



PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

Memorandum

DATE: 1/17/06

TO: Bruce K. Walden – Chief Administrative Officer

FROM: William R. Gray – Public Works Director
Bradley M. Bennett – Civil Engineer

RE: Race Street Storm Sewers Repairs

Introduction

The Engineering Division recommends rehabilitating two deteriorated storm sewers on Race Street south of Florida Avenue utilizing a cured-in-place lining system.

Background and Facts

The 24-inch and 30-inch storm sewers on Race Street were televised on September 28, 2005 by the Engineering Division. Both sewers on Race Street are in poor condition from Florida Avenue to Montclair Drive. See Figure 1. The Engineering Division estimates that about 80% of the pipe is cracked and some portions of the pipes have deformed from a circular cross section into an oval cross section. The two storm sewers are structurally failing and will eventually collapse possibly damaging the pavement on Race Street. The poor condition of the storm sewers could be responsible for some of the pavement failures along this section of Race Street. Pictures of the two deteriorated storm sewers are presented in Figure #2.

This storm sewer repair work is planned to occur prior to a concrete pavement patching project scheduled to begin in May 2006 to replace damaged pavement sections on Race Street located above these two deteriorated storm sewers.

Options and Consequences

There are two options to repair the two deteriorated storm sewers on Race Street. The first option is to rehabilitate the sewer using a cured-in-place sewer liner. This cured-in-place lining process relies on trenchless sewer reconstruction technology that does not involve time consuming, expensive and disruptive open excavations. Instead of digging up and replacing the old pipe, the cured-in-place process provides for the insertion of a

special lining inside the existing pipe. The new liner creates a watertight, smooth-surfaced, structurally sound, and long-lasting pipe within the existing sewer. The estimated cost of utilizing a cured-in-place sewer liner to rehabilitate the 24 and 30-inch storm sewers is \$210,000.

The second option is to replace the two deteriorated storm sewers on Race Street. The most cost effective replacement method would be to replace the two storm sewers with a single new 42-inch diameter storm sewer. The new 42-inch storm sewer would provide the same flow capacity as the existing 24-inch and 30-inch storm sewers. A significant amount of pavement replacement (in addition to the pavement patching project) would be required to replace the two deteriorated storm sewers with a new larger diameter storm sewer. The estimated cost to replace the existing 24 and 30-inch storm sewer with a new 42-inch storm is \$543,000.

The Engineering Division plans to rehabilitate the two deteriorated storm sewers on Race Street utilizing a cured-in-place liner system.

Fiscal Impact

The estimated cost to rehabilitate the two storm sewers on Race Street exceeds the funds available under the Miscellaneous Storm Sewer Repair Budget Line Item. It will be necessary to transfer funds from another Budget Line Item to fund the project.

There is \$134,896 available in the 2005-2006 Fiscal Year Miscellaneous Storm Sewer Repairs Budget Line Item. The Engineering Division has determined that \$100,000 from that budget line item could be committed to the deteriorated Race Street Storm Sewers. The remaining \$34,869 in the budget line would be utilized for miscellaneous storm sewer repairs around Urbana through the end of the fiscal year.

There is \$110,000 in remaining funds in the Stone Creek Bike Path Budget Line Item. The Stone Creek Bike Path Project is complete and no additional expenditures from this budget line item are anticipated.

Recommendations

It is recommended that a Budget Amendment Ordinance in the amount of \$110,000 be approved.

Attachments: Figure #1 – Drainage Boundary
 Figure #2 – Photos of Race Street Storm Sewer
 Budget Ordinance



LEGEND

- TRIBUTARY STORM SEWER
- 24" DIA STORM SEWER RECOMMENDED FOR LINING
- = 30" DIA STORM SEWER RECOMMENDED FOR LINING

SCALE 1" = 200'



CITY OF URBANA
ENGINEERING DIVISION

Design by: BMS
CAD By: NFR
Approved By: WRG

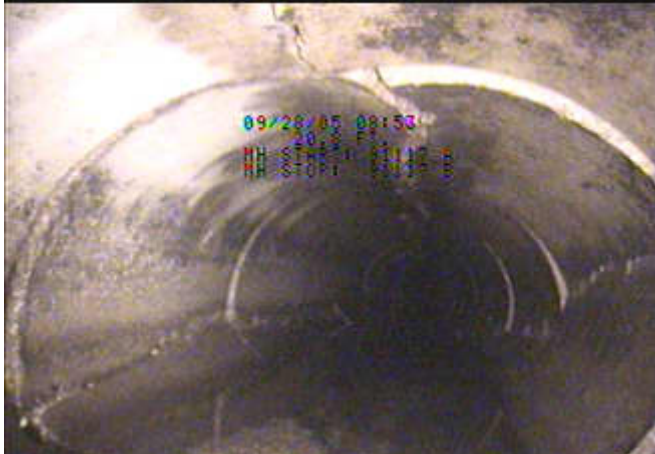
Date: 1/5/06

RACE STREET STORM SEWERS
DRAINAGE BOUNDARY

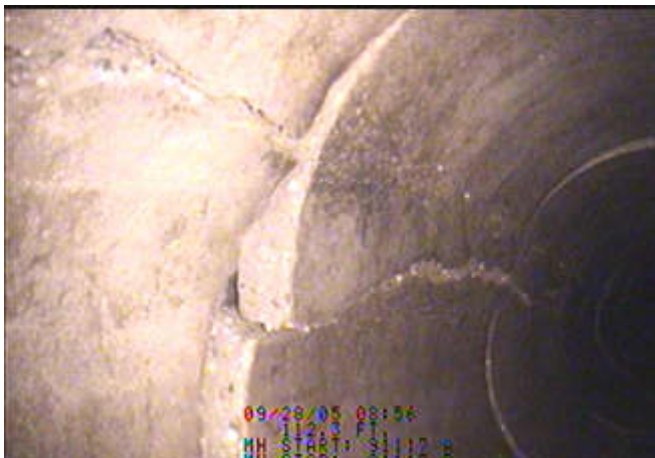
FIGURE #1

Sheet No.
1 of 1

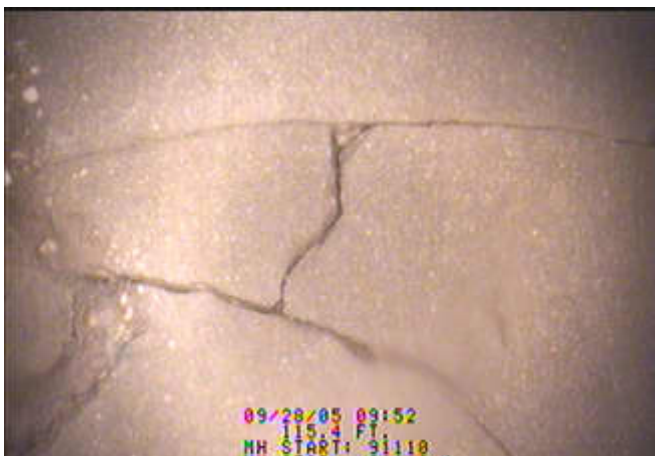
FIGURE #2 – PHOTOS OF DETERIORATED RACE STREET STORM SEWER



24-inch Storm Sewer on Race Street between Montclair and Meadow. Note extensive cracking and oval shape indicating structural failure.



24-inch Storm Sewer on Race Street between Montclair and Meadow. Close-up of split in pipe wall. Pipe is structurally failing.



30-inch Storm Sewer on Race Street north of Meadow. Close-up of crack in pipe wall. Pipe is structurally failing.

ORDINANCE NO. 2006-01-012

**AN ORDINANCE
REVISING THE ANNUAL BUDGET ORDINANCE
(Race St. Storm Sewer Repairs)**

WHEREAS, the Annual Budget Ordinance of and for the City of Urbana, Champaign County, Illinois, for the fiscal year beginning July 1, 2005, and ending June 30, 2006, (the "Annual Budget Ordinance") has been duly adopted according to sections 8-2-9.1 et seq. of the Illinois Municipal Code (the "Municipal Code") and Division 2, entitled "Budget", of Article VI, entitled "Finances and Purchases", of Chapter 2, entitled "Administration", of the Code of Ordinances, City of Urbana, Illinois (the "City Code"); and

WHEREAS, the City Council of the said City of Urbana finds it necessary to revise said Annual Budget Ordinance by deleting, adding to, changing or creating sub-classes within object classes and object classes themselves; and

WHEREAS, funds are available to effectuate the purpose of such revision; and

WHEREAS, such revision is not one that may be made by the Budget Director under the authority so delegated to the Budget Director pursuant to section 8-2-9.6 of the Municipal Code and section 2-133 of the City Code.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF URBANA, ILLINOIS, as follows:

Section 1. That the Annual Budget be and the same is hereby revised to provide as follows:

FUND:	Capital Improvement and Replacement	
ADD EXPENSE:	Race St. Storm Sewer Repairs	\$210,000
REDUCE EXPENSE:	Misc. Storm Sewer Repairs	\$100,000
REDUCE EXPENSE:	Stone Creek Bike Path Impr.	\$110,000

Section 2. This Ordinance shall be effective immediately upon passage and approval and shall not be published.

Section 3. This Ordinance is hereby passed by the affirmative vote of two-thirds of the members of the corporate authorities then holding office, the "ayes" and "nays" being called at a regular meeting of said Council.

PASSED by the City Council this _____ day of _____, _____.

AYES:

NAYS:

ABSTAINED:

Phyllis D. Clark, City Clerk

APPROVED by the Mayor this _____ day of _____, _____.

Laurel L. Prussing, Mayor