City of Huntington

Long-Term Control Plan

October 2009
Revised April 2010

Prepared by:

Bonar
Group

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CHAPTER 1 INTRODUCTION

The City of Huntington is one of more than 100 Indiana communities identified as containing combined sewers: sewers that accept both wastewater and stormwater to be treated by the wastewater treatment plant. During substantial rainfall events, the combined sewers are not able to handle the additional flow causing the excessive untreated flow to be released from the system at the combined sewer overflows (CSOs). The City's wastewater collection system serves an area of approximately 5,600 acres and includes 15 CSOs, which overflow into the Little River and Flint Creek during times of high wet weather flow. Of the 5,600 acres that compose the wastewater collection system approximately 4,400 are separated sewers (**Figure 1-1**). As required by the State Judicial Agreement, a long-term control plan (LTCP) is to be developed and implemented to address the combined sewer overflows. A copy of the State Judicial Agreement is in **Appendix 1**.

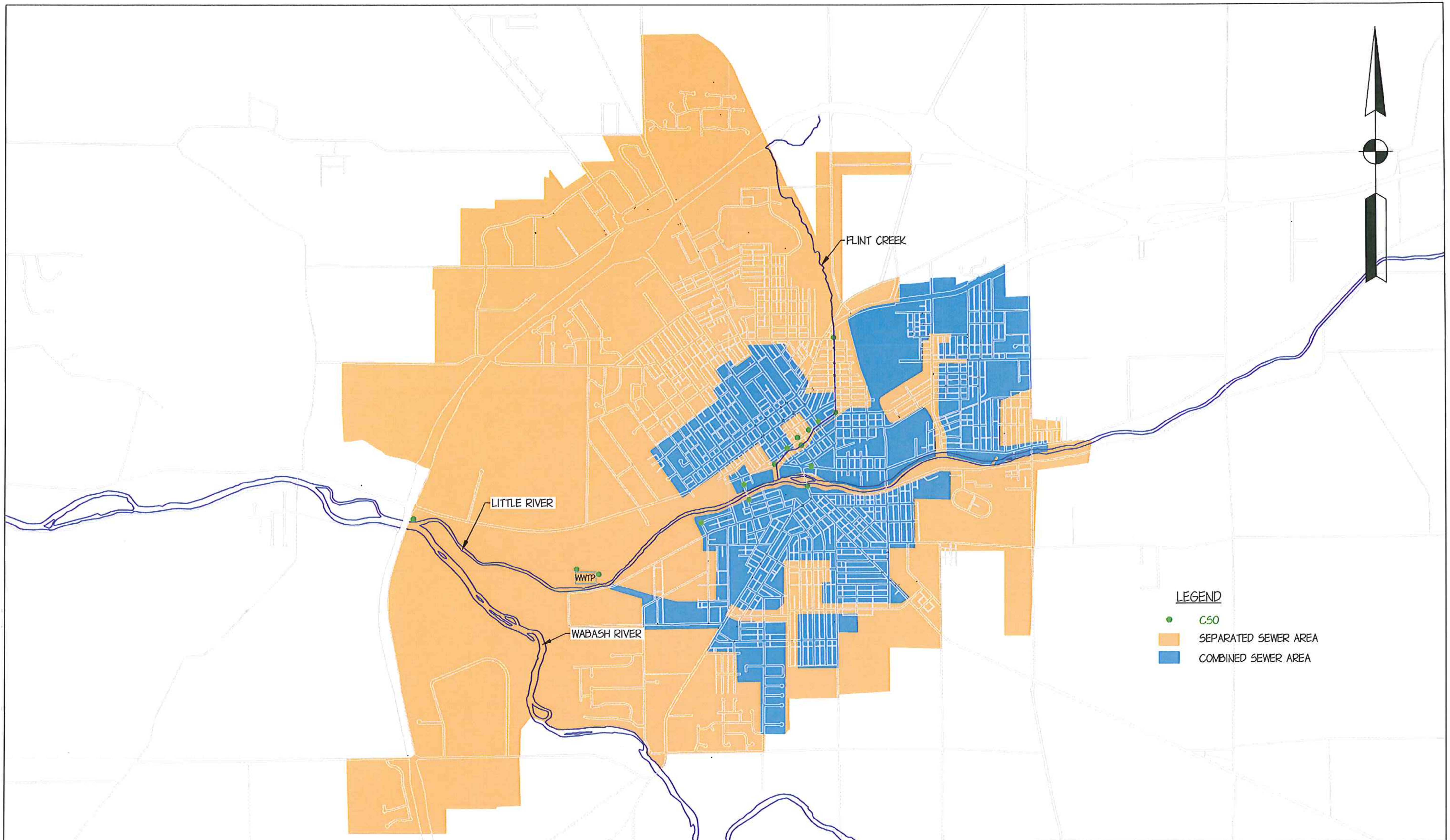
The long term control plan focuses on the effect of the CSOs on water quality, and the evaluation of potential CSO abatement efforts.

This LTCP addresses the following items:

- System Characteristics and Sensitive Areas (Chapter 2)
- Previous CSO Abatement Efforts and projects(Chapter 3)
- Model Development and Calibration (Chapter 4)
- CSO Control Alternatives (Chapter 5)
- Public Participation (Chapter 6)
- Financial Capability and Implementation Schedule (Chapter 7)
- Cost Analysis vs. Performance (Chapter 8)
- Post-Construction Compliance (Chapter 9)

A. CSO Operational Plan

Huntington received approval of their CSO Operational Plan in an IDEM letter dated May 14, 1998. The City is committed to completing revisions to the CSO Operational Plan throughout the implementation of the LTCP. This will include construction projects and O&M practices that may change.



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CITY OF HUNTINGTON
CSO LONG TERM CONTROL PLAN

SEPARATED SEWER AREAS

Scale	1" = 2,500'
Project	10151.00
Figure No.	FIGURE 1-1

B. Nine Minimum Controls

As part of the LTCP, Huntington is implementing and documenting the Nine Minimum Controls as required under U.S. EPA's 1989 CSO strategy and 1994 National CSO Control Policy.

The listing of the current implementation of the Nine Minimum Controls is below:

1. Proper Operation and regular Maintenance of the collection system.
2. Maximum use of the collection system for storage of excess flows.
3. Review and modification of Industrial Wastewater Pretreatment Program.
4. Maximization of flow to the POTW for treatment.
5. Prohibition of CSO discharges during dry weather.
6. Control of solids and floatable materials in CSO discharges.
7. Pollution prevention programs (source control or source reduction)
8. Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
9. Monitoring to characterize CSO impacts, identify problem CSO points and identify the effectiveness of the previous 8 controls.

Items 1-6 are addressed through the City's CSO Operational Plan that was submitted on April 5, 1993 and approved on May 14, 1998. Items 7 and 8 were addressed in a update to the CSOOP that was submitted to IDEM on April 27, 1998 and approved on May 14, 1998. Item 9 was addressed when the City completed a Stream Reach Characterization and Evaluation Report (SRCER) dated July 26, 2000.

The City of Huntington originally submitted a Long Term Control Plan in 2003. IDEM subsequently reviewed the 2003 LTCP and provided a comment letter dated December 19, 2005 (**Appendix 2**). The main points discussed in this letter were that the LTCP should be reevaluated based upon a design storm approach and that the public should be involved more with the development of the LTCP.

The design storm approach would require the City to provide full treatment for any flows that resulted from a storm with an intensity less than or equal to a 1-yr, 1-hr storm. Any flows that resulted from a storm greater than a 1-yr, 1-hr storm, but no smaller than a 10-yr, 1-hr storm would require partial treatment. At a minimum partial treatment would involve primary clarification and disinfection prior to discharge. Any flows from a greater than a 10-yr, 1-hr storm will require whatever treatment is feasible given the capacity of the WWTP and the CSO abatement projects.

This approach would provide the greatest amount of CSO control because overflows would only occur if a storm's intensity is greater than a 10-yr, 1-hr storm. IDEM also prefers this approach because it is the simplest to implement and permit.

The design approach for a reduction in the number of CSO events per year and the total CSO volume is still available. This approach can only be considered once it has been determined that the design storm approach will be too costly to implement.

CHAPTER 2

CHAPTER 2 SYSTEM CHARACTERISTICS AND SENSITIVE AREAS

This chapter explains the characteristics of Huntington's Combined Sewer system, including water quality of the streams (Little River and Flint Creek) and the CSOs as presented by the following sources.

- 2000 CSO Water Quality Study
- 2000 Stream Reach Characterization and Evaluation Report
- CSO Discharge Monitoring Reports
- WWTP MRO Data

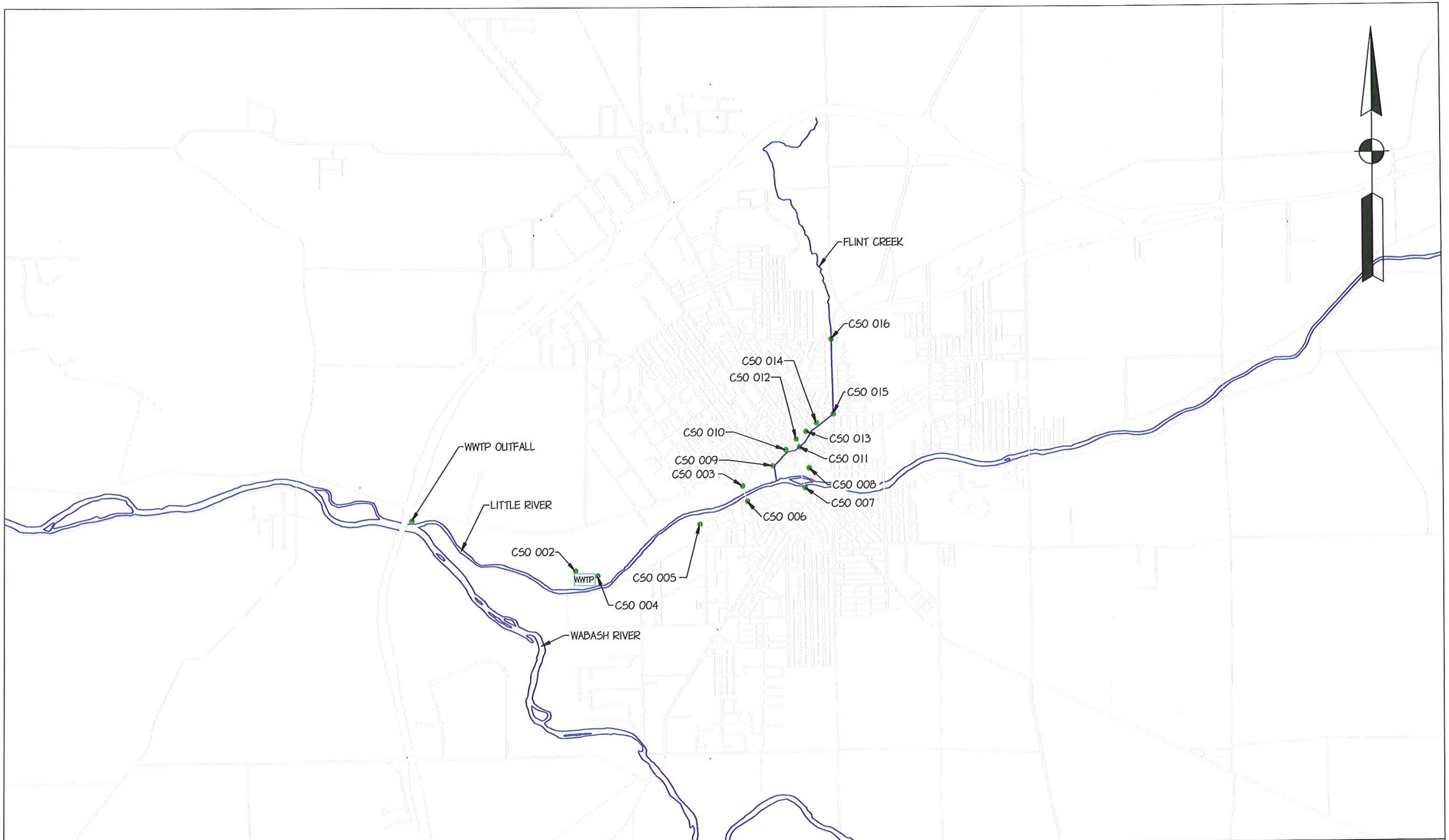
A. Combined Sewer Overflows (CSOs)

The CSOs are identified on **Figure 2-1** and **Figure 2-2** identifies the tributary area for each CSO. Flint Creek is a water body that has been enclosed and runs underneath the City.

NPDES No.	Coordinates	Water Body
002	Lat. 40° 52' 22", Long. 85° 30' 54"	Little River
003	Lat. 40° 52' 44", Long. 85° 30' 54"	Little River
004	Lat. 40° 52' 20", Long. 85° 29' 56"	Little River
005	Lat. 40° 52' 34", Long. 85° 30' 12"	Little River
006	Lat. 40° 52' 41", Long. 85° 29' 55"	Little River
007	Lat. 40° 52' 44", Long. 85° 29' 34"	Little River
008	Lat. 40° 52' 49", Long. 85° 29' 33"	Little River
009	Lat. 40° 52' 50", Long. 85° 29' 46"	Little River
010	Lat. 40° 52' 54", Long. 85° 29' 41"	Little River
011	Lat. 40° 52' 55", Long. 85° 29' 36"	Little River
012	Lat. 40° 52' 56", Long. 85° 29' 37"	Little River
013	Lat. 40° 52' 59", Long. 85° 29' 34"	Little River
014	Lat. 40° 53' 01", Long. 85° 29' 31"	Little River
015	Lat. 40° 53' 04", Long. 85° 29' 24"	Little River
016	Lat. 40° 53' 23", Long. 85° 29' 25"	Little River

B. Stream Reach Characterization and Evaluation Report

Stream Reach Characterization and Evaluation Report (SRCER) was prepared in 2000 and featured a monitoring period from January 1999, through June 2000. Daily rainfall data was recorded for the duration of the monitoring period.



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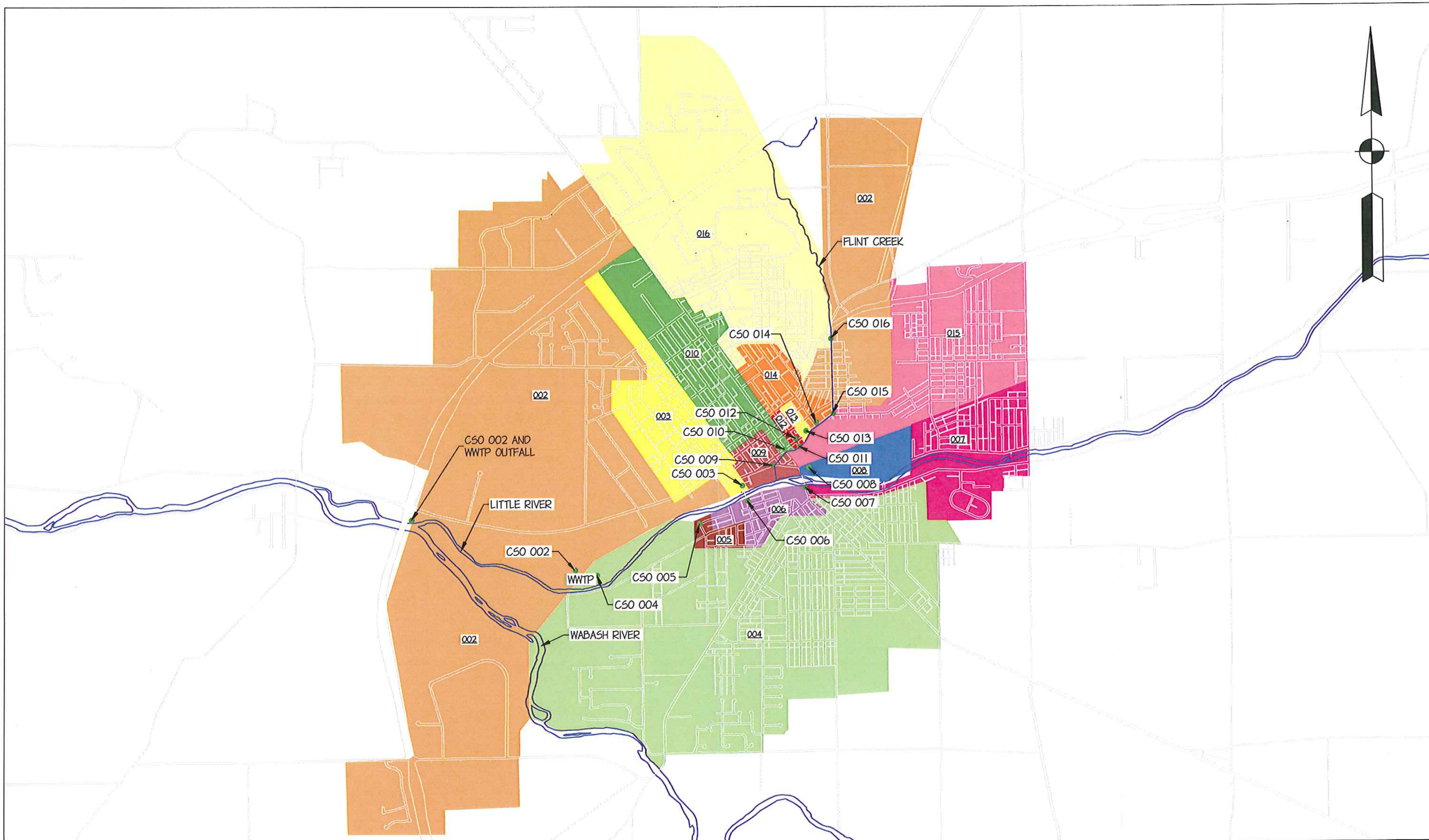
CITY OF HUNTINGTON CSO LONG TERM CONTROL PLAN	CSO LOCATIONS	Scale: 1" = 2,500' Project: 10151.00 Figure No.: FIGURE 2-1



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CSO LONG TERM CONTROL PLAN

CSO TRIBUTARY AREA

Scale 1" = 2,500'
Project 10151.00
Figure No. FIGURE 2-2

The SRCER is included in **Appendix 3**. Water quality data collected include:

- Dissolved Oxygen
- Total Suspended Solids (TSS)
- 5-Day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)
- $NH_3 - N$
- Escherichia coli

Five monitoring points were selected along the Wabash River, Little River, and Flint Creek for collection of stream quality data.

A comparison of the monitoring points upstream and downstream of the CSO outfalls show the impact that CSO discharges have on the water quality of these water bodies. This study shows that the CSO discharges have a minimal impact for the parameters tested, except for e. coli. The results show that the water bodies during dry weather are in violation of Water Quality Standards at the monitoring points upstream of the City. This shows that during wet weather Water Quality Standards for e. coli cannot be met even if all CSOs were removed.

C. Inflow/Infiltration in the Collection System

Although the following studies were completed more than 20 years ago they were reviewed and used as references: Infiltration/Inflow Study (1975), Facility Plan for Wastewater Collection and Treatment (1976), and Sewer System Evaluation Survey (1981). Huntington uses televising equipment to identify I/I sources within combined sewers.

E. Maximization of Flow Through the POTW

According to U.S. Census Bureau and Stats Indiana, the 2000 and 2008 populations for Huntington was 17,422 and 16,521, respectively. The population has been decreasing in Huntington for the past few years. This was verified by vacant houses, the decrease in employment opportunities, and decrease in revenue collected by the City Utilities. This trend is not anticipated to reverse in the near future.

The City's wastewater collection system consists of a 21 percent combined sewer collection system and a conventional activated sludge treatment plant. Historically, the City of Huntington has been prone to flooding. Therefore, emphasis is placed on the collection system design being able to handle storm water flow. The POTW is designed for a 7.5 mgd average daily flow and will accommodate a short-term peak flow of 15.0 mgd.

The plant currently receives an average daily flow of approximately 4.0 mgd. Any significant rain event can quickly raise the incoming flow to peak levels. To accommodate this rapid change, plant operators are instructed to follow wet-weather operational guidelines. A major part of this protocol involves maximizing flow through the treatment plant. This reduces the chances of flooding in Huntington, and it also reduces the volume of any CSO event that may be occurring.

The plant has had some operational problems and is not able to treat the flow rates for which it was originally designed. Recently, the WWTP can only treat flow at a maximum average daily flow rate of approximately 6.0 mgd. Once this flowrate is exceeded overflows begin at CSO 002. The WWTP has attempted to accept flows greater than 6.0 mgd, but in the past this resulted in violation of the NPDES effluent limits.

F. Sensitive Areas

The USEPA in accordance with its CSO Control Policy has indicated that municipalities should give highest priority to "sensitive" areas in assessing strategies for relocating or eliminating CSOs. The USEPA considers the following areas to be "sensitive" areas as stated in the CSO Control Policy. CSOs to these areas should be eliminated or relocated unless it is more environmentally detrimental to do so.

- Outstanding National Resource Waters
- National Marine Sanctuaries
- Waters with threatened or endangered species or their designated critical habitat
- Primary contact recreation waters, such as bathing beaches
- Public drinking water intakes or their designated protection areas
- Shellfish beds

The following is a detailed description of the parameters examined when determining the existence of sensitive areas. Potentially relevant sensitive areas in Huntington County downstream from Huntington were evaluated for possible impact from CSO effluent.

1. Outstanding National Resource Waters

The Little River and Flint Creek were not in the Outstanding National Resource Waters listings. **Appendix 4** contains a copy of the Outstanding National River List for Indiana.

The Little River and Flint Creek are designated as being in State Legislated Wabash River Heritage Corridor. This means that these rivers have a particular environmental or aesthetic characteristic. Any CSO reduction projects would be beneficial to maintaining and improving these characteristics.

2. National Marine Sanctuaries

The National Marine Sanctuaries and marine shellfish beds pertain to coastal waterways and therefore need no further investigation.

3. Waters with Endangered, Threatened, or Rare (ETR) Species

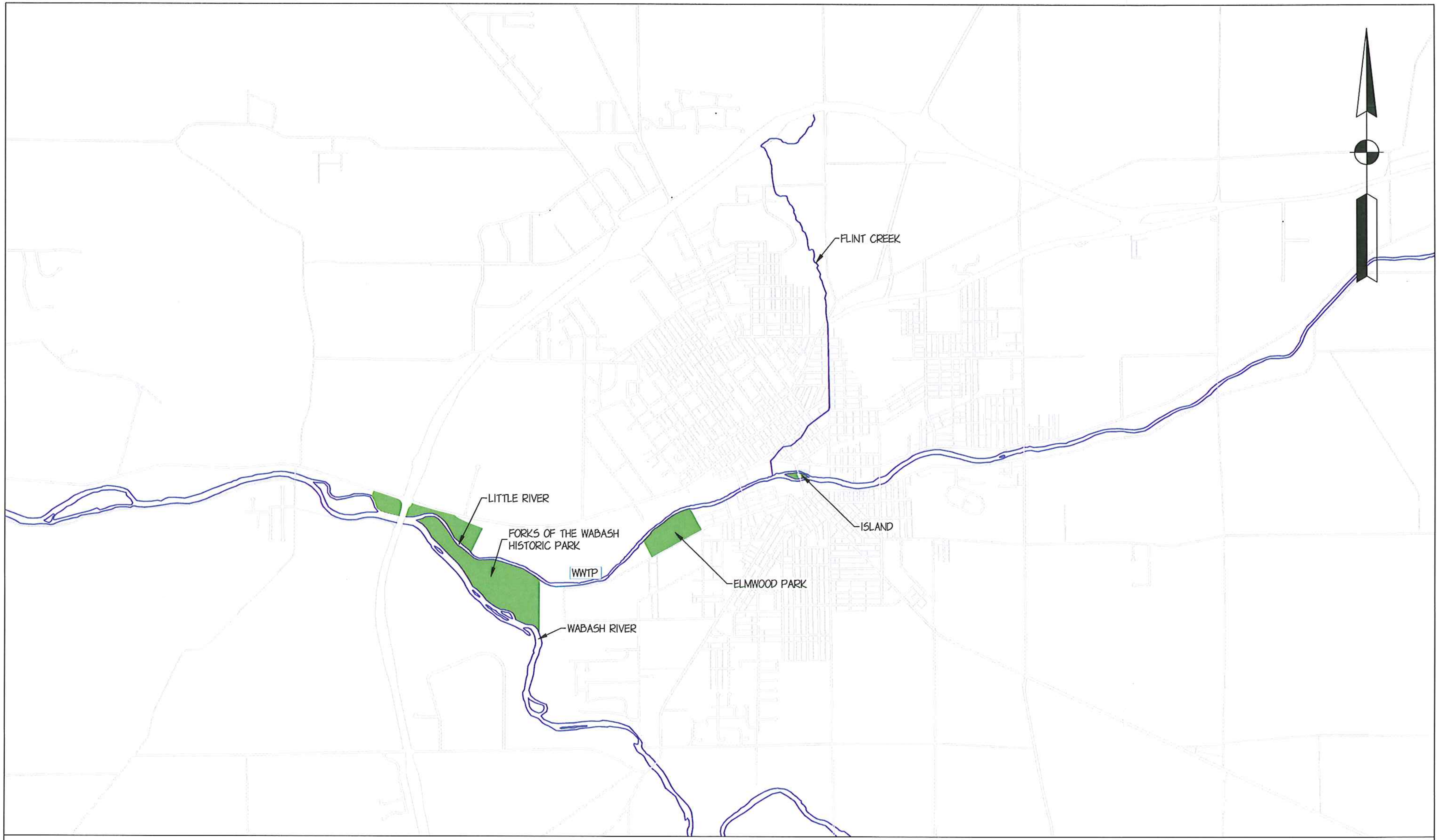
The U.S. Fish and Wildlife Service was contacted about the presence of endangered and threatened species in the Little River and Flint Creek from the most upstream CSO to a point approximately one mile downstream of the confluence of the Little River and the Wabash River. A letter was received from Mr. Scott Pruitt on August 3, 2009 (**Appendix 4**). This letter states that the only endangered species present are the Indiana Bat and the Bald Eagle. The letter also states that any project will not have an adverse affect on either species.

4. Primary Contact Recreation Waters

There are no designated swimming beaches or designated fishing areas along the Little River. **Figure 2-3** shows the location of sites that were identified as potential sensitive areas along the Little River in relation to the location of CSOs. Flint Creek is completely enclosed from a point upstream of all CSOs to the point where it meets the Little River. Contact is not possible with this water body. The following sites were identified during a field investigation as potential sensitive areas and were discussed during the July 21, 2008 CAC meeting.

<u>Forks of the Wabash Historic Park</u>
The Forks of the Wabash Historic Park is located near the confluence of the Little River and the Wabash River. The site contains a greenway path that runs along the north side of the Little River towards the City. Along, this path it was noted that fishing could occur, but was unlikely due to the distance from the nearest location to park a car. An undeveloped boat launch was also observed on the south bank of the Little River. In order to launch a boat from this location it would require individuals to carry their boat to the water due to an overgrown path and rough terrain.

The CAC members indicated that people fish at this location and occasionally launch a boat/canoe from this location. However, no one has been observed in this location during wet weather.



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CSO LONG TERM CONTROL PLAN

SENSITIVE AREAS

Scale
1" = 2,500'

Project
10151.00

Figure No.
FIGURE 2-3

Elmwood Park
Elmwood Park is located along the south side of the Little River about 1,500 feet downstream of CSO 005. Elmwood Park contains no boat launches and an overgrown tree line prevents easy access to the River. Even though access is not easy several paths were observed through the tree line. These paths led to the river bank and trash debris from fishing activities was observed.

The CAC members indicated that people fish at this location However, no one has been observed in this location during wet weather.

Riverview Terrace Apartments
Riverview Terrace Apartments provide housing for the elderly and other people on a fixed income. Near the apartments a path was observed that ran along the south bank of the Little River. From the path it would be possible for a person to either swim of fish in the river. Fishing debris was observed at several points along the path.

The CAC members indicated that it was unlikely that swimming occurred at this location, but fishing did occur. However, no one has been observed in this location during wet weather.

Island by Marsh
The island in the Little River by Marsh was identified as a location where individuals might swim or fish because of the ease of access to the water's edge.

The CAC members indicated that they have observed people fishing at this location, but swimming has not been observed. No one has been observed fishing in this location during wet weather.

Existing Uses
Huntington recognizes that primary contact recreational activities may be occurring downstream of the CSO outfall locations whether accessible or not. However, it is not likely that these activities are occurring during or immediately following significant rainfall events and in the colder months when snow melt may be causing CSOs, these primary contact recreational activities are remote. The sensitive areas should also be classified as limited access because access to most of these areas is only possible by walking through tall weeds and trees.

5. *Public Drinking Water Intakes*

Andrews and Largo are located about 4 miles and 12 miles, respectively, downstream of Huntington on the Wabash River and do not use surface water for their public water supply.

6. *Shellfish Beds*

The letter received from the US Fish and Wildlife Service (**Appendix 4**) did not indicate that there are any federally protected shellfish beds in the Flint Creek, the Little River, or the Wabash River.

Based upon the information above there are not any sensitive areas that require prioritization in Huntington because there are not any formal primary contact recreation areas. A few areas exist where individuals fish and one area where boats and canoes are launched, but these activities have not been observed during wet weather. Any improvement in the water quality of the Little River would a benefit to these sites.

CHAPTER 3

CHAPTER 3 PREVIOUS CSO ABATEMENT EFFORTS / PROJECTS

A. Sewer Separation Projects

The following sewer separation projects in **Table 3-1** have recently been completed and have affected several different CSOs.

Table 3-1
Previous CSO Abatement Projects

Project	Completion Date	CSO Impacted	Project Cost
Rabbit Run Sewer Project	1981	004	$5,500,000
Condit Street Sewer Separation	1989	015	$1,755,000
Northwest Sewer Separation Project	1990	009	$1,550,000
Hier's Park Storm Drainage	1991	007	$322,000
Joe Street Phase I and II	1999	004	$10,000,000
Montgomery Street Phase I	2000	018	$385,000
Area 1 Sewer Separation Project	2009	009	$2,800,000
Area 2 Sewer Separation Project	2009	012, 013	
Area 3 Sewer Separation Project	2009	016	

The City is also anticipating a sewer separation project along Salamonie Avenue between Jefferson Street and Columbia Street in the next few years. This project would tie into the previously completed Joe Street Project. Additionally, a road project is currently being designed along Etna Avenue. As part of this project new storm sewers will be installed, which will allow the existing combined sewers to become sanitary sewers.

The City's proactive efforts have helped to reduce the number and volume of CSO events.

CHAPTER 4 SEWER SYSTEM MODELING AND CALIBRATION

A. Installation of Rain Gauges and Flow Monitors

To accurately create a model of the sewer system, it is necessary to have accurate rainfall and flow monitoring information. In July 2008, the City installed four rain gages at the WWTP, Broadway Lift station, Carlisle Lift station, and the River Fork Lift station. Flow monitors were also installed at that time, but the there were complications with the monitoring company. Due to this, flow monitors were not installed and properly calibrated until July 2009. Flow monitors were installed at CSOs 003, 004, 005, 008, 013, 014, 015, and 016. There was already an existing flow meter at CSO 002, which is located at the WWTP. The City has flow monitors installed on 9 of 15 CSOs.

B. Model Development – Presumptive / Design Storm Approach

A model of the combined sewer system was completed using the U.S. Environmental Protection Agency's (EPA) SWMM software version 5.0. This program was obtained from the EPA website.

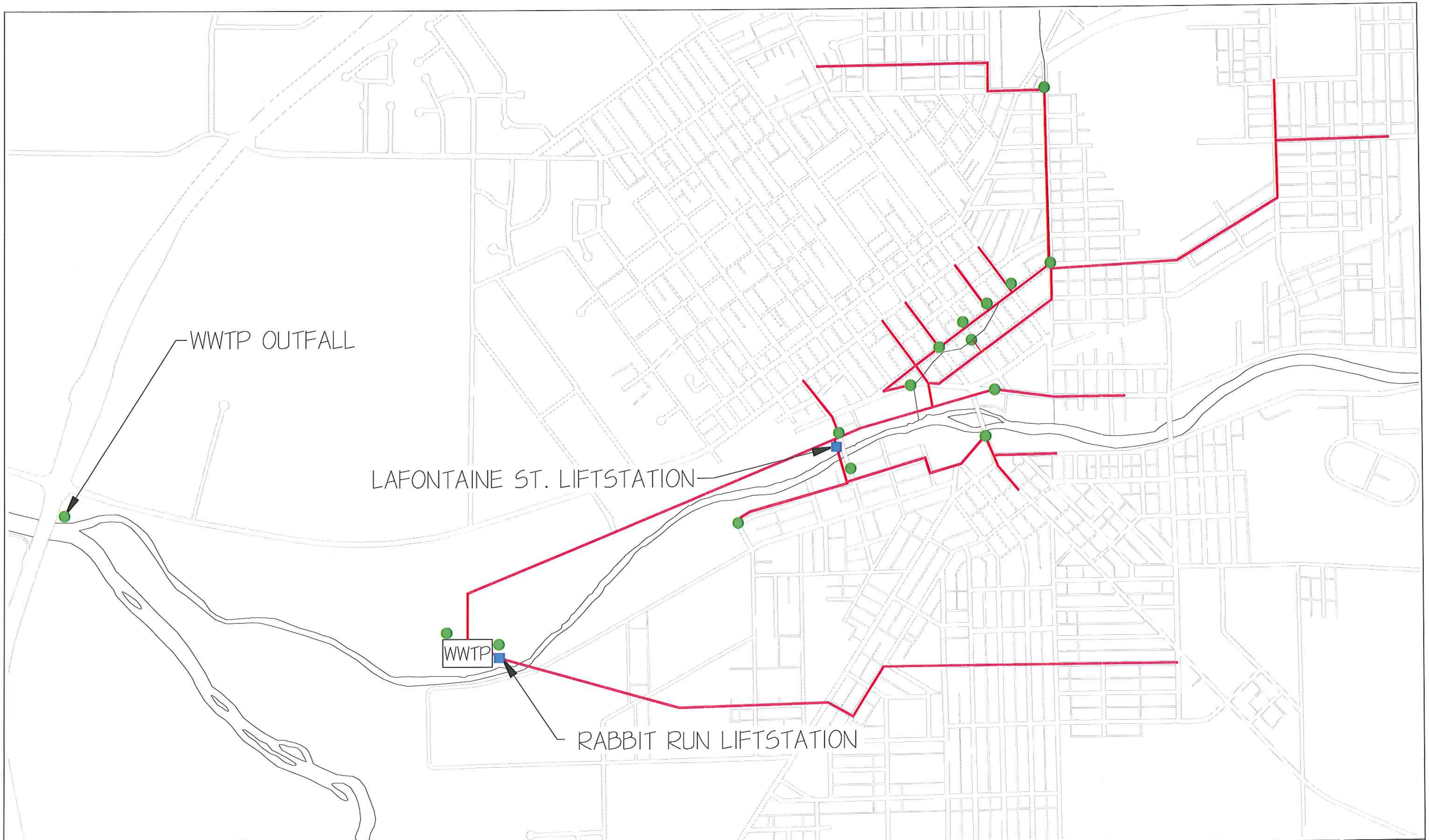
Watershed areas were delineated based on City sewer maps. The NRCS Soil Survey for Huntington County was used to estimate the predominant soil type for each watershed. In areas where there was a significant portion of the watershed with difference characteristics, the Green and Ampt infiltration coefficients were calculated using a weighted average of the soil types.

The dynamic wave routing method was used because this method allows for the greatest amount of complexity and, therefore, produces the most theoretically accurate results. The equations solved using this method account for channel storage, backwater, entrance/exit losses, flow reversal, and pressurized flow.

The model that was developed was of the existing condition as of August 2009. This is the model that was used for calibration. **Figure 4-1** shows the pipes that were modeled in the SWMM model. Subsequent layouts were created based upon modifications to this existing conditions model.

Calibration of the existing condition model was completed using flow monitoring data acquired by Huntington during August 17/18, 2009. This rain event was selected to calibrate the model because it resulted in total volumes and rainfall intensities that closely matched the 10-year, 1-hour storm.

Rain for the August storm occurred in two parts. A small amount fell in the morning of August 17, 2009. The majority of rain fell late on August 17, 2009 and early on the August 18. During the evening, 1.36 inches fell during a span of 3.5 hours leading to an average intensity of 0.39 inches per hour. Peak intensity during this storm was 1.12 inches per hour. The total rainfall for the event was 1.6 inches.



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CITY OF HUNTINGTON LONG TERM CONTROL	SWMM MODEL LAYOUT	Scale: 1" = 1,000'
		Project: 10151.00
		Sheet: FIGURE 4-1

The calibrated output was achieved by adjusting the watershed values and to a lesser extent, pipe Manning's n values. The watershed variables that were changed included the width values, the D-store values, the %Zero-Imperv value, and the percent routed variable. These variables were adjusted because the initial values were only approximations instead of physically measured values like the elevation or pipe size data.

With the model calibrated, it was now possible to estimate the CSO volumes that would result from the 1-year, 1-hour storm and the 10-year, 1-hour storm. In accordance with IDEM non-rule policy document Water-0016, rainfall depths for the theoretical storms were taken from Bulletin 71, Rainfall Frequency Atlas of the Midwest. Huntington County is part of Climatic Section 3 according to Figure 1of Bulletin 71, Climatic Sections for the Midwest. This yields a 1 year, 1 hour storm rainfall depth of 1.02 inches and a 10 year, 1 hour rainfall depth of 1.65 inches.

Rainfall was assumed to be of uniform intensity and distribution over the entire service area for the whole hour. No rainfall was assumed before or after the design storms.

For the existing condition layout, the 1-year, 1-hour storm resulted in a total CSO volume of 4.6 MG that would require complete treatment prior to discharge. The 10-year, 1-hour storm resulted in a total CSO volume of 8.9 MG of which only 4.3 MG would require partial treatment prior to discharge. The remaining 4.6 MG would require complete treatment prior to discharge. A breakdown of volume by CSO is presented in **Table 4-1** for each design storm.

Table 4-1
Design Storm CSO Volumes

CSO	1-Year, 1-Hour Volume (MG)	10-Year, 1-Hour Volume (MG)
002	1.446	1.642
003	1.116	1.843
004	0.185	0.349
005	0.043	0.220
006	0.000	0.000
007	0.205	0.679
008	0.697	1.218
009	0.000	0.000
010	0.147	0.769
011	0.115	0.366
012	0.000	0.000
013	0.070	0.163
014	0.293	0.796
015	0.112	0.469
016	0.124	0.387
Total	**4.553**	**8.902**

Options were developed to provide the level of treatment required for these design flows.

The options developed to reduce the overflows that result on a yearly basis are presented in **Chapter 5**.

CHAPTER 5 CSO CONTROL ALTERNATIVES

In accordance with IDEM, the City of Huntington must produce a plan aimed at eliminating untreated CSOs. This chapter introduces CSO control alternatives ranging from no action to partial elimination of CSOs as measured by percent reduction of yearly CSO volume to virtually complete elimination of CSOs based upon the design storm approach. Included for each alternative is a cost estimate and a figure that shows the location of each alternative.

The cost estimates were developed using procedures outlined in U.S. EPA's document titled *Costs for Select CSO Control Technologies*, October 1992. These costs were verified utilizing sources that include price quotes from equipment manufacturers, recently bid projects, and Means Construction Cost Estimating Guide. The contingency of 15% is based on actual bid projects to cover unforeseen construction changes after the bid. The non-construction costs include land acquisition, engineering design, grant administration, easement acquisition, and construction administration and inspection.

Yearly operation and maintenance costs were calculated by using equipment runtimes, power requirements, and life spans. Daily labor was also estimated. Detailed estimated of project capital cost and operation and maintenance can be found in **Appendix 5**.

A. Design Storm Approach Alternatives

The following alternatives were designed to provide full treatment for the 1-yr, 1-hr storm and partial treatment for the 10-yr, 1-hr storm.

1. Alternative 1A –North and South Side Interceptors

This alternative involves the installation of the following five interceptors:

Segment #1 runs from the CSO 008 to CSO 003 along the south side of the railroad tracks.

Segment #2 runs from CSO 007 along Herman Street and Fredrick Street to Lafontaine Street.

Segment #3 runs from CSO 005 along Fredrick Street to Lafontaine Street, then north on Lafontaine Street to the Lafontaine Street lift station.

Segment #4 runs from the CSO 003 to the WWTP along the south side of the railroad tracks.

Segment #5 runs along Market Street from CSO 015 to Water Street, south on Water Street CSO 003.

Since this alternative would not retain any of the captured volume in the system, all overflows would need to be transported to the WWTP. This would require upgrades to the pumping capacities of the Lafontaine Street lift station. It would also require upgrades to the Rabbit Run lift station at the WWTP to transport the flow to the proposed 10 MG equalization basin and wet weather treatment process. Both of the equalization basin and the wet weather treatment process would be located on the south side of the Little River directly across from the WWTP. The required capacity of the Lafontaine Street lift station would be 23 MGD and the required capacity of the Rabbit Run Lift Station lift station would be 90 MGD.

The current capacity of the WWTP is not sufficient to treat the 1-yr, 1-hr flow. The additional treatment capacity of the WWTP would be achieved by storing and excess flow in an equalization basin. The proposed equalization basin is 10 MG and would be located on the south side of the Little River across from the WWTP. All flow generated by a 1-yr, 1-hr storm must receive full treatment, so once the WWTP reaches capacity flow would be routed to the equalization basin. The Rabbit Run liftstation would be send excess flow to the equalization basin. The volume up to the 1-yr, 1-hr storm would be stored in a separate EQ basin so that it can be taken offline and sent back to the WWTP for full treatment as capacity becomes available.

The volume between the 1-yr, 1-hr storm and the 10-yr, 1-hr storm would be stored in a separate EQ basin. Each basin would be fed independently. The splitting of flow between these two EQ basins would be accomplished by a series of valves at the influent structures. Treatment of this volume would be accomplished by a wet weather treatment process, but it would also be able to send flow back to the WWTP if capacity is available. This wet weather treatment process would consist of a 10 MGD high rate clarification system for primary treatment and a subsurface flow constructed wetland for secondary treatment. Prior to discharge the flow would be disinfected with a 10 MGD UV disinfection system. This flow would then be discharged through a second outfall to the Little River. The wet weather treatment process proposed would have the capability of providing full treatment by utilizing the constructed wetland. The wetland would be designed to meet the final effluent limits of the WWTP. This is proposed in the event the WWTP is not able to treat the volume generated by the 1-yr, 1-hr storm within 48 hours. It may be possible to eliminate the constructed wetland if the WWTP is able to treat the 1-yr, 1-hr volume within 48 hours. For all flows above the 10-yr, 1-hr storm, the WWTP and wet weather treatment process would treat as much volume as possible, but any volume above the 10-yr, 1-hr storm would overflow to the Wabash River.

Since the WWTP is not able to operate at its design capacity, several upgrades are proposed to restore it to its original design capacity. These upgrades include:

- modifying the existing aeration basins to a fixed film bioreactor,
- installation of a septage receiving facility,
- replacement of both anaerobic digester covers,
- construction of a biosolids storage building, and
- installation of effluent pumps for discharging during flood conditions.

The fixed film bioreactor is intended to help treat the WWTP high concentration of soluble BOD.

The septage receiving facility will monitor the composition of discharges that septage haulers discharge to the plant. This system would not allow discharge of wastes that could cause an upset to the biological process of the WWTP.

The anaerobic digester covers are proposed to be replaced because they are over 50 years old and are becoming inefficient at trapping gases.

A biosolids storage building would greatly benefit the WWTP because it would allow for the storage of solids until it can be hauled away. Currently, the WWTP has to maintain a high amount of solids in the clarifiers when hauling is not possible.

The last upgrade is to install effluent pumps at the WWTP. This is proposed because frequently the outfall of the WWTP becomes submerged as the river level rises. This results in the WWTP not being able to discharge. These upgrades are estimated to cost $13,500,000.

Also proposed with this alternative is the rehabilitation of the existing gravity line between CSO 003 and the WWTP. Due to its proximity to the Little River, it is believed that a significant amount of water infiltrates into this pipe from the river. Rehabilitation of this line would eliminate a significant amount of this infiltration and free up capacity at the WWTP for treatment of wet weather flow.

It is believed that the existing CSO flap gates are no longer water tight. This would allow water to flow into the sewer system from the river and reduce the wet weather capacity of the WWTP. Replacement of all seven flap gates located on the Little River is proposed. This is estimated to cost $500,000.

Additional monitoring and modeling would be necessary once each phase of the project is completed. This would be used to document the level of control achieved by the project and aid in the design of subsequent projects. Monitoring and modeling is estimated to cost $500,000 for all projects.

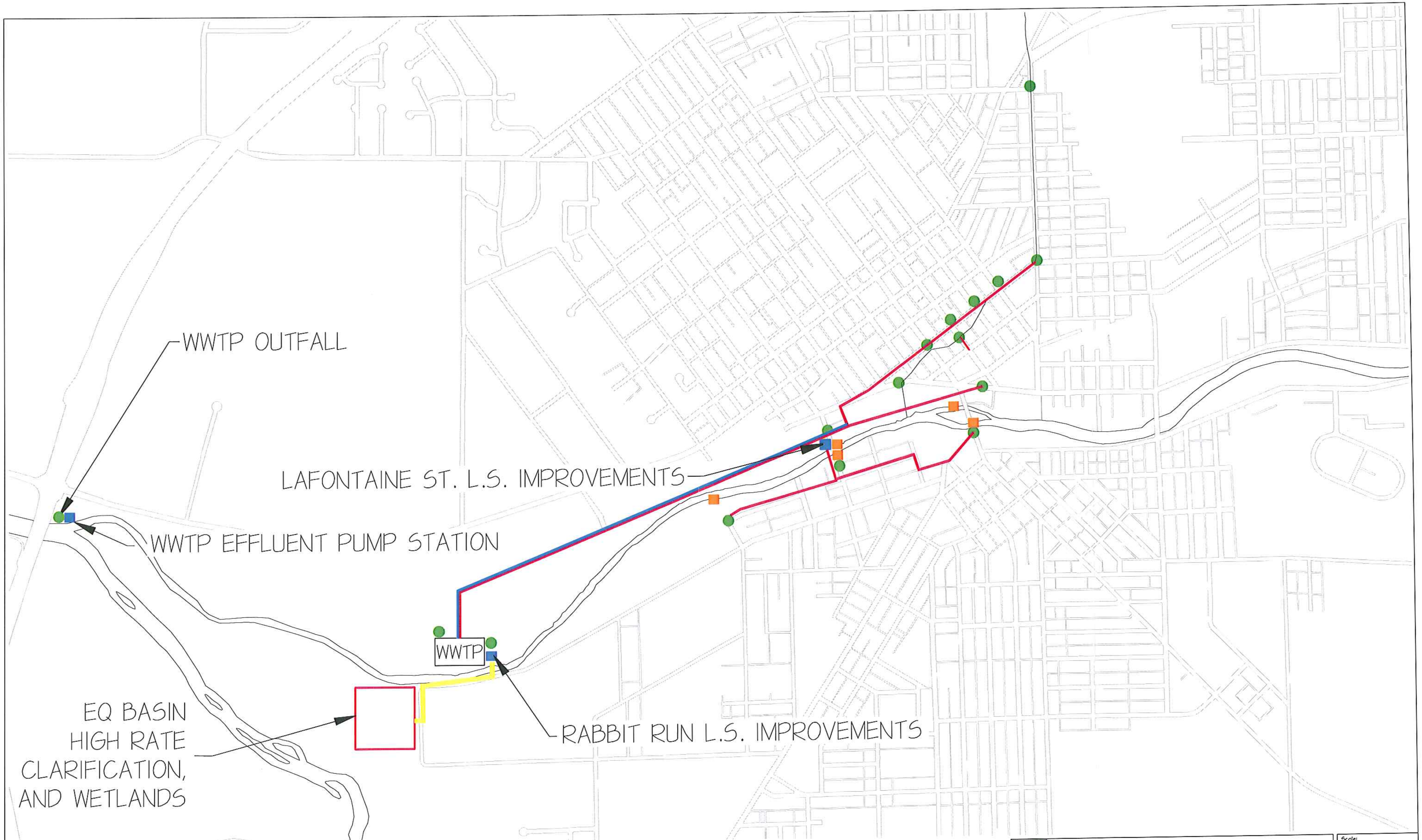
This alternative also budgets $2,000,000 for green infrastructure projects over the next twenty years. Specific projects have not been identified because these projects require a site specific approach. The types of projects that may be implemented include pervious pavement, rain gardens, and residential runoff prevention programs.

The total capital cost for this alternative is estimated to be $64,000,000. The total annual operation and maintenance cost for this alternative is estimated to be $510,000. The costs are summarized in **Table 5-1**. **Figure 5-1** shows the location of the proposed projects for Alternative 1A. **Figure 5-2** shows how influent flow at the WWTP would be routed during wet weather.

Table 5-1
Cost Estimate for Alternative 1A: North and Southside Interceptors

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.	$1,100,000
Segment #3 - CSO 005 to Lafontaine St. Lift Station	$5,900,000
Segment #4 - CSO 003 to WWTP	$11,200,000
Segment #5 - CSO 015 to CSO 003	$4,200,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Post Construction Monitoring	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$64,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.



GRAVITY
FORCE MAIN
REHABILITATION

FLAP GATE REPLACEMENT
CSO

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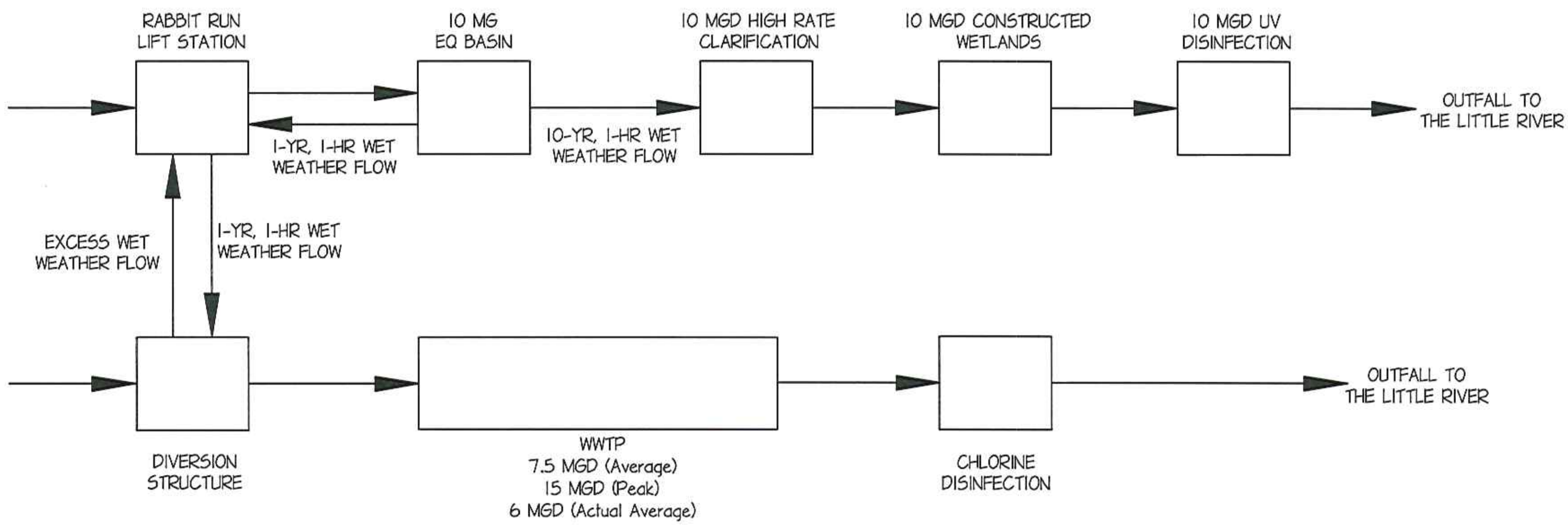
CITY OF HUNTINGTON
LONG TERM CONTROL

ALTERNATIVE 1A
NORTH AND SOUTHSIDE
INTERCEPTORS

Scale: 1" = 1,000'

Project: 10151.00

Sheet: FIGURE 5-1



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CITY OF HUNTINGTON
CSO LONG TERM CONTROL PLAN

WWTP FLOW DIAGRAM

Scale N.T.S.
Project 10151.00
Figure No. FIGURE 5-2

X:\fort wayne projects\10100\10151.00\dwg\figure 5-2.dwg

2. Alternative 1B – North and South Side Interceptors with a Forcemain

This alternative involves the installation of the following four interceptors:

Segment #1 runs from the CSO 008 to CSO 003 along the south side of the railroad tracks.

Segment #2 runs from CSO 007 along Herman Street and Fredrick Street to Lafontaine Street.

Segment #3 runs from CSO 005 along Fredrick Street to Lafontaine Street, then north on Lafontaine Street to the Lafontaine Street lift station.

Segment #4 runs along Market Street from CSO 015 to Water Street, south on Water Street CSO 003.

All flow from the four interceptors above would be collected at the Lafontaine Street Lift Station and transported to the WWTP via a forcemain that runs along the Southside of the railroad tracks. This would require a significant increase in the pumping capacity of the Lafontaine Street liftstation. The new required capacity would be 144 MGD.

The current capacity of the WWTP is not sufficient to treat the 1-yr, 1-hr flow. The additional treatment capacity of the WWTP would be achieved by storing and excess flow in an equalization basin. The proposed equalization basin is 10 MG and would be located on the south side of the Little River across from the WWTP. All flow generated by a 1-yr, 1-hr storm must receive full treatment, so once the WWTP reaches capacity flow would be routed to the equalization basin. The Rabbit Run liftstation would be upgraded to a new capacity of 90 MGD to transport excess flow to the equalization basin. The volume up to the 1-yr, 1-hr storm would be stored in a separate EQ basin so that it can be taken offline and sent back to the WWTP for full treatment as capacity becomes available.

The volume between the 1-yr, 1-hr storm and the 10-yr, 1-hr storm would be stored in a separate EQ basin. Each basin would be fed independently. The splitting of flow between these two EQ basins would be accomplished by a series of valves at the influent structures. Treatment of this volume would be accomplished by a wet weather treatment process, but it would also be able to send flow back to the WWTP if capacity is available. This wet weather treatment process would consist of a 10 MGD high rate clarification system for primary treatment and a subsurface flow constructed wetland for secondary treatment. Prior to discharge the flow would be disinfected with a 10 MGD UV disinfection system. This flow would then be discharged through a second outfall to the Little River. The wet weather treatment process proposed would have the capability of providing full treatment by utilizing the constructed wetland. The wetland would be designed to meet the final effluent limits of the WWTP. This is proposed in the event the WWTP is not able to treat the volume generated by the 1-yr, 1-hr storm within 48 hours. It may be possible to eliminate the constructed wetland if

1-hr volume within 48 hours. For all flows above the 10-yr, 1-hr storm, the WWTP and wet weather treatment process would treat as much volume as possible, but any volume above the 10-yr, 1-hr storm would overflow to the Wabash River.

Since the WWTP is not able to operate at its design capacity, several upgrades are proposed to restore it to its original design capacity. These upgrades include :

- modifying the existing aeration basins to a fixed film bioreactor,
- installation of a septage receiving facility,
- replacement of the anaerobic digester covers,
- construction of a biosolids storage building, and
- installation of pumps on the effluent line of the WWTP.

The fixed film bioreactor is intended to help treat the WWTP high concentration of soluable BOD.

The septage receiving facility will monitor the composition of discharges that septage haulers discharge to the plant. This system would not allow discharge of wastes that could cause an upset to the biological process of the WWTP.

The anaerobic digester covers are proposed to be replaced because they are over 50 years old and are becoming inefficient at trapping gases.

A biosolids storage building would greatly benefit the WWTP because it would allow for the storage of solids until it can be hauled away. Currently, the WWTP has to maintain a high amount of solids in the clarifiers when hauling is not possible.

The last upgrade is to install effluent pumps at the WWTP. This is proposed because frequently the outfall of the WWTP becomes submerged as the river level rises. This results in the WWTP not being able to discharge. These upgrades are estimated to cost $13,500,000.

Also proposed with this alternative is the rehabilitation of the existing gravity line between CSO 003 and the WWTP. Due to its proximity to the Little River it is believed that a significant amount of water infiltrate into this pipe from the river. Rehabilitation of this line would eliminate a significant amount of this infiltration and free up capacity at the WWTP for treatment of wet weather flow.

It is believed that the existing CSO flap gates are no longer water tight. This would allow water to flow into the sewer system from the river and reduce the wet weather capacity of the WWTP. Replacement of all seven flap gates located on the Little River is proposed. This is estimated to cost $500,000.

Additional monitoring and modeling would be necessary once each phase of the project is completed. This would be used to document the level of control achieved by the project and aid in the design of subsequent projects. Monitoring and modeling is estimated to cost $500,000 for all projects.

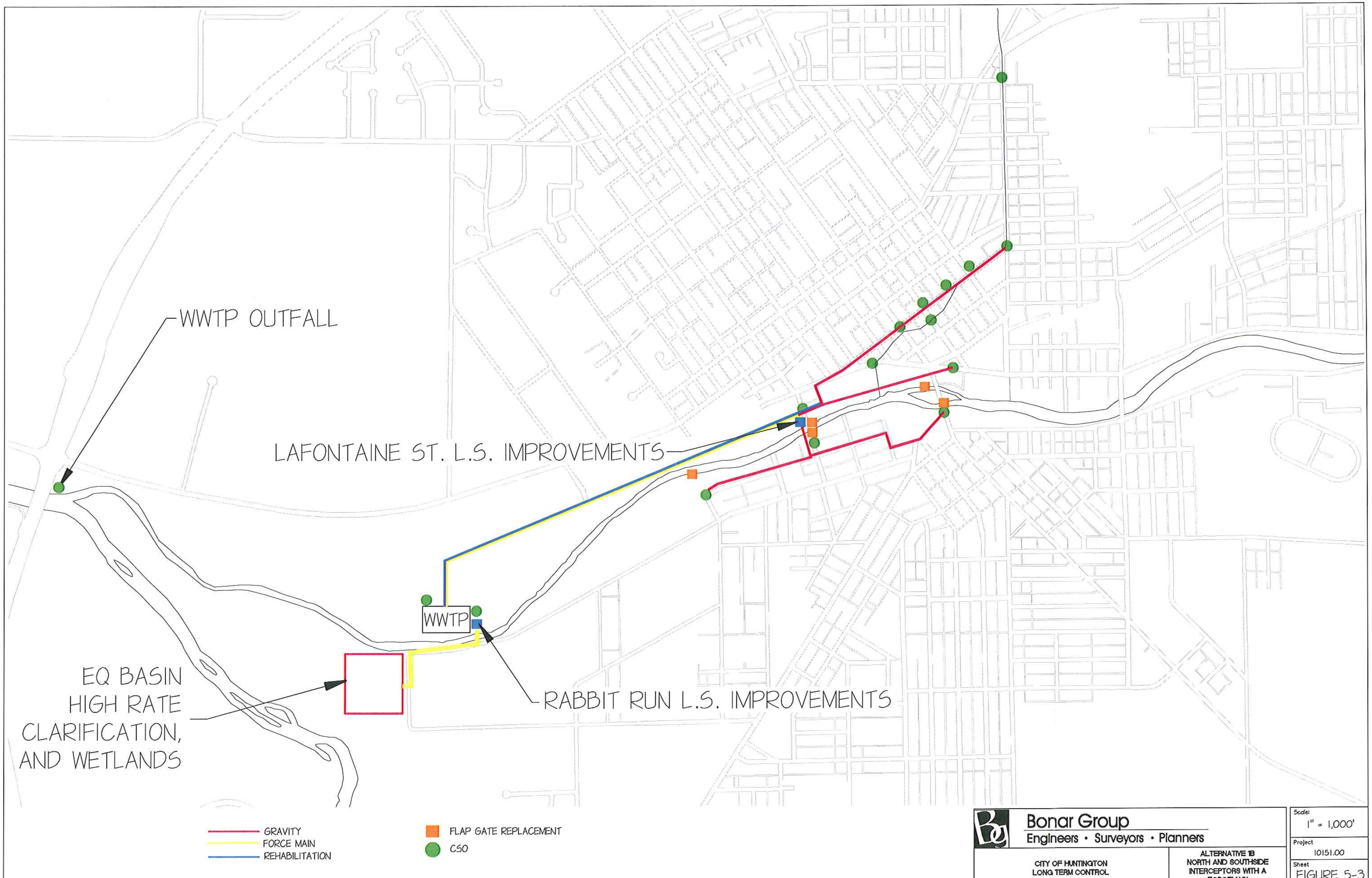
This alternative also budgets $2,000,000 for green infrastructure projects over the next twenty years. Specific projects have not been identified because these projects require a site specific approach. The types of projects that may be implemented include pervious pavement, rain gardens, and a residential runoff prevention programs.

The total capital cost for this alternative is estimated to be $77,000,000. The total annual operation and maintenance cost for this alternative is estimated to be $610,000. The costs are summarized in **Table 5-2**. **Figure 5-3** shows the location of the proposed projects for Alternative 1B. Wet weather flow at the WWTP would be routed as shown in **Figure 5-2**.

Table 5-2
Cost Estimate for Alternative 1B: North and Southside Interceptors with a Forcemain

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.	$1,100,000
Segment #3 - CSO 005 to Lafontaine St. Lift Station	$18,100,000
Segment #4 - CSO 015 to CSO 003	$4,200,000
Forcemain to WWTP	$12,300,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Post Construction Monitoring	$500,000
Total Construction Cost* (rounded up to nearest $1,000,000)	**$77,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.



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CITY OF HUNTINGTON
LONG TERM CONTROL

ALTERNATIVE 1B
NORTH AND SOUTHSIDE
INTERCEPTORS WITH A
FORCEMAIN

Scale: 1" = 1,000'

Project 10151.00

Sheet FIGURE 5-3

B. CSO Reduction Approach Alternatives

In an effort to provide the most cost effective alternative for the City, several alternatives were developed that complied with the Presumptive Approach. The Presumptive Approach is a design methodology that allows overflows to occur if certain criteria are fulfilled. The controls developed must meet one of three criteria regarding the reduction of overflows. For the following alternatives, the following criterion from the "Combined Sewer Overflow Long Term Control Plan Use Attainability Analysis Guidance" was used:

> *The elimination or capture for the treatment of no less than 85% by volume of the combined sewage collected in the combined sewer system during precipitation events on a system wide annual average basis. Under Criterion 2, the "85% by volume of the combined sewage" refers to 85% of the total volume of flow collected in the CSS during precipitation events on a system-wide, annual average basis (not 85 % of the volume being discharged).*

3. Alternative 2 –North Side Interceptors

This alternative involves the installation of the following three interceptors:

Segment #1 runs from the CSO 008 to CSO 003 along the south side of the railroad tracks.

Segment #2 runs from CSO 003 to the WWTP along the south side of the railroad tracks.

Segment #3 runs along Market Street from CSO 015 to Water Street, south on Water Street CSO 003.

Since this alternative will not retain any of the captured volume in the system, it will all need to be transported to the WWTP. This will require upgrades to the pumping capacities of the Lafontaine Street lift station. The required capacity of the Lafontaine Street lift station will be 23 MGD

The current capacity of the WWTP is not sufficient to treat all wet weather flow. The additional treatment capacity of the WWTP would be achieved by storing excess flow in an equalization basin. The proposed equalization basin is 10 MG and would be located on the south side of the Little River across from the WWTP.

As much flow as possible must receive full treatment, so once the WWTP reaches capacity, flow will be routed to the equalization basin. The Rabbit Run liftstation would be upgraded to a new capacity of 90 MGD to transport excess flow to the equalization basin. The volume up to the 1-yr, 1-hr storm would be stored in a separate EQ basin so that it can be taken offline and sent back to the WWTP for full treatment as capacity becomes available.

The volume between the 1-yr, 1-hr storm and the 10-yr, 1-hr storm would be stored in a separate EQ basin. The splitting of flow between these two EQ basins would be accomplished by a series of valves at the influent structures. Treatment of this volume would be accomplished by a wet weather treatment process, but it would also be able to send flow back to the WWTP. This wet weather treatment process would consist of a 10 MGD high rate clarification system for primary treatment and a subsurface flow constructed wetland for secondary treatment. Prior to discharge the flow would be disinfected with a 10 MGD UV disinfection system. This flow would then be discharged through a second outfall to the Little River. The wet weather treatment process proposed would have the capability of providing full treatment by utilizing the constructed wetland. The wetland would be designed to meet the final effluent limits of the WWTP. This is proposed in the event the WWTP is not able to treat the volume generated by the 1-yr, 1-hr storm within 48 hours. It may be possible to eliminate the constructed wetland if the WWTP is able to treat the 1-yr, 1-hr volume within 48 hours. For all flows above the 10-yr, 1-hr storm, the WWTP and wet weather treatment process would treat as much volume as possible, but any volume above the 10-yr, 1-hr storm would overflow to the Wabash River. The wet weather treatment process is sized to accommodate the design storm approach. It was sized this way to allow for future expansion if treatment guidelines change.

Since the WWTP is not able to operate at its design capacity, several upgrades are proposed to restore it to its original design capacity. These upgrades include:

- modifying the existing aeration basins to a fixed film bioreactor,
- installation of a septage receiving facility,
- replacement of the anaerobic digester covers,
- construction of a biosolids storage building, and
- installation of pumps on the effluent line of the WWTP.

The fixed film bioreactor is intended to help treat the WWTP high concentration of soluable BOD.

The septage receiving facility will monitor the composition of discharges that septage haulers discharge to the plant. This system would not allow discharge of wastes that could cause an upset to the biological process of the WWTP.

The anaerobic digester covers are proposed to be replaced because they are over 50 years old and are becoming inefficient at trapping gases.

A biosolids storage building would greatly benefit the WWTP because it would allow for the storage of solids until it can be hauled away. Currently, the WWTP has to maintain a high amount of solids in the clarifiers when hauling is not possible.

The last upgrade is to install effluent pumps at the WWTP. This is proposed because frequently the outfall of the WWTP becomes submerged as the river level rises. This results in the WWTP not being able to discharge. These upgrades are estimated to cost $13,500,000.

Also proposed with this alternative is the rehabilitation of the existing gravity line between CSO 003 and the WWTP. Due to its proximity to the Little River it is believed that a significant amount of infiltration occurs from the river. Rehabilitation of this line would eliminate a significant amount of this infiltration and free up capacity at the WWTP for treatment of wet weather flow.

It is believed that the existing CSO flap gates are no longer water tight. This would allow water to flow into the sewer system from the river and reduce the wet weather capacity of the WWTP. Replacement of all seven flap gates located on the Little River is proposed. This is estimated to cost $500,000.

The model estimates that this alternative will reduce the number of CSO events per year to 37 and the total CSO volume to 6.4 MG. This results in a total capture of 96.3% of wet weather flow and a 56% reduction in the number of CSO events.

Additional monitoring and modeling would be necessary once each phase of the project is completed. This would be used to document the level of control achieved by the project and aid in the design of subsequent projects. Monitoring and modeling is estimated to cost $500,000 for all projects.

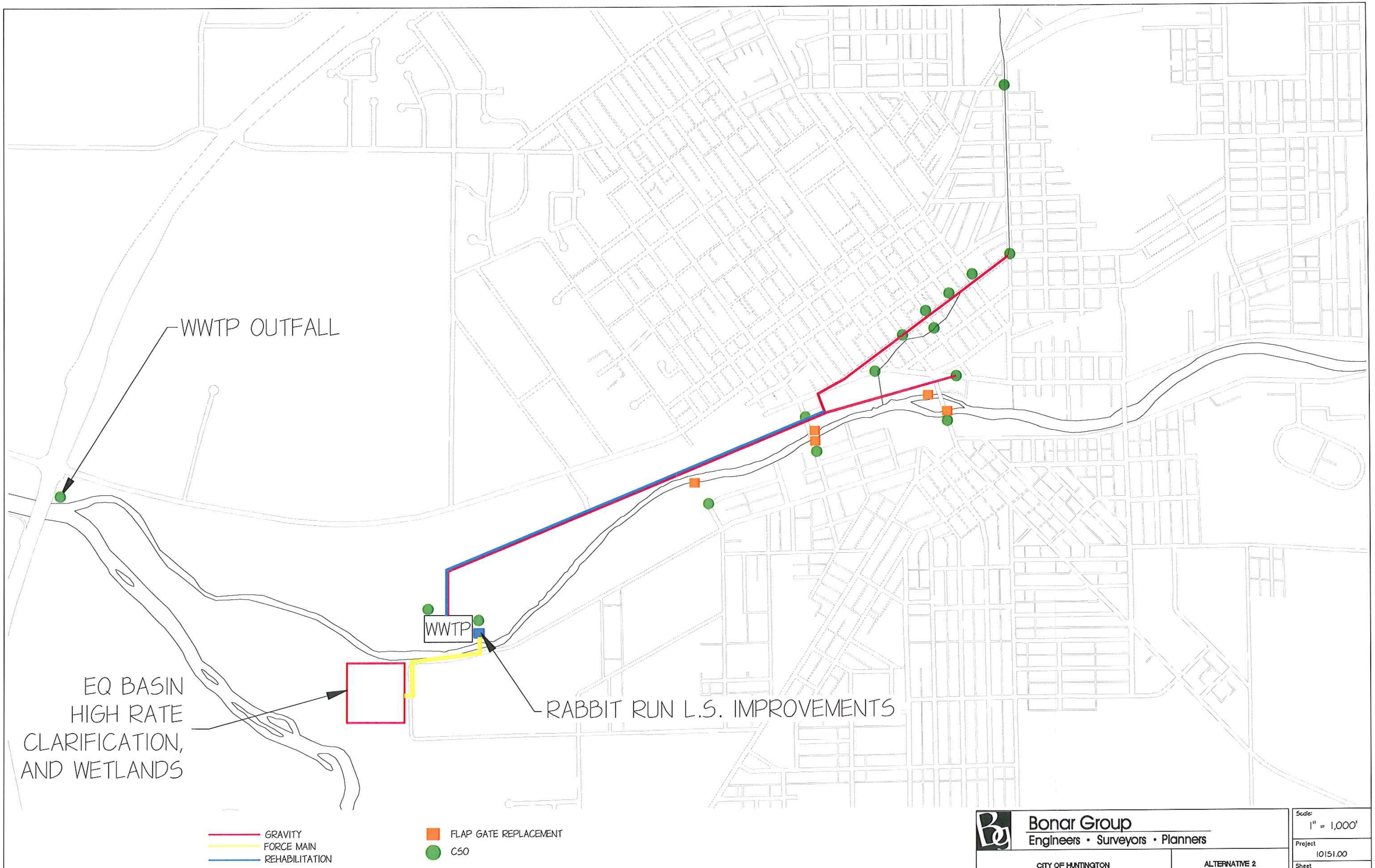
This alternative also budgets $2,000,000 for green infrastructure projects over the next twenty years. Specific projects have not been identified because these projects require a site specific approach. The types of projects that may be implemented include pervious pavement, rain gardens, and a residential runoff prevention programs.

The total capital cost for this alternative is estimated to be $57,000,000. The total annual operation and maintenance cost for this alternative is estimated to be $470,000. The costs are summarized in **Table 5-3**. **Figure 5-4** shows the location of the proposed projects for Alternative 2. Wet weather flow at the WWTP would be routed as shown in **Figure 5-2**.

Table 5-3
Cost Estimate for Alternative 2: North side Interceptors

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 003 to WWTP	$11,200,000
Segment #3 - CSO 015 to CSO 003	$4,200,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Post Construction Monitoring	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$57,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.



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CITY OF HUNTINGTON LONG TERM CONTROL	ALTERNATIVE 2 NORTHSIDE INTERCEPTORS	Scale: 1" = 1,000'
		Project 10151.00
		Sheet FIGURE 5-4

4. Alternative 3 –South Side Interceptors

This alternative involves the installation of the following four interceptors:

Segment #1 runs from the CSO 008 to CSO 003 along the south side of the railroad tracks.

Segment #2 runs from CSO 007 along Herman Street and Fredrick Street to Lafontaine Street.

Segment #3 runs from CSO 005 along Fredrick Street to Lafontaine Street, then north on Lafontaine Street to the Lafontaine Street lift station.

Segment #4 runs from the CSO 003 to the WWTP along the south side of the railroad tracks.

Since this alternative will not retain any of the captured volume in the system, it will all need to be transported to the WWTP. This will require upgrades to the pumping capacities of the Lafontaine Street lift station. The required capacity of the Lafontaine Street lift station will be 23 MGD

The current capacity of the WWTP is not sufficient to treat all wet weather flow. The additional treatment capacity of the WWTP would be achieved by storing excess flow in an equalization basin. The proposed equalization basin is 10 MG and would be located on the south side of the Little River across from the WWTP.

As much flow as possible must receive full treatment, so once the WWTP reaches capacity, flow will be routed to the equalization basin. The Rabbit Run liftstation would be upgraded to a new capacity of 90 MGD to transport excess flow to the equalization basin. The volume up to the 1-yr, 1-hr storm would be stored in a separate EQ basin so that it can be taken offline and sent back to the WWTP for full treatment as capacity becomes available.

The volume between the 1-yr, 1-hr storm and the 10-yr, 1-hr storm would be stored in a separate EQ basin. The splitting of flow between these two EQ basins would be accomplished by a series of valves at the influent structures. Treatment of this volume would be accomplished by a wet weather treatment process, but it would also be able to send flow back to the WWTP if capacity is available. This wet weather treatment process would consist of a 10 MGD high rate clarification system for primary treatment and a subsurface flow constructed wetland for secondary treatment. Prior to discharge the flow would be disinfected with a 10 MGD UV disinfection system. This flow would then be discharged through a second outfall to the Little River. The wet weather treatment process proposed would have the capability of providing full treatment by utilizing the constructed wetland. The wetland would be designed to meet the final effluent limits of the WWTP. This is proposed in the event the WWTP is not able to treat the volume generated by the 1-yr, 1-hr storm within 48 hours. It may be possible to eliminate the constructed wetland if the WWTP is able to treat the 1-yr, 1-hr volume within 48 hours. For all flows above the 10-yr, 1-hr storm, the WWTP and wet weather treatment process would treat as much volume as possible, but any volume above the 10-yr, 1-hr storm would overflow to the Wabash River. The wet weather treatment process is sized to accommodate the design storm approach. It was sized this way to allow for future expansion if treatment guidelines change.

Since the WWTP is not able to operate at its design capacity, several upgrades are proposed to restore it to its original design capacity. These upgrades include :

- modifying the existing aeration basins to a fixed film bioreactor,
- installation of a septage receiving facility,
- replacement of the anaerobic digester covers,
- construction of a biosolids storage building, and
- installation of pumps on the effluent line of the WWTP.

The fixed film bioreactor is intended to help treat the WWTP high concentration of soluable BOD.

The septage receiving facility will monitor the composition of discharges that septage haulers discharge to the plant. This system would not allow discharge of wastes that could cause an upset to the biological process of the WWTP.

The anaerobic digester covers are proposed to be replaced because they are over 50 years old and are becoming inefficient at trapping gases.

A biosolids storage building would greatly benefit the WWTP because it would allow for the storage of solids until it can be hauled away. Currently, the WWTP has to maintain a high amount of solids in the clarifiers when hauling is not possible.

The last upgrade is to install effluent pumps at the WWTP. This is proposed because frequently the outfall of the WWTP becomes submerged as the river level rises. This results in the WWTP not being able to discharge. These upgrades are estimated to cost $13,500,000.

Also proposed with this alternative is the rehabilitation of the existing gravity line between CSO 003 and the WWTP. Due to its proximity to the Little River it is believe that a significant amount of infiltration occurs from the river. Rehabilitation of this line would eliminate a significant amount of this infiltration and free up capacity at the WWTP for treatment of wet weather flow.

It is believed that the existing CSO flap gates are no longer water tight. This would allow water to flow into the sewer system from the river and reduce the wet weather capacity of the WWTP. Replacement of all seven flap gates located on the Little River is proposed. This is estimated to cost $500,000.

The model estimates that this alternative will reduce the number of CSO events per year to 17 and the total CSO volume to 10.3 MG. This results in a total capture of 94.0% of wet weather flow and a 80% reduction in the number of CSO events.

Additional monitoring and modeling would be necessary once each phase of the project is completed. This would be used to document the level of control achieved by the project and aid in the design of subsequent projects. Monitoring and modeling is estimated to cost $500,000 for all projects.

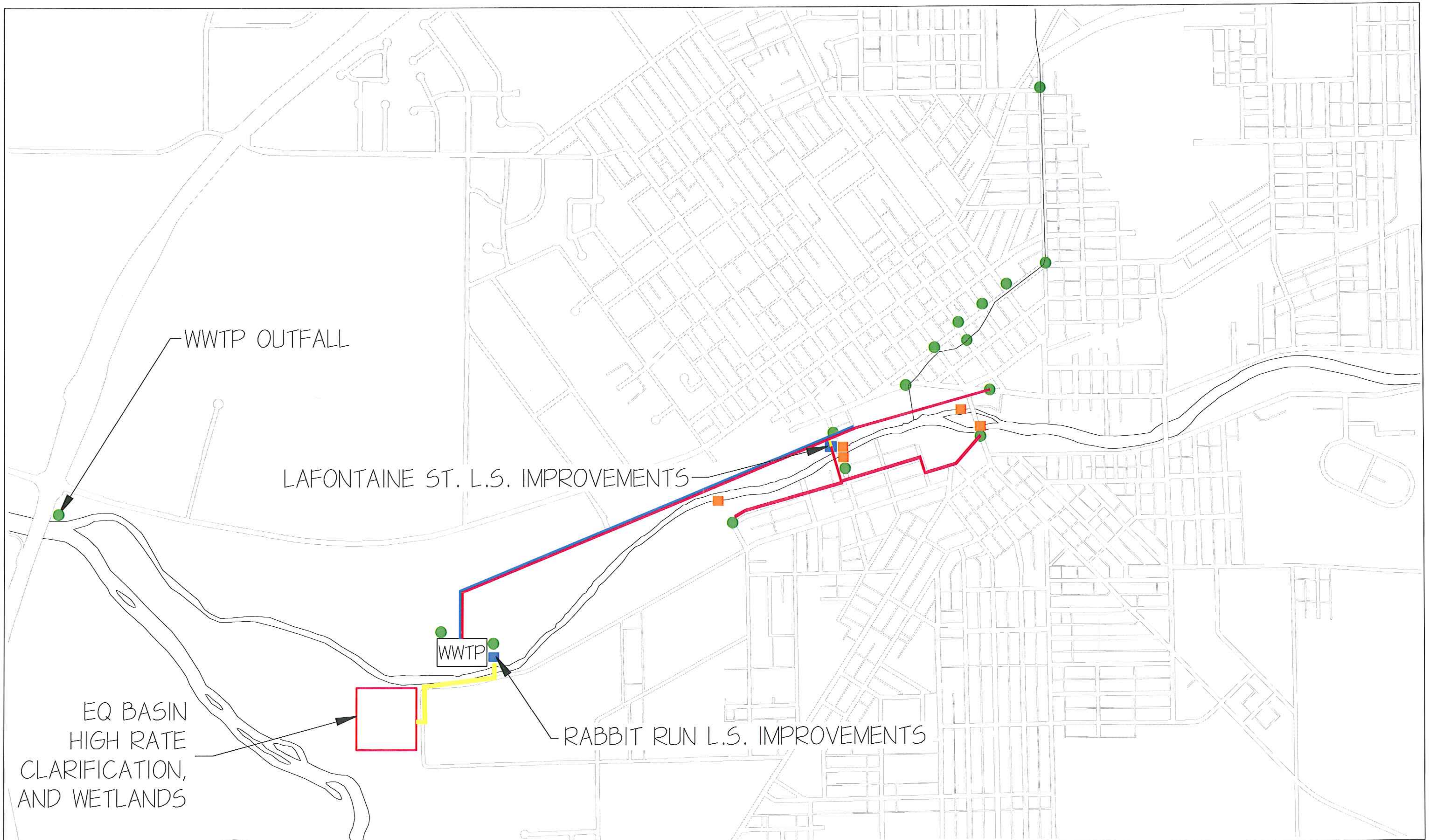
This alternative also budgets $2,000,000 for green infrastructure projects over the next twenty years. Specific projects have not been identified because these projects require a site specific approach. The types of projects that may be implemented include pervious pavement, rain gardens, and a residential runoff prevention programs.

The total capital cost for this alternative is estimated to be $60,000,000. The total annual operation and maintenance cost for this alternative is estimated to be $510,000. The costs are summarized in **Table 5-4**. **Figure 5-5** shows the location of the proposed projects for Alternative 3. Wet weather flow at the WWTP would be routed as shown in **Figure 5-2**.

Table 5-4
Cost Estimate for Alternative 3: Southside Interceptors

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.	$1,100,000
Segment #3 - CSO 005 to Lafontaine St. Lift Station	$5,900,000
Segment #4 - CSO 003 to WWTP	$11,200,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Post Construction Monitoring	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$60,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.



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LONG TERM CONTROL

ALTERNATIVE 3
SOUTHSIDE INTERCEPTORS

Scale: 1" = 1,000'
Project 10151.00
Sheet FIGURE 5-5

5. Alternative 4 – Total Separation

The following alternative is for the separation of the currently combined sewers into storm and sanitary sewers. This separation would be accomplished by construction of new sanitary sewers or storm sewers to remove any storm inlets from the existing sewer. The existing sewer would then become the new sanitary sewer. The entire sewer system encompasses and area of approximately 5,600 acres and the area that remains to be separated is approximately 1,200 acres.

Even thought the entire sewer system would be separated, improvements at the WWTP would still be necessary to restore its capacity. These upgrades include:

- modifying the existing aeration basins to a fixed film bioreactor,
- installation of a septage receiving facility,
- replacement of the anaerobic digester covers,
- construction of a biosolids storage building, and
- installation of pumps on the effluent line of the WWTP.

The fixed film bioreactor is intended to help treat the WWTP high concentration of soluable BOD.

The septage receiving facility will monitor the composition of discharges that septage haulers discharge to the plant. This system would not allow discharge of wastes that could cause an upset to the biological process of the WWTP.

The anaerobic digester covers are proposed to be replaced because they are over 50 years old and are becoming inefficient at trapping gases.

A biosolids storage building would greatly benefit the WWTP because it would allow for the storage of solids until it can be hauled away. Currently, the WWTP has to maintain a high amount of solids in the clarifiers when hauling is not possible.

The last upgrade is to install effluent pumps at the WWTP. This is proposed because frequently the outfall of the WWTP becomes submerged as the river level rises. This results in the WWTP not being able to discharge. These upgrades are estimated to cost $13,500,000.

It is believed that the existing CSO flap gates are no longer water tight. This would allow water to flow into the sewer system from the river and reduce the wet weather capacity of the WWTP. Replacement of all seven flap gates located on the Little River is proposed. This is estimated to cost $500,000.

The model estimates that this alternative will reduce the number of CSO events per year to 44 and the total CSO volume to 9.8 MG. This results in a total capture of 94.2% of wet weather flow and a 48% reduction in the number of CSO events.

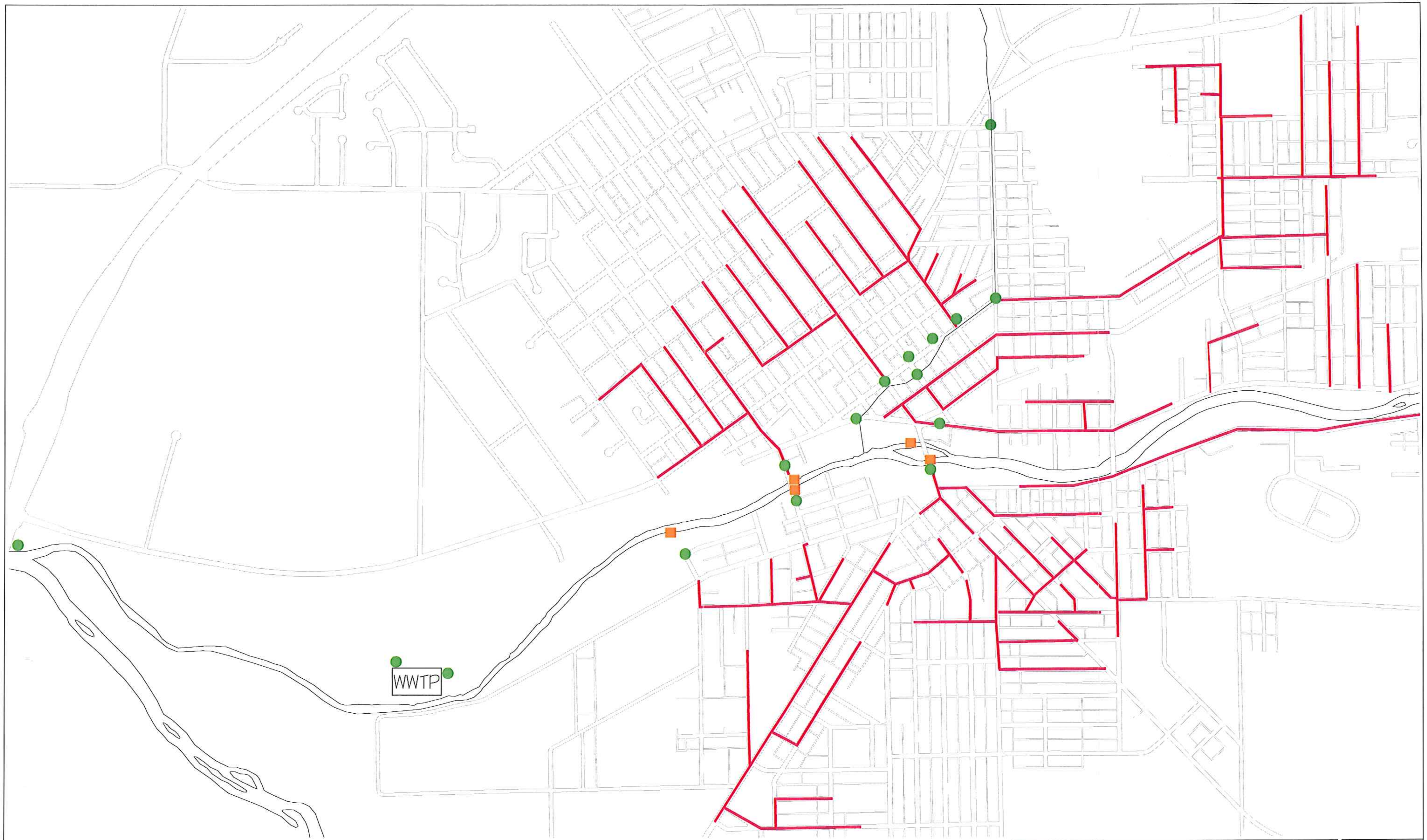
Additional monitoring and modeling would be necessary once each phase of the project is completed. This would be used to document the level of control achieved by the project and aid in the design of subsequent projects. Monitoring and modeling is estimated to cost $500,000 for all projects.

The total capital cost for this alternative is estimated to be $70,000,000. The total annual operation and maintenance cost for this alternative is estimated to be $100,000. The costs are summarized in **Table 5-5**. **Figure 5-6** shows the location of the proposed projects for Alternative 4. Wet weather flow at the WWTP would be routed as shown in **Figure 5-2**.

Table 5-5
Cost Estimate for Alternative 4: Total Separation

Project Description	2009 Capital Cost of Each Project
Separation Projects	$55,000,000
Replacement of CSO Flap Gates	$500,000
WWTP Improvements	$13,500,000
Post Construction Monitoring	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$70,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.



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LONG TERM CONTROL

ALTERNATIVE 4
TOTAL SEPARATION

Scale: 1" = 1,000'
Project 10151.00
Sheet FIGURE 5-6

6. Alternative 5 – No Action

With no action it is estimated that over 84 CSO events would occur per year for a total volume of 82.9 million gallons. This is based on the SWMM model that was generated and calibrated using several large rain events. Without treatment of the CSO discharge waters, high E. coli loadings would enter the rivers and contribute to lowering the stream quality.

Even if no action was taken, the WWTP improvements would still be necessary because Huntington has entered into an Agreed Order to restore the capacity of the WWTP. These upgrades include:

- modifying the existing aeration basins to a fixed film bioreactor,
- installation of a septage receiving facility,
- replacement of the anaerobic digester covers,
- construction of a biosolids storage building, and
- installation of pumps on the effluent line of the WWTP.

The fixed film bioreactor is intended to help treat the WWTP high concentration of soluable BOD.

The septage receiving facility will monitor the composition of discharges that septage haulers discharge to the plant. This system would not allow discharge of wastes that could cause an upset to the biological process of the WWTP.

The anaerobic digester covers are proposed to be replaced because they are over 50 years old and are becoming inefficient at trapping gases.

A biosolids storage building would greatly benefit the WWTP because it would allow for the storage of solids until it can be hauled away. Currently, the WWTP has to maintain a high amount of solids in the clarifiers when hauling is not possible.

The last upgrade is to install effluent pumps at the WWTP. This is proposed because frequently the outfall of the WWTP becomes submerged as the river level rises. This results in the WWTP not being able to discharge. These upgrades are estimated to cost $13,500,000. The total annual operation and maintenance cost for this alternative is estimated to be $100,000.

Table 5-6
Cost Estimate for Alternative 4: Total Separation

Project Description	2009 Capital Cost of Each Project
WWTP Improvements	$13,500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$14,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

C. Green Technology

Green technologies were considered to reduce CSO events and volume. Due to the volume of Huntington's overflows it is not likely that a single all encompassing green technology could provide significant reduction is the number of events or volume. However, several alternatives exist that could be beneficial on a site specific basis.

These sites could be areas of localized flooding or ponding near storm sewer inlets. This problem might be reduced through the use of permeable pavement. The amount of capacity that this would free up in the sewer system would not be significant, but it would be a noticeable improvement for citizens. Permeable pavement could also be included for road rehabilitation project. It could be installed in the gutter line to facilitate infiltration into the ground.

Wetlands are proposed for all alternatives except Alternative 4 to provide additional secondary treatment for flows that exceed the capacity of the WWTP.

The City could also implement programs for private citizens and companies to reduce their total runoff volume. The program could offer citizens incentives for complying with the requirements of these programs. One example of a program might be the installation of rain gardens or other BMPs. Another program might be aimed at commercial or significant contributors who have significant runoff. This program might offer incentives for the contributor to retain/reduce a specific amount of stormwater or to shift the runoff curve so that the peak occurs after the rain event.

The green technologies outlined above are only a few potential alternatives available. One of the biggest drawbacks for implementing green technologies is available space. Huntington does not have a lot of undeveloped space available for these projects. Situations should be examined on an individual basis to determine if a green technology could work and which one would work best.

D. Recommended Approach

The capital cost and O&M cost for each alternative is summarized in **Table 5-7**. To evaluate the most cost effective alternative, **Figure 5-7** was generated that shows the anticipated number of CSO events vs. capital cost. In **Figure 5-7** Alternative 1A occurs at the knee of the curve. This is the point of diminishing returns and after this point costs begin to increase faster for minor increases in the level of control. Alternative 1A is the most cost effective because it provides a great level of control at a low cost when compared to the other alternatives.

Table 5-7
Summary of Alternative Capital Cost

Alternative	Alternative Description	2009 Capital Cost	O&M Cost
Alternative 1A	North and Southsize Interceptors	$64,000,000	$510,000
Alternative 1B	North and Southside Interceptors with a Forcemain	$77,000,000	$610,000
Alternative 2	Northside Interceptors	$57,000,000	$470,000
Alternative 3	Southside Interceptors	$60,000,000	$510,000
Alternative 4	Total Separation	$70,000,000	$100,000
Alternative 5	No Action	$14,000,000	$160,000

To evaluate the most cost effective alternative, **Figure 5-7** was generated that shows the anticipated number of CSO events vs. capital cost. In **Figure 5-7** Alternative 1A occurs at the knee of the curve. This is the point of diminishing returns and after this point costs begin to increase faster for minor increases in the level of control. Alternative 1A is the most cost effective because it provides a great level of control at a low cost when compared to the other alternatives.

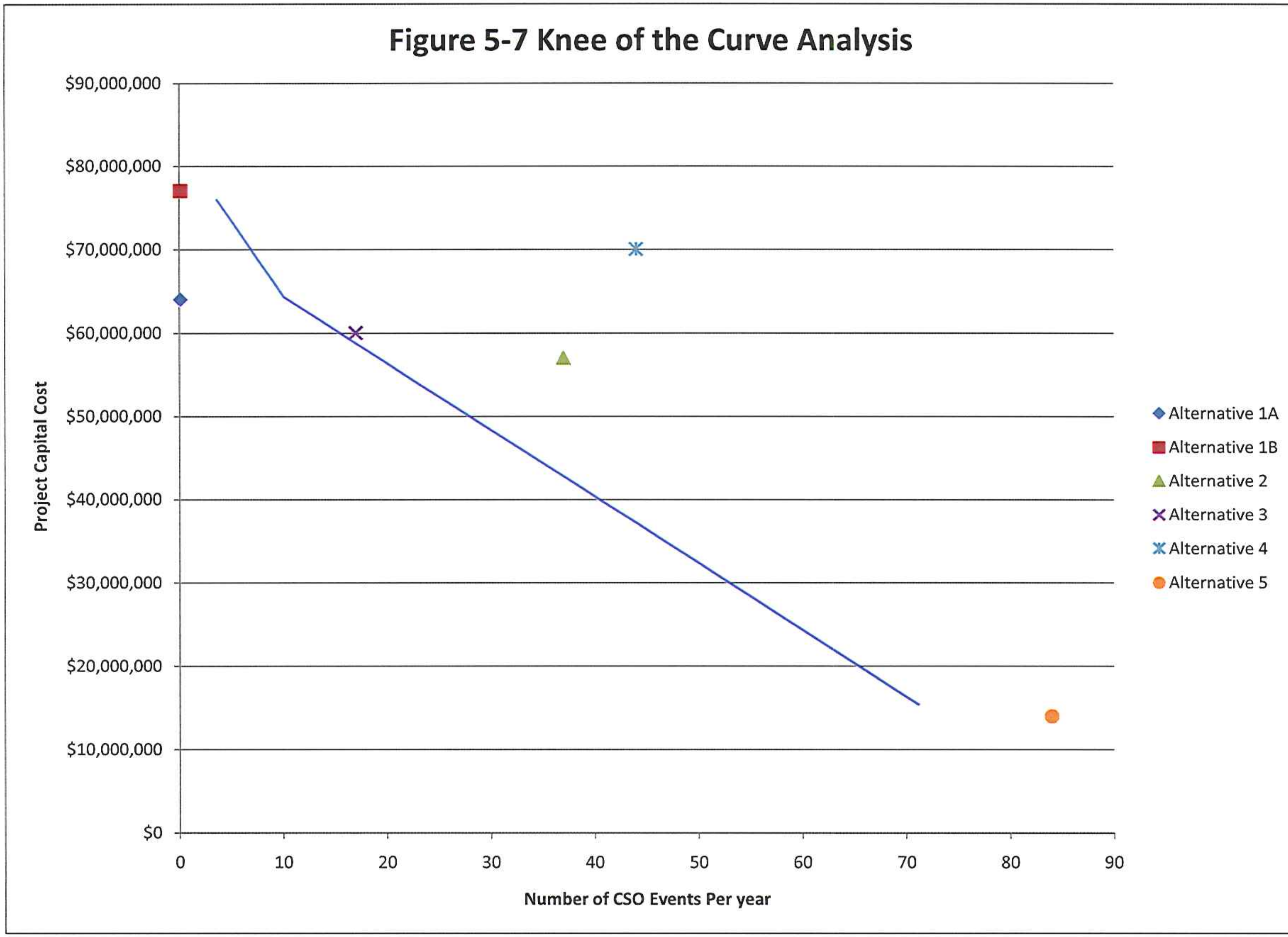


Figure 5-7 Knee of the Curve Analysis
Project Capital Cost
$90,000,000
$80,000,000
$70,000,000
$60,000,000
$50,000,000
$40,000,000
$30,000,000
$20,000,000
$10,000,000
$0
0
10
20
30
40
50
60
70
80
90
Number of CSO Events Per year
Alternative 1A
Alternative 1B
Alternative 2
Alternative 3
Alternative 4
Alternative 5

CHAPTER 6 PUBLIC PARTICIPATION

Public participation and education is an integral part of developing a Combined Sewer Overflow Long Term Control Plan. During the development of its LTCP Huntington formed a Citizens Advisory Committee (CAC) and developed a presentation to educate the public about Combined Sewer Overflows.

A. Citizen's Advisory Committee

The Citizens Advisory Committee was organized with the intent of receiving input from citizens and convey it to the administration. The responsibilities of the CAC are as follows:

- Review the Indiana Department of Environmental Management's (IDEM) Combined Sewer Overflow Long Term Control Plan Use Attainability Analysis Guidance Document.
- Determine if sensitive areas exist within the receiving streams impacted by the City's CSO discharges.
- Evaluate suggested CSO reduction alternatives.
- Recommend a plan of action and an implementation schedule for the City's LTCP.
- Communicate the terms of the LTCP to the public.

The current members of the CAC and their occupation are listed in **Table 6-1**.

Table 6-1 Citizens Advisory Committee Members

Name	Street Address	Occupation
Claudette Bangs	449 N. Jefferson St.	Business Owner
Michael Barton	1607 Etna Ave.	Past Highway Director
Barry Christian	323 West Park Dr.	Sales
Steve Davidson	1121 Cherry St.	Retired
Debbie Dyer	1030 Saint Felix Dr.	Lafontaine Arts Council
Steve Hacker	4 Meadows Page.	NA
Scott Harvey	3102 Brampton Dr.	NA
Cyndy Pressler	NA	NA
Brenda Williams	58 Madison St.	Realtor

B. Meeting Summaries

1. CAC Meeting No. 1 – May 19, 2008

CAC Meeting No. 1 was held on May 19, 2008. This meeting included an overview of Huntington combined sewer system, the impact of combined sewer overflows , previously completed sewer projects, the requirements of the LTCP process and the State Judicial Agreement, and the role of the CAC. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

2. CAC Meeting No. 2 – July 21, 2008

CAC Meeting No. 2 was held on July 21, 2008. This meeting began with a brief summary of the discussion from the previous meeting. Additional details were provided about the responsibilities of the CAC and there was a more detailed discussion of the existing combined sewer system and CSOs. The members were asked to identify potential sensitive areas and their possible existing uses. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

3. CAC Meeting No. 3 – September 15, 2008

CAC Meeting No. 3 was held on September 15, 2008. This meeting began with a summary of the previous meeting's discussion. During this meeting the discussion of sensitive areas continued. A field investigation was conducted to identify additional sensitive areas that were not identified at the previous meeting. The members were asked about the potential existing uses of these areas. An brief discussion was held about the presumptive and the demonstrative approach. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

4. CAC Meeting No. 4 – November 17, 2008

CAC Meeting No. 4 was held on November 17, 2008. The meeting began with a summary of the previous meeting's discussion. At this meeting potential types of technologies were discussed that might be incorporated into the LTCP. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

5. CAC Meeting No. 5 – January 19, 2009

CAC Meeting No. 5 was held on January 19, 2009. The meeting began with a summary of the previous meeting's discussion. This meeting provided an a summary of all of the previous CAC meetings. It also discussed the sewer separation projects that would be beginning shortly. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

6. CAC Meeting No. 6 – September 21, 2009

CAC Meeting No. 6 was held on September 21, 2009. The meeting began with a summary of the previous meeting's discussion. At this meeting the alternatives that were developed were presented to the members along with costs and rate increases associated with each project. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

7. Board of Works meeting No. 1– October 5, 2009

At the regularly scheduled Board of Works meeting on October 5, 2009 a brief presentation was given about the current status of the LTCP and the proposed alternatives. A copy of the meeting minutes is included in **Appendix 6**.

8. CAC Meeting No. 7 – October 26, 2009

CAC Meeting No. 7 was held on October 26, 2009. The meeting began with a summary of the previous meeting's discussion. At this meeting the CAC members drafted their recommendation for Alternative 1A that would be presented to the administration. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

9. City Council Meeting– October 27, 2009

At the regularly scheduled City Council meeting on October 27, 2009 a brief presentation was given about the current status of the LTCP and the proposed alternatives. A copy of the meeting minutes is included in **Appendix 6**.

10. Public Meeting – November 5, 2009

A public meeting was held to inform the public about the LTCP and the recommended alternative. At this meeting a presentation was given about the development of the LTCP and the alternative that was recommended by the Citizen's Advisory Committee. All question and concerns that were raised by citizens in attendance were addressed. A copy of the sign in sheet, meeting minutes, and all handouts from this meeting are included in **Appendix 6**.

11. Board of Works meeting No. 2– November 16, 2009

At the regularly scheduled Board of Works meeting on November 16, 2009 the recommendation of the CAC was presented and accepted by the Board of Works. The Board gave permission to submit the LTCP. A copy of the meeting minutes from this meeting is included in **Appendix 6**.

12. Future meetings

The City intends to maintain a CAC while the LTCP is implemented. This will enable the projects to address the communities concerns. CAC meetings will be held annually to review the current status of projects and upcoming projects. While projects are being designed CAC meetings may be held more frequently.

C. Public Education

In addition to the Citizen's Advisory Committee, the City will be implementing an educational program for the local community. Huntington will invite the public to an annual meeting to discuss the current status of the LTCP and any possible changes to the plan. The meeting locations and dates will be posted in the local newspaper and advertised accordingly. The reasoning behind the LTCP will be discussed and all questions will be addressed. In addition to this annual meeting, the City has a contact number posted at all of the CSO locations that can be used to provide additional information to concerned citizens

CHAPTER 7 FINANCIAL CAPABILITY

The CSO control alternatives have to be evaluated based on the financial burden that each one would impose upon the residents of Huntington. IDEM recommends following a two-phase approach as outlined in *Guidance for Financial Capability Assessment and Schedule Development* (EPA March 1997). This guidance document contains ten worksheets that were used to determine the financial capability of Huntington. **Appendix 7** contains these worksheets.

Phase one of this approach requires a simple computation to relate the LTCP cost per household to the City's median household income (MHI). Phase two examines several socio-economic factors for the community to determine its overall financial health.

A. Wastewater Cost Per Household (WW_{CPH})

Worksheet 1 in **Appendix 7** is used to calculate the cost per household due to existing wastewater treatment costs and the LTCP costs. Implementing the LTCP would result in an annual residential WW_{CPH} of $1,067 per year ($89 per month). This is based upon all projects being funded with an interest rate of 6% and 5,955 residential customers.

Worksheet 2 in **Appendix 7** calculates the residential indicator, which relates the annual WW_{CPH} to the median household income. It estimates the current MHI based upon 2000 Census data and the Consumer Price Index (CPI). The MHI in 2000 was $35,600. Between 2000 and 2009 the CPI increased by an average of 2.4% per year. This was used to adjust the MHI to 2009. The WW_{CPH} was then calculated based upon the 2009 MHI. The result is that the WW_{CPH} is 2.41% of the MHI.

B. Financial Capability Analysis (SEIM)

The length of a community's implementation schedule is also dependent on several socio-economic factors. Each socio-economic criteria is evaluated and given a score of weak = 3, mid-range = 2, or strong = 1 when compared to a benchmark. The scores are then tabulated and averaged. The average score helps determine the overall socio-economic impact and the length of time a community has to implement the projects.

1. Bond Rating

   Worksheet 3 in **Appendix 7** evaluated Huntington's bond rating. The City of Huntington does not have a bond rating so an evaluation is not possible.

2. Overall Net Debt Per Capita

   Worksheet 4 in **Appendix 7** evaluated the net debt per capita. The evaluation resulted in a net debt of $2,065 per capita. This received a score of "mid-range".

3. Average Unemployment Rate

   Worksheet 5 in **Appendix 7** evaluated the average unemployment. The evaluation was from January 2009 thru September 2009. The City of Huntington had an average unemployment rate of 14.3% and the national average was 8.9%. Unemployment information was obtained from the Indiana Department of Workforce Development. This receives a score of "weak" because the City's unemployment rate exceeds the national average by more than 1%.

4. Median Household Income

   Worksheet 6 in **Appendix 7** compared Huntington's median household income to the national median household income. The comparison showed that the City's median household income is 15% below the national average. This received a score of "mid-range".

5. Property Tax Revenue as a Percent of Full Market Value

   Worksheet 7 in **Appendix 7** compared the total property tax revenue collected to the full market property value. The total property value for the City for the period "pay 2009" was $408,979,246 (Huntington County Assessor's Office). The total property tax revenue collected for period "pay 2009" was $13,688,434 (Huntington County Treasurer's Office). The property tax revenue as a percentage of full market value is 3.3%. This received a score of "mid-range".

6. Property Tax Revenue/Total Property Value

   Worksheet 8 in **Appendix 7** determined the total property tax revenue collection rate. The total property taxes levied for the City for the period "pay 2009" was $15,687,424 (Huntington County Treasurer's Office). The total property tax revenue collected for period "pay 2009" was $13,688,434 (Huntington County Treasurer's Office). The property tax revenue collection rate was 87.3% for the period "pay 2009". This received a score of "weak".

7. Financial Capability Matrix

Worksheet 9 in **Appendix 7** calculated the average score for each of the above socio-economic indicators. The average score is 2.4.

Worksheet 10 in **Appendix 7** used the average socio-economic indicator score and the WW_{CPH} to assign a level of burden. A burden is assigned by using a financial capability matrix, like the one below, and the average socio-economic indicator score along with the WW_{CPH}.

Table 7-1
Financial Capability Matrix and Implementation Schedule

S-E Indicator Score	WW_{CPH} Below 1%	WW_{CPHI} 1% to 2%	WW_{CPHI} Above 2%
Above 2.5	Medium	High	High
1.5 to 2.5	Low	Medium	**High**
Below 1.5	Low	Low	Medium

Length of Time for LTCP Implementation Schedule
High = 10-20 years
Medium = 5-10 years
Low = 5 years

Since the LTCP is categorized as a high burden on the community it allows 10-20 years to implement the LTCP projects. Based upon the amount of work required by the plan, it would be beneficial to the community to have a total length of time closer to 20 years to complete all projects. A length of 16 years (2010-2026) is requested to implement the projects. The additional time would allow for flow monitoring so that the next downstream project can be sized correctly to avoid increased construction costs due to oversizing of pipes and facilities.

A municipal bond sale or a low interest loan through the SRF program will be necessary to finance the projects because there will not be enough time to save enough money to finance all of the projects.

CHAPTER 8 RECOMMENDED ALTERNATIVE AND IMPLEMENTATION SCHEDULE

Each alternative was evaluated to identify which was the most cost effective. **Figure 5-7** was generated and shows the total capital cost for each alternative plotted against the predicted number of CSO events.

Alternative 1A is the recommended alternative because it satisfies the design storm approach and results in a WW_{CHPI} just over 2% (2.41%). It provides a significant level of CSO control, but lessens the economic impact on residents. This alternative will meet the 1-year, 1-hour and the 10-year, 1-hour design storm criteria as outline in IDEM's CSO Treatment Facilities Nonrule Policy Document Water-016. Implementation will result in no overflows from wet weather events below the 1-year, 1-hour storm. Additionally, no overflows will occur between the 1-year, 1-hour storm and the 10-year, 1-hour storm except for flows treated by the wet weather treatment process.

Table 8-1 is the proposed implementation schedule for Alternative 1A based upon an implementation schedule of 16 years. The projects are ordered so that the projects that provide the greatest reduction in CSO volume will occur first. Additionally, by implementing the projects in the order outlined, it will be possible to minimize the cost for subsequent more costly projects by allowing for a period of flow monitoring. Implementation of this alternative will not require a Use Attainability Analysis, since it satisfies the requirements of the design storm approach.

If the City must implement the projects in less than 16 years, then the projects will still occur in the same order, but at an accelerated rate. Constructing all projects in such a short time would potentially result in additional expense because treatment and collection systems would potentially be oversized. Oversizing of pipes is more likely to occur when sufficient time is not allowed for flow monitoring. It would be in the City's best interest to have as much time as possible to construct the project to minimize expense and disruption to citizens.

Table 8-1 details the capital cost and operation and maintenance for each alternative. A budget for green infrastructure projects is included with each project. Each project should be evaluated for the possible inclusion of green opportunities. If it is not possible to incorporate green opportunities into each project, then the budgeted funds will be rolled into the subsequent green budget. It's also possible to reallocate budgeted funds from the budget of a future green project if a significant opportunity exists.

Table 8-1 Project Implementation Schedule

Year	Projects	Capital Cost	Operation and Maintenance
2009	No Project - Monitoring Only	$30,000	$0
2010	WWTP Improvements Phase I (Membrane Bioreactor, Sludge Thickener, Biosolids Storage Building, Septage Receiving Facility, Screens, North Anaerobic Digester Cover)	$9,000,000	$30,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2011	No Project - Monitoring Only	$30,000	$0
2012	Interceptor - Segment #2 (CSO 007 to Lafontaine St. and Liftstation)	$1,100,000	$30,000
	Interceptor - Segment #3 (CSO 005 to Lafontaine St. LS and LS Improvements	$5,900,000	
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2013	No Project - Monitoring Only	$30,000	$0
2014	Rabbit Run Phase I (Screens, 55 MGD Pumps, 5.0 MG EQ Basin)	$9,300,000	$50,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2015	No Project - Monitoring Only	$30,000	
2016	Replacement of CSO Flap Gates	$500,000	$5,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2017	No Project - Monitoring Only	$30,000	$0
2018	WWTP Improvements Phase II (South Anaerobic Digester Cover, WWTP Effluent Pumps)	$4,500,000	$30,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	

(Continues on next page)

Table 8-1 Project Implementation Schedule (continued)

Year	Projects	Capital Cost	Operation and Maintenance
2019	No Project - Monitoring Only	$30,000	$0
2020	Interceptor - Segment #1 (CSO 008 to CSO 003)	$900,000	$1,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2021	No Project - Monitoring Only	$30,000	$0
2022	Interceptor - Segment #5 (CSO 015 to CSO 003)	$4,200,000	$5,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2023	No Project - Monitoring Only	$30,000	$0
2024	Interceptor - Segment #4 (CSO 003 to WWTP)	$11,200,000	$0
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
2025	No Project - Monitoring Only	$30,000	$0
2026	Rabbit Run Phase II (35 MGD Pump and 5 MG EQ Basin, Wet Weather Treatment [high rate clarification, wetlands treatment, and UV disinfection]	$14,400,000	$360,000
	Green Infrastructure ($2,000,000 Total)	$225,000	
	Monitoring	$30,000	
Total		**$64,000,000**	**$510,000**

**Note: Citizen's Advisory Committee meetings will be held annually to review the current status of the LTCP. More frequent meetings should be held as necessary.*

***Note: The wetlands treatment system may be eliminated in the future depending on the capacity of the WWTP to treat volume of the 1-year, 1-hour storm.*

****Note: The total cost for monitoring is estimated to be $500,000.*

CHAPTER 9 POST-CONSTRUCTION COMPLIANCE PLAN

The purpose of the Post-Construction Compliance Monitoring Program is to determine the effectiveness of the CSO controls proposed in the Long Term Control Plan following implementation.

The Post-Construction Compliance Monitoring Program proposed for Huntington consists of the following components:

- Flow/Rainfall monitoring
- Stream sampling
- Rainfall Monitoring
- Data Analysis
- Record keeping and reporting

A. Flow/Rainfall Monitoring

The City has installed flow meters at 8 of 15 CSO's. Pump station flow rates will be calculated based upon the pump rate and the time of operation for each station.

Rainfall data will be obtained from the four rain gauges that are installed at the WWTP, Broadway Lift Station, Carlisle Lift Station, and the River Fork Lift Station.

B. Sampling

Steam sampling will be necessary to show that the water quality of the Wabash and Little River is improving due to the implementation of CSO control projects. The pollutant parameter that the City will use to measure water quality improvements will be *E. coli.* The findings of Stream Reach Characterization and Evaluation Report were that even during dry weather the Little River and Flint Creek do not meet water quality goals.

Samples from the Little River and Flint Creek will be collected upstream and downstream of Huntington periodically during dry weather to establish a baseline condition. Sampling should also be taken when it is believed that a CSO might occur so that data is available to analyze how the overflow affected water quality.

CSOs should also be monitored for e.coli, BOD_5, and TSS when wet weather flows exceed the 10-yr, 1-hr storm. This data should be recorded to show how the overflow affected the water quality of the water bodies.

C. Data Analysis

The City has developed a model for the combined sewer system. After implementation of all LTCP projects the model will be utilized to document compliance with the design storm approach.

During the implementation of LTCP projects the model will need to be updated on a yearly basis. The method for updating the model is:

1. Collect 12-months of rainfall and CSO monitoring data.
2. Evaluate the data for completeness and accuracy.
3. Input the 12-months of rainfall data into the model. Estimate the total CSO discharge predicted by the model.
4. Evaluate if the model needs to be recalibrated by comparing the CSO discharges predicted by the model to those actually observed. The model will not require recalibration if the accuracy of the model is equal to or greater than what was achieved for the pre-LTCP conditions. If the accuracy is less, then recalibration will be required.
5. Model recalibration can be accomplished by selecting three or more appropriate rain events from the 12-months of monitoring data. Then, the model should be calibrated for each of these events so that it closely matches the CSO monitoring data. Once it is calibrated individually an aggregate calibration should be developed. Sound engineering judgment should be used when adjusting the model parameters.
6. The recalibration should be verified by using the 12-months of monitoring data. If the model does not meet or exceed the accuracy of the pre-LTCP model, then further recalibration is required. The predicted CSO overflow should be within 20% of what was actually recorded.

Once all LTCP projects are implemented the model should be recalibrated based upon one year of monitoring data. This will be the final model that is used to document compliance with the design storm approach.

D. Record Keeping and Reporting

The City will continue to submit the NPDES CSO Monthly Discharge Monitoring Reports (DMRs) on a monthly basis, reporting all CSO discharges. Using this form, the City will continue to record the duration and quantity of each precipitation event that causes an overflow event. A list of all active CSOs will be recorded for each event. For each of these CSOs, the date of the overflow will be listed along with the estimated start time, the event duration, and the event volume. The continual tracking of this data will also help the City in tracking the effectiveness of the control measures.

Once a project that affects a CSO is completed a report will be generated and submitted to U.S. EPA and IDEM. This report would be submitted within two years of project completion. Two years is necessary because the CSO would be monitored to demonstrate how the project affected the CSO.

The report should also describe the how this project has affected the overall water quality. Also included should be a discussion of the overall performance of the CSO control project, if there are any factors that may result in the project not performing as anticipated, methods to achieve the required level of performance, and any updates to the other CSO projects.

Appendix 1

State Judicial Agreement

STATE OF INDIANA) IN THE HUNTINGTON CIRCUIT COURT
) SS:
COUNTY OF HUNTINGTON) CAUSE NO. 35C010709 CC534

COMMISSIONER, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, Plaintiff,	)
v.	)
CITY OF HUNTINGTON, Defendant.	)

AGREED JUDGMENT

WHEREAS, concurrent with the filing of this Agreed Judgment, Plaintiff, the Commissioner of the Indiana Department of Environmental Management ("IDEM") has filed a complaint (the "Complaint") in this civil action against the Defendant, the City of Huntington ("City"), in connection with the City's operation of its municipal wastewater and sewer system. The Complaint alleges that the City is in noncompliance with Title 13 of the Indiana Code, Title 327 of the Indiana Administrative Code Articles 2 and 5, and the City's National Pollutant Discharge Elimination System permit, including Attachment A (hereinafter collectively referred to as the "NPDES Permit") issued by IDEM pursuant to the Clean Water Act ("CWA"). IDEM seeks injunctive relief for the alleged noncompliance.

WHEREAS, the City denies any liability to IDEM arising out of the transactions or occurrences alleged in the Complaint.

WHEREAS, the City has made substantial progress toward compliance with Title 13 of the Indiana Code, Title 327 of the Indiana Administrative Code Articles 2 and 5, NPDES Permit, and the CWA, through numerous projects that have been completed over the last several years including projects listed in the Background Section of this Agreed Judgment.

WHEREAS, the City, owns and operates a wastewater collection system comprised of combined and sanitary sewers, which includes fifteen (15) combined sewer overflow ("CSO") outfalls, and the Huntington municipal wastewater treatment plant located at 20 Hitzfield Street Extended in Huntington, Indiana. The City is authorized by NPDES Permit No. IN0023132, to discharge wastewater to the receiving waters, the Little River and Flint Creek, in accordance with effluent limitations, monitoring requirements, and other conditions contained in the NPDES Permit.

WHEREAS, the NPDES Permit identifies fifteen (15) CSO outfalls in the City's sewage collection system, identified as Outfall Nos. 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015 and 016.

WHEREAS, IDEM records for the last three (3) years indicate that the City has reported discharges from CSO Outfalls listed in the NPDES Permit. All discharges were due to wet weather events. Such discharges were not provided with treatment, and therefore allegedly violated or threatened to violate the narrative effluent limitations contained in the NPDES Permit.

WHEREAS, Pursuant to the NPDES Permit, the City was required to submit to IDEM, a CSO Long-Term Control Plan ("LTCP"). The City has been working with IDEM in an effort to have a LTCP approved that contains, among other elements, the following:

a. a description of the control/treatment measures that will be implemented by the City so that discharges from its CSO outfalls comply with the water quality based and technology based requirements of the CWA and State law, along with a schedule, that includes specific milestone dates, for implementation of the control/treatment measures; and

b. a description of the post-construction compliance monitoring program that will be implemented by the City in order to determine whether the control/treatment measures, upon implementation, are adequate to comply with the water quality-based and technology-based requirements of the CWA and State law, along with a schedule, that includes specific milestone dates for implementation of the post-construction compliance monitoring program.

WHEREAS, the City has submitted to IDEM, and IDEM has accepted, the Work Plan included as Attachment 1 to this Agreed Judgment. The Work Plan contains tasks and a schedule for revising the LTCP and submitting a final LTCP.

WHEREAS, the Parties agree and the Court, by entering this Agreed Judgment, finds, that settlement of these matters, without protracted litigation, is fair, reasonable, and in the public interest.

NOW THEREFORE, before the taking of any testimony, without any admission by the City of any facts beyond those that the Parties have explicitly agreed to in this Agreed Judgment, and with the consent of the Parties, it is hereby ORDERED:

BACKGROUND

- Joe Street Project Phase I – approximately 6000' of storm sewer and road reconstruction on south side of City (outfall w/10' box culvert mainline).
- Joe Street Phase II – approximately 2700' of storm sewer and road reconstruction on the south side of City (10' box culvert mainline then reduced down).
- South Side Storm Sewer Phase I – approximately 2200' of storm sewer separation on south side of City.
- South Side Storm Sewer Phase II – approximately 1100' of storm sewer separation on south side of City.

- South Side Storm Sewer Phase IIA – approximately 1200' of storm sewer separation on south side of City.
- NE Storm Sewer Project – storm sewer separation of approximately 160 acres of the NE part of the City.
- Purchase of "Lagoon Property" – after initial filing of LTCP the City purchased approximately 20 acres on the south side of the Little River, across from WPC, to collect all "overflow" from south side of City to treat.

JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action pursuant to Ind. Code §§ 13-30-4-1 and 13-14-2-6. The Complaint states claims upon which relief can be granted under Title 327 of the Indiana Administrative Code, Articles 2 and 5. Venue is proper in this Court as the City of Huntington is located in Huntington County.

APPLICABILITY

2. The provisions of this Agreed Judgment shall apply to and be binding upon the State of Indiana, and the City and its officers, directors, agents, employees, successors, contractors and assigns and any person having notice of this Agreed Judgment who is, or will be acting on behalf of or in concert or participation with the City. The City shall provide a copy of this Agreed Judgment to any successor in interest at least thirty (30) days prior to transfer of that interest, and simultaneously shall verify in writing to IDEM that such notice has been given. Any sale or transfer of the City's interests in its wastewater treatment facilities shall not in any manner relieve the City of its responsibilities for meeting the terms and conditions of this Agreed Judgment. In any action to enforce this Agreed Judgment, the City shall not raise as a defense

the failure by any of its officers, directors, agents, employees, successors, assigns or contractors to take actions necessary to comply with the Agreed Judgment.

OBJECTIVE

3. All plans, measures, reports, construction, maintenance, operational requirements and other obligations in this Agreed Judgment or resulting from the activities required by this Agreed Judgment shall have the objective of allowing the City to achieve and maintain compliance with applicable State law and the terms and conditions of the City's NPDES Permit.

REVISION OF LONG TERM CONTROL PLAN

4. The City shall revise the LTCP. The LTCP shall provide for the construction and implementation of all facility and sewer system improvements and other measures necessary so that CSO discharges from all CSO discharge outfalls comply with the technology based and water quality based requirements of the CWA, state law and regulation, and the City's NPDES Permit.

5. The City shall submit the revised LTCP in accordance with the schedule set forth in Attachment 1, which is a Work Plan prepared by the City and approved by IDEM. The Work Plan describes the tasks required and the schedules for revising and submitting for approval the LTCP. The City may seek to amend or revise the Work Plan in accordance with applicable laws, rules, policy and this Agreed Judgment. Upon the City's receipt of IDEM's approval of any amendment or revision to the Work Plan, or upon resolution of any disputes pursuant to the Dispute Resolution provisions of this Agreed Judgment concerning a proposed revision to the Work Plan, the revised Work Plan (including any additional post-construction monitoring and modeling) shall supersede the schedule contained in Attachment 1, any previously revised Work Plan, or any previously-approved extension of deadlines, and the City shall implement the

revised Work Plan (including any additional post-construction monitoring and modeling that may be included in the revised Work Plan) in accordance with the schedule in the approved revised Work Plan. Upon the City's receipt of IDEM's approval of the LTCP, the schedule contained in the approved LTCP shall supersede the attached Work Plan and any revisions thereto.

COMPLIANCE AND IMPLEMENTATION OF THE APPROVED LONG TERM CONTROL PLAN

6. The City shall comply with 327 IAC 5-2-8(1), 327 IAC 2-1-6(a)(1), IC 13-18-4-5, IC 13-30-2-1, and all parts of the NPDES Permit.

7. Beginning on the Effective Date of this Agreed Judgment, and continuing during revision and implementation of the LTCP pursuant to this Agreed Judgment, the City shall, at all times, operate its sewage collection system and wastewater treatment system as efficiently and effectively as possible.

8. Upon approval by IDEM, the City shall implement the LTCP, in accordance with the implementation schedule specified in the approved LTCP. In the event that the implementation schedule determined by the approved LTCP is before September 31, 2029, the date in the approved LTCP shall apply.

9. The City may seek to amend or revise the approved LTCP in accordance with applicable laws, rules, policy and this Agreed Judgment. Upon the City's receipt of IDEM's approval of any amendment or revision to the LTCP, or upon resolution of any disputes pursuant to the Dispute Resolution provisions of this Agreed Judgment concerning a proposed revision to the LTCP, the revised LTCP (including any additional post-construction monitoring and modeling) shall supersede the schedule contained in any previously approved LTCP or revised LTCP, or any previously-approved extension of deadlines, and the City shall implement the

revised LTCP (including any additional post-construction monitoring and modeling) in accordance with the schedule in the approved revised LTCP.

IDEM APPROVAL OF SUBMISSIONS

10. The City shall notify IDEM, in writing, within thirty (30) days of completion of each action or milestone contained in Attachment 1 or any subsequent Work Plan and any task or plan approved by IDEM pursuant to this Agreed Judgment. The notification shall include a description of the action completed and the date it was completed, and a progress report that contains a summary of the activities undertaken to complete the task. The City shall respond to any IDEM comments regarding the report, within the timeframe required by IDEM. The Parties agree that IDEM shall provide a reasonable response time and that the City may, for cause, request a reasonable extension thereof.

11. In the event that the City is unable to complete a task as specified in the Work Plan, the City shall notify IDEM in writing no later than fourteen (14) days prior to the task deadline. This notification shall include a description of the task, justification for why the deadline will be missed and a Task Compliance Plan ("Task CP") that includes a new deadline.

12. The City, upon receipt of written notification from IDEM of approval of the Task CP, shall immediately implement the approved Task CP and adhere to the schedules contained herein. The approved Task CP shall be incorporated into this Agreed Judgment and shall be deemed an enforceable part thereof.

13. Within sixty (60) days after completion of each post-construction monitoring phase of the approved LTCP, the City shall submit to IDEM, for review and approval, a report that contains a summary of the data gathered as a result of the post-construction compliance monitoring and an evaluation of the success of the phase in meeting the goals of the LTCP. The

City shall respond to any IDEM comments regarding the report, within the timeframe required by IDEM. The Parties agree that IDEM shall provide a reasonable response time and that the City may, for cause, request a reasonable extension thereof.

14. Upon implementation of the approved LTCP, in the event that data resulting from CSO monitoring or other information indicates that the approved TCP is not adequate to comply with the technological and water quality based requirements of the CWA, the City shall, within ninety (90) days of becoming aware of such inadequacy, develop and submit to IDEM, for approval, a CSO Compliance Plan ("CSO CP") that identifies (a) additional measures that will be implemented by the City; and (b) the post-construction compliance monitoring program that will be implemented by the City in order to determine whether the additional measures, upon implementation, are adequate, along with a schedule, that includes specific milestones.

15. The CSO CP is subject to IDEM approval. Following receipt of the CSO CP, IDEM may, in writing (a) approve all of or any portion of the CSO CP; (b) approve all or a portion of the CSO CP upon specified conditions; (c) disapprove of all or any portion of the CSO CP, notifying the City of deficiencies in the CP and granting the City additional time within which to correct the deficiencies; (d) modify the submission to correct deficiencies; or (e) reject all or any portion of the CP.

16. The City, upon receipt of written notification from IDEM of approval of the CSO CP, shall immediately implement the approved CSO CP and adhere to the schedules contained therein. The approved CSO CP shall be incorporated into this Agreed Judgment, superseding those portions addressing the same issues, and shall be deemed an enforceable part thereof.

17. In the event that a Use Attainability Analysis ("UAA") is denied, the City shall, within ninety (90) days, develop and submit to IDEM, for approval, a CSO CP as stated above in Paragraphs 14, 15, and 16.

18. The provisions of Order Paragraphs 14, 15, and 16 shall continue to apply until post-construction monitoring indicates to IDEM that water quality standards are being met.

FUNDING

19. The City may seek all reasonable means of funding, including Federal and State grant funding assistance. However, compliance with the terms of this Agreed Judgment is not conditioned on the receipt of Federal or State funds. In addition, failure to comply is not excused by the lack of Federal or State funds, or by the processing of any applications for the same.

COMMUNICATIONS

20. All submittals required by this Order, unless notified otherwise in writing, shall be sent to:

Cyndi Wagner, Chief, Wet Weather Section
Indiana Department of Environmental Management
Office of Water Quality – Mail Code 65-42
100 North Senate Avenue
Indianapolis, IN 46204-2251

STIPULATED PENALTIES

21. In the event the terms and conditions of the following Agreed Judgment paragraphs are violated, the IDEM may assess and the City shall pay a stipulated penalty in the following amount:

Order Paragraph Number	*Violation*	Penalty Amount
5	Failure to develop the LTCP and adhere to the milestone dates set forth in the schedule in Attachment 1 or the schedule then in effect.	$500 per each week or part thereof late

8	Failure to implement the approved LTCP and adhere to the milestone dates set forth in the schedule in the approved LTCP.	$500 per each week or part thereof late
10	Failure to notify IDEM, in writing, within thirty (30) days of completion of each action contained in the approved LTCP and any plan approved by IDEM pursuant to this Agreed Judgment.	$250 per each week or part thereof late
10	Failure to timely submit report.	$500 per each week or part thereof late
10	Failure to timely address any IDEM comments within the applicable timeframe set by IDEM.	$500 per each week or part thereof late
14	Failure to timely submit a complete and sufficient CSO CP.	$500 per each week or part thereof late
15	Failure to timely revise and resubmit the CSO CP in accordance with written notice by IDEM.	$500 per each week or part thereof late
16	Failure to comply with any milestones contained in the schedule set forth in the approved CSO CP.	$500 per each week or part thereof late

22. Stipulated penalties shall be due and payable within thirty (30) days after the City receives written notice that the IDEM has determined a stipulated penalty is due. Assessment and payment of stipulated penalties shall not preclude the IDEM from seeking any additional non-monetary relief against the City for violation of the Agreed Judgment. In lieu of any of the stipulated penalties given above, the IDEM may seek any other remedies or sanctions available by virtue of the City's violation of this Agreed Judgment, or Indiana law, including but not limited to civil penalties pursuant to IC 13-30-4.

23. Stipulated penalties are payable by check to the Environmental Management Special Fund. Checks shall include the Case Number of this action and shall be mailed to:

Indiana Department of Environmental Management
Cashiers Office – Mail Code 50-10C
100 N. Senate Avenue
Indianapolis., IN 46204-2251

24. In the event that any stipulated amount assessed pursuant to Paragraph Nos. 21 and 22 is not paid within thirty (30) days of notice that it is due, the City shall pay interest on the unpaid balance at the rate established by IC 24-4.6-1-101. The interest shall continue to accrue until the stipulated penalty is paid in full.

FORCE MAJEURE

25. If any event occurs that causes or may cause the City to violate any provision or requirement of this Agreed Judgment, the City shall notify IDEM in writing within fourteen (14) days from the date the City first knew, or in the exercise of reasonable diligence should have known, that compliance with the Agreed Judgment would be prevented or delayed. The notice shall reference this Section of the Agreed Judgment and shall describe in detail the anticipated length of time the violation may persist, the precise cause or causes of the violation, the measures taken or to be taken by the City to prevent or minimize the violation and the timetable by which those measures will be implemented. The City shall adopt all reasonable measures to avoid or minimize any such violation. The City shall make all reasonable efforts to identify events that cause or may cause a violation of this Agreed Judgment. Failure by the City to comply with the notice requirements of this Paragraph shall constitute a waiver of the City's rights to obtain an extension of time or other relief under this Section based on such incident.

26. If IDEM agrees that the violation has been or will be caused by circumstances beyond the control of the City or any entity controlled by it, including its consultants and contractors, and that the City could not have prevented such violation, the time for performance of the requirement in question shall be extended for a period not to exceed the actual delay resulting from such circumstance, and stipulated penalties shall not be due for such delay or non-compliance. In the event IDEM does not agree that the violation was caused by circumstances

beyond the control of the City and notifies the City of such determination, the City may invoke the dispute resolution provisions in this Agreed Judgment.

27. If the City invokes dispute resolution and IDEM or the Court determines that the violation was caused by circumstances beyond the control of the City or any entity controlled by it, and that the City could not have prevented such violation, the City shall be excused as to that violation, but only for the period of time the violation continues due to such circumstances.

28. The City shall bear the burden of proving that any delay or violation has been or will be caused by circumstances beyond its control, and that the City could not have prevented such violation, as set forth above. The City shall also bear the burden of establishing the duration and extent of any delay or violation attributable to such circumstances, that such duration or extent is or was warranted under the circumstances and that, as a result of the delay, a particular extension period is appropriate. An extension of one compliance date based on a particular circumstance beyond the City's control shall not automatically extend any subsequent compliance date or dates.

29. Changed financial circumstances, unanticipated, increased costs or expenses associated with implementation of this Agreed Judgment shall not serve as a basis for excusing violations or granting extensions of time under this Agreed Judgment, except as expressly provided in Force Majeure.

30. Failure to apply for a required permit or approval or to provide in a timely manner all information required to obtain a permit or approval that is necessary to meet the requirements of this Agreed Judgment shall not, in any event, serve as a basis for excusing violations of or granting extensions of time under this Agreed Judgment. However, a permitting authority's

failure to act in a timely manner on an approvable permit application may serve as a basis for an extension under the force majeure provisions of this Agreed Judgment.

31. The City shall make a showing of proof regarding the cause of each delayed incremental step or other requirement for which an extension is sought. The City may petition for the extension of more than one compliance date in a single request.

DISPUTE RESOLUTION

32. This Court shall retain jurisdiction of this matter for the purposes of implementing and enforcing the terms and conditions of this Agreed Judgment and for the purpose of adjudicating all disputes among the Parties that may arise under the provisions of this Agreed Judgment. Any dispute that arises with respect to the meaning, application, implementation, interpretation, amendment or modification of this Agreed Judgment, or with respect to the City's compliance herewith (including the adequacy of the City's performance of the control measures and adequacy of the submittals required by this Agreed Judgment) or any delay hereunder, the resolution of which is not otherwise expressly provided for in this Agreed Judgment, shall in the first instance be the subject of informal negotiations. If any Party believes it has a dispute with any other Party, it shall notify all the other Parties in writing, including notice to the Indiana Attorney General, setting forth the matter(s) in dispute, and the Parties will proceed initially to resolve the matter in dispute by informal means. Such period of informal negotiations shall not exceed thirty (30) days from the date the notice was sent, unless the Parties agree otherwise.

33. If the informal negotiations are unsuccessful, the position of the IDEM shall control unless, within twenty (20) days after the conclusion of the informal negotiation period, the City invokes the formal dispute resolution procedures of this Section by serving on IDEM a

written statement of position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation.

34. Within thirty (30) days of receiving the City's statement of position under Paragraph 33, the IDEM will serve on the City its written statement of position, including any supporting factual data, analysis, opinion, or documentation.

35. An administrative record of the dispute shall be maintained by IDEM and shall contain all statements of position, including supporting documentation, submitted pursuant to Paragraphs 33 and 34.

36. IDEM's statement of position shall be binding upon the City unless the City files a petition with the Court describing the nature of the dispute and a proposal for its resolution. The City's petition must be filed no more than twenty (20) days after receipt of IDEM's statement of position. IDEM shall then have thirty (30) days to file a response setting forth their position and proposal for resolution. In any such dispute, the petitioner shall have the burden of proof, and the standard of review shall be that provided by applicable law.

37. Submission of any matter to the Court for resolution shall not extend any of the deadlines set forth in this Agreed Judgment, unless the Parties agree to such extension in writing or the Court allows the extension upon motion.

38. Stipulated penalties with respect to any disputed matter (and interest thereto) shall accrue in accordance with Paragraphs 21 and 22; however, payment of stipulated penalties, and any accrued interest, shall be stayed pending resolution of the dispute, as follows:

(a) If the dispute is resolved by informal agreement before appeal to this Court, accrued penalties (and interest), if any, determined to be owed shall be paid within sixty (60) days of the agreement or the receipt of IDEM's final position in writing.

(b) If the dispute is appealed to this Court and the IDEM prevails in whole or in part, the City shall pay all accrued penalties (and interest) determined to be owed within sixty (60) days of the Court's decision or order.

(c) In the event of an appeal, the City shall pay all accrued penalties (and interest) determined to be owed within sixty (60) days after a final decision no longer subject to judicial review has been rendered.

RIGHT OF ENTRY

39. IDEM, and its representatives, contractors, consultants, and attorneys shall have the right of entry into and upon the City's waster treatment facility and sewer system, at all reasonable times, upon proper presentation of credentials, for the purposes of:

(a) Monitoring the progress of activities required by this Agreed Judgment;

(b) Verifying any data or information required to be submitted pursuant to this Agreed Judgment;

(c) Obtaining samples and, upon request, splits of any samples taken the City or its consultants. Upon request, the City will be provided with splits of all samples taken by the IDEM; and

(d) Otherwise assessing the City's compliance with this Agreed Judgment, the City's Current Permits, the CWA or applicable State law.

This Section in no way limits or affects any right of entry and inspection held by IDEM pursuant to applicable Federal or State laws, regulations, or permits.

applicable state law not specifically alleged in the Complaint filed herein, whether they occurred before or after the date of lodging of this Agreed Judgment.

48. The Parties agree that the City is responsible for achieving and maintaining complete compliance with all State laws, rules, and permits, and that compliance with this Agreed Judgment shall be no defense to any actions commenced by IDEM pursuant to said laws, regulations, or permits, except as set forth in this Agreed Judgment.

49. This Agreed Judgment does not limit or affect the rights of the Parties as against any third parties that are not Parties to this Agreed Judgment. The Parties recognize that this Agreed Judgment resolves only matters between IDEM and the City and that its execution does not preclude the City from asserting any legal or factual position in any action brought against it by any person or entity not a Party to this Agreed Judgment.

50. IDEM reserves any and all legal and equitable remedies available to enforce the provisions of this Agreed Judgment.

51. This Agreed Judgment shall not limit any authority of IDEM under any applicable statute or regulation, including the authority to seek information from the City, to require monitoring, to conduct inspections, or to seek access to the property of the City; nor shall anything in this Agreed Judgment be construed to limit the authority of IDEM to undertake any action against any person, including the City, in response to conditions that may present an imminent and substantial endangerment to the environment or to the public health or welfare.

52. Obligations of the City under the provisions of this Agreed Judgment to perform duties scheduled to occur after the signing, but prior to the date of entry, shall be legally enforceable from the date this Agreed Judgment is signed by the City. Liability for stipulated penalties, if applicable, shall accrue for violation of such obligations and payment of such

stipulated penalties may be demanded by the IDEM as provided in this Agreed Judgment. The contempt authority of this Court shall also extend to violations of such obligations.

COSTS OF SUIT

53. Each Party shall bear its own costs and attorneys' fees with respect to matters related to this Agreed Judgment.

MODIFICATION

54. Except as provided below, there shall be no material modification of this Agreed Judgment, Exhibits attached to this Agreed Judgment, or the submittals approved under this Agreed Judgment without written approval by the Parties and the Court. Any non-material modification of this Agreed Judgment, its Exhibits, or approved submittals shall be in writing and signed by the Parties. Any modifications to the attached Exhibits or subsequently approved submittals that are specifically allowed under the terms of those Exhibits or submittals may be made in accordance with the terms of those Exhibits or approved submittals. All modifications, whether material or non-material, shall be deemed an enforceable part of this Agreed Judgment.

CONTINUING JURISDICTION

55. The Court shall retain jurisdiction to enforce the terms and conditions and achieve the objectives of this Agreed Judgment and to resolve disputes arising hereunder as may be necessary or appropriate for the construction, modification, implementation or execution of this Agreed Judgment.

TERMINATION

56. Upon motion filed with the Court by IDEM or the City, the Court may terminate the terms of this Agreed Judgment after each of the following has occurred:

(a) The City has achieved compliance with all provisions contained in this Agreed Judgment, and subsequently has maintained satisfactory compliance with each and every provision for twelve consecutive months;

(b) The City has paid all penalties and other monetary obligations due hereunder and no penalties or other monetary obligations due hereunder are outstanding or owed to IDEM; and

(c) At least one hundred twenty (120) days prior to filing the motion, the City has certified to IDEM that it has complied with the terms of this Agreed Judgment and has provided sufficient documentation to IDEM to support its certification.

SIGNATORIES/SERVICE

57. The Indiana Deputy Attorney General signing this Agreed Judgment, on behalf of the State of Indiana and IDEM, and the undersigned representative of the City each certifies that he or she is authorized to enter into the terms and conditions of this Agreed Judgment and to execute and bind legally such Party to this document.

58. The Parties agree that the City need not file an answer to the Complaint in this action unless or until the Court expressly declines to enter this Agreed Judgment.

FINAL JUDGMENT

59. Upon approval and entry of this Agreed Judgment by the Court, this Agreed Judgment shall constitute the final judgment of the Court between IDEM and the City.

THE UNDERSIGNED PARTIES enter into this Agreed Judgment:

FOR THE STATE OF INDIANA
STEVE CARTER
Attorney General of Indiana

By: Sierra L. Cutts

Sierra L. Cutts, Deputy Attorney General
Office of the Attorney General
Indiana Government Center South, 5th Floor
302 West Washington Street
Indianapolis, Indiana 46204

DATED: 9-17-2007

FOR IDEM

Thomas W. Easterly

THOMAS W. EASTERLY, Commissioner
Indiana Department of Environmental Management
100 North Senate Avenue, IGCN 1301
Indianapolis, Indiana 46204

DATED: 9-20-2007

FOR THE CITY OF HUNTINGTON

Terry R. Abbett

Representative of City of Huntington

DATED: 9-11-2007

The Court finds there is no just reason for delay and therefore approves and enters this Agreed Judgment as a final judgment.

SO ORDERED this 21st day of September 2007.

Thomas M. Hakes

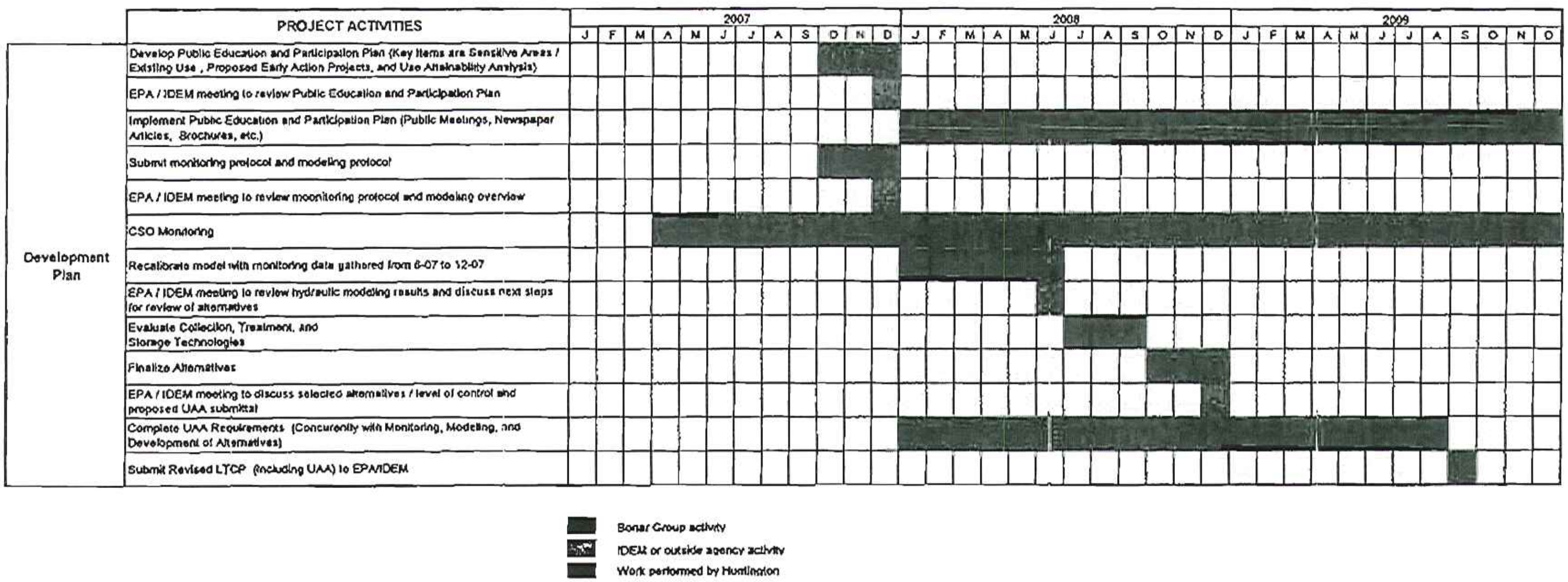
Judge, Huntington Circuit Court

Distribution:

Sierra L. Cutts, Indiana Attorney General's Office, 302 West Washington Street, IGCS, 5th Floor, Indianapolis, Indiana 46204

City Attorney, City of Huntington, Indiana, c/o Clerk-Treasurer, 300 Cherry Street, Huntington, Indiana 46750

Work Plan For Huntington Long Term Control Plan



STATE OF INDIANA COUNTY OF HUNTINGTON	)) SS:)	IN THE HUNTINGTON CIRCUIT COURT CAUSE NO. 35C01-0709-CC-00534

COMMISSIONER, INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT,

Plaintiff,

v.

CITY OF HUNTINGTON,

Defendant.

MOTION TO AMEND AGREED JUDGMENT

The Plaintiff, Commissioner, Indiana Department of Environmental Management ("IDEM"), by its counsel, Gregory F. Zoeller, Attorney General of Indiana, through Sierra L. Alberts, Deputy Attorney General, and the Defendant, the City of Huntington, by its counsel, Michael Hartburg, (hereinafter collectively referred to as the "Parties") respectfully move the Court to amend the Agreed Judgment entered into by the Parties and approved and ordered by this Court. In support of this motion, the Parties state as follows:

1. On or about September 21, 2007, this Court approved and entered the Agreed Judgment submitted by the Parties as a final judgment in this matter.

2. Attachment 1 to the Agreed Judgment contains a description of the approved work plan to develop the City's Long Term Control Plan ("LTCP").

3. Since the filing of the Agreed Judgment, the Parties have agreed to make certain revisions to the work plan which are consistent with the revised Attachment 1 that is attached hereto; therefore, the Parties request that the Agreed Judgment be amended by replacing Attachment 1 with the revised Attachment 1.

WHEREFORE, the Commissioner, Indiana Department of Environmental Management and the City of Huntington respectfully request that this Court amend the September 21, 2007 Agreed Judgment in this matter with the Attachment 1 attached to this motion, and for all other just and proper relief.

Respectfully submitted,

Michael Hartburg
Attorney for City of Huntington, Indiana

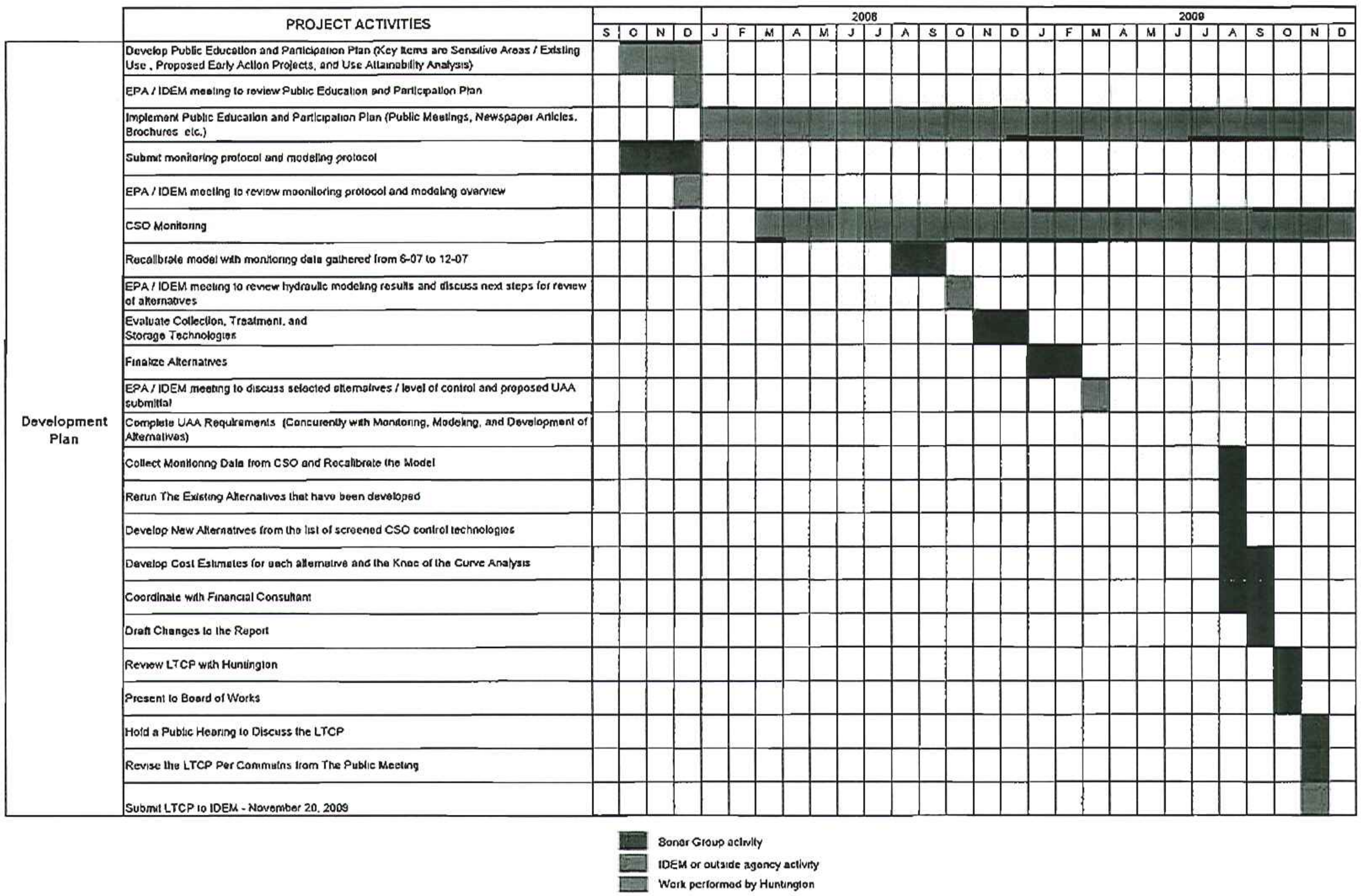
City Attorney
City of Huntington, Indiana
c/o Clerk-Treasurer
300 Cherry Street
Huntington, Indiana 46750

Michael Hartburg
DeLaney Hartburg Roth & Garrott, LLP
533 Warren Street
P.O. Box 269
Huntington, Indiana 46750-0269

Sierra L. Alberts
Deputy Attorney General,
Attorney for the IDEM

Office of the Attorney General of Indiana
Indiana Government Center South, 5th Floor
302 W. Washington Street
Indianapolis, IN 46204

"Working" Work Plan For Huntington Long Term Control Plan



X:\Fort Wayne Pinegohn\10\100\10 15 1.00\Administration\working work plan, revised 8-12-09

Attachment /

Appendix 2

IDEM Comment Letter – December 19, 2005

and

City of Huntington Response Letter – May 12, 2006

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Office of Water Quality-65-42
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
www.in.gov/idem

December 19, 2005

The Honorable Terry Abbett, Mayor
City of Huntington
300 Cherry Street
Huntington, Indiana 46750-2649

Dear Mayor Abbett:

RE: LTCP Review
City of Huntington
Huntington County

My staff reviewed Huntington's LTCP document received May 30, 2003 to determine whether it meets the requirements of state and federal law.

The purpose of this letter is to iterate the alternatives proposed in the LTCP (as understood by IDEM) and outline issues which must be resolved before approval may occur. Each minimum element of a LTCP is set forth in the federal Combined Sewer Overflow (CSO) Control Policy and IC 13-11-2-120.5. The issues are outlined below following a brief summary of the alternatives.

Plan Summary

The City of Huntington has 15 permitted CSO outfalls discharging to the Little River, Wabash River, and Flint Creek. The City has determined no sensitive areas exist and no existing uses have been identified. The City has proposed a combination of separation projects, pump station improvements, installation of parallel interceptors as well as construction of a 10 MG storage basin located at the WWTP. The proposed plan is estimated to cost $31,000,000 and is expected to be implemented in two phases. The implementation schedule suggests that the majority of phase II construction will begin in 2015 with a 10+ year total implementation schedule. Based on IDEM and EPA financial guidelines, Huntington falls under a medium financial capability burden and therefore the allowable timeframe for implementation should be 5-10 years. The plan's goal is for a 94% reduction in total CSO volume. The plan does not discuss the elimination of any outfalls. The proposed plan will not attain water quality standards. The plan does indicate that the City is keeping the option of pursuing a UAA open.

Issues That Need Resolved

Consideration of Sensitive Areas

A. The City has determined that no sensitive areas exist. This determination was, in part, based on a document included in Appendix D of the LTCP which lists Endangered, Threatened, and Rare (ETR) species existing within Huntington County. Several species are listed as ETR. Please provide documentation that none of these species were found to exist within the stream reaches affected by Huntington's CSOs which should have already been identified in the City's submitted Stream Reach Characterization and Evaluation Report (SRCER).

B. The LTCP states that the Indiana Department of Natural Resources compiled a list of ETR species located in and along the Little River downstream of the City. The list included in Appendix D does not indicate that it is specific to the Little River, but rather, includes all of Huntington County. In addition, no discussion of ETR species existing in Flint Creek or the Wabash River is included in the LTCP. Please provide more specific documentation as to the presence or absence of ETR species within the areas affected by Huntington's CSO discharges. Verification should also be provided by the U.S. Fish and Wildlife Service.

Public Participation

A. A discussion of the presence of existing uses does not appear to have been included in the LTCP. Was the presence of existing uses discussed? If so, please identify them. How was the public involved in the determination of existing uses?
B. Appendix H of the LTCP includes a letter to the "editor" written by Mr. Philip C. Ross. Mr. Ross describes a major canoe and boat landing recreation facility in the letter that exists near CSO Outfall 002 which is located in the Forks of the Wabash Park property. Are existing uses present in this location? The City of Huntington needs to provide IDEM with a detailed response and documentation that these issues were discussed and evaluated by the City and the public.
C. Meeting minutes were included in the LTCP for the CAC meetings, however, the Plan did not include minutes for public meetings. Please provide these minutes as well.
D. It does not appear that the public was engaged in the actual selection of CSO controls, but rather informed of the controls which had been already selected. Please explain.
E. The LTCP does not document any changes or decisions made in response to public comments. Please include this information.
F. The LTCP does not address whether input on growth issues was obtained or taken into consideration during the public participation process. Please clarify.

Characterization and Monitoring

The system characterization and modeling components of the LTCP will be reviewed and addressed via separate correspondence.

Evaluation of Alternatives

A. The City of Huntington has identified projects that are expected to reduce CSO volume by 94 %. Please correlate this to a specific design storm.
B. The City states in the LTCP that it appears that they are presently effectively capturing the first flush discharges from the CSOs. The LTCP states that it generally takes 0.3" – 0.4" of rainfall before a CSO event occurs. IDEM considers the capture of the first flush to have been achieved if rainfall from up to a one-year, one hour storm event has been retained, transported and treated at the wastewater treatment plant. Based on Huntington's regional location, this correlates to 1.02" of rainfall. The City must provide verification and documentation that they are capturing the first flush.
C. The LTCP does not address the control of floatable and solids present in remaining CSO discharges. How will the City address this issue?

D. The City's selected alternative proposes to reduce total CSO discharge volume by 94%. The Plan indicates that WQS would not be met in-stream even if the City had no discharges. The City should note that their LTCP must set forth controls necessary for ensuring its CSO discharges, notwithstanding background in-stream conditions, will comply with the technology-based and water quality-based requirements of the Clean Water Act (CWA) (including section 402(q) of the CWA) and state law (IC 13-11-2-120.5 and applicable state water quality standards).
E. Since the proposed Plan allows for CSO discharges to occur in violation of WQS, even after full implementation of the Plan has occurred, the City of Huntington must commit to eliminating CSO discharges or providing those discharges with controls sufficient to meet WQS. If ultimately, the City finds that WQS cannot be attained through elimination or treatment of CSO discharges, a Use Attainability Analysis (UAA) must be submitted by the City and will be reviewed by IDEM to determine whether a temporary suspension may be attained.
F. IDEM is in the process of developing an approach, where during wet weather conditions, CSO Treatment Facilities (High Rate Clarifiers, etc.) would be considered to provide an adequate level of control to meet WQS if certain design storm criteria are met. Please see the attached CSO Treatment Facility document and provide documentation of the City's capability and feasibility to meet these criteria. Information useful in this assessment would include project costs and timeframes that would be associated with the potential storage/treatment facilities and technologies.
G. The selected CSO controls should allow for cost-effective expansion or retrofitting if additional controls are necessary at a future time to attain WQS. Please include this information in the LTCP.

Maximizing Treatment at the Existing POTW Treatment Plant

A. Do any bottlenecks exist in the Combined Sewer System (CSS) and if so, have they been resolved? If they have not been resolved, how will the City address this matter?
B. Has future growth been projected and a determination made on how this will effect the maximization of flow? Please provide details on this issue.
C. The option of blending is discussed on page 4-4 of the LTCP. The City appears to have dismissed this as a possible alternative based on the issue that this alternative involves permitting issues that have not previously been addressed by the State. In reference to the alternative of blending, please see attached CSO-Related Bypass document. The City may want to reconsider this as a viable option after reading this document.

Cost/Performance Considerations

How will the City finance the implementation of the LTCP?

Implementation Schedule

Based on the results of the City's financial capability analysis, the allowable time frame for the complete implementation of Huntington's LTCP is 5 to 10 years. Although it is unclear exactly when the final completion date is, Huntington appears to be proposing a plan with a time frame in excess of 10 years for complete implementation of their LTCP. The final phase is not scheduled to begin for 10+ years. Please submit a revised implementation schedule detailing when projects are to be initiated and completed.

Use Attainability Analysis

In Chapter 7 of the LTCP, a UAA is discussed. A description of the requirements that a UAA must meet to receive temporary suspension of the designated use are outlined. The LTCP indicates that the intention of the City may be to pursue the option of a temporary suspension due to substantial and widespread social and economic impact. In the IDEM Combined Sewer Overflow (CSO) Long-Term Control Plan Use Attainability Analysis Guidance document, the following items are required to obtain a temporary suspension:

1. An approved LTCP that captures the first flush and provides for the implementation of cost effective control alternatives.
2. A UAA approved by IDEM and EPA.
3. An NPDES permit incorporating the LTCP and the terms of the temporary suspension.
4. Implementation of the approved LTCP in accordance with the schedule approved in the LTCP.
5. Compliance with the Combined Sewer Operational Plan and all other operation and maintenance requirements for its treatment plant and combined sewer system.

The LTCP does not sufficiently prove that the selected controls capture the first flush. Furthermore, IDEM has provided the City with additional alternatives to attain WQS through the capture and treatment/disinfection up to specific design storms. Once the LTCP provides documentation that the first flush will be captured and treated, and all other alternatives have been exhausted, a UAA review may become necessary and a temporary suspension may be considered.

Post-Construction Compliance Monitoring Program

A. The LTCP is vague regarding the time of submittal to IDEM of the City's Post Construction Monitoring (PCM) results. It is recommended that PCM takes place after each phase of the LTCP and results submitted to IDEM. Please be more specific as to the time of submittal for PCM results.
B. In addition to a quantitative analysis, the Plan shall include a qualitative analysis to verify that any remaining CSO discharges will meet WQS. Please include the type, quantity, procedure, and parameters that will be sampled for in the qualitative analysis.

General Comments and/or Questions

A. Has the City identified any chronic problems (dry weather overflows, sewer surcharging, or basement backups) within the CSS, and if so, how does the City intend to incorporate identified problems into the LTCP and resolve them?
B. The LTCP must identify all CSOs by latitude and longitude. Please provide these coordinates.
C. The LTCP must include a general description of the CSS that includes a detailed collection system map showing combined, separate and storm sewers to clearly differentiate areas that are combined/separate as well as CSO locations. In addition, principal hydraulic control structures (interceptors, pump stations, storage and control facilities, POTW) should be identified on this map. A map of this type is an essential tool for a City to have a thorough understanding of its sewer system, one of the major components of a LTCP. Please include this map in the LTCP.

We would like to work with the City to rapidly address the issues noted above. Please respond to the comments listed above within 90 days of the date of this letter. Please contact Cyndi Wagner at (317) 233-0473 if you have questions regarding this letter.

Sincerely,

Bruno Pigott

Bruno Pigott
Assistant Commissioner
Office of Water Quality

Enclosures

Cc: Colin Bullock, Superintendent
Rick Roudebush, OWQ Inspections
Peter Swenson, EPA Region 5
Mike Perriguey, OWQ Wet Weather
File Room

DAVE JENNY [illegible]

CI[illegible] OF HUNTINGTON, WATE[illegible] POLLUTION CONTROL
COLIN E. BULLOCK, SUPERINTENDENT

20 Hitzfield Street
P.O. Box 550
Huntington, IN 46750
Phone: (219) 358-2313
Fax: (219) 358-2317

May 12, 2006

Ms. Cyndi Wagner
Indiana Dept of Environmental Management
100 N Senate Avenue
Office of Water Quality
Indianapolis IN 46204

Subject: LTCP Comments
City of Huntington
Huntington County

Dear Cyndi:

The City of Huntington and our Consulting Engineer Bonar Group have reviewed the comments in the December 19, 2005 comment letter and would like to respond as indicated. We appreciated meeting with your staff on March 2, 2006 and discussing the comment letter. During that meeting it was identified that the EPA staff that would be working under IDEM jurisdiction and reviewing Huntington's responses would not be on board until late April. To keep this review process moving we agreed to provide responses to the comments that did not require meeting with the EPA staff first.

Based upon the fact that the EPA staff will not be available until late April it was agreed that the City of Huntington will not be able to meet the present schedule for responding to your comment letter. Further, some of the comments cannot be responded to until the sewer system modeling has been reviewed and approved by IDEM and the model revised based upon new requirements. With the new "first flush" flow requirements the proposed projects will likely need to be enlarged. We cannot finalize the proposed projects, the cost estimates or the schedule until the modeling is revised.

This letter is the first response to those items we are comfortable responding to prior to our meeting with the EPA staff members.

<u>Issues that Need Resolved</u>

Consideration of Sensitive Areas

A. *The City has determined that no sensitive areas exist. This determination was, in part, based on a document included in Appendix D of the LTCP which lists Endangered, Threatened, and Rare (ETR) species existing within Huntington County. Several species are listed as ETR. Please provide documentation that none of these species were found to exist within the stream reaches affected by Huntington's CSO's which should have* *already been identified in the City's submitted Stream Reach Characterization and Evaluation Report (SRCER).*

B. *The LTCP states that the Indiana Department of Natural Resources compiled a list of ETR species located in and along the Little River downstream of the City. The list included Appendix D does not indicate that it is specific to the Little River, but rather, includes all of Huntington County. In addition, no discussion of ETR species existing in Flint Creek or the Wabash River is included in the LTCP. Please provide more specific documentation as to the presence or absence of ETR species within the areas affected by Huntington's CSO discharges. Verification should also be provided by the U.S. Fish and Wildlife Service.*

Response 7

Further research through the Indiana Department of Natural Resources and the Division of Fish and Wildlife shows through a check of the Indiana Natural Heritage Data Center that there are no ETR species nor significant areas documented from the Little River at Huntington. This was received from Ronald Hellmich, Division of Nature Preserves, DNR, Indiana. Brant Fisher of the non-game division of Fish and Wildlife said that they had no record of any ETR species, especially that of fish and shellfish currently present in the rivers and streams in and around the City of Huntington.

Public Participation

In general we concur that inadequate public participation occurred. We propose to provide additional opportunity for public involvement by having 2 public meetings to allow input and to be involved in the discussion of the CSO controls and proposed projects. These additional public hearings will provide responses to comments A, C, D E, and F below.

A. *A discussion of the presence of existing uses does not appear to have been included in the LTCP. Was the presence of existing uses discussed? If so, please identify them. How was the public involved in the determination of existing uses?*

B. *Appendix H of the LTCP includes a letter to the "editor" written by Mr. Philip C. Ross. Mr. Ross describes a major canoe and boat landing recreation facility in the letter that exists near CSO Outfall 002 which is located in the Forks of the Wabash Park property. Are existing uses present in this location? The City of Huntington needs to provide IDEM with a detailed response and documentation that these issues were discussed and evaluated by the City and the public.*

This canoe and boat launch described by Mr. Ross does not exist. The Forks of the Wabash Historic Park is located at the confluence of the Little Wabash and the Wabash Rivers.

C. *Meeting minutes were included in the LTCP for the CAC meetings, however the Plan did not include minutes for public meetings. Please provide these minutes as well.*

D. *It does not appear that the public was engaged in the actual selection of CSO controls, but rather informed of the controls which had been already selected. Please explain.*

E. *The LTCP does not document any changes or decisions made in response to public comments. Please include this information.*

F. *The LTCP does not address whether input on growth issues was obtained or taken into consideration during the public participation process. Please clarify.*

Characterization and Monitoring

The system characterization and modeling components of the LTCP will be reviewed and addressed via separate correspondence.

Evaluation of Alternatives

A. *The City of Huntington has identified projects that are expected to reduce CSO volume by 94%. Please correlate this to a specific design storm.*

B. *The City states in the LTCP that it appears that they are presently effectively capturing the first flush discharges from the CSO's. The LTCP states that it generally takes 0.3" – 0.4" of rainfall before a CSO event occurs. IDEM considers the capture of the first flush to have been achieved if rainfall from up to one-year, one hour storm event has been retained, transported, and treated at the wastewater treatment plant. Based on Huntington's regional location, this correlates to 1.02" of rainfall. The City must provide verification and documentation that they are capturing the first flush.*

C. *The LTCP does not address the control of floatable and solids present in remaining CSO discharges. How will the City address this issue?*

D. *The City's selected alternative proposes to reduce total CSO discharge volume by 94%. The Plan indicates that WQS would not be met in-stream even if the City has no discharges. The City should note that their LTCP must set forth controls necessary for ensuring its CSO discharges, notwithstanding background in-stream conditions, will comply with the technology-based and water quality-based requirements of the Clean Water Act (CWA) (including section 402(q) of the CWA) and state law (IC 13-11-2-120.5 and applicable state water quality standards).*

E. *Since the proposed Plan allows for CSO discharges to occur in violation of WQS, even after full implementation of the Plan has occurred, the City of Huntington must commit to eliminating CSO discharges or providing those discharges with controls sufficient to meet WQS. If ultimately, the City finds that WQS cannot be attained through elimination or treatment of CSO discharges, a Use Attainability Analysis (UAA) must be submitted by the City and will be reviewed by IDEM to determine whether a temporary suspension my be attained.*

F. *IDEM is in the process of developing an approach, where during wet weather conditions, CSO Treatment Facilities (High Rate Clarifiers, etc) would be considered to provide an adequate level of control to meet WQS if certain design storm criteria were met. Please see the attached CSO Treatment Facility document and provide documentation of the City's capability and feasibility to meet these criteria. Information useful in this assessment would include project costs and timeframes that would be associated with the potential storage/treatment facilities and technologies.*

G. *The selected CSO controls should allow for cost-effective expansion or retrofitting if additional controls are necessary at a future time to attain WQS. Please include this information in the LTCP.*

Maximizing Treatment at the Existing POTW Treatment Plant

A. *Do any bottlenecks exist in the Combined Sewer System (CSS) and if so, have they been resolved? If they have not been resolved, how will the City address this matter?*

There are no known bottlenecks within the existing CSS. If any are identified, the City will take corrective actions to resolve the situation.

B. *Has future growth been projected and a determination made on how this will effect the maximization of flow? Please provide details on this issue.*

Future growth is a concern of the City due to development on the north side. Sewer separation in the areas on the north side of the City, particularly at CSO's 009 through 016, will allow for maximizing flows in the collection system. Sewer improvements and sewer separation projects are proposed in the "Selected Plan" section to provide for this maximized flow.

C. *The option of blending is discussed on page 4-4 of the LTCP. The City appears to have dismissed this as a possible alternative based on the issue that this alternative involves permitting issues that have not previously been addressed by the State. In reference to the alternative of blending, please see attached CSO-Related Bypass document. The City may want to reconsider this as a viable option after reading this document.*

This option will be considered.

Cost/Performance Considerations

How will the City finance the implementation of the LTCP?

The projects as identified in the "Selected Plan" section will be funded by increases in utility rates of the sewer utility and storm water utility rates. Ultimately all of the funding will come from fees from utility customers.

Implementation Schedule

Based on the results of the City's financial capability analysis, the allowable time frame for the complete implementation of Huntington's LTCP is 5 to 10 years. Although it is unclear exactly when the final completion date is, Huntington appears to be proposing a plan with a time frame in excess of 10 years from complete implementation of their LTCP. The final phase is not scheduled to begin for 10+ years. Please submit a revised implementation schedule detailing when projects are to be initiated and completed.

The implementation schedule will be revised.

Use Attainability Analysis

In Chapter 7 of the LTCP, a UAA is discussed. A description of the requirements that a USAA must meet to receive temporary suspension for the designated use are outlined. The LTCP indicates that the intention of the City may be to pursue the option of a temporary suspension *due to substantial and widespread social and economic impact. In the IDEM Combined Sewer Overflow (CSO) Long-Term Control Plan Use Attainability Analysis Guidance document, the following items are required to obtain a temporary suspension:*

1. *An approved LTCP that captures the first flush and provides for the implementation of cost effective control alternatives.*
2. *A UAA approved by IDEM and EPA.*
3. *An NPDES permit incorporating the LTCP and the terms of the temporary suspension.*
4. *Implementation of the approved LTCP in accordance with the schedule approved in the LTCP.*
5. *Compliance with the Combined Sewer Operational Plan and all other operation and maintenance requirements for its treatment plant and combined sewer system.*

The LTCP does not sufficiently prove that the selected controls capture the first flush. Furthermore, IDEM has provided the City with additional alternatives to attain WQS through the capture and treatment/disinfection up to specific design storms. Once the LTCP provides documentation that the first flush will be captured and treated, and all other alternatives have been exhausted, a UAA review may become necessary and a temporary suspension may be considered.

Post-Construction Compliance Monitoring Program

A. *The LTCP is vague regarding the time of submittal to IDEM of the City's Post Construction Monitoring (PCM) results. It is recommended that PCM takes place after each phase of the LTCP and results submitted to IDEM. Please be more specific as to the time of submittal for PCM results.*

B. *In addition to a quantitative analysis, the Plan shall include a qualitative analysis to verify that any remaining CSO discharges will meet WQS. Please include the type, quantity, procedure, and parameters that will be sampled for the qualitative analysis.*

Post-construction compliance will follow a routine of sampling and monitoring similar to what is presented in the Huntington Stream Reach Characterization and Evaluation Report. The post-construction monitoring (PCM) will be done after the completion of each CSO project. Samples will be collected on the affected receiving stream during dry and wet weather conditions upstream of all CSO's and downstream of affected CSO's. Water quality of the rivers will be recorded and analyzed. Samples will also be taken and analyzed from three CSO's during three different rainfall events. Sampling will continue for a period of at least 18 months to two years in order to cover multiple seasons and different types of storm events.

After some of the CSO control projects, it may be possible to eliminate some CSO structures. This will be done on a case by case analysis.

Flow monitoring will be done to measure the impact of the CSO control project as it pertains to the frequency and magnitude of the CSO events.

Results of the PCM will be submitted with three months after the end of monitoring for the specific CSO control project.

General Comments and/or Questions

A. Has the City identified any chronic problems (dry weather overflows, sewer surcharging, or basement backups) within the CSS, and if so, how does the City intend to incorporate identified problems into the LTCP and resolve them?

The City does not have any chronic dry weather overflows. Any other chronic problems will be addressed in the revised LTCP.

B. The LTCP must identify all CSO's by latitude and longitude. Please provide these coordinates.

These outfalls have been identified in the NPDES permit in ATTACHMENT A, pages 39 and 40. These pages are attached as Exhibit A.

C. The LTCP must include a general description of the CSS that includes a detailed collection system map showing combined, separate and storm sewers to clearly differentiate areas that are combined/separate as well as CSO locations. In addition, principal hydraulic control structures (interceptors, pump stations, storage and control facilities, POTW) should be identified on this map. A map of this type is an essential tool for a City to have a thorough understanding of its sewer system, one of the major components of a LTCP. Please include this map in the LTCP.

The CSS map is currently being updated and will be included in the revised LTCP.

If you have further questions or comments please call me at 260-358-2313.

Sincerely,

Colin Bullock

Colin Bullock
Superintendent
City of Huntington
Water Pollution Control

cc:
Dave Tennis, CSO Project Manager, Wet Weather Section
Myra Moldanado, Reviewer EPA Region V

C Y OF HUNTINGTON, WAT POLLUTION CONTROL
COLIN E. BULLOCK, SUPERINTENDENT

20 Hitzfield Street
P.O. Box 550
Huntington, IN 46750
Phone: (219) 358-2313
Fax: (219) 358-2317

May 1, 2006

Ms. Cyndi Wagner, Section Chief
Wet Weather Section
Indiana Department of Environmental Management
100 N. Senate Avenue 1GCN
Indianapolis, IN 46206-6015

Subject: Huntington Indiana Long Term Control Plan
Request for Early Action Projects

Dear Ms. Wagner:

Following is a review of the timeline of events associated with the Huntington LTCP review:

- LTCP received by IDEM May 30, 2003
- Comments letter from Mike Perriguey dated December 19, 2005
- Response to comments due in 90 days, March 19, 2006
- Extension requested for 45 days: May 3, 2006
- Reviewer from EPA started week of April 17, 2006

There are several projects that the City may want to pursue ahead of an approved LTCP. These early action projects will improve the overall water quality by reducing CSOs in frequency and volume. We request a decision from IDEM to approve the following projects.

Early Action Projects

NE Storm Sewer Project... (Removed) ON MAIN LINE

- Division Street sewer separation (eliminate CSO # 016)
- Market Street sewer separation (eliminate CSO # 015)
- State Street sewer separation (eliminate CSO # 009)
- Warren Street sewer separation (eliminate CSO # 012)
- Guilford Street sewer separation (eliminate CSO# 013)

The locations and shed areas for the above CSOs are shown on Figure 4.2 in the LTCP. A short description of the Division Street and Market Street projects defined as Project No. 2G is on page 4-13 of the LTCP. The State Street project is included with a general description of an area sewer separation defined as Project No. 2D on page 4-13 of the LTCP. The Warren Street and Guilford Street projects are included with a general description of an area sewer separation defined as Project No. 2F on page 4-13 of the LTCP.

If you have further questions or concerns please call me at 260-358-2313 or contact Diana Toth with Bonar Group at 260-969-8835.

Sincerely, Colin Bullock

Colin Bullock, Superintendent
Huntington Water Pollution Control

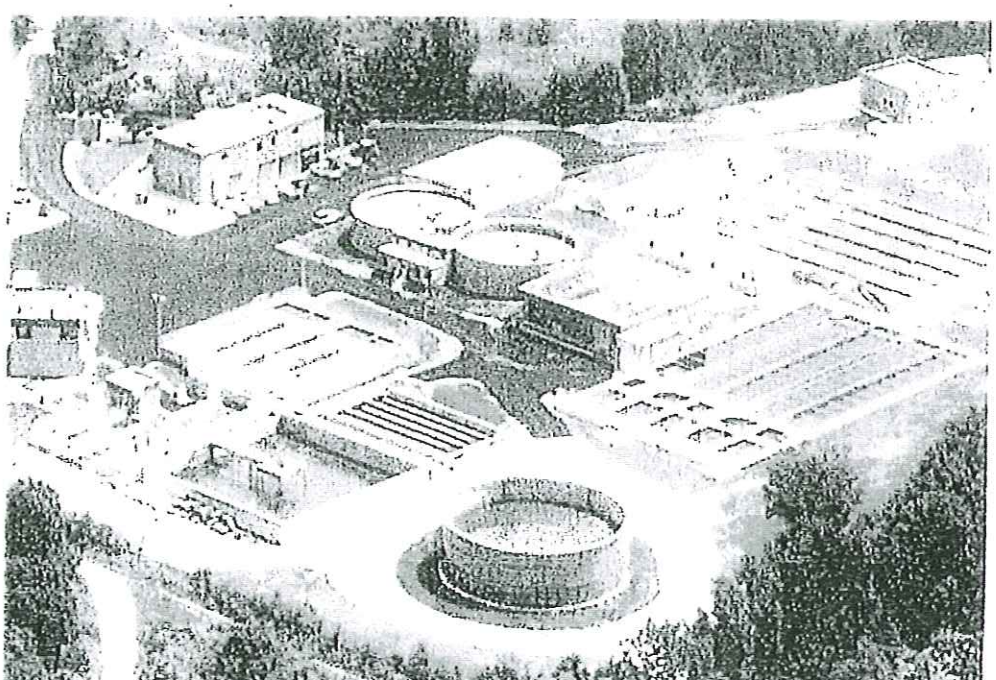
Cc: Dave Tennis, CSO Project Manager, MC 65-42 IGCN 1255
Myra Moldanado, Reviewer from EPA Region V

Appendix 3

Stream Reach Characterization and Evaluation Report

<u>*Stream Reach Characterization And Evaluation*</u>

Water Pollution Control Department



STREAM REACH CHARACTERIZATION AND EVALUATION

LIST OF TABLES

LIST OF FIGURES

1.0 BACKGROUND

Under the combined sewer overflow (CSO) control programs of the US Environmental Protection Agency (USEPA) and the Indiana Department of Environmental Management (IDEM), Municipalities are to address the CSO's through the implementation of the nine minimum controls. These controls include such things as maximizing treatment at the treatment plant during wet weather and maximizing storage in the combined sewers. The ninth minimum control is: "Monitoring to effectively characterize CSO impacts and the efficacy of controls".

As part of Indiana's CSO strategy adopted by IDEM in May 1996, Huntington's NPDES permit renewal in December 1997 included a requirement for preparing a Stream Reach Characterization and Evaluation Report (SRCER) within 18 months of approval of the City's SRCER Protocol. The City submitted the SRCER Protocol in February 1998, two months after the effective date of the NPDES permit (December 1, 1997). IDEM approved the SRCER Protocol on May 20, 1998. The purpose of the SRCER is to characterize the impacts of CSO discharges upon the Wabash River for a defined stream segment. The defined stream segment for the Wabash River was considered two miles upstream from Flint Creek discharge to a point two miles down stream of Flint Creek.

The SRCER Protocol included methods of determining instream impacts of CSO's and provided methodology for determination of baseline conditions within the stream segment. The SRCER being submitted at this time summarizes the data collected during the study period, January 1997 through September 2000. This information will be used for further analysis of long term CSO controls and to assist in developing the long term control plan (LTCP). According to the City, NPDES permit and the State of Indiana's final CSO Strategy, The (SRCER) should include the following information:

1) Rainfall events;
2) Frequency and duration of wet weather overflows from monitored points;
3) Characterization of the Combined Sewer System (CSS) which identifies sources both Upstream and within the assigned stream segment and evaluation of efficacy of implemented CSO control on receiving waters;
4) A list containing municipalities, sensitive areas and recreational facilities which could be adversely affected by CSO discharges from Huntington:

   * Outstanding National Resources Waters
   * Outstanding State Resource Waters
   * National Marine Sanctuaries
   * Water with threatened or endangered species
   * Primary contact recreation water, such as bathing beaches
   * Public drinking waters intakes or their designed protection areas
   * Shellfish beds

5) A report summarizing the following information complied over the period of study:

   * Bacteria and Health Alerts
   * Fish kills
   * Overflow volume of monitored overflow points
   * Fish consumption advisories and bacteria/health alerts

6) A recommendation shall be made as to the proper course of action including a discussion of alternatives, a means of estimating their impacts on water quality and associated costs.

2.0 CHARACTERIZATION OF THE COMBINED SEWER SYSTEM (CSS)

The sewer system is separated into (5) sub-systems representing tributary drainage areas of existing sewer systems, as shown in figure 6, page 28. The majority of the sewer system is constructed of vitrified clay (vcp) and also brick. Recent sanitary sewer additions are constructed of poly vinyl chloride. The City of Huntington is served by approximately 65 miles of sewer lines, with 80% of the sewer system constructed as combined sewers, portions of the systems are separated, approximately 80% of the north side of the city and approximately 20% of the south side. The extreme western portion of sub-system 5 and new sewer systems within sub-system 2 are separated. In addition several separation projects have been done in the past. They are as follows:

> The northwest sewer separation, which consists of approximately 15,000 linear feet of 12-60 inch storm sewers in the area bounded by German Street, McGahn Street, and Memorial Park.
>
> The Rabbit Run sewer at Hiers Park consists of the installation of approximately 3,200 linear feet of 12-60 inch storm sewers in the area bounded by Waterworks Road, Little River, Broadway and Briant Street.
>
> The Condit Street Project consists of approximately 4,500 linear feet of 12-72 inch storm sewers, servicing the area bounded by Little River, Hedde Street, the Old Erie Railroad tracks and Grayston Avenue.

New separation to start in the year 2000 is the Joe Street project.

> It will consist of approximately 7,500 linear feet of 15-78 inch storm sewers, servicing the area bounded by Water Works Road, Evergreen Street, High Street, and Etna Avenue, figure 2.

The current condition of the combined system is considered to be good. The City insures that, by a maintenance program of sewer cleaning with its two vactors and also a camera system.

3.0 RAINFALL DATE COLLECTION

The collection of precipitation data is important to correlate the affects of rainfall events on the collection system, combined sewer overflows, and water quality in the Wabash River. There are six rainfall gauges located throughout the City, figure 2, page 22. Data from these gauges are currently included on the monthly Discharge Report (DMR).

4.0 WET WEATHER OVERFLOWS

4.1 DATA COLLECTION

As part of the operational plan 15 CSOs were identified for purposes of monitoring and reporting CSO events. In meeting the self-monitoring requirement of the NPDES Permit, all discharges from representative CSOs are reported on a monthly basis. Each month, an NPDES CSO Discharge Monitoring report (CSO DMR) is submitted to IDEM on forms provided by IDEM, Appendix C, page 9.

To get this information for the monthly report, we monitor the 15 CSO points daily. In rain events or (overflows) we try to monitor the 15 CSO points hourly, trying to get a better start and stop time, Appendix B, page 8.

4.2 DOWNSTREAM IMPACTS OF OVERFLOWS

*Outstanding National Resource Waters
*Outstanding State Resource Waters
*National Marine Sanctuaries
*Water with threatened or endangered species
*Primary contact recreation waters, such as bathing beaches
*Public drinking water intakes or their designated protection areas
*Shellfish beds

WABASH RIVER QUALTY AND USE INFORMATION

To the best of my knowledge the Wabash River is not designated as an outstanding National Resource water or Outstanding State Resource Water. No National Marine Sanctuaries, bathing beaches, shellfish beds, public drinking water intakes, or other designated protection areas are known to exist downstream of Huntington which could be adversely affected by the City's CSOs. The Department of Natural Resources has complied a list of threatened or endangered species in and along the Wabash River downstream of the city. This list is provided in Appendix D, page 10.

5.0 INSTREAM SAMPLING

The objective of instream sampling program was to collect representative samples and to provide analytical data for determining the instream impacts of CSO discharges upon the Wabash River. The sampling program is an important aspect of the SRCER. The need for long-term CSO controls may be based on the finding of the SRCER and subsequent more detailed analyzes.

5.1 SAMPLING LOCATION AND FREQUENCY

(The following four sampling points are done once a week)

The reach of the Little Wabash River is monitored as part of the SRCER. The first sample point is LaFontaine Street Bridge, which is .1 downstream of Flint Creek and also CSOs 003 through 016, see, attached figure 1, page 21.

The second sample point is taken at Flint Creek upstream (up) 1.9 miles upstream from Little Wabash River and also Flint Creek discharge, see figure 1, page 21.

The third sample point is taken at Rangeline Road Bridge this sample point is 2.89 miles downstream of all CSOs. This samples both the Big and Little Wabash River, see figure 1, page 21.

The fourth sample point is taken on Etna Avenue Bridge, which is on the Big Wabash River. This sample point is to compare the impact of the Big Wabash River to the Little Wabash River. This sample site is located 1.7 miles south of Flint Creek, see figure 1, page 21

The following sampling point is done only once a month.

This is the fifth sampling point. It is done from the Meridian Road Bridge, the sample point is upstream (up) 2.3 from all CSO overflows, see figure 1, page 21.

Our lab performs all the sampling points, except the fifth, on the first day of the workweek. Since the sample points are done on a routine basis, a large percent are done on dry weather days. Therefore, to insure we get good results for the (SRCER), we also sample the points on rain events that have overflows.

The first sample point is LaFontaine Street Bridge, which is .1 downstream of CSOs 003 through 016, see figure 1, page 21.

The second sample point is Flint Creek upstream (up) this sample point is; 1.9 miles upstream from the Little Wabash River and also the discharge of Flint Creek, see figure 1, page 21.

The third sample point is taken at Rangeline Road Bridge this sample point is 2.8 downstream of all CSO overflows, see figure 1, page 21.

The fourth sample point is at Broadway Street bridge, this sample point is 1.3 upstream (up) of all CSO overflow points on the Little Wabash, see figure 1, page 21.

The fifth sample point is the overflow at the plant (002), see figure 1, page 21.

5.2 TESTING PARAMETERS

The testing parameters for instream sampling included the conventional pollutants of carbonaceous bio-chemical oxygen demand (CBOD), total suspended solids (TSS), and ammonia-nitrogen (NH3-N), as well as dissolved oxygen (DO), Escherichia coli (E. coli) and pH.

5.3 LABORATORY ANALYSIS

The City's Treatment Plant laboratory performed the analysis for the conventional pollutants of CBOD, TSS, pH, and ammonia. The analysis is currently run for. the Wastewater. Treatment effluent, the City also runs the analysis for E. Coli.

5.4 CONTACT PERSONS

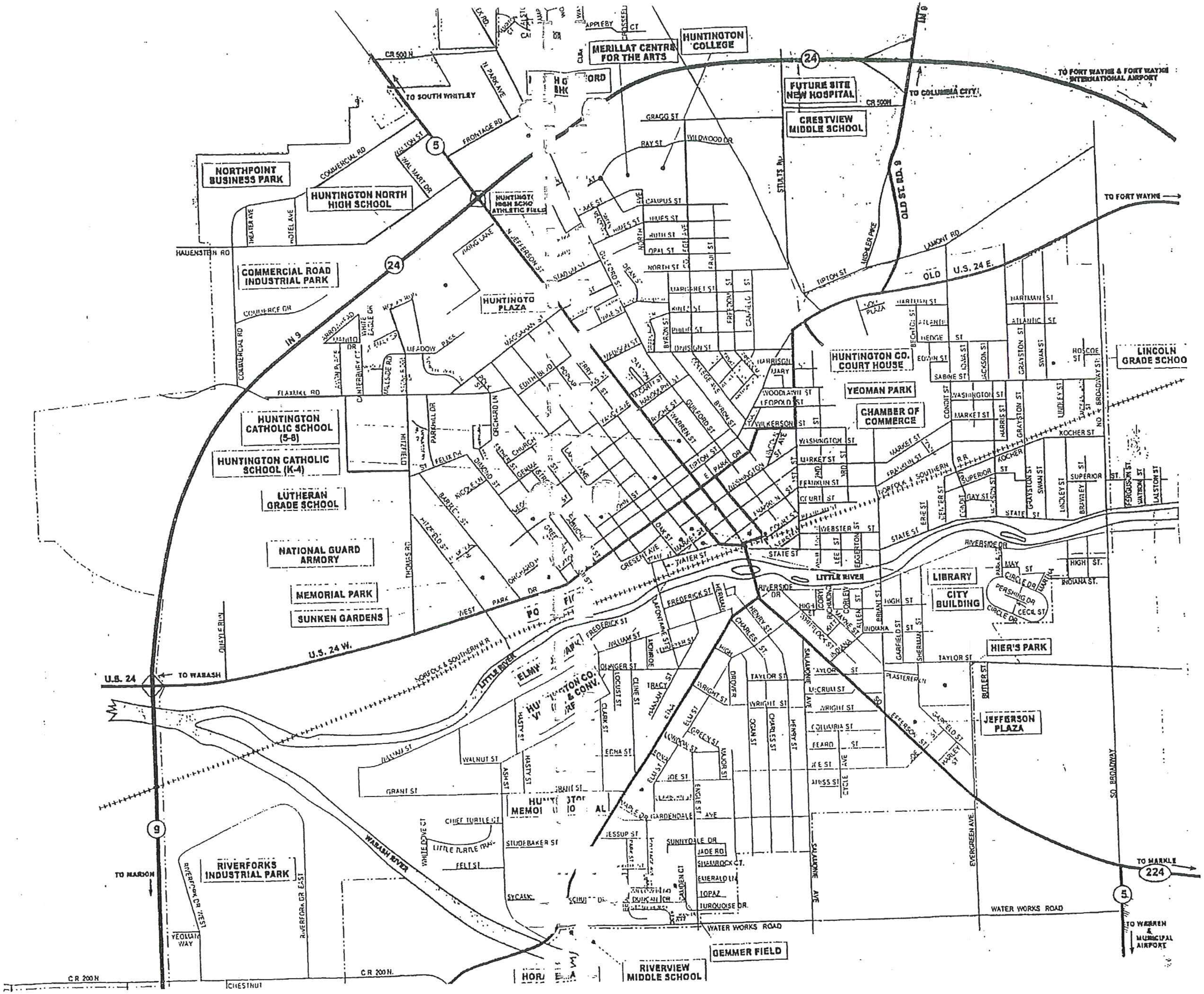
1. Colin Bullock, Utility Superintendent
2. Bill Miller, Assistant Superintendent
3. Raghbir Bola, Lab Director
4. Shad Funk, Pretreatment Director

5.5 Record Keeping

A sample log sheet is included in Appendix F, page 12. This log sheet was used to record the field and laboratory sampling data, Appendix G, page 13, 14, & 15 through J shows the rainfall, CSO sheets, and lift station sheets.

5.6 STREAM MONITORING DATA

The monitoring data was collected over a 42 month period, from January 1997 through June 2000. Page 17, 18, 19, & 20. is the summary of the stream monitoring data.



HUNTINGTON COLLEGE
MERILLAT CENTRE FOR THE ARTS
FUTURE SITE NEW HOSPITAL
CRESTVIEW MIDDLE SCHOOL
TO FORT WAYNE & FORT WAYNE INTERNATIONAL AIRPORT
TO COLUMBIA CITY
TO SOUTH WHITLEY
NORTHPOINT BUSINESS PARK
HUNTINGTON NORTH HIGH SCHOOL
COMMERCIAL ROAD INDUSTRIAL PARK
HUNTINGTON PLAZA
TO FORT WAYNE
OLD U.S. 24 E.
OLD ST. RD. 9
HUNTINGTON CO. COURT HOUSE
YEOMAN PARK
CHAMBER OF COMMERCE
LINCOLN GRADE SCHOOL
HUNTINGTON CATHOLIC SCHOOL (5-8)
HUNTINGTON CATHOLIC SCHOOL (K-4)
LUTHERAN GRADE SCHOOL
NATIONAL GUARD ARMORY
MEMORIAL PARK
SUNKEN GARDENS
U.S. 24 W.
U.S. 24
TO WABASH
IN 9
NORFOLK & SOUTHERN R.R.
LITTLE RIVER
LIBRARY
CITY BUILDING
HIER'S PARK
JEFFERSON PLAZA
WABASH RIVER
RIVERFORKS INDUSTRIAL PARK
TO MARION
TO MARKLE
224
TO WARREN & MUNICIPAL AIRPORT
WATER WORKS ROAD
GEMMER FIELD
RIVERVIEW MIDDLE SCHOOL
CR 200 N
CHESTNUT
SO. BROADWAY
EVERGREEN AVE.
SALAMONIE AVE
JEFFERSON ST
HAUENSTEIN RD
FLAXMILL RD
COMMERCIAL RD
FRONTAGE RD
CR 500 N

APPENDIX D

CITY OF HUNTINGTON
WATER POLLUTION CONTROL
20 HITZFIELD EXTENDED
HUNTINGTON, IN 46750

COMBINED SEWER OVERFLOW DAILY INSPECTION LOG

NAME:	DATE:	RAINFALL	TIME:	CONDITIONS:

CSO NUMBER	CSO LOCATION	BYPASS	NO BYPASS
002	HEAD OF PLANT		
003	LAFONTAINE BRIDGE NORTH SIDE		
004	RABBIT RUN (AT PLANT)		
005	CLARK STREET & FREDRICK		
006	LAFONTAINE BRIDGE SOUTH SIDE		
007	JEFFERSON BRIDGE (HOT 'N NOW)		
008	STATE STREET WOODY'S GARAGE		
009	STATE STREET BY CITY BUILDING		
010	MARKET AND JEFFERSON		
011	SOUTH OF MARKET ON WARREN		
012	NORTH OF MARKET ON WARREN		
013	MARKET AND GUILFORD		
014	MARKET AND BYRON		
015	MARKET AND FIRST		
016	WEST OF FIRST ON DIVISION		

IF BYPASSING OCCURS AT ABOVE CSO's, SAMPLES SHOULD BE TAKEN AT FLINT CREEK UPSTREAM, BROADWAY BRIDGE, LAFONTAINE STREET BRIDGE AND RANGELINE ROAD BRIDGE.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
CSO DISCHARGE MONITORING REPORT (DMR)

MONITORING PERIOD: ______/______
MONTH YEAR

NO CSO DISCHARGES OCCURRED: ☐

NAME:			PERMIT NUMBER:		
ADDRESS:					
CITY:	STATE:		ZIP CODE:	TELEPHONE: ( )	
Precipitation Event Date/Time:	**Precipitation (In Inches):**	**CSO Outfall Number**	**Discharge Event Date**	**Time Discharge Begins: Specify either Actual(A) Estimate(E)**	**Time Discharge Stops: Specify either Actual(A) Estimate(E)**

Name/Title Principal Executive Officer	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN: AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. *(Penalties under these statutes may include fines up to $10,000 and or maximum imprisonment of between 6 months and 5 years.)*		Date		
Typed or Printed		Signature of Principal Executive Officer or Authorized Agent	Mo.	Day	Yr.

APPENDIX

DNR THREATENED OR ENDANGERED SPECIES LIST

APPENDIX D

November 12, 1999

ENDANGERED, THREATENED AND RARE SPECIES DOCUMENTED FROM HUNTINGTON COUNTY, INDIANA

SPECIES NAME	COMMON NAME	STATE	FED	SRANK	GRANK
VASCULAR PLANT					
COELOGLOSSUM VIRIDE VAR VIRESCENS	LONG BRACT GREEN ORCHIS	ST	**	S2	G5T5
FRAGARIA VESCA VAR AMERICANA	WOODLAND STRAWBERRY	SE	**	S1	G5T?
JUGLANS CINEREA	BUTTERNUT	WL	**	S3	G3G4
PINUS STROBUS	EASTERN WHITE PINE	SR	**	S2	G5
VIBURNUM MOLLE	SOFTLEAF ARROW-WOOD	SR	**	S2	G5
MOLLUSCA: BIVALVIA (MUSSELS)					
EPIOBLASMA TRIQUETRA	SNUFFBOX	SE	**	S1	G3
LAMPSILIS FASCIOLA	WAVY-RAYED LAMPMUSSEL	SSC	**	S2	G4
LIGUMIA RECTA	BLACK SANDSHELL	**	**	S2	G5
PLEUROBEMA CLAVA	CLUBSHELL	SE	LE	S1	G2
PTYCHOBRANCHUS FASCIOLARIS	KIDNEYSHELL	SSC	**	S2	G4G5
TOXOLASMA LIVIDUS	PURPLE LILLIPUT	SSC	**	S2	G2
VILLOSA FABALIS	RAYED BEAN	SSC	**	S1	G1G2
FISH					
MOXOSTOMA VALENCIENNESI	GREATER REDHORSE	SE	**	S2	G3
BIRDS					
ACCIPITER COOPERII	COOPER'S HAWK	**	**	S3B,SZN	G5
ARDEA HERODIAS	GREAT BLUE HERON	**	**	S4B,SZN	G5
CISTOTHORUS PALUSTRIS	MARSH WREN	SE	**	S3B,SZN	G5
PHALACROCORAX AURITUS	DOUBLE-CRESTED CORMORANT	SX	**	SHB,SZN	G5
STURNELLA NEGLECTA	WESTERN MEADOWLARK	SSC	**	S2B	G5
MAMMALS					
LUTRA CANADENSIS	NORTHERN RIVER OTTER	SE	**	S?	G5
LYNX RUFUS	BOBCAT	SE	**	S1	G5
MUSTELA NIVALIS	LEAST WEASEL	SSC	**	S2?	G5
MYOTIS SODALIS	INDIANA BAT OR SOCIAL MYOTIS	SE	LE	S1	G2
TAXIDEA TAXUS	AMERICAN BADGER	SE	**	S2	G5
HIGH QUALITY NATURAL COMMUNITY					
FOREST - FLATWOODS CENTRAL TILL PLAIN	CENTRAL TILL PLAIN FLATWOODS	SG	**	S2	G3
FOREST - UPLAND MESIC	MESIC UPLAND FOREST	SG	**	S3	G3?

STATE: SX=extirpated, SE=endangered, ST=threatened, SR=rare, SSC=special concern, WL=watch list, SG=significant, ** no status but rarity warrants concern

FEDERAL: LE=endangered, LT=threatened, LE,LT=different listings for specific ranges of species, PE=proposed endangered, PT=proposed threatened, E/SA=appearance similar to LE species, **=not listed

Comparison of HHW Events

	October 95	May 96	October 96	October 97	October 98	October 99
HHW pounds collected	26,325	17,047	24,215	35,274	61,352	54,750
Tires pounds collected					43,015	45,790
Appliances pounds collected					35,190	39,190
Computer pounds collected					1,547	1652
Total pounds collected	26,325	17,047	24,215	35,274	141,104	141,382
Number of participants	292	229	314	356	769	611
Total cost for event	$18.405	$15,475	$19,749	$25,816	$22,186	$27,573
Cost per participant	$63.03	$67.58	$53.34	$72.52	$28.85	$45.12
Cost per pound collected	$0.699	$0.908	$0.692	$0.732	$0.157	$0.195
Percentage of HHW by weight:						
paint	38%	58%	46.2%	54.5%	50.2%	35.1%
organics:				35.4%		35.7%
oil/auto fluids	27%	21%	27.5%		18.8%	
cleaners/solvents, etc.	8%	6%	7.7%		14.7%	
batteries/corrosives*	18%	1%	0.2%	1.4%	8.8%	17.7%
pesticides	5%	5%	5.4%	6.2%	5.7%	7.7%
aerosols	3%	3%	2.3%	2.2%	1.4%	2.9%
others	1%	6%	10.5%	0.3%	0.4%	0.9%

*After the first event, only household batteries were accounted for because lead-acid batteries were collected at no chard for '96 and '97 events Batteries were collected and courted again for '98 and '99 event.

Data regarding 1998 collection event: / 1999 event:

	1998		1999	
Appliances collected:	248	'35,190 lbs.	451	39,190 lbs.
Lead-acid batteries collected:	210	'5,250 lbs.	250	7500 lbs.
Computers/components collected:	104	1,547 lbs.	106	1652 lbs.
Mercury/devices collected:		229 lbs.		not itemized
Tires collected:	1,365	43,015 lbs.	1,708	45,790 lbs.

Additional Information regarding 1999 event:

A positive trend appears to be emerging: Participation seems to be becoming more geographically dispersed. All townships, except for Huntington township have seen notable increases in the percentage of participants from each township For instance, the percentage of cars from Huntington township has averaged about 72% to 75% in previous years. This years results show about 61% of the cars came from Huntington township, with the balance being distributed in greater amounts in other townships.

Also, of the participants, 60.1% are either new participants, or it has been longer than one year since they participated. 39.9% said they participated in the event in 1998.

DAILY LAB SHEET

APPENDIX F

DATE 4-3-00 Huntington Water Pollution Control Lab.

HEADWORKS OVERFLOW 0.0 MGD INFLUENT FLOW 4.0 MGD EFF. FLOW ____ MGD R S. FL. 2.6 MGD

Sample	pH	BOD	TSS	Ammonia Nitrogen	COD	Dissolved Oxygen	Time
Final Eff.	7.82	5.9	3.4	0.22	*********	6.9	9:25a.m.
Primary	7.74	185	69	11.5	269	*******	*********
Raw inf.	7.95	322	256	7.8	492	*******	*********
Return Sludge	*********	********	9,840	*********	*********	*******	*********
ML	7.29	********	3,980	*********	*********	5.2	*********
Aeration Tanks	*********	********	*******	*********	*********	*******	E. Coli
Aeration Tanks	*********	********		*********	*********	*******	/100 ml
1 Lafontaine-US	8.13		6.0	0.060		8.7	114
2 Etna ave.-US	8.33		56	0.056		7.9	20
3 Rangeline-DS	8.20		26	0.041		8.5	100
4 Flintcreek US	7.85		1.0	0.035		8.7	14
5 Flintcreek DS	7.99		2.5	0.065		8.0	2000
6 Broadway-US	8.05		7.0	0.079		8.3	138
7							

North digester Alkalinity		ML Settling Tes		Chlorine Analysis
Total alkalinity		5 Min.	570	Chlorine Contact Tank 0.52 mg/L
T. Volatile Acids		30 Min.	300	After Dechlorination < 0.003 mg/L
Ratio:		SVI	75	E. Coli Count <1 per 100 mL

Sample	Date	pH	TS	TVS	Misc.	
1 RS/ML	3-30			81/81		
2 " "	3-31			82/82		
3 " "	4-1			82/81		
4 " "	4-2			83/82		
5						
6						
7						
8						

CSO # 002	DATE	START TIME	END TIME	CONTENTS OF OVERFLOW
				*Leaves, sticks, feces,paper, etc.

WATER POLLUTION CONTROL #3

DEC. 2000		TIME	INITIALS	MEASUREMENT		CURRENT CONDITIONS
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

GUILFORD

	TIME	PUMP 1	PROBLEM	PUMP 2	PROBLEM	INITIALS
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

City of Huntington

Water Pollution Control Lab.
20 Hitzfield Street Ext.
Huntington, IN 46750
219-358-2313

Stream Reach Characterzation Report Sampling Sheet

Date______________________

Name (s)__________________

Sampled at the following locations

Time						
Location	Broadway	Flintcreek Upstream	LaFontaine St.	Rangeline Road		
D.O.						
CONDITION						
V. CLEAR						
CLEAR						
S. CLEAR						
S. MUDDY						
MUDDY						
V. MUDDY						
FLOW / LEVEL						
V. LOW						
LOW						
MEDIUM						
HIGH						
V. HIGH						

REMARKS ____

____

WEATHER ____

APPENDIX J

City of Huntington
Water Pollution Control Lab.
20 Hitzfield Street Ext.
Huntington, IN 46750

Date________________

River Sampling check Sheet

Sampled at the following locations

	Flint Creek	Flint Creek	LaFontaine	Etna	Rangeline	Meridian		Remarks
	Upstream	Downstream	Street	Ave.	Road	Road		
	By Hgtn Lab	Before River	Bridge	Bridge	Bridge	Bridge		
D.O.								
CONDITION								
V. CLEAR								
CLEAR								
S. CLEAR								
S. MUDDY								
MUDDY								
V. MUDDY								
FLOW / LEVEL								
V. LOW								
LOW								
MEDIUM								
HIGH								
V. HIGH								

						Etna Avenue				
Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/6/97	8:30 AM	T	NO	7.9	11.9		3.9	348	0.201	1-1(.1)1-2(.03)1-4(.3)1-5(.38)1-6(T)1-7(T)1-9(.1)
1/13/97	8:30 AM		NO	7.7	14.1		2.4	30	0.19	1-10(.13)1-11(.03)1-15(.5)1-16(.58)1-17(T)1-20
1/20/97	8:30 AM	0.10	NO	7.8	11.3		2.3	12	0.168	(.1)1-21(.2)1-22(.44)1-23(.16)1-24(.1)1-25(.09)
1/27/97	8:30 AM	0.11	YES	7.8	13.7		5.8	80	0.658	1-26(.02)1-27(.11)1-28(.48)1-29(T)
2/3/97	8:30AM		YES	7.7	13.6		4.8	36	0.91	2-3(.28)2-4(.2)2-5(.15)2-6(T)2-7(T)2-8(T)2-10(T)
2/10/97	8:30 AM	T	NO	7.8	13.8		3.2	78	0.421	2-11(.05)2-12(.04)2-13(T)2-14(.06)2-15(.21)2-16
2/18/97	8:30 AM		NO	8.1	14		<2.2	15	0.299	(.14)2-17(.18)2-19(.02)2-21(.45)2-22(.03)2-23(.03)
2/24/97	8:30 AM	T	YES	7.9	13.4		3.2	102	0.203	2-24(T)2-26(1.2)2-27(1.2)2-28(.02)
3/3/97	8:30 AM		NO	7.8	12.7		3.3	380	0.202	3-1(T)3-2(T)3-5(T)3-6(.24)3-10(.46)3-14(1.9)3-15
3/10/97	8:30 AM	0.46	YES	7.9	12.8		2.8	92	0.224	(T)3-19(.02)3-25(.16)3-26(.22)3-29(.21)3-31(.16)
3/17/97	8:30 AM		NO	7.9	12.8		3	92	0.224	
3/24/97	8:30 AM		NO	8.2	12.2		4.2	118	0.042	
3/31/97	8:30 AM	0.16	NO	8.3	11.6		5	105	0.015	
4/7/97	8:30 AM		NO	8.3	10.2	93	5.6	146	0.026	4-4(T)4-5(.22)4-6(.23)4-10(.23)4-11(.01)4-12
4/14/97	8:30 AM		NO	8.5	12.1	<1	4.4	63	0.019	(.31)4-13(.02)4-16(.01)4-22(T)4-25(.02)4-28(.08)
4/21/97	8:30 AM		NO	8	11.7	28	3.2	28	0.015	
4/28/97	8:30 AM	0.08	NO	8.4	13	46	4.2	27	0.019	
5/5/97	8:30 AM	T	NO	8.3	11.7	20	5.2	37	0.092	5-1(.25)5-2(T)5-3(.76)5-4(.55)5-5(T)5-6(.26)5-7
5/12/97	8:30 AM	T	NO	8	10.6	17	4.2	61	0.444	(.05)5-8(.1)5-10(T)5-12(T)5-15(.04)5-16(T)5-18
5/19/97	8:30 AM	0.71	NO	7.9	8.2	156	4.1	33	0.162	(.5)5-19(.71)5-20(.05)5-24(.2)5-25(2.0)5-26(.68)
5/27/97	8:30 AM	T	NO	8.3	10.7	108	6.7	30	0.083	5-27(T)5-28(T)5-29(.36)5-30(.4)5-31(.17)
6/2/97	8:30 AM	1.03	YES	7.8	10	193	3	37	0.279	6-1(1.0)6-2(1.03)6-3(.9)6-4(T)6-5(T)6-6(.5)6-7
6/9/97	8:30 AM	0.03	NO	7.6	10.1	34	<2.2	26	0.202	(.37)6-8(.33)6-9(.03)6-11(1.7)6-12(1.5)6-13(1.5)
6/16/97	8:30 AM	T	NO	7.6	9	48	2.5	19	0.141	6-14(T)6-16(T)6-17(.15)6-18(.02)6-19(.04)6-21
6/23/97	8:30 AM		NO	7.8	7.2	52	4.6	33	0.308	(.16)6-22(.54)6-25(.95)6-26(.9)6-29(.02)6-30(.6)
6/30/97	8:30 AM	0.6	NO	7.6	5.6	13	3.8	11	0.321	
7/7/97	8:30 AM	0.4	YES	7.6	6.4	147	2.5	68	0.202	7-1(.4)7-2(1.45)7-6(.4)7-7(.4)7-16(.6)7-18(.75)
7/14/97	8:30 AM		NO	7.6	5.4	45	<2.2	33	0.128	7-19(.75)7-20(.44)7-21(.73)7-22(T)7-24(.14)
7/21/97	8:30 AM	0.73	YES	7.6	5.2	83	<2.2	23	0.166	7-25(.54)
7/28/97	8:30 AM		NO	7.6	5.5	80	2.6	39	0.084	
8/4/97	8:30 AM		NO	7.8	5.5	16	<2.2	28	0.062	8-11(.05)8-12(2.8)8-13(.05)8-16(1.04)8-17(.38)
8/11/97	8:30 AM	0.05	NO	7.9	6.1	42	2.3	32	0.056	8-18(.04)8-19(.05)8-20(T)8-21(.05)8-22(.03)8-24
8/18/97	8:30 AM	0.04	NO	7.7	6.2	80	2.7	61	0.095	(.66)8-25(T)8-26(.42)
8/25/97	8:30 AM	T	NO	8	6.9	60	<2.2	35	0.034	
9/2/97	8:30 AM		NO	8.2	7.5	20	<2.2	22	0.03	
9/8/97	8:30 AM		NO	8.2	7.1	12	<2.2	20	0.034	9-3(.1)9-9(.02)9-10(1.0)9-11(.66)9-12(.04)9-17(.45)
9/15/97	8:30 AM		NO	7.9		15	2.9	32		9-18(.43)9-19(2.08)9-20(1.04)9-21(.21)9-23(.46)
9/22/97	8:30 AM		NO	8	8.2	87	3.7	41	0.021	9-24(.14)9-29(.2)
9/29/97	8:30 AM	0.2	NO	7.9	7.2	32	<2.2	22	0.06	
10/6/97	8:30 AM		NO	7.8	7.6	48	<2.2	31	0.078	10-1(.25)10-10(.4)10-14(.51)10-25(.02)10-26(T)
10/15/97	8:30 AM		NO	8	8.4	40	<2.2	34	0.059	10-27(.49)10-28(.02)
10/20/97	8:30 AM		NO	8	8.6	6	2.2	31	0.096	
10/27/97	8:30 AM	0.49	NO	8.1	10.5	20	3.6	24	0.048	
11/3/97	8:30 AM	0.09	NO	8.3	10.8		2.6	22	0.051	11-1(.02)11-2(.48)11-3(.09)11-4(.16)11-5(.3)11-7
11/10/97	8:30 AM	T	NO	8.5	10.2		5	17	0.038	(.03)11-10(T)11-11(T)11-14(.35)11-15(.07)11-16
11/17/97	8:30 AM	0.01	NO	8.5	13.2		5.4	10	0.027	11-17(.01)11-21(.16)11-22(.84)11-23(.07)11-24
11/24/97	8:30 AM	0.02	NO	8.4	13.1		5.4	10	0.038	(.02)11-28(1.0)11-29(1.1)11-30(.3)
12/1/97	8:30 AM	0.03	NO	8	10.7		3.6	62	0.207	12-1(.03)12-3(.45)12-6(.02)12-10(.5)12-11(.5)
12/8/97	8:30 AM		NO	8.2	13.9		<2.2	16.5	0.268	12-22(.8)12-23(.59)12-24(.02)12-25(.54)12-26(.08)
12/15/97	8:30 AM		NO	8.1	13.5		<2.2	18	0.214	12-27(.03)
12/22/97	8:30 AM	0.8	NO	8.2	12.2		<2.2	13	0.231	
12/29/97	8:30 AM		NO	8	14.9		3.5	41	0.236	

						Meridian Road				
Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/6/97	8:30 AM	T	NO	7.8	11		4	172	0.1	1-1(.1)1-2(.03)1-4(.3)1-5(.38)1-6(T)1-7(T)1-9(.1)
1/13/97	8:30 AM		NO							1-10(.13)1-11(.03)1-15(.5)1-16(.58)1-17(T)1-20
1/20/97	8:30 AM	0.10	NO							(.1)1-21(.2)1-22(.44)1-23(.16)1-24(.1)1-25(.09)
1/27/97	8:30 AM	0.11	YES							1-26(.02)1-27(.11)1-28(.48)1-29(T)
2/3/97	8:30AM		YES	7.8	12.4		7.6	192	0.764	2-3(.28)2-4(.2)2-5(.15)2-6(T)2-7(T)2-8(T)2-10(T)
2/10/97	8:30 AM	T	NO							2-11(.05)2-12(.04)2-13(T)2-14(.06)2-15(.21)2-16
2/18/97	8:30 AM		NO							(.14)2-17(.18)2-19(.02)2-21(.45)2-22(.03)2-23(.03)
2/24/97	8:30 AM	T	YES							2-24(T)2-26(1.2)2-27(1.2)2-28(.02)
3/3/97	8:30 AM		NO	7.7	10.3		<2.2	190	0.106	3-1(T)3-2(T)3-5(T)3-6(.24)3-10(.46)3-14(1.9)3-15
3/10/97	8:30 AM	0.46	YES							(T)3-19(.02)3-25(.16)3-26(.22)3-29(.21)3-31(.16)
3/17/97	8:30 AM		NO							
3/24/97	8:30 AM		NO							
3/31/97	8:30 AM	0.16	NO							
4/7/97	8:30 AM		NO	8	11.4	1,100	4	44	0.637	4-4(T)4-5(.22)4-6(.23)4-10(.23)4-11(.01)4-12
4/14/97	8:30 AM		NO							(.31)4-13(.02)4-16(.01)4-22(T)4-25(.02)4-28(.08)
4/21/97	8:30 AM		NO							
4/28/97	8:30 AM	0.08	NO							
5/5/97	8:30 AM	T	NO	7.8	10.2	600	3.4	99	0.286	5-1(.25)5-2(T)5-3(.76)5-4(.55)5-5(T)5-6(.26)5-7
5/12/97	8:30 AM	T	NO							(.05)5-8(.1)5-10(T)5-12(T)5-15(.04)5-16(T)5-18
5/19/97	8:30 AM	0.71	NO							(.5)5-19(.71)5-20(.05)5-24(.2)5-25(2.0)5-26(.68)
5/27/97	8:30 AM	T	NO							5-27(T)5-28(T)5-29(.36)5-30(.4)5-31(.17)
6/2/97	8:30 AM	1.03	YES							6-1(1.0)6-2(1.03)6-3(.9)6-4(T)6-5(T)6-6(.5)6-7
6/9/97	8:30 AM	0.03	NO	7.8	8.1	300	<2.2	40	0.095	(.37)6-8(.33)6-9(.03)6-11(1.7)6-12(1.5)6-13(1.5)
6/16/97	8:30 AM	T	NO							6-14(T)6-16(T)6-17(.15)6-18(.02)6-19(.04)6-21
6/23/97	8:30 AM		NO							(.16)6-22(.54)6-25(.95)6-26(.9)6-29(.02)6-30(.6)
6/30/97	8:30 AM	0.6	NO							
7/7/97	8:30 AM	0.4	YES	7.6	6.8	14,200	7.6	1548	0.029	7-1(.4)7-2(1.45)7-6(.4)7-7(.4)7-16(.6)7-18(.75)
7/14/97	8:30 AM		NO							7-19(.75)7-20(.44)7-21(.73)7-22(T)7-24(.14)
7/21/97	8:30 AM	0.73	YES							7-25(.54)
7/28/97	8:30 AM		NO							
8/4/97	8:30 AM		NO	7.9	6.6	250	<2.2	13	0.035	8-11(.05)8-12(2.8)8-13(.05)8-16(1.04)8-17(.38)
8/11/97	8:30 AM	0.05	NO							8-18(.04)8-19(.05)8-20(T)8-21(.05)8-22(.03)8-24
8/18/97	8:30 AM	0.04	NO							(.66)8-25(T)8-26(.42)
8/25/97	8:30 AM	T	NO							
9/2/97	8:30 AM		NO	8	6.3	157	<2.2	22	0.016	
9/8/97	8:30 AM		NO							9-3(.1)9-9(.02)9-10(1.0)9-11(.66)9-12(.04)9-17(.45)
9/15/97	8:30 AM		NO							9-18(.43)9-19(2.08)9-20(1.04)9-21(.21)9-23(.46)
9/22/97	8:30 AM		NO							9-24(.14)9-29(.2)
9/29/97	8:30 AM	0.2	NO							
10/6/97	8:30 AM		NO	7.9	6.4	183	<2.2	9	0.024	10-1(.25)10-10(.4)10-14(.51)10-25(.02)10-26(T)
10/15/97	8:30 AM		NO							10-27(.49)10-28(.02)
10/20/97	8:30 AM		NO							
10/27/97	8:30 AM	0.49	NO							
11/3/97	8:30 AM	0.09	NO	7.8	8.9		2.2	12	0.058	11-1(.02)11-2(.48)11-3(.09)11-4(.16)11-5(.3)11-7
11/10/97	8:30 AM	T	NO							(.03)11-10(T)11-11(T)11-14(.35)11-15(.07)11-16
11/17/97	8:30 AM	0.01	NO							11-17(.01)11-21(.16)11-22(.84)11-23(.07)11-24
11/24/97	8:30 AM	0.02	NO							(.02)11-28(1.0)11-29(1.1)11-30(.3)
12/1/97	8:30 AM	0.03	NO	7.7	10.4		3.3	60	0.078	12-1(.03)12-3(.45)12-6(.02)12-10(.5)12-11(.5)
12/8/97	8:30 AM		NO							12-22(.8)12-23(.59)12-24(.02)12-25(.54)12-26(.08)
12/15/97	8:30 AM		NO							12-27(.03)
12/22/97	8:30 AM	0.8	NO							
12/29/97	8:30 AM		NO							

Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	Flint Creek Up E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/6/97	8:30 AM	T	NO	7.8	12.6		<2.2	18	0.066	1-1(.1)1-2(.03)1-4(.3)1-5(.38)1-6(T)1-7(T)1-9(.1)
1/13/97	8:30 AM		NO	7.6	12.4		<2.2	4	0.147	1-10(.13)1-11(.03)1-15(.5)1-16(.58)1-17(T)1-20
1/20/97	8:30 AM	0.10	NO	7.7	10.7		<2.2	4	0.194	(.1)1-21(.2)1-22(.44)1-23(.16)1-24(.1)1-25(.09)
1/27/97	8:30 AM	0.11	YES	7.8	12.3		<2.2	10	0.135	1-26(.02)1-27(.11)1-28(.48)1-29(T)
2/3/97	8:30AM		YES	7.8	12.5		3.6	25	0.112	2-3(.28)2-4(.2)2-5(.15)2-6(T)2-7(T)2-8(T)2-10(T)
2/10/97	8:30 AM	T	NO	7.8	12.6		<2.2	10	0.101	2-11(.05)2-12(.04)2-13(T)2-14(.06)2-15(.21)2-16
2/18/97	8:30 AM		NO	7.8	12.3		<2.2	4	0.126	(.14)2-17(.18)2-19(.02)2-21(.45)2-22(.03)2-23(.03)
2/24/97	8:30 AM	T	YES	7.9	13		<2.2	18	0.06	2-24(T)2-26(1.2)2-27(1.2)2-28(.02)
3/3/97	8:30 AM		NO	7.9	12.4		<2.2	26	0.059	3-1(T)3-2(T)3-5(T)3-6(.24)3-10(.46)3-14(1.9)3-15
3/10/97	8:30 AM	0.46	YES	7.9	11.8		<2.2	40	0.053	(T)3-19(.02)3-25(.16)3-26(.22)3-29(.21)3-31(.16)
3/17/97	8:30 AM		NO	7.8	12.1		<2.2	26	0.061	
3/24/97	8:30 AM		NO	7.8	11.7		<2.2	6	0.057	
3/31/97	8:30 AM	0.16	NO	8	11.4		<2.2	14	0.036	
4/7/97	8:30 AM		NO	8	9.4	1,250	<2.2	10	0.063	4-4(T)4-5(.22)4-6(.23)4-10(.23)4-11(.01)4-12
4/14/97	8:30 AM		NO	7.9	11.7	633	<2.2	3	0.03	(.31)4-13(.02)4-16(.01)4-22(T)4-25(.02)4-28(.08)
4/21/97	8:30 AM		NO	7.8	13	860	2.5	16	0.02	
4/28/97	8:30 AM	0.08	NO	7.8	11.9	183	<2.2	4	0.09	
5/5/97	8:30 AM	T	NO	8	12.2	250	<2.2	16	0.073	5-1(.25)5-2(T)5-3(.76)5-4(.55)5-5(T)5-6(.26)5-7
5/12/97	8:30 AM	T	NO	7.9	11.6	1,100	<2.2	6	0.124	(.05)5-8(.1)5-10(T)5-12(T)5-15(.04)5-16(T)5-18
5/19/97	8:30 AM	0.71	NO	7.9	8.2	923	2.5	26	0.047	(.5)5-19(.71)5-20(.05)5-24(.2)5-25(2.0)5-26(.68)
5/27/97	8:30 AM	T	NO	7.9	10.6	1,067	2.1	37	0.133	5-27(T)5-28(T)5-29(.36)5-30(.4)5-31(.17)
6/2/97	8:30 AM	1.03	YES	7.6	9.8	1,200	3.4	164	0.064	6-1(1.0)6-2(1.03)6-3(.9)6-4(T)6-5(T)6-6(.5)6-7
6/9/97	8:30 AM	0.03	NO	7.9	9.9	1,800	<2.2	10	0.071	(.37)6-8(.33)6-9(.03)6-11(1.7)6-12(1.5)6-13(1.5)
6/16/97	8:30 AM	T	NO	7.8	8.5	650	<2.2	12	0.048	6-14(T)6-16(T)6-17(.15)6-18(.02)6-19(.04)6-21
6/23/97	8:30 AM		NO	7.7	7.8	467	<2.2	14	0.063	(.16)6-22(.54)6-25(.95)6-26(.9)6-29(.02)6-30(.6)
6/30/97	8:30 AM	0.6	NO	7.8	7.8	975	<2.2	12	0.04	
7/7/97	8:30 AM	0.4	YES	7.6	9.1	3,300	5.1	224	0.612	7-1(.4)7-2(1.45)7-6(.4)7-7(.4)7-16(.6)7-18(.75)
7/14/97	8:30 AM		NO	7.7	7.5	1,117	<2.2	14	0.05	7-19(.75)7-20(.44)7-21(.73)7-22(T)7-24(.14)
7/21/97	8:30 AM	0.73	YES	7.6	7.3	1,500	<2.2	10	0.039	7-25(.54)
7/28/97	8:30 AM		NO	7.8	7.6	4,600	2.3	58	0.064	
8/4/97	8:30 AM		NO	7.8	7.3	550	<2.2	8	0.031	8-11(.05)8-12(2.8)8-13(.05)8-16(1.04)8-17(.38)
8/11/97	8:30 AM	0.05	NO	7.6	7.6	600	<2.2	4	0.037	8-18(.04)8-19(.05)8-20(T)8-21(.05)8-22(.03)8-24
8/18/97	8:30 AM	0.04	NO	7.8	8.1	1,200	<2.2	34	0.041	(.66)8-25(T)8-26(.42)
8/25/97	8:30 AM	T	NO	8	8.4	1,733	<2.2	25	0.039	
9/2/97	8:30 AM		NO	7.8	7.5	1,750	<2.2	6	0.03	
9/8/97	8:30 AM		NO	7.7	7.9	133	<2.2	4	0.037	9-3(.1)9-9(.02)9-10(1.0)9-11(.66)9-12(.04)9-17(.45)
9/15/97	8:30 AM		NO	7.8		600	<2.2	2		9-18(.43)9-19(2.08)9-20(1.04)9-21(.21)9-23(.46)
9/22/97	8:30 AM		NO	7.9	9.4	500	<2.2	24	0.033	9-24(.14)9-29(.2)
9/29/97	8:30 AM	0.2	NO	7.8	8.5	425	<2.2	4	0.033	
10/6/97	8:30 AM		NO	7.6	7.2	150	<2.2	4	0.019	10-1(.25)10-10(.4)10-14(.51)10-25(.02)10-26(T)
10/15/97	8:30 AM		NO	7.7	8.6	167	<2.2	6	0.032	10-27(.49)10-28(.02)
10/20/97	8:30 AM		NO	7.7	8.6	83	<2.2	4	0.051	
10/27/97	8:30 AM	0.49	NO	7.8	10.7	1,700	2.4	4	0.03	
11/3/97	8:30 AM	0.09	NO	7.8	10.9		<2.2	4	0.033	11-1(.02)11-2(.48)11-3(.09)11-4(.16)11-5(.3)11-7
11/10/97	8:30 AM	T	NO	7.8	10.5		<2.2	2	0.022	(.03)11-10(T)11-11(T)11-14(.35)11-15(.07)11-16
11/17/97	8:30 AM	0.01	NO	7.7	11.6		<2.2	1	0.027	11-17(.01)11-21(.16)11-22(.84)11-23(.07)11-24
11/24/97	8:30 AM	0.02	NO	8	11.9		<2.2	2	0.03	(.02)11-28(1.0)11-29(1.1)11-30(.3)
12/1/97	8:30 AM	0.03	NO	7.9	11		<2.2	22	0.037	12-1(.03)12-3(.45)12-6(.02)12-10(.5)12-11(.5)
12/8/97	8:30 AM		NO	7.9	11.6		<2.2	1.5	0.114	12-22(.8)12-23(.59)12-24(.02)12-25(.54)12-26(.08)
12/15/97	8:30 AM		NO	7.9	11.9		<2.2	3.5	0.107	12-27(.03)
12/22/97	8:30 AM	0.8	NO	8	11.7		<2.2	5	0.094	
12/29/97	8:30 AM		NO	8	13.3		<2.2	6	0.073	

Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	Flint Creek Down E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/6/97	8:30 AM	T	NO	7.9	12.5		<2.2	24	0.098	1-1(.1)1-2(.03)1-4(.3)1-5(.38)1-6(T)1-7(T)1-9(.1)
1/13/97	8:30 AM		NO	7.8	11.2		2.7	8	0.16	1-10(.13)1-11(.03)1-15(.5)1-16(.58)1-17(T)1-20
1/20/97	8:30 AM	0.10	Snow Too Deep							(.1)1-21(.2)1-22(.44)1-23(.16)1-24(.1)1-25(.09)
1/27/97	8:30 AM	0.11	YES " "							1-26(.02)1-27(.11)1-28(.48)1-29(T)
2/3/97	8:30AM		YES	7.8	12.6		3.1	31	0.125	2-3(.28)2-4(.2)2-5(.15)2-6(T)2-7(T)2-8(T)2-10(T)
2/10/97	8:30 AM	T	NO	7.9	12.5		2.9	10	0.113	2-11(.05)2-12(.04)2-13(T)2-14(.06)2-15(.21)2-16
2/18/97	8:30 AM		NO	7.9	12		2.5	10	0.169	(.14)2-17(.18)2-19(.02)2-21(.45)2-22(.03)2-23(.03)
2/24/97	8:30 AM	T	YES	7.9	13		<2.2	20	0.077	2-24(T)2-26(1.2)2-27(1.2)2-28(.02)
3/3/97	8:30 AM		NO	7.9	12.2		<2.2	29	0.074	3-1(T)3-2(T)3-5(T)3-6(.24)3-10(.46)3-14(1.9)3-15
3/10/97	8:30 AM	0.46	YES	7.8	12.1		<2.2	44	0.061	(T)3-19(.02)3-25(.16)3-26(.22)3-29(.21)3-31(.16)
3/17/97	8:30 AM		NO	7.8	12.3		2.5	28	0.062	
3/24/97	8:30 AM		NO	7.9	11.9		<2.2	6	0.072	
3/31/97	8:30 AM	0.16	NO	8	11.8		2.2	12	0.062	
4/7/97	8:30 AM		NO	8	11.6	1,250	<2.2	7	0.051	4-4(T)4-5(.22)4-6(.23)4-10(.23)4-11(.01)4-12
4/14/97	8:30 AM		NO	8	11.6	633	<2.2	4	0.038	(.31)4-13(.02)4-16(.01)4-22(T)4-25(.02)4-28(.08)
4/21/97	8:30 AM		NO	8	12.6	860	2.2	6	0.072	
4/28/97	8:30 AM	0.08	NO	7.9	11.8	183	3	13	0.1	
5/5/97	8:30 AM	T	NO	8	12.1	1,311	<2.2	21	0.063	5-1(.25)5-2(T)5-3(.76)5-4(.55)5-5(T)5-6(.26)5-7
5/12/97	8:30 AM	T	NO	8	10.8	3,934	<2.2	8	0.103	(.05)5-8(.1)5-10(T)5-12(T)5-15(.04)5-16(T)5-18
5/19/97	8:30 AM	0.71	NO	8	8.7	2,400	2.6	22	0.055	(.5)5-19(.71)5-20(.05)5-24(.2)5-25(2.0)5-26(.68)
5/27/97	8:30 AM	T	NO	7.8	8.6	2,000	3.6	35	2.63	5-27(T)5-28(T)5-29(.36)5-30(.4)5-31(.17)
6/2/97	8:30 AM	1.03	YES	7.7	8.9	2,131	3.5	162	0.064	6-1(1.0)6-2(1.03)6-3(.9)6-4(T)6-5(T)6-6(.5)6-7
6/9/97	8:30 AM	0.03	NO	8	9.7	7,167	2.1	8	0.076	(.37)6-8(.33)6-9(.03)6-11(1.7)6-12(1.5)6-13(1.5)
6/16/97	8:30 AM	T	NO	8	8.6	2,000	<2.2	8	0.054	6-14(T)6-16(T)6-17(.15)6-18(.02)6-19(.04)6-21
6/23/97	8:30 AM		NO	7.8	7.6	5,000	<2.2	12	0.062	(.16)6-22(.54)6-25(.95)6-26(.9)6-29(.02)6-30(.6)
6/30/97	8:30 AM	0.6	NO	7.8	8.1	2,667	<2.2	6	0.058	
7/7/97	8:30 AM	0.4	YES	7.7	9	3,000	5	1,548	0.029	7-1(.4)7-2(1.45)7-6(.4)7-7(.4)7-16(.6)7-18(.75)
7/14/97	8:30 AM		NO	7.9	8.2	32,000	<2.2	6	0.06	7-19(.75)7-20(.44)7-21(.73)7-22(T)7-24(.14)
7/21/97	8:30 AM	0.73	YES	7.9	8.1	7,049	<2.2	9	0.087	7-25(.54)
7/28/97	8:30 AM		NO	7.8	7.6	10,328	2.3	58	0.061	
8/4/97	8:30 AM		NO	8	7	4,500	<2.2	11	0.058	8-11(.05)8-12(2.8)8-13(.05)8-16(1.04)8-17(.38)
8/11/97	8:30 AM	0.05	NO	7.8	7.6	18,182	2.2	10	0.059	8-18(.04)8-19(.05)8-20(T)8-21(.05)8-22(.03)8-24
8/18/97	8:30 AM	0.04	NO	7.9	7.8	1,833	2.3	30	0.031	(.66)8-25(T)8-26(.42)
8/25/97	8:30 AM	T	NO	8.1	8.4	5,246	<2.2	24	0.04	
9/2/97	8:30 AM		NO	8	8.5	690,000	<2.2	6	0.052	
9/8/97	8:30 AM		NO	7.9	7.2	24,000	3.6	10	0.058	9-3(.1)9-9(.02)9-10(1.0)9-11(.66)9-12(.04)9-17(.45)
9/15/97	8:30 AM		NO	7.9		15,000	<2.2	3		9-18(.43)9-19(2.08)9-20(1.04)9-21(.21)9-23(.46)
9/22/97	8:30 AM		NO	8	8.6	667	<2.2	28	0.036	9-24(.14)9-29(.2)
9/29/97	8:30 AM	0.2	NO	8	8.6	65,454	<2.2	12	0.077	
10/6/97	8:30 AM		NO	7.8	7.1	30,000	<2.2	3	0.058	10-1(.25)10-10(.4)10-14(.51)10-25(.02)10-26(T)
10/15/97	8:30 AM		NO	7.9	8	98,182	<2.2	6	0.109	10-27(.49)10-28(.02)
10/20/97	8:30 AM		NO	8	8.4	17,273	<2.2	2	0.11	
10/27/97	8:30 AM	0.49	NO	7.9	10	14,545	3	4	0.035	
11/3/97	8:30 AM	0.09	NO	7.9	9.7		<2.2	4	0.041	11-1(.02)11-2(.48)11-3(.09)11-4(.16)11-5(.3)11-7
11/10/97	8:30 AM	T	NO	7.9	9.4		3.4	4	0.155	(.03)11-10(T)11-11(T)11-14(.35)11-15(.07)11-16
11/17/97	8:30 AM	0.01	NO	7.9	11.5		<2.2	2	0.079	11-17(.01)11-21(.16)11-22(.84)11-23(.07)11-24
11/24/97	8:30 AM	0.02	NO	8	12.1		2.3	11	0.035	(.02)11-28(1.0)11-29(1.1)11-30(.3)
12/1/97	8:30 AM	0.03	NO	7.9	11.2		2.2	23	0.044	12-1(.03)12-3(.45)12-6(.02)12-10(.5)12-11(.5)
12/8/97	8:30 AM		NO	8	11.7		3.2	5.5	0.141	12-22(.8)12-23(.59)12-24(.02)12-25(.54)12-26(.08)
12/15/97	8:30 AM		NO	8	12.2		<2.2	1.5	0.088	12-27(.03)
12/22/97	8:30 AM	0.8	ICE							
12/29/97	8:30 AM		NO	8	13.4		<2.2	6.5	0.069	

Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	Lafontaine		TSS	NH-3	Monthly Total Rain
						E.Coli	CBOD			
1/6/97	8:30 AM	T	NO	7.8	12		4.5	212	0.1	1-1(.1)1-2(.03)1-4(.3)1-5(.38)1-6(T)1-7(T)1-9(.1)
1/13/97	8:30 AM		NO	7.7	12.9		<2.2	8	0.169	1-10(.13)1-11(.03)1-15(.5)1-16(.58)1-17(T)1-20
1/20/97	8:30 AM	0.10	FROZEN							(.1)1-21(.2)1-22(.44)1-23(.16)1-24(.1)1-25(.09)
1/27/97	8:30 AM	0.11	YES	7.7	13.5		<2.2	19	0.291	1-26(.02)1-27(.11)1-28(.48)1-29(T)
2/3/97	8:30AM		YES	7.7	13.6		6.9	192	0.473	2-3(.28)2-4(.2)2-5(.15)2-6(T)2-7(T)2-8(T)2-10(T)
2/10/97	8:30 AM	T	NO	7.9	13.3		<2.2	20	0.191	2-11(.05)2-12(.04)2-13(T)2-14(.06)2-15(.21)2-16
2/18/97	8:30 AM		NO	8	13.7		<2.2	16	0.268	(.14)2-17(.18)2-19(.02)2-21(.45)2-22(.03)2-23(.03)
2/24/97	8:30 AM	T	YES	7.8	12.9		<2.2	99	0.149	2-24(T)2-26(1.2)2-27(1.2)2-28(.02)
3/3/97	8:30 AM		NO	7.7	11.6		<2.2	180	0.114	3-1(T)3-2(T)3-5(T)3-6(.24)3-10(.46)3-14(1.9)3-15
3/10/97	8:30 AM	0.46	YES	7.8	11.9		3.2	348	0.109	(T)3-19(.02)3-25(.16)3-26(.22)3-29(.21)3-31(.16)
3/17/97	8:30 AM		NO	7.8	12.2		<2.2	152	0.083	
3/24/97	8:30 AM		NO	8	11.9		<2.2	24	0.101	
3/31/97	8:30 AM	0.16	NO	8	11.1		<2.2	60	0.111	
4/7/97	8:30 AM		NO	8.1	10.1	1,300	5.8	37	0.678	4-4(T)4-5(.22)4-6(.23)4-10(.23)4-11(.01)4-12
4/14/97	8:30 AM		NO	8.2	12.9	100	<2.2	6	0.044	(.31)4-13(.02)4-16(.01)4-22(T)4-25(.02)4-28(.08)
4/21/97	8:30 AM		NO	8.3	14.6	<1	2.2	2	0.016	
4/28/97	8:30 AM	0.08	NO	8.2	13.3	17	<2.2	4	0.037	
5/5/97	8:30 AM	T	NO	7.8	11.3	700	3.7	82	0.389	5-1(.25)5-2(T)5-3(.76)5-4(.55)5-5(T)5-6(.26)5-7
5/12/97	8:30 AM	T	NO	8.2	12.1	33	<2.2	8	0.047	(.05)5-8(.1)5-10(T)5-12(T)5-15(.04)5-16(T)5-18
5/19/97	8:30 AM	0.71	NO	8	8.4	450	2.5	13	0.044	(.5)5-19(.71)5-20(.05)5-24(.2)5-25(2.0)5-26(.68)
5/27/97	8:30 AM	T	NO	7.7	9.6	2,900	3.7	192	0.24	5-27(T)5-28(T)5-29(.36)5-30(.4)5-31(.17)
6/2/97	8:30 AM	1.03	YES	7.6	9.2	4,600	4.8	488	0.16	6-1(1.0)6-2(1.03)6-3(.9)6-4(T)6-5(T)6-6(.5)6-7
6/9/97	8:30 AM	0.03	NO	8	9.7	133	<2.2	28	0.088	(.37)6-8(.33)6-9(.03)6-11(1.7)6-12(1.5)6-13(1.5)
6/16/97	8:30 AM	T	NO	8	8.6	225	<2.2	35	0.062	6-14(T)6-16(T)6-17(.15)6-18(.02)6-19(.04)6-21
6/23/97	8:30 AM		NO	7.8	7.9	12,400	3.2	304	0.158	(.16)6-22(.54)6-25(.95)6-26(.9)6-29(.02)6-30(.6)
6/30/97	8:30 AM	0.6	NO	8	7.5	900	<2.2	45	0.035	
7/7/97	8:30 AM	0.4	YES	7.8	8.5	5,133	4.2	424	0.105	7-1(.4)7-2(1.45)7-6(.4)7-7(.4)7-16(.6)7-18(.75)
7/14/97	8:30 AM		NO	8.1	8.1	420	3.2	43	0.132	7-19(.75)7-20(.44)7-21(.73)7-22(T)7-24(.14)
7/21/97	8:30 AM	0.73	YES	8	7.2	400	2.6	41	0.025	7-25(.54)
7/28/97	8:30 AM		NO	7.6	6.9	7,800	3.6	228	0.075	
8/4/97	8:30 AM		NO	8.1	7.9	300	<2.2	26	0.032	8-11(.05)8-12(2.8)8-13(.05)8-16(1.04)8-17(.38)
8/11/97	8:30 AM	0.05	NO	8.3	9.6	214	2.6	23	0.08	8-18(.04)8-19(.05)8-20(T)8-21(.05)8-22(.03)8-24
8/18/97	8:30 AM	0.04	NO	7.7	7.5	5,267	3.8	110	0.078	(.66)8-25(T)8-26(.42)
8/25/97	8:30 AM	T	NO	8	8.4	5,400	3.4	110	0.077	
9/2/97	8:30 AM		NO	8.3	8.2	228	<2.2	19	0.01	
9/8/97	8:30 AM		NO	8.4	9	183	2.2	31	0.047	9-3(.1)9-9(.02)9-10(1.0)9-11(.66)9-12(.04)9-17(.45)
9/15/97	8:30 AM		NO	8		440	<2.2	32		9-18(.43)9-19(2.08)9-20(1.04)9-21(.21)9-23(.46)
9/22/97	8:30 AM		NO	7.7	8.1	1,133	2.7	105	0.052	9-24(.14)9-29(.2)
9/29/97	8:30 AM	0.2	NO	8	8.6	433	<2.2	26	0.066	
10/6/97	8:30 AM		NO	8.2	8.6	433	<2.2	17	0.095	10-1(.25)10-10(.4)10-14(.51)10-25(.02)10-26(T)
10/15/97	8:30 AM		NO	8	9.9	133	<2.2	10	0.044	10-27(.49)10-28(.02)
10/20/97	8:30 AM		NO	8.3	11.3	67	<2.2	8	0.039	
10/27/97	8:30 AM	0.49	NO	8.1	10.3	183	<2.2	6	0.018	
11/3/97	8:30 AM	0.09	NO	7.9	10.6		<2.2	13	0.106	11-1(.02)11-2(.48)11-3(.09)11-4(.16)11-5(.3)11-7
11/10/97	8:30 AM	T	NO	8.1	12.2		<2.2	12	0.039	(.03)11-10(T)11-11(T)11-14(.35)11-15(.07)11-16
11/17/97	8:30 AM	0.01	NO	8.2	14.1		<2.2	14	0.044	11-17(.01)11-21(.16)11-22(.84)11-23(.07)11-24
11/24/97	8:30 AM	0.02	NO	7.9	12.6		2.6	12	0.083	
12/1/97	8:30 AM	0.03	NO	7.8	10.9		3.5	51	0.077	(.02)11-28(1.0)11-29(1.1)11-30(.3)
12/8/97	8:30 AM		NO	8	14		<2.2	6.5	0.163	
12/15/97	8:30 AM		NO	8	12.5		<2.2	6.5	0.231	12-1(.03)12-3(.45)12-6(.02)12-10(.5)12-11(.5)
12/22/97	8:30 AM	0.8	NO	8.2	12.5		<2.2	5	0.15	12-22(.8)12-23(.59)12-24(.02)12-25(.54)12-26(.08)
12/29/97	8:30 AM		NO	8	14.7		<2.2	12	0.099	12-27(.03)

						Rangeline Road				
Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/6/97	8:30 AM	T	NO	7.9	11.8		5.2	310	0.177	1-1(.1)1-2(.03)1-4(.3)1-5(.38)1-6(T)1-7(T)1-9(.1)
1/13/97	8:30 AM		NO	7.8	13.2		<2.2	14	0.155	1-10(.13)1-11(.03)1-15(.5)1-16(.58)1-17(T)1-20
1/20/97	8:30 AM	0.10	NO	7.7	11.2		<2.2	7	0.196	(.1)1-21(.2)1-22(.44)1-23(.16)1-24(.1)1-25(.09)
1/27/97	8:30 AM	0.11	YES	7.8	13.3		5.6	74	0.649	1-26(.02)1-27(.11)1-28(.48)1-29(T)
2/3/97	8:30AM		YES	7.8	13.1		6.7	128	0.687	2-3(.28)2-4(.2)2-5(.15)2-6(T)2-7(T)2-8(T)2-10(T)
2/10/97	8:30 AM	T	NO	8	13.8		2.8	64	0.316	2-11(.05)2-12(.04)2-13(T)2-14(.06)2-15(.21)2-16
2/18/97	8:30 AM		NO	8.1	13.1		<2.2	12	0.229	(.14)2-17(.18)2-19(.02)2-21(.45)2-22(.03)2-23(.03)
2/24/97	8:30 AM	T	YES	7.9	13.2		3.2	114	0.196	2-24(T)2-26(1.2)2-27(1.2)2-28(.02)
3/3/97	8:30 AM		NO	7.7	13.1		3.2	368	0.191	3-1(T)3-2(T)3-5(T)3-6(.24)3-10(.46)3-14(1.9)3-15
3/10/97	8:30 AM	0.46	YES	7.9	12.6		2.9	108	0.212	(T)3-19(.02)3-25(.16)3-26(.22)3-29(.21)3-31(.16)
3/17/97	8:30 AM		NO	7.8	13.7		3	256	0.1	
3/24/97	8:30 AM		NO	8.1	12		3.2	104	0.047	
3/31/97	8:30 AM	0.16	NO	8.2	11.1		3.8	85	0.038	
4/7/97	8:30 AM		NO	8.2	10.4	383	5.6	117	0.08	4-4(T)4-5(.22)4-6(.23)4-10(.23)4-11(.01)4-12
4/14/97	8:30 AM		NO	8.4	12.3	400	3.6	45	0.016	(.31)4-13(.02)4-16(.01)4-22(T)4-25(.02)4-28(.08)
4/21/97	8:30 AM		NO	8.4	15	367	3.2	8	0.012	
4/28/97	8:30 AM	0.08	NO	8.4	12.6	17	2.3	8	0.018	
5/5/97	8:30 AM	T	NO	8.1	12.1	167	4.8	74	0.205	5-1(.25)5-2(T)5-3(.76)5-4(.55)5-5(T)5-6(.26)5-7
5/12/97	8:30 AM	T	NO	8.1	11	117	3.2	31	0.207	(.05)5-8(.1)5-10(T)5-12(T)5-15(.04)5-16(T)5-18
5/19/97	8:30 AM	0.71	NO	8	7.7	8,000	3.9	12	0.049	(.5)5-19(.71)5-20(.05)5-24(.2)5-25(2.0)5-26(.68)
5/27/97	8:30 AM	T	NO	7.8	9.4	2,300	3.7	160	0.22	5-27(T)5-28(T)5-29(.36)5-30(.4)5-31(.17)
6/2/97	8:30 AM	1.03	YES	7.7	9.6	3,500	4.4	340	0.192	6-1(1.0)6-2(1.03)6-3(.9)6-4(T)6-5(T)6-6(.5)6-7
6/9/97	8:30 AM	0.03	NO	7.6	10	100	<2.2	35	0.189	(.37)6-8(.33)6-9(.03)6-11(1.7)6-12(1.5)6-13(1.5)
6/16/97	8:30 AM	T	NO	7.6	8.7	300	2.6	22	0.137	6-14(T)6-16(T)6-17(.15)6-18(.02)6-19(.04)6-21
6/23/97	8:30 AM		NO	7.8	7	2,500	4.2	128	0.207	(.16)6-22(.54)6-25(.95)6-26(.9)6-29(.02)6-30(.6)
6/30/97	8:30 AM	0.6	NO	7.9	7.2	500	<2.2	33	0.058	
7/7/97	8:30 AM	0.4	YES	7.7	8.1	7,200	5	594	0.11	7-1(.4)7-2(1.45)7-6(.4)7-7(.4)7-16(.6)7-18(.75)
7/14/97	8:30 AM		NO	8.1	7.3	300	3.3	32	0.12	7-19(.75)7-20(.44)7-21(.73)7-22(T)7-24(.14)
7/21/97	8:30 AM	0.73	YES	8	6.8	500	<2.2	20	0.016	7-25(.54)
7/28/97	8:30 AM		NO	7.7	6.6	5,600	3.6	222	0.036	
8/4/97	8:30 AM		NO	8.2	7.6	100	<2.2	19	0.04	8-11(.05)8-12(2.8)8-13(.05)8-16(1.04)8-17(.38)
8/11/97	8:30 AM	0.05	NO	8.1	8.6	414	2.2	14	0.04	8-18(.04)8-19(.05)8-20(T)8-21(.05)8-22(.03)8-24
8/18/97	8:30 AM	0.04	NO	7.7	7.1	5,400	3.7	140	0.066	(.66)8-25(T)8-26(.42)
8/25/97	8:30 AM	T	NO	8	8	10,200	3.6	106	0.074	
9/2/97	8:30 AM		NO	8.2	8	300	<2.2	22	0.012	
9/8/97	8:30 AM		NO	8.3	7.7	80	<2.2	16	0.035	9-3(.1)9-9(.02)9-10(1.0)9-11(.66)9-12(.04)9-17(.45)
9/15/97	8:30 AM		NO	8.1		400	<2.2	26		9-18(.43)9-19(2.08)9-20(1.04)9-21(.21)9-23(.46)
9/22/97	8:30 AM		NO	7.8	8.1	800	3.6	91	0.032	9-24(.14)9-29(.2)
9/29/97	8:30 AM	0.2	NO	8.1	8.7	433	<2.2	22	0.027	
10/6/97	8:30 AM		NO	8.1	8.3	300	<2.2	14	0.048	10-1(.25)10-10(.4)10-14(.51)10-25(.02)10-26(T)
10/15/97	8:30 AM		NO	8.1	9.4	883	<2.2	17	0.019	10-27(.49)10-28(.02)
10/20/97	8:30 AM		NO	8.1	9.3	217	<2.2	16	0.05	
10/27/97	8:30 AM	0.49	NO	8.1	10.5	600	2.8	13	0.025	
11/3/97	8:30 AM	0.09	NO	8.1	10.9		3.3	17	0.051	11-1(.02)11-2(.48)11-3(.09)11-4(.16)11-5(.3)11-7
11/10/97	8:30 AM	T	NO	8.2	11		3.4	12	0.023	(.03)11-10(T)11-11(T)11-14(.35)11-15(.07)11-16
11/17/97	8:30 AM	0.01	NO	8.4	13		3.2	6	0.007	11-17(.01)11-21(.16)11-22(.84)11-23(.07)11-24
11/24/97	8:30 AM	0.02	NO	8	12.3		2.9	10	0.061	(.02)11-28(1.0)11-29(1.1)11-30(.3)
12/1/97	8:30 AM	0.03	NO	7.8	10.7		3.3	56	0.126	12-1(.03)12-3(.45)12-6(.02)12-10(.5)12-11(.5)
12/8/97	8:30 AM		NO	8.2	13.3		<2.2	9.5	0.188	12-22(.8)12-23(.59)12-24(.02)12-25(.54)12-26(.08)
12/15/97	8:30 AM		NO	8	13.2		<2.2	14.5	0.19	12-27(.03)
12/22/97	8:30 AM	0.8	NO	8.2	12.6		<2.2	5	0.104	
12/29/97	8:30 AM		NO	8	14.5		3	22	0.191	

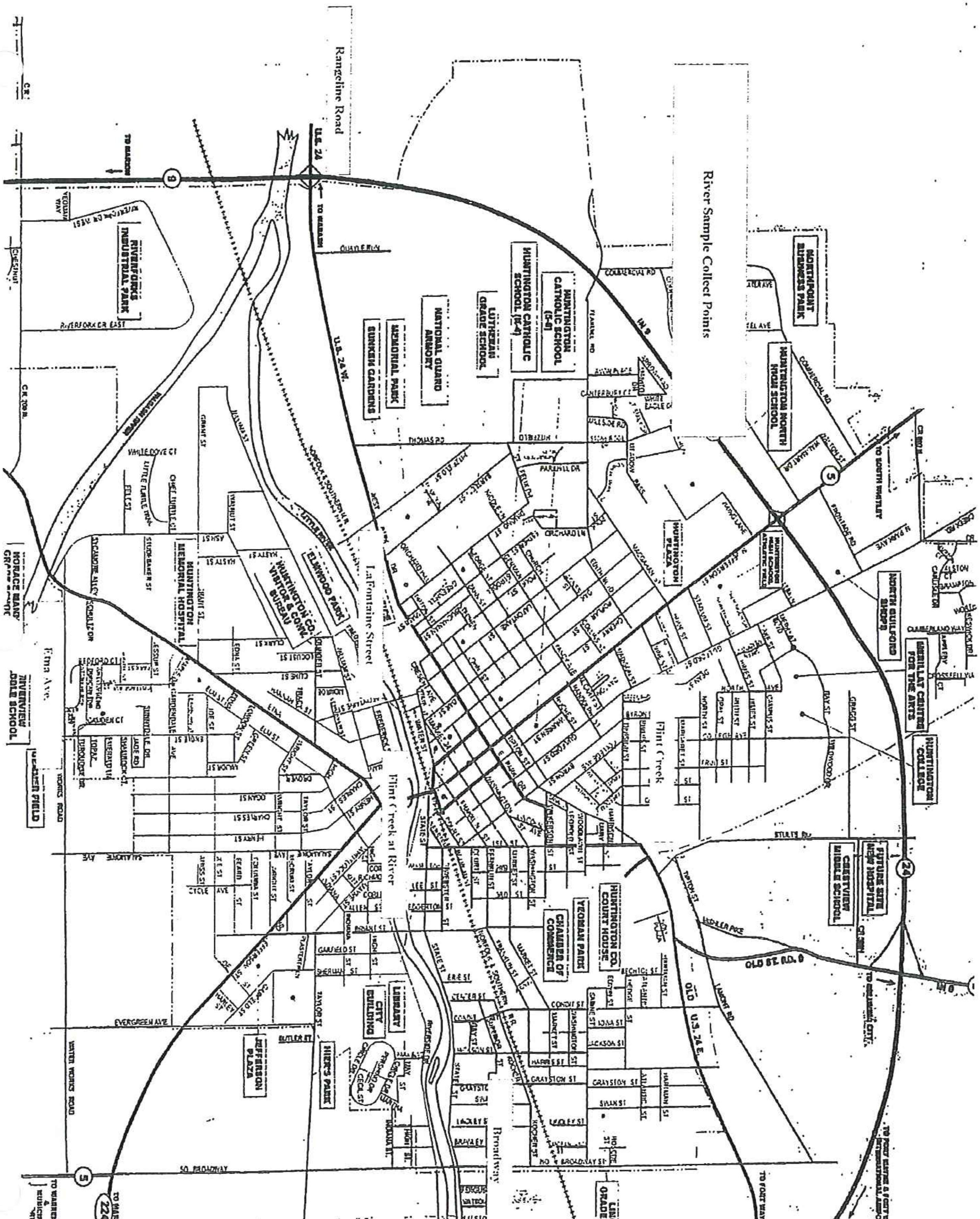
						Etna Avenue				
Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/5/98	8:30 AM	1.04	YES	8.2	12.2		2.2	22	0.389	1-3(.08)1-4(.80)1-5(1.04)1-6(.8)1-7(1.0)1-8(.46)
1/12/98	8:30 AM		NO	8	13.2		4.2	67	0.232	1-9(.7)1-13(.12)1-15(.19)1-18(.1)1-23(.53)1-27
1/19/98	8:30 AM		NO	8.2	13.7		<2.2	10.5	0.214	(T)1-30(.01)1-31(.01)
1/26/98	8:30 AM		NO	8.3	13.7		<2.2	9.5	0.151	
2/2/98	8:30		NO	8.3	13.3		2.2	39	0.082	2-3(.03)2-11(.4)2-12(.39)2-13(.05)2-17(.5)2-18
2/9/98	8:30 AM		NO	8.5	14		2.8	12.5	0.022	(.5)2-19(.2)2-20(.05)2-23(.3)2-25(.09)2-28(.1)
2/17/98	8:30 AM	0.5	YES	8.4	13.2		3.6	51	0.029	
2/23/98	8:30 AM	0.3	NO	7.9	13.5		3.6	104	0.187	
3/2/98	8:30 AM		NO	8.2	12.3		2.9	56	0.085	3-3(.1)3-4(.1)3-5(T)3-7(.05)3-8(.9)3-9(.66)3-10
3/9/98	8:30 AM	0.66	YES	8.5	11.8		5.4	544	0.035	(.76)3-11(.01)3-18(.56)3-19(.5)3-20(.1)3-21(.56)
3/16/98	8:30 AM		NO	8.2	14		<2.2	64	0.086	3-22(.1)3-23(.3)3-27(T)3-28(.03)3-29(1.0)3-30
3/23/98	8:30 AM	0.3	NO	7.8	13.9		3.2	65	0.212	(.36)3-31(.6)
3/30/98	8:30 AM	0.36	NO	7.8	9.5		3.8	202	0.088	
4/6/98	8:30 AM		NO	8	9.4	20	3	64	0.075	4-1(.49)4-2(.16)4-8(.41)4-9(.58)4-10(1.91)4-14
4/13/98	8:30 AM		NO	7.8	13	50	3.2	112	0.18	(.36)4-15(T)4-16(1.83)4-22(.1)4-25(.02)4-26
4/20/98	8:30 AM		NO	7.7	11.8	40	2.6	40	0.139	(.07)4-29(.33)4-30(.24)
4/27/98	8:30 AM		NO	8.2	11.3	TNTC	3.4	40	0.018	
5/4/98	8:30 AM	0.02	NO	8.5	11.4	<1	5.2	37.5	0.023	5-1(.05)5-3(.1)5-4(.02)5-5(T)5-7(.13)5-8(.6)5-9
5/11/98	8:30 AM		NO	8	10.4	30,000	3.8	47	0.121	(.5)5-13(.01)5-14(T)5-19(T)5-20(.3)5-23(.02)
5/18/98	8:30 AM		NO	7.8	8.6	<1	3.8	27	0.217	5-24(.19)5-25(.8)5-29(.15)
5/26/98	8:30 AM		NO	8.3	9.1	200	7	41.5	0.115	
6/1/98	8:30 AM		NO	7.9	7.7	<1	5.6	18	0.295	6-3(.03)6-5(.02)6-8(.02)6-9(.3)6-10(.03)6-11
6/8/98	8:30 AM	0.02	NO	7.9	7.4	31	7.2	39	0.164	(1.0)6-12(.3)6-13(.39)6-14(.2)6-15(.04)6-16
6/15/98	8:30 AM	0.04	NO	7.7	8	200	6	46	0.725	(1.52)6-19(.35)6-26(.02)6-29(.5)6-30(.2)
6/22/98	8:30 AM		NO	7.6	8.6	80	4	16	0.285	
6/29/98	8:30 AM	0.5	YES	7.6	4.8	1,267	4.8	120	0.305	
7/6/98	8:30 AM		NO	7.6	7.2	133	4	46	0.235	7-3(.4)7-4(2.2)7-7(.47)7-19(.43)7-22(3.0)
7/13/98	8:30 AM		NO	7.6	7.2	46	3.3	37	0.159	7-23(.5)
7/20/98	8:30 AM		NO	7.6	5.5	100	3.1	71	0.231	
7/27/98	8:30 AM		NO	7.5	8.8	300	2.1	16.5	0.128	
8/3/98	8:30 AM		NO	7.5	8.4	30	3.6	9	0.177	8-4(2.42)8-5(1.2)8-6(.2)8-7(.46)8-8(.5)8-9(.5)
8/10/98	8:30 AM		NO	7.4	8.8	15	2.1	15.5	0.174	8-15(.1)8-16(.35)8-17(.02)8-21(.01)8-24(.15)
8/17/98	8:30 AM	0.02	NO	7.4	8	54	2.6	8	0.258	8-26(.03)8-28(.13)
8/24/98	8:30 AM	0.15	NO	7.5	6.1	23	4.2	14.5	0.444	
8/31/98	8:30 AM		NO	7.6	6.6	133	4.6	30.5	0.198	
9/8/98	8:30 AM		NO	7.7	5.3	62	3.4	23	0.137	9-3(.15)9-4(.03)9-7(.15)9-20(.58)9-21(.03)
9/14/98	8:30 AM		NO	7.8	6	33	2.9	23	0.132	9-25(.01)9-27(.47)9-30(.02)
9/21/98	8:30 AM	0.03	NO	7.8	6	71	3.9	31	0.203	
9/28/98	8:30 AM		NO	7.8	6.7	57	3.9	35	0.246	
10/5/98	8:30 AM		NO	7.9	8.3	25	2.6	37	0.098	10-3(.06)10-4(.38)10-6(1.93)10-7(.73)10-18
10/13/98	8:30 AM		NO	8	9.1	31	2.4	32	0.071	(.47)10-21(.1)10-27(.15)
10/19/98	8:30 AM		NO	8.1	9.4	23	3	36.5	0.033	
10/26/98	8:30 AM		NO	8.2	10.1	10	3.7	42	0.047	
11/2/98	8:30 AM	T	NO	8.2	9.8		3.5	35	0.053	11-1(.04)11-2(T)11-3(.05)11-9(.25)11-10(.8)
11/9/98	8:30 AM	0.25	NO	8.3			2.6	22.5	0.135	11-25(.6)11-30(.15)
11/16/98	8:30 AM		NO	8.2	11.9		2.8	48	0.143	
11/23/98	8:30 AM		NO	8.1	11.7		2.7	35	0.369	
11/30/98	8:30 AM	0.15	NO	8.1			3.3	54	0.441	
12/7/98	8:30 AM	0.4	NO	8	8.2		3.5	45	0.414	12-7(.4)12-21(.47)12-22(T)
12/14/98	8:30 AM		NO	8.1	10.9		3.4	19.5	0.529	
12/21/98	8:30 AM	0.47	NO	8.2			3	18	0.162	
12/28/98	8:30 AM		NO	8.2	13.9		2.4	22	0.069	

Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	Meridian Road E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/5/98	8:30 AM	1.04	YES							1-3(.08)1-4(.80)1-5(1.04)1-6(.8)1-7(1.0)1-8(.46)
1/12/98	8:30 AM		NO	7.8	11.8		2.1	48	0.089	1-9(.7)1-13(.12)1-15(.19)1-18(.1)1-23(.53)1-27
1/19/98	8:30 AM		NO							(T)1-30(.01)1-31(.01)
1/26/98	8:30 AM		NO							
2/2/98	8:30		NO	8.1	12.3		<2.2	23	0.088	2-3(.03)2-11(.4)2-12(.39)2-13(.05)2-17(.5)2-18
2/9/98	8:30 AM		NO							(.5)2-19(.2)2-20(.05)2-23(.3)2-25(.09)2-28(.1)
2/17/98	8:30 AM	0.5	YES							
2/23/98	8:30 AM	0.3	NO							
3/2/98	8:30 AM		NO	8.1	12.2		<2.2	8	0.083	3-3(.1)3-4(.1)3-5(T)3-7(.05)3-8(.9)3-9(.66)3-10
3/9/98	8:30 AM	0.66	YES							(.76)3-11(.01)3-18(.56)3-19(.5)3-20(.1)3-21(.56)
3/16/98	8:30 AM		NO							3-22(.1)3-23(.3)3-27(T)3-28(.03)3-29(1.0)3-30
3/23/98	8:30 AM	0.3	NO							(.36)3-31(.6)
3/30/98	8:30 AM	0.36	NO							
4/6/98	8:30 AM		NO	7.9	8.9	83	<2.2	33	0.056	4-1(.49)4-2(.16)4-8(.41)4-9(.58)4-10(1.91)4-14
4/13/98	8:30 AM		NO							(.36)4-15(T)4-16(1.83)4-22(.1)4-25(.02)4-26
4/20/98	8:30 AM		NO							(.07)4-29(.33)4-30(.24)
4/27/98	8:30 AM		NO							
5/4/98	8:30 AM	0.02	NO							5-1(.05)5-3(.1)5-4(.02)5-5(T)5-7(.13)5-8(.6)5-9
5/11/98	8:30 AM		NO	7.9	8	30,000	<2.2	40	0.063	(.5)5-13(.01)5-14(T)5-19(T)5-20(.3)5-23(.02)
5/18/98	8:30 AM		NO							5-24(.19)5-25(.8)5-29(.15)
5/26/98	8:30 AM		NO							
6/1/98	8:30 AM		NO	7.9	5.8	<1	<2.2	16	0.053	6-3(.03)6-5(.02)6-8(.02)6-9(.3)6-10(.03)6-11
6/8/98	8:30 AM	0.02	NO							(1.0)6-12(.3)6-13(.39)6-14(.2)6-15(.04)6-16
6/15/98	8:30 AM	0.04	NO							(1.52)6-19(.35)6-26(.02)6-29(.5)6-30(.2)
6/22/98	8:30 AM		NO							
6/29/98	8:30 AM	0.5	YES							
7/6/98	8:30 AM		NO	8	7.2	220,000	2.6	94	0.043	7-3(.4)7-4(2.2)7-7(.47)7-19(.43)7-22(3.0)
7/13/98	8:30 AM		NO							7-23(.5)
7/20/98	8:30 AM		NO							
7/27/98	8:30 AM		NO							
8/3/98	8:30 AM		NO	7.9	6.5	167	<2.2	11	0.071	8-4(2.42)8-5(1.2)8-6(.2)8-7(.46)8-8(.5)8-9(.5)
8/10/98	8:30 AM		NO							8-15(.1)8-16(.35)8-17(.02)8-21(.01)8-24(.15)
8/17/98	8:30 AM	0.02	NO							8-26(.03)8-28(.13)
8/24/98	8:30 AM	0.15	NO							
8/31/98	8:30 AM		NO							
9/8/98	8:30 AM		NO	7.9	6.2	57	2.3	46	0.072	9-3(.15)9-4(.03)9-7(.15)9-20(.58)9-21(.03)
9/14/98	8:30 AM		NO							9-25(.01)9-27(.47)9-30(.02)
9/21/98	8:30 AM	0.03	NO							
9/28/98	8:30 AM		NO							
10/5/98	8:30 AM		NO	8	8.5	250	<2.2	32	0.079	10-3(.06)10-4(.38)10-6(1.93)10-7(.73)10-18
10/13/98	8:30 AM		NO							(.47)10-21(.1)10-27(.15)
10/19/98	8:30 AM		NO							
10/26/98	8:30 AM		NO							
11/2/98	8:30 AM	T	NO	7.9	7.2		<2.2	15	0.033	11-1(.04)11-2(T)11-3(.05)11-9(.25)11-10(.8)
11/9/98	8:30 AM	0.25	NO							11-25(.6)11-30(.15)
11/16/98	8:30 AM		NO							
11/23/98	8:30 AM		NO							
11/30/98	8:30 AM	0.15	NO							
12/7/98	8:30 AM	0.4	NO	8	7.7		<2.2	20	0.128	12-7(.4)12-21(.47)12-22(T)
12/14/98	8:30 AM		NO							
12/21/98	8:30 AM	0.47	NO							
12/28/98	8:30 AM		NO							

						Flint Creek US				
Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/5/98	8:30 AM	1.04	YES	7.8	10.2		3.7	75	0.047	1-3(.08)1-4(.80)1-5(1.04)1-6(.8)1-7(1.0)1-8(.46)
1/12/98	8:30 AM		NO	8	11.7		<2.2	12.5	0.066	1-9(.7)1-13(.12)1-15(.19)1-18(.1)1-23(.53)1-27
1/19/98	8:30 AM		NO	8	12.2		<2.2	3	0.127	(T)1-30(.01)1-31(.01)
1/26/98	8:30 AM		NO	8	12.7		<2.2	6	0.137	
2/2/98	8:30		NO	8.1	11.9		<2.2	6.5	0.061	2-3(.03)2-11(.4)2-12(.39)2-13(.05)2-17(.5)2-18
2/9/98	8:30 AM		NO	8	12.8		<2.2	7	0.032	(.5)2-19(.2)2-20(.05)2-23(.3)2-25(.09)2-28(.1)
2/17/98	8:30 AM	0.5	YES	8	12.2		<2.2	4	0.03	
2/23/98	8:30 AM	0.3	NO	8	12.7		<2.2	4	0.033	
3/2/98	8:30 AM		NO	7.9	13.2		<2.2	2	0.027	3-3(.1)3-4(.1)3-5(T)3-7(.05)3-8(.9)3-9(.66)3-10
3/9/98	8:30 AM	0.66	YES	7.9	11.6		5.4	508	0.053	(.76)3-11(.01)3-18(.56)3-19(.5)3-20(.1)3-21(.56)
3/16/98	8:30 AM		NO	8	13		<2.2	6	0.059	3-22(.1)3-23(.3)3-27(T)3-28(.03)3-29(1.0)3-30
3/23/98	8:30 AM	0.3	NO	7.9	12.8		<2.2	21	0.073	(.36)3-31(.6)
3/30/98	8:30 AM	0.36	NO	7.9	10.2		<2.2	39	0.053	
4/6/98	8:30 AM		NO	7.8	10	1,000	<2.2	6	0.035	4-1(.49)4-2(.16)4-8(.41)4-9(.58)4-10(1.91)4-14
4/13/98	8:30 AM		NO	7.8	11.2	1,433	<2.2	29	0.053	(.36)4-15(T)4-16(1.83)4-22(.1)4-25(.02)4-26
4/20/98	8:30 AM		NO	7.8	11.6	333	<2.2	10.5	0.051	(.07)4-29(.33)4-30(.24)
4/27/98	8:30 AM		NO	7.8	12.1	600	<2.2	8	0.055	
5/4/98	8:30 AM	0.02	NO	7.8	11.1	1,400	3.3	114	0.117	5-1(.05)5-3(.1)5-4(.02)5-5(T)5-7(.13)5-8(.6)5-9
5/11/98	8:30 AM		NO	7.9	10.3	39,000	<2.2	75	0.033	(.5)5-13(.01)5-14(T)5-19(T)5-20(.3)5-23(.02)
5/18/98	8:30 AM		NO	7.7	8.7	833	<2.2	6	0.058	5-24(.19)5-25(.8)5-29(.15)
5/26/98	8:30 AM		NO	7.8	8.9	1,200	<2.2	12	0.069	
6/1/98	8:30 AM		NO	7.8	8.3	400	<2.2	4	0.053	6-3(.03)6-5(.02)6-8(.02)6-9(.3)6-10(.03)6-11
6/8/98	8:30 AM	0.02	NO	7.7	9.5	1,067	<2.2	5	0.081	(1.0)6-12(.3)6-13(.39)6-14(.2)6-15(.04)6-16
6/15/98	8:30 AM	0.04	NO	7.9	8.7	800	<2.2	22	0.112	(1.52)6-19(.35)6-26(.02)6-29(.5)6-30(.2)
6/22/98	8:30 AM		NO	8	8.5	1,400	<2.2	19	0.038	
6/29/98	8:30 AM	0.5	YES	7.8	7.8	10,600	4	131	0.302	
7/6/98	8:30 AM		NO	7.8	9.3	400	<2.2	13.5	0.058	7-3(.4)7-4(2.2)7-7(.47)7-19(.43)7-22(3.0)
7/13/98	8:30 AM		NO	7.8	8.8	783	<2.2	9.5	0.041	7-23(.5)
7/20/98	8:30 AM		NO	7.8	7.6	2,200	<2.2	10.5	0.035	
7/27/98	8:30 AM		NO	7.8	8.6	1,050	<2.2	8.5	0.041	
8/3/98	8:30 AM		NO	7.7	8.4	400	<2.2	28.5	0.058	8-4(2.42)8-5(1.2)8-6(.2)8-7(.46)8-8(.5)8-9(.5)
8/10/98	8:30 AM		NO	7.9	8.4	5,000	<2.2	12	0.03	8-15(.1)8-16(.35)8-17(.02)8-21(.01)8-24(.15)
8/17/98	8:30 AM	0.02	NO	7.7	7.7	1,267	<2.2	12.5	0.041	8-26(.03)8-28(.13)
8/24/98	8:30 AM	0.15	NO	7.7	7.2	925	<2.2	4.5	0.043	
8/31/98	8:30 AM		NO	7.7	8.1	567	<2.2	4	0.037	
9/8/98	8:30 AM		NO	7.7	7.7	4,600	<2.2	3.5	0.034	9-3(.15)9-4(.03)9-7(.15)9-20(.58)9-21(.03)
9/14/98	8:30 AM		NO	7.7	7.5	1,000	,2.2	3.5	0.026	9-25(.01)9-27(.47)9-30(.02)
9/21/98	8:30 AM	0.03	NO	7.5	6.5	4,733	9.8	5.5	0.028	
9/28/98	8:30 AM		NO	7.6	7.2	933	<2.2	8	0.041	
10/5/98	8:30 AM		NO	7.6	7.4	400	<2.2	3.5	0.046	10-3(.06)10-4(.38)10-6(1.93)10-7(.73)10-18
10/13/98	8:30 AM		NO	7.8	10	867	<2.2	5	0.035	(.47)10-21(.1)10-27(.15)
10/19/98	8:30 AM		NO	7.7	9.1	367	<2.2	3.5	0.01	
10/26/98	8:30 AM		NO	7.7	9.1	160	<2.2	2.5	0.023	
11/2/98	8:30 AM	T	NO	7.7	7.3		<2.2	2	0.023	11-1(.04)11-2(T)11-3(.05)11-9(.25)11-10(.8)
11/9/98	8:30 AM	0.25	NO	7.6			<2.2	1	0.032	11-25(.6)11-30(.15)
11/16/98	8:30 AM		NO	7.9	10.4		<2.2	3	0.037	
11/23/98	8:30 AM		NO	7.8	10.7		<2.2	2	0.041	
11/30/98	8:30 AM	0.15	NO	7.8			<2.2	1	0.081	
12/7/98	8:30 AM	0.4	NO	7.9	9.7		2.5	36.5	0.037	12-7(.4)12-21(.47)12-22(T)
12/14/98	8:30 AM		NO	7.9	12		<2.2	2.5	0.047	
12/21/98	8:30 AM	0.47	NO	7.7			<2.2	4.5	0.066	
12/28/98	8:30 AM		NO	7.8	13.2		<2.2	2.5	0.06	

Sample Date	Sample Time	Precip. Total	CSO Bypass	pH	DO	Flint Creek DS E.Coli	CBOD	TSS	NH-3	Monthly Total Rain
1/5/98	8:30 AM	1.04	YES	7.9	10.6		4.6	101	0.045	1-3(.08)1-4(.80)1-5(1.04)1-6(.8)1-7(1.0)1-8(.46)
1/12/98	8:30 AM		NO	8.1	11.8		<2.2	14	0.089	1-9(.7)1-13(.12)1-15(.19)1-18(.1)1-23(.53)1-27
1/19/98	8:30 AM		NO	8.1	12.3		<2.2	4	0.113	(T)1-30(.01)1-31(.01)
1/26/98	8:30 AM		NO	8.1	12.2		<2.2	12	0.171	
2/2/98	8:30		NO	8.2	11.9		<2.2	7	0.098	2-3(.03)2-11(.4)2-12(.39)2-13(.05)2-17(.5)2-18
2/9/98	8:30 AM		NO	8	12.6		2.6	11	0.064	(.5)2-19(.2)2-20(.05)2-23(.3)2-25(.09)2-28(.1)
2/17/98	8:30 AM	0.5	YES	8	12.1		<2.2	12	0.049	
2/23/98	8:30 AM	0.3	NO	8	12.6		<2.2	3	0.039	
3/2/98	8:30 AM		NO	8	12.2		2.1	8	0.083	3-3(.1)3-4(.1)3-5(T)3-7(.05)3-8(.9)3-9(.66)3-10
3/9/98	8:30 AM	0.66	YES	7.9	11.3		9.2	600	0.109	(.76)3-11(.01)3-18(.56)3-19(.5)3-20(.1)3-21(.56)
3/16/98	8:30 AM		NO	8	13		<2.2	6	0.059	3-22(.1)3-23(.3)3-27(T)3-28(.03)3-29(1.0)3-30
3/23/98	8:30 AM	0.3	NO	7.9	12.6		<2.2	14	0.055	(.36)3-31(.6)
3/30/98	8:30 AM	0.36	NO	8	9.6		<2.2	38	0.055	
4/6/98	8:30 AM		NO	8	9.8	1,667	<2.2	7	0.038	4-1(.49)4-2(.16)4-8(.41)4-9(.58)4-10(1.91)4-14
4/13/98	8:30 AM		NO	7.9	10.2	17,273	<2.2	31	0.053	(.36)4-15(T)4-16(1.83)4-22(.1)4-25(.02)4-26
4/20/98	8:30 AM		NO	8	11.8	5,738	<2.2	9	0.053	(.07)4-29(.33)4-30(.24)
4/27/98	8:30 AM		NO	7.9	12	3,279	<2.2	4	0.059	
5/4/98	8:30 AM	0.02	NO	7.9	10.7	2,167	3.8	109	0.119	5-1(.05)5-3(.1)5-4(.02)5-5(T)5-7(.13)5-8(.6)5-9
5/11/98	8:30 AM		NO	8	10.2	42,000	<2.2	6.5	0.037	(.5)5-13(.01)5-14(T)5-19(T)5-20(.3)5-23(.02)
5/18/98	8:30 AM		NO	8	9.1	400,000	2.7	16	0.054	5-24(.19)5-25(.8)5-29(.15)
5/26/98	8:30 AM		NO	8	9.1	8,000	<2.2	10.5	0.084	
6/1/98	8:30 AM		NO	8	7.8	3,000	<2.2	4	0.089	6-3(.03)6-5(.02)6-8(.02)6-9(.3)6-10(.03)6-11
6/8/98	8:30 AM	0.02	NO	7.9	9.8	10,100	2.3	8	0.142	(1.0)6-12(.3)6-13(.39)6-14(.2)6-15(.04)6-16
6/15/98	8:30 AM	0.04	NO	8	9.1	3,115	<2.2	18	0.088	(1.52)6-19(.35)6-26(.02)6-29(.5)6-30(.2)
6/22/98	8:30 AM		NO	8	8.7	6,500	<2.2	18.5	0.061	
6/29/98	8:30 AM	0.5	YES	7.8	8.3	145,450	<2.2	131	0.302	
7/6/98	8:30 AM		NO	8	8.6	914	<2.2	16	0.048	7-3(.4)7-4(2.2)7-7(.47)7-19(.43)7-22(3.0)
7/13/98	8:30 AM		NO	8	8.4	4,267	3.4	51.5	0.034	7-23(.5)
7/20/98	8:30 AM		NO	8	7.4	63,636	<2.2	8.5	0.034	
7/27/98	8:30 AM		NO	8	8.5	3,833	<2.2	9.5	0.039	
8/3/98	8:30 AM		NO	7.9	8.2	1,667	<2.2	21	0.071	8-4(2.42)8-5(1.2)8-6(.2)8-7(.46)8-8(.5)8-9(.5)
8/10/98	8:30 AM		NO	8	8.5	6,364	<2.2	12	0.027	8-15(.1)8-16(.35)8-17(.02)8-21(.01)8-24(.15)
8/17/98	8:30 AM	0.02	NO	8	8.2	5,082	<2.2	8.5	0.04	8-26(.03)8-28(.13)
8/24/98	8:30 AM	0.15	NO	8	6.8	7,213	2.4	4	0.042	
8/31/98	8:30 AM		NO	8	6.7	72,727	6.6	3.5	0.082	
9/8/98	8:30 AM		NO	7.9	7.6	328	<2.2	3	0.062	9-3(.15)9-4(.03)9-7(.15)9-20(.58)9-21(.03)
9/14/98	8:30 AM		NO	7.9	6.6	10,000	2.8	4.5	0.083	9-25(.01)9-27(.47)9-30(.02)
9/21/98	8:30 AM	0.03	NO	7.9	6.7	21,311	2.3	11	0.055	
9/28/98	8:30 AM		NO	7.9	7.3	53,636	<2.2	3.5	0.075	
10/5/98	8:30 AM		NO	7.9	7.5	56,364	<2.2	5.5	0.08	10-3(.06)10-4(.38)10-6(1.93)10-7(.73)10-18
10/13/98	8:30 AM		NO	8	9.1	70,909	<2.2	4.5	0.09	(.47)10-21(.1)10-27(.15)
10/19/98	8:30 AM		NO	8	8.3	12,770	<2.2	1.5	0.072	
10/26/98	8:30 AM		NO	8	8.2	65,450	3.8	12	0.13	
11/2/98	8:30 AM	T	NO	7.9	7.4		<2.2	15	0.033	11-1(.04)11-2(T)11-3(.05)11-9(.25)11-10(.8)
11/9/98	8:30 AM	0.25	NO	8			<2.2	0.5	0.056	11-25(.6)11-30(.15)
11/16/98	8:30 AM		NO	8	9.1		<2.2	3	0.041	
11/23/98	8:30 AM		NO	8	9		<2.2	4	0.099	
11/30/98	8:30 AM	0.15	NO	8			<2.2	2	0.086	
12/7/98	8:30 AM	0.4	NO	8	9.4		2.1	30.5	0.028	12-7(.4)12-21(.47)12-22(T)
12/14/98	8:30 AM		NO	8.1	10.8		<2.2	2.5	0.08	
12/21/98	8:30 AM	0.47	NO	7.8			<2.2	20.5	0.114	
12/28/98	8:30 AM		NO	7.9	10.6		<2.2	5	0.089	

FIGURE 1



Rangeline Road
River Sample Collect Points
LaFontaine Street
Flint Creek at River
Flint Creek
Broadway
Etna Ave.
HUNTINGTON NORTH HIGH SCHOOL
HUNTINGTON CATHOLIC SCHOOL
LUTHERAN GRADE SCHOOL
NATIONAL GUARD ARMORY
MEMORIAL PARK
SUNKEN GARDENS
ELMWOOD PARK
HUNTINGTON MEMORIAL HOSPITAL
HUNTINGTON PLAZA
NORTH GUILFORD SHOPS
HUNTINGTON COLLEGE
CRESTVIEW MIDDLE SCHOOL
HUNTINGTON CO. COURT HOUSE
YEOMAN PARK
CHAMBER OF COMMERCE
CITY BUILDING
LIBRARY
JEFFERSON PLAZA
LINCOLN GRADE SCHOOL
RIVERVIEW MIDDLE SCHOOL

FIGURE 2

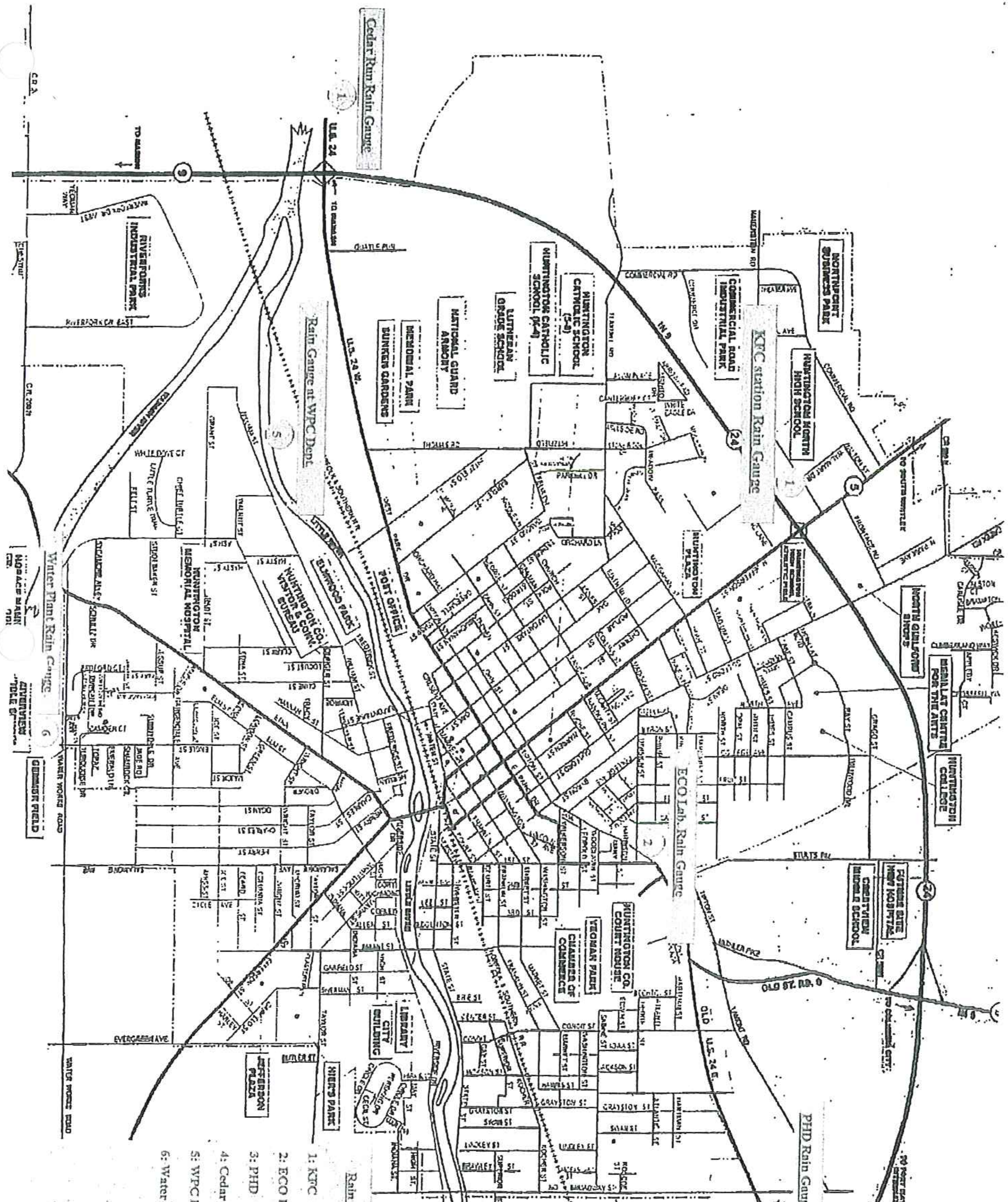

Cedar Run Rain Gauge
KFC station Rain Gauge
Rain Gauge at WPC Dept.
Water Plant Rain Gauge
ECO Lab. Rain Gauge
PHD Rain Gauge
Rain Gauges
1: KFC
2: ECO Lab.
3: PHD
4: Cedar Run
5: WPC Plant
6: Water Dept.
U.S. 24
U.S. 24 W.
U.S. 24 E.
POST OFFICE
ELMWOOD PARK
HUNTINGTON NORTH HIGH SCHOOL
HUNTINGTON COLLEGE
HUNTINGTON CO. COURT HOUSE
CHAMBER OF COMMERCE
YEOMAN PARK
CITY BUILDING
LIBRARY
JEFFERSON PLAZA
HIER'S PARK
LINCOLN GRADE SCHOOL
MEMORIAL PARK
NATIONAL GUARD ARMORY
LUTHERAN GRADE SCHOOL
HUNTINGTON CATHOLIC SCHOOL (K-4)
HUNTINGTON CATHOLIC SCHOOL (5-8)
RIVERFORK INDUSTRIAL PARK
COMMERCIAL ROAD INDUSTRIAL PARK
NORTHPOINT BUSINESS PARK
HUNTINGTON PLAZA
NORTH GUILFORD SHOPS
MERILLAT CENTRE FOR THE ARTS
CRESTVIEW MIDDLE SCHOOL
FUTURE SITE NEW HOSPITAL
HUNTINGTON MEMORIAL HOSPITAL
HUNTINGTON CO. VISITOR & CONV. BUREAU
RIVERVIEW MIDDLE SCHOOL
GEMMER FIELD
HORACE MANN ELEM.
OLD ST. RD. 9

FIGURE 3

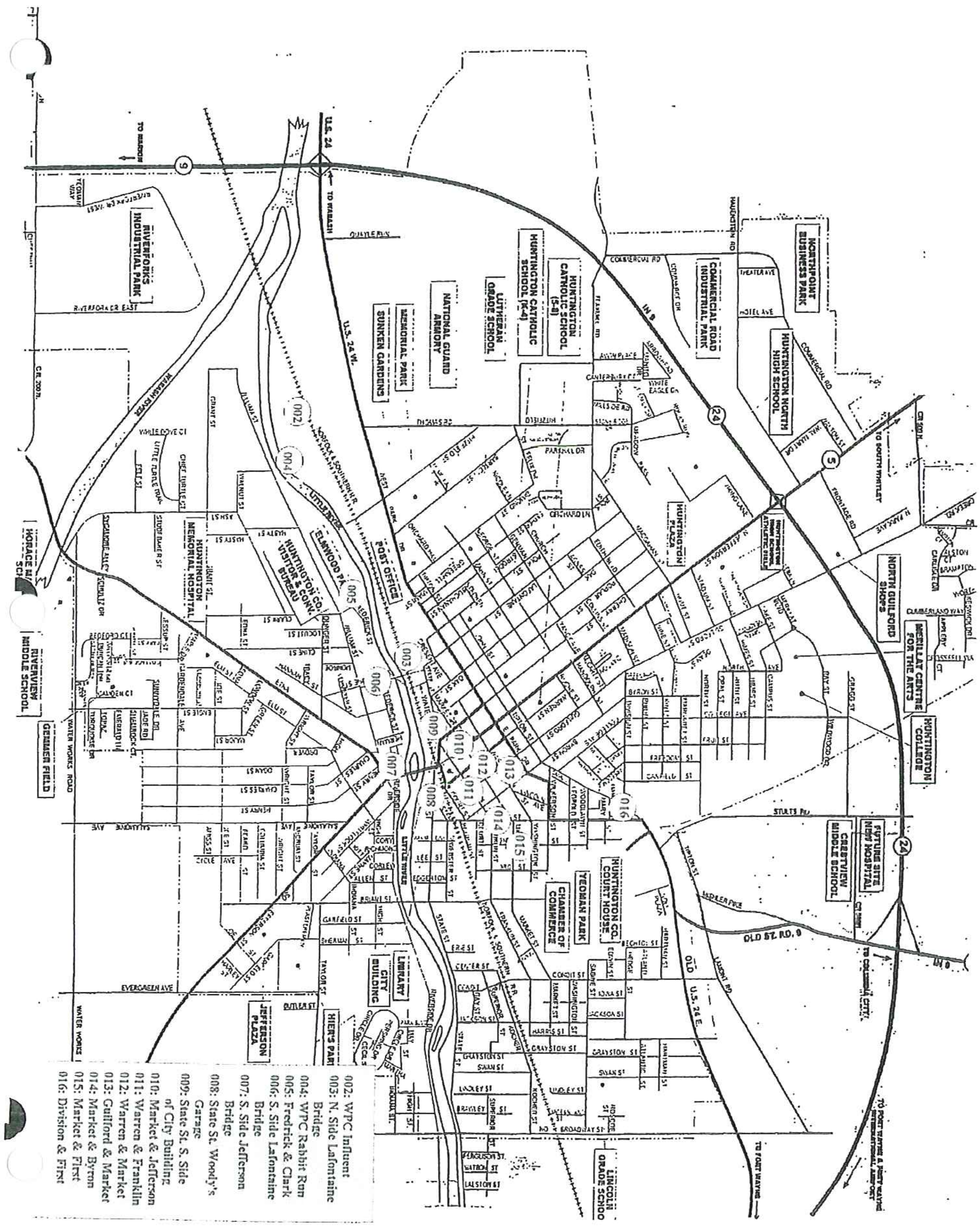

002: WPC Influent
003: N. Side Lafontaine Bridge
004: WPC Rabbit Run
005: Fredrick & Clark
006: S. Side Lafontaine Bridge
007: S. Side Jefferson Bridge
008: State St. Woody's Garage
009: State St. S. Side of City Building
010: Market & Jefferson
011: Warren & Franklin
012: Warren & Market
013: Guilford & Market
014: Market & Byron
015: Market & First
016: Division & First

FIGURE 4

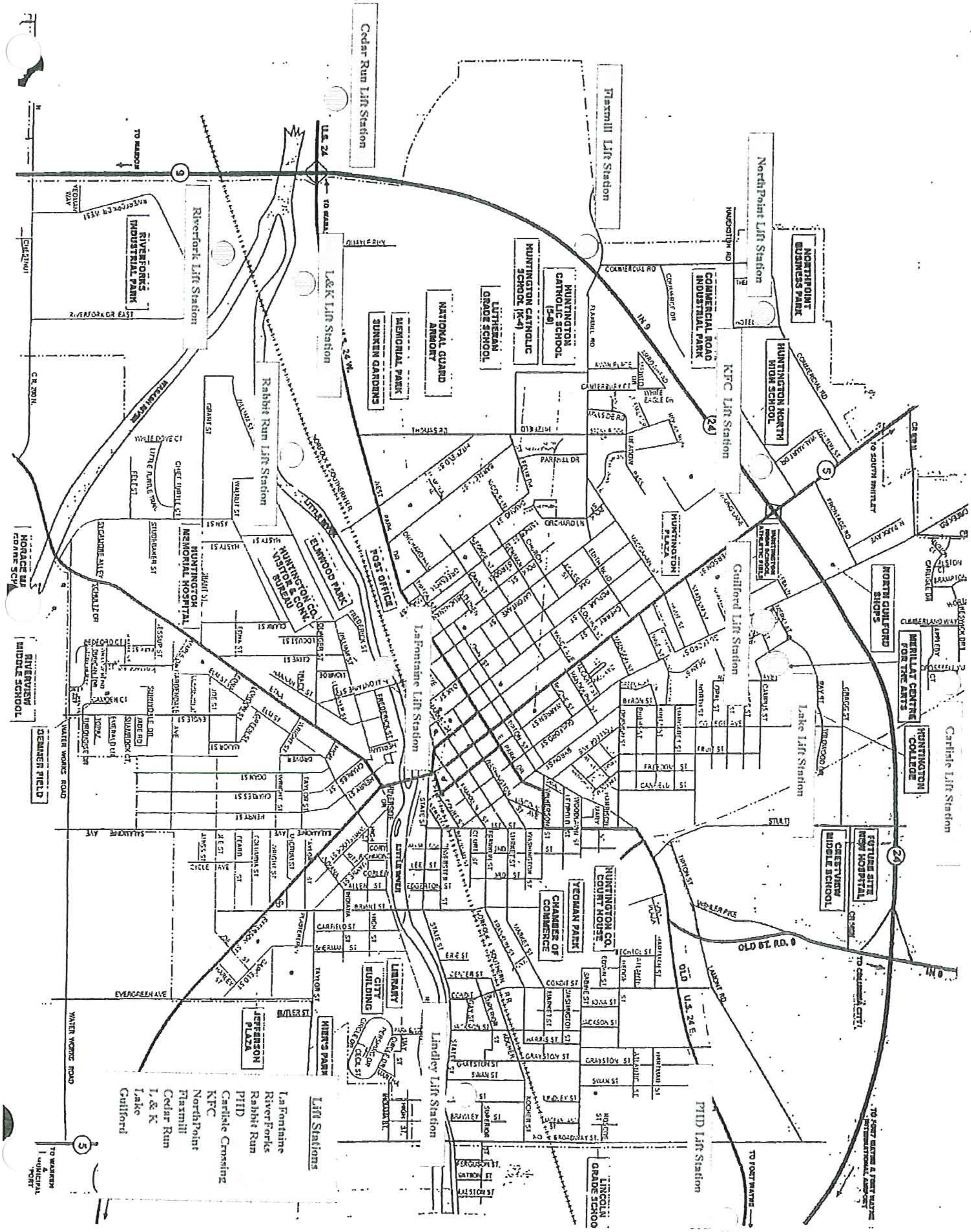
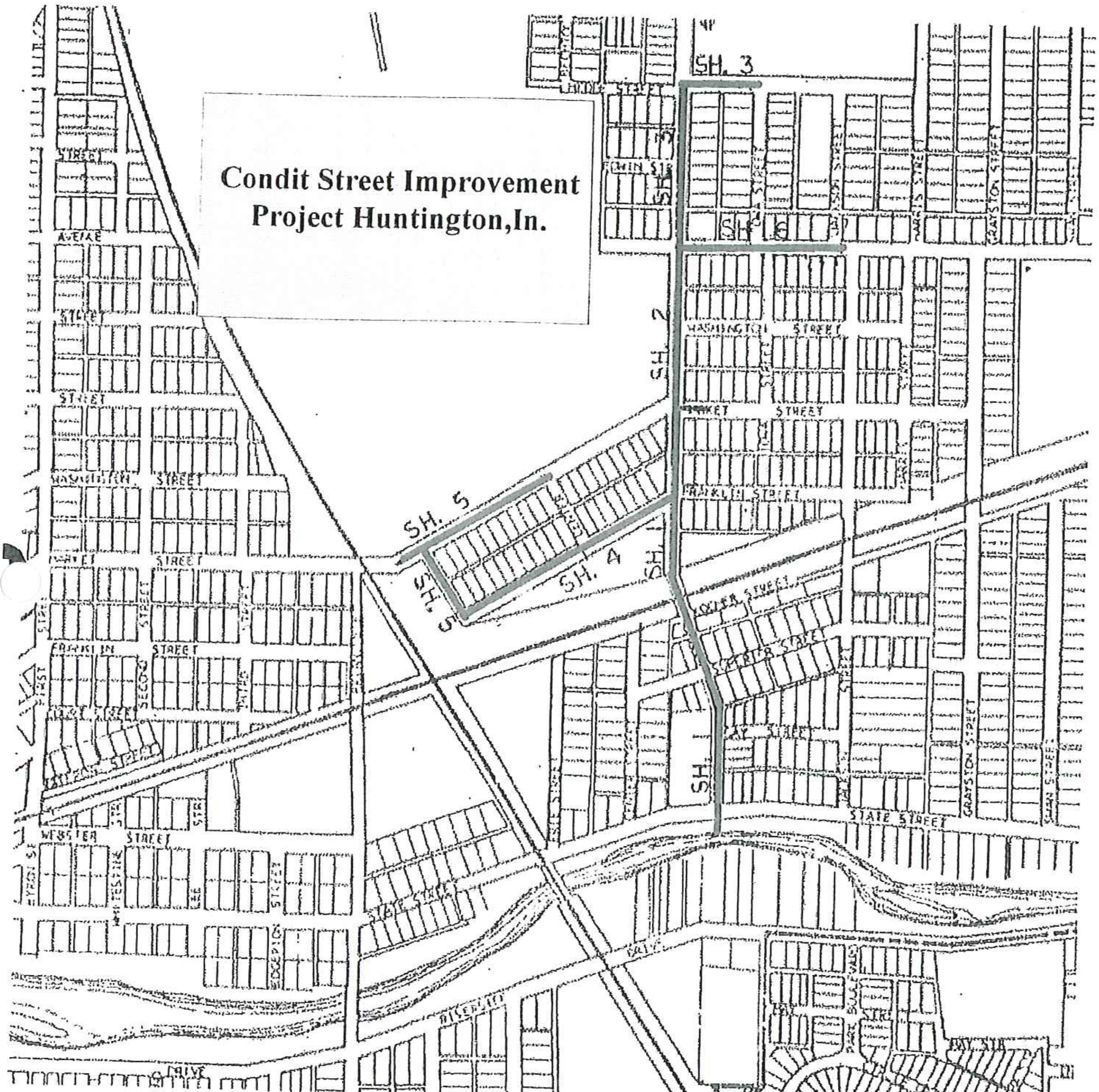
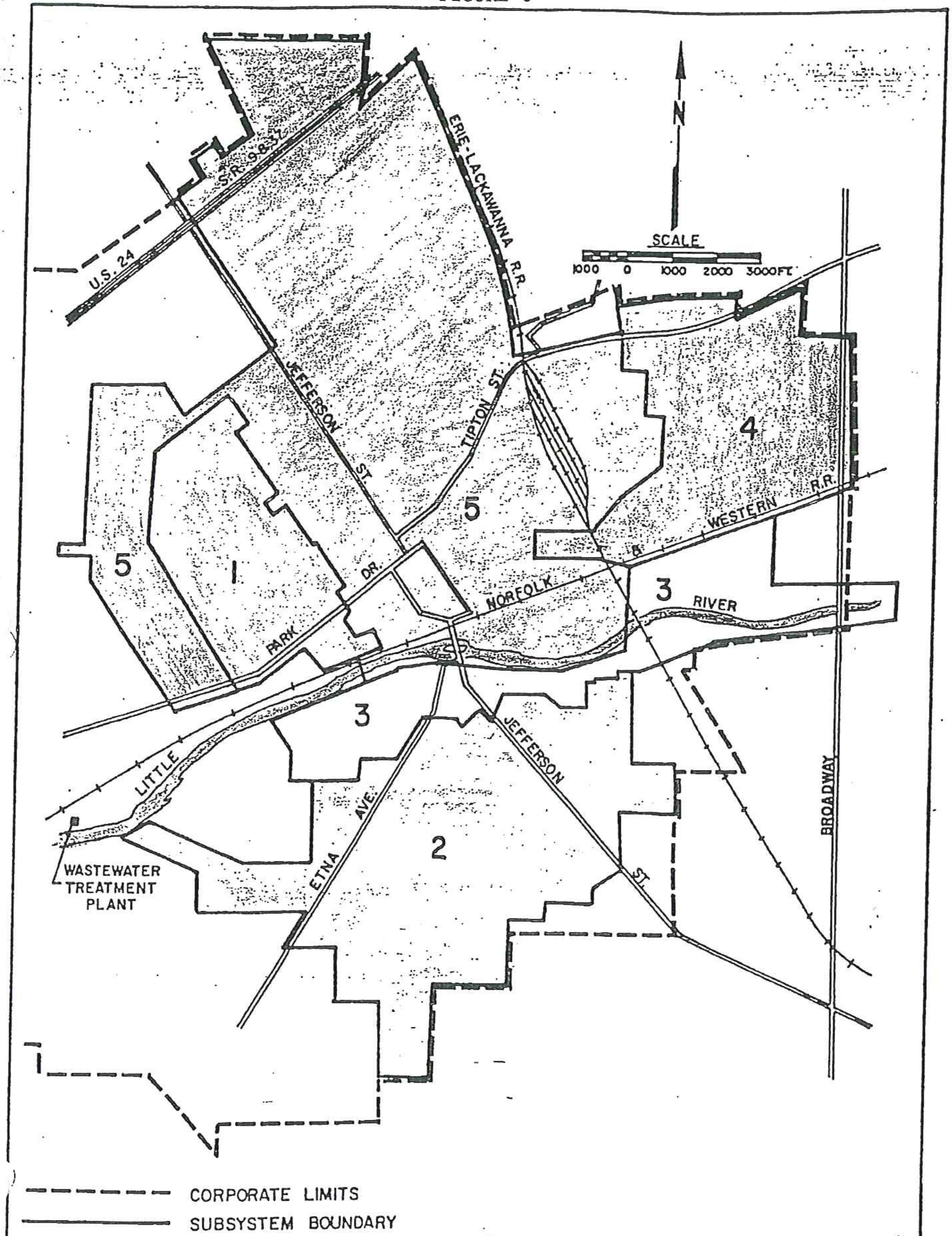

Cedar Run Lift Station
Flaxmill Lift Station
NorthPoint Lift Station
Riverfork Lift Station
L&K Lift Station
Rabbit Run Lift Station
KFC Lift Station
Guilford Lift Station
LaFontaine Lift Station
Lake Lift Station
Carlisle Lift Station
Lindley Lift Station
PHD Lift Station
Lift Stations
LaFontaine
RiverForks
Rabbit Run
PHD
Carlisle Crossing
KFC
NorthPoint
Flaxmill
Cedar Run
L & K
Lake
Guilford
RIVERFORKS INDUSTRIAL PARK
NORTHPOINT BUSINESS PARK
COMMERCIAL ROAD INDUSTRIAL PARK
HUNTINGTON NORTH HIGH SCHOOL
HUNTINGTON CATHOLIC SCHOOL (5-8)
HUNTINGTON CATHOLIC SCHOOL (K-4)
LUTHERAN GRADE SCHOOL
NATIONAL GUARD ARMORY
MEMORIAL PARK
SUNKEN GARDENS
HUNTINGTON MEMORIAL HOSPITAL
HUNTINGTON CO. VISITOR & CONV. BUREAU
ELMWOOD PARK
POST OFFICE
HUNTINGTON PLAZA
NORTH GUILFORD SHOPS
MERILLAT CENTRE FOR THE ARTS
HUNTINGTON COLLEGE
CRESTVIEW MIDDLE SCHOOL
FUTURE SITE NEW HOSPITAL
RIVERVIEW MIDDLE SCHOOL
HORACE MANN GRADE SCHOOL
DEMMER FIELD
HUNTINGTON CO. COURT HOUSE
YEOMAN PARK
CHAMBER OF COMMERCE
CITY BUILDING
LIBRARY
JEFFERSON PLAZA
MEMORIAL PARK
LINCOLN GRADE SCHOOL
U.S. 24
IN 9
OLD U.S. 24 E.
OLD ST. RD. 9
WATER WORKS ROAD
TO FORT WAYNE
TO FORT WAYNE & FORT WAYNE INTERNATIONAL AIRPORT
TO COLUMBIA CITY
TO SOUTH WHITLEY
TO WABASH
TO MARION
TO WARREN & MUNICIPAL AIRPORT

FIGURE 5

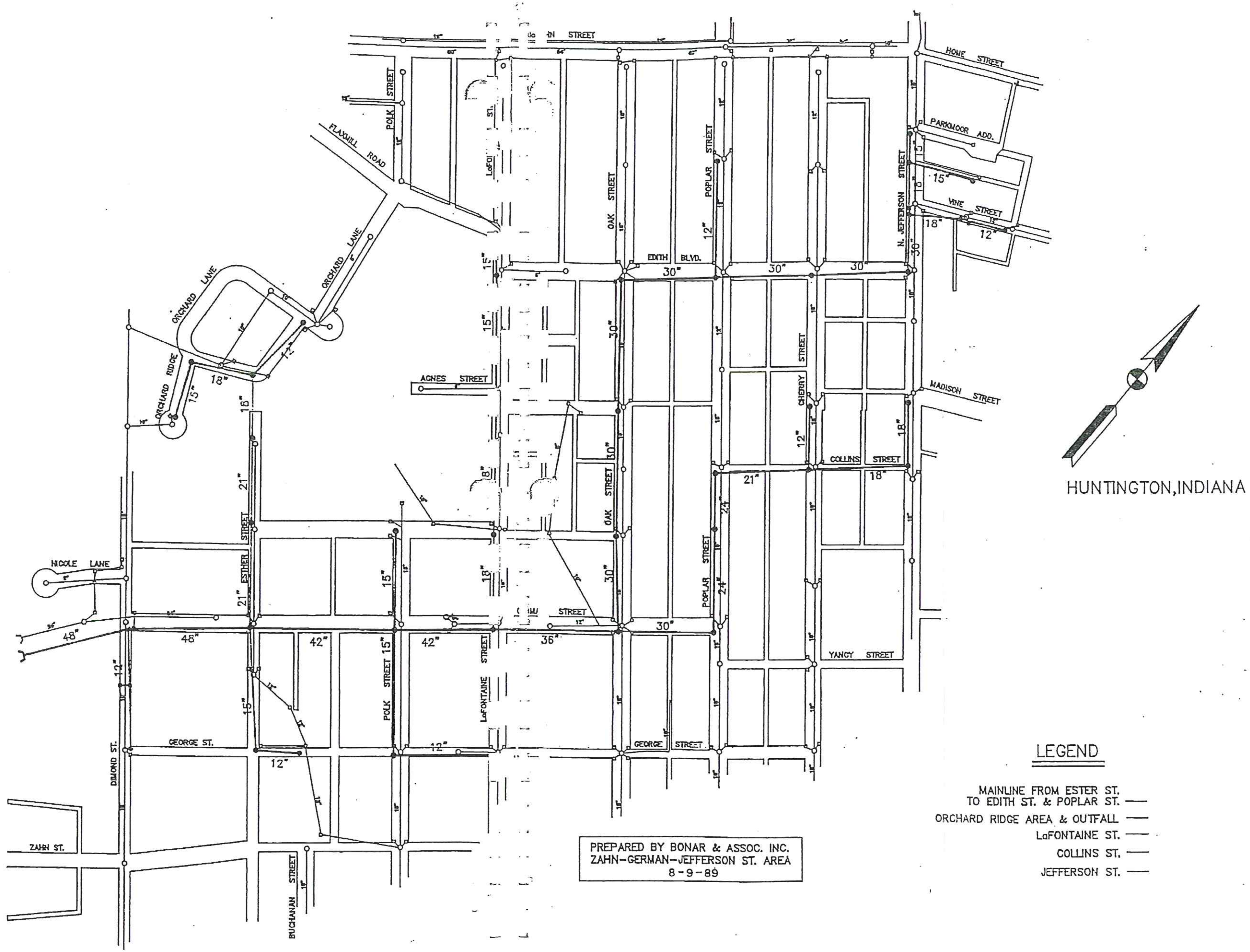


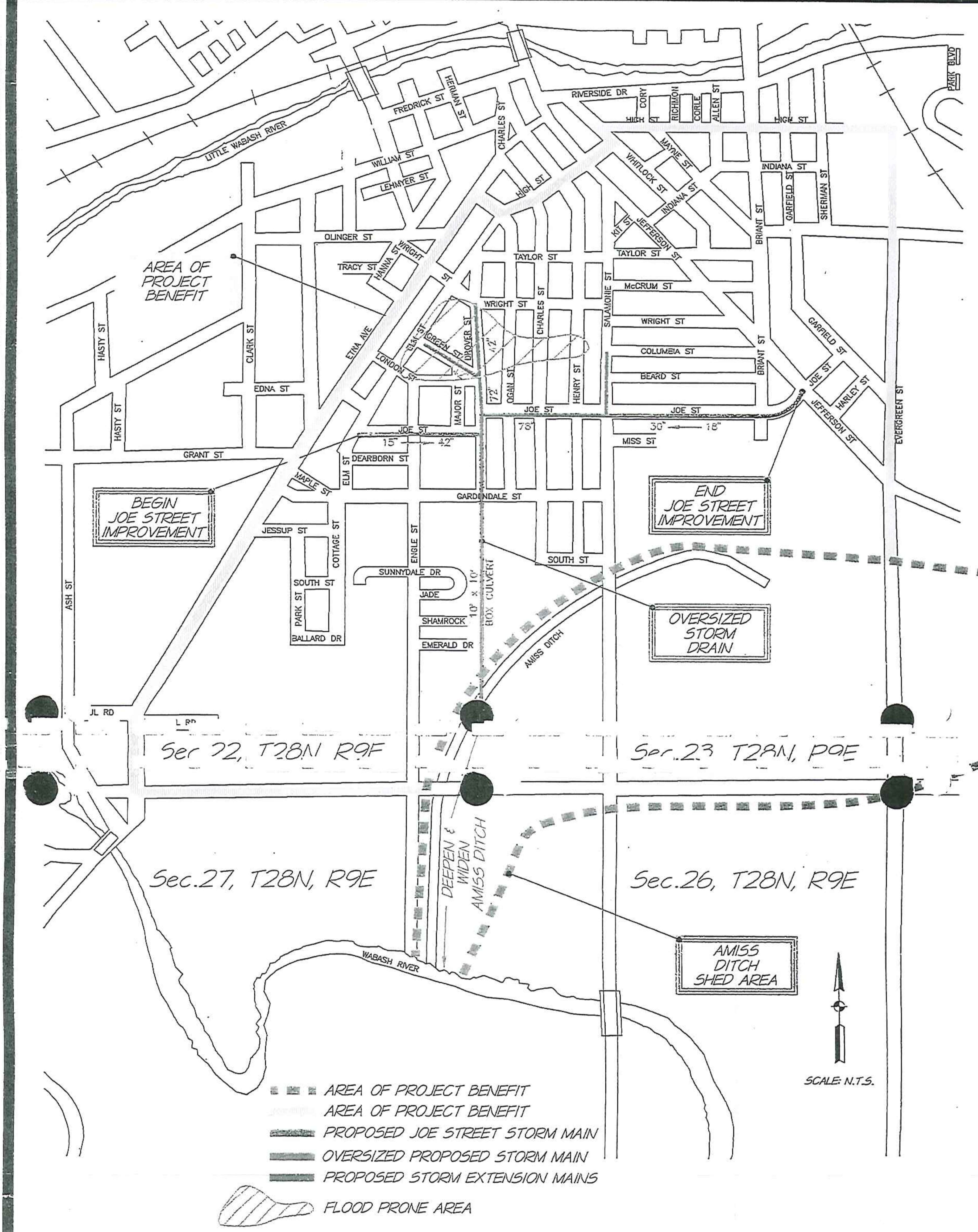
Condit Street Improvement Project Huntington,In.
SH. 3
SH. 2
SH. 1
SH. 4
SH. 5
SH. 6
WASHINGTON STREET
MARKET STREET
FRANKLIN STREET
STATE STREET
WEBSTER STREET
GRAYSTON STREET

FIGURE 6



S.R. 9 & 37
U.S. 24
ERIE-LACKAWANNA R.R.
N
SCALE
1000 0 1000 2000 3000 FT.
JEFFERSON ST.
TIPTON ST.
5
1
5
4
PARK DR.
NORFOLK & WESTERN R.R.
3
RIVER
LITTLE
3
ETNA AVE.
JEFFERSON ST.
2
BROADWAY
WASTEWATER TREATMENT PLANT
CORPORATE LIMITS
SUBSYSTEM BOUNDARY


HUNTINGTON, INDIANA
HOME STREET
PARKMOOR ADD.
VINE STREET
N. JEFFERSON STREET
MADISON STREET
COLLINS STREET
CHERRY STREET
YANCY STREET
POPLAR STREET
OAK STREET
EDITH BLVD.
LaFONTAINE STREET
AGNES STREET
POLK STREET
FLAXMILL ROAD
ORCHARD LANE
ORCHARD RIDGE
ESTHER STREET
NICOLE LANE
GEORGE ST.
GEORGE STREET
DIMOND ST.
ZAHN ST.
BUCHANAN STREET
PREPARED BY BONAR & ASSOC. INC.
ZAHN-GERMAN-JEFFERSON ST. AREA
8-9-89
LEGEND
MAINLINE FROM ESTER ST. TO EDITH ST. & POPLAR ST.
ORCHARD RIDGE AREA & OUTFALL
LaFONTAINE ST.
COLLINS ST.
JEFFERSON ST.



JOE STREET IMPROVEMENT PROJECT

HUNTINGTON, INDIANA

Appendix 4

Outstanding Rivers List for Indiana

and

Letter from US Fish and Wildlife Service

OUTSTANDING RIVERS LIST FOR INDIANA

In 1993, the Natural Resources Commission adopted its "Outstanding Rivers List for Indiana." The listing was published in the Indiana Register on March 1 of that year as Information Bulletin #4 in Volume 16, Number 6, page 1677 through 1680 (sometimes cited as 16 IR 1677). The listing has also been specifically incorporated by reference into statutes and rules. Notably, the listing is referenced in the standards for utility line crossings within floodways, formerly governed by IC 14-28-2 and now controlled by 310 IAC 6-1-16 through 310 IAC 6-1-18. See, also, the general permit for logjam removals, implemented as an emergency rule and pending for adoption as a permanent rule at 310 IAC 6-1-20. Except where incorporated into a statute or rule, the listing is intended to provide guidance rather than to have regulatory application.

I. INTRODUCTION

To help identify the rivers and streams which have particular environmental or aesthetic interest, a special listing has been prepared by the division of outdoor recreation of the department of natural resources. The listing is a corrected and condensed version of a listing complied by American Rivers and dated October 1990. There are about 2,000 river miles included on the listing, a figure which represents less than 9% of the estimated 24,000 total river miles in Indiana. The natural resources commission has adopted the listing as an official recognition of the resource values of these waters.

A river included in the listing qualifies under one or more of the following 22 categories. An asterisk indicates that all or part of the river segment was also included in the "Roster of Indiana Waterways Declared Navigable," 15 IR 2385 (July 1992). [Note: this listing is now included in the 1997 "Roster of Indiana Waterways Declared Navigable or Nonnavigable."] A river designated "EUW" is an exceptional use water. A "river designated "HQW" is a high quality water, and a river designated "SS" is a salmonoid stream.

1. Designated national Wild and Scenic Rivers. Rivers that Congress has included in the National Wild and Scenic System pursuant to the National Wild and Scenic River Act, Public Law 90-452.
2. National Wild and Scenic Study Rivers. Rivers that Congress has determined should be studied for possible inclusion in the National Wild and Scenic Rivers System.
3. Federally Protected Rivers other than Wild and Scenic. Rivers subject to federal legal protection other than pursuant to the National Wild and Scenic Rivers Act, such as National Rivers and Waterways and National Recreation Areas.
4. State designated Scenic Rivers. Rivers included in state river conservation systems or otherwise protected pursuant to an act of the state legislature.
5. Nationwide Rivers Inventory Rivers. The 1,524 river segments identified by the National Park Service in its 1982 "Nationwide Rivers Inventory" as qualified for consideration for inclusion in the National Wild and Scenic Rivers System.

6. Hydro Ban Rivers. Rivers on which Congress has prohibited future hydropower development.
7. Rivers Identified in State Inventories or Assessments. Outstanding rivers from state inventories or assessments, i.e., rivers identified as having statewide or greater significance.
8. Atlantic Salmon Restoration Rivers. Rivers undergoing active Atlantic salmon restoration efforts and identified by the U.S. Fish and Wildlife Service for planned restoration.
9. Federal Public Lands Rivers. Rivers identified in U.S. Forest Service and Bureau of Land Management resource planning as potential additions to the National Wild and Scenic Rivers System.
10. State Fishing Rivers. Rivers identified by states as having outstanding fishing values, such as Blue Ribbon Trout Streams.
11. State Heritage Program Sites. Rivers identified by state natural heritage programs or similar state programs as having outstanding ecological importance.
12. Priority Aquatic Sites. Rivers identified in "Priority Aquatic Sites for Biological Diversity Conservation," published by the Nature Conservancy in 1985.
13. Canoe Trails. State-designated canoe/boating routes.
14. Outstanding Whitewater Streams. Rivers listed in the American Whitewater Affiliation's 1990 Inventory of American Whitewater.
15. Locally Protected Rivers. Rivers protected through local and private protection strategies.
16. State Park Rivers. Rivers protected by inclusion in a state park or state preserve.
17. Other Rivers. Miscellaneous rivers identified as having outstanding ecological, recreational, or scenic importance.
18. High Water Quality Rivers. "Outstanding Resources Waters" designated by states and other rivers identified by states as having outstanding water quality.
19. National Natural Landmark Rivers. Rivers designated as, or included within, National Natural Landmarks.
20. State Study Rivers. Rivers that have been formally proposed for state protection or designation.
21. BOR Wester Rivers. Rivers listed in the Bureau of Outdoor Recreation's 1982 "Western U.S. Water Plan" proposal as exhibiting identified free-flowing values.
22. State legislated Wabash River Heritage Corridor.

II. LISTING OF OUTSTANDING RIVERS AND STREAMS

River	Significance	County	Segment
Bear Creek River	11, 18, EUW	Fountain	C.R. 250W to confluence with the Wabash
Big Blue*	5, 11,	Johnson, Rush, Shelby	Flatrock River to Carthage
Big Creek	17	Jefferson	East side of Jefferson Military Reservation boundary to Graham Creek
Big Pine Creek	7, 11, 13,18,20, EUW	Warren	S.R. 18 to confluence with Wabash River
Big Walnut Creek	5, 7, 11, 13, 19, 20	Putnam	Hendricks/Putnam Co. Line to Greencastle
Black River	11	Posey	Confluence with Higginbotham Ditch to confluence with Wabash River
Blue*	4, 5, 7, 11, 13, 16, 18, HQW	Crawford, Harrison, Washingto	Confluence of Middle Fork Blue to confluence with Ohio River
Blue, South Fork	11, EUW	Washington	S.R. 135 to confluence with Blue River
Buck Creek*	11	Harrison	Headwaters to confluence with Ohio River

Cedar Creek	4, 7, 11, 18 HQW	Allen, Dekalb	Dekalb C.R. 68 to St. Joseph River
Clifty Creek	11, 18, EUW	Montgomery	Headwaters to confluence with Indian Creek
Cypress Slough Creek	11	Posey	Confluence with Castleberry Creek to Southwind Maritime Center
Deep	13, 17	Lake, Porter	1 mile south of U.S. 30 to Little Calumet River
Driftwood	11, 13	Bartholomew	Atterbury Fish and Wildlife Area to Columbus
Eel, North	13	Miami, Wabash	South Whitley to Logansport
Elkhart	13	Elkhart, Noble	S.R. 13 to Island Park in Elkhart
Elkhart, South Branch	7, 11, 13,20	Noble	C.R. 100N to U.S. 6
Fall Creek	11, 18, EUW	Warren	U.S. 41 to confluence with Big Pine Creek
Fawn*	11, 13	Lagrange, Steuben	Nevada Mills to Indiana/Michigan Line and Indiana/Michigan to Indiana/Michigan line
Fish Creek	11	Dekalb, Steuben	Ohio/Indiana line to Indiana/Ohio Line

Flatrock*	13	Bartholomew, Shelby	S.R. 9 to East Fork White River
Fourteen-Mile Creek*	11	Clark	Confluence of East and West Forks to confluence with Ohio River
Graham Creek	17	Jefferson, Jennings, Ripley	New Marion to confluence with Big Creek
Indian Creek*	11	Harrison	Floyd/Harrison Co. Line to confluence with Ohio River
Indian Creek	11, 18, EUW	Montgomery	C.R. 475W to confluence with Sugar Creek
Indian-Kentuck Creek*	17	Jefferson, Ripley	Confluence with Vestal Branch to confluence with Ohio River
Iroquois*	13	Newton	S.R. 16 to Indiana/Illinois line
Kankakee*	11, 13	LaPorte, Newton, Porter	Upstream boundary of Kingsbury Fish and Wildlife Area through LaSalle State Fishand Wildlife Area to Indiana/Illinois line
Kilmore Creek	17	Clinton	U.S. 421 to confluence with South Fork Wildcat Creek
			Source just east of

Laughery Creek*	5, 9, 11	Dearborn, Ohio, Ripley	Morris in Ripley Co. to confluence with Ohio River
Little Blue*	5, 11	Crawford	Town of English to confluence with Ohio
Little Calumet East Fork	10, 13, SS	Porter	C.R. 600E to S.R. 249
Little Creek	17	Jefferson	Kent to Big Creek
Little Indian Creek	11	Harrison	Pfrimmer Church to confluence with Indian Creek
Little Mosquito	11	Harrison	Headwaters to confluence with Mosquito Creek
Little Pine Creek	11	Warren	Bridge SW of Green Hill to confluence with Wabash River
Little River*	22	Allen, Huntington	Source to confluence with the Wabash River
Lost River*	9,11,19,EUW	Martin, Orange	Potato Road to confluence with East Fork White River
Mosquito Creek*	11	Harrison	Buena Vista to confluence with East Fork White River
Mississinewa*	17	Miami	Mississinewa Reservoir to confluence with

			Wabash River
Mud Pine Creek	11,18, EUW	Warren	S.R. 352 to confluence with Big Pine Creek
Muscatatuck*	5	Jackson,Jennings,Scott	Confluence of Graham Creek and Big Washington Creek to confluence with East Fork White River
Muscatatuck, Vernon	11, 13	Jackson, Jennings	Zenas to confluence with Muscatatuck Fork*
Oil Creek*	11	Perry	St. Croix to confluence with Ohio River
Otter Creek	17	Jennings, Ripley	Covered Bridge North of Holton to confluence with Vernon Fork Muscatatuck
Patoka River	17	Dubois, Gibson, Pike	Patoka Reservoir to confluence with Wabash River
Pigeon	11, 13	Lagrange	S.R. 327 to Indiana/Michigan Line
Rattlesnake Creek	18, EUW	Fountain	C.R. 350W to confluence with Bear Creek
Rattlesnake Creek	11	Parke	C.R. 400/450S to confluence with Sugar Creek

Roaring Creek	11	Parke	1 mile upstream of S.R. 41 ro confluence with Sugar Creek
Sand Creek	17, 20	Bartholomew, Decatur, Jackson, Jennings	Confluence with Cobbs fork to confluence East Fork of White River
Stinking Fork	11	Crawford	Headwaters to confluence with Little Blue River
Sugar Creek	5,7,11,13,16,20	Montgomery, Pike	Darlington Covered Bridge to confluence with Wabash River
Sugar Creek*	11	Johnson, Shelby	Inclusive within Johnson and Shelby Counties
Sugar Mill Creek	17	Fountain, Parke	Wallace to confluence with Sugar Creek
Tippecanoe	5, 13, 16	Carroll, Fulton, Kosciusko, Marshall, Pulaski, Tippecanoe, White	Source (Lake Tippecanoe) to Norway and from Oakdale Dam to the confluence with Wabash River
Turkey Fork	11	Crawford	I-64 to confluence with Little Blue River
		Adams, Allen, Carroll, Cass, Fountain, Gibson, Huntington,Jay,Knox, Miami,Parke,Posey,	Indiana/Ohio Line to confluence with the Ohio River including the Little

Wabash*	22	Sullivan,Tippecanoe,Vermillion, Vigo,Wabash,Warren, Wells,	River and the portage between the Little River and the Maumee River
West Branch Mosquito	11	Harrison	Headwaters to confluence with Mosquito Creek
White, East Fork	5, 11, 13	Bartholomew, Daviess, Dubois,Jackskon,Lawrence White River,Martin, Pike	Columbus to confluence with West Fork
White, West Fork*	5, 11, 13	Daviess, Delaware,Gibson, Knox, Greene,Hamilton,Madison,Marion,Morgan,Owen,Randolph	Farmland to confluence with Wabash River
Whitewater*	7,11,13,20	Dearborn,Fayette,Franklin	Cambridge City to Indiana/Ohio line Wayne (West Harrison, OH)
Wildcat Creek	4,7,13,1,7,18 HQW	Carroll, Tippecanoe	S.R. 29 to confluence with Wabash River
Wildcat Creek, Middle	17	Clinton,Tippecanoe	S.R. 26 (Edna Mills) to confluence with Fork Wildcat, South Fork
Wildcat Creek, South	4,7,11,13,17, 18, HQW	Clinton,Tippecanoe	U.S. 421 to confluence with Wildcat Creek Fork

Last updated on October 7, 1997.

Bonar Group engineers surveyors planners

July 23, 2009

Mr. Scott Pruitt
U.S. Fish and Wildlife Service
620 S. Walker Street
Bloomington, IN 47403-2121

Subject: Huntington LTCP-Sensitive Areas

Dear Mr. Pruitt:

The City of Huntington, Indiana in Huntington County is completing a Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP). The Little River and Flint Creek currently receive discharges of combined sewage during large storm events from fifteen overflow points. The Little River receives discharge from nine of these overflows and Flint Creek receives discharge from six. Flint Creek is a completely enclosed creek that runs underneath the City. The LTCP provides alternate projects to be implemented to reduce the number of overflow events. Each CSO point is indicated on the attached figure.

The section of Little River in question begins at CSO point 007 and continues west one mile downstream beyond the confluence of the Little River and Wabash River. The section of the Flint Creek in question begins at the location of CSO point 016 and continues south to the Little River. Enclosed is a figure showing the stretches of the Wabash and Eel rivers and Flint Creek that are of concern. Another figure is also enclosed that shows the location of all CSOs.

As a part of our study, the City is requesting information regarding threatened or endangered species, and/or sensitive habitats which may be impacted by these CSO discharges. Information received from your office will be used to consider sensitive areas in the development of the LTCP. Please respond within 30 days of receiving this letter. If you have questions or require additional information, please contact me at the number below.

Sincerely,

Derek Davidson

Derek Davidson, EI
(317) 570-6800

Enclosure

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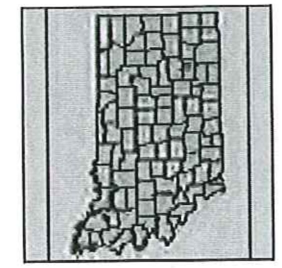
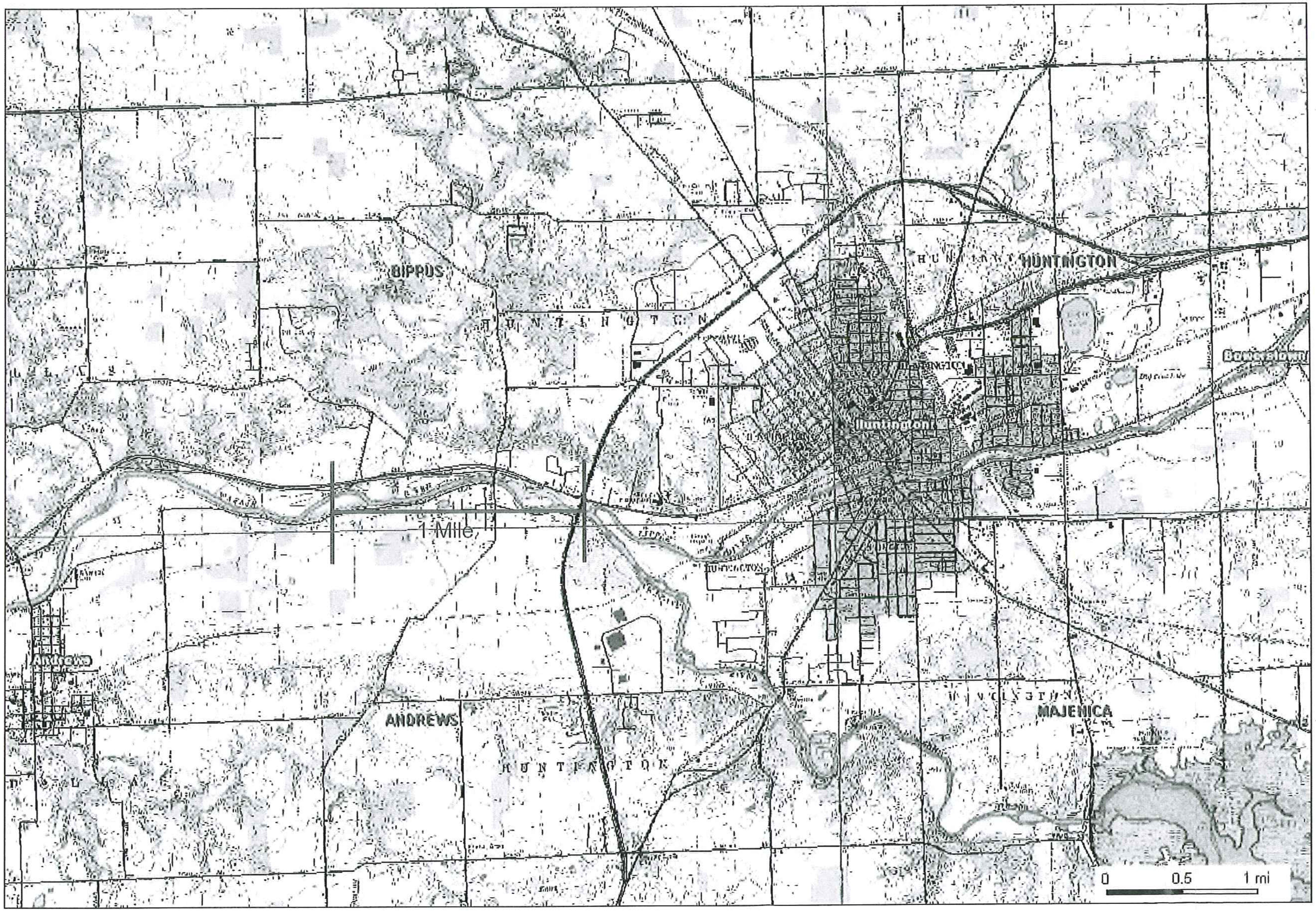
It's a Matter of Trust.

Huntington Sensitive Areas

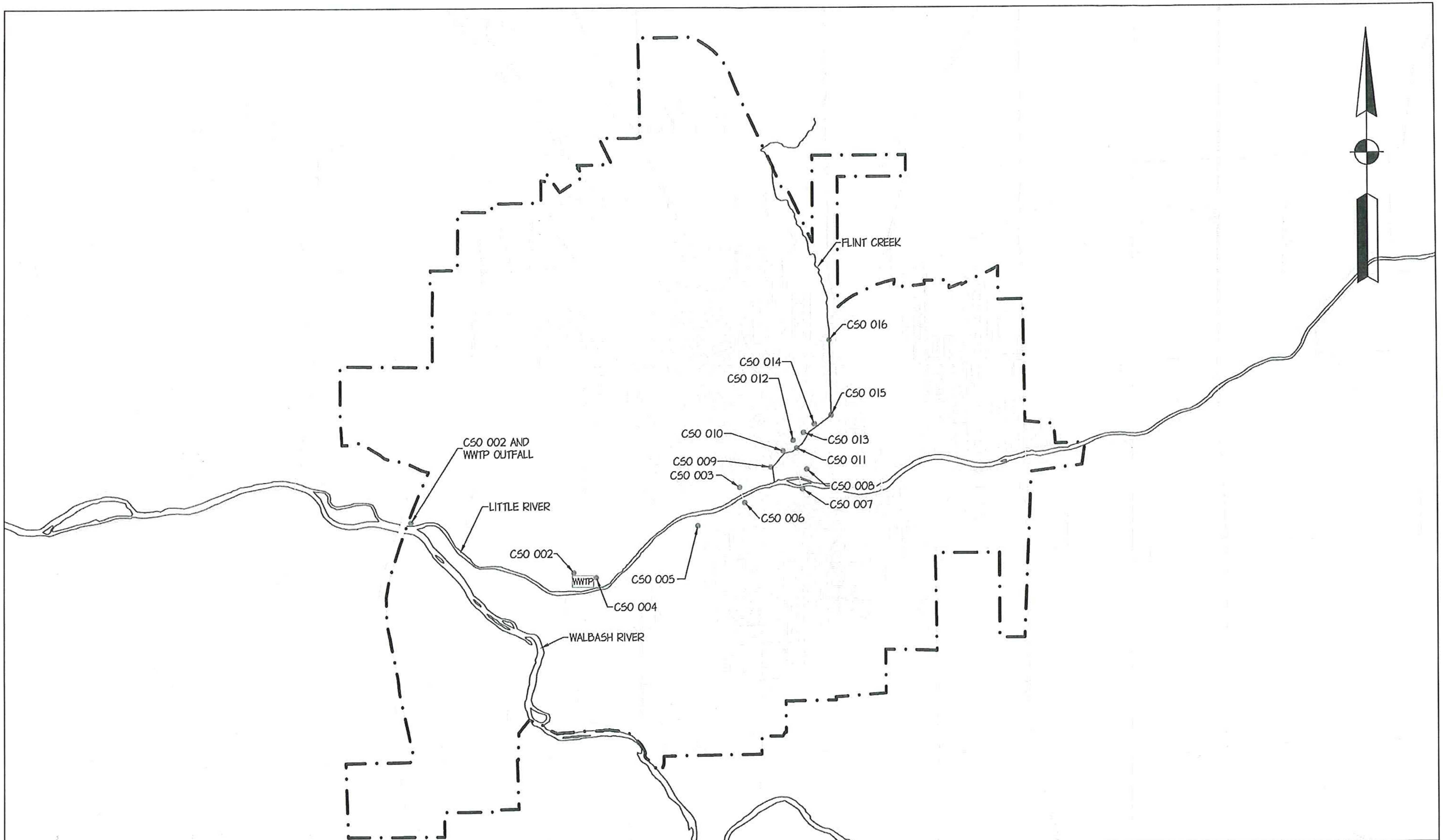




Scale 1:43171

This map was prepared by the Indiana Geological Survey, using data believed to be accurate; however, a margin of error is inherent in all maps. This product is distributed "AS-IS" without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability of a particular purpose or use. There is no attempt in either design or production of this map to define the limits or jurisdiction of any federal, state or local government. A detailed on-the-ground survey and historical analysis of a single site may differ from this map.

Indiana Geological Survey



Bonar Group
Engineers Surveyors Planners

CITY OF HUNTINGTON
CSO LONG TERM CONTROL PLAN

LOCATION OF PARKS & PARKS

Scale	1" = 2,500'
Project	10151.00
Figure No.	FIGURE 2.7

United States Department of the Interior
Fish and Wildlife Service

Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

August 3, 2009

Mr. Derek Davidson
Bonar Group
6420 Castleway West Drive
Indianapolis, Indiana 46250

Dear Mr. Davidson:

This responds to your letter of July 23, 2009 received on July 24, 2009 requesting U.S. Fish and Wildlife Service (FWS) provide review and comments on combined sewer overflow points along the Little River and Flint Creek for the presence of endangered species and sensitive habitats near the City of Huntington, Indiana in Huntington County.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

The proposed project consists of using information on endangered species and sensitive habitats to identify and prioritize impacts from fifteen (15) combined sewer overflow points on Flint Creek and Little River immediately upstream of the Wabash River confluence near downtown Huntington for the Long Term Control Plan (LTCP). The project study area is contained within the urban footprint of Huntington. No riparian corridor or tree removal is proposed.

Endangered Species

The proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and upstream of known records for fanshell (*Cyprogenia stegaria*). Neither species currently occurs within the proposed project area. While some foraging habitat may exist in the project area for the Indiana bat, the proposed project is not likely to adversely affect these listed species. Records for the fanshell are known from the Wabash River; however, the project is not likely to adversely affect this listed species.

Bald and Golden Eagle Protection Act

The project area is upstream of a known nest site for the bald eagle (*Haliaeetus leucocephalus*), which is located on the Wabash River near the mouth of Little River. Although the CSO project is probably within foraging habitat, the proposed project is not likely to adversely affect this species.

This precludes the need for further consultation on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. If, however, new information on endangered species at the site becomes available or if project plans are changed significantly, please contact our office for further consultation.

For further discussion, please contact Thomas Simon, PhD at (812) 334-4261 ext. 213.

Sincerely yours,

Michael A. Litwin
for Scott E. Pruitt
Field Supervisor

cc: Christie Stanifer, Indiana Division of Fish and Wildlife, Indianapolis, IN

Appendix 5

Detailed Cost and O&M Estimates

Huntington, Indiana
Alternative #1A - North and Southside Interceptors
Summary of Long Term Control Projects Costs

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.	$1,100,000
Segment #3 - CSO 005 to Lafontaine St. Lift Station	$5,900,000
Segment #4 - CSO 003 to WWTP	$11,200,000
Segment #5 - CSO 015 to CSO 003	$4,200,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$63,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

Alternative 1A
Rabbit Run LS Improvements and EQ Basin

Rabbit Run Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at Rabbit Run LS	1	LS	$650,000	$650,000
2	CSO 002 Diversion (48" Pipe)	825	LF	$2,150	$1,774,000
3	55 MGD Wet Weather Pump Replacement	2	LS	$500,000	$1,000,000
4	48" Force Main	1,625	LF	$210	$342,000
5	River Crossing	300	LF	$1,000	$300,000
6	Equalization Basins (5 MG Total)	3	EA	$850,000	$2,550,000
7	EQ Basin to WWTP Pumps (4 MGD)	2	EA	$100,000	$200,000
8	10" Force Main (Return Line)	1,625	LF	$55	$90,000
9	River Crossing	300	LF	$300	$90,000
Construction Cost Subtotal					**$7,000,000**
Contingency (15%)					**$1,050,000**
Construction Cost Total					**$8,050,000**
***Non-construction Costs (15%)**					**$1,208,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,300,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Rabbit Run Phase II

No.	Description	Quantity		Unit Price	Total Price
1	35 MGD Wet Weather Pump	1	LS	$350,000	$350,000
2	Equalization Basins (5 MG, 10 MG Total)	3	EA	$850,000	$2,550,000
3	Flushing Gates	1	LS	$720,000	$720,000
4	High Rate Clarification (10 MGD)	1	LS	$3,000,000	$3,000,000
5	High Rate Clarification Sludge Pumps to WWTP	1	LS	$150,000	$150,000
6	High Rate Clarification Sludge Forcemain (10")	1,625	LF	$210	$342,000
7	River Crossing	300	LF	$300	$90,000
8	UV Disinfection (10 MGD)	1	LS	$1,000,000	$1,000,000
9	Electrical	1	LS	$150,000	$150,000
10	Wetlands Treatment	10	ACRE	$250,000	$2,500,000
Construction Cost Subtotal					**$10,852,000**
Contingency (15%)					**$1,628,000**
Construction Cost Total					**$12,480,000**
***Non-construction Costs (15%)**					**$1,872,000**
Total Project Cost (rounded up to the nearest $100,000)					**$14,400,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 1A
WWTP Improvements

WWTP Improvements Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	Step-Feed Activated Sludge (IFAS)	1	LS	$4,240,000	$4,240,000
3	Septage Receiving Facility	1	LS	$210,000	$210,000
4	Biosolids Storage	1	LS	$200,000	$200,000
5	Waste Activated Sludge Thickener	1	LS	$690,000	$690,000
6	Anaerobic Digester Cover (North)	1	LS	$750,000	$750,000
Construction Cost Subtotal					**$6,740,000**
Contingency (15%)					**$1,011,000**
Construction Cost Total					**$7,751,000**
***Non-construction Costs (15%)**					**$1,163,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements Phase II

No.	Description	Quantity		Unit Price	Total Price
1	Anaerobic Digester Cover (South)	1	LS	$750,000	$750,000
2	WWTP Effluent Pump for High Water (15 MGD)	1	LS	$2,600,000	$2,600,000
Construction Cost Subtotal					**$3,350,000**
Contingency (15%)					**$503,000**
Construction Cost Total					**$3,853,000**
***Non-construction Costs (15%)**					**$578,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 1A
Replacement of CSO Flap Gates

No.	Description	Quantity		Unit Price	Total Price
1	Duckbills (CSO 003, 004, 005, 006, 007, 008, WWTP Outfall)	7	EA	$50,000	$350,000
Construction Cost Subtotal					**$350,000**
Contingency (15%)					**$53,000**
Construction Cost Total					**$403,000**
***Non-construction Costs (15%)**					**$61,000**
Total Project Cost (rounded up to the nearest $100,000)					**$500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 1A

Segment #1 - CSO 008 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	15" Diameter Pipe	180	LF	$80	$14,400
2	36" Diameter Pipe	900	LF	$210	$189,000
3	Rock Excavation	3,243	CY	$100	$324,333
4	CSO 008 Structure Modification	1	LS	$100,000	$100,000
Construction Cost Subtotal					**$628,000**
Contingency (15%)					**$95,000**
Construction Cost Total					**$723,000**
***Non-construction Costs (15%)**					**$109,000**
Total Project Cost (rounded up to the nearest $100,000)					**$900,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1A
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.

No.	Description	Quantity		Unit Price	Total Price
1	36" Diameter Pipe	1,650	LF	$210	$346,500
2	Rock Excavation	3,565	CY	$100	$356,481
3	CSO 007 Structure Modification	1	EA	$100,000	$100,000
Construction Cost Subtotal					**$803,000**
Contingency (15%)					**$121,000**
Construction Cost Total					**$924,000**
***Non-construction Costs (15%)**					**$139,000**
Total Project Cost (rounded up to the nearest $100,000)					**$1,100,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1A

Segment #3 - CSO 005 to Lafontaine St. Lift Station

No.	Description	Quantity		Unit Price	Total Price
1	30" Diameter Pipe	1,450	LF	$170	$246,500
2	54" Diameter Pipe	450	LF	$365	$164,250
3	Lafontaine St. Lift Station (23 MG)	1	LS	$3,600,000	$3,600,000
3	Rock Excavation	4,453	CY	$100	$445,309
Construction Cost Subtotal					**$4,457,000**
Contingency (15%)					**$670,000**
Construction Cost Total					**$5,127,000**
***Non-construction Costs (15%)**					**$770,000**
Total Project Cost (rounded up to the nearest $100,000)					**$5,900,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1A
Segment #4 - CSO 003 to WWTP

No.	Description	Quantity		Unit Price	Total Price
2	84" Diameter Pipe	4,750	LF	$680	$3,230,000
3	Rock Excavation	38,704	CY	$100	$3,870,370
4	Relining of Existing 30" Pipe to WWTP	2225	LF	$276	$614,100
5	Relining of Existing 36" Pipe to WWTP	2150	LF	$331	$711,650
Construction Cost Subtotal					**$8,427,000**
Contingency (15%)					**$1,265,000**
Construction Cost Total					**$9,692,000**
***Non-construction Costs (15%)**					**$1,454,000**
Total Project Cost (rounded up to the nearest $100,000)					**$11,200,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1A
Segment #5 - CSO 015 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	Twin 24"x48" boxes	250	LF	$500	$125,000
2	36" Diameter Pipe	60	LF	$210	$12,600
2	48" Diameter Pipe	1,925	LF	$350	$673,750
2	72" Diameter Pipe	900	LF	$490	$441,000
3	Rock Excavation	16,569	CY	$100	$1,656,926
4	CSO 003 and CSO 010 Structure Modification	2	EA	$100,000	$200,000
Construction Cost Subtotal					**$3,110,000**
Contingency (15%)					**$467,000**
Construction Cost Total					**$3,577,000**
***Non-construction Costs (15%)**					**$537,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,200,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Operation and Maintenance Estimate
Alternative 1A - North and Southside Interceptors

High Rate Clarification		
Construction Cost	$3,000,000	
Equipment Cost	$1,500,000	
20-year Replacement Cost	$75,000	
Volume Treated Per Year	50,500,000	gallons
Cost of Polymer	$3,500	ton
Polymer	0.21	ton
Total Polymer Cost	$738	
Sand	$200	ton
Sand Loss @ 1.0 g/M^3	0.21	ton
Total Sand Cost	$42	
Cost of Coagulant	$280	
Coagulant @ 100 mg/l	21.08	ton
Cost of Coagulant	$5,903	
Capacity of Treatment System	7,000	GPM
Run time of System	120	hours
Motor Power	5	HP
Motor Power	4	KW
Cost per KWH	$0.05	
Electrical Cost to Run System	$22	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$103,546	

Wetlands Treatment		
Construction Cost	$2,500,000	
20-year Replacement Cost	$125,000	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$50	
Yearly Labor Cost	$18,200	
Total Additional O&M	$143,200	

UV Disinfection		
Construction Cost	$1,000,000	
20-year Replacement Cost	$50,000	
Cost Per Bulbs (power, replacement, cleaning, chemicals	$100	
Number of Bulbs	100	
Total Additional O&M	$60,000	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	800	HP
Motor Power (each pump)	597	KW
Total Motor Horsepower	800	HP
Total Motor Horsepower	597	KW
Max Pump Rate Required	38,200	GPM
Gallons Pumps Each Year	30,500,000	gallons
Run time of Pumps	13	hours
Total Power Consumption Each Year	7945	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$715	
Cost of Each Pump	$325,000	
Total Cost of Pumps	$325,000	
20-year Replacement Cost	$16,250	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$38,805	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	385	HP
Motor Power (each pump)	287	KW
Total Motor Horsepower	385	HP
Total Motor Horsepower	287	KW
Max Pump Rate Required	24,300	GPM
Gallons Pumps Each Year	18,500,000	gallons
Run time of Pumps	13	hours
Total Power Consumption Each Year	3646	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$328	
Cost of Each Pump	$255,000	
Total Cost of Pumps	$255,000	
20-year Replacement Cost	$12,750	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$34,918	

Operation and Maintenance Estimate (Cont.)
Alternative 1A - North and Southside Interceptors

Lafontaine Street Lift Station		
Number of Pumps	2	
Head of Pumps	12	feet
Motor Power (each pump)	90	HP
Motor Power (each pump)	67	KW
Total Motor Horsepower	180	HP
Total Motor Horsepower	134	KW
Max Pump Rate Required	16,000	GPM
Gallons Pumps Each Year	250,000,000	gallons
Run time of Pumps	260	hours
Total Power Consumption Each Year	34981	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$3,148	
Cost of Each Pump	$125,000	
Total Cost of Pumps	$250,000	
20-year Replacement Cost	$12,500	
Labor Per Day	1	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$37,488	

WWTP Equalization Basin		
Volume of EQ Tank	10	MG
Cost of Tank	$5,100,000	
% of Cost for Operation and Maintenance	0.25%	
Operation and Maintenance of Tank	$12,750	
Total Additional O&M	$12,750	

Interceptor Sewers		
Cost of Segment #1	$203,400	
Cost of Segment #2	$346,500	
Cost of Segment #3	$410,750	
Cost of Segment #4	$3,230,000	
Cost of Segment #5	$1,252,350	
% of Cost for Operation and Maintenance	0.25%	
Cost Per Year to Maintain Sewers	$13,608	

WWTP Improvements		
Step-Feed Activated Sludge	$30,000	
Waste Activated Sludge Thickener		
Anaerobic Digester Cover (North)		
WWTP Efflune Pump for High Water		
Biosolids Storage Building	$30,000	
Anaerobic Digester Cover (South)		
Septage Recievign Facility		

Total Cost to Operate	$212,815
Total Annual Replacement Cost	$291,500
Total Yearly Cost (Rounded up to nearest $100,000)	$510,000

Huntington, Indiana
Alternative 1B - North and Southside Interceptors with a Forcemain
Summary of Long Term Control Projects Costs

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.	$1,100,000
Segment #3 - CSO 005 to Lafontaine St. Lift Station	$18,100,000
Segment #4 - CSO 015 to CSO 003	$4,200,000
Forcemain to WWTP	$12,300,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Total Construction Cost* (rounded up to nearest $1,000,000)	**$77,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

Alternative 1B
Rabbit Run LS Improvements and EQ Basin

Rabbit Run Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	CSO 002 Diversion (48" Pipe)	825	LF	$2,150	$1,774,000
3	55 MGD Wet Weather Pump Replacement	2	LS	$500,000	$1,000,000
4	48" Force Main	1,625	LF	$210	$342,000
5	River Crossing	300	LF	$1,000	$300,000
6	Equalization Basins (5 MG Total)	3	EA	$850,000	$2,550,000
7	EQ Basin to WWTP Pumps (4 MGD)	2	EA	$100,000	$200,000
8	10" Force Main (Return Line)	1,625	LF	$55	$90,000
9	River Crossing	300	LF	$300	$90,000
Construction Cost Subtotal					**$6,996,000**
Contingency (15%)					**$1,050,000**
Construction Cost Total					**$8,050,000**
***Non-construction Costs (15%)**					**$1,210,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,300,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Rabbit Run Phase II

No.	Description	Quantity		Unit Price	Total Price
1	35 MGD Wet Weather Pump	1	LS	$350,000	$350,000
2	Equalization Basins (5 MG, 10 MG Total)	3	EA	$850,000	$2,550,000
3	Flushing Gates	1	LS	$720,000	$720,000
4	High Rate Clarification (10 MGD)	1	LS	$3,000,000	$3,000,000
5	High Rate Clarification Sludge Pumps to WWTP	1	LS	$150,000	$150,000
6	High Rate Clarification Sludge Forcemain (10")	1,625	LF	$210	$342,000
7	River Crossing	300	LF	$300	$90,000
8	UV Disinfection (10 MGD)	1	LS	$1,000,000	$1,000,000
9	Electrical	1	LS	$150,000	$150,000
10	Wetlands Treatment	10	ACRE	$250,000	$2,500,000
Construction Cost Subtotal					**$10,850,000**
Contingency (15%)					**$1,630,000**
Construction Cost Total					**$12,480,000**
***Non-construction Costs (15%)**					**$1,870,000**
Total Project Cost (rounded up to the nearest $100,000)					**$14,400,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 1A
WWTP Improvements

WWTP Improvements Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	Step-Feed Activated Sludge (IFAS)	1	LS	$4,240,000	$4,240,000
3	Septage Receiving Facility	1	LS	$210,000	$210,000
4	Biosolids Storage	1	LS	$200,000	$200,000
5	Waste Activated Sludge Thickener	1	LS	$690,000	$690,000
6	Anaerobic Digester Cover (North)	1	LS	$750,000	$750,000
Construction Cost Subtotal					**$6,740,000**
Contingency (15%)					**$1,011,000**
Construction Cost Total					**$7,751,000**
***Non-construction Costs (15%)**					**$1,163,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements Phase II

No.	Description	Quantity		Unit Price	Total Price
1	Anaerobic Digester Cover (South)	1	LS	$750,000	$750,000
2	WWTP Effluent Pump for High Water (15 MGD)	1	LS	$2,600,000	$2,600,000
Construction Cost Subtotal					**$3,350,000**
Contingency (15%)					**$503,000**
Construction Cost Total					**$3,853,000**
***Non-construction Costs (15%)**					**$578,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 1B
Replacement of CSO Flap Gates

No.	Description	Quantity		Unit Price	Total Price
1	Duckbills (CSO 003, 004, 005, 006, 007, 008, WWTP Outfall)	7	EA	$50,000	$350,000
Construction Cost Subtotal					**$350,000**
Contingency (15%)					**$53,000**
Construction Cost Total					**$403,000**
***Non-construction Costs (15%)**					**$61,000**
Total Project Cost (rounded up to the nearest $100,000)					**$500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 1B

Segment #1 - CSO 008 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	15" Diameter Pipe	180	LF	$80	$14,400
2	36" Diameter Pipe	900	LF	$210	$189,000
3	Rock Excavation	3,243	CY	$100	$324,333
4	CSO 008 Structure Modification	1	LS	$100,000	$100,000
Construction Cost Subtotal					**$627,733**
Contingency (15%)					**$94,160**
Construction Cost Total					**$721,893**
***Non-construction Costs (15%)**					**$108,284**
Total Project Cost (rounded up to the nearest $100,000)					**$900,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1B
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.

No.	Description	Quantity		Unit Price	Total Price
1	36" Diameter Pipe	1,650	LF	$210	$346,500
2	Rock Excavation	3,565	CY	$100	$356,481
3	CSO 007 Structure Modification	1	EA	$100,000	$100,000
Construction Cost Subtotal					**$803,000**
Contingency (15%)					**$121,000**
Construction Cost Total					**$924,000**
***Non-construction Costs (15%)**					**$139,000**
Total Project Cost (rounded up to the nearest $100,000)					**$1,100,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1B

Segment #3 - CSO 005 to Lafontaine St. Lift Station

No.	Description	Quantity		Unit Price	Total Price
1	30" Diameter Pipe	1,450	LF	$170	$246,500
2	54" Diameter Pipe	450	LF	$365	$164,250
3	Lafontaine St. Lift Station (145 MG)	1	LS	$12,800,000	$12,800,000
3	Rock Excavation	4,453	CY	$100	$445,309
Construction Cost Subtotal					**$13,656,000**
Contingency (15%, rounded up to the nearest $10,000)					**$2,050,000**
Construction Cost Total (rounded up to the nearest $10,000)					**$15,706,000**
***Non-construction Costs (15%, rounded up to the nearest $10,000)**					**$2,356,000**
Total Project Cost (rounded up to the nearest $100,000)					**$18,100,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1B
Forcemain to WWTP

No.	Description	Quantity		Unit Price	Total Price
2	84" Diameter Pipe	4,750	LF	$850	$4,037,500
3	Rock Excavation	38,704	CY	$100	$3,870,370
4	Relining of Existing 30" Pipe to WWTP	2225	LF	$276	$614,100
5	Relining of Existing 36" Pipe to WWTP	2150	LF	$331	$711,650
Construction Cost Subtotal					**$9,234,000**
Contingency (15%)					**$1,385,000**
Construction Cost Total					**$10,619,000**
***Non-construction Costs (15%)**					**$1,593,000**
Total Project Cost (rounded up to the nearest $100,000)					**$12,300,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1B
Segment #4 - CSO 015 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	Twin 24"x48" boxes	250	LF	$500	$125,000
2	36" Diameter Pipe	60	LF	$210	$12,600
2	48" Diameter Pipe	1,925	LF	$350	$673,750
2	72" Diameter Pipe	900	LF	$490	$441,000
3	Rock Excavation	16,569	CY	$100	$1,656,926
4	CSO 003 and CSO 010 Structure Modification	2	EA	$100,000	$200,000
Construction Cost Subtotal					**$3,109,000**
Contingency (15%)					**$466,000**
Construction Cost Total					**$3,575,000**
***Non-construction Costs (15%)**					**$536,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,200,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 1B - North and Southside Interceptors with a Forcemain

High Rate Clarification		
Construction Cost	$3,000,000	
Equipment Cost	$1,500,000	
20-year Replacement Cost	$75,000	
Volume Treated Per Year	50,500,000	gallons
Cost of Polymer	$3,500	ton
Polymer	0.21	ton
Total Polymer Cost	$738	
Sand	$200	ton
Sand Loss @ 1.0 g/M^3	0.21	ton
Total Sand Cost	$42	
Cost of Coagulant	$280	
Coagulant @ 100 mg/l	21.08	ton
Cost of Coagulant	$5,903	
Capacity of Treatment System	7,000	GPM
Run time of System	120	hours
Motor Power	5	HP
Motor Power	4	KW
Cost per KWH	$0.05	
Electrical Cost to Run System	$22	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$103,546	

Wetlands Treatment		
Construction Cost	$2,500,000	
20-year Replacement Cost	$125,000	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$50	
Yearly Labor Cost	$18,200	
Total Additional O&M	$143,200	

UV Disinfection		
Construction Cost	$1,000,000	
20-year Replacement Cost	$50,000	
Cost Per Bulbs (power, replacement, cleaning, chemical	$100	
Number of Bulbs	100	
Total Additional O&M	$60,000	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	800	HP
Motor Power (each pump)	597	KW
Total Motor Horsepower	800	HP
Total Motor Horsepower	597	KW
Max Pump Rate Required	38,200	GPM
Gallons Pumps Each Year	30,500,000	gallons
Run time of Pumps	13	hours
Total Power Consumption Each Year	7945	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$715	
Cost of Each Pump	$325,000	
Total Cost of Pumps	$325,000	
20-year Replacement Cost	$16,250	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$38,805	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	385	HP
Motor Power (each pump)	287	KW
Total Motor Horsepower	385	HP
Total Motor Horsepower	287	KW
Max Pump Rate Required	24,300	GPM
Gallons Pumps Each Year	18,500,000	gallons
Run time of Pumps	13	hours
Total Power Consumption Each Year	3646	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$328	
Cost of Each Pump	$255,000	
Total Cost of Pumps	$255,000	
20-year Replacement Cost	$12,750	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$34,918	

Alternative 1B - North and Southside Interceptors with a Forcemain

Lafontaine Street Lift Station		
Number of Pumps	4	
Head of Pumps	12	feet
Motor Power (each pump)	310	HP
Motor Power (each pump)	231	KW
Total Motor Horsepower	1240	HP
Total Motor Horsepower	925	KW
Max Pump Rate Required	100,000	GPM
Gallons Pumps Each Year	1,668,500,000	gallons
Run time of Pumps	278	hours
Total Power Consumption Each Year	257331	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$23,160	
Cost of Each Pump	$350,000	
Total Cost of Pumps	$1,400,000	
20-year Replacement Cost	$70,000	
Labor Per Day	2	Hrs
Labor Per Week	14	Hrs
Yearly Labor	728	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$43,680	
Total Additional O&M	$136,840	

WWTP Equalization Basin		
Volume of EQ Tank	10	MG
Cost of Tank	$5,100,000	
% of Cost for Operation and Maintenance	0.25%	
Operation and Maintenance of Tank	$12,750	
Total Additional O&M	$12,750	

Interceptor Sewers		
Cost of Sewers	$5,444,000	
% of Cost for Operation and Maintenance	0.25%	
Cost Per Year to Maintain Sewers	$13,610	

<table>
<tr><th colspan="3">WWTP Improvements</th></tr>
<tr><td>Step-Feed Activated Sludge</td><td rowspan="4">$30,000</td><td></td></tr>
<tr><td>Waste Activated Sludge Thickener</td><td></td></tr>
<tr><td>Anaerobic Digester Cover (North)</td><td></td></tr>
<tr><td>WWTP Efflune Pump for High Water</td><td></td></tr>
<tr><td>Biosolids Storage Building</td><td rowspan="3">$30,000</td><td></td></tr>
<tr><td>Anaerobic Digester Cover (South)</td><td></td></tr>
<tr><td>Septage Recievign Facility</td><td></td></tr>
</table>

Total Cost to Operate	$254,669
Total Annual Replacement Cost	$349,000
Total Yearly Cost (Rounded up to nearest $100,000)	$610,000

Huntington, Indiana
Alternative #2 - Northside Interceptors
Summary of Long Term Control Projects Costs

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 003 to WWTP	$11,200,000
Segment #3 - CSO 015 to CSO 003	$4,200,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$56,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

Alternative 2
Rabbit Run LS Improvements and EQ Basin

Rabbit Run Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	CSO 002 Diversion (48" Pipe)	825	LF	$2,150	$1,774,000
3	55 MGD Wet Weather Pump Replacement	2	LS	$500,000	$1,000,000
4	48" Force Main	1,625	LF	$210	$342,000
5	River Crossing	300	LF	$1,000	$300,000
6	Equalization Basins (5 MG Total)	3	EA	$850,000	$2,550,000
7	EQ Basin to WWTP Pumps (4 MGD)	2	EA	$100,000	$200,000
8	10" Force Main (Return Line)	1,625	LF	$55	$90,000
9	River Crossing	300	LF	$300	$90,000
Construction Cost Subtotal					**$7,000,000**
Contingency (15%)					**$1,050,000**
Construction Cost Total					**$8,050,000**
***Non-construction Costs (15%)**					**$1,210,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,300,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Rabbit Run Phase II

No.	Description	Quantity		Unit Price	Total Price
1	35 MGD Wet Weather Pump	1	LS	$350,000	$350,000
2	Equalization Basins (5 MG, 10 MG Total)	3	EA	$850,000	$2,550,000
3	Flushing Gates	1	LS	$720,000	$720,000
4	High Rate Clarification (10 MGD)	1	LS	$3,000,000	$3,000,000
5	High Rate Clarification Sludge Pumps to WWTP	1	LS	$150,000	$150,000
6	High Rate Clarification Sludge Forcemain (10")	1,625	LF	$210	$342,000
7	River Crossing	300	LF	$300	$90,000
8	UV Disinfection (10 MGD)	1	LS	$1,000,000	$1,000,000
9	Electrical	1	LS	$150,000	$150,000
10	Wetlands Treatment	10	ACRE	$250,000	$2,500,000
Construction Cost Subtotal					**$10,850,000**
Contingency (15%)					**$1,630,000**
Construction Cost Total					**$12,480,000**
***Non-construction Costs (15%)**					**$1,870,000**
Total Project Cost (rounded up to the nearest $100,000)					**$14,400,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements

WWTP Improvements Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	Step-Feed Activated Sludge (IFAS)	1	LS	$4,240,000	$4,240,000
3	Septage Receiving Facility	1	LS	$210,000	$210,000
4	Biosolids Storage	1	LS	$200,000	$200,000
5	Waste Activated Sludge Thickener	1	LS	$690,000	$690,000
6	Anaerobic Digester Cover (North)	1	LS	$750,000	$750,000
Construction Cost Subtotal					**$6,740,000**
Contingency (15%)					**$1,011,000**
Construction Cost Total					**$7,751,000**
***Non-construction Costs (15%)**					**$1,163,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements Phase II

No.	Description	Quantity		Unit Price	Total Price
1	Anaerobic Digester Cover (South)	1	LS	$750,000	$750,000
2	WWTP Effluent Pump for High Water (15 MGD)	1	LS	$2,600,000	$2,600,000
Construction Cost Subtotal					**$3,350,000**
Contingency (15%)					**$503,000**
Construction Cost Total					**$3,853,000**
***Non-construction Costs (15%)**					**$578,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,500,000**

Alternative 2
Replacement of CSO Flap Gates

No.	Description	Quantity		Unit Price	Total Price
1	Duckbills (CSO 003, 004, 005, 006, 007, 008, WWTP Outfall)	7	EA	$50,000	$350,000
Construction Cost Subtotal					**$350,000**
Contingency (15%)					**$53,000**
Construction Cost Total					**$403,000**
***Non-construction Costs (15%)**					**$61,000**
Total Project Cost (rounded up to the nearest $100,000)					**$500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 2

Segment #1 - CSO 008 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	15" Diameter Pipe	180	LF	$80	$14,400
2	36" Diameter Pipe	900	LF	$210	$189,000
3	Rock Excavation	3,243	CY	$100	$324,333
4	CSO 008 Structure Modification	1	LS	$100,000	$100,000
Construction Cost Subtotal					**$627,733**
Contingency (15%)					**$94,160**
Construction Cost Total					**$721,893**
***Non-construction Costs (15%)**					**$108,284**
Total Project Cost (rounded up to the nearest $100,000)					**$900,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 2
Segment #2 - CSO 003 to WWTP

No.	Description	Quantity		Unit Price	Total Price
2	84" Diameter Pipe	4,750	LF	$680	$3,230,000
3	Rock Excavation	38,704	CY	$100	$3,870,370
4	Relining of Existing 30" Pipe to WWTP	2225	LF	$276	$614,100
5	Relining of Existing 36" Pipe to WWTP	2150	LF	$331	$711,650
Construction Cost Subtotal					**$8,426,000**
Contingency (15%)					**$1,264,000**
Construction Cost Total					**$9,690,000**
***Non-construction Costs (15%)**					**$1,454,000**
Total Project Cost (rounded up to the nearest $100,000)					**$11,200,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 2
Segment #3 - CSO 015 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	Twin 24"x48" boxes	250	LF	$500	$125,000
2	36" Diameter Pipe	60	LF	$210	$12,600
2	48" Diameter Pipe	1,925	LF	$350	$673,750
2	72" Diameter Pipe	900	LF	$490	$441,000
3	Rock Excavation	16,569	CY	$100	$1,656,926
4	CSO 003 and CSO 010 Structure Modification	2	EA	$100,000	$200,000
Construction Cost Subtotal					**$3,109,000**
Contingency (15%)					**$466,000**
Construction Cost Total					**$3,575,000**
***Non-construction Costs (15%)**					**$536,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,200,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Operation and Maintenance Estimate
Alternative 2 - Northside Interceptors

High Rate Clarification		
Construction Cost	$3,000,000	
Equipment Cost	$1,500,000	
20-year Replacement Cost	$75,000	
Volume Treated Per Year	58,500,000	gallons
Cost of Polymer	$3,500	ton
Polymer	0.24	ton
Total Polymer Cost	$855	
Sand	$200	ton
Sand Loss @ 1.0 g/M^3	0.24	ton
Total Sand Cost	$49	
Cost of Coagulant	$280	
Coagulant @ 100 mg/l	24.42	ton
Cost of Coagulant	$6,839	
Capacity of Treatment System	7,000	GPM
Run time of System	139	hours
Motor Power	5	HP
Motor Power	4	KW
Cost per KWH	$0.05	
Electrical Cost to Run System	$26	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$104,608	

Wetlands Treatment		
Construction Cost	$2,500,000	
20-year Replacement Cost	$125,000	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$50	
Yearly Labor Cost	$18,200	
Total Additional O&M	$143,200	

UV Disinfection		
Construction Cost	$1,000,000	
20-year Replacement Cost	$50,000	
Cost Per Bulbs (power, replacement, cleaning, chemica	$100	
Number of Bulbs	100	
Total Additional O&M	$60,000	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	800	HP
Motor Power (each pump)	597	KW
Total Motor Horsepower	800	HP
Total Motor Horsepower	597	KW
Max Pump Rate Required	38,200	GPM
Gallons Pumps Each Year	35,680,000	gallons
Run time of Pumps	16	hours
Total Power Consumption Each Year	9294	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$836	
Cost of Each Pump	$325,000	
Total Cost of Pumps	$325,000	
20-year Replacement Cost	$16,250	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$38,926	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	385	HP
Motor Power (each pump)	287	KW
Total Motor Horsepower	385	HP
Total Motor Horsepower	287	KW
Max Pump Rate Required	24,300	GPM
Gallons Pumps Each Year	22,820,000	gallons
Run time of Pumps	16	hours
Total Power Consumption Each Year	4497	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$405	
Cost of Each Pump	$255,000	
Total Cost of Pumps	$255,000	
20-year Replacement Cost	$12,750	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$34,995	

Alternative 2 - Northside Interceptors

Lafontaine Street Lift Station		
No Improvements Planned		

WWTP Equalization Basin		
Volume of EQ Tank	10	MG
Cost of Tank	$5,100,000	
% of Cost for Operation and Maintenance	0.25%	
Operation and Maintenance of Tank	$12,750	
Total Additional O&M	$12,750	

Interceptor Sewers		
Cost of Sewers	$4,686,000	
% of Cost for Operation and Maintenance	0.25%	
Cost Per Year to Maintain Sewers	$11,715	

WWTP Improvements		
Step-Feed Activated Sludge	$30,000	
Waste Activated Sludge Thickener		
Anaerobic Digester Cover (North)		
WWTP Efflune Pump for High Water		
Biosolids Storage Building	$30,000	
Anaerobic Digester Cover (South)		
Septage Recievign Facility		

Total Cost to Operate	$187,194
Total Annual Replacement Cost	$279,000
Total Yearly Cost (Rounded up to nearest $100,000)	$470,000

Huntington, Indiana
Alternative #3 - Southside Interceptors
Summary of Long Term Control Projects Costs

Project Description	2009 Capital Cost of Each Project
Segment #1 - CSO 008 to CSO 003	$900,000
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.	$1,100,000
Segment #3 - CSO 005 to Lafontaine St. Lift Station	$5,900,000
Segment #4 - CSO 003 to WWTP	$11,200,000
Rabbit Run LS Improvements and EQ Basin	$23,700,000
Green Infrastructure	$2,000,000
WWTP Improvements	$13,500,000
Replacement of CSO Flap Gates	$500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$59,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

Alternative 3
Rabbit Run LS Improvements and EQ Basin

Rabbit Run Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	CSO 002 Diversion (48" Pipe)	825	LF	$2,150	$1,774,000
#####	55 MGD Wet Weather Pump Replacement	2	LS	$500,000	$1,000,000
#####	48" Force Main	1,625	LF	$210	$342,000
#####	River Crossing	300	LF	$1,000	$300,000
#####	Equalization Basins (5 MG Total)	3	EA	$850,000	$2,550,000
#####	EQ Basin to WWTP Pumps (4 MGD)	2	EA	$100,000	$200,000
#####	10" Force Main (Return Line)	1,625	LF	$55	$90,000
#####	River Crossing	300	LF	$300	$90,000
Construction Cost Subtotal					**$7,000,000**
Contingency (15%)					**$1,050,000**
Construction Cost Total					**$8,050,000**
***Non-construction Costs (15%)**					**$1,210,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,300,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Rabbit Run Phase II

No.	Description	Quantity		Unit Price	Total Price
1	35 MGD Wet Weather Pump	1	LS	$350,000	$350,000
2	Equalization Basins (5 MG, 10 MG Total)	3	EA	$850,000	$2,550,000
3	Flushing Gates	1	LS	$720,000	$720,000
4	High Rate Clarification (10 MGD)	1	LS	$3,000,000	$3,000,000
5	High Rate Clarification Sludge Pumps to WWTP	1	LS	$150,000	$150,000
6	High Rate Clarification Sludge Forcemain (10")	1,625	LF	$210	$342,000
7	River Crossing	300	LF	$300	$90,000
8	UV Disinfection (10 MGD)	1	LS	$1,000,000	$1,000,000
9	Electrical	1	LS	$150,000	$150,000
10	Wetlands Treatment	10	ACRE	$250,000	$2,500,000
Construction Cost Subtotal					**$10,850,000**
Contingency (15%)					**$1,630,000**
Construction Cost Total					**$12,480,000**
***Non-construction Costs (15%)**					**$1,870,000**
Total Project Cost (rounded up to the nearest $100,000)					**$14,400,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 3
WWTP Improvements

WWTP Improvements Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	Step-Feed Activated Sludge (IFAS)	1	LS	$4,240,000	$4,240,000
3	Septage Receiving Facility	1	LS	$210,000	$210,000
4	Biosolids Storage	1	LS	$200,000	$200,000
5	Waste Activated Sludge Thickener	1	LS	$690,000	$690,000
6	Anaerobic Digester Cover (North)	1	LS	$750,000	$750,000
Construction Cost Subtotal					**$6,740,000**
Contingency (15%)					**$1,011,000**
Construction Cost Total					**$7,751,000**
***Non-construction Costs (15%)**					**$1,163,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements Phase II

No.	Description	Quantity		Unit Price	Total Price
1	Anaerobic Digester Cover (South)	1	LS	$750,000	$750,000
2	WWTP Effluent Pump for High Water (15 MGD)	1	LS	$2,600,000	$2,600,000
Construction Cost Subtotal					**$3,350,000**
Contingency (15%)					**$503,000**
Construction Cost Total					**$3,853,000**
***Non-construction Costs (15%)**					**$578,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,500,000**

Alternative 3
Replacement of CSO Flap Gates

No.	Description	Quantity		Unit Price	Total Price
1	Duckbills (CSO 003, 004, 005, 006, 007, 008, WWTP Outfall)	7	EA	$50,000	$350,000
Construction Cost Subtotal					**$350,000**
Contingency (15%)					**$53,000**
Construction Cost Total					**$403,000**
***Non-construction Costs (15%)**					**$61,000**
Total Project Cost (rounded up to the nearest $100,000)					**$500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 3

Segment #1 - CSO 008 to CSO 003

No.	Description	Quantity		Unit Price	Total Price
1	15" Diameter Pipe	180	LF	$80	$14,400
2	36" Diameter Pipe	900	LF	$210	$189,000
3	Rock Excavation	3,243	CY	$100	$324,333
4	CSO 008 Structure Modification	1	LS	$100,000	$100,000
Construction Cost Subtotal					**$627,733**
Contingency (15%)					**$94,160**
Construction Cost Total					**$721,893**
***Non-construction Costs (15%)**					**$108,284**
Total Project Cost (rounded up to the nearest $100,000)					**$900,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 3
Segment #2 - CSO 007 to Lafontaine St./Fredrick St.

No.	Description	Quantity		Unit Price	Total Price
1	36" Diameter Pipe	1,650	LF	$210	$346,500
2	Rock Excavation	3,565	CY	$100	$356,481
3	CSO 007 Structure Modification	1	EA	$100,000	$100,000
Construction Cost Subtotal					**$803,000**
Contingency (15%)					**$121,000**
Construction Cost Total					**$924,000**
***Non-construction Costs (15%)**					**$139,000**
Total Project Cost (rounded up to the nearest $100,000)					**$1,100,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 3
Segment #3 - CSO 005 to Lafontaine St. Lift Station

No.	Description	Quantity		Unit Price	Total Price
1	30" Diameter Pipe	1,450	LF	$170	$246,500
2	54" Diameter Pipe	450	LF	$365	$164,250
3	Lafontaine St. Lift Station (23 MG)	1	LS	$3,600,000	$3,600,000
3	Rock Excavation	4,453	CY	$100	$445,309
Construction Cost Subtotal					**$4,456,000**
Contingency (15%, rounded up to the nearest $10,000)					**$670,000**
Construction Cost Total (rounded up to the nearest $10,000)					**$5,126,000**
***Non-construction Costs (15%, rounded up to the nearest $10,000)**					**$769,000**
Total Project Cost (rounded up to the nearest $100,000)					**$5,900,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Alternative 3
Segment #4 - CSO 003 to WWTP

No.	Description	Quantity		Unit Price	Total Price
2	84" Diameter Pipe	4,750	LF	$680	$3,230,000
3	Rock Excavation	38,704	CY	$100	$3,870,370
4	Relining of Existing 30" Pipe to WWTP	2225	LF	$276	$614,100
5	Relining of Existing 36" Pipe to WWTP	2150	LF	$331	$711,650
Construction Cost Subtotal					**$8,426,000**
Contingency (15%)					**$1,264,000**
Construction Cost Total					**$9,690,000**
***Non-construction Costs (15%)**					**$1,454,000**
Total Project Cost (rounded up to the nearest $100,000)					**$11,200,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

*Pipe unit price includes restoration and estimates for utility conflicts.

Operation and Maintenance Estimate
Alternative 3 - Southside Interceptors

High Rate Clarification		
Construction Cost	$3,000,000	
Equipment Cost	$1,500,000	
20-year Replacement Cost	$75,000	
Volume Treated Per Year	57,600,000	gallons
Cost of Polymer	$3,500	ton
Polymer	0.24	ton
Total Polymer Cost	$842	
Sand	$200	ton
Sand Loss @ 1.0 g/M^3	0.24	ton
Total Sand Cost	$48	
Cost of Coagulant	$280	
Coagulant @ 100 mg/l	24.05	ton
Cost of Coagulant	$6,733	
Capacity of Treatment System	7,000	GPM
Run time of System	137	hours
Motor Power	5	HP
Motor Power	4	KW
Cost per KWH	$0.05	
Electrical Cost to Run System	$26	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$104,489	

Wetlands Treatment		
Construction Cost	$2,500,000	
20-year Replacement Cost	$125,000	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$50	
Yearly Labor Cost	$18,200	
Total Additional O&M	$143,200	

UV Disinfection		
Construction Cost	$1,000,000	
20-year Replacement Cost	$50,000	
Cost Per Bulbs (power, replacement, cleaning, chemica	$100	
Number of Bulbs	100	
Total Additional O&M	$60,000	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	800	HP
Motor Power (each pump)	597	KW
Total Motor Horsepower	800	HP
Total Motor Horsepower	597	KW
Max Pump Rate Required	38,200	GPM
Gallons Pumps Each Year	35,680,000	gallons
Run time of Pumps	16	hours
Total Power Consumption Each Year	9294	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$836	
Cost of Each Pump	$325,000	
Total Cost of Pumps	$325,000	
20-year Replacement Cost	$16,250	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$38,926	

Rabbit Run Lift Station		
Number of Pumps	1	
Head of Pumps	40	feet
Motor Power (each pump)	385	HP
Motor Power (each pump)	287	KW
Total Motor Horsepower	385	HP
Total Motor Horsepower	287	KW
Max Pump Rate Required	24,300	GPM
Gallons Pumps Each Year	22,820,000	gallons
Run time of Pumps	16	hours
Total Power Consumption Each Year	4497	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$405	
Cost of Each Pump	$255,000	
Total Cost of Pumps	$255,000	
20-year Replacement Cost	$12,750	
Labor Per Day	1.0	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$34,995	

Operation and Maintenance Estimate (Cont.)
Alternative 3 - Southside Interceptors

Lafontaine Street Lift Station		
Number of Pumps	2	
Head of Pumps	12	feet
Motor Power (each pump)	90	HP
Motor Power (each pump)	67	KW
Total Motor Horsepower	180	HP
Total Motor Horsepower	134	KW
Max Pump Rate Required	16,000	GPM
Gallons Pumps Each Year	225,200,000	gallons
Run time of Pumps	235	hours
Total Power Consumption Each Year	31511	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$2,836	
Cost of Each Pump	$125,000	
Total Cost of Pumps	$250,000	
20-year Replacement Cost	$12,500	
Labor Per Day	1	Hrs
Labor Per Week	7	Hrs
Yearly Labor	364	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$21,840	
Total Additional O&M	$37,176	

WWTP Equalization Basin		
Volume of EQ Tank	10	MG
Cost of Tank	$5,100,000	
% of Cost for Operation and Maintenance	0.25%	
Operation and Maintenance of Tank	$12,750	
Total Additional O&M	$12,750	

Interceptor Sewers		
Cost of Sewers	$4,192,000	
% of Cost for Operation and Maintenance	0.25%	
Cost Per Year to Maintain Sewers	$10,480	

WWTP Improvements		
Step-Feed Activated Sludge	$30,000	
Waste Activated Sludge Thickener		
Anaerobic Digester Cover (North)		
WWTP Efflune Pump for High Water		
Biosolids Storage Building	$30,000	
Anaerobic Digester Cover (South)		
Septage Recievign Facility		

Total Cost to Operate	$60,000
Total Annual Replacement Cost	$320,989
Total Yearly Cost (Rounded up to nearest $100,000)	$510,000

Huntington, Indiana
Alternative #4 - Total Separation
Summary of Long Term Control Projects Costs

Project Description	2009 Capital Cost of Each Project
Replacement of CSO Flap Gates	$500,000
Separation Projects	$55,000,000
WWTP Improvements	$13,500,000
Total Construction Cost* (rounded to nearest $10,000)	**$69,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

Alternative 4
WWTP Improvements

WWTP Improvements Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	Step-Feed Activated Sludge (IFAS)	1	LS	$4,240,000	$4,240,000
3	Septage Receiving Facility	1	LS	$210,000	$210,000
4	Biosolids Storage	1	LS	$200,000	$200,000
5	Waste Activated Sludge Thickener	1	LS	$690,000	$690,000
6	Anaerobic Digester Cover (North)	1	LS	$750,000	$750,000
Construction Cost Subtotal					**$6,740,000**
Contingency (15%)					**$1,011,000**
Construction Cost Total					**$7,751,000**
***Non-construction Costs (15%)**					**$1,163,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements Phase II

No.	Description	Quantity		Unit Price	Total Price
1	Anaerobic Digester Cover (South)	1	LS	$750,000	$750,000
2	WWTP Effluent Pump for High Water (15 MGD)	1	LS	$2,600,000	$2,600,000
Construction Cost Subtotal					**$3,350,000**
Contingency (15%)					**$503,000**
Construction Cost Total					**$3,853,000**
***Non-construction Costs (15%)**					**$578,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 4
Replacement of CSO Flap Gates

No.	Description	Quantity		Unit Price	Total Price
1	Duckbills (CSO 003, 004, 005, 006, 007, 008, WWTP Outfall)	7	EA	$50,000	$350,000
Construction Cost Subtotal					**$350,000**
Contingency (15%)					**$53,000**
Construction Cost Total					**$403,000**
***Non-construction Costs (15%)**					**$61,000**
Total Project Cost (rounded up to the nearest $100,000)					**$500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Alternative 4

Separation Projects

No.	Description	Quantity		Unit Price	Total Price
1	CSO's 005, 006, 007	17,250	LF	$375	$6,468,750
2	CSO's 003	7,000	LF	$375	$2,625,000
3	CSO's 004	33,250	LF	$375	$12,468,750
4	CSO's 008	5,500	LF	$375	$2,062,500
5	CSO's 014	9,500	LF	$375	$3,562,500
6	CSO's 010	8,000	LF	$375	$3,000,000
7	CSO's 011	10,000	LF	$375	$3,750,000
8	CSO's 015	16,000	LF	$375	$6,000,000
9	HYDRODYNAMIC SEPARATORS	10	EA	$100,000	$1,000,000
Construction Cost Subtotal					**$40,937,500**
Contingency (15%)					**$6,140,625**
Construction Cost Total					**$47,078,125**
***Non-construction Costs (15%)**					**$7,061,719**
Total Project Cost (rounded up to the nearest $1,000,000)					**$55,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Note: 1. The unit price for pipe is derived from the total base bids recieved for the Huntington Sewer Separation Project and the total length of pipe. The unit cost for pipe replacement includes the cost for structures, asphalt and concrete replacement, rock excavation, and special backfill.

2. The unit price for Hydrodynamic Separators is derived from the bids received for the Huntington Sewer Separation project. This is the average unit price for the structures from each Contractor.

3. Mobilization/Demobilization is assummed to be 5% of the total construction cost. This is slightly higher than the average for the Huntingtion Sewer Separation Project

4. Traffic control is assummed to be 3% of the total construction cost. This is slightly higher than the average for the Huntingtion Sewer.

5. Erosion Control is assumed to be 0.5% of the total Construction cost. This is slightly higher than the average for the Huntingtion Sewer.

Operation and Maintenance Estimate
Alternative 4 - Total Separation

High Rate Clarification		
Construction Cost	$0	
Equipment Cost	$0	
20-year Replacement Cost	$0	
Volume Treated Per Year	0	gallons
Cost of Polymer	$0	ton
Polymer	0.00	ton
Total Polymer Cost	$0	
Sand	$0	ton
Sand Loss @ 1.0 g/M^3	0.00	ton
Total Sand Cost	$0	
Cost of Coagulant	$0	
Coagulant @ 100 mg/l	0.00	ton
Cost of Coagulant	$0	
Capacity of Treatment System	0	GPM
Run time of System	0	hours
Motor Power	0	HP
Motor Power	0	KW
Cost per KWH	$0.00	
Electrical Cost to Run System	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

Wetlands Treatment		
Construction Cost	$0	
20-year Replacement Cost	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

UV Disinfection		
Construction Cost	$0	
20-year Replacement Cost	$0	
Cost Per Bulbs (power, replacement, cleaning, chemica	$0	
Number of Bulbs	0	
Total Additional O&M	$0	

Rabbit Run Lift Station		
Number of Pumps	0	
Head of Pumps	0	feet
Motor Power (each pump)	0	HP
Motor Power (each pump)	0	KW
Total Motor Horsepower	0	HP
Total Motor Horsepower	0	KW
Max Pump Rate Required	0	GPM
Gallons Pumps Each Year	0	gallons
Run time of Pumps	0	hours
Total Power Consumption Each Year	0	KWH
Cost per KWH	0	
Cost to Run Pump each Year	$0	
Cost of Each Pump	$0	
Total Cost of Pumps	$0	
20-year Replacement Cost	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

Rabbit Run Lift Station		
Number of Pumps	0	
Head of Pumps	0	feet
Motor Power (each pump)	0	HP
Motor Power (each pump)	0	KW
Total Motor Horsepower	0	HP
Total Motor Horsepower	0	KW
Max Pump Rate Required	0	GPM
Gallons Pumps Each Year	0	gallons
Run time of Pumps	0	hours
Total Power Consumption Each Year	0	KWH
Cost per KWH	0	
Cost to Run Pump each Year	$0	
Cost of Each Pump	$0	
Total Cost of Pumps	$0	
20-year Replacement Cost	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

Operation and Maintenance Estimate (Cont.)
Alternative 4 - Total Separation

Lafontaine Street Lift Station		
Number of Pumps	0	
Head of Pumps	0	feet
Motor Power (each pump)	0	HP
Motor Power (each pump)	0	KW
Total Motor Horsepower	0	HP
Total Motor Horsepower	0	KW
Max Pump Rate Required	0	GPM
Gallons Pumps Each Year	0	gallons
Run time of Pumps	0	hours
Total Power Consumption Each Year	0	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$0	
Cost of Each Pump	$0	
Total Cost of Pumps	$0	
20-year Replacement Cost	$0	
Labor Per Day	0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

WWTP Equalization Basin		
Volume of EQ Tank	-	MG
Cost of Tank	$0	
% of Cost for Operation and Maintenance	0.25%	
Operation and Maintenance of Tank	$0	
Total Additional O&M	$0	

Interceptor Sewers		
Cost of Sewers	$39,937,000	
% of Cost for Operation and Maintenance	0.25%	
Cost Per Year to Maintain Sewers	$99,843	

WWTP Improvements		
Step-Feed Activated Sludge		
Waste Activated Sludge Thickener	$30,000	
Anaerobic Digester Cover (North)		
WWTP Efflune Pump for High Water		
Biosolids Storage Building		
Anaerobic Digester Cover (South)	$30,000	
Septage Recievign Facility		

Total Cost to Operate	$159,843
Total Annual Replacement Cost	$0
Total Yearly Cost (Rounded up to nearest $100,000)	$160,000

Huntington, Indiana
Alternative #5 - No Action
Summary of Long Term Control Projects Costs

Project Description	2009 Capital Cost of Each Project
WWTP Improvements	$13,500,000
Total Construction Cost* (rounded to nearest $1,000,000)	**$14,000,000**

*Included estimates for contingency (15%) and non-construction costs (15%). See **Appendix 5** for individual project costs.

Alternative 5
WWTP Improvements

WWTP Improvements Phase I

No.	Description	Quantity		Unit Price	Total Price
1	Fine Screens at WWTP	1	LS	$650,000	$650,000
2	Step-Feed Activated Sludge (IFAS)	1	LS	$4,240,000	$4,240,000
3	Septage Receiving Facility	1	LS	$210,000	$210,000
4	Biosolids Storage	1	LS	$200,000	$200,000
5	Waste Activated Sludge Thickener	1	LS	$690,000	$690,000
6	Anaerobic Digester Cover (North)	1	LS	$750,000	$750,000
Construction Cost Subtotal					**$6,740,000**
Contingency (15%)					**$1,011,000**
Construction Cost Total					**$7,751,000**
***Non-construction Costs (15%)**					**$1,163,000**
Total Project Cost (rounded up to the nearest $100,000)					**$9,000,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

WWTP Improvements Phase II

No.	Description	Quantity		Unit Price	Total Price
1	Anaerobic Digester Cover (South)	1	LS	$750,000	$750,000
2	WWTP Effluent Pump for High Water (15 MGD)	1	LS	$2,600,000	$2,600,000
Construction Cost Subtotal					**$3,350,000**
Contingency (15%)					**$503,000**
Construction Cost Total					**$3,853,000**
***Non-construction Costs (15%)**					**$578,000**
Total Project Cost (rounded up to the nearest $100,000)					**$4,500,000**

*Non-Construction Costs include Bonding, Legal, Engineering, and Inspection Costs

Operation and Maintenance Estimate
Alternative 5 - No Action

High Rate Clarification		
Construction Cost	$0	
Equipment Cost	$0	
20-year Replacement Cost	$0	
Volume Treated Per Year	0	gallons
Cost of Polymer	$0	ton
Polymer	0.00	ton
Total Polymer Cost	$0	
Sand	$0	ton
Sand Loss @ 1.0 g/M^3	0.00	ton
Total Sand Cost	$0	
Cost of Coagulant	$0	
Coagulant @ 100 mg/l	0.00	ton
Cost of Coagulant	$0	
Capacity of Treatment System	0	GPM
Run time of System	0	hours
Motor Power	0	HP
Motor Power	0	KW
Cost per KWH	$0.00	
Electrical Cost to Run System	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

Wetlands Treatment		
Construction Cost	$0	
20-year Replacement Cost	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

UV Disinfection		
Construction Cost	$0	
20-year Replacement Cost	$0	
Cost Per Bulbs (power, replacement, cleaning, chemica	$0	
Number of Bulbs	0	
Total Additional O&M	$0	

Rabbit Run Lift Station		
Number of Pumps	0	
Head of Pumps	0	feet
Motor Power (each pump)	0	HP
Motor Power (each pump)	0	KW
Total Motor Horsepower	0	HP
Total Motor Horsepower	0	KW
Max Pump Rate Required	0	GPM
Gallons Pumps Each Year	0	gallons
Run time of Pumps	0	hours
Total Power Consumption Each Year	0	KWH
Cost per KWH	0	
Cost to Run Pump each Year	$0	
Cost of Each Pump	$0	
Total Cost of Pumps	$0	
20-year Replacement Cost	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

Rabbit Run Lift Station		
Number of Pumps	0	
Head of Pumps	0	feet
Motor Power (each pump)	0	HP
Motor Power (each pump)	0	KW
Total Motor Horsepower	0	HP
Total Motor Horsepower	0	KW
Max Pump Rate Required	0	GPM
Gallons Pumps Each Year	0	gallons
Run time of Pumps	0	hours
Total Power Consumption Each Year	0	KWH
Cost per KWH	0	
Cost to Run Pump each Year	$0	
Cost of Each Pump	$0	
Total Cost of Pumps	$0	
20-year Replacement Cost	$0	
Labor Per Day	0.0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$0	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

Operation and Maintenance Estimate (Cont.)
Alternative 5 - No Action

Lafontaine Street Lift Station		
Number of Pumps	0	
Head of Pumps	0	feet
Motor Power (each pump)	0	HP
Motor Power (each pump)	0	KW
Total Motor Horsepower	0	HP
Total Motor Horsepower	0	KW
Max Pump Rate Required	0	GPM
Gallons Pumps Each Year	0	gallons
Run time of Pumps	0	hours
Total Power Consumption Each Year	0	KWH
Cost per KWH	0.09	
Cost to Run Pump each Year	$0	
Cost of Each Pump	$0	
Total Cost of Pumps	$0	
20-year Replacement Cost	$0	
Labor Per Day	0	Hrs
Labor Per Week	0	Hrs
Yearly Labor	0	Hrs
Hourly Labor Cost	$60	
Yearly Labor Cost	$0	
Total Additional O&M	$0	

WWTP Equalization Basin		
Volume of EQ Tank	-	MG
Cost of Tank	$0	
% of Cost for Operation and Maintenance	0.25%	
Operation and Maintenance of Tank	$0	
Total Additional O&M	$0	

Interceptor Sewers		
Cost of Sewers	$39,937,000	
% of Cost for Operation and Maintenance	0.25%	
Cost Per Year to Maintain Sewers	$99,843	

WWTP Improvements		
Step-Feed Activated Sludge	$30,000	
Waste Activated Sludge Thickener		
Anaerobic Digester Cover (North)		
WWTP Efflune Pump for High Water		
Biosolids Storage Building	$30,000	
Anaerobic Digester Cover (South)		
Septage Recievign Facility		

Total Cost to Operate	$159,843
Total Annual Replacement Cost	$0
Total Yearly Cost (Rounded up to nearest $100,000)	$160,000

Appendix 6

Public Participation

Information Included:

May 19, 2008 – Citizen's Advisory Committee Meeting #1

July 21, 2008 – Citizen's Advisory Committee Meeting #2

September 15, 2008 – Citizen's Advisory Committee Meeting #3

November 17, 2008 – Citizen's Advisory Committee Meeting #4

January 19, 2009 – Citizen's Advisory Committee Meeting #5

September 21, 2009 – Citizen's Advisory Committee Meeting #6

October 5, 2009 – Board of Works Meeting

October 26, 2009 – Citizen's Advisory Committee Meeting #7

October 27, 2009 – City Council Meeting

November 5, 2009 – Public Meeting

November 16, 2009 – Board of Works Meeting

Public LTCP Displays

Miscellaneous Outreach Information

CAC Meeting #1

May 19, 2008

City of Huntington
LTCP Citizens Advisory Committee Meeting Agenda
Huntington City Hall
May 19, 2008 @ 6:00 p.m.

- Introductions

- History of Huntington's LTCP
    - Plan Completed in 2003
    - Plan recommended $31 Million in improvements
    - User rate from $25/month to $41/ month (wastewater only, 10 year period)

- State Judicial Agreement / Work Plan

- Current Combined Sewer System
    - Flow Monitoring and Rainfall Event Monitoring
    - Proposed Sewer Separation Project
    - WWTP Agreed Order

- Citizen's Advisory Committee
    - Public Involvement
    - Input on decision making process
    - Create Document to Submit to Board of Works / City Council

- Use Attainability Analysis (UAA)
    - Purpose of UAA
        - Demonstrate that change in "existing use" does not result in the removal of an actual existing use.
        - Conduct UAA to show why recreational use is not attainable during the defined wet weather period.
    - "Existing use" on or after November 28, 1975
    - CSO wet weather limited recreational use subcategory allowed by proposed "Senate Enrolled Act" SEA 620
    - Surveys, interviews, calculations, etc.
    - Ongoing, Due August 2009

- Submittal of Revised LTCP (Treatment Requirements)
    - Use Flow Monitoring to Calibrate Model
    - CSO Treatment Facility
    - For 20 year period, Rates need to be
    - Ongoing, Due September 2009

- Schedule Next Meeting

Citizen's Advisory Committee Meeting
Huntington, Indiana
Sign-in Sheet
5/19/2008 @ 6:00 p.m.

Name	Phone Number	Email
Jeff DeWitt (Bonar Group)	(317) 570-6800 ext. 323	jdewitt@bonargroup.com
Derek Davidson (Bonar Group)	(317) 570-6800 ext 389	ddavidson@bonargroup.com
Mike Hartburg	260-356-4100	mhartburg@DHRGlaw.com
Tom Carnes	(260) 356-8888	tcarnes@onlyinternet.net
Steve Davidson	260-356-0647	SHARK_148@YAHOO.Com
Robert Gressley	260-356-0136	
Barry Christen	260-519-2210	BChris1234@AOL.Com
Claudette Bangs	260-356-4931	[illegible]to9090@hotmail.com
Matt Capozza	260-358-1539	mattcapozza@comcast.net
Ruth Marsh	260-356-1400	RUTH.MARSH@HUNTINGTON.IN.US
Steve Updike	260-356-1400	STEVE.UPDIKE@HUNTINGTON.IN.US
[illegible]	260-356-1198	SRHocker@ott.net
Colin Bu[illegible]	260-358-2313	

MEETING MINUTES

Project Name: Huntington Long Term Control Plan

Project Number: 10151.00

Date of Meeting: May 19, 2008

Present:
Steve Updike, Mayor
Ruth Marsh, Operations Manager
Mike Hartburg, City Attorney
Colin Bullock, WWTP Superintendent
Tom Carnes, CAC Member
Steve Davidson, CAC Member
Robert Gressley, CAC Member
Barry Christen, CAC Member
Claudette Bangs, CAC Member
Matt Capozza, CAC Member
Steve Hacker, CAC Member
Jeff DeWitt, Bonar Group
Derek Davidson, Bonar Group

Topic: **Citizens Advisory Committee Kickoff Meeting**

Introductions

- Everyone was introduced by Mayor Updike.

History of Huntington's LTCP

- The original LTCP was completed in 2003 and it recommended $31 million in improvements. This would result in the sewer rates increasing from $25/month to $41/month over a 10 year period.

State Judicial Agreement / Work

- The SJA is legally binding agreement between IDEM and the City that sets specific dates for completion for parts of the LTCP. Some of the include installation of flow monitoring equipment, model calibration, discussion of alternatives, and several meetings with IDEM and the EPA.

Current Combined Sewer System

- As little as ¼" of rainfall can cause a CSO depending on the CSOs location.
- The revised Long Term Control Plan is due to the State in September of 2009.
- The City entered into a State Judicial Agreement (SJA) with the State, which outlines a time frame to complete the plan and develop methods to reduce/remove CSO's.
- The City is in the process of installing flow monitoring devices on CSO's. This will assist in developing designs to eliminate CSO's and to show that a project did reduce the amount of CSO's. The installation of the monitoring devices should be completed by the end of July.

Citizen's Advisory Committee

- The purpose of the CAC is to represent the public and provide input on the LTCP. Ultimately, the CAC will generate a recommendation document that will be provided to the Board of Works. An example of a recommendation produced by Muncie's CAC can be found at the following website:

  http://www.munciesanitary.org/clientuploads/PDF/CACCSO.pdf

  The City of Indianapolis has also been though a similar process. Information regarding their LTCP and UAA can be found at the found at the following websites:

  http://www.indygov.org/eGov/City/DPW/Environment/CleanStream/Documents/Raw+Sewage+Overflow+Long+Term+Control+Plan.htm

  http://www.indygov.org/eGov/City/DPW/Environment/CleanStream/Documents/Use+Attainability+Analysis+for+Public+Review.htm

- Anyone who has voiced concerns about the plan should be encouraged to attend the CAC meeting so that their concerns can be addressed.

Use Attainability Analysis (UAA)

- If it is predicted that some overflows will occur after the LTCP implementation, the City will have to complete a Use and Attainability Analysis (UAA). This would allow for the existing use classification to be suspended during wet weather. Currently the Little River is classified as full body contact recreational waters. The actual existing use needs to be determined during normal conditions and during wet weather. It is possible that the use can be suspended since during wet weather since no one will be using the waters. The UAA can prevent the proposed options from being over designed by allowing some overflows during wet weather.

- The existing use will be determined through survey and interviews to determine if individuals use the River and if they have observed others using it. The UAA can prevent the proposed options from being over designed by allowing some overflows during wet weather. Surveys should be distributed to organizations that could potentially utilize the water body and to anyone who lives in the vicinity. Robert Gressley lives along the Little River stated that he has not seen anyone on it during wet weather.

Submittal of Revised LTCP

- The revised LTCP is due to IDEM by September 2009.

Schedule Next Meeting

- Meetings are tentatively schedule for the third Monday of each month at 6 p.m.
- The next meeting is tentatively June 16, 2008 at 6 p.m in the Council Chambers of the City Building.

The following questions were asked by those attending and answered by Jeff DeWitt:

- Isn't everything separated?
  - No. A large portion of the City's sewers are still combined. All sewer lines installed since the 1970's have been separated. Currently there are 4 projects under design to eliminate CSO's. A complete separation of the City's sewers is not recommended because of the expense.
- How do you separate the sewer and where does it go?
  - A new pipe is installed adjacent to the existing pipe and either storm water or wastewater will flow into this pipe. If it is storm water the pipe will carry it to an outfall structure along Flint Creek or the Little River. If it is waste water, the pipe will carry it to the treatment plant will it will receive treatment and be discharged to Wabash River.
  - The projects that are currently under design are proposing to treat the storm water with a hydrodynamic separator, which will remove oil/grease and solids.
- Should there be a chairperson of the Citizen's Advisory Committee?
  - It is not required to have a chairperson, but it would probably be best to have a single spokesperson who can update the Board of Works and to be a single point of contact. Anyone interested in the chairperson position should respond via email.

- How many storm water outfalls are there?
    - An exact number is not known, but there are significantly more storm water outfalls than CSOs.
    - There are 15 active CSOs.
- Why are we separating the sewers if everything will require treatment eventually?
    - The two types of sewers require different treatment methods. Wastewater has a high amount of organics and requires a biological process to treat this. Storm water usually is high is solids and oils. This can be removed through several mechanical methods (i.e. hydrodynamic separators).
- How many communities in Indiana are under SJA for elimination of their CSO's?
    - Mike Hartburg is going to look into this.

      (Update: Mike sent an email to IDEM about this on 5/20/08 and IDEM provided information on 5/21/08 that indicated 26 Indiana communities are under a SJA for CSO elimination.)
- What is the condition of the Flint Creek pipe?
    - Colin stated that the pipe is in good condition where he has observed it.
    - This pipe should be investigated and rehabilitated as necessary to prevent it from failing.
- Is the Corps. of Engineers involved?
    - They have limited input on the LTCP, but they do regulate construction in the floodway.
- Can sewer rates be increased gradually?
    - Yes. It is anticipated that rates will be increased as CSO projects are completed.
    - This will be evaluated in the LTCP and by the City's Financial Rate Consultant.
- What is the current excess capacity of the plant?
    - The plant is rated for an average daily flow of 7.5 million gallons per day (MGD) and a peak daily flow of 15 MGD, however its capacity is reduced because a unit process is currently offline. Work is currently underway to bring the plant back to full capacity.

- If plant capacity is the problem, has there been any talk of another treatment plant on the north side of the City?
    - The option of a north side WWTP can be investigated during the LTCP development.
    - The current WWTP site is landlocked. The City does own land across the river from the WWTP, but it is intended for a detention basin to capture any flows that the WWTP cannot handle. The entire volume of the detention basin must be treated in 48 hours.
- How are storm water rates developed?
    - Currently, they are based upon the value of the property. Most communities base it upon the impervious are on a parcel so that a business with a large parking lot would have a higher rate than a residence.
- Are there any grants available to help pay for these projects?
    - There are several out there, but the largest grant is for $500,000 and it is highly competitive. It is anticipated that the projects will be financed through the State Revolving Fund program. They offer communities lower interest loan than the community could obtain otherwise.

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, E.I.
Junior Engineer
317-570-6800 x339

cc: Present

CAC Meeting #2

July 21, 2008

City of Huntington
LTCP Citizens Advisory Committee Meeting Agenda
Huntington City Hall
July 21, 2008 @ 6:00 p.m.

- Introductions
- Review of Previous Meeting Minutes and Questions
- Power Point Presentation
  - What Role does the CAC have in the Development of the LTCP?
  - CSO Outfall Locations
  - Water Quality Standards and Designated Uses
  - Determining Existing Uses
  - Determining Sensitive and Priority Areas
- Update on the Status of the LTCP
- Schedule Next Meeting

Huntington Long Term Control Plan
Citizens Advisory Committee Meeting #2
7/21/2008 @ 6:00 p.m.

Name	Company	Phone Number	Email
Jeff DeWitt	Bonar Group	317-570-6800	jdewitt@bonargroup.com
Scott Harvey	I.C.S.	358-8528	sharveyics@sbcglobal.net
Robert Gressley	H.C.A.	356-0136	
Derek Davidson	Bonar Group	317 570 6800	ddavidson@bonargroup.com
Debbie Dyer	LaFontaine Arts Co/Dyer Health & Wellness	356-8874	ddyer23@comcast.net
Steve Davidson	Retired - AT&T	260-356-0647	SHARK_L48@YAHOO.Com
Colin Bullock	City of Huntington	260-358-2313	Colin.Bullock@Huntington.in.us
Ruth Marsh	City	260-356-1400	RUTH.MARSH@HUNTINGTON.IN.US

Huntington Citizens Advisory Committee Meeting

Presented by:
Jeff DeWitt, P.E., BCEE
Bonar Group
July 21, 2008 at 6:00 p.m.

Outline

- Purpose of the CAC
- CSO Impacts
- CSO Summary
- Water Quality Standards
- Designated Uses
- Existing Uses
- Sensitive Areas
- CAC Input

Purpose of the CAC

CSO Control Policy States:

"In developing a long-term CSO plan, the permittee will employ a public participation process that actively involves the affected public in the decision making to select the long-term CSO controls."

Purpose of the CAC

- Give community wide perspective for the future direction of the CSO LTCP
- Identify the best method to gather input from affected parties
- Identify water quality goals for Huntington
- Identify sensitive areas and existing uses
- Select CSO abatement alternatives

CSO Impacts

- During periods of heavy rainfall or snowmelt the volume of water may exceed the capacity of the sewer system or treatment plant
- CSOs are designed to eliminate this excess flow by overflowing to nearby bodies of water
- There are 772 cities in the United States that have combined sewer systems with CSOs

CSO Impacts

- The CSO discharges contain untreated human waste along with the storm water
- This waste causes a drastic increase in the concentration of E.coli bacteria in the water
  - This bacteria can infect fish and subsequently humans
- The additional organics released during an event require more oxygen as they degrade
  - This decreases the amount of oxygen available for fish to survive

CSO Summary

- Most active CSO – CSO 004
  - Discharges approximately 36 million gallons per year
- Least active CSOs – CSOs 009, 010, 011, 012, 015, 016
  - Discharge less than 0.5 million gallons per year
- CSOs 003, 012, 013, and 016 are potentially being eliminated
  - The sewers that contribute flow to these CSOs are going to be separated
  - Following construction these CSOs will be monitored to determine if overflows still occur

Water Quality Standards

USEPA and IDEM have mandated that all discharges from CSOs shall not cause or contribute to violation of water quality standards or cause or contribute to the impairment of designated or existing uses.

Water Quality Standards

- All Indiana Waters are designated for full body contact
- Any relaxing of the designated use requires a Use Attainability Analysis
- CSOs generally cause short-term violations of WQS

Designated Uses

- IDEM definition "Those uses specified in water quality standards for each water body or segment whether or not they are being attained."
- A designated use can be:
  - Exceptional use
  - Full body contact recreation
  - Well balanced warm water aquatic community
  - Public water supply
  - Industrial water supply
  - Agricultural Use
  - Limited Use

Designated Uses

- Flint Creek – Full Body Contact
  However, this is not the existing use.
- Little River – Full Body Contact
- Wabash River – Full Body Contact

Designated Uses

- IDEM recognizes that existing uses can change based upon the season, rain, flow, etc.
- Indiana is determined to protect all individuals who use its waters for recreational purposes
- Indiana does not want to promote increased recreational usage in waters that are deemed dangerous (dams, rocks, strong currents, etc.)
- Occasional Incidental use does not automatically establish an existing use
- If access to the water is limited due to steep banks, fencing, walls, etc. then no existing recreational use can be presumed.

Existing Uses

- IDEM definition of existing use

  Existing use means a use actually attained in the water body on or after November 28, 1975, whether or not it is included in the water quality standards.
- An existing use can exceed the designated use

  "...an existing use cannot be removed, suspended or otherwise modified, unless modified to make it more protective..."
- IDEM makes the final determination for existing uses

Sensitive Areas

- Examples of sensitive areas
  - Habitat for threatened or endangered species
  - Primary contact recreational areas
    - Boat launches, swimming areas, etc.
  - Drinking water source waters (N/A)
    - Huntington obtains water from a well system
  - Streams that are safe and accessible near residential areas, schools, or parks
  - Outstanding State Resource Waters (N/A)
    - The Little River, Flint Creek, and the Wabash River are not considered Outstanding State Resource Waters

Threatened and Endangered Species

- Long-Branch Green Orchid (plant)
- Woodland Strawberry (plant)
- Snuffbox (mussel)
- Clubshell (mussel)
- Greater Redhorse (fish)
- Marsh Wren (bird)
- Northern River Otter (mammal)
- Bobcat (mammal)
- Indiana Bat (mammal)
- American Badger (mammal)

Primary Contact Recreation Areas

Primary Contact Recreation Examples

- Full body contact recreation
- Swimming
- Skin diving
- Ceremonial (Baptisms)
- Water skiing
- Complete immersion

Secondary Contact Recreation Examples

- Fishing
- Wading
- Motor boating
- Canoeing/kayaking
- Sailing
- Rafting

Sensitive Area Designation

The EPA's CSO Control Policy states, that for sensitive areas, the LTCP should:

- Prohibit new or significantly increased overflow volumes to sensitive areas
- Eliminate or relocate overflows that discharge to sensitive areas
  - Wherever physically possible and economically achievable, except where elimination or relocation would provide less environmental protection than additional treatment, or
  - Where elimination/relocation is not physically possible and economically achievable, provide level or treatment for remaining overflows deemed necessary to meet WQS for full protection of existing uses.
- Where elimination/relocation is not physically possible and economically achievable, permitting authorities should require, for each subsequent permit term, a reassessment based on new or improved techniques to eliminate or relocate, or on changed economic feasibility.

Citizens Advisory Committee Input

- Provide input on existing uses
- Provide input for sensitive area determination
  - No sensitive areas that would be affected have been previously identified
- Review surveys
- Recreational groups

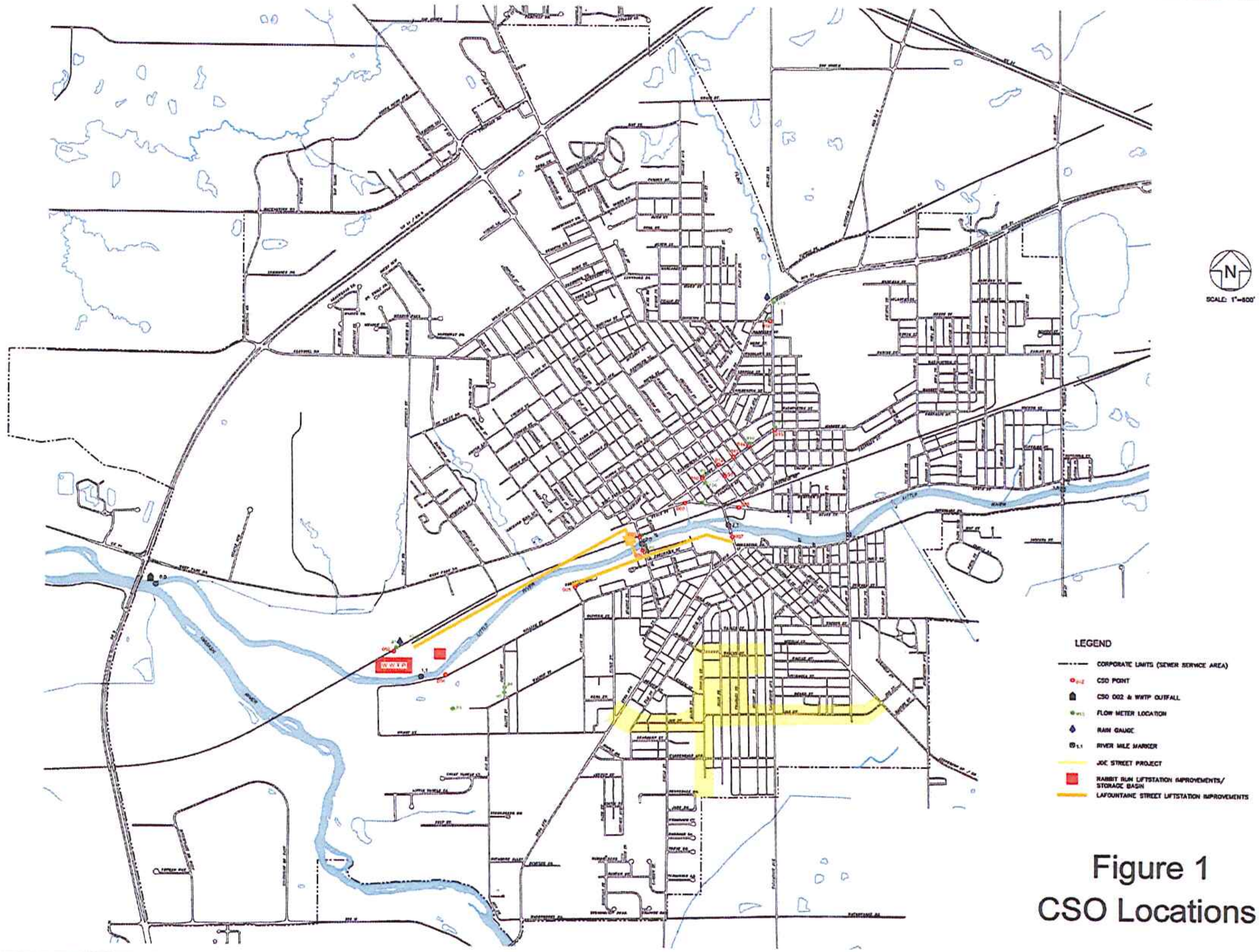


Figure 1
CSO Locations

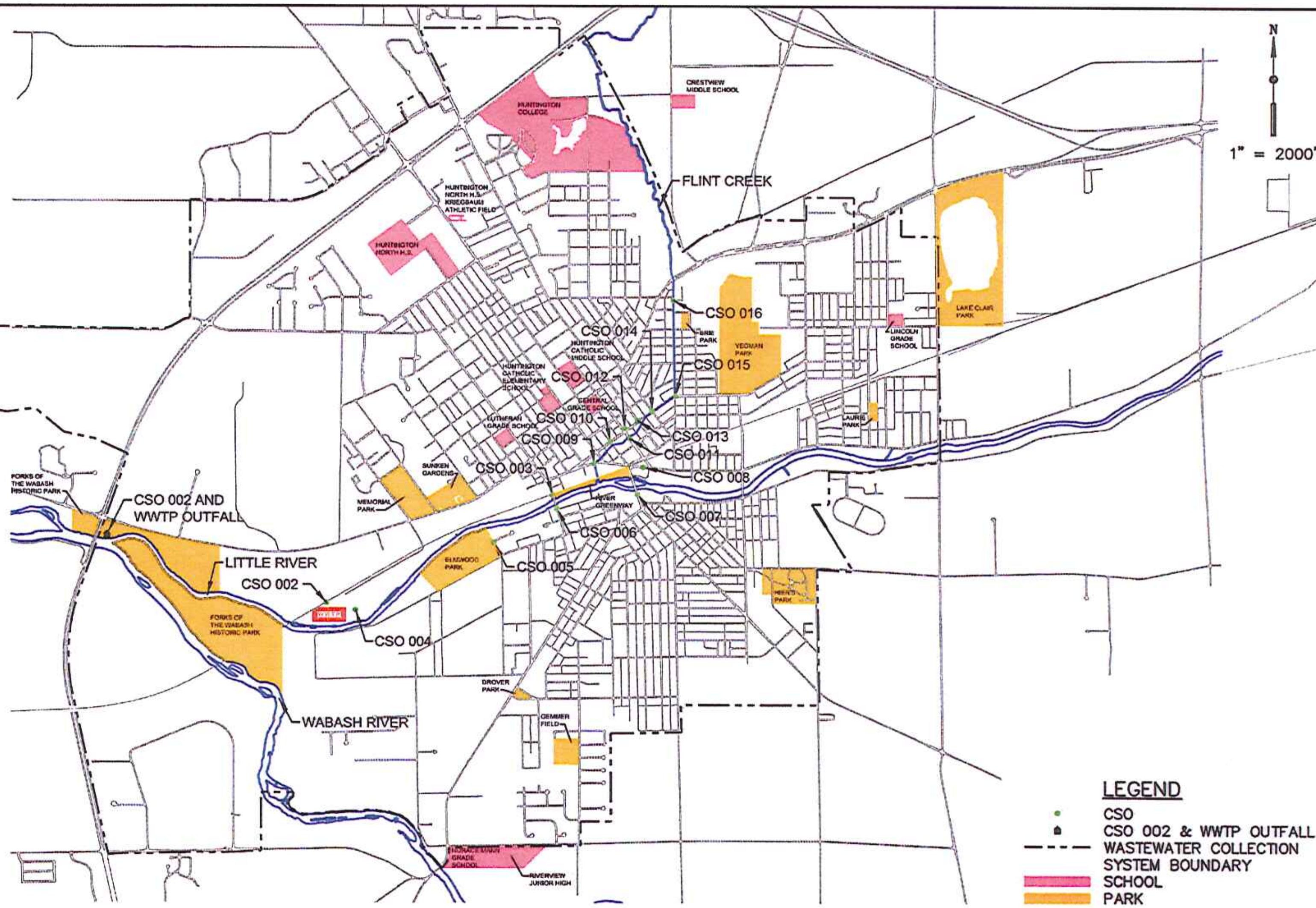


Figure 2
Sensitive Areas

MEETING MINUTES

Project Name:	Huntington Long Term Control Plan
Project Number:	10151.00
Date of Meeting:	July 21, 2008
Present:	Ruth Marsh, Operations Manager Colin Bullock, WWTP Superintendent Mike Hartburg, Attorney for the City Scott Harvey, CAC Member Robert Gressley, CAC Member Debbie Dyer, CAC Member Steve Davidson, CAC Member Jeff DeWitt, Bonar Group Derek Davidson, Bonar Group
Topic:	**Citizens Advisory Committee Meeting #2** **CSOs and Water Quality**

Supplemental Figure Materials

- **Agenda**
- **PowerPoint slide handouts**
- **Aerial photo showing the CSO locations**
- **CSO location figure**
- **Sensitive area figure**
- **Public surveys**

Introductions

- Jeff introduced himself and asked everyone else to do the same.

Review of Previous Meeting Minutes and Questions

- Jeff briefly reviewed the topics discussed in the previous meeting. Including a brief description of the LTCP and CSOs

A presentation was given by Jeff DeWitt. The presentation topics and highlights are as follows:

Purpose of CAC

- CSO policy states that a public participation must be utilized during the development of a LTCP.
- The main functions of the CAC are:
  - To give a community wide perspective for the direction of the LTCP
  - Provide ideas about how to receive input from affected parties
  - Determine the water quality goals for the City
  - Identify sensitive areas that may not be easily observed
  - Identify how the water bodies are currently being utilized

Discussion

When is the public invited to these meetings?

The public is always welcome at these meeting. Please invite anyone that is interested in the LTCP because it is easier to address their concerns now than later. Also, the public will be informed about the LTCP through the use of surveys, newspaper articles, and public meetings.

CSO Impacts

- CSO events typically occur during periods of heavy rainfall or snowmelt.
- CSOs are essentially relief valves that prevent the excess flow from backing up into residences, which would cause a greater health hazard than overflowing.
- CSO discharges are still harmful to the aquatic habitat because it contains organic material, such as leaves and as it degrades it consumes oxygen. This decreases the amount of oxygen available for fish. Once the degradation the amount of oxygen will increase to normal levels.
- CSO discharges also contain high concentration of E.coli that can contaminate fish and humans if it is ingested.

CSO Summary

- The City has 15 CSOs. Most of the overflows occur at CSO 004 with the rest contributing a less significant amount.
- Currently there are plans to potentially eliminate 4 CSOs if overflows cease once construction is complete (CSO 003, 012, 013, 016)

Discussion

Is the CAC to determine which areas are to be separated?

Bonar Group will provide the options to the committee and then the committee will evaluate based upon what level of treatment/cost is acceptable.

Water Quality Standards

- CSO are not to cause or contribute to violations of water quality standards or to violate the existing use of the water body.
- All waters of the State are classified for full body contact.
- Most rivers and streams do not meet the water quality standards even during dry weather.

Designated Uses

- Flint Creek, the Little River, and the Wabash River are classified as full body contact.
- Flint Creek is classified as full body contact however, this is not its actual use since it is completely enclosed and access is limited.
- Designated uses can vary for the same water body based upon different factors (i.e. season, flow, etc.)

Existing Uses

- An existing use is use that was actually attained since November 28, 1975.
- This is beneficial because it eliminates any uses that might have happened prior to that date since uses would typically change as the City grows.

Sensitive Areas

- Huntington has three types of sensitive areas that have been identified that could potentially affect the LTCP. The three types are Primary contact recreational areas that have been identified are:
    - Primary contact recreational areas (boat launches and swimming areas)
    - Habitat for threatened or endangered species
    - Streams that are safe and accessible near residential areas, schools, or parks
- Jeff also read the description of the land use along the banks of the Wabash River

Discussion

Four potential sensitive areas were identified at the following locations:

- A boat launch is located in Elmwood Park
- A second boat launch is located at the southwest corner of the N. Marion Rd. bridge that crossed the Wabash River. This is an unimproved boat launch where boats are carried down the bank and into the water.
- A popular fishing area is also located along West River Road just west of the N. Marion Rd. bridge that crosses the Wabash River.
- There is a river greenway located within the Forks of the Wabash Historic Park.

CAC Input

- The CAC is being asked to:
    - Help determine how citizens are utilizing the water bodies
    - Indicate any areas that could be considered sensitive
    - Provide input about the proposed public surveys
    - Inform any potential groups about the upcoming meeting so that they might attend

Update on the Status of the LTCP

- The City's combined sewer system is currently being modeled and overflows are being computed for various rain events.
- Options for CSO abatement will be developed based upon the results of the model.

Discussion

When is the LTCP plan supposed to be completed?

The LTCP is scheduled to be completed by September 30, 2009, however the public input portion should be completed by the end of 2008. A copy of the Work Plan from the State Judicial Agreement will be sent to each of the CAC members.

Schedule Next Meeting

- The next meeting is tentatively scheduled for August 18th but everyone will be notified about the meeting one week prior.

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, E.I.
Junior Engineer
317-570-6800 x339

cc: Present

CAC Meeting #3

September 15, 2008

City of Huntington
LTCP Citizens Advisory Committee Meeting Agenda
Huntington City Hall
September 15, 2008 @ 6:00 p.m.

- Introductions
- Review of Previous Meeting Minutes and Questions
- Discussion of Sensitive Areas Previously Identified
- Combined Sewer System Modeling
    - Purpose
    - Calibration
    - Results
    - Options to Reduce Overflows
- Questions
- Schedule Next Meeting – September 15, 2008 @ 6:00 p.m.

Huntington Long Term Control Plan
Citizens Advisory Committee Meeting
Sign in Sheet
9/15/2008 @ 6:00 p.m.

Name	Company	Phone Number	Email
Derek Davidson	Bonar Group	317 570 6800	ddavidson@bonargroup.com
Jeff DeWitt	Bonar Group	"	jdewitt@bonargroup.com
Steve Davidson	—	260-356-0647	Shark_148@Yahoo.Com
Steve Updike	MAUDE	260-356-4264	SAME
Ruth Marsh	CITY	260-356-1400	RUTH.MARSH@HUNTINGTON.IN.US
Michael Barton		260-224-1595	1607 ETNA AVE
Colin Bullock	City	260-358-2313	

Huntington Citizens Advisory Committee Meeting

Presented by:
Jeff DeWitt, P.E., BCEE
Bonar Group
September 15, 2008 at 6:00 p.m.

Outline

- Introductions
- Review of previous meeting minutes
- Discussion of identified sensitive areas
- Combined sewer modeling
  - Purpose
  - Calibration
  - Results
- LTCP Alternatives and Approach
- Discussion

Review of Previous Meeting Minutes

- Sensitive Areas
  - Forks of the Wabash – Canoe Launch and Greenway Trail
  - Elmwood Park - Boat Launch?
- "Use" of Streams
  - Existing Use
  - Designated Use
  - Highest Attainable Use
- Surveys
  - CAC Member Bio
  - Use of Stream Surveys

Discussion of Identified Sensitive Areas

- Forks of the Wabash – Canoe Launch and Greenway Trail (identified at CAC meeting)
  - Fishing and potential wading
- Elmwood Park – No Boat Launch (identified at CAC meeting)
  - Fishing and potential swimming
- Riverview Terrace Apartments
  - Fishing and potential swimming
- Island by Marsh Store
  - Fishing and potential swimming

Forks of the Wabash Historic Park

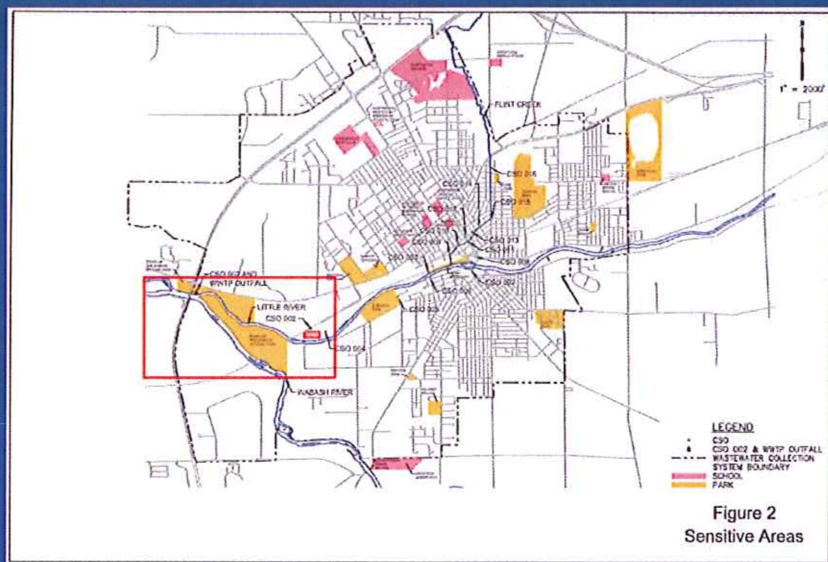
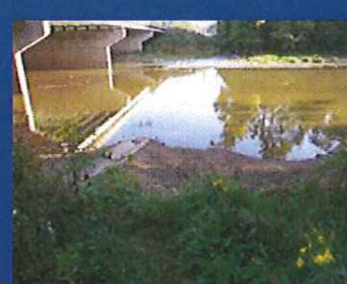


Figure 2
Sensitive Areas

Forks of the Wabash Historic Park



Forks of the Wabash Historic Park

Forks of the Wabash Historic Park

Elmwood Park

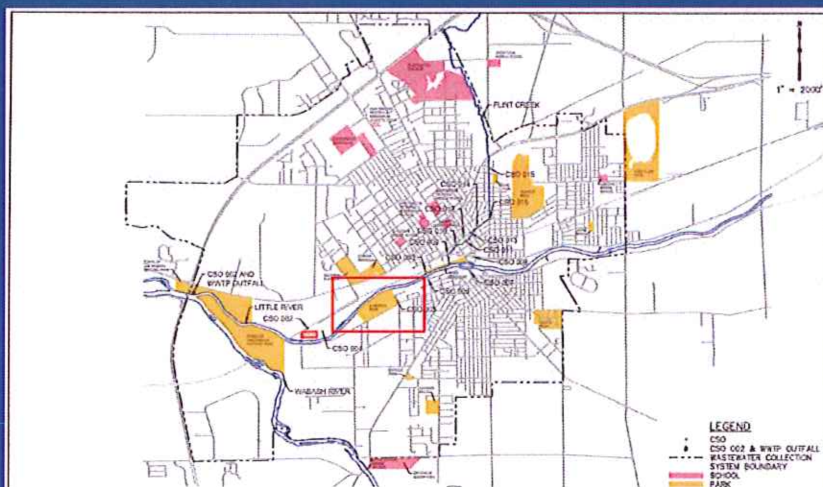
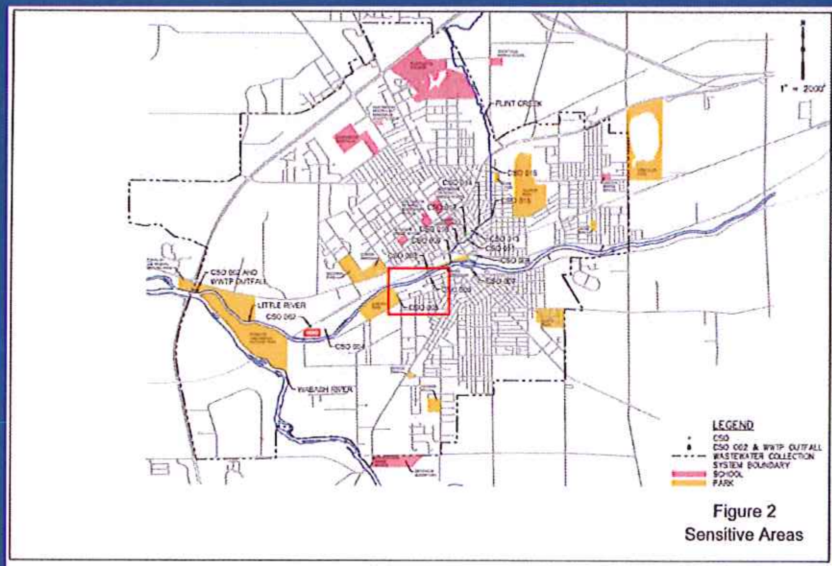


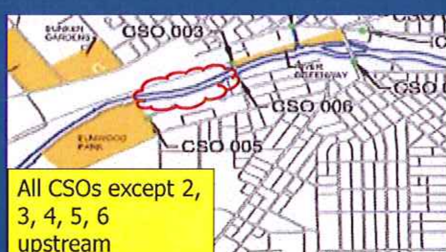
Figure 2
Sensitive Areas

Elmwood Park

Riverview Terrace Apartments



Riverview Terrace Apartments



Island by Marsh

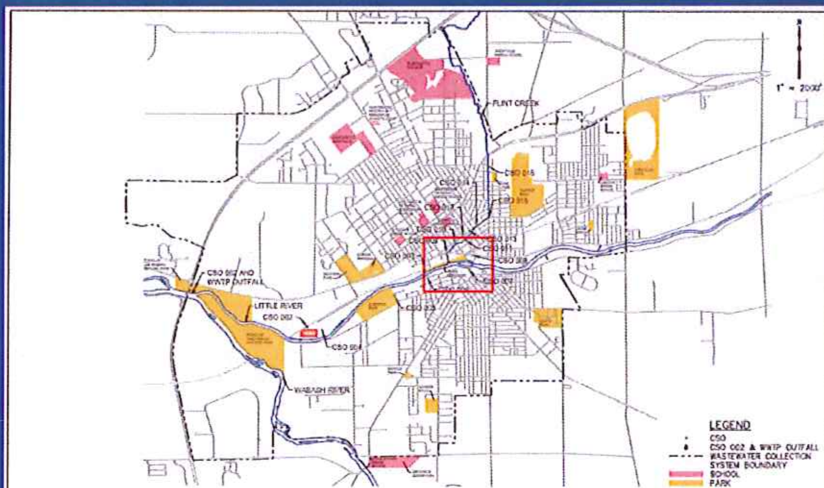
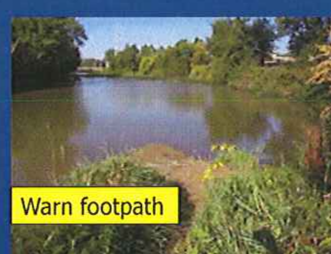


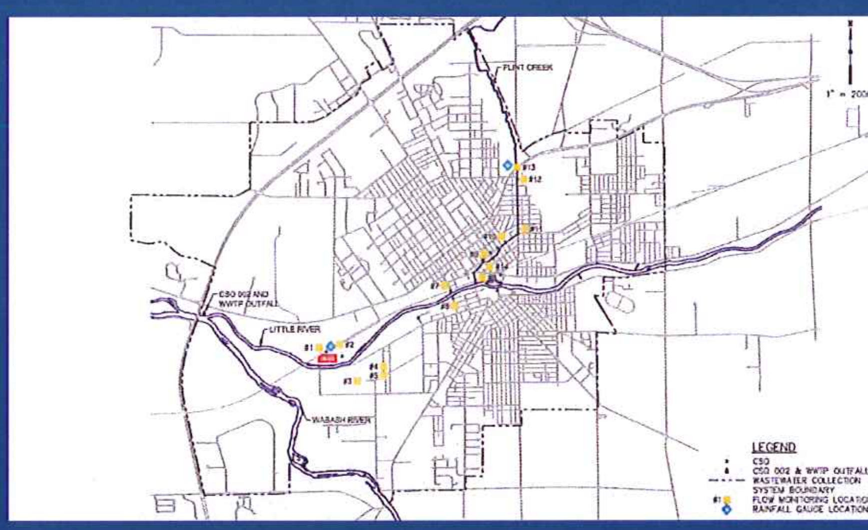
Figure 2
Sensitive Areas

Island by Marsh

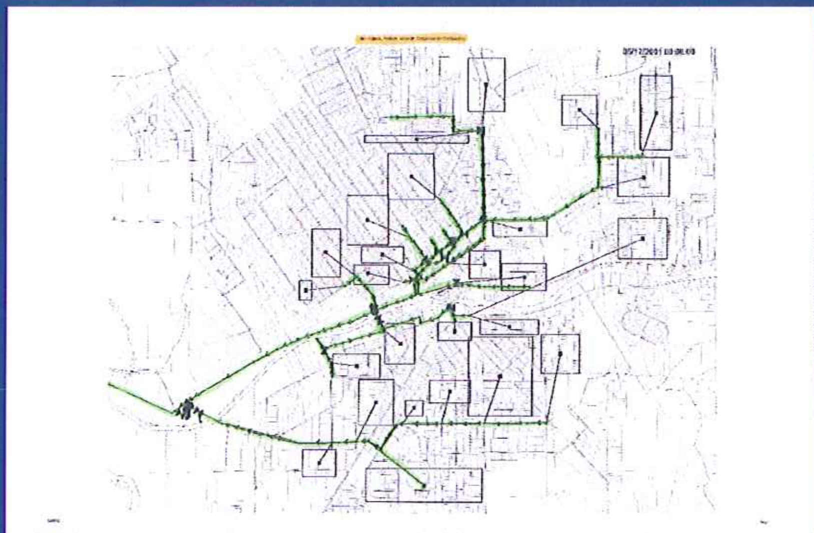


Combined Sewer Modeling

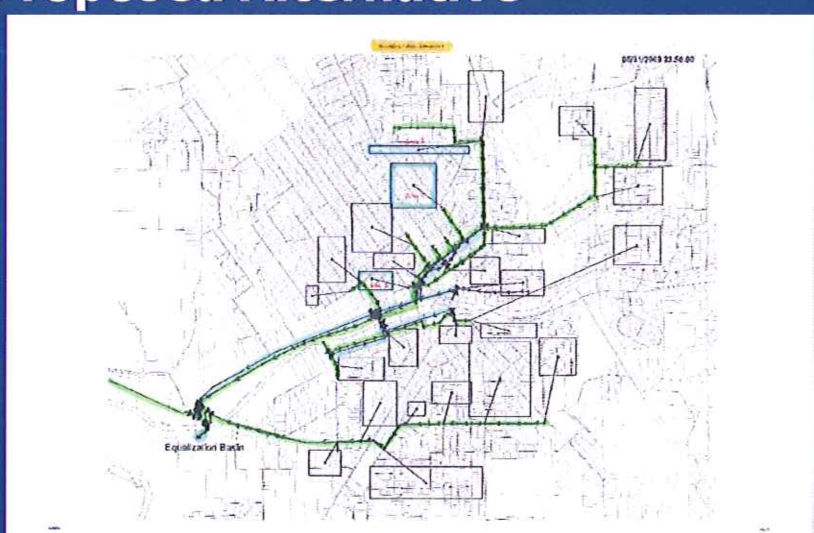
- Purpose
  - Recreate the way the sewer system behaves so that options can be evaluated
- Calibration
  - Flow monitoring data from 14 locations back in April/June 2001
  - Adjusted variables until model duplicated the actual flow data for a series of design storms (10% flow weighted error)



Combined Sewer Modeling Historic Condition



Combined Sewer Modeling Proposed Alternative



LTCP Alternatives

- Total sewer separation
  - (28 Miles of Separation Required)
- Treatment
  - Significantly Increase Plant Capacity
  - Look at Constructing a New Plant
- Storage
  - Equalization Basin at Site Across River from Existing Plant with Treatment Increase, also
- "No Action"
  - Face Fines

LTCP Approach

- Presumptive Approach (Requires UAA)
  - Maximum of 4 CSOs/year
  - Eliminate or Capture 85% of total CSO flow and pollutants
- Storm Event Based Approach (Does Not Require UAA)
  - Must fully treat 1-year, 1-hr storm event (about 1.02 / hr)
  - Must perform preliminary treatment and disinfection on 10-year, 1-hr storm event (about 1.65 / hr)

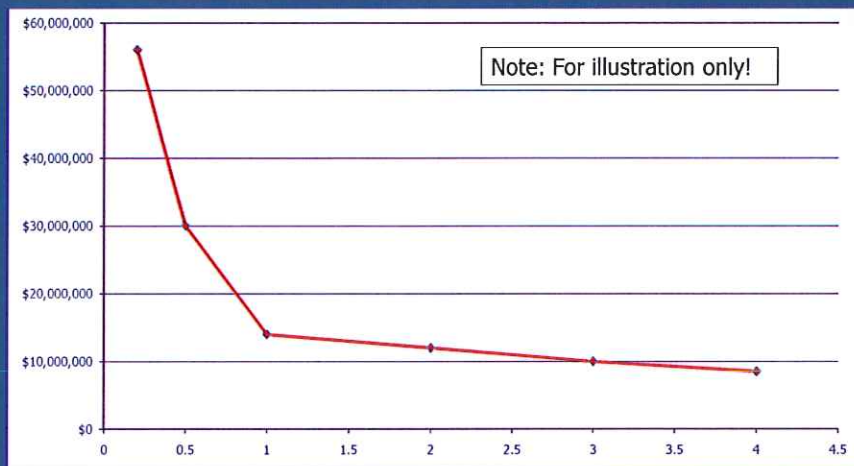
Estimating Alternative Costs

- Capital Cost
  - Construction
  - Engineering Design and Construction Observation
  - Legal Fees
  - Administrative Fees
  - Contingency
- Operational Cost
- Maintenance Cost
- Equipment Replacement

Hypothetical Cost/Performance Curve

Alternative	Design Event					
	4 Events/Year	3 Events/Year	2 Events/Year	1 Events/Year	0.5 Events/Year	0.2 Events/Year
1	$9,000,000	$10,000,000	$20,000,000	$24,000,000	$30,000,000	$56,000,000
2	$8,500,000	$16,000,000	$30,000,000	$40,000,000	$54,000,000	$70,000,000
3	$12,000,000	$18,000,000	$26,000,000	$34,000,000	$44,000,000	$58,000,000
4	$10,000,000	$14,000,000	$12,000,000	$14,000,000	$32,000,000	$62,000,000
Minimum	$8,500,000	$10,000,000	$12,000,000	$14,000,000	$30,000,000	$56,000,000

Hypothetical Cost/Performance Curve



Questions

- Next meeting – October 20, 2008

MEETING MINUTES

Project Name:	Huntington Long Term Control Plan
Project Number:	10151.00
Date of Meeting:	September 15, 2008
Present:	Steve Updike, Mayor Ruth Marsh, Operations Manager Colin Bullock, WWTP Superintendent Michael Barton, CAC Member Steve Davidson, CAC Member Jeff DeWitt, Bonar Group Derek Davidson, Bonar Group
Topic:	**Citizens Advisory Committee Meeting #3** **Combined Sewer System Modeling and Alternatives**

Supplemental Figure Materials

- **PowerPoint slide handouts**

A presentation was given by Jeff DeWitt. The presentation topics and highlights are as follows:

Introductions

- Jeff introduced himself and asked everyone else to do the same.
- Michael Barton asked that he be contacted by any means other than email.

Review of Previous Meeting Minutes and Questions

- Jeff briefly reviewed the topics discussed in the previous meeting. Including a brief description of the LTCP and CSOs

Discussion of Identified Sensitive Areas

- The potential sensitive areas that were identified during the previous meeting were identified.
  - Forks of the Wabash – Canoe Launch
  - Forks of the Wabash – Greenway Path
  - Elmwood Park – Boat Launch

- The Little River was investigated to determine if there were any other sensitive areas and to verify the identified sensitive areas.
- The Forks of the Wabash Historic Park was investigated for sensitive areas and three separate areas and their potential uses were identified.
- Forks of the Wabash Historic Park – Boat Launch – Fishing/Wading possible
  - It was observed that there was a path for a vehicle leading down to the river that could be used to launch a boat, however the boat would have to be carried down to the water because it is not possible to reach the water in a vehicle.
  - The members of the CAC indicated that people do fish in this location, but not many boats/canoes are launched here.

- Forks of the Wabash Historic Park – Park and Pavilion – Fishing possible
  - Fishing would be possible in this location because there is easy access to the Wabash River in this location. Also, might be another activity that could occur because of the park like setting and pavilion for picnics.
  - The members of the CAC indicated that fishing did occur here, but wading/swimming did not.

- Forks of the Wabash Historic Park – Greenway Path – Fishing possible
  - The Greenway path begins at the Forks of the Wabash historic park and continues east for some distance. This path will be extended further in the future. Some access was available to the river for fishing and other activities, but the water level was low.
  - The members of the CAC did not feel that fishing would occur in this location since it is a significant distance from a parking area.

- Elmwood Park – Fishing/Swimming possible
  - Several footpaths were visible and allowed access to the Little River. Two of these locations had evidence that fishing occurred in these locations. The remaining area did not have evidence that fishing occurred, but the ground was well worn in this location. It is possible that swimming might occur in this location instead of fishing.
  - The members of the CAC did not feel that swimming occurred in these locations, but fishing did.

- Riverview Terrace Apartments – Fishing/Swimming possible
  - There was a path running from the apartments to and along the Little River. Trash from fishing was observed. It is also possible that swimming might occur because the banks are gently sloping to allow access to the River.
  - The members of the CAC did not feel that swimming occurred here because

individuals who are elderly and live on a fixed income reside in these apartments.

- Island by Marsh – Fishing/Swimming possible
  - Several footpaths were visible that indicated that people accessed the river in various locations. Fishing and swimming are the most likely activities in this location.
  - The members of the CAC indicated that they have observed people fishing in this location; however they have not observed anyone swimming.

Discussion

The members indicated that very few people used the Little River for any recreational activities.

Combined Sewer Modeling

- The purpose of the model is to duplicate the way the combined sewer system behaves during rain events.
- 14 monitoring points were used to collect flow data during rain events
- Two rain events were used from the monitoring period in 2001 to calibrate the model.
- The rain events used were approximately 0.3" each and the event that must be treated is approximately 1.62". Further monitoring will be completed to obtain larger rain events that will allow for better calibration of the model.
- Colin Bullock stated that new monitoring data would be available soon. It has not been possible to retrieve data from the current monitors because they were not able to communicate with the data transmission device. New monitors are being purchased that will eliminate this problem.
- The model will be used to develop potential options for reducing CSO overflows and how the options affect the whole system.

LTCP Alternatives and Approach

- Several options to reduce CSO overflows are being explored. These options include:
- Total sewer separation of approximately 28 miles of combined sewer.
- Significantly increasing the size of the WWTP to accept both sanitary and storm flows.
- Constructing an equalization basin to capture overflows and then treat them at the WWTP once capacity at the WWTP is available.
- No Action which would result in significant fines for the City.
- Two approaches are available to determine the maximum number of overflow events per year. The approach will be determined based upon what the community can pay for service.

- Presumptive approach –
  - Allows a maximum of 4 CSO events per year
  - 85% of total CSO flow and pollutants must be captured/eliminated.
- Storm event based approach
  - All flows generated by the 1-yr, 1-hr storm must be treated
  - Preliminary treatment must be provided for any flows up to the 10-yr, 1-hr storm

- Typical community sewer rates throughout the State are approximately $50-60/month

Estimating Alternative Costs

- Each proposed option will be evaluated upon capital cost, operational cost, maintenance cost, and equipment replacement cost.
- Capital cost is important in evaluating each option, but operation, maintenance, and replacement costs can be significant over time. An option that has a higher capital cost such as the total sewer separation may be cheaper than a cheaper option because it has very minimal operation cost and no moving parts for replacement.
- A cost performance curve will be used to determine the most economical option. This method of evaluation provides the most reduction in CSOs for the money.

Questions/Discussion

The Mayor asked if it would be good to have a member of the City Council present. *Jeff DeWitt agreed that it would be beneficial so that they are informed of the ongoing work and would not be surprised by the proposed plan. Jeff also stated that CAC meetings are open to the public.*

Schedule Next Meeting

- The next meeting is tentatively scheduled for October 20th but everyone will be notified about the meeting one week prior.

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, E.I.
Junior Engineer
317-570-6800 x339

cc: Present

CAC Meeting #4

November 17, 2008

Huntington CAC Meeting
Long Term Control Plan
Sign-in Sheet
November 17th, 2008

Name	Phone Number	Email
Michael Barton	224-1595	Mike-Barton o: cComcast.net
Cyndy Pressler	356-2053	cyndypressler@comcast.net
Steve Davidson	356-0647	Shark_148@Yahoo.com
Steve Hocker	356-1198	SHockeratt.net
Barry Christon	359-9404	BChris1234@AOL.com
Keith Eller	356-0869	keller40@ATT.Net
Steve Updike	356-1400	UPPD7 @ SBCGLOBAL.NET
Mike Hawthorne	356-4100	mhawthorne@dhrglue.com
Colin		colin.bullock@huntington.ia.com
Jeff DeWitt	(317)570-6800	jdewitt@bonargroup.com

Huntington Citizens Advisory Committee Meeting No. 4

Presented by:
Jeff DeWitt, P.E., BCEE
Bonar Group
November 17, 2008 at 6:00 p.m.

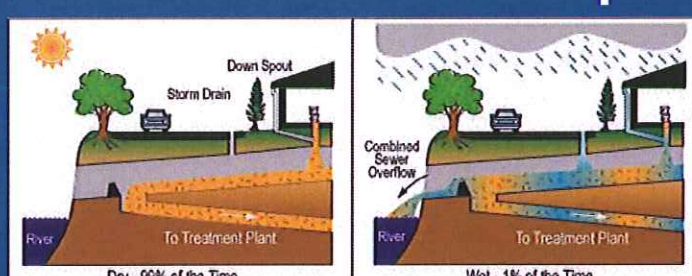
Meeting Outline

- Introductions
- Review of previous meeting minutes
- Technologies Evaluated
- Likely Alternatives to Consider

CSO Control Technologies

- Inflow Reduction
  - Storm Sewer Separation
  - Downspout and Sump Pump Disconnection
  - Green Technologies
  - Street Sweeping
  - Education

Inflow Reduction - Sewer Separation

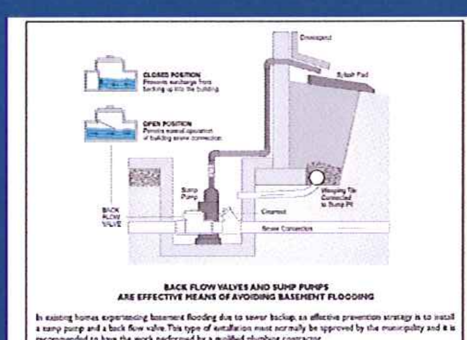


Inflow Reduction - Sewer Separation

- Sewer Separation Pros
  - Reduces storm water runoff to combined sewer system
  - Reduces or eliminates CSOs
- Sewer Separation Cons
  - Disruption to downtown areas and neighborhoods
  - Separated storm water carries pollutants that are discharged to streams
  - Hydrodynamic separators necessary for treatment on separated storm sewer

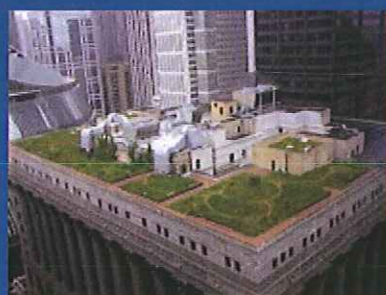
Inflow Reduction - Sump Pump and Roof Drain Disconnection Programs

- Incentives for downspout and sump pump disconnection



Inflow Reduction – Green Technologies

- Green Roofs
- Rain Gardens
- Rain Barrels



Inflow Reduction – Green Technologies

- Green Technology Pros
  - Reduces storm water runoff and pollutants to combined sewer system
  - Reduces CSOs
  - Removes some pollutants
- Green Technology Cons
  - Usually need to be installed on private property
  - Requires maintenance (weeding, mowing, etc.)
  - Pollutant buildup?

Inflow Reduction – Street Sweeping

Inflow Reduction – Street Sweeping

- Street Sweeping Pros
  - Program is already in place
  - Less maintenance in pipe and structures
  - Cleaner streets
- Street Sweeping Cons
  - Expensive Equipment
  - Fuel Costs Unpredictable

Inflow Reduction Education

- Citizens Advisory Committee
- Educational Materials for Students
- Newspaper Articles
- State of the City Address
- Storm Drain Stenciling

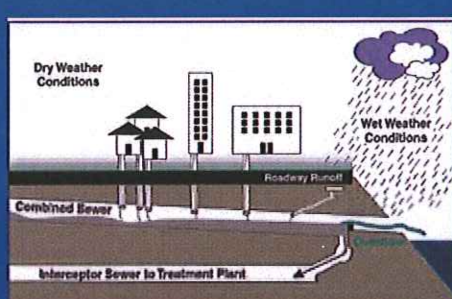
Inflow Reduction - Education

- Education Pros
  - Existing programs
  - Synergy with MS4 program and CSO program
- Education Cons
  - Most materials discuss reduction pollutant loading, not flow
  - Difficult to measure impact of education (surveys)

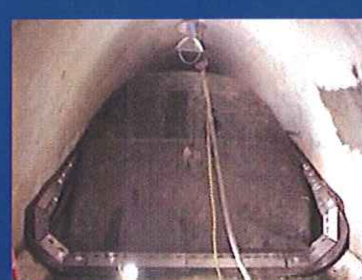
CSO Control Technologies

- Storage
  - In-line Storage with Real-time Control
  - Storage Tanks
  - Storage Basins
  - Deep Storage Tunnels

Storage - In-Line Storage with Real Time Control



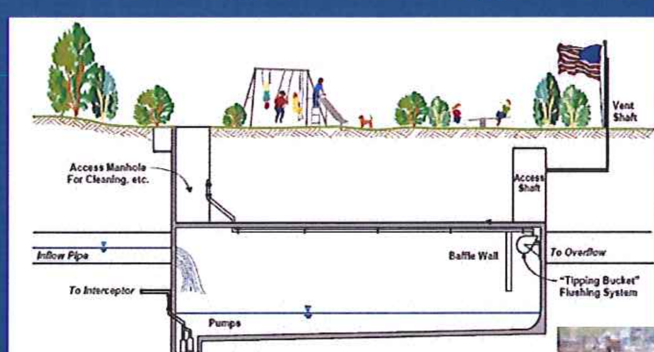
Sewage from homes, businesses and rainwater runoff flow into combined sewers and is then treated at a wastewater treatment plant. In moderate/heavy rain events, the CSO becomes activated sending rainwater and untreated sewage into the river.



Storage – In-Line Storage with Real Time Control

- In-Line Storage Pros
  - Potentially utilize existing infrastructure
  - Reduces flow rate to treatment facility
  - Reduces overflows to stream
- In-Line Cons
  - Highly automated
  - Mechanical dams require O&M
  - Increase potential for sewer/ basement backups

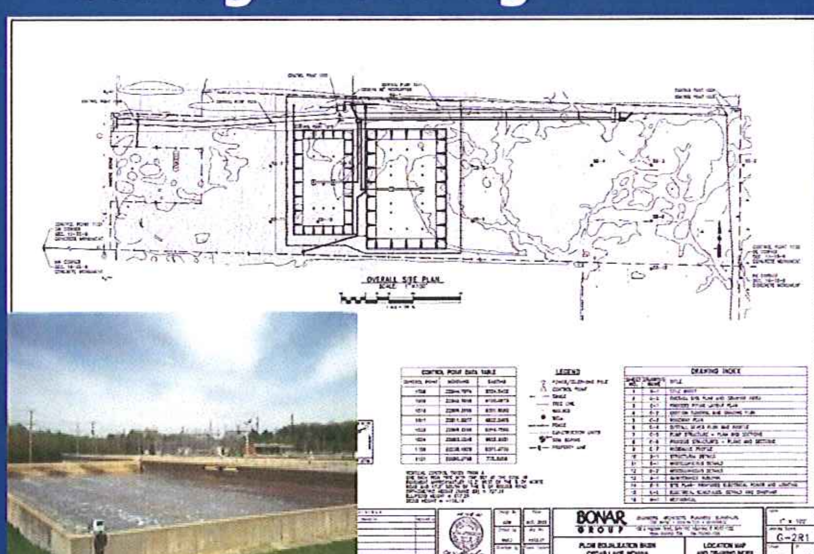
Storage - Storage Tank



Storage – Storage Tank (Below Grade)

- Storage Tank Pros
  - Reduces overflows to stream
  - Reduces risk of basement backups
  - Dual use opportunity
- Storage Cons
  - Rock in Huntington
  - Limited space available at CSO locations
  - O&M for Pumps and Flushing Equipment
  - Disruption to Neighborhoods

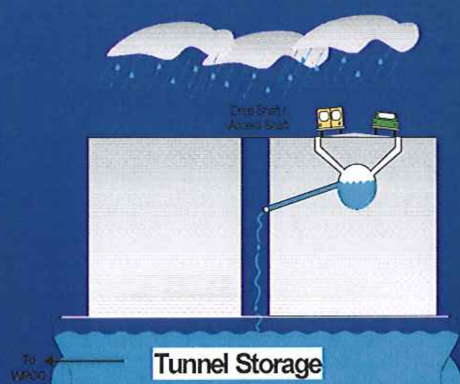
Storage - Storage Basin

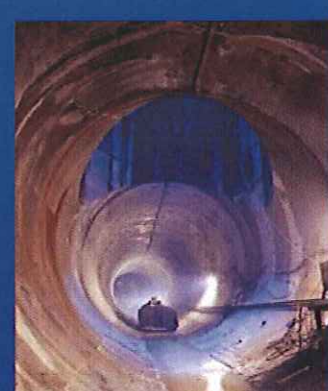


Storage – Storage Basin

- Storage Basin Pros
  - Reduces overflows to stream
  - Reduces risk of basement backups
  - Land owned by City across river from plant
- Storage Basin Cons
  - Rock in Huntington
  - Potential for Odors
  - Large Land Area Required

Storage – Deep Tunnel Storage



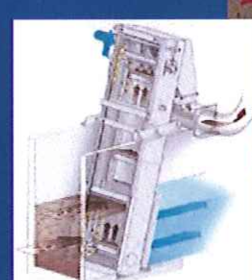


Storage – Deep Tunnel Storage

- Deep Tunnel Storage Pros
  - No land restrictions
  - Minimal disturbance to community
  - Increased O&M for flushing and cleaning
- Deep Tunnel Storage Cons
  - Increased O&M for flushing and cleaning
  - Rock in Huntington
  - Specialized construction with few contractors
  - Costs have been higher than predicted on recently bid projects

CSO Control Technologies – Treatment on CSOs

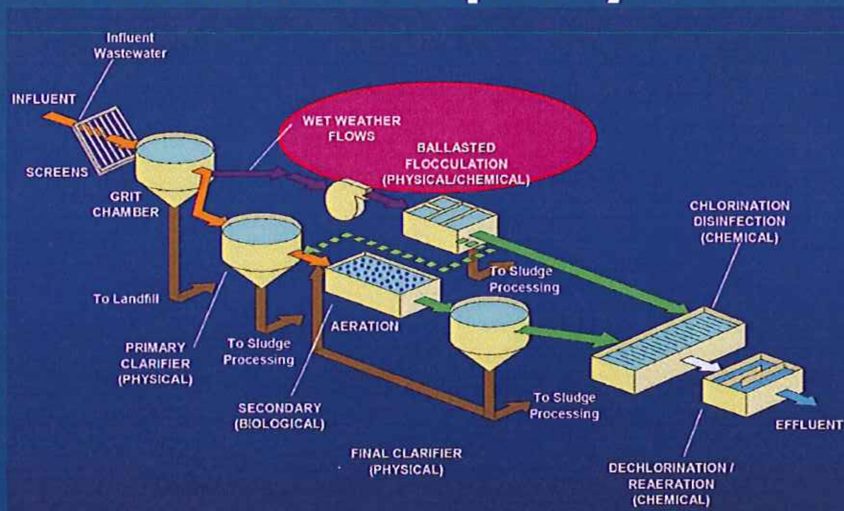
- CSOs (May not be required in Huntington)
  - Vortex Separators
  - High Rate Treatment
  - Mechanical Screens
  - Netting Systems
  - Disinfection



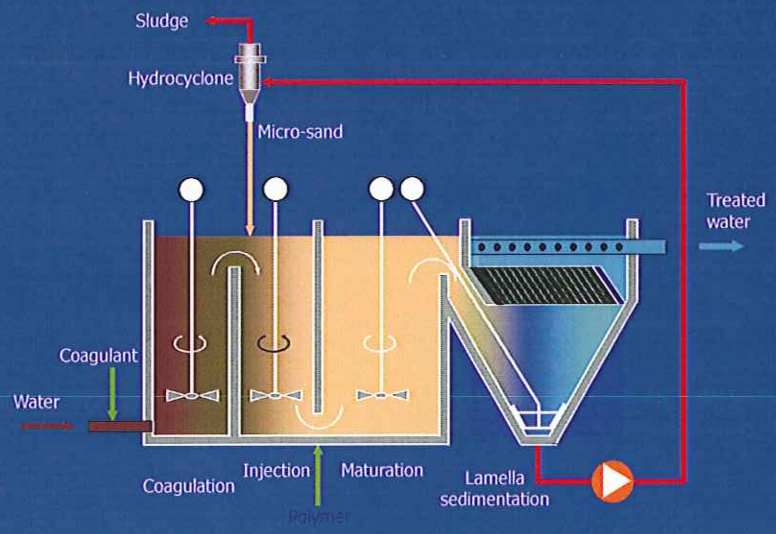
CSO Control Technologies – Treatment at Treatment Plant

- Existing Facility
  - Increase Primary Treatment
  - Increase Secondary Treatment
  - Increase Overall Treatment Capacity

Treatment – Increase Treatment Capacity



High Rate Treatment



Likely LTCP Alternatives to Consider

- Total sewer separation
- High Separation With Interceptor Sewer to Plant and Equalization Basin
- Lower Amount of Separation with Interceptor to Plant, Equalization Basin, and Additional Treatment

LTCP Approach

- Presumptive Approach (Requires UAA)
  - Maximum of 4 CSOs/year
  - Eliminate or Capture 85% of total CSO flow and pollutants
- Storm Event Based Approach (Does Not Require UAA)
  - Must fully treat 1-year, 1-hr storm event (about 1.02 / hr)
  - Must perform preliminary treatment and disinfection on 10-year, 1-hr storm event (about 1.65 / hr)

Estimating Alternative Costs

- Capital Cost
  - Construction
  - Engineering Design and Construction Observation
  - Legal Fees
  - Administrative Fees
  - Contingency
- Operational Cost
- Maintenance Cost
- Equipment Replacement

Stage Judicial Agreement Schedule
(Alternatives Due in March 2009)

Next Meeting:

December 15, 2008 @ 6:00 p.m.

MEETING MINUTES

Project Name:	Huntington Long Term Control Plan
Project Number:	10151.00
Date of Meeting:	November 17, 2008
Present:	Steve Updike, Mayor Ruth Marsh, Operations Manager Colin Bullock, WWTP Superintendent Mike Hartburg, City Attorney Michael Barton, CAC Member Cyndy Pressler, CAC Member Steve Davidson, CAC Member Steve Hacker, CAC Member Barry Christian, CAC Member Keith Eller, CAC Member Jeff DeWitt, Bonar Group
Topic:	**Citizens Advisory Committee Meeting #4** **Evaluation of CSO Technologies**

A presentation was given by Jeff DeWitt. The presentation topics and highlights are as follows:

Introductions

- Jeff introduced himself and asked everyone else to do the same.

Review of Previous Meeting Minutes and Questions

- Topics discussed in the previous CAC meetings were discussed briefly. Including a brief description of the monitoring and modeling that has been performed to date. He also recapped the sensitive areas that had been discussed at previous meetings.

Presentation – Inflow Reduction

- The concept of inflow reduction was presented to the CAC. Specific types of inflow reduction were discussed such as Storm Sewer Separation, Downspout and Sump Pump Disconnection, Green Technologies, Street Sweeping, and Education.
- It was pointed out that the current Storm Sewer Separation Project that is going out for bid in December is a method of Inflow Reduction.
- It was also noted that the rain garden or bio-retention technology is being implemented as a part of the library expansion project in Huntington.

- Mayor commented that people don't understand sometimes why they are spending money on gas for the street sweeping. It was discussed that this helps with the beautification of the community but also help with the stormwater quality of the surface waters in the community.
- The CAC is a good example of how to organize and educate people on stormwater and CSO issues. The more educated citizens are, the more likely they will not engage in activities that pollute the environment.

Presentation – Storage

- The concept of storage to reduce overflow in the system was presented to the CAC. Specific types of storage were presented such as in-line storage with real time control, storage tanks, storage basins, and deep tunnel storage.
- It was explained that combined sewage would need to be stored and fully treated for the 1-yr, 1-hr storm event, and that combined sewer would need to have preliminary treatment and disinfection for the 10-yr, 1-hr storm event in order to avoid a Use Attainability Analysis.
- Huntington noted that property has been purchased on the south side of the Little River in the area of the wastewater treatment plant with a storage basin in mind.
- It was discussed that the modeling results to date demonstrated that the storage basin idea on the south side of the Little River was still a viable alternative.
- The in system storage and underground tank storage don't seem to be viable because of the very tight land areas at the current CSO locations.

Presentation – Treatment

- The concept of treating the stored combined sewage was presented to the CAC. Specific treatment systems were presented such as increasing primary treatment, increasing secondary treatment, or increasing overall capacity of the treatment plant.
- It was again explained that combined sewage would need to be stored and fully treated for the 1-yr, 1-hr storm event, and that combined sewer would need to have preliminary treatment and disinfection for the 10-yr, 1-hr storm event in order to avoid a Use Attainability Analysis.
- Some of the current issues at the WWTP were discussed. These include several violations that were experience in 2007 when sludge was not properly removed from the facility because of budget freezes.
- Once data from 2008 is finalized, we will have a clearer picture of how the plant may need to be improved to accommodate increase flows.

Presentation - LTCP Approach / Alternatives

- The alternatives being considered include (1) Total Sewer Separation, (2) High Sewer Separation, Interceptor to Plan, and Equalization Basin, (3) Lower Amount of Sewer Separation, Interceptor to Plant, Equalization Basin, and Additional Treatment at Plant.
- The difference between the Presumptive Approach and Storm Event Based Approach was discussed.

Presentation – Costs

- The cost for the various alternatives will be considered based on capital, operational, maintenance, and equipment replacement.

Presentation - Schedule

- The proposed alternatives are due to IDEM / EPA by March 2009.

Schedule Next Meeting

- The next meeting is tentatively scheduled for January 19th, 2009, but everyone will be notified about the meeting one week prior to confirm.

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Jeff DeWitt, P.E., BCEE
Senior Project Engineer
317-570-6800 x 323

cc: Present

CAC Meeting #5

January 19, 2009

HUNTINGTON LONG TERM CONTROL PLAN
CITIZEN'S ADVISORY COMMITTEE MEETING
SIGN IN SHEET
1/19/2009 @ 6:00 p.m.

Name	Phone Number	Email
Colin Bullock		
Steve Davidson	356-0647	Shark_148@Yahoo.com
Michael Barton	224-1595	
Cyndy Pressler	356-2053	
Jeff DeWitt	317-570-6800	
Derek Davidson	317-570-6800	
Barry Christen	260-359-9404	Bchris1234@AOL.com
Scott Harvey	260-358-8528	sharveyics@sbcglobal.net
Mike Hartburg	260-356-4100	mhartburg@dhrglaw.com
Steve Updike	260-356-1400	
Ruth Marsh	260-356-1400	

MEETING MINUTES

Project Name: Huntington Long Term Control Plan

Project Number: 10151.00

Date of Meeting: January 19, 2009

Present:
Steve Updike, Mayor
Ruth Marsh, Operations Manager
Colin Bullock, WWTP Superintendent
Mike Hartburg, City Attorney
Michael Barton, CAC Member
Cyndy Pressler, CAC Member
Steve Davidson, CAC Member
Barry Christen, CAC Member
Scott Harvey, CAC Member
Brenda Williams, CAC Member
Debbie Dyer, CAC Member
Jeff DeWitt, Bonar Group
Derek Davidson, Bonar Group

Topic: **Citizens Advisory Committee Meeting #5**
Review of Previous Meetings and Current Projects

Introductions

- Mayor Updike introduced himself and everyone else.

Review of Previous Meeting Minutes and Questions

- Jeff reviewed the topics and discussion from the four previous meetings. The topics included the previous LTCP, the role of the CAC, modeling, and the schedule.

Previous LTCP

- The City has entered into a State Judicial Agreement which is a legally binding agreement between IDEM and the City that sets specific dates for completion for parts of the LTCP. Some of these include installation of flow monitoring equipment, model calibration, discussion of alternatives, and several meetings with IDEM and the EPA.

Role of the CAC

- The purpose of the CAC is to represent the public and provide input on the LTCP. Ultimately, the CAC will generate a recommendation document that will be provided to the Board of Works.
- The CAC also provides input about how citizens in the community use the river. This information can then be used to rank the priority of projects, so that certain areas will receive a higher level of treatment.

Modeling

- During an internal quality control check it was discovered that the model that was calibrated based upon the 2001 flow monitoring data did not have an acceptable level of accuracy. The 2001 flow monitoring data does not match the information that was collected at the WWTP.
- The City is going to be installing new flow monitors at eight CSO's. The equipment has been received and now it needs to be installed.
- The goal is to have the monitors operational so data can be collected this spring.

Schedule

- The SJA required that the potential LTCP project be submitted to IDEM by the end of March 2009. Due to this setback it may be necessary to request an extension to the SJA deadlines. The procedure to do this is currently being investigated.

Current Projects

- Three years ago the City sent a letter to IDEM that requested approval to begin several projects from the LTCP. IDEM subsequently approved four or five sewer separation projects. These projects are referred to as Early Action Projects.
- Jeff passed out maps of the City that showed where projects are going to be constructed this year (2009).
- The total construction cost for the projects is $2.7 million and the Contractor is Geiger Excavating. The project will begin in February and will be completed in December.
- A preconstruction meeting with the City, Contractor, and local utilities is scheduled for Thursday to coordinate activities. Meetings are also being scheduled with the adjacent businesses and homeowners to coordinate maintenance of access to their property.
- Construction in Area 1 and Area 3 will most likely be occurring at the same time. Construction in Area 2 cannot begin until after Heritage Days is over.
- These projects are intended to eliminate overflows at four CSO's in the City. The CSO's will be monitored to determine if overflow still occur once the projects are completed.

Questions

Question: Does the $2.7 million include rock excavation?

Answer: Yes, it does. It is a unit price contract and if the Contractor does not encounter rock then the City will not have to pay for that quantity.

Question: Was Geiger Excavating's unit price for rock excavation comparable to the other bidders?
Answer: Yes, it was. If it was not it would have been possible to throw out the bid.

Question: Are there a set number of work days for the projects?
Answer: Yes, there are a set number of calendar days that the Contractor has to complete the project.

Question: Will these projects affect the final cost of the proposed projects in the LTCP?
Answer: These projects will be incorporated into the LCTP. Projects must be proposed to provide a certain level of CSO reduction. These projects are working towards that goal.

Question: How are these current projects being paid for?
Answer: These projects are being paid for with a State Revolving Fund (SRF) loan. This is a low interest loan that will save the City approximately $1 million in interest payments over the life of the loan (20 years). It may be possible to refinance the interest rate to be lower depending on the federal stimulus package.

Question: Will construction affect sewer service?
Answer: No, homes will be hooked to the sewer after the new sewer is operational.

Question: Will the roads be kept open during construction?
Answer: The Contractor is supposed to keep one lane open at all times, but sometimes it may be necessary to close a road. The total time that the road is closed will be kept to a minimum and it will be scheduled so that it caused the least disturbance to the public. It may be necessary for residents to park up the street from their house for a night or two, but the construction inspector will be working with them during these situations if they have any specific needs.

Question: Is everyone on combined sewers?
Answer: No, the majority of the combined sewers are in the downtown area. Typically, sewer separation begins near the edges of a community and projects work back towards the center.

Schedule Next Meeting

- A date for the next meeting is not currently set. The CAC will be notified at a later date about next meeting date.

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, EIT
Junior Engineer
317-570-6800 x 339

cc: Present

CAC Meeting #6

September 21, 2009

City of Huntington
LTCP Citizens Advisory Committee Meeting Agenda
Huntington City Hall
September 21, 2009 @ 6:00 p.m.

- Introductions
- Review of Previous Meeting Minutes
- Combined Sewer System Modeling
  - Purpose
  - Calibration
  - Options to Reduce Overflows
- Alternative Costs vs. Performance
- Recommended Alternative
  - Capital
  - O&M costs
  - Estimated Rate Increases
- Green Technologies
- Questions
- Schedule Next Meeting – October 19, 2009 @ 6:00 p.m.
- Other Upcoming Meetings
  - October 19 – Board of Works 9:00 a.m.
  - October 27 – Council Meeting 6:45 a.m.
  - November 9 – Public Meeting 7:00 p.m.
  - November 16 – Board of Works 9:00 a.m.

CAC Meeting 9-21-09

Huntington Long Term Control Plan

Name	Company
Jeff DeWitt	Bonar Group
Derek Davidson	Bonar Group
Steve Davidson	——
Steve Hocker	
Debbie Dyer	
Cyndy Oressler	
Dave Schoeff	City - Dir. of Engineering
Kyle Updike	City - WPC
Colin Bullock	City WPC
Mike Hartburg	City of Huntington, Indiana
Ruth Marsh	City

Huntington Citizens Advisory Committee Meeting

Presented by:
Derek Davidson, E.I
Bonar Group
September 21, 2009 at 6:00 p.m.

Outline

- Review of Previous Meeting Minutes
- Combined Sewer System Modeling
- Alternative Cost vs. Performance
- Recommended Alternative
- Green Technologies
- Questions

Review of Previous Meeting Minutes

- CAC Meeting #1
  - SJA and LTCP
  - Responsibilities of the CAC Members
- CAC Meeting #2
  - Potential sensitive areas and existing uses
- CAC Meeting #3
  - Discussion of additional sensitive

Review of Previous Meeting Minutes

- CAC Meeting #4
  - CSO abatement technologies
- CAC Meeting #5
  - Upcoming separation projects
  - Monitoring data

Combined Sewer System Modeling

- Purpose
  - Recreate the way the sewer system behaves so that options can be evaluated
- Calibration
  - Flow monitoring data from 8 of 15 CSOs
  - Adjusted variables until model duplicated the actual flow data
  - Volume accuracy is approximately 13.5%

Combined Sewer System Modeling

- Approaches
  - Design Storm – 1-yr, 1-hr and 10-yr, 1-hr
    - Must fully treat 1-yr, 1-hr storm event (about 1.02 in./ hr)
    - Must perform preliminary treatment and disinfection on 10-yr, 1-hr storm event (about 1.65 in./ hr)
    - Does *Not* Require UAA
  - CSO Reduction Approach (Requires UAA)
    - Capture at least 85%, by volume, of the combined sewage collected during precipitation events on a system wide annual basis.
    - Requires a UAA and it must be reevaluated every 5 years

Options to Reduce Overflows

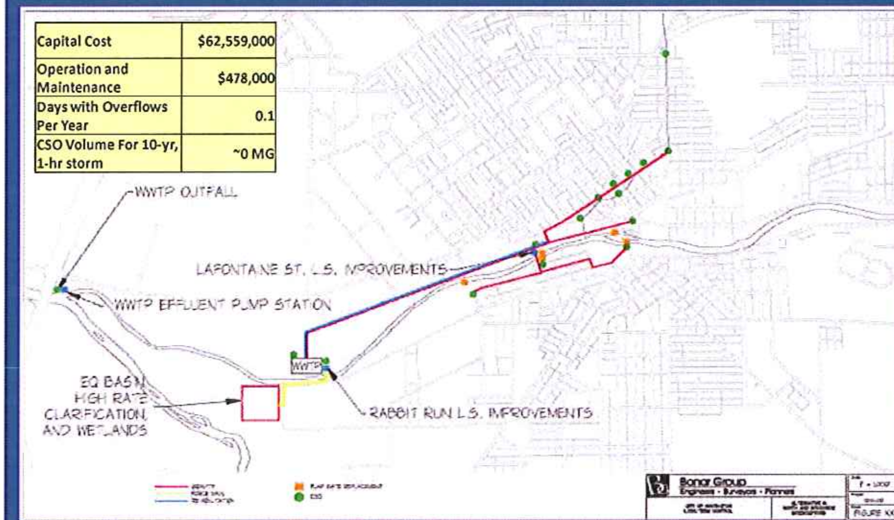
- Total sewer separation
  - 20 Miles of separation
- Wet Weather Treatment
  - Offline system that will treat flow in excess of the treatment plant capacity
- Interceptors
  - Interceptors collect possible overflows from CSOs it to the WWTP
- "No Action"
  - The existing sewer system would remain in its current state with the number of overflows unchanged and possibly increasing
  - 84 days with CSO events, 82.9 MG of overflow

Estimating Alternative Costs

- Capital Cost
  - Construction
  - Engineering Design and Construction Observation
  - Legal Fees
  - Administrative Fees
  - Contingency
- Operational and Maintenance Cost
  - Equipment Replacement
  - Labor

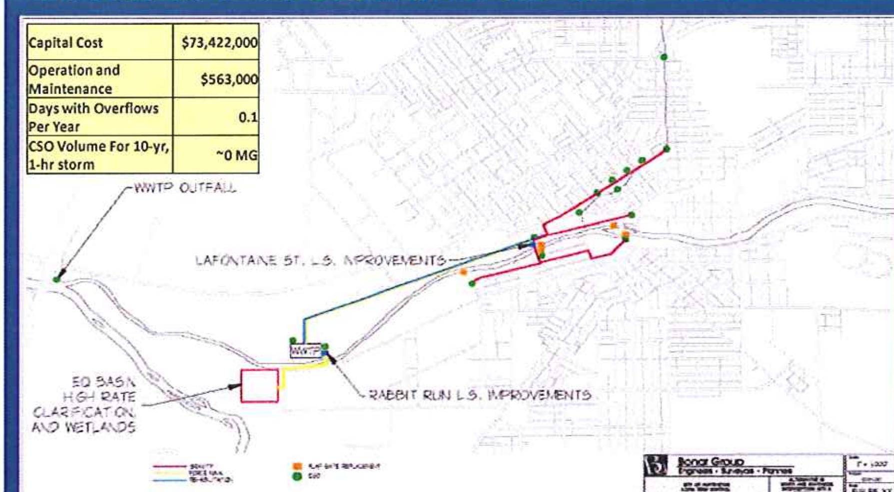
Alternative 1A
North and Southside Interceptors

Capital Cost	$62,559,000
Operation and Maintenance	$478,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG



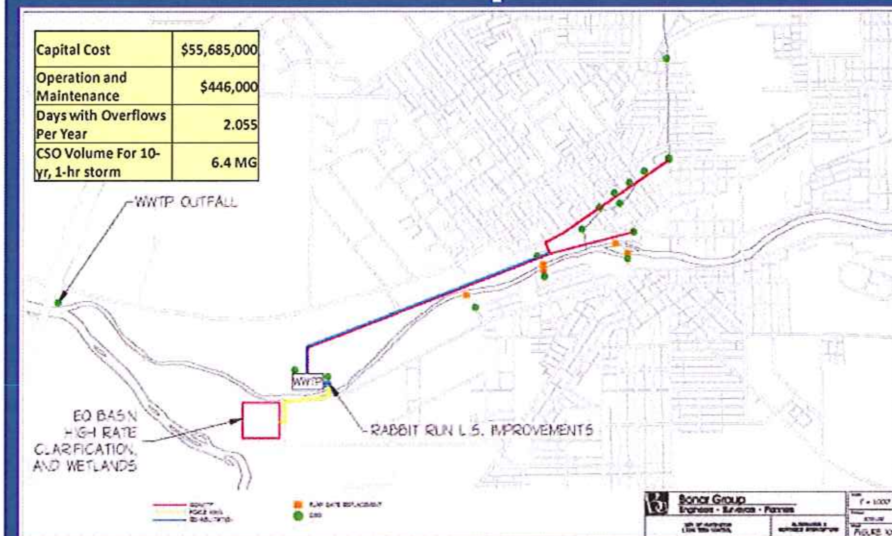
Alternative 1B
North and Southside Interceptors With a Forcemain to the WWTP

Capital Cost	$73,422,000
Operation and Maintenance	$563,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG



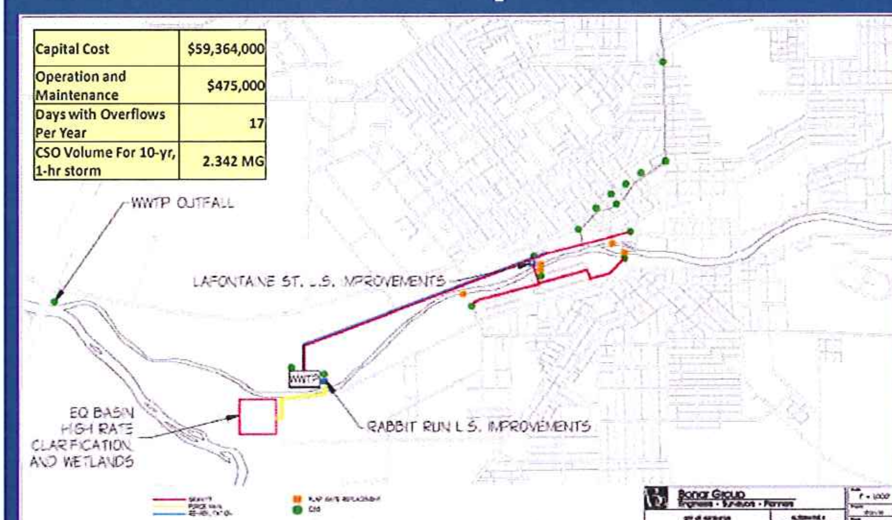
Alternative 2
Northside Interceptors

Capital Cost	$55,685,000
Operation and Maintenance	$446,000
Days with Overflows Per Year	2.055
CSO Volume For 10-yr, 1-hr storm	6.4 MG



Alternative 3
Southside Interceptors

Capital Cost	$59,364,000
Operation and Maintenance	$475,000
Days with Overflows Per Year	17
CSO Volume For 10-yr, 1-hr storm	2.342 MG



Alternative 4
Total Sewer Separation

Capital Cost	$60,680,000
Operation and Maintenance	$100,000
Days with Overflows Per Year	44
CSO Volume For 10-yr, 1-hr storm	2.503 MG

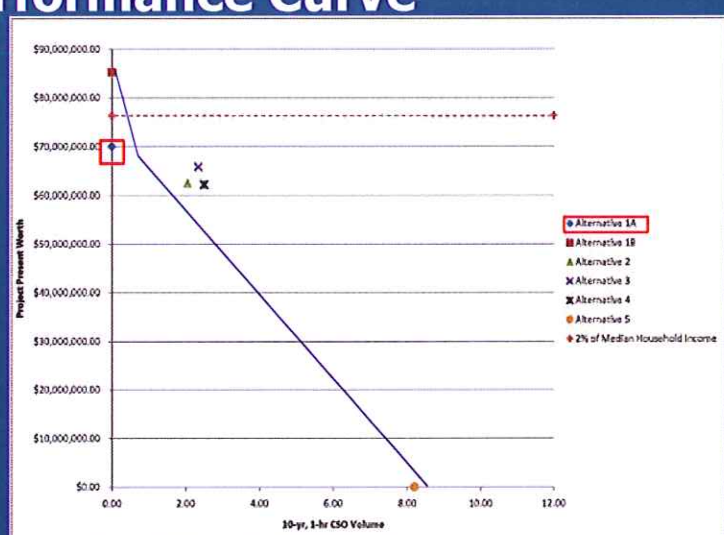
Alternative 5
No Action

Capital Cost	$0
Operation and Maintenance	$0
Days with Overflows Per Year	84
CSO Volume For 10-yr, 1-hr storm	8.198 MG

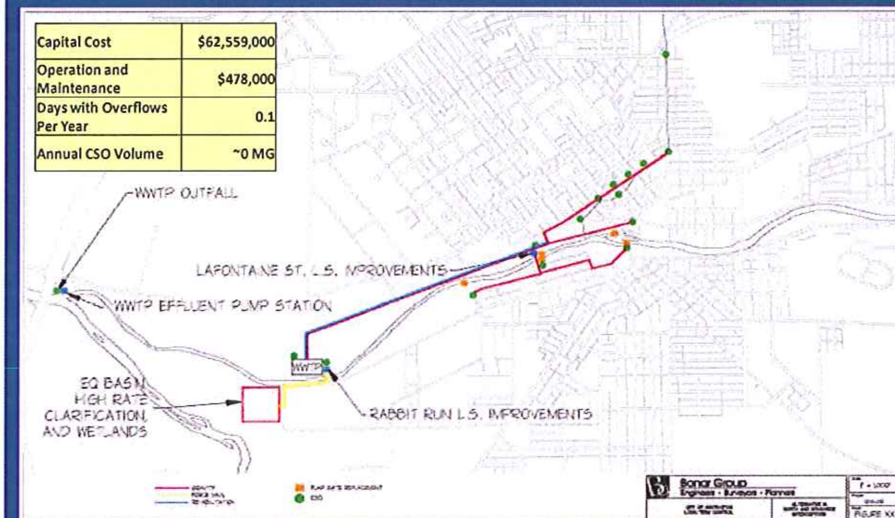
Other Improvements

- WWTP Improvements ($9,000,000)
- Targeted Green Technologies ($2,000,000)
  - Pervious Pavement
  - Rain Garden Program
  - Residential Runoff Prevention Program

Present Worth vs. Performance Curve



Recommended Alternative 1A North and Southside Interceptors



Capital Cost	$62,559,000
Operation and Maintenance	$478,000
Days with Overflows Per Year	0.1
Annual CSO Volume	~0 MG

Financial Capability Indicator

- Wastewater Cost Per Household (WW_{CPHI})

	Yearly	Monthly
Current Sewer Bill	$250.68	$20.89
Projected Increase due to CSO Projects	$406.20	$33.85
Total Annual Cost per Household	$656.88	$54.74
Median Household Income (2007)	$38,978	$3248
WW_{CPHI} as a Percent of MHI	1.90%	1.90%

Financial Capability Indicator

- Median Household Income (MHI)

Huntington (2007 estimate)	$38,978
National (2007 estimate)	$50,740

  - Huntington's MHI is 23% below the National Average

- Scoring

Indicator	Strong(1)	Mid-Range(2)	Weak (3)
Median Household Income	More than 25% above the National Average	+ or – 25% of the National Average	More than 25% below the National Average

Financial Capability Indicator

- Net Debt Per Capita

Net Debt	$34,116,917
Population of Huntington (2008 Estimate)	16,521
Debt per Capita	$2,065.06

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Net Debt/Capita	Less than $1,000	$1,000-$3,000	Greater than $3,000

Financial Capability Indicator

- Bond Rating

Current Bond Rating	NA

  - The City does not have a bond rating, but it can be assumed to be BBB-A/Baa-A or better.

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB-A (S&P) or Baa-A (MIS)	BB-D (S&P) or Ba-C (MIS)

Financial Capability Indicator

- Unemployment

Huntington – 2009 Average thru July	14.3%
National – 2009 Average thru July	8.8%

  - Huntington's unemployment rate is 5.5% greater than the national average.

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Unemployment Rating	More than 1% below the National Rate	+ or – 1% point of the National Rate	More than 1% above the National Rate

Financial Capability Indicator

- Property Tax Revenue Collection Rate

Current Collection Rate	90.3%

  - Data is based upon total collected in 2008 from 2007 bills

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Property Tax Revenue Collection	Above 98%	94%-98%	Below 94%

Financial Capability Indicator

- Summary Table

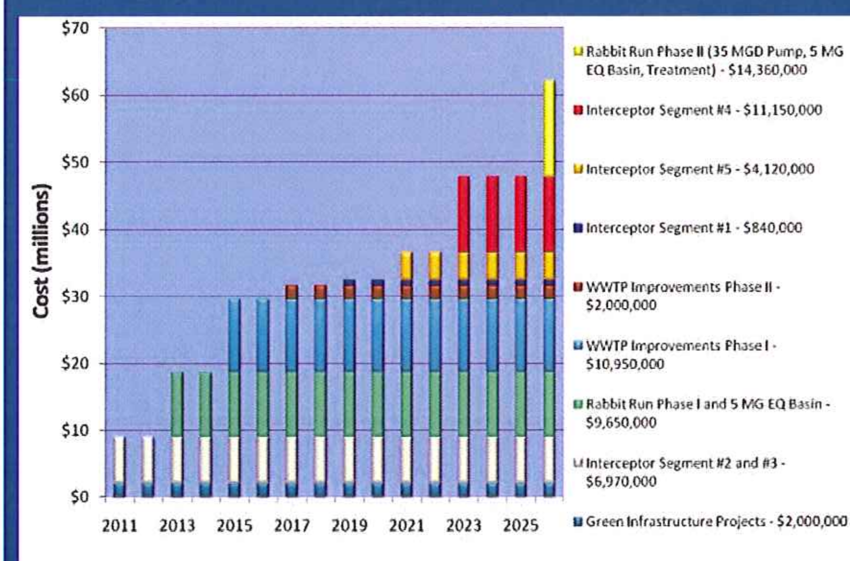
Financial Capability Category	Score
Median Household Income	2
Net Debt Per Capita	2
Bond Rating	2
Unemployment Rate	3
Property Tax Revenue Collection Rate	3
Total	12
Average Score	2.4

Overall Capability Matrix and Implementation Schedule

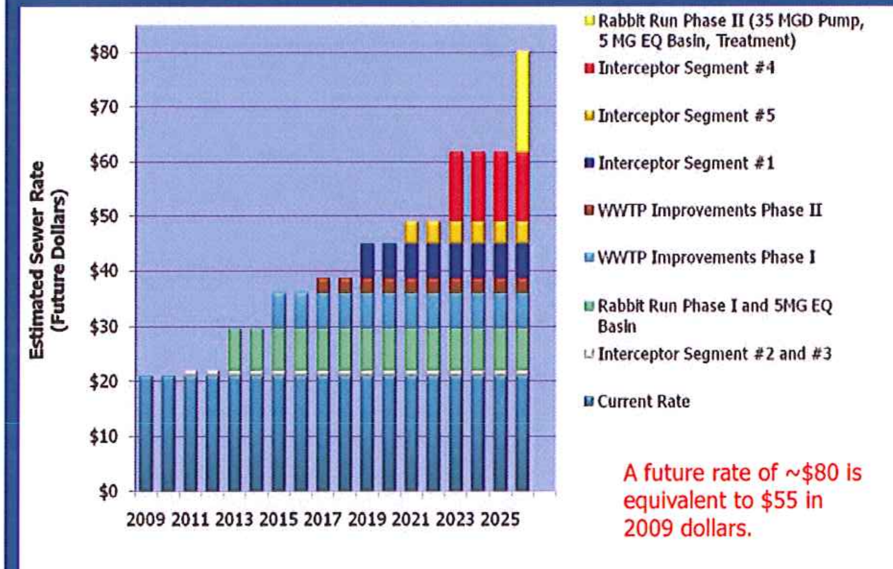
Financial Capability Indicator	$WW_{CPHI} < 1\%$	$1\% < WW_{CPHI} < 2\%$	$2\% < WW_{CPHI}$
Above 2.5	Medium	High	High
Between 1.5 and 2.5	Low	Medium	High
Below 1.5	Low	Low	Medium

Time to complete LTCP Projects	
Low	5 years
Medium	5-10 years
High	10-20 years

Project Phasing (20-yr Assumed)



Sewer Rate Increases



Questions

- Next CAC meeting – October 19
- Other Upcoming Meetings
  - October 19 – Board of Works 9:00 a.m.
  - October 27 – Council Meeting 6:45 a.m.
  - November 5 – Public Meeting at 7:00pm
  - November 16 - Board of Works 9:00 a.m.

MEETING MINUTES

Project Name: Huntington Long Term Control Plan

Project Number: 10151.00

Date of Meeting: September 19, 2009

Present:
Steve Updike, Mayor
Ruth Marsh, Operations Manager
Colin Bullock, WWTP Superintendent
Dave Schoeff, City of Huntington
Mike Hartburg, City Attorney
Cyndy Pressler, CAC Member
Steve Davidson, CAC Member
Steve Hacker, CAC Member
Debbie Dyer, CAC Member
Jeff DeWitt, Bonar Group
Derek Davidson, Bonar Group

Topic: **Citizens Advisory Committee Meeting #6**
Discussion of Developed Alternatives

Introductions

- Jeff DeWitt introduced himself and asked everyone else to do likewise.

Review of Previous Meeting Minutes and Questions

- Jeff reviewed the topics and discussion from the five previous meetings. The topics included the previous LTCP, the role of the CAC, modeling, the current sewer separation project, and CSO abatement technologies.
- Jeff also stated that the reason for the delay in meetings was because we were waiting for issues with the flow monitors to be resolved.

Combined Sewer System Modeling

- Derek began by talking about how the model of the existing combined sewer system was developed using the monitoring data from the 8 CSO monitors.
- The model is able to predict the volume of overflows within 13% of the actual value.
- There were two design approaches used to develop alternatives.
- One approach was the design storm approach that required specific levels of treatment for flows that are generated by specific design storms. This option requires treatment of all flows generated by storms up to the 10-yr, 1-hr storm.
- The other approach is a CSO reduction approach and is based upon capturing and treating at least 85% of the yearly wet weather flow. Typically, this alternative is only viable if the cost for the other approach is too expensive. IDEM only likes for this approach to have about four overflows per year
- The CSO reduction approach also requires a Use Attainability Analysis which suspends the designated use of the water body during wet weather.

Alternative Cost vs. Performance

- Six alternatives were presented, one of which consisted of doing nothing (No Action Alternative).
- Two of the alternatives (1A and 1B) were developed per the design storm approach. Each of these collected flow from the overflow points and transported it to the WWTP for treatment. The main difference between these two alternatives is that 1B used a forcemain whereas 1A utilized a gravity line. Alternative 1A cost ~$63,000,000 with and yearly O&M of ~$500,000. Alternative 1B cost ~$74,000,000 with a yearly O&M of ~$700,000.
- Both 1A and 1B would statistically have one overflow event every 10 years.
- Alternatives 2, 3, and 4 were developed per the CSO Reduction approach.
- Alternative 2 involves collection the flow from all of the CSOs along the northside of the Little River. Alternative 2 would have an annual CSO volume of approximately 2.1 MG and has an estimated cost of $56,000,000 and an annual O&M of $470,000.
- Alternative 3 involves collection the flow from all of the CSOs along the souththside of the Little River. Alternative 3 would have an annual CSO volume of approximately 2.3 MG and has an estimated cost of $59,000,000 and an annual O&M of $510,000.
- Alternative 4 is an alternative for total sewer separation which involves approximately 20 miles of sewers. The construction for this would be similar to the current construction in the City. Alternative 4 would have an annual CSO volume of approximately 2.5 MG and has an estimated cost of $61,000,000 and an annual O&M of $100,000.
- Alternative 5 is a not really an alternative, but it established a baseline condition that shows how many CSOs would occur each year if nothing was done.
- In order to treat the captured wet weather flow upgrades at the WWTP are required. The total cost for these improvements is approximately $9,000,000. The upgraded include the construction of an equalization basin and an offline treatment system that could be used as necessary.
- Also, IDEM has stressed that green technologies be investigated. Each alternative proposed $2,000,000 worth of improvements over the entire project. These funds can be used for any green project that the City wishes.

Recommended Alternative

- All alternatives were plotted with their total cost against the estimated overflow volume for each alternative. The most cost effective alternative is Alternative 1A because it occurs at the knee of the curve, which is the point of diminishing returns.

- IDEM and EPA have published guidance documents to determine how long a community has to complete all Long Term Control Projects. Based upon the current criteria that these documents use, Huntington would have 5-10 years to complete all projects.
- The community is actually right on the line of being in the 10-20 year time frame. We are assuming that Huntington will be in the 10-20 year category because of the unusually high unemployment rate and because the local median household income is almost in the lowest category.
- These documents are only for guidance and the exact time frame can be negotiated with IDEM.
- The future sewer rates are estimated to increase to $85 (in future dollars) once all projects are completed.

Questions

Question: How informed are the Board of Works and City Council about the Plan?
Answer: We have not presented to them, but plan to over the next month.

Question: What if we decide to do nothing?
Answer: IDEM has the authority to fine the community $25,000 per day or to issue a sewer ban so that no new connections to the sewer are possible.

Question: Who signs off on the plan?
Answer: The Board of Works will ultimately accept the plan, but the City Council need to be informed.

Question: Will the CAC continue to meet once the plan is submitted?
Answer: It would probably be good to still continue to meet on a quarterly basis.

Question: How are you intending to inform the public about the LTCP and the projects?
Answer: We will be having a public meeting on November 5 and will be publishing an article in the paper discussing the plan which invites everyone to the meeting. Are there any other methods of communication that may work?
Answer: You could post an announcement about it on www.huntingtonfreepress.com and maybe on the City's website. Placing information in the Library may be a good idea too since its use has gone up drastically.

Schedule Next Meeting *(Section updated below)*

- The next CAC meeting is scheduled for October 19 at 6:00pm. (revised)
- Below is list of the upcoming meetings where the LTCP will be discussed. All CAC members are invited to attend.
    - October 19, 9:00 am – Board of Works (revised)
    - October 27, 6:45 am – City Council
    - November 5, 7:00 pm – Public Meeting
    - November 16, 9:00 am Board of Works
- The LTCP is due to IDEM on November 20

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, EIT
Engineer
317-570-6800 x 339

cc: Present

Updates to Minutes

Since the CAC meeting the schedule of upcoming meeting has been revised. The revised schedule is below:

- October 5, 9:00 am – Board of Works
- October 26, 6:00 pm – CAC Meeting
- October 27, 6:45 am – City Council
- November 5, 7:00 pm – Public Meeting
- November 16, 9:00 am Board of Works

Board of Works

October 5, 2009

BOARD OF PUBLIC WORKS AND SAFETY
AGENDA
9:00 AM
October 5, 2009

PUBLIC HEARING – 530 Court St., 721 Second St., 1533 Canfield St.

BOARD MEMBERS: Mayor Updike, Barry Cochran, Shirley Powell

CALL TO ORDER:

MINUTES OF PREVIOUS MEETING: September 21, 2009,Joint Special session September 17, 2009, October 1, 2009 special meeting

OLD BUSINESS:

North Well Field – Scher property

Mary Harlan – Report on Water and WPC

Marla Stambazze – Neighborhood Associations update

Vivan Barton- downtown businesses curb striping request

Todd Nightenhelser – Renaissance Fair

NEW BUSINESS:

Shad Paul – 530 Court St., 721 Second St., 1533 Canfield St.

Jeff DeWitt – Long Term Control Plan

Stan Dyke – Marion Services proposal

Paul Krieg - Petitions for no parking on Oak St. during school hours and no thru traffic down the alley between Oak and Poplar Streets from MacGahan to Edith

Sarah Emley, Engineering Dept. – 50/50 Sidewalk billing for 2009

MISCELLANEOUS:

ACCOUNTS PAYABLE:

ADJOURNMENT:

Huntington Board of Works Meeting

Presented by:
Jeff DeWitt, P.E., BCEE
Bonar Group
October 5, 2009 at 9:00 a.m.

Outline

- History of CSO LTCP
- Combined Sewer System Modeling
- Alternative Cost vs. Performance
- Recommended Alternative
- Green Technologies
- Questions

Combined Sewer System Modeling

- Purpose
  - Recreate the way the sewer system behaves so that options can be evaluated
- Calibration
  - Flow monitoring data from 8 of 15 CSOs
  - Adjusted variables until model duplicated the actual flow data
  - Volume accuracy is approximately 13.5%

Combined Sewer System Modeling

- Approaches
  - Design Storm – 1-yr, 1-hr and 10-yr, 1-hr
    - Must fully treat 1-yr, 1-hr storm event (about 1.02 in./ hr)
    - Must perform preliminary treatment and disinfection on 10-yr, 1-hr storm event (about 1.65 in./ hr)
    - Does *Not* Require UAA
  - CSO Reduction Approach (Requires UAA)
    - Capture at least 85%, by volume, of the combined sewage collected during precipitation events on a system wide annual basis.
    - Requires a UAA and it must be reevaluated every 5 years

Options to Reduce Overflows

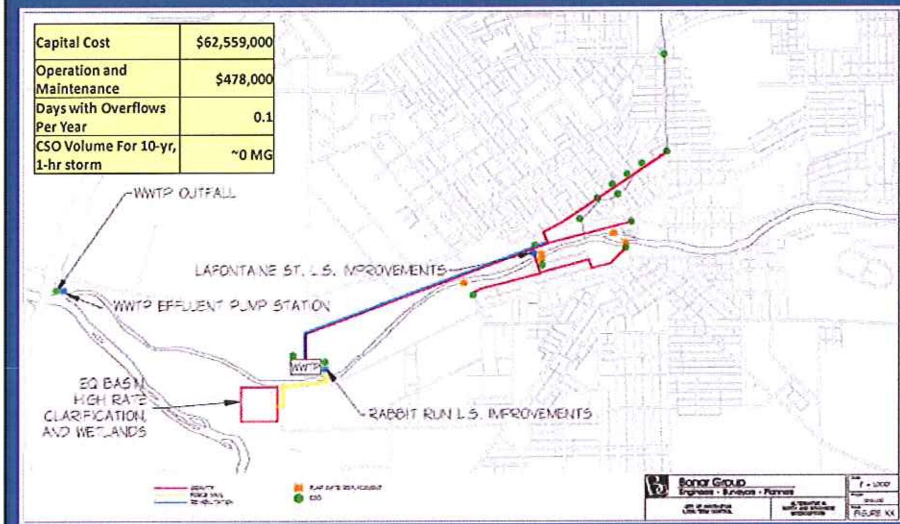
- Total sewer separation
  - 20 Miles of separation
- Wet Weather Treatment
  - Offline system that will treat flow in excess of the treatment plant capacity
- Interceptors
  - Interceptors collect possible overflows from CSOs it to the WWTP
- "No Action"
  - The existing sewer system would remain in its current state with the number of overflows unchanged and possibly increasing
  - 84 days with CSO events, 82.9 MG of overflow

Estimating Alternative Costs

- Capital Cost
  - Construction
  - Engineering Design and Construction Observation
  - Legal Fees
  - Administrative Fees
  - Contingency
- Operational and Maintenance Cost
  - Equipment Replacement
  - Labor

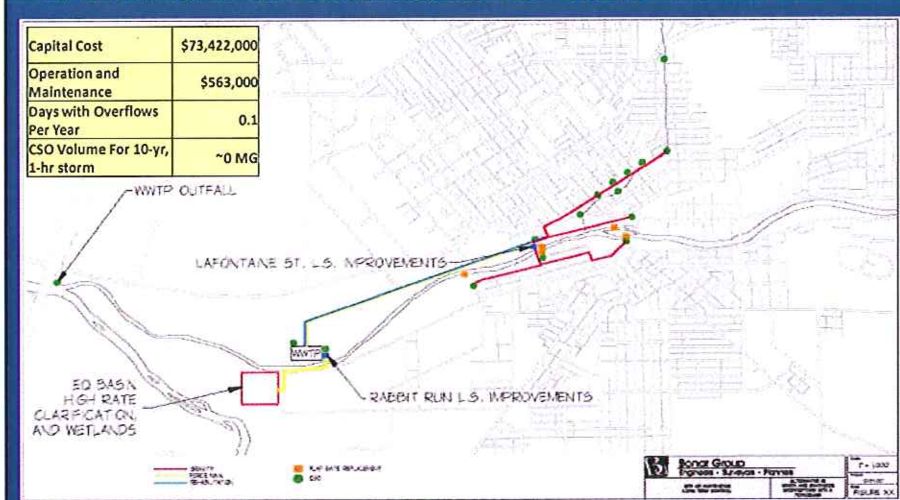
Alternative 1A
North and Southside Interceptors

Capital Cost	$62,559,000
Operation and Maintenance	$478,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG



Alternative 1B
North and Southside Interceptors With a Forcemain to the WWTP

Capital Cost	$73,422,000
Operation and Maintenance	$563,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG

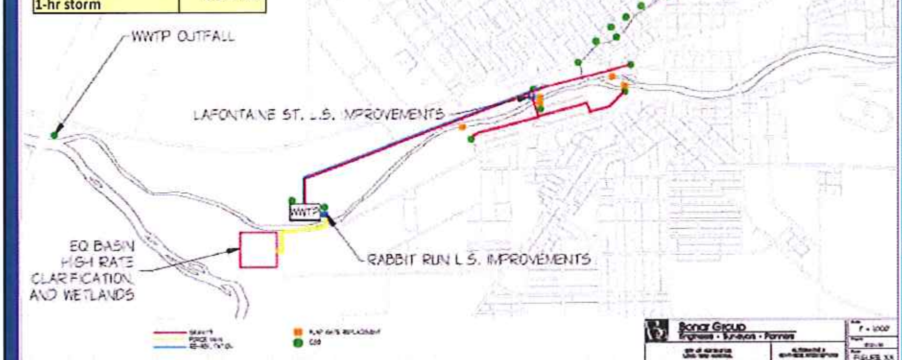


Alternative 2
Northside Interceptors

Capital Cost	$55,685,000
Operation and Maintenance	$446,000
Days with Overflows Per Year	2.055
CSO Volume For 10-yr, 1-hr storm	6.4 MG

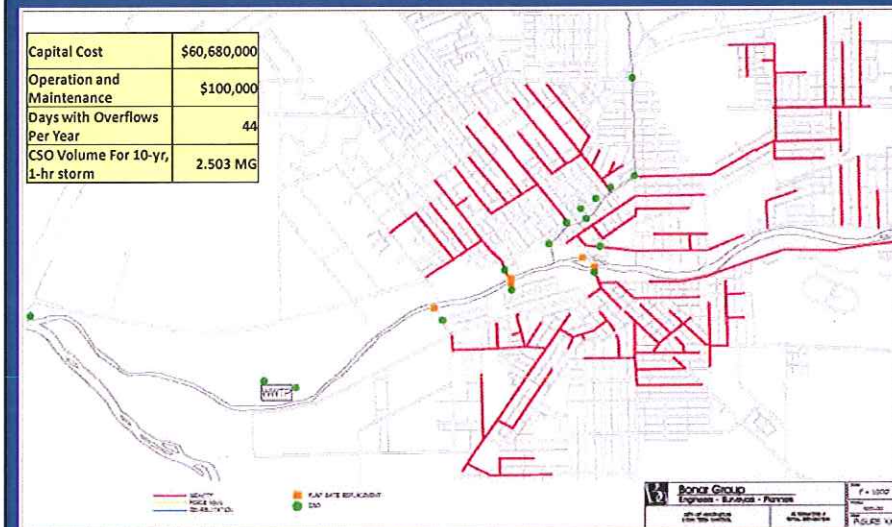
Alternative 3
Southside Interceptors

Capital Cost	$59,364,000
Operation and Maintenance	$475,000
Days with Overflows Per Year	17
CSO Volume For 10-yr, 1-hr storm	2.342 MG



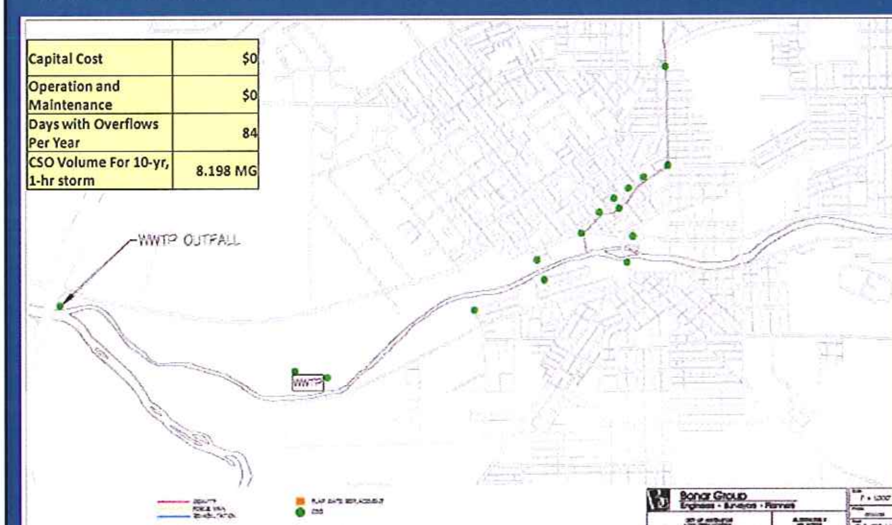
Alternative 4
Total Sewer Separation

Capital Cost	$60,680,000
Operation and Maintenance	$100,000
Days with Overflows Per Year	44
CSO Volume For 10-yr, 1-hr storm	2.503 MG



Alternative 5
No Action

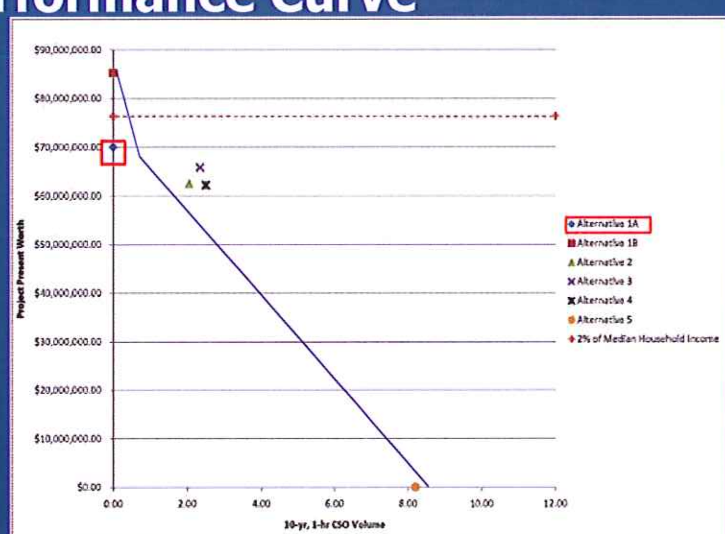
Capital Cost	$0
Operation and Maintenance	$0
Days with Overflows Per Year	84
CSO Volume For 10-yr, 1-hr storm	8.198 MG



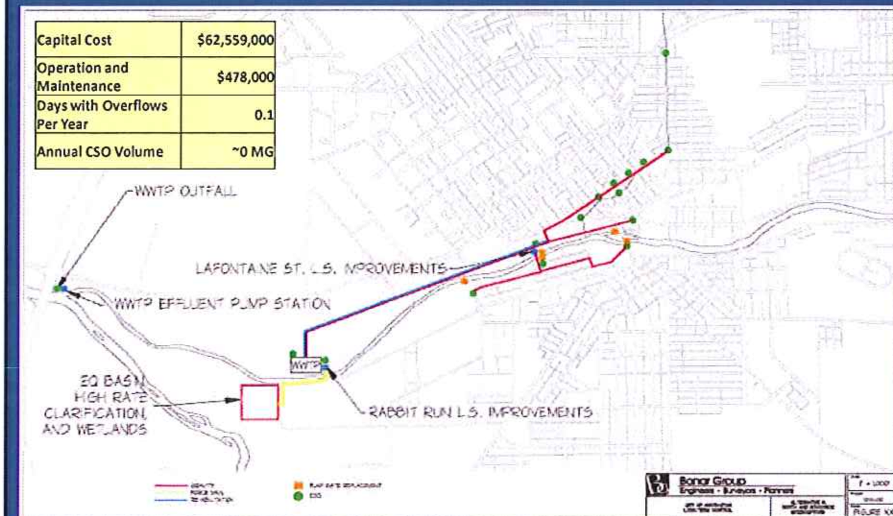
Other Improvements

- WWTP Improvements ($9,000,000)
- Targeted Green Technologies ($2,000,000)
  - Pervious Pavement
  - Rain Garden Program
  - Residential Runoff Prevention Program

Present Worth vs. Performance Curve



Recommended Alternative 1A North and Southside Interceptors



Financial Capability Indicator

- Wastewater Cost Per Household (WW_{CPHI})

	Yearly	Monthly
Current Sewer Bill	\$250.68	\$20.89
Projected Increase due to CSO Projects	\$406.20	\$33.85
Total Annual Cost per Household	\$656.88	\$54.74
Median Household Income (2007)	\$38,978	\$3248
WW_{CPHI} as a Percent of MHI	1.90%	1.90%

Financial Capability Indicator

- Median Household Income (MHI)

Huntington (2007 estimate)	$38,978
National (2007 estimate)	$50,740

  - Huntington's MHI is 23% below the National Average

- Scoring

Indicator	Strong(1)	Mid-Range(2)	Weak (3)
Median Household Income	More than 25% above the National Average	+ or – 25% of the National Average	More than 25% below the National Average

Financial Capability Indicator

- Net Debt Per Capita

Net Debt	$34,116,917
Population of Huntington (2008 Estimate)	16,521
Debt per Capita	$2,065.06

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Net Debt/Capita	Less than $1,000	$1,000-$3,000	Greater than $3,000

Financial Capability Indicator

- Bond Rating

Current Bond Rating	NA

  - The City does not have a bond rating, but it can be assumed to be BBB-A/Baa-A or better.

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB-A (S&P) or Baa-A (MIS)	BB-D (S&P) or Ba-C (MIS)

Financial Capability Indicator

- Unemployment

Huntington – 2009 Average thru July	14.3%
National – 2009 Average thru July	8.8%

  - Huntington's unemployment rate is 5.5% greater than the national average.

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Unemployment Rating	More than 1% below the National Rate	+ or – 1% point of the National Rate	More than 1% above the National Rate

Financial Capability Indicator

- Property Tax Revenue Collection Rate

Current Collection Rate	90.3%

  - Data is based upon total collected in 2008 from 2007 bills

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Property Tax Revenue Collection	Above 98%	94%-98%	Below 94%

Financial Capability Indicator

- Summary Table

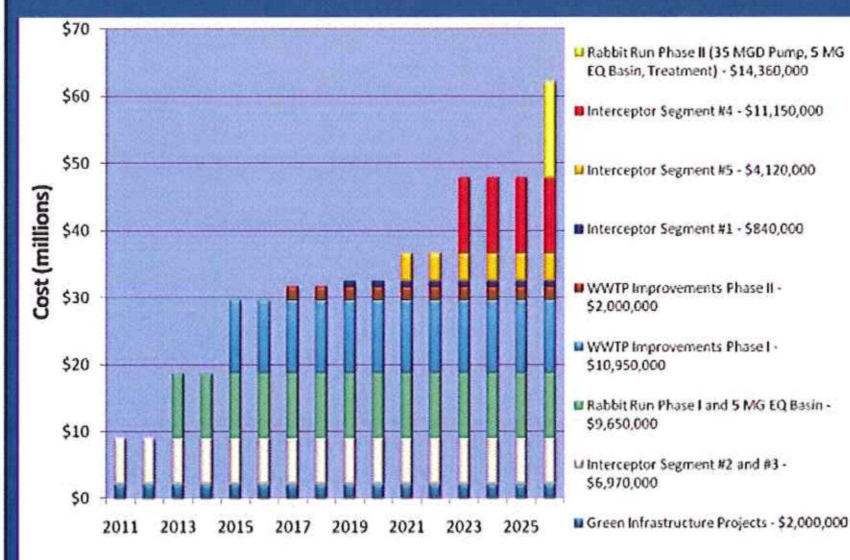
Financial Capability Category	Score
Median Household Income	2
Net Debt Per Capita	2
Bond Rating	2
Unemployment Rate	3
Property Tax Revenue Collection Rate	3
Total	12
Average Score	2.4

Overall Capability Matrix and Implementation Schedule

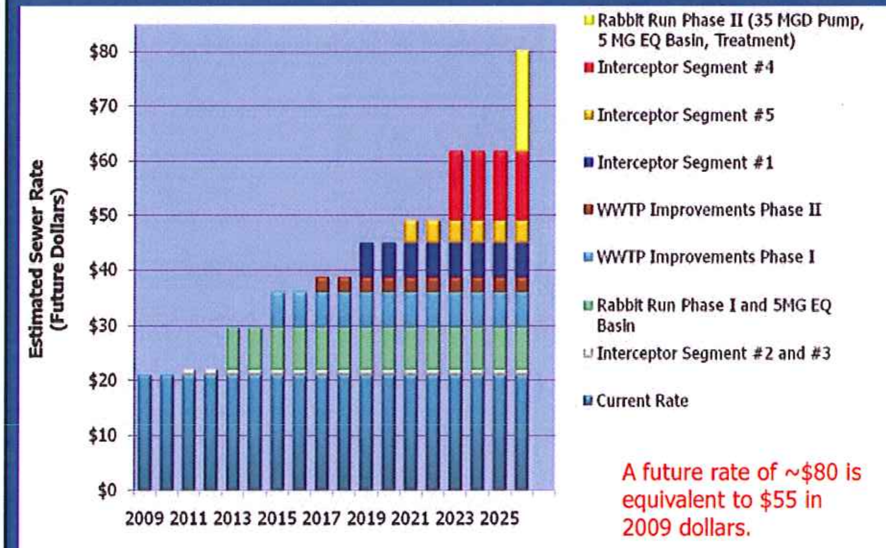
Financial Capability Indicator	WW_{CPHI} < 1%	1%<WW_{CPHI}<2%	2%<WW_{CPHI}
Above 2.5	Medium	High	High
Between 1.5 and 2.5	Low	Medium	High
Below 1.5	Low	Low	Medium

Time to complete LTCP Projects	
Low	5 years
Medium	5-10 years
High	10-20 years

Project Phasing (20-yr Assumed)



Sewer Rate Increases



A future rate of ~$80 is equivalent to $55 in 2009 dollars.

Questions

- Next CAC meeting – October 19
- Other Upcoming Meetings
  - October 19 – Board of Works 9:00 a.m.
  - October 27 – Council Meeting 6:45 a.m.
  - November 5 – Public Meeting at 7:00pm
  - November 16 - Board of Works 9:00 a.m.

MEETING OF THE
BOARD OF PUBLIC WORKS AND SAFETY – October 5, 2009

A quorum of the Board of Public Works and Safety (Board) being present, the Board met Monday, October 5, 2009 at 9:00 a.m. in the Council Chambers, 3rd Floor, City Building, in accordance with its requirements and all applicable authority.

Shirley Powell opened the **public hearing on 721 Second Street, 530 Court Street, and 1533 Canfield Street**. Department of Community Development recommends giving 60 days for Mr. Bowers to make the repairs to the structure at 721 Second Street. The owner asked for time to complete repairs. Department of Community Development recommends upholding the order of demolition at 530 Court Street, as it has received no communication from the owner. DCD recommends giving owner 15 days for repairs or will seek demolition at 1533 Canfield Street. With no one else wishing to speak, the public hearing was closed.

Shirley Powell opened the Board of Public Works and Safety meeting.

Members present were: Barry Cochran, and Shirley Powell. Absent: Mayor Steve Updike. Also present were: Director of Community Development, Nate Schacht; Assistant to Building Commissioner, Marla Stambazze; Building Commissioner, Shad Paul; Chief of Police, Tom Emely; Director of Engineering, Dave Schoeff; Street Superintendent, Dave Spencer; Attorney, Ted Bendall; City Attorney, John Branham; and Clerk-Treasurer, Christi Scher. Several citizens were also in attendance.

MINUTES OF PREVIOUS MEETING –

Board Member Cochran made a motion to approve the minutes from the September 17, 2009 joint special meeting and September 21, 2009 meeting, seconded by Powell. Motion passed 2-0. Minutes signed.

OLD BUSINESS –

Jack and Pam Scher were present with their neighbors, Don and Jo Patmore and provided the Board documentation regarding the value and asking price of their land regarding the possible contract for the North Well field well sites (copy on file). Powell made a motion to review the documentation and set a meeting to further consider the matter, seconded by Cochran. Motion passed 2-0.

Mary Harlan reported the income and expenses for Water and Wastewater Utilities Departments showing the depreciation transfer for the Water Department for September 2009.

Stambazze reported on the **progress of the Neighborhood Association**. They held a meeting and six (6) neighbors were interested in moving forward with the association. The next scheduled meeting is October 26, 2009 at 7:00 p.m.

Vivian Barton, business owner in the downtown mall, requested the City help with the visibility of the curbs from the street to the sidewalk. The secretary of the Downtown Business Association, Attorney Justin Wall sent a letter to the Board outlining some suggestions to address the problem with painting the curbs. Powell requested City Attorney Branham discuss this matter with Attorney Wall and determine a specific proposal and report to the next meeting for further action, seconded by Cochran. Motion passed 2-0.

Todd Nightenhelser withdrew his request of a special exemption to the ordinance that does not allow alcohol in the parks for a Renaissance Fair in May 2010. He has obtained permission to use land adjacent to Hiers Park for the alcohol tent, but it will still tie into the whole fair that will take place in the park itself.

NEW BUSINESS –

Paul requested the Board uphold the order for **530 Court Street**. Cochran made a motion to uphold the order of enforcement of demolition, seconded by Powell. Motion passed 2-0.

Paul requested the Board grant a 90-day extension for the owner to complete the repairs at **721 Second St**. Cochran made a motion to allow the extension, seconded by Powell. Motion passed 2-0.

Paul requested the Board allow 15 days for repairs and if not completed uphold the order for **1533 Canfield Street**. Cochran made a motion to allow the 15 days for repairs and if not completed in a timely manner, uphold the order of enforcement of demolition, seconded by Powell. Motion passed 2-0.

Jeff DeWitt, Bonar presented an update of the **Long Term Control Plan**. Bonar has developed several plans to separate the CSO (Combined Sewer Overflows). They presented scenarios showing the least cost that would allow compliance with Federal regulations. This plan may also require sewer rates increase in the future. The Board thanked Mr. DeWitt for the update.

Paul Kreig, **1525 Oak Street presented a petition** signed by several neighbors asking the BOW to post "no thru" traffic for the alley between MacGahan St and Edith Blvd., between Oak St and Poplar St. Several students speed through this alley after school, which could pose a danger to the neighborhood children. They are also having a problem with several high school students parking on Oak Street during the school day instead of in the school parking lot. This prohibits lawn care and street sweeping to access the area. Powell made a motion to take the petitions under advisement and report back to the next meeting on October 19, 2009, seconded by Cochran. Motion passed 2-0.

Stan Dyke, Marion Services requested the Board allow out of county refuse to be brought to the landfill prior to Nature's Fuel Huntington becoming operational. This would bring 6 truckloads daily to the landfill and extra revenue. He would need an Ordinance change, as well as a special dump rate for the out of county refuse. Cochran made a motion to take this matter under advisement. He would like to have the department head, Ann Tompkins available for discussion, seconded by Powell. The Board will set a special meeting prior to the October 19, 2009 regular scheduled meeting to make a decision. Motion passed 2-0.

The Engineering department is ready to bill the customers for the 2009 50/50 Sidewalk Program. Cochran made a motion to allow the billing in accordance with the Engineering Department recommendation (copy on file), seconded by Powell. Motion passed 2-0.

MISCELLANEOUS –

Shad Paul presented the Board with a new address proposal for the Huntington City-Twp Public Library. They are almost finished with the addition and are putting the main entrance on West Park Drive. Paul will check with all emergency services and the post office. Powell made a motion to allow the Library address to be 255 West Park Drive, seconded by Cochran. Motion passed 2-0.

Nate Schacht, Director of Community Development, encouraged citizens of the City to send a letter of support of the Brownfield project. He is getting ready to submit the application to the EPA and these letters will help with the acceptance of the grant (address on file).

ACCOUNTS PAYABLE –

Board Member Cochran made a motion to pay the bills, seconded by Powell. Motion passed 2-0. Documentation signed.

ADJOURNMENT –

Cochran made a motion to adjourn, seconded by Powell. Motion passed 2-0.

APPROVED, Board of Public Works and Safety,

By [signature] As Mayor and Member
Steve Updike

By Shirley J Powell As Member
Shirley Powell

By Barry [signature] ~~As~~ Member
Barry Cochran

ATTEST: Christi A Scher As Clerk-Treasurer
Christi A. Scher

CAC Meeting #7

October 26, 2009

City of Huntington
LTCP Citizens Advisory Committee Meeting Agenda
Huntington City Hall
October 26, 2009 @ 6:00 p.m.

- Introductions
- Review of Previous Meeting Minutes
- Combined Sewer System Modeling
  - Purpose
  - Calibration
  - Options to Reduce Overflows
- Alternative Costs vs. Performance
- Recommended Alternative
  - Capital
  - O&M costs
  - Estimated Rate Increases
- Green Technologies
- Questions
- Upcoming Meetings
  - October 27 – Council Meeting 6:45 a.m.
  - November 9 – Public Meeting 7:00 p.m.
  - November 16 – Board of Works 9:00 a.m.

HUNTINGTON LONG TERM CONTROL PLAN
CITIZEN'S ADVISORY COMMITTEE MEETING
SIGN IN SHEET
10/26/2009 @ 6:00 p.m.

Name	Phone Number	Email
Jeff Dewitt	317 570 6800	jdewitt@bonargroup.com
Derek Davidson	317 570 6800	ddavidson@bonargroup.com.
Michael Barton	260 · 224 · 1595	
Cyndy Pressler	356-2053	
Steve Davidson	260-356-0647	SHARK_148@YAHOO.COM
Debbie Dyer	260.356.8874	ddyer23@comcast
Colin Bullock	260-358-2323	
Dave Schoeff	260-356-1400	dave.schoeff@huntington.in.us

Huntington Citizens Advisory Committee Meeting

Presented by:
Jeff DeWitt, P.E., BCEE
Bonar Group
October 26, 2009 at 6:00 p.m.

Outline

- Review of Previous Meeting Minutes
- Combined Sewer System Modeling
- Alternative Cost vs. Performance
- Recommended Alternative
- Green Technologies
- Questions

Review of Previous Meeting Minutes

- CAC Meeting #1
  - SJA and LTCP
  - Responsibilities of the CAC Members
- CAC Meeting #2
  - Potential sensitive areas and existing uses
- CAC Meeting #3
  - Discussion of additional sensitive

Review of Previous Meeting Minutes

- CAC Meeting #4
  - CSO abatement technologies
- CAC Meeting #5
  - Upcoming separation projects
  - Monitoring data
- CAC Meeting #6
  - Presentation of developed alternatives

Combined Sewer System Modeling

- Purpose
  - Recreate the way the sewer system behaves so that options can be evaluated
- Calibration
  - Flow monitoring data from 8 of 15 CSOs
  - Adjusted variables until model duplicated the actual flow data
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Combined Sewer System Modeling

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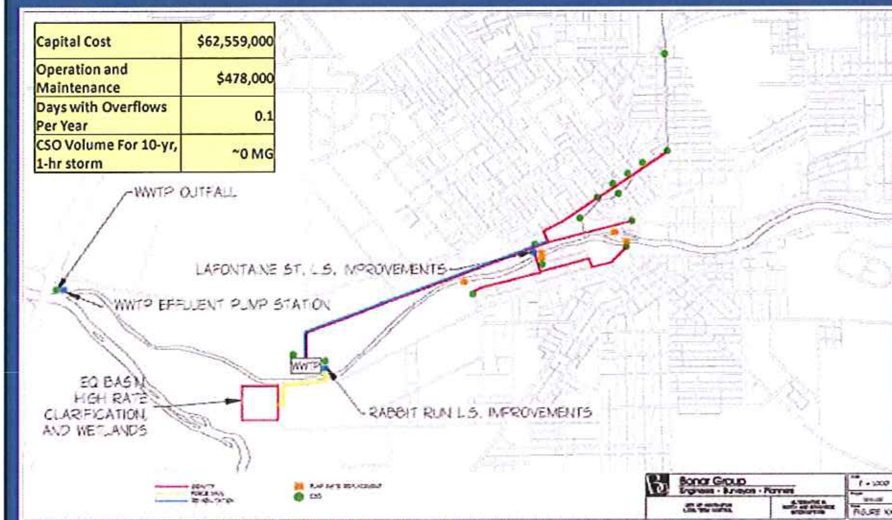
  - Legal Fees
  - Administrative Fees
  - Contingency
- Operational and Maintenance Cost
  - Equipment Replacement
  - Labor

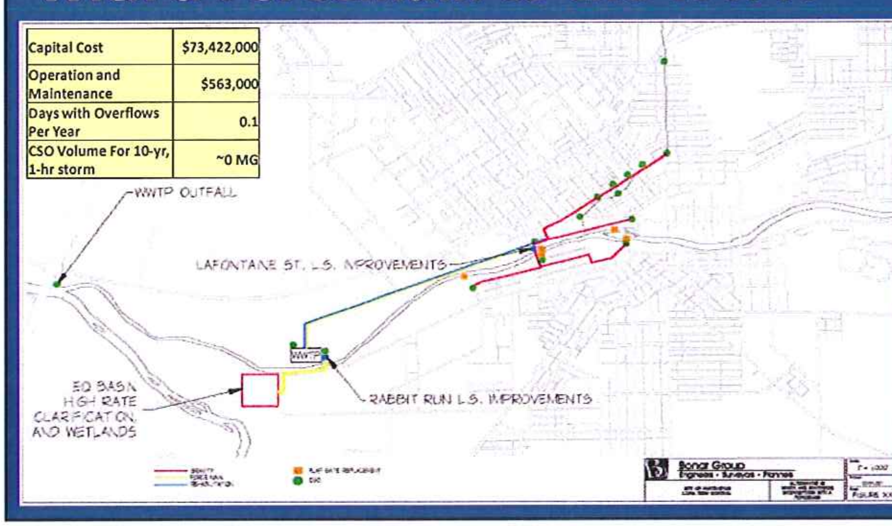
Alternative 1A
North and Southside Interceptors

Capital Cost	$62,559,000
Operation and Maintenance	$478,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG



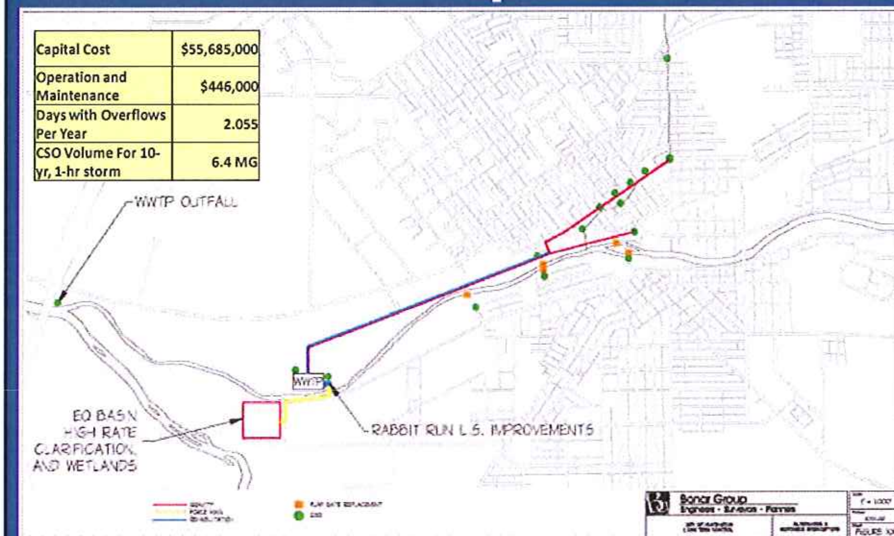
Alternative 1B
North and Southside Interceptors
With a Forcemain to the WWTP

Capital Cost	$73,422,000
Operation and Maintenance	$563,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG



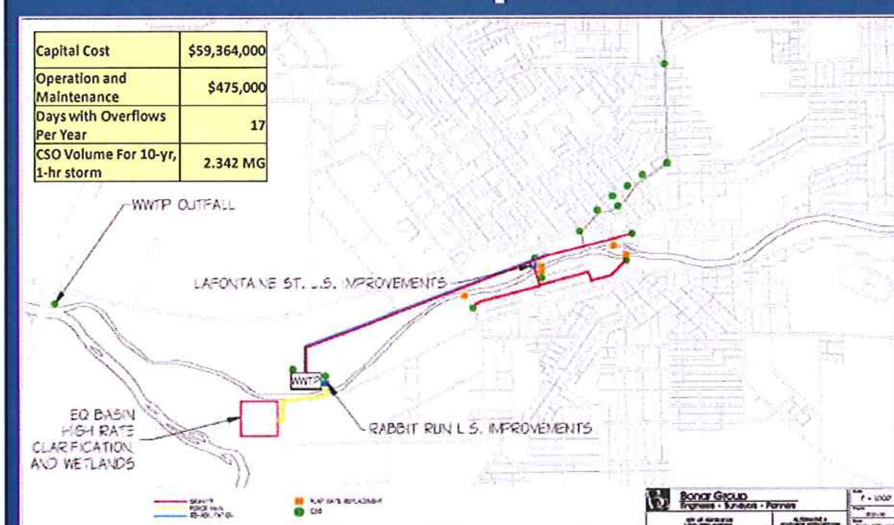
Alternative 2
Northside Interceptors

Capital Cost	$55,685,000
Operation and Maintenance	$446,000
Days with Overflows Per Year	2.055
CSO Volume For 10-yr, 1-hr storm	6.4 MG



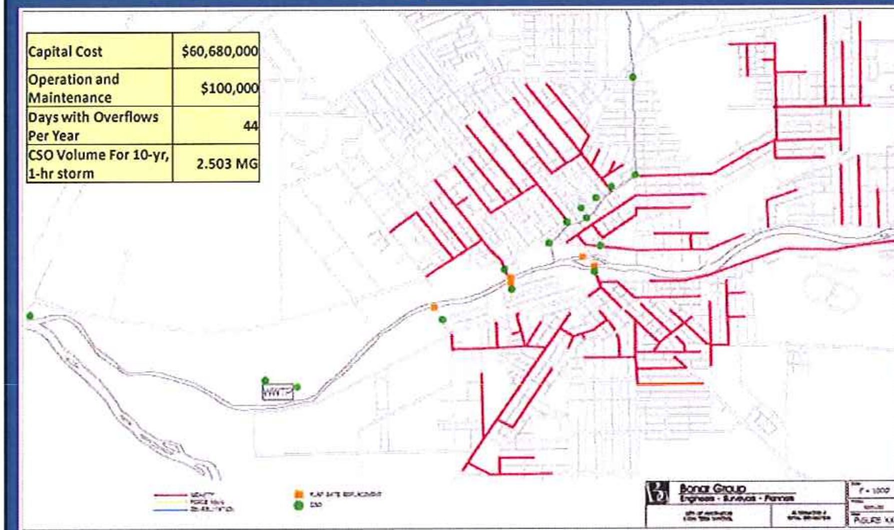
Alternative 3
Southside Interceptors

Capital Cost	$59,364,000
Operation and Maintenance	$475,000
Days with Overflows Per Year	17
CSO Volume For 10-yr, 1-hr storm	2.342 MG



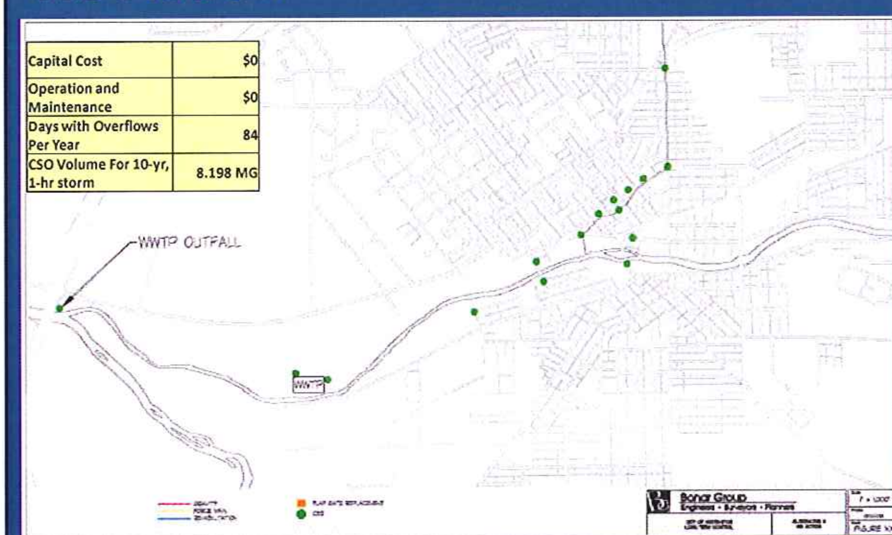
Alternative 4
Total Sewer Separation

Capital Cost	$60,680,000
Operation and Maintenance	$100,000
Days with Overflows Per Year	44
CSO Volume For 10-yr, 1-hr storm	2.503 MG



Alternative 5
No Action

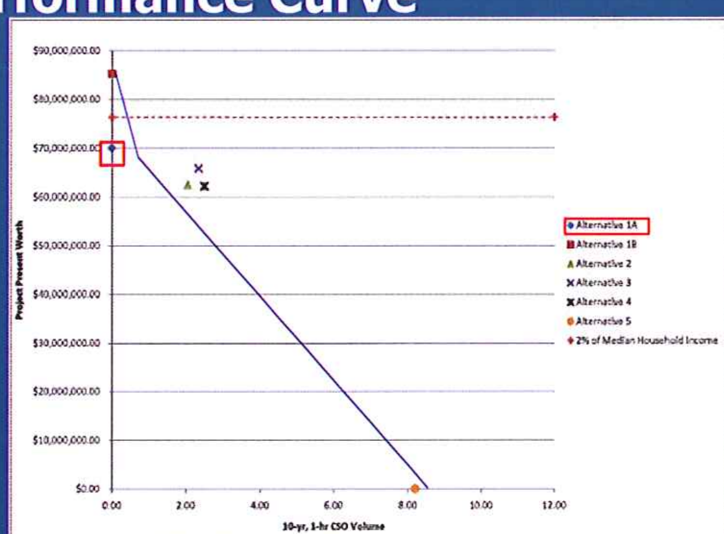
Capital Cost	$0
Operation and Maintenance	$0
Days with Overflows Per Year	84
CSO Volume For 10-yr, 1-hr storm	8.198 MG



Other Improvements

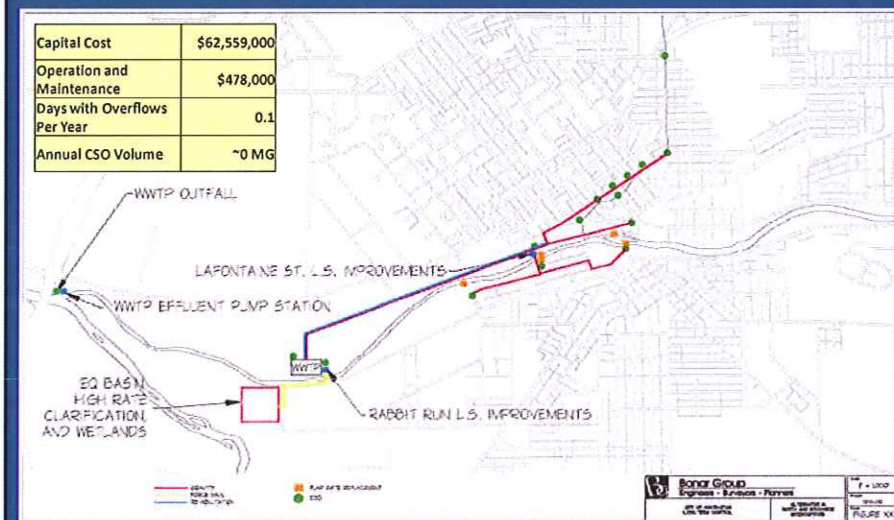
- WWTP Improvements ($9,000,000)
- Targeted Green Technologies ($2,000,000)
  - Pervious Pavement
  - Rain Garden Program
  - Residential Runoff Prevention Program

Present Worth vs. Performance Curve



Recommended Alternative 1A North and Southside Interceptors

Capital Cost	$62,559,000
Operation and Maintenance	$478,000
Days with Overflows Per Year	0.1
Annual CSO Volume	~0 MG



Financial Capability Indicator

- Wastewater Cost Per Household (WW_{CPHI})

	Yearly	Monthly
Current Sewer Bill	$250.68	$20.89
Projected Increase due to CSO Projects	$406.20	$33.85
Total Annual Cost per Household	$656.88	$54.74
Median Household Income (2007)	$38,978	$3248
WW_{CPHI} as a Percent of MHI	1.90%	1.90%

Financial Capability Indicator

- Median Household Income (MHI)

Huntington (2007 estimate)	$38,978
National (2007 estimate)	$50,740

  - Huntington's MHI is 23% below the National Average

- Scoring

Indicator	Strong(1)	Mid-Range(2)	Weak (3)
Median Household Income	More than 25% above the National Average	+ or – 25% of the National Average	More than 25% below the National Average

Financial Capability Indicator

- Net Debt Per Capita

Net Debt	$34,116,917
Population of Huntington (2008 Estimate)	16,521
Debt per Capita	$2,065.06

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Net Debt/Capita	Less than $1,000	$1,000-$3,000	Greater than $3,000

Financial Capability Indicator

- Bond Rating

Current Bond Rating	NA

  - The City does not have a bond rating, but it can be assumed to be BBB-A/Baa-A or better.

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB-A (S&P) or Baa-A (MIS)	BB-D (S&P) or Ba-C (MIS)

Financial Capability Indicator

- Unemployment

Huntington – 2009 Average thru July	14.3%
National – 2009 Average thru July	8.8%

  - Huntington's unemployment rate is 5.5% greater than the national average.

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Unemployment Rating	More than 1% below the National Rate	+ or – 1% point of the National Rate	More than 1% above the National Rate

Financial Capability Indicator

- Property Tax Revenue Collection Rate

Current Collection Rate	90.3%

- Data is based upon total collected in 2008 from 2007 bills

- Scoring

Indicator	Strong (1)	Mid-Range(2)	Weak (3)
Property Tax Revenue Collection	Above 98%	94%-98%	Below 94%

Financial Capability Indicator

- Summary Table

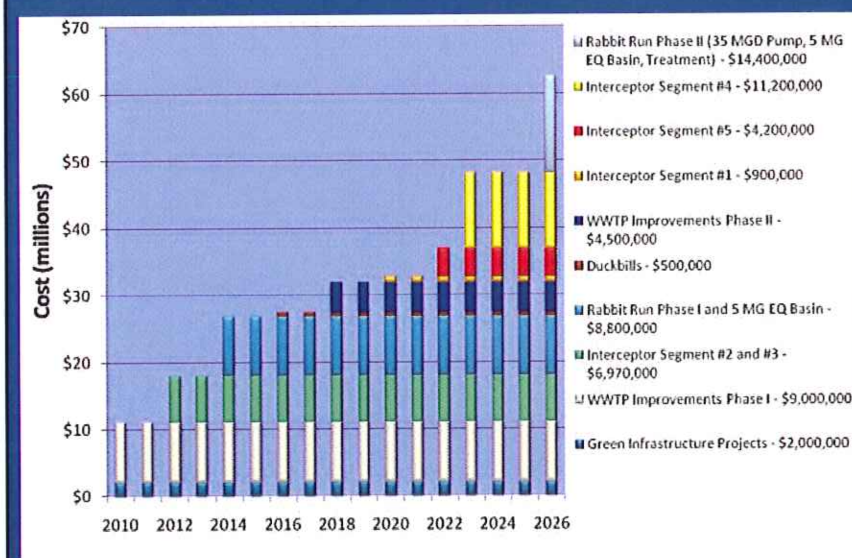
Financial Capability Category	Score
Median Household Income	2
Net Debt Per Capita	2
Bond Rating	2
Unemployment Rate	3
Property Tax Revenue Collection Rate	3
Total	12
Average Score	2.4

Overall Capability Matrix and Implementation Schedule

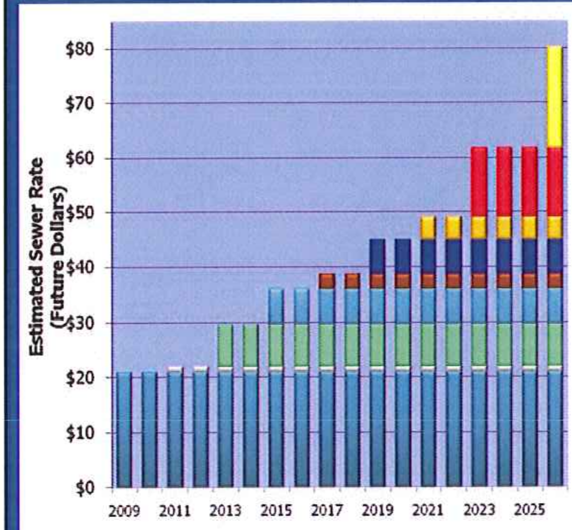
Financial Capability Indicator	WW_{CPHI} < 1%	1%<WW_{CPHI}<2%	2%<WW_{CPHI}
Above 2.5	Medium	High	High
Between 1.5 and 2.5	Low	Medium	High
Below 1.5	Low	Low	Medium

Time to complete LTCP Projects	
Low	5 years
Medium	5-10 years
High	10-20 years

Project Phasing (16-yr)



Sewer Rate Increases



A future rate of ~$80 is equivalent to $55 in 2009 dollars.

Questions

- Upcoming Meetings
  - October 27 – Council Meeting 6:45 a.m.
  - November 5 – Public Meeting at 7:00pm
  - November 16 - Board of Works 9:00 a.m.

MEETING MINUTES

Project Name:	Huntington Long Term Control Plan
Project Number:	10151.00
Date of Meeting:	October 26, 2009
Present:	Steve Updike, Mayor Ruth Marsh, Operations Manager Colin Bullock, WWTP Superintendent Dave Schoeff, City of Huntington Cyndy Pressler, CAC Member Steve Davidson, CAC Member Mike Barton, CAC Member Debbie Dyer, CAC Member Jeff DeWitt, Bonar Group Derek Davidson, Bonar Group
Topic:	**Citizens Advisory Committee Meeting #7** **Discussion of Developed Alternatives**

Introductions

- Jeff DeWitt introduced himself and asked everyone else to do likewise.

Review of Previous Meeting Minutes and Questions

- Jeff said that this meeting is mainly a review of the previous meeting so that everyone has had a chance to review the information and to think of any questions that they might have.
- During the previous meeting it was mentioned that we should put up displays in several location to inform the public about the plan. Two displays have been set in the Huntington Library and the Water Utility Office. These displays describe the LTCP, the selected plan, and inform the public about the upcoming public meeting.
- A newspaper article has also been written that will be published prior to the November 5 public meeting. It describes the LTCP process and why it is necessary.
- The City has also posted the information about the LTCP on its website.

Review of Proposed Plan

- Jeff said that the plan that the plan that was proposed in the previous meeting was Alternative 1A. It follows the design storm approach, which requires a higher level of treatment than the CSO reduction approach.
- The plan would cost approximately $71,000,000 with an additional O&M cost of $480,000.
- This plan will require sewer rates to increase from approximately $22 per month to approximately $55 per month (2009 dollars).

Revisions To the Proposed Plan

- The WWTP has had some problems meeting effluent limits during cold weather. Due to this IDEM has an agreed order with the City to resolve the problem. The improvements at the WWTP, which include one of the digester covers, a sludge storage building, fine screens at the headworks, a septage receiving facility, upgrades to the aeration tanks, and a sludge thickener are now proposed to be under construction in 2010. The Agreed Order requires effluent limits to be met by January 31, 2010.

Questions About the Plan

Question: How much would a new WWTP cost?
Answer: It's estimated that a WWTP costs approximately $3 to $5 per gallon of capacity. A new WWTP would cost approximately $40 million, but all of the wet weather flow still needs to be transported to the WWTP.

Question: After all of the projects are completed would we need a new plant?
Answer: Structures are estimated to last 50 years and mechanical components are estimated to last 20 years. There are things that can be done to rehabilitate parts of the plant, but this would be evaluated during the design of the WWTP improvements.

Question: What happens if IDEM does not give us the length of time we have proposed to complete the project?
Answer: Once the LTCP is submitted there will be some correspondence to address any comments that they have. The length of time is determined from guidance documents and through negotiations with IDEM. IDEM may not give us as much time as we propose, so it would just accelerate all of the projects.

Schedule Next Meeting

- There are not any more CAC meeting scheduled at this time. There will be a public meeting on November 5. It would be good if all CAC members could attend.
- Tomorrow morning the plan will be presented to the City Council.
- Below is list of the upcoming meetings where the LTCP will be discussed. All CAC members are invited to attend.
  - October 27, 6:45 am – City Council
  - November 5, 7:00 pm – Public Meeting
  - November 16, 9:00 am Board of Works
- The LTCP is due to IDEM on November 20

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, EIT
Engineer
317-570-6800 x 339

cc: Present

City Council Meeting

October 27, 2009

COMMON COUNCIL – October 27, 2009

The Common Council of the City of Huntington met in regular session October 27, 2009 at 6:45 a.m. in the Council Chambers, 3rd Floor, City Building, 300 Cherry Street, Huntington, Indiana, in accordance with the rules of the Common Council and other applicable authority.

CALL TO ORDER -

Mayor Steve Updike called the meeting to order.

ROLL CALL -

Council Members present were Erv Ebersole, Joe Blomeke, Keith Eller, Brooks Fetters, Jason Fields, Steve McIntyre and Jack Slusser.

PETITION OR COMMENTS FROM CITIZENS – None.

APPROVAL OF PREVIOUS MINUTES -

McIntyre made a motion to approve minutes from the Council meeting held on October 13, 2009, seconded by Fields. Motion passed 7-0. Minutes signed.

OLD BUSINESS – None.

NEW BUSINESS -

Introduction of **Ordinance 20-C-09** "An Ordinance Amending Chapter 158 of the City of Huntington Code of Ordinances" (Zoning changes per Department of Community Development), McIntyre made a motion to bring Ordinance to First Reading at the November 10, 2009 meeting, second by Eller. Motion passed 7-0.

MISCELLANEOUS –

McIntyre updated the Council on the formation of a Youth Advisory Committee. He has spoken to the County Commissioners. By consensus the Government officials would like him to move forward.

Christi Scher, Clerk-Treasurer, explained the budget losses due to appeals in 2009. We are making reduction suggestions and possible revenue suggestions to help fund the losses to the budget.

Jeff DeWitt, Bonar presented the Council with the Long Term Control Plan for the City. The engineer design is almost complete. There will be a public meeting on November 5, 2009 at 7:00 p.m. in Council Chambers for a more detailed presentation. This is a Federal unfunded mandate to reduce the number of Combined Sewer Overflows (CSO), and this needs to be completed between 10 and 16 years in order to be in compliance with our State Court Agreed Judgment.

Councilman Fields suggested an idea to help fill the vacant businesses in our Community. He would like Council input in this matter, as he works with Bob Brown, President of Chamber of Commerce and Nate Schacht, Director of Community Development.

ADJOURNMENT -

Ebersole made a motion to adjourn, seconded by Fetters. Motion passed 7-0.

APPROVED:

______________ As Mayor Steven D. Updike	______________ As Council President Ervin R. Ebersole
______________ As Member Joseph E. Blomeke	______________ As Member Jason Fields
______________ As Member Raymond K. Eller	______________ As Member Brooks L Fetters
______________ As Member Stephen W. McIntyre	______________ As Member Jack Slusser

Attest:

______________ As Clerk-Treasurer
Christi A. Scher

Public Meeting

November 5, 2009

the Huntington County TAB
Published on *the Huntington County TAB - Huntington, Indiana Newspaper* (http://www.huntingtoncountytab.com)

Long-term control plan to be discussed at next city meeting

Monday, November 2, 2009 5:03 PM

The next Huntington City Council meeting is Thursday, Nov. 5, at 7 p.m., in the Council Chambers of the City Building.

The meeting is being held to discuss the Long Term Control Plan, developed by the City, Citizen's Advisory Committee and the City's consultant.

The cost of the projects proposed in the LTCP and corresponding sewer rates will also be discussed.

The City Building is located at 300 Cherry St.

Source URL: http://www.huntingtoncountytab.com/community/2672/long-term-control-plan-be-discussed-next-city-meeting

Huntington Long Term Control Plan Public Meeting

Presented by:
Jeff DeWitt, P.E. BCEE
Bonar Group
November 5, 2009 at 7:00 p.m.

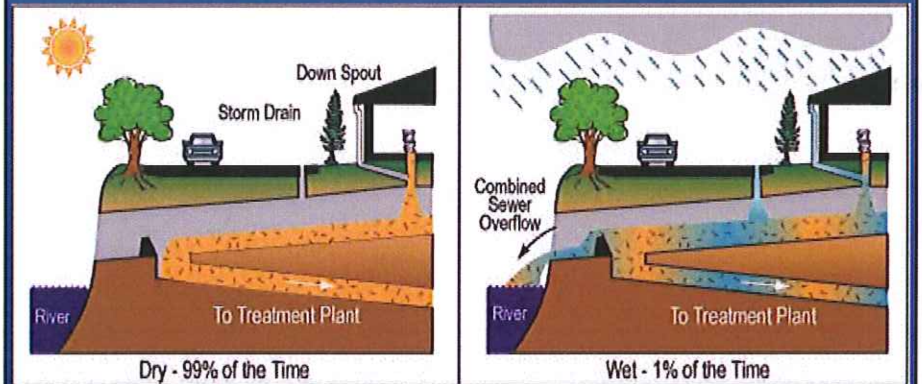
Outline

- Combined Sewer Overflows (CSO)
- State Judicial Agreement
- Sensitive Areas
- CSO Reduction Technologies
- Modeling
- Project Selection and Cost
- Questions

Combined Sewer Overflows

- During periods of heavy rainfall or snowmelt the volume of water may exceed the capacity of the sewer system or treatment plant
- CSOs are designed to eliminate this excess flow by overflowing to nearby bodies of water
- There are 772 cities in the United States that have combined sewer systems with CSOs
- Indiana has 108 CSO Communities

Combined Sewer Overflows



CSO Impacts

- The CSO discharges contain untreated human waste along with the storm water.
- This waste causes an increase in the concentration of E.coli bacteria in the water.
- The additional organics released during an event require more oxygen as they degrade.
- Average of 84 days with CSOs per year with a volume of 82.9 million gallons.

State Judicial Agreement (SJA)

USEPA and IDEM have mandated that all discharges from CSOs shall not cause or contribute to violation of water quality standards or cause or contribute to the impairment of designated or existing uses.

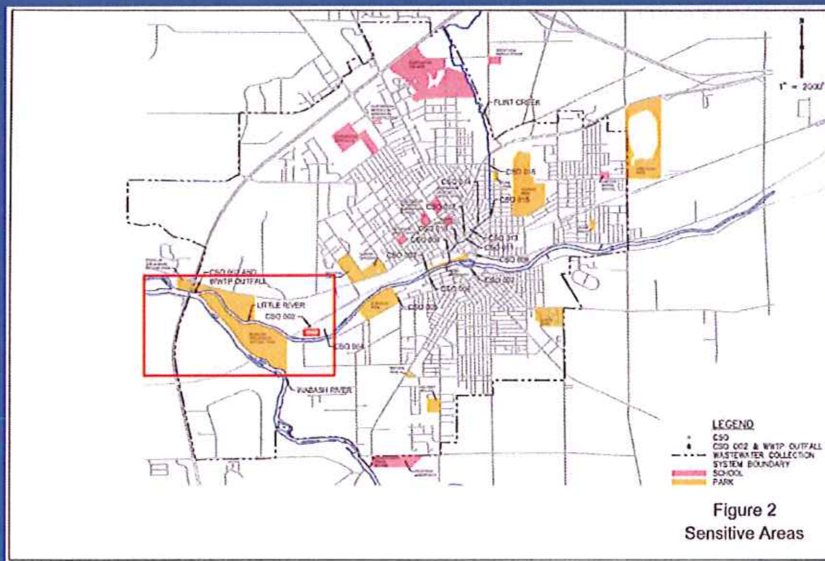
State Judicial Agreement

- SJA Requirements
  - Address comments from review of 2003 LTCP
  - Install monitoring equipment and create a hydraulic model of system
  - Evaluate 1-yr, 1-hr and 10-yr, 1-hrs Storm Event
  - Conduct a Use Attainability Analysis, if necessary
  - Form a Citizen's Advisory Committee for input

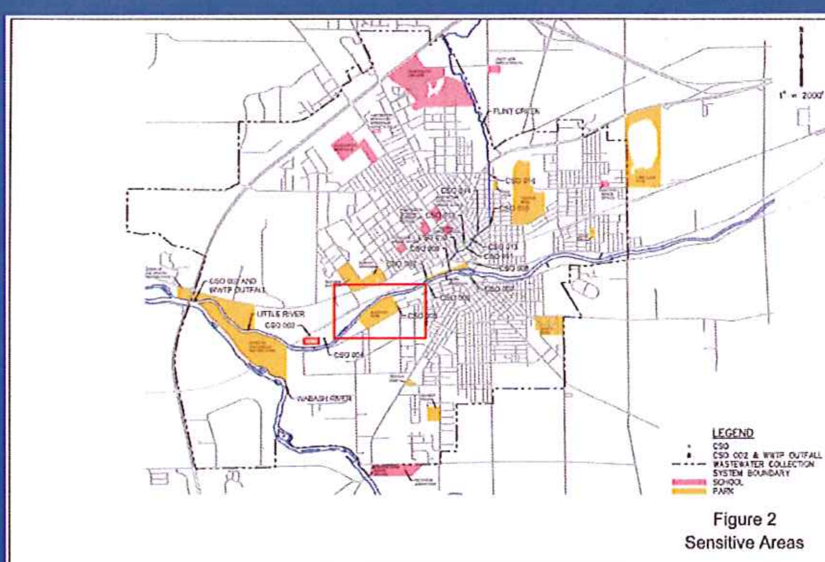
Identified Sensitive Areas

- Forks of the Wabash Historic Park
- Elmwood Trail
- Riverview Terrance Apartments
- Island by Marsh

Forks of the Wabash Historic Park



Elmwood Park



Riverview Terrace Apartments

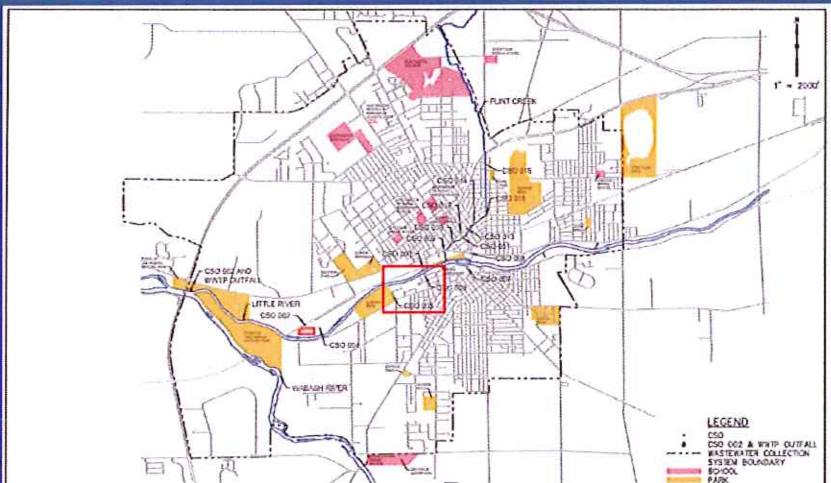


Figure 2
Sensitive Areas

Island by Marsh

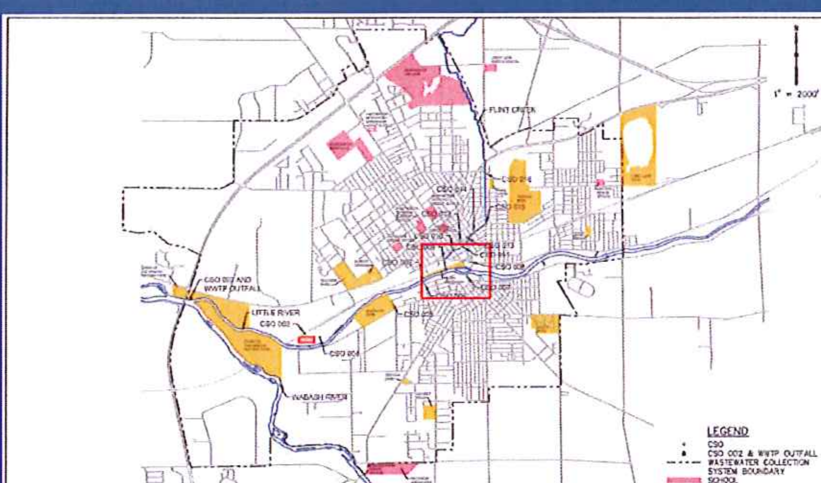


Figure 2
Sensitive Areas

Combined Sewer System Modeling

- Purpose
  - Recreate the way the sewer system behaves so that options can be evaluated
- Growth
  - 2000 Population – 17,422
  - 2008 Population – 16,521
  - 5.3% decrease in 8 years
  - The model assumed the population would remain at the 2000 population level.

Combined Sewer System Modeling

- Calibration
  - Flow monitoring data from all 15 CSOs
  - Adjusted variables until model duplicated the actual flow data
  - Event accuracy is approximately 76%
  - Volume accuracy is approximately 90%

Combined Sewer System Modeling

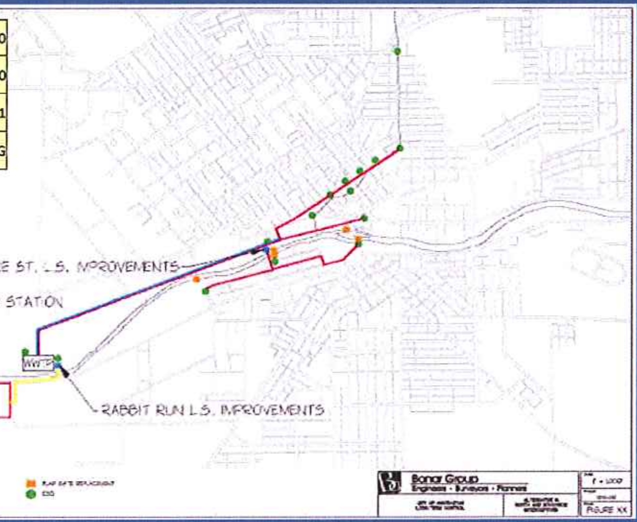
- Approaches
  - Design Storm – 1-yr, 1-hr and 10-yr, 1-hr
    - Must fully treat 1-yr, 1-hr storm event (about 1.11 in./ hr)
    - Must perform preliminary treatment and disinfection on 10-yr, 1-hr storm event (about 1.88 in./ hr)
    - Does *Not* Require UAA
  - CSO Reduction Approach (Requires UAA)
    - Capture at least 85%, by volume, of the combined sewage collected during precipitation events on a system wide annual basis.
    - Requires a UAA and it must be reevaluated every 5 years

Options to Reduce Overflows

- Total sewer separation
  - 20 Miles of separation
- Wet Weather Treatment
  - Offline system that will treat flow in excess of the treatment plant capacity
- Interceptors
  - Interceptors collect possible overflows from CSOs it to the WWTP
- "No Action"
  - The existing sewer system would remain in its current state with the number of overflows unchanged and possibly increasing
  - 84 days with CSO events, 82.9 MG of overflow

Alternative 1A
North and Southside Interceptors

Capital Cost	$63,000,000
Operation and Maintenance	$510,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG

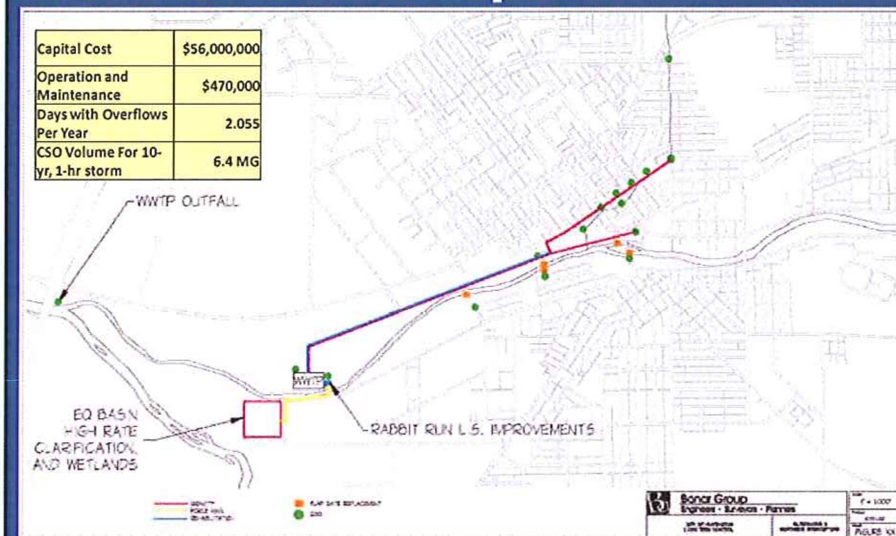


Alternative 1B
North and Southside Interceptors With a Forcemain to the WWTP

Capital Cost	$77,000,000
Operation and Maintenance	$610,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG

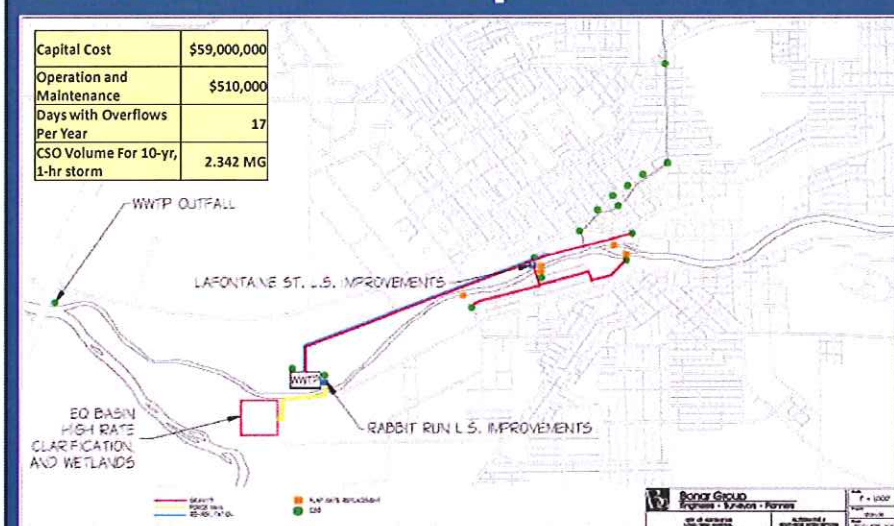
Alternative 2
Northside Interceptors

Capital Cost	$56,000,000
Operation and Maintenance	$470,000
Days with Overflows Per Year	2.055
CSO Volume For 10-yr, 1-hr storm	6.4 MG



Alternative 3
Southside Interceptors

Capital Cost	$59,000,000
Operation and Maintenance	$510,000
Days with Overflows Per Year	17
CSO Volume For 10-yr, 1-hr storm	2.342 MG



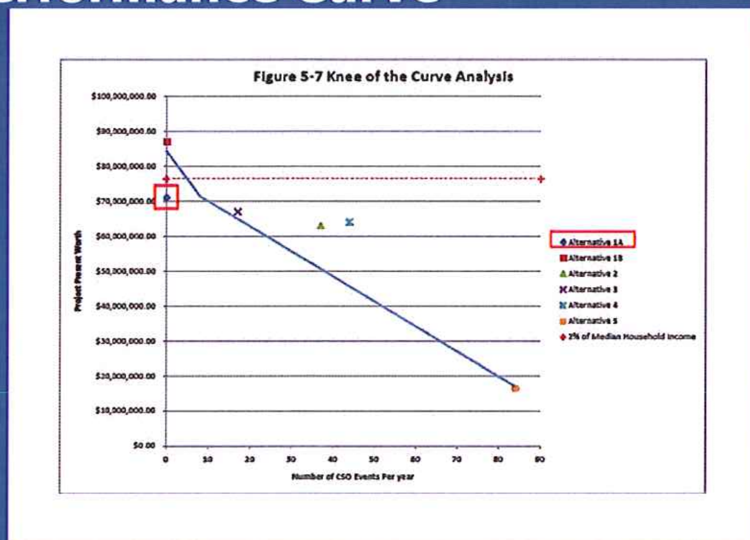
Alternative 4
Total Sewer Separation

Capital Cost	$69,000,000
Operation and Maintenance	$100,000
Days with Overflows Per Year	44
CSO Volume For 10-yr, 1-hr storm	2.503 MG

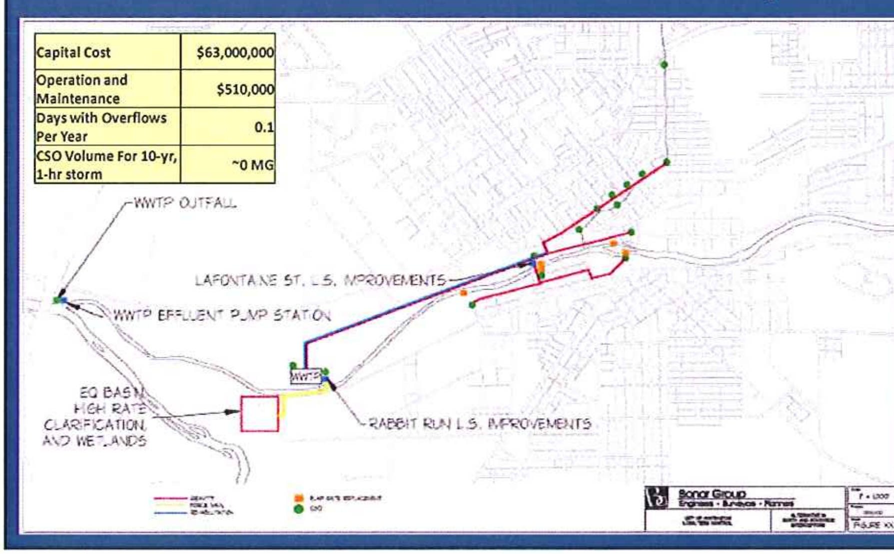
Alternative 5
No Action

Capital Cost	$0
Operation and Maintenance	$0
Days with Overflows Per Year	84
CSO Volume For 10-yr, 1-hr storm	8.198 MG

Present Worth vs. Performance Curve



Alternative 1A North and Southside Interceptors



Capital Cost	$63,000,000
Operation and Maintenance	$510,000
Days with Overflows Per Year	0.1
CSO Volume For 10-yr, 1-hr storm	~0 MG

Implementation Schedule Criteria

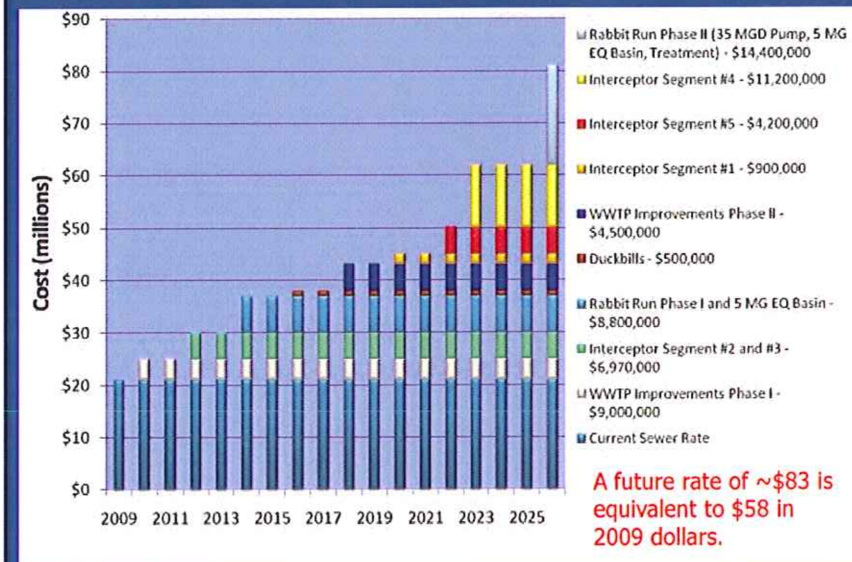
- WW_{CPHI}
- Property Tax Revenue Collection Rate
- Median Household Income (MHI)
- Net Debt Per Capita
- Bond Rating
- Unemployment Rate

Overall Capability Matrix and Implementation Schedule

Financial Capability Indicator	$WW_{CPHI} < 1\%$	$1\% < WW_{CPHI} < 2\%$	$2\% < WW_{CPHI}$
Above 2.5	Medium	High	High
Between 1.5 and 2.5	Low	Medium	High
Below 1.5	Low	Low	Medium

Time to complete LTCP Projects	
Low	5 years
Medium	5-10 years
High	10-20 years

Project Phasing (16-yr)



Implementation Schedule Criteria

Community	# of CSOs	2000 Population	2000 MHI	LTCP Cost	Existing WW_{CPHI}	Proposed WW_{CPHI}	WW_{CPHI} %	Time to Implement
Indianapolis	132	781,870	40,051	$1,688,850,000	$12	$68	2.00	20
Logansport	15	19,684	33,483	$71,000,000	$18	$45	2.11	16*
Washington	5	11,380	29,055	$21,715,000	$23	$57	1.43	20
Huntington	**15**	**17,450**	**35,600**	**$63,000,000**	**$26**	**$58**	**2.07**	**16***
Lafayette	13	56,397	35,859	$180,000,000	$41	$78	1.65	18
New Castle	8	19,344	30,688	$22,000,000	$21	$33	1.49	15
Kokomo	30	46,113	36,258	$48,000,000	$57	$73	2.00	20
Elwood	14	3,780	30,896	Not Approved				
Peru	16	12,994	30,668	Not Approved				
Richmond	4	39,124	30,849	Not Approved				
Muncie	23	67,430	26,613	Not Approved				

*Note: The LTCP has not been approved, but this is the amount of time that is requested to complete the project.

Questions?

MEETING MINUTES

Project Name:	Huntington Long Term Control Plan
Project Number:	10151.00
Date of Meeting:	November 5, 2009
Present:	Steve Updike, Mayor Dave Schoeff, Director of Engineering Colin Bullock, WWTP Superintendent Anthony Goodnight, Asst. Director of Engineering Steve Davidson Keith Eller Doyle Krieg Jack Slusser Kyle Marlow Drew Stone Jeff DeWitt, Bonar Group Derek Davidson, Bonar Group Mark Jesse, Bonar Group
Topic:	**Public Meeting**

Introductions

- Jeff DeWitt introduced himself and reviewed the presentation outline.

Combined Sewer Overflows (CSOs)

- Jeff described what a CSO is and why they are
- Huntington is not the only community that is being required to address its CSO problem. 108 communities in Indiana are going though the same process.
- A diagram of how a CSO functions during dry and wet weather was discussed.

CSO Impacts

- CSO discharges contain high concentrations of e. coli and organic matter. E. coli is a harmful bacteria that poses health risks to humans. The organics that are discharged deplete the oxygen in the water body as they degrade. This can cause a decrease in populations of aquatic animals.

State Judicial Agreement

- Jeff reviewed the requirements of the State Judicial Agreement (SJA) that was signed in 2003. The SJA required the City to comply with the requirements of the clean water act.
- It also requires several activities to occur such as the installation of monitoring equipment, evaluation of the design storm approach, and forming a Citizen's Advisory Committee (CAC).

- Monitoring is important because it allowed for a greater accuracy in developing a model of the combined sewer system. In the past CSO volumes were estimated, now they are measured.
- All of the required activities have been completed.

Sensitive Areas

- LTCP guidance documents required potential sensitive areas to be identified. These are areas where people would potentially come into contact with an increased e. coli concentration during wet weather. These areas may require prioritization depending on the level of treatment selected.
- The areas that were identified were the Forks of the Wabash Historic Park, Elmwood Trail, Riverview Terrace Apartments, and the Island by Marsh.
- Each of these locations were identified as places where fishing occurs.

Combined Sewer System Modeling

- The model that was developed with the CSO monitoring data was approximately 76% accurate when predicting CSO events and 90% accurate when predicting CSO volume. An accuracy of approximately 80% is acceptable.
- The model estimates that the population will remain constant over the course of the plan. The population decreased by 5.3% between 2000 and 2008.
- Guidance documents outlined two approaches to solving the CSO problem. The first and option that is preferred by IDEM is the design storm approach. It provides the greatest level of control for CSOs. In this approach approximately the first 1" of rain in an hour would require full treatment at the WWTP. A storm with an intensity greater than 1" per house and less than approximately 2" per house would require partial treatment.
- The other alternative is to reduce the number and volume of CSO to a level that is acceptable to IDEM. This alternative is used only if the design storm approach proves to be too expensive and would result in an economic hardship.

CSO Reduction Technologies

- Several different types of methods were considered as options in the alternatives developed.
- These included separation of the remaining 20 miles of sewers, adding wet weather treatment processes to the WWTP, and installing interceptors to collect overflows and transport them to the WWTP. LTCP guidance required a no action alternative to be evaluated as a base line. This shows what would happen if no projects were implemented.

Project Selection and Cost

- Alternative 1A and 1B meet the requirements of the design storm approach. These alternatives cost $63,000,000 and $73,000,000 respectively.
- To provide the most cost effective alternative to the City we evaluated the CSO reduction that would be possible by implementing certain aspects of the design storm alternatives. This resulted in alternatives 2 and 3. Alternative 2 collected the CSO's on the north side of the Little River. Alternative 3 collects CSO's on the southside of the Little River. Alternative 2 provides a greater reduction in the CSO, but more it has more events that alternative 3.
- Alternative 4 assumes that all sewers in Huntington are separated. CSO are still believed to occur even though the system will be separated. This is due to infiltration due to leaky pipes, illegal roof drains, and some inlets are not able to be removed
- Alternative 5 is the no action approach which results in no reduction in CSOs.
- The cost for each alternative was plotted against the number of CSO events per year. The preferred alternative, as long as it is affordable, should occur at the knee of the curve, which is the point of diminishing returns.
- According to EPA/IDEM guidance documents a community's wastewater costs can be approximately 2% of the median household income before causing a financial hardship.
- Alternative 1A is the proposed alternative because it provides a significantly higher level of control even though it costs approximately 2.1 % of the MHI.

Implementation Schedule

- The length of time that a community has to implement its LTCP is dependent on several factors. These include annual wastewater cost per household, property tax revenue collection rate, median household income, net debt per capita, bond rating, and the local unemployment rate. These criteria are intended to determine the overall financial capability of the community.
- Based upon these criteria for Huntington they fall in the 10-20 year category. The LTCP proposed an implementation schedule of 16 years. This schedule has to be approved by IDEM. They may want the project to be implemented quicker.

Project Phasing

- At the end of the project the average monthly wastewater cost per household would be approximately $83. This is equivalent to $58 in today's dollars.
- This table shows the proposed rates that other communities will be paying once their projects are completed. All of these communities have approved LTCPs. The average rate is estimated to be about $60 per month.

Questions

- How much will early projects cost?
  - The first proposed project is a rehabilitation of the WWTP that is scheduled to begin next year. This project is estimated to cost $9.5 million. This will result in a rate increase of approximately $4 per month.
- A lot of money is currently being spent on rock excavation for the current project. Why can't the new sewers be installed in the existing sewer trench?
  - The existing sewer contains the old combined sewer that is being converted to a storm sewer. In order to reconnect the homes to the new sanitary sewer it must be at the same elevation or lower than the existing line. If it was installed in the same trench it would be too high.
- Will the plan have to be revised if the 2010 census shows an increase in population?
  - The first couple project will not be affected by an increase in population. Subsequent project can be tailored to any new conditions as they are being designed. Any growth would most likely occur on the outskirts of the community. These developments would not be allowed to exceed the capacity of the sewer system. If needed it would be necessary to install new liftstations and interceptor sewers to transport the wastewater to the WWTP.
- Is the sewer system at capacity?
  - The model shows that it has capacity for dry weather flows. No bottlenecks are known to exist in the sewer system.

This is the writer's best recollection of matters discussed at this meeting. Let me know as soon as possible if you have any additions or other modifications.

Minutes prepared by:

Derek Davidson, EIT
Engineer
317-570-6800 x 339

cc: Present

Public LTCP Displays

Huntington's Combined Sewer Overflow Long Term Control Plan

1. The City of Huntington is being required by IDEM and EPA through a State Judicial Agreement to develop a Combined Sewer Overflow (CSO) Long Term Control Plan.

2. There are 772 CSO communities in the United States. 108 of these CSO communities are in Indiana. Figure 1 shows a map with all CSO communities in the United States.

3. A CSO is an overflow for the sewer system during periods of heavy rainfall or snowmelt. CSOs are in the combined sewer system because during certain wet weather events the combined sewer does not have sufficient capacity for both stormwater and wastewater. CSOs remove excess flow from the combined sewer system by overflowing to Flint Creek and the Little River. Figure 2 shows how a CSO operates. Figure 3 shows the areas of Huntington that have combined and separated sewers along with the location of all CSOs.

4. CSO discharges contain untreated human waste and a high concentration of e. coli. US EPA and IDEM have mandated that all CSO discharged may not contribute to or cause a violation of Water Quality Standards.

5. Huntington on average has 84 days with CSO events per year with a total volume of 82.9 million gallons.

6. The City of Huntington has developed a Long Term Control Plan per IDEM/EPA guidance. This plan would cost an estimated $63,000,000 and reduce the number of days with CSOs events to 7 days and the total CSO volume to 4.4 million gallons per year.

7. The public is invited to a public meeting on **<u>November 5, 2009 at 7:00 pm</u>** in the City Council Chambers at 300 Cherry Street to discuss this plan.

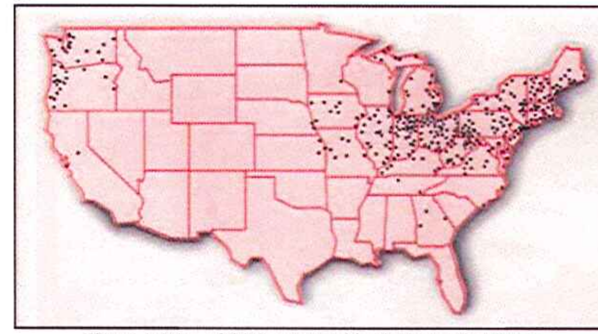


Figure 1: Map of CSO communities is the United States.

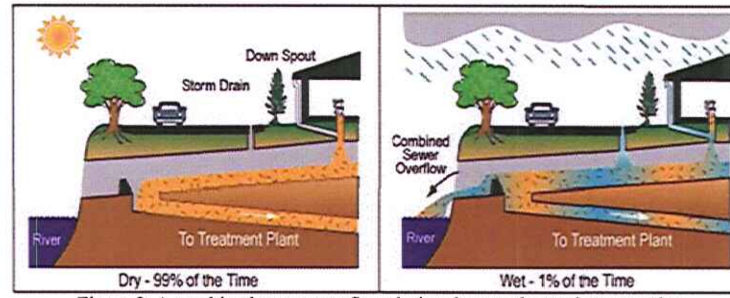


Figure 2: A combined sewer overflow during dry weather and wet weather.

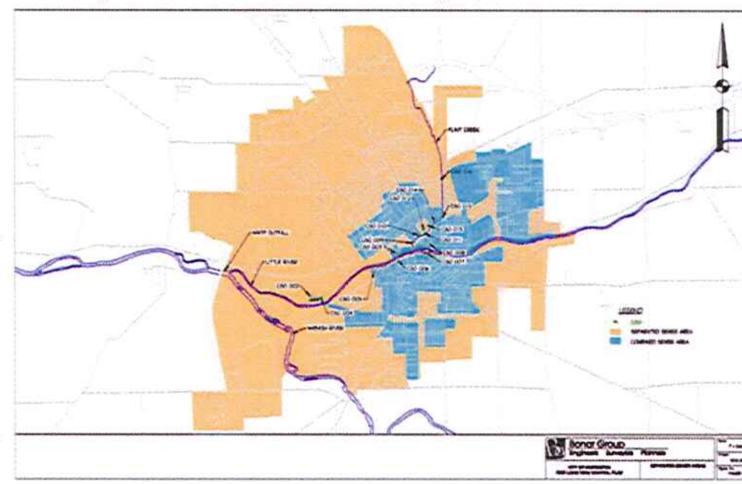
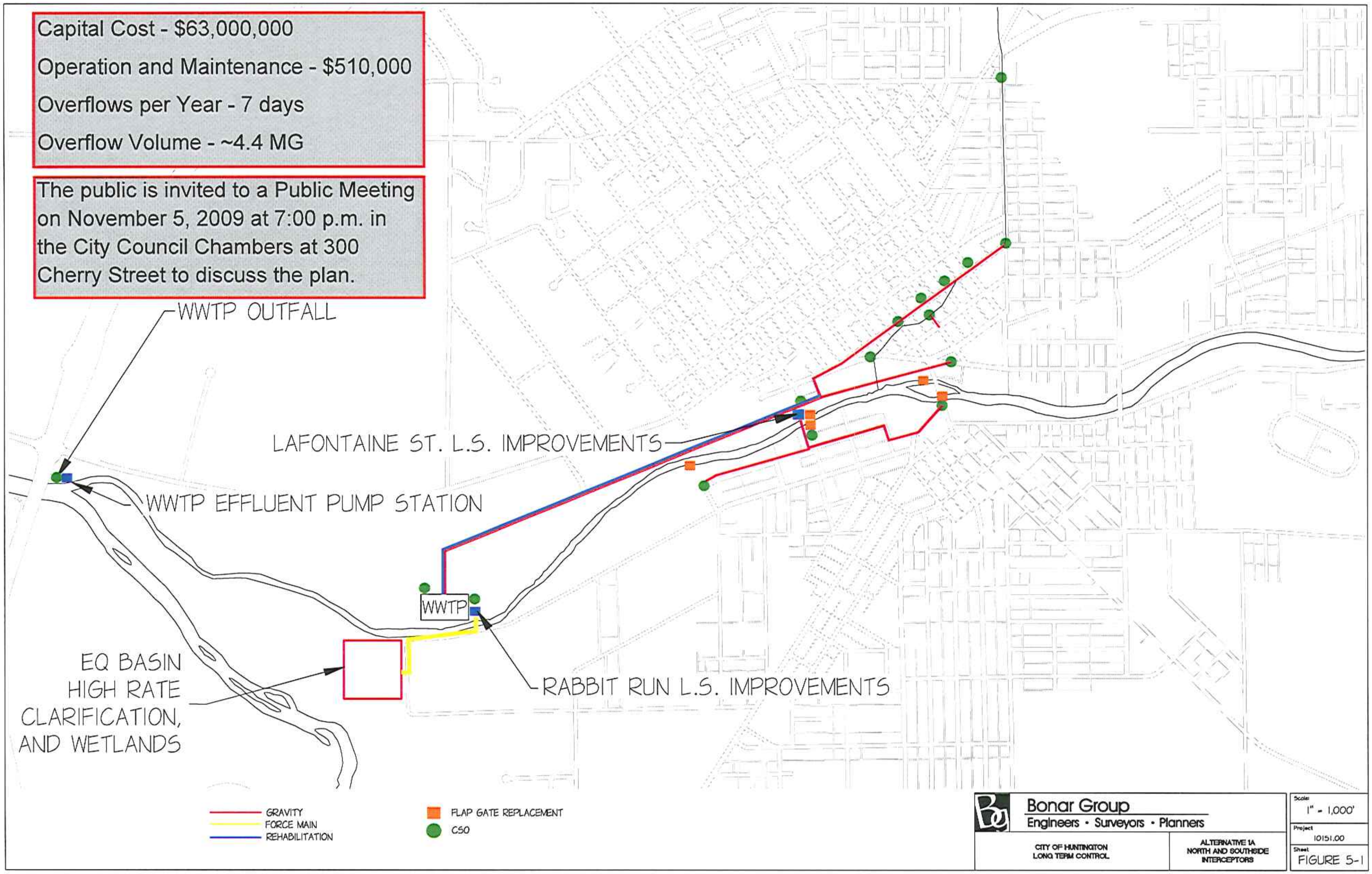


Figure 3: Huntington's separated and combined sewer system..


Capital Cost - $63,000,000
Operation and Maintenance - $510,000
Overflows per Year - 7 days
Overflow Volume - ~4.4 MG
The public is invited to a Public Meeting on November 5, 2009 at 7:00 p.m. in the City Council Chambers at 300 Cherry Street to discuss the plan.
WWTP OUTFALL
LAFONTAINE ST. L.S. IMPROVEMENTS
WWTP EFFLUENT PUMP STATION
WWTP
EQ BASIN HIGH RATE CLARIFICATION, AND WETLANDS
RABBIT RUN L.S. IMPROVEMENTS
GRAVITY
FORCE MAIN
REHABILITATION
FLAP GATE REPLACEMENT
CSO
Bonar Group
Engineers • Surveyors • Planners
CITY OF HUNTINGTON LONG TERM CONTROL
ALTERNATIVE 1A NORTH AND SOUTHSIDE INTERCEPTORS
Scale 1" = 1,000'
Project 10151.00
Sheet FIGURE 5-1

Miscellaneous Public Outreach Information

The City of Huntington has placed information about the LTCP on its website. The website also contains links to informational information on the US EPA and IDEM's website about LTCPs

The link to the City's website is http://www.huntington.in.us/city/department/division.php?fDD=26-266

City Of Huntington

Engineering Department

City Building
300 Cherry Street
Huntington, IN 46750

Phone: (260) 356-1400
Fax: (260) 356-0344

November 3, 2009

Jean Ross
1963 Salamonie Ave
Huntington, IN 46750

Subject: Huntington Long Term Control Plan (LTCP)
Response to Comment Letter from May 27, 2003

Mrs. Ross,

In 2003 your late husband reviewed the City of Huntington's Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) that was on public display and wrote a comment letter about the plan. IDEM requires that all public comments be addressed. The City of Huntington has since revised its CSO LTCP from 2003 based upon new guidance from Indiana Department of Environmental Management. The LTCP proposes new alternatives that will reduce the amount of combined sewage that enters the Little River and Flint Creek.

This letter is intended to respond to Mr. Ross's letter dated May 27, 2003 concerning the City of Huntington's Long Term Control Plan (LTCP). The City has recently completed revisions to the previous LTCP. Revisions were necessary because Indiana Department of Environmental Management requested that the previously developed alternatives be reevaluated based upon new guidance. New alternatives have been developed to comply with the Water Quality Standards.

The recommended solution is designed so that all wet weather flow resulting from a 1-yr, 1-hr storm (approximately 1.02 inches) will receive full treatment at the WWTP. All wet weather flow that results from storm intensities from the 1-yr, 1-hr storm up to the 10-yr, 1-hr storm (approximately 1.65 inches) will receive primary treatment and disinfection.

Treatment of the wet weather flow would be accomplished by capturing the wet weather flow in interceptor sewers prior to overflowing. The interceptor sewers would transport the wet weather flow to the WWTP. The WWTP would treat as much wet weather flow as possible, but once it reaches capacity excess flow would be pumped to an equalization basin on the southside of the Little River, across from the WWTP. This wet weather flow stored in the equalization basin would either be sent back to the WWTP as capacity becomes available or would be treated by an offline treatment system. Primary treatment would be provided by a high rate clarification system, secondary treatment would be accomplished constructed wetlands, and disinfection would be provided with an ultraviolet disinfection system.

Below are Mr. Ross' original comments with responses:

To the editor and those attending the May 27 CSO LTCP (Long Term Control Plan meeting may 8, 2003).

After years of effort working to clean up the Little River and the Wabash River, I received a copy of the LTCP (long term control plan) for eliminating combined sewers on May 22 at the wastewater treatment plan. After making 3 copies May 23 I placed one in the Indiana Room at the Library, gave a copy to our local Herald Press, and one to a retired sewer plant design engineer.

The day before a scheduled hearing about this plan I visited the Huntington Health Dept., the Mayor, and the City Engineer, all of whom have never received a copy of this plan. After talking with the retired sewer plant engineer, we determined the City should go ahead with the discussion on May 28, but should hold another public meeting after the public has an opportunity to be informed and to react. The plan says it will cost either $37,500,000 for the proposed Alternative #1 or $54,000,000 for Alternative #2 plan which eliminates combined sewers completely.

Alternative #1 plan includes

1A Joe Street Phase I, II, and III sewer separation	$10,000,000
1B Rabbit Run Improvements and 5 MG Storage Basin (phase I)	$8,500,000
1C LaFontaine St Improvements, Interceptors, Rabbit Run Phase II, and 5 MG Storage Basin (phase II)	$12,500,000
1D Parallel Interceptors, Rabbit Run Phase III, and 2 MG Storage Basin	$6,500,000
Alternative #1 Total	$37,500,000

This does not separate any CSO sewers in Huntington.

Alternative #2 plan includes

1A Joe Street Phase I, II, and III sewer separation	$10,000,000
2A Sewer Separation (CSO 005, 006, 007)	$4,000,000
2B Sewer Separation (Remainder of CSO 004)	$13,000,000
2C Sewer Separation (CSO 003, 008, 009, 010)	$9,000,000
2D Sewer Separation (CSO 002), Parallel Interceptor (Lafontaine to WPCF), WPCD Storage Basin	$5,500,000
2E Sewer Separation (CSO 011, 012, 013, 014)	$3,000,000
2F Sewer Separation (CSO 015)	$9,500,000
Alternative #2 Total	$54,000,000

Separates all sewer and eliminates most storm water to the sewer treatment plant.

Response: *Total sewer separation will not eliminate CSOs. Water can still infiltrate the pipes through joints, and potentially cause CSOs during wet weather. Additionally, all water collected by the storm sewer system would be discharged untreated to the Little River. This discharge contains pollutants that would impact water quality.*

Comment #1 Please fix Figure 2.2, 2.3, and 2.6. Tributary areas fail to include the following tributary areas and the maps don't include parts of the City. The plan does not include input from: Homiers, Hunters Ridge, Nazarine Church, Redi Med, Fords of the Wabash, Commercial Road Industrial park, North Point, Carlisle Crossing, Hidden hamlets, Parkview memorial Hospital, Crestview School, Riverview and Horace Mass Schools, Central School, Oil Storage Tank area, Evergreen Meadows, Lincoln School, Humane Society, Waterworks, and does not show most inputs from outside the City including Norwood's.

Response #1 *The tributary areas have been revised from the previous LTCP. These have been updated on Figures 1-1 and 2-2 in the new plan. We believe the areas mentioned above are now included in the revised figures.*

Comment #2 The Little River receives sewage from Combined Sewer Discharges from Ossian in Wells County and Main Aboite STP in Allen County as well as discharges from Roanoke, Arlington Hts., Hog Farm Discharges from Wells County, all of which flows through the City of Huntington. The Little River must be made clean, free of e-coli: meeting fishable and swimmable standards.

Response #2 *The City of Huntington's LTCP is intended to ensure that the City of Huntington is in compliance with water quality standards. The discharges mentioned above are not under the City of Huntington's jurisdiction.*

Comment #3 The CSO reduction projects adopted by the CAC in Chapter 6 omits parallel interceptors and Rabbit Run Pump Station Phase III and the Phase III 2 MG storage basin, thus omitting the proposed final 6 percent of CSO reduction. Reducing estimated costs to $37,500,000. It does not eliminate any CSO outfall and I do not believe it meets clean water act standards.

Response #3 *The CSO reduction projects proposed in the original LTCP have been revised in the new LTCP. The proposed alternative is designed to provide treatment and disinfection for storm events up to the 10-yr, 1-hr storm as described by IDEM guidance documents. The guidance documents also require a financial analysis of each alternative to ensure that the project is affordable to the community.*

Comment #4 Page 5.3 paragraph 5.4 states "no sensitive areas exist that are impacted by City CSOs." This is not true. And should be corrected. Notice Fig. 2.7 with River Greenway, Elmwod Park, and the Forks of the Wabash which runs from the STP to Outfall #002 and beyond. You say limited access. I remember pictures of extra large fish caught in the Little River by extra small kids in the Herald Press. I also know railroad workers and landowners along the Little River who have seen tampons, toilet trash, and sludge on the Little River. IWLA has been advised to cancel a proposed River Cleanup on the Little River because the environment is unsafe for volunteers doing the cleanup.

Response #4 *A new CAC group was formed and the sensitive areas topic was revisited. The areas you mentioned above are addressed in Chapter 2 of the revised LTCP. The impact on sensitive areas will be minimized by the proposed plan.*

Comment #5 The drawings Fig. 2.5 showing the Little River watershed fails to disclose the CSOs connection to the Little River headwaters in Ossian. It does not indicate many NPDES permit which empty into the Little River. I have photographs of Main Aboite Sewers flowing into the river. STP failures at Zanesville, Roanoke STP problems, Arlington Hgts. STP, Hog Farm hog waste overflows in Wells County.

Response #5 *The City of Huntington's LTCP is intended to ensure that the City of Huntington is in compliance with water quality standards. The discharges mentioned above are not under the City of Huntington's jurisdiction.*

Comment #6 The Executive Statement page ES-1 states the committee evaluated the four types of sensitive areas provided in IDEM's Guidance Document to determine that no sensitive areas exist that are impacted by the City's CSOs. This is false. See 4 above.

Response #6 *A new CAC group was formed and the sensitive areas topic was revisited. The areas you mention above are addressed in Chapter 2 of the revised LTCP. The impact on sensitive areas will be minimized by the proposed plan.*

Comment #7 On page ES-4 the completed CSO Projects listed are all CSOs since they are connected to CSO outfalls.

Response #7 *The previous projects that were mentioned on ES-4 of the original LTCP were sewer separation projects. These projects removed storm water from the combined sewer system. This reduced the volume and frequency of CSOs.*

Comment #8 New developments such as Ash St. Hunter's Ridge, Commercial Rd. (Square D.), and Carlisle Crossing may have separate storm sewers and separate sanitary sewers but they connect to the treatment plant through combined sewers to the plant input point which a combined sewer outfall (#002) which discharges untreated sewage at overflows. The #002 outfall pipe is located in the Forks of the Wabash Park property. The property is a major canoe and boat landing recreation facility.

Response #8 *When a new development is proposed an evaluation of the downstream sewer capacity is necessary. This ensures that any additional flow will not exceed the capacity and cause overflows.*

A major canoe and boat landing recreation facility was not observed at the Forks of the Wabash Park during a field investigation. In order to launch a boat/canoe in this location is appears that it would be necessary to carry it to the water through tall grass and undergrowth. The Forks of the Wabash area was discussed with the CAC group and the consensus was that very few boats/canoes are launched from this location. The impact on sensitive areas will be minimized by the proposed plan.

Comment #9 We enclose a Herald Press picture of the combined sewer #008, 009, 010, 011, 012, 013, 014, 015, and 016 overflows at the Huntington Courthouse with water flowing across the Wabash River RR tracks in July 1996. This overflow filled local businesses and homes basements and is a priceless historic picture.

Response #9 *The CSO reduction projects proposed in the original LTCP have been revised in the new LTCP. The proposed alternative is designed to provide treatment and disinfection for storm events up to the 10-yr, 1-hr storm as described by IDEM guidance documents.*

Comment #10 The combined sewers #016 and 009 have suffered toxic releases in the past which shut down the sewer treatment plant requiring reloading treatment facilities from other STPs at costs over $100,000 each.

Response #10 *The City has a pretreatment program in place to protect the WWTP from the discharges of industrial users. The City also has a spill prevention program to clean up any accidental spills that enter the storm sewers. If the releases that you mentioned had occurred in an area with separate storm sewers then the chemicals would have been discharged directly to the Little River instead of the WWTP, which lessened the impact to the Little River.*

Comment #11 We disagree with the limited access definition on page 2.13 from Lafontaine St. to the STP and the STP to the Forks of the Wabash.

Response #11 *We believe the limited access definition is valid because the access to the Little River is only possible by walking through tall weeds and trees.*

Comment #12 The Little River Cleanup was canceled in 2003 because of the potential danger to cleanup volunteers.

Response #12 *The CSO reduction projects proposed in the original LTCP have been revised in the new LTCP. The proposed alternative is designed to provide treatment and disinfection for storm events up to the 10-yr, 1-hr storm as described by IDEM guidance documents.*

Comment #13 The SWIMM Model Fig. 2.9 is not valid because the selected plan adopted by the Citizens Advisory Committee does not include the added interceptors to CSOs #008, 009, 010, 011, 012, 013, 014, 015, 016.

Response #13 *The SWMM model was modified for the revised LTCP based upon current conditions. All major pipes that compose the combined sewer system were included in the model. New pipes were added to the model as proposed by each alternative.*

If you have further questions or would like to view the draft of the Long Term Control Plan, please contact me at (260) 356-1400 ext. 220.

Sincerely,

Dave Schoeff
City of Huntington
Director of Engineering

THE HERALD-PRESS
THE BEST PART OF YOUR DAY!

Ø Close Window Ø

Last modified: Thursday, February 26, 2009 1:11 PM EST

Sewer project starts

FRIDAY FEBRUARY 27, 2009

Federally mandated work will keep waterways cleaner

By JENNIFER KANNON

The long-anticipated sewer separation project officially began Wednesday afternoon with a groundbreaking ceremony on Market Street.

It has been federally mandated that cities must eliminate combined sewage overflows, water lines which flood into sewage lines and then overflow into the creeks. Huntington has 15 CSOs, three of which are planned for this year.

Breaking ground for the new city sewer project along State Street are, from left: City Council members Joe Blomeke, Jack Slusser, Keith Eller, Bonar Group Project Engineer Jeff DeWitt, Huntington Mayor Steve Updike, City Council member Erv Ebersole and Geiger Excavating Bruce Mertz Geiger. The sewer project will be constructed in three phases. (Herald-Press photo by Rob Edwards)

"It's kind of nice to get started," said Dave Schoeff, director of Engineering. "The sooner we get started the more we'll get done, clean up the rivers and the community. It's a good community. It's unfortunately going to be expensive but if we didn't start now, it would be more expensive."

The city is still warning Huntington citizens that this will cause a few inconveniences between now and the end of the year, depending on which construction site they are working on at the time.

"There are going to be times when people are inconvenienced, whether it's being without water or not being able to get into their driveway at a certain time," said Ruth Marsh, director of operations for the City. "Geiger has guaranteed us in the evenings people will be able to get into their homes and will have water . . . but it will pass and we're hoping people will be patient with us. All in all they're going to have nice paved streets when it's done so that's a good thing."

The first part of the project began today in the area around Market, State, Oak and Lafontaine streets. Each site will take approximately three to four months to complete.

"From an economic standpoint, I feel ecstatic getting these projects out of the way," said Nate Schacht, director of Community Development. "We're making sure we have the potential to handle future growth. It's going to be a little messy for a while but in the long run the benefits will definitely outweigh the causes."

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Appendix 7

U.S. EPA Financial Guidance Worksheets

U.S. EPA Guidance Worksheet 1
Cost Per Household

Current WWT Cost		Line Number
Annual O&M Expenses (Excluding Depreciation)	$2,342,500	100
Annual Debt Service (P&I)	$1,033,300	101
Subtotal (Line 100 + Line 101)	$3,375,800	102
Projected WWT and CSO Costs Current Dollars		
Estimated Annual O&M Expenses (Excluding Depreciation)	$510,000	103
Annual Debt Service (P&I)	$5,273,100	104
Subtotal (Line 103 + Line 104)	$5,783,100	105
Total Current and projected WWT and CSO Costs (Line 102 + Line 105)	$9,158,900	106
Residential Share of Total WWT and CSO Costs (2.67 MG/3.85 MG)	$6,351,757	107
Total Number of Household in Service Area	5,955	108
Annual Cost per Household (Line 107 / Line 108)	$1,067	109
Monthly Cost per Household (Line 109 / 12)	$89	

U.S. EPA Guidance Worksheet 2
Residential Indicator

Median household Income (MHI)		Line Number
Census Year	2000	
Census Year MHI	$35,600	201
Average CPI between 2000 and 2009 Bureau of Labor Statistics, U.S. City Average CPI	2.4%	
MHI Adjustment Factor	1.243	202
Adjusted MHI (Line 201 x Line 202)	$44,243	203
Annual WWT and CSO Control Cost per Household (CPH) (Line 109)	$1,067	204

Residential Indicator

Annual Wastewater and CSO Control Costs per Household as a Percent of Adjusted Median Household Income (CPH as % of MHI) (Line 204 / Line 203 x 100	2.41%	205

U.S. EPA Guidance Worksheet 3
Bond Rating

The City of Huntington does not have an existing bond rating.

		Line Number
Most Recent General Obligation Bond Rating	NA	
Date	NA	
Rating Agency	NA	
Rating	NA	301
Most Recent Revenue (Water/Sewer or Sewer) Bond		
Date	NA	
Rating Agency	NA	
Bond Insurance (Yes/No)	NA	
Rating	NA	302
Summary Bond Rating	NA	303

Benchmarks

	Score	Bond Rating
Weak	3	Ba, B, Caa, Ca, C, BB, B, CCC, CC, C, D
Mid-Range	2	Baa, BBB
Strong	1	Aaa, AA, A, AAA, AA, A

U.S. EPA Guidance Worksheet 4
Net Debt Per Capita

		Line Number
Direct Net Debt (G.O. Bonds Excluding Double Barreled Bonds)	$17,356,907	401
Debt of Overlapping Entities (Proportionate Share of Multijurisdiction Debt)	$16,760,010	402
Overall Net Debt (Line 401 + Line 402)	$34,116,917	403
Current Population (2008)	16,521	404
Overall Net Debt Per Capita (Line 403 /Line 404 x 100)	$2,065	405

Benchmarks

	Score	Net Debt Per Capita
Weak	3	Greater than $3,000
Mid-Range	2	$1,000 to $3,000
Strong	1	Less than $1,000

U.S. EPA Guidance Worksheet 5
Unemployment Rate

		Line Number
Unemployment Rate - Community 2009 Average for January through September	14.3%	501
Source	Indiana Department of Workforce Development	
Unemployment Rate - County (Use if community's rate is unavailable)	NA	502
Source	NA	

Benchmark

Average national Unemployment Rate	8.9%	503
Source	Indiana Department of Workforce Development	
Comparison of Community's Unemployment Rate to the National Average	5.4%	

Benchmark

	Score	Unemployment Rate
Weak	3	More than 1% above the national average
Mid-Range	2	Within 1% of the national average
Strong	1	More than 1% below the national average

U.S. EPA Guidance Worksheet 6
Median Household Income

		Line Number
Median Household Income (Line 203)	$44,243	601
Source	2000 Census Adjusted to 2008	

Benchmark

Census Year National MHI	$41,944	602
MHI Adjustment Factor (Line 202)	1.243	603
Adjusted National MHI (Line 602 x Line 603)	$52,127	604
Source	2000 Census Adjusted to 2008	
Comparison of community's MHI to the national MHI	-15%	

Benchmark

	Score	Median Household Income
Weak	3	More than 25% below the national average
Mid-Range	2	Within 25% of the national average
Strong	1	More than 25% below the national average

U.S. EPA Guidance Worksheet 7

Property Tax Revenues as a Percent of Full Market Property Value

		Line Number
Ful Market Value of Real Property (Pay 2009)	$408,979,246	401
Property Tax Revenues (Pay 2009)	$13,688,434	402
Property Tax Revenue as a Percent of Full market Property Value	3.3%	403

Benchmark

	Score	Property Tax Revenues as a Percent of Full Market Property Value
Weak	3	Above 4%
Mid-Range	2	2%-4%
Strong	1	Below 2%

U.S. EPA Guidance Worksheet 8
Property Tax Revenue Collection Rate

		Line Number
Property Tax Revenue Collected (Line 702)	$13,688,434	401
Property Taxes Levied	$15,687,424	402
Property	87.3%	403

Benchmark

	Score	Property Tax Revenue Collection Rate
Weak	3	Below 94%
Mid-Range	2	94%-98%
Strong	1	Above 98%

U.S. EPA Guidance Worksheet 9
Summary of Financial Capability Indicators

	Column A Actual Value	Column B Score	Line Number
Bond Rating (Line 303)	NA	NA	901
Overall Net Debt per Capita (Line 405)	$2,065	2.0	902
Unemployment Rate (Line 501)	5.4%	3.0	903
Median Household Income (Line 601)	-15%	2.0	904
Property Tax Revenue as a Percent of Full Market Property (Line 703)	3.3%	2.0	905
Property Tax Revenue Collection Rate (Line 803)	87.3%	3.0	906
Permittee Indicator Score (Average of Column B)		2.4	907

U.S. EPA Guidance Worksheet 10
Financial Capability Matrix Score

		Line Number
Residential Indicator Score (Line 205)	2.41%	1001
Financial Capability Indicaors Score (Line 907)	2.4	1002
Financial Capability matrix Category	High Burden	1003