



**PUBLIC WORKS AND UTILITIES  
MEMORANDUM #08-11**

**DATE:** April 24, 2008  
**TO:** Honorable Mayor Kathleen M. Novak and City Council Members  
**FROM:** A.J. Krieger, City Manager   
David Allen, Director of Public Works and Utilities   
**SUBJECT:** CR-69 – Improvements to Lift Station A

**RECOMMENDATION:**

Attached to this memorandum is a Resolution which, if approved, would authorize the City Manager to include improvements to Lift Station A in an amount not to exceed \$15,000 as part of the City's 2008 capital improvement program. Staff recommends approval of the proposed Resolution.

**BACKGROUND:**

The City's wastewater collection system has over 100 miles of pipeline and nine wastewater lift stations. One of the most significant facilities in the collection system is Lift Station A, which is located near the intersection of 105th Avenue and Irma Drive. Over 95% of the City's wastewater passes through this facility before it is pumped to the City's Wastewater Treatment Facility in Weld County. Due to its critical nature, Lift Station A is equipped with several levels of redundancy.

One such feature includes an overflow structure with 400,000 gallons of storage capacity. In the event of a prolonged or extended duration outage, the City can redirect flows into the overflow structure through a pipeline located directly upstream of the wet well for the lift station. In order to use the bypass pipeline however, the water surface elevation of the flows entering the lift station must be increased by 2 to 3 feet above normal operating conditions. This subsequently results in a back-up of the collection system in the immediate vicinity surrounding Lift Station A. In most instances, the residential, commercial, and industrial customers in the area are not effected by the back-up.

On June 6, 2007, City field crews activated the bypass pipeline and redirected wastewater flows to the overflow structure in order to complete repairs on the pump units in Lift Station A. This work resulted in a three-hour shut-down of the lift station. No customers were impacted during the shut-down. As a precautionary measure, City laboratory staff collected and tested water samples from a nearby location that experiences a continuous discharge of groundwater into Grange Hall Creek. The testing results indicated that the groundwater was contaminated with untreated wastewater. The City then notified the Colorado Department of Public Health and Environment (CDPHE) of a potential spill and subsequently filed a spill report on June 7, 2007. Approximately one week after the incident, the quality of the groundwater returned to its normal levels.

The June 7, 2007 spill report to the CDPHE included the following planned actions to prevent the recurrence of a similar event in the future:

- Review television inspections of recently slip-lined sewer mains.
- Inspect and seal the manholes in the vicinity of Lift Station A.
- Construct minor modifications to the piping between Lift Station A and the overflow structure.

The City has already completed the first two activities and the minor piping modifications are scheduled for later this year. No apparent anomalies or noticeable problems were observed during the review of the television inspections. However, even with the successful completion of the planned actions above, the collection system still needs to be backed-up to bypass flows around Lift Station A. As such, it is difficult to assess if the problem has been fully corrected without conducting a field test which could result in another spill.

City staff recently identified another approach that would improve operational flexibility and potentially eliminate the need to back-up the collection system to activate the bypass. The proposed project, which includes the installation of two slide gates, would minimize spills of untreated wastewater into Grange Hall Creek as well as reduce safety hazards when repairs to the pumping equipment are required. One gate would be installed immediately upstream of the wet well and the other would be located at the beginning of the bypass line. To help minimize the cost of the improvements, City field crews would install the new slide gates and provide any other materials from the current operating budget. The estimated cost to purchase the two slide gates is approximately \$15,000.

While this project was not included in the City's 2008 Capital Improvement Program, staff is recommending the use of anticipated savings from the Bull Reservoir Pump Station project which will be completed this year. The approved budget for the Bull Reservoir Pump Station Replacement Project is \$100,000. Based on an estimated total project expenditure of \$82,583, approximately \$17,417 will be available to either fund other projects or remain unspent as part of the fund balance.

Since the funds for this project would come from potential savings from another project already included in the 2008 Capital Improvement budget, a supplemental appropriation is not required.

**BUDGET/TIME IMPLICATIONS:**

There is no impact to the General Fund. Anticipated savings from the Bull Reservoir Pump Replacement Project in the 2008 Capital Improvements Fund (account number 516.69272.000.3999.899) would be used to fund the purchase of the two slide gates.

**STAFF REFERENCE:**

If Council Members have any comments or questions, they may contact David Allen at (303) 450-8783 or [dallen@northglenn.org](mailto:dallen@northglenn.org).

SPONSORED BY: MAYOR NOVAK

COUNCILMAN'S RESOLUTION

RESOLUTION NO.

No. CR-69  
Series of 2008

\_\_\_\_\_  
Series of 2008

A RESOLUTION TO AMEND THE 2008-2013 CAPITAL IMPROVEMENT PROGRAM TO INCLUDE THE LIFT STATION A IMPROVEMENTS PROJECT

WHEREAS, improvements to Lift Station A have been identified to provide additional protection against wastewater spills into the Grange Hall Creek; and

WHEREAS, pursuant to Section 8.5 of the City of Northglenn Home Rule Charter, an amendment to the City's Capital Improvement Program is required.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO, THAT:

Section 1. The 2008-2013 Capital Improvement Program is hereby amended to include the Lift Station A Improvements Project as more particularly described in **Exhibit A**, attached hereto and incorporated by this reference.

DATED at Northglenn, Colorado, this \_\_\_\_ day of \_\_\_\_\_, 2008.

\_\_\_\_\_  
KATHLEEN M. NOVAK  
Mayor

ATTEST:

\_\_\_\_\_  
JOHANNA SMALL, CMC  
Acting City Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
COREY Y. HOFFMANN  
City Attorney

## Exhibit A

### City of Northglenn Public Works and Utilities Department

#### Proposed Addition to the 2008-2013 Capital Projects Program Improvements to Lift Station A

**Description:**

Purchase and install 2 slide gates to improve operations of the bypass line for Lift Station A. (See attached site plan.)

**Justification:**

The proposed project would minimize spills of untreated wastewater into Grange Hall Creek as well as reduce safety hazards during pumping equipment maintenance and repairs.

**Estimated Cost and Funding Source:**

\$15,000 (purchase materials) – 2008 Water and Sewer Capital Improvements Fund

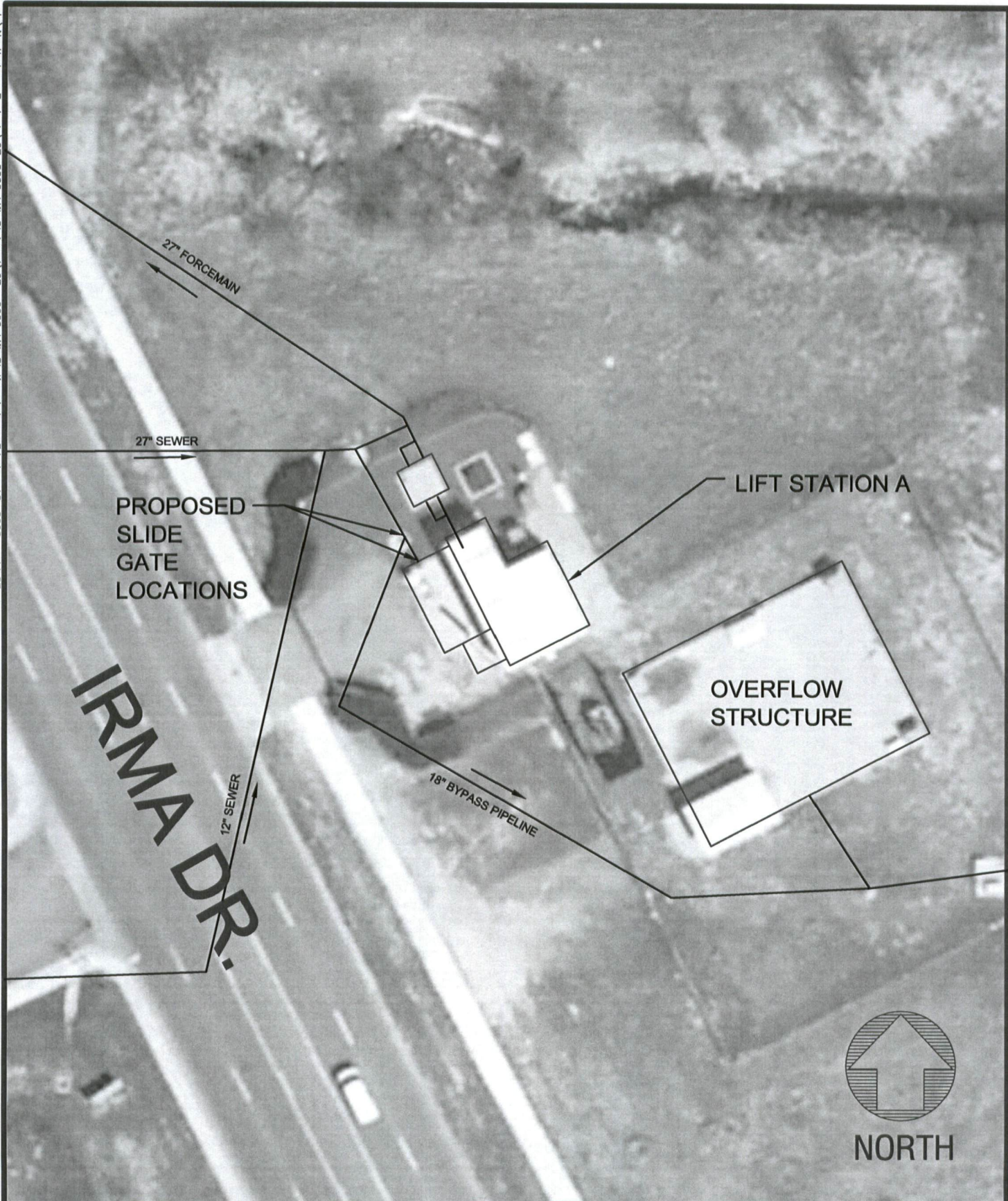
**Estimated Completion Date:**

December 2008

**Operations and Maintenance Impacts:**

Will improve operational flexibility. Limited maintenance needs other than periodic exercising of the gates.

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PROJECT #  
#####  
PROJECT ENGINEER:  
ALW  
DRAWN BY:  
JLT

SCALE: 1"=40'-0"  
Phone:  
303.450.8762  
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Northglenn, Colorado 80233-8061

SLIDE GATE INSTALL  
AT LIFT STATION A

SITE PLAN

EXHIBIT  
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