

**FINANCE AND CIVIC DEVELOPMENT COMMITTEE**

*HIS WORSHIP, THE MAYOR  
AND COUNCILLORS*

**SUBJECT: METRO VANCOUVER DISTRICT HEATING PROPOSAL**

**RECOMMENDATIONS:**

1. THAT Council authorize staff to develop a memorandum of understanding with Metro Vancouver, City of Vancouver and Parklane Homes/Wesgroup for a district heating proposal through Burnaby's Big Bend area, as outlined in this report.
2. THAT copies of this report be forwarded to the Environment Committee, Metro Vancouver, the City of Vancouver and Parklane Homes for information.

**REPORT**

The Finance and Civic Development Committee, at its meeting held on 2011 January 27, received and adopted the *attached* report seeking Council's authorization to develop a Memorandum of Understanding with Metro Vancouver, City of Vancouver and Parklane Homes/Wesgroup for a district heating pipeline alignment within City road right-of-way.

Respectfully submitted,

Councillor D. Johnston  
Chair

Councillor N. Volkow  
Vice Chair

Councillor C. Jordan  
Member

Copied to:	City Manager Deputy City Managers (2) Director Planning & Building Director Engineering Director Finance Director Parks, Recr. & Cult. Services City Solicitor
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**TO:** CHAIR AND MEMBERS  
FINANCE AND CIVIC DEVELOPMENT  
COMMITTEE

**DATE:** 2011 January 20

**FROM:** DIRECTOR PLANNING AND BUILDING  
DIRECTOR ENGINEERING

**SUBJECT: METRO VANCOUVER DISTRICT HEATING PROPOSAL**

**PURPOSE:** To seek Council authorization to develop a Memorandum of Understanding with Metro Vancouver, City of Vancouver and Parklane Homes/Wesgroup for a district heating proposal through the City of Burnaby connecting to the East Fraser Lands in Vancouver.

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**RECOMMENDATIONS:**

1. **THAT** Council be requested to authorize staff to develop a memorandum of understanding with Metro Vancouver, City of Vancouver and Parklane Homes/Wesgroup for a district heating proposal through Burnaby's Big Bend area , as outlined in this report.
2. **THAT** following Council adoption this report, copies be forwarded to the Environment Committee, Metro Vancouver, the City of Vancouver and Parklane Homes for information.

**REPORT****1.0 BACKGROUND**

The City has been approached by Metro Vancouver and Parklane Homes/Wesgroup to establish a district heating proposal through the Big Bend Development Plan area extending from the Metro Vancouver Waste to Energy Facility at 5150 Riverbend Drive in Burnaby to the proposed East Fraser Lands Development in Vancouver at Boundary Road and Marine Way.

The Metro Vancouver Waste to Energy Facility was constructed in 1988 to provide for the disposal of a portion of the Region's municipal garbage. The facility also includes provisions to recover and re-use heat energy produced by the incineration process by way of steam and electricity production. The facility currently processes approximately 280,000 tonnes of garbage per year and produces approximately 132 Gigawatt hours (GWh) of electricity and approximately 940,000 tonnes of steam. The electricity produced is returned to the BC Hydro transmission line grid via an electrical sub-station constructed on site. A portion (approximately 22%) of the steam produced is used by the adjacent Norampac paper recycling facility at 8255

To: Finance and Civic Development Committee  
From: Director Planning and Building and  
Director Engineering  
Re: Metro Vancouver District Heating Proposal  
2011 January 20..... Page 2

Riverbend Drive. The Waste to Energy facility currently produces further excess steam and heat, which can be recovered for re-use toward a district heating application.

This report presents a proposal being advanced by Metro Vancouver, City of Vancouver and Parklane Homes/Wesgroup for a district heating system extending from the Waste to Energy Facility in Burnaby to a residential development area in Vancouver at Boundary and Marine Way. As the proposal involves the accommodation of a district heating pipeline within City road right-of-way, and the potential provision of the district heating utility service to businesses in the Big Bend area, Council authorization is being sought to develop a memorandum of understanding between the City of Burnaby and Metro Vancouver, City of Vancouver and Parklane Homes/Wesgroup.

**2.0 THE PROPOSAL**

**2.1 East Fraser Lands Development Plan**

The City of Vancouver has adopted the East Fraser Lands Development Plan for the redevelopment of approximately 52 Ha (126 Ac) of industrial lands between Kerr Street, Boundary Road, Marine Way and the Fraser River. The plan calls for the phased development of a mixed-use medium to high density residential community with approximately 6,500 residential units and 48,250 m<sup>2</sup> (519,375 sq.ft.) of commercial retail, office and flex space. The developer, Parklane Homes/Wesgroup, is pursuing development of a Neighbourhood Energy Utility (NEU) district heating system for the community with the preferred use of the excess heat being generated from the Waste to Energy Facility to meet base heating loads. The utility (NEU) is anticipated to be owned and operated by the private utility provider in future.

**2.2 District Heating System**

The proposed district heating system would capture heat at the Metro Vancouver Waste to Energy Facility and deliver it to the residential development in Vancouver via an underground pipeline. The pipeline includes a supply line and return line that are commonly 33 cm in diameter (25 cm diameter pipes with an additional 8 cm of insulation), one supply line and one return line. The heat would be delivered to the residential development by re-circulated water in the pipeline. Within the development site, a heat exchange station would deliver heat to individual buildings in the developing neighbourhood. The pipeline and related facilities within the residential development would be constructed and owned by the NEU being pursued by the developer. Metro Vancouver would be responsible for the equipment and the delivery of heat at the required temperature to the pipeline system within Waste to Energy Facility with the costs being borne by the NEU for capital works and for the value of the heat being delivered.

The proposed alignment for the pipeline is to follow Burnaby road rights-of-way including the North Fraser Way, Wiggins Street and Riverbend Drive roadways to Boundary Road (see attached sketch). This would make the service potentially available to a portion of existing and future industrial businesses in the Big Bend Area located along the alignment. Further, Burnaby's partnership in the district heating proposal through the Big Bend would contribute to

To: Finance and Civic Development Committee  
From: Director Planning and Building and  
Director Engineering  
Re: Metro Vancouver District Heating Proposal  
2011 January 20..... Page 3

Burnaby's commitment toward reducing Greenhouse Gas emissions through reduced Hydro and Gas consumption for individual properties, as well as assist in realizing the full potential of the Metro Vancouver Waste to Energy Facility to not only produce electricity, but excess steam for such a district heating application.

### **2.3 Burnaby Utility Access Agreement**

Utility companies which seek to locate utilities within City road right-of-way are required to execute a City standard Utility Access Agreement. This would also apply to the NEU seeking to develop the subject district heating system. The Agreement, administered through the City's Engineering Department, requires the utility provider to rehabilitate the roadway to its existing standard after installation, repair and maintenance of the utility. Security is taken by the City to provide for this work should a utility provider not complete the required works to City standards. The utility remains responsible for the pipeline and any necessary repairs to the City's roadways. The City of Burnaby would not be responsible for any of the costs associated with the installation, maintenance or associated works related to the pipeline or the overall district heating utility.

### **2.4 Memorandum of Understanding**

Staff are proposing to develop a Memorandum of Understanding (MOU) with Metro Vancouver, Parklane Homes/Wesgroup and the City of Vancouver. The purpose of the MOU is to establish the basic terms of the Utility Access Agreement, outlined above, and to ensure that the pipeline and access to the District Heating System service is also designed to accommodate a portion of the properties that are located along the alignment within Burnaby, with the private utility provider and property owners responsible for installing future connections. The MOU would also provide the Parklane Homes/Wesgroup with the necessary certainty as to the alignment and access to City road right-of-way to undertake the necessary feasibility and design work for the proposed District Heating pipeline and related systems.

The basis terms of the MOU to be captured in the Burnaby Utility Access Agreement would include:

- specifying the alignment of the proposed pipeline within Burnaby road rights-of-way, including Riverbend Drive, Wiggins Street and North Fraser Way.
- establishing repair and maintenance responsibilities and costs for the NEU for the alignment of the pipeline within the City's road right-of-way.
- ensuring that the design of the system in terms of the pipeline and equipment within the Waste to Energy Facility takes into account the opportunity of the Neighbourhood Energy Utility to serve a portion of existing and future Burnaby businesses along the alignment.
- ensuring that a portion of existing and future developments along the alignment in Burnaby would be permitted to access service (heat) from the Neighbourhood Energy Utility at pre-established rates.

To: Finance and Civic Development Committee  
From: Director Planning and Building and  
Director Engineering  
Re: Metro Vancouver District Heating Proposal  
2011 January 20.....Page 4

### 3.0 CONCLUSION

The City has been approached by Metro Vancouver and Parklane Homes/Wesgroup to seek approval to use the North Fraser Way Road Right-of-Way as the preferred alignment for a district heating pipeline to establish a Neighbourhood Energy Utility (NEU) connecting the Metro Vancouver Waste to Energy Facility at 5150 Riverbend Drive to the proposed East Fraser Lands Development at Boundary Road and Marine Way.

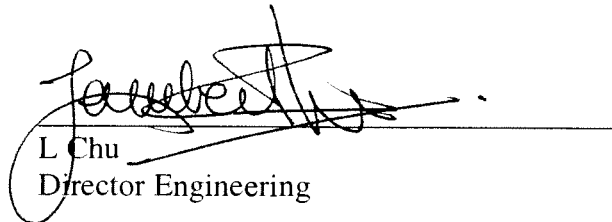
Staff are in support of the pursuance of the NEU for district heating as it would also have the potential to serve development properties within the City's the Big Bend Development Plan Area. The proposed MOU and Utility Access Agreement will ensure that this potential is provided for and that the NEU would be responsible for any costs associated with the utility and the installation, maintenance, and repair of the pipeline and related connections for Neighbourhood Energy Utility.

The proposed East Fraser Lands Development provides the required number of immediate and future connections, over the next 25-30 years, to make the district heating utility through the Big Bend feasible in the near to medium term. The NEU has the potential to deliver benefits to Burnaby, both environmentally in terms of reduced energy consumption and Greenhouse Gas (GHG) reductions, as well as improved access to services for a number of existing and new developments along the proposed alignment in Burnaby's Big Bend area.

It is recommended that staff be authorized to develop a MOU for this project with Metro Vancouver, Parklane Homes/Wesgroup and the City of Vancouver, as outlined above with the understanding that a further report would be submitted to Committee and Council on the terms of the MOU. On conclusion, the terms of the MOU will form part of the required Burnaby Utility Access Agreement.



B. Luksun, Director  
Planning and Building

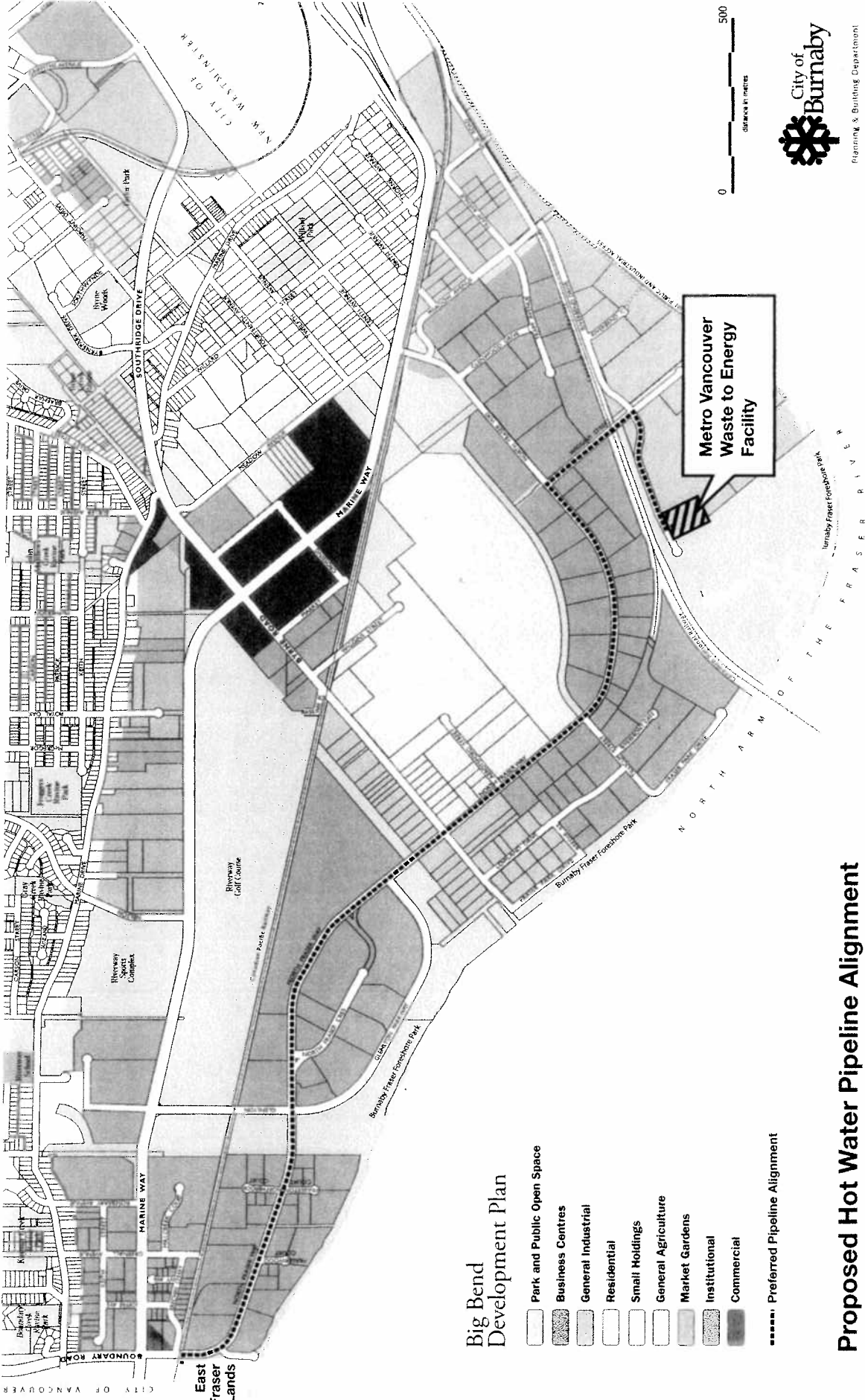


L. Chu  
Director Engineering

JBS:tn

#### **Attachment**

cc: City Manager  
Deputy City Managers  
Director of Finance  
Director Parks, Recreation and Cultural Facilities  
City Solicitor



### Big Bend Development Plan

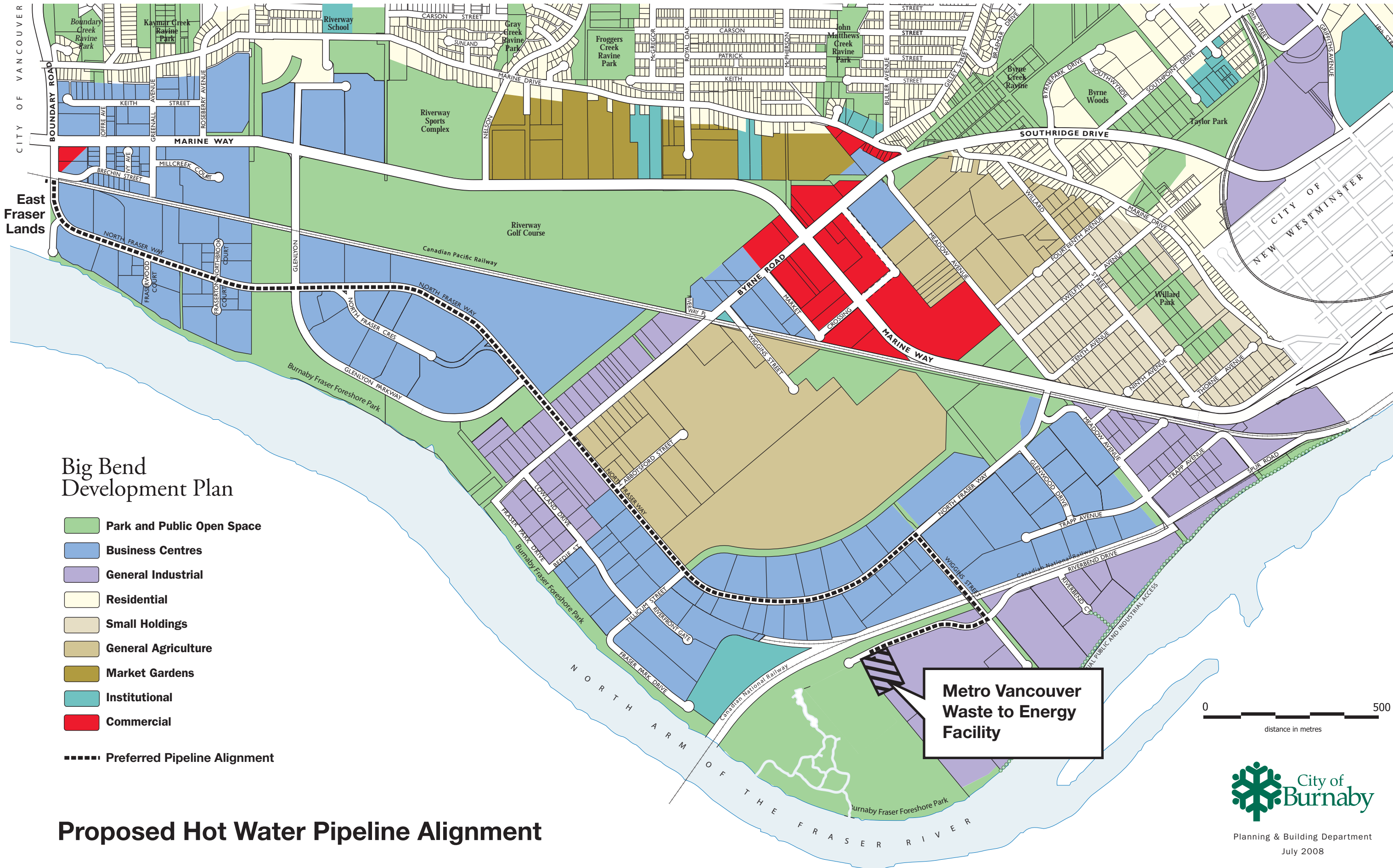
- Park and Public Open Space
- Business Centres
- General Industrial
- Residential
- Small Holdings
- General Agriculture
- Market Gardens
- Institutional
- Commercial
- Preferred Pipeline Alignment

### Proposed Hot Water Pipeline Alignment



City of Burnaby  
 Planning & Building Department  
 July 2004





## Big Bend Development Plan

- Park and Public Open Space
- Business Centres
- General Industrial
- Residential
- Small Holdings
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- Market Gardens
- Institutional
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- Preferred Pipeline Alignment

## Proposed Hot Water Pipeline Alignment

**Metro Vancouver  
Waste to Energy  
Facility**



Planning & Building Department  
July 2008