



**CITY OF KIRKLAND**  
**Department of Public Works**  
123 Fifth Avenue, Kirkland, WA 98033 425.587.3800  
www.ci.kirkland.wa.us

---

**MEMORANDUM**

**To:** David Ramsay, City Manager

**From:** Daryl Grigsby, Public Works Director  
Ray Steiger, P.E., Capital Projects Manager

**Date:** October 24, 2006

**Subject:** ASPHALT PAVING MACHINE – AUTHORIZE PURCHASE

RECOMMENDATION:

It is recommended that the City Council authorize the City's purchase of a paving machine that is currently under lease from Western Power and Equipment Corp. of Marysville, WA in the amount of \$93,155.17.

BACKGROUND AND DISCUSSION:

During their budget discussions in the fall of 2005, City Council reviewed and approved a Public Works proposal to utilize the 2006 construction season to explore the effectiveness of a City-owned asphalt paving machine. Upon adoption of the 2006 mid-biennial budget update, staff prepared and received bids for an asphalt paving machine based on specifications that would be compatible with the City's existing equipment and personnel.

On January 12, 2006, bids were opened. Three bids (four options) were submitted and are summarized as follows:

<b>Option</b>	<b>BIDDER</b>	<b>Monthly Rental Rate</b>	<b>Purchase Price at six-months</b>	<b>Total Option (6 mo rent + purchase)</b>
1A	Western Paver & Equipment	6,238.75	93,155.17	130,587.67
1B	Western Paver & Equipment	6,238.75	68,484.98	105,917.48
2	Ingersoll-Rand Equipment Service	9,248.00	64,823.04	120,311.04
3	N.C. Machinery	14,000.00	225,411.84	309,411.84

Based on the performance and features provided in each of the bids, in consideration of the funding that was available, Council approved Option 1A at their February 7, 2006 meeting. Option 1A provided a relatively new feature that allowed the paving operations to span a 15 foot width vs. 13 feet for the other options; it was decided that this option would provide the greatest future flexibility for a relatively modest increase in the cost. Funding for lease of the paver comes from the 2006 street preservation program (annual overlay). As requested at the February 7<sup>th</sup> meeting, staff has tracked the production using the piece of equipment, and through the course of the construction season, has also identified other valuable opportunities for the paver besides increased productivity.

As anticipated, the paver has increased the street crew's production rates using similar crew sizes in preparation of the annual overlay program. One example of increased production was the patching associated with the recent overlay of 7<sup>th</sup>

Memorandum to David Ramsay

October 24, 2006

Page 2 of 2

Ave in Norkirk – during one day of patching, a three person crew installed 115 tons of asphalt; the largest previous paving operation with a crew of that size was less than 35 tons. Other benefits include, improved finish/durability on projects previously done by hand with City forces, ability to undertake smaller paving operations such as the asphalt paving associated with the North Rose Hill Woodlands Park project, and the upcoming paving of the 122<sup>nd</sup> Ave pathway in South Rose Hill. The improved efficiency of City maintenance operations will, over the anticipated 10 year life of the equipment, improve the street network overall pavement condition index (PCI) and lower the deferred system maintenance for the City street network when compared to a scenario without the equipment (Attachment A).

This chart illustrates how funds that are being diverted to the purchase of the paver in year one (2006), cause the overall PCI to fall below a scenario where all budgeted funds are used in the preservation program (67 PCI vs. 68 PCI). This PCI trend is reversed, however, in subsequent years to the point where at the end of the analysis period the PCI has improved to 70 vs. 69. The other important measure of the street system's health is to compare the level of deferred maintenance at the end of the analysis period – in this case, the purchase scenario reduces the costs by nearly one million dollars (\$24 million vs. approx \$23 million).

Staff recommends purchasing this piece of equipment using funds allocated to the annual street preservation program.

Cc: John Hopfauf, Street Manager  
Mark Berntsen, Lead – Street Division

### Bomag Delivers Powerful Paving for City of Kirkland



The City of Kirkland, Washington is located on Lake Washington near Seattle. The city is situated in a valley, and the terrain aggressively climbs from there.

This picture illustrates just how powerful the new Cummins B3.3T engine is, delivering 85 horsepower, with 215 foot-pounds of output torque. The new Bomag 815-2 is shown paving 14 feet wide, and 2 1/2 inches thick while pushing a tandem axle truck full of asphalt up an incline in excess of 6% grade. The smoke in the picture is from the very hot asphalt being placed.

The City had always performed their street maintenance with a tow behind style paver. They have recently hired experienced paving operators and purchased a new Bomag 815-2 to do larger projects rather than sub-contract the maintenance work to outside contractors.

Congratulations to Western Power Salesman Ron Olsson, Chuck Blanton, Manager of Western Power & Equipment and Ray Erickson, Bomag Asphalt Specialist for this Bomag Success Story.



### Impact of Paver on City Street System

