470 lin. ft. of 12" Sewer @ \$43.00 .....	20,210.00
4.	100 lin. ft. of 15" Sewer @ \$53.00 .....	5,300.00
5.	40 lin. ft. of 15" Sewer (bored in place) @ \$300.00 .....	12,000.00
6.	6 ea. Manholes @ \$2,200.00 .....	13,200.00
7.	2 ea. Inlet Modifications, Adjustments & Connections @ \$1,900.00 .....	3,800.00
8.	Surface Restorations & Miscellaneous @ \$14,200.00 .....	<u>14,200.00</u>
	Sub-Total	\$107,485.00
	Contingencies @ 15%	<u>16,125.00</u>
	Total Estimated Construction Cost	\$123,610.00
	Design & Construction Engineering	<u>24,800.00</u>
	Total Estimated Project Cost	\$148,410.00



NOTE:  
CATCH BASIN UPSTREAM OF  
8" SANITARY SEWER ON BLUFF  
STREET TO BE ELIMINATED

**LEGEND**

- EXISTING INTERCEPTING MANHOLE (TO BE ELIMINATED)
- EXISTING SANITARY/ COMBINED SEWER
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER

**BLUFF ST./ SUMMIT ST.  
COMBINED SEWER SERVICE AREA  
COMBINED SEWER  
SEPARATION**

FIGURE 9.1



