



**MEMORANDUM**

**To:** Kurt Triplett, City Manager

**From:** Dave Snider, P.E., Interim Capital Projects Manager  
 Ray Steiger, P.E., Interim Public Works Director

**Date:** March 3, 2011

**Subject:** I-405/NE 116<sup>th</sup> Street Interchange – Water System Improvements

RECOMMENDATION:

It is recommended that Council approve an increase in the amount of water/sewer reserve funding to pay for upgrades to the City's water system as part of a Washington State Department of Transportation Interchange Project.

BACKGROUND AND DISCUSSION:

At their meeting of November 16, 2010, Council authorized the City Manager to sign a Utility Construction Agreement (the Agreement) with the Washington State Department of Transportation (WSDOT) -- the Agreement is for "up-sizing" an existing City water main (installing a larger pipe) within the WSDOT project for their new interchange at I-405 and NE 116<sup>th</sup> Street (Attachment A). At that same meeting, Council authorized the use of City water/sewer reserve funds in the amount of \$68,000 to pay for the water system upgrades. These water system upgrades are identified in the City's comprehensive plan, but would not have been scheduled until much later. However construction concurrent with the interchange is in the water consumer and traveling public's interest as it allows us to combine the projects, install the pipe before a 75-100 year bridge is completed, and only impact the interchange once.

The original water system improvement cost of \$68,000 was based on the WSDOT's preliminary design and estimate for replacing 120 lineal feet of 12-inch water main with new 16-inch ductile iron pipe. However, as the final design was developed, 160 lineal feet of improvements were required due to changing grades and the need to tie into the existing system in slightly different locations. As a result of the increased quantity, and based on the overall bid accepted by the WSDOT for the larger Interchange improvement project, the final cost for the water system improvements is \$100,000. A breakdown of the project costs for the water system improvements is shown below and in Attachment B.

| <i>Item</i>              | <i>November 2010</i> | <i>March 2011</i> | <i>Difference</i> |
|--------------------------|----------------------|-------------------|-------------------|
| Construction Costs       | \$48,500             | \$78,500          | \$30,000          |
| 10% Contingency          | \$4,850              | \$7,850           | \$3,000           |
| WSDOT Construction Admin | \$14,650             | \$13,650          | (\$1,000)         |
| TOTAL                    | \$68,000             | \$100,000         | <b>\$32,000</b>   |

Increased costs to the City are the result of the increase in pipe quantity and a slightly higher than estimated unit price for the 16-inch pipe. An analysis of historical costs for water main construction (Attachment C) indicates that the unit price received by the WSDOT (\$520 per foot for 16-inch pipe) is higher than Kirkland's trend line.

However, Kirkland's trend line comparisons are for pipe constructed along a typical roadway. This watermain is partially suspended from the BNSF RR bridge and requires work slightly different than its "benchmark" such as hanging brackets, anchoring, and so forth. The unit

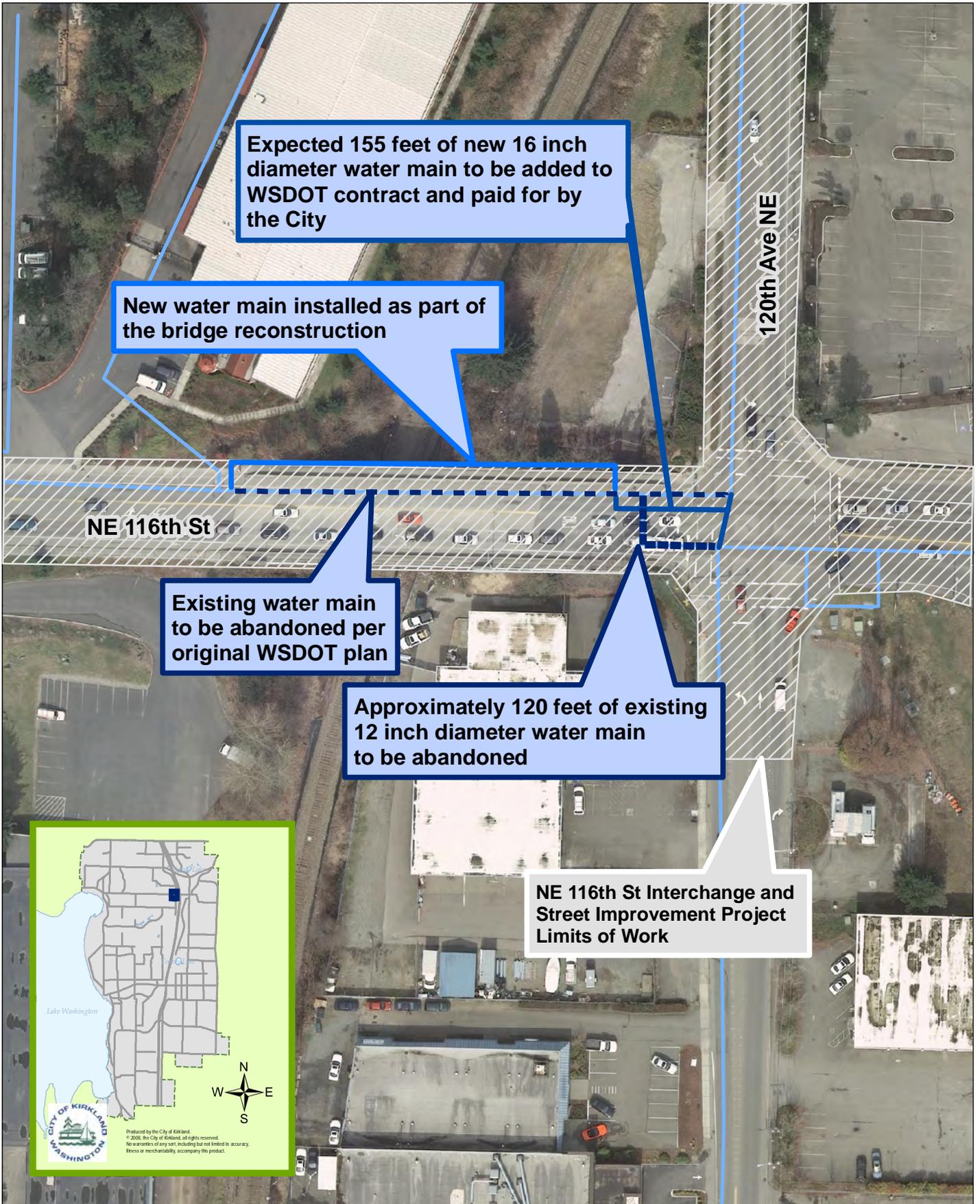
price is not just for the purchase of the pipe, it also includes staging, installation, and testing. With the proximity to this heavily used intersection, traffic control will be higher and having the WSDOT do the work concurrent with the road improvements allows them to manage traffic more effectively than Kirkland.

Therefore, due to the relatively small quantity of pipe, and the required coordination with other elements of the Interchange improvement, the unit prices are within expected values for large-diameter pipe installation work.

The Interchange improvements are expected to begin this spring and be complete within 2-years. As per the terms of the Agreement, Kirkland remains responsible for any unforeseen costs related to the water main construction and staff will keep Council informed of unforeseen costs, if any.

Attachments: (3)

NE 116th Street Interchange and Street Improvement Project  
Utility Construction Agreement  
Vicinity Map



**FISCAL NOTE**

CITY OF KIRKLAND

| Source of Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |                         |                             |                                  |                        |                             |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|-----------------------------|----------------------------------|------------------------|-----------------------------|----------------|
| Ray Steiger, Interim Public Work Director                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                      |                         |                             |                                  |                        |                             |                |
| Description of Request                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      |                         |                             |                                  |                        |                             |                |
| Request for additional funding of \$32,000 from the Water/Sewer Capital Reserve to cover expected costs from a utility construction agreement with the Washington State Department of Transportation (WSDOT) to upgrade the City's water system as part of the the WSDOT NE 116th Street Interchange and Street Improvement project. The Council previously approved use of this reserve in the amount of \$68,000 for this project in 2010. As a result, the revised total estimated project cost is \$100,000. |                                      |                         |                             |                                  |                        |                             |                |
| Legality/City Policy Basis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                      |                         |                             |                                  |                        |                             |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                      |                         |                             |                                  |                        |                             |                |
| Fiscal Impact                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |                         |                             |                                  |                        |                             |                |
| <b>One-time use of \$32,000 of the Water/Sewer Capital Reserve.</b> The reserve is able to fully fund this request.                                                                                                                                                                                                                                                                                                                                                                                              |                                      |                         |                             |                                  |                        |                             |                |
| Recommended Funding Source(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |                         |                             |                                  |                        |                             |                |
| <b>Reserve</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Description                          | 2012 Est<br>End Balance | Prior Auth.<br>2011-12 Uses | Prior Auth.<br>2011-12 Additions | Amount This<br>Request | Revised 2012<br>End Balance | 2012<br>Target |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Water/Sewer Capital Reserve          | 5,964,079               | 0                           | 0                                | 32,000                 | 5,932,079                   | N/A            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                      |                         |                             |                                  |                        |                             |                |
| <b>Revenue/Exp<br/>Savings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      |                         |                             |                                  |                        |                             |                |
| <b>Other Source</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                      |                         |                             |                                  |                        |                             |                |
| Other Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |                         |                             |                                  |                        |                             |                |
| The Utility Construction Reserve accounts for capital contributions from utility rates and connections charges and is used to fund capital projects. Capital replacement cycles require that reserves accumulate to pay for future replacement of infrastructure to supplement the use of debt. The liability against this reserve occurs in future years as capital replacement needs peak.                                                                                                                     |                                      |                         |                             |                                  |                        |                             |                |
| Prepared By                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Neil Kruse, Senior Financial Analyst |                         |                             |                                  | Date                   | March 3, 2011               |                |

### Watermain Replacement Construction Cost Comparison

