

PLATTSMOUTH COMBINED SEWER OVERFLOW (CSO) PROGRAM

**Plattsmouth City Council Meeting
20 October 2008**

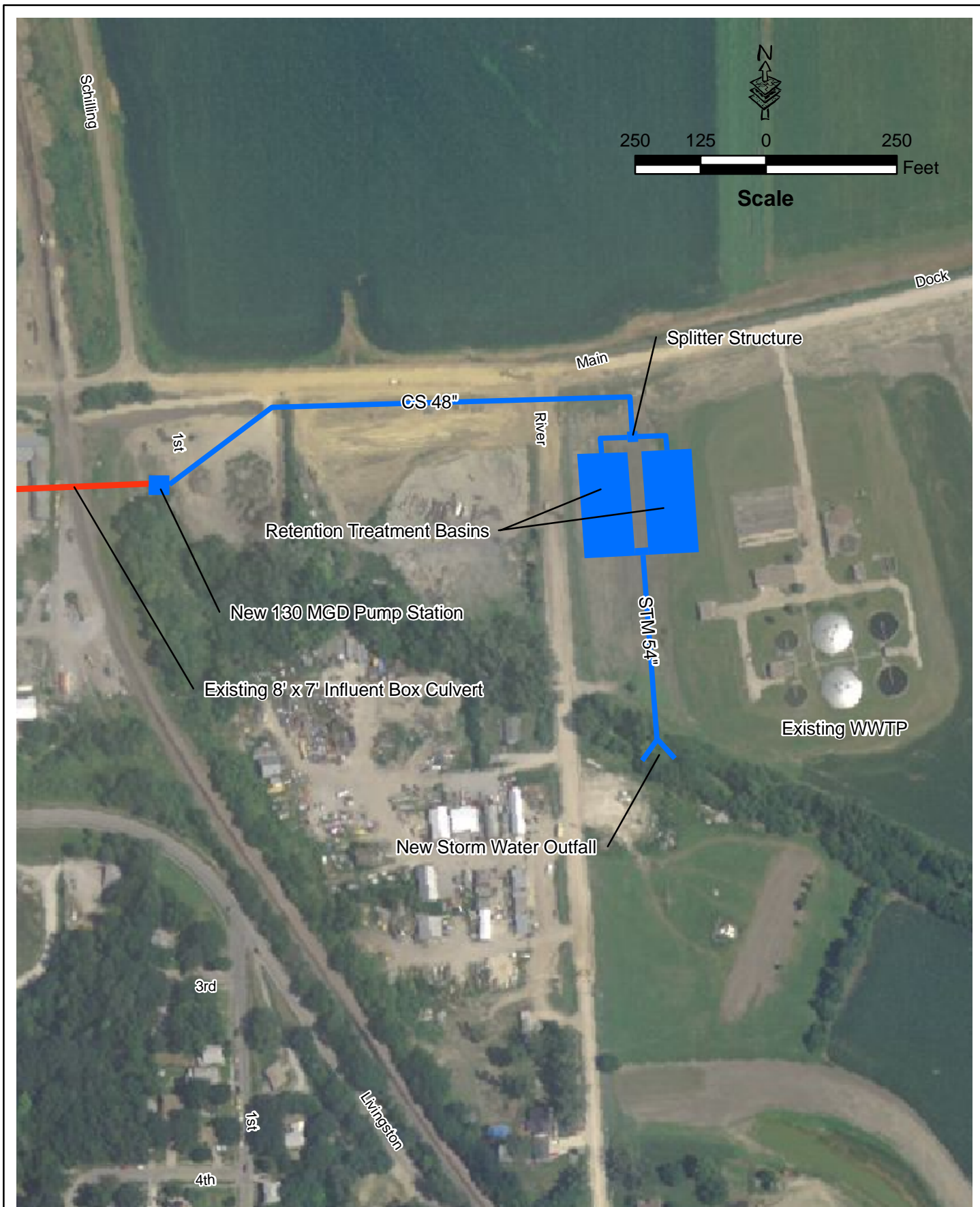


FACT SHEET

1. The City of Plattsmouth is in compliance with EPA rules and regulations governing the discharge or overflow of combined storm/sanitary wastewater (CSO).
2. The City is beginning their fourth year of a five year (PHASE I) National Pollution Discharge Elimination System (NPDES) permit. Phase I has been characterized by implementation of the Nine Minimum Controls and preparation of the technical basis for the Long-Term Control Plan.
3. **Hydraulic Modeling.** HDR completed a hydraulic model of the Plattsmouth CSS. The results have been used to estimate the size of a system to treat the CSO. To achieve 85% CSO capture, the City could construct a storage basin sized at 12.5 MG or a retention treatment basin (RTB) sized at approximately 3 MG. Actual construction of the RTB would be two basins (~ 0.5 acre surface area each) in parallel with a very large pump station. A parcel area of approximately 3 acres would accommodate the RTB. (See Exhibit A and Exhibit B).
4. The RTB would be sized for a through-put flow rate of 130 MGD (sixty-five times larger than the design flow to the wastewater treatment plant. Based on other RTB real construction costs across the country, HDR estimates the total design and construction cost for a RTB to be approximately \$40M (See Exhibit C).
5. Sewer separation involves construction of a separate sanitary sewer (approximately 15 IN) down the alley behind Main Street and 12 IN sewers north to Washington Avenue and south to Chicago Avenue (See Exhibit D).
6. A sewer separation project is estimated to cost \$7.14M (See Exhibit E and Exhibit F).
7. A sewer separation project could be spread across the next (i.e. PHASE II) five-year permit period (See Exhibit G).

ACTION ITEM:

Draft letter to the Nebraska Department of Environmental Quality, proposing to meet Clean Water Act water-quality based requirements by adopting a “PRESUMPTION” approach (i.e. limited number of overflow events or elimination or capture for treatment of no less than 85% by volume of the system-wide annual average combined flow). Letter would also state that the City intends to accomplish this by implementing a Long-Term Control Plan (to be submitted next spring) that describes the sewer separation plan.



Aerial View RTB Conceptual Layout

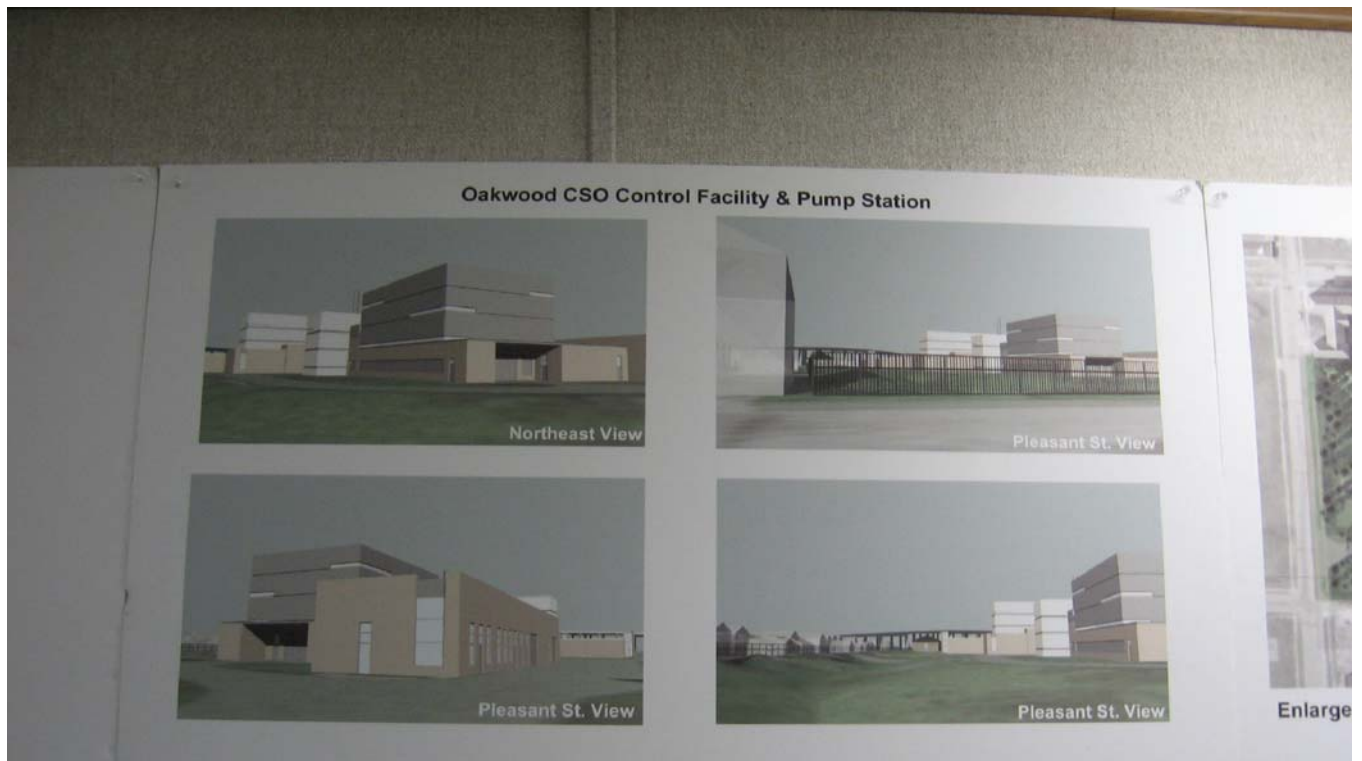
City of Plattsburgh CSO

DATE

October 2008

FIGURE

Exhibit A



Typical Retention Treatment Basin Images Oakwood CSO - Detroit, MI

City of Plattsmouth CSO

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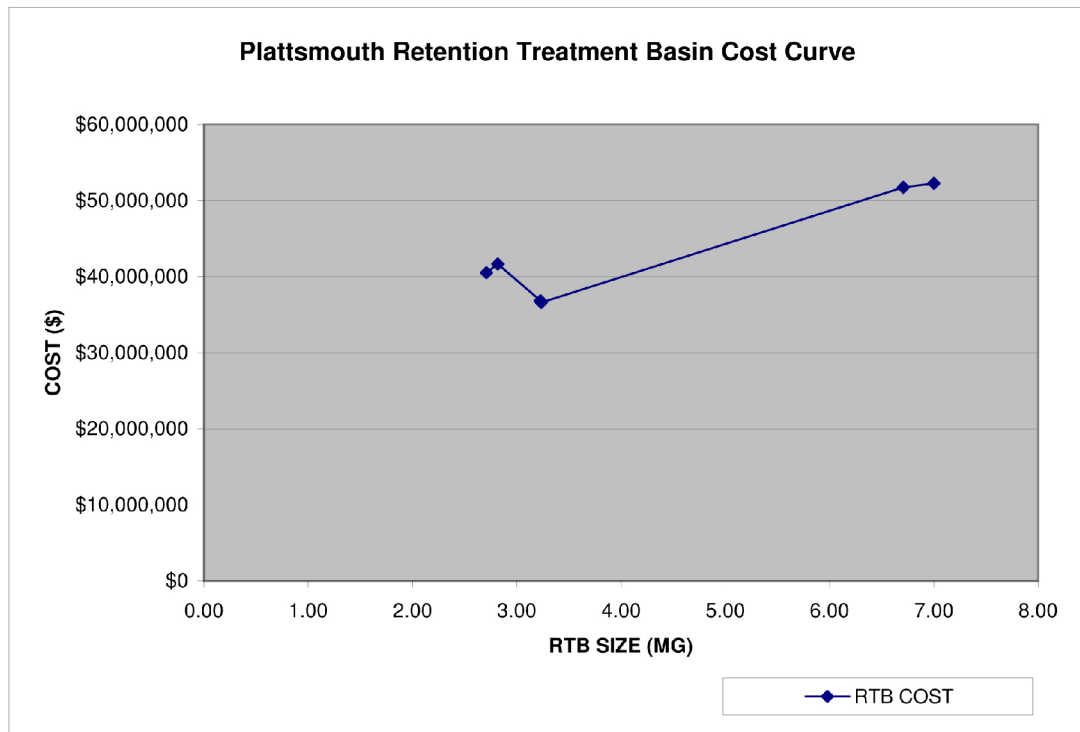
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FIGURE

Exhibit B

Retention Treatment Basin

Overflow Events per Year	RTB Size	Cost
1	7.00	\$52,286,375
2	6.71	\$51,740,631
3	3.24	\$36,618,313
4	3.23	\$36,847,600
5	2.82	\$41,673,094
6	2.71	\$40,517,066



Retention Treatment Basin Cost Curve

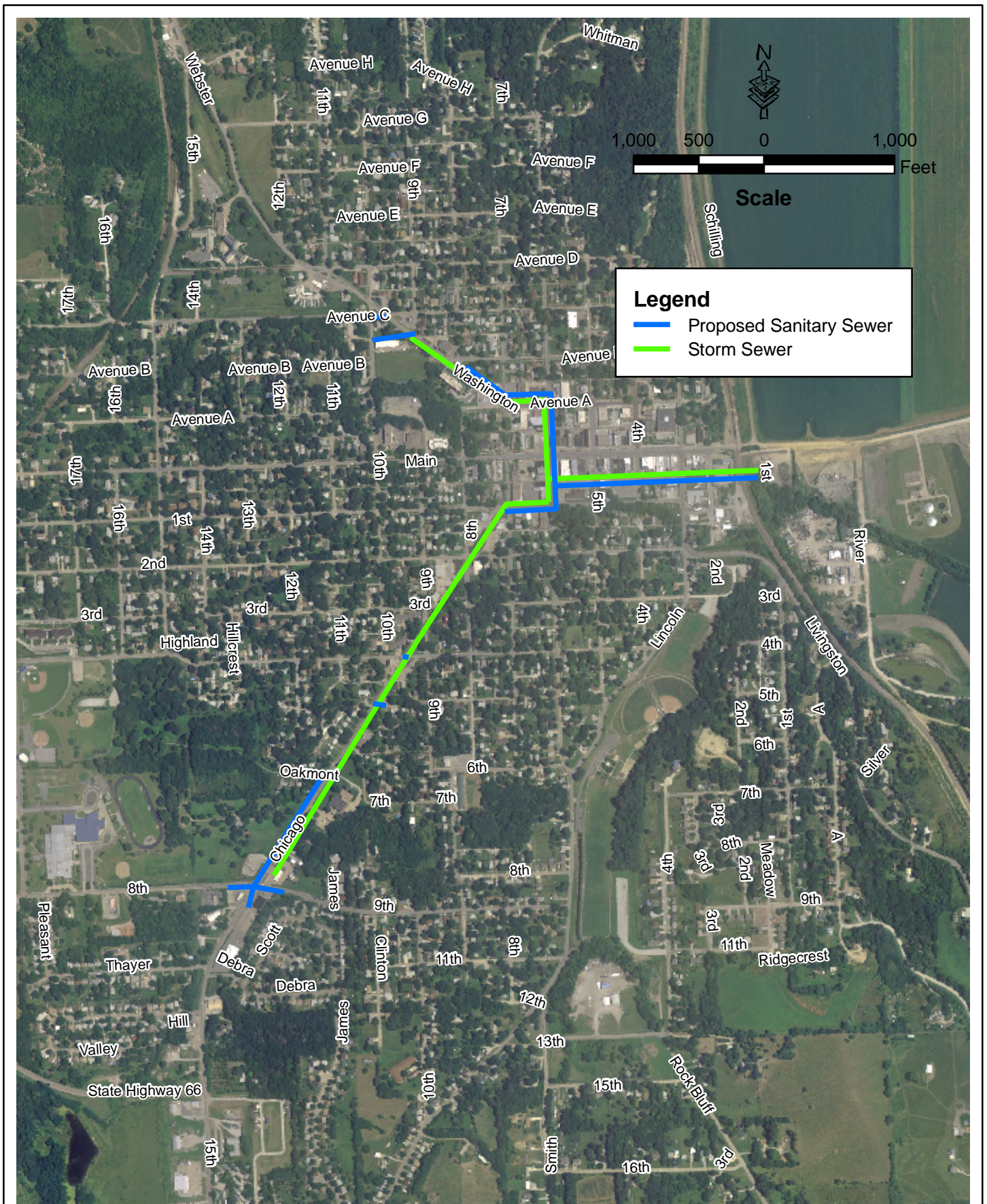
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FIGURE

Exhibit C



Aerial View Sewer Separation Conceptual Layout

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FIGURE

Exhibit D

Project #1: Downtown (~ 6 Blocks)

Proposed Construction Year:

2011

Item No	Description	Estimated Quantity	Unit	Unit Price	Total Cost
1	New Sanitary Sewer Pipe	2,200	LF	\$100	\$220,000
2	Manholes	7	EA	\$3,000	\$21,000
3	Pavement Removal & Replacement	8,500	SY	\$100	\$850,000
4	Extension of Existing Sewer to New Sewer	760	LF	\$80	\$61,000
5	Relocation of Other Utilities	1	LS	\$50,000	\$50,000
6	Sidewalks	8,000	SF	\$5	\$40,000
Total					\$1,242,000
Contingency (30%)					\$373,000
Construction Cost					\$1,615,000
Engineering (Design & Construction), Legal, Administrative Costs (20%)					\$323,000
Total Estimated Project Cost (Downtown)					\$1,938,000
Adjusted for Inflation (3 years at 4%):					\$2,180,000

Project #2 and #3: Washington Basin (~ 6 Blocks)

Proposed Construction Years: 2012 and 2013

Item No	Description	Estimated Quantity	Unit	Unit Price	Total Cost
1	New Sanitary Sewer Pipe	1,518	LF	\$100	\$152,000
2	Manholes	4	EA	\$3,000	\$12,000
3	Pavement Removal & Replacement	7,333	SY	\$100	\$733,000
4	Extension of Existing Sewer to New Sewer	600	LF	\$60	\$36,000
5	Relocation of Other Utilities	1	LS	\$75,000	\$75,000
6	Sidewalks	16,000	SF	\$5	\$80,000
Total					\$1,088,000
Contingency (30%)					\$326,000
Construction Cost					\$1,414,000
Engineering (Design & Construction), Legal, Administrative Costs (20%)					\$283,000
Total Estimated Project Cost (Washington Basin)					\$1,697,000
Adjusted for Inflation (5 years at 4%):					\$2,065,000

Project #4 and #5: Chicago Basin (~ 10 Blocks)

Proposed Construction Years: 2014 and 2015

Item No	Description	Estimated Quantity	Unit	Unit Price	Total Cost
1	New Sanitary Sewer Pipe	2,310	LF	\$100	\$231,000
2	Manholes	9	EA	\$3,000	\$27,000
3	Pavement Removal & Replacement	8,167	SY	\$100	\$817,000
4	Extension of Existing Sewer to New Sewer	1,680	LF	\$80	\$134,000
5	Relocation of Other Utilities	1	LS	\$100,000	\$100,000
6	Sidewalks	20,000	SF	\$5	\$100,000
Total					\$1,409,000
Contingency (30%)					\$423,000
Construction Cost					\$1,832,000
Engineering (Design & Construction), Legal, Administrative Costs (20%)					\$366,000
Total Estimated Project Cost (Chicago Basin)					\$2,198,000
Adjusted for Inflation (7 years at 4%):					\$2,892,000

Total Preliminary Cost Sewer Separation**\$5,833,000****Total Cost Sewer Separation (Adjusted for Inflation)****\$7,137,000****Projected Sewer Separation Cost Summary**

City of Plattsmouth CSO

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FIGURE

Exhibit E



Projected Sewer Separation Cost Summary

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FIGURE

Exhibit F

Project #1: Downtown (~ 6 Blocks)

Total Estimated Project Cost (Downtown)

Adjusted for Inflation (3 years at 4%):

Proposed Construction Year:

2011

\$1,938,000

\$2,180,000

Project #2 and #3: Washington Basin (~ 6 Blocks)

Total Estimated Project Cost (Washington Basin)

Adjusted for Inflation (5 years at 4%):

Proposed Construction Years:

2012 and 2013

\$1,697,000

\$2,065,000

Project #4 and #5: Chicago Basin (~ 10 Blocks)

Total Estimated Project Cost (Chicago Basin)

Adjusted for Inflation (7 years at 4%):

Proposed Construction Years:

2014 and 2015

\$2,198,000

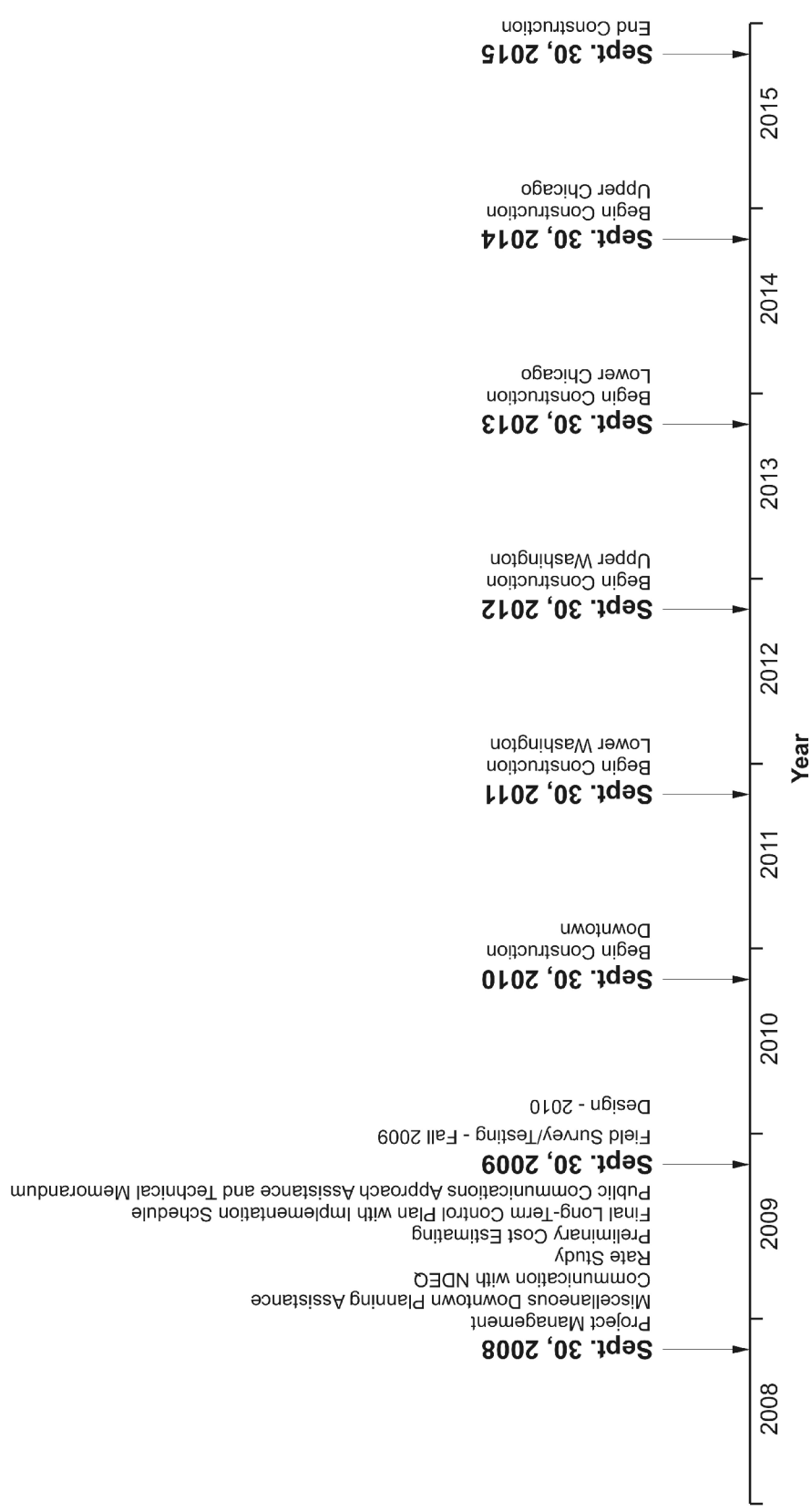
\$2,892,000

Total Preliminary Estimated Sewer Separation Cost

\$5,833,000

Total Estimated Sewer Separation Cost (Adjusted for Inflation)

\$7,137,000



Proposed LTCP Implementation Schedule

City of Plattsburgh CSO

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FIGURE

Exhibit G