
COMMUNITY DEVELOPMENT COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

SUBJECT: PROPOSED WATER PUMP STATION AT 1255 DUTHIE AVENUE

RECOMMENDATIONS:

1. THAT Council approve the refined proposal for a water pump station at 1255 Duthie Avenue be advanced for further public input at a future Public Hearing, as outlined in this report.
2. THAT a copy of this report be sent to the property owners and residents within the consultation area (see *attached* Sketch #1), and to those who made submissions to the open house process.

REPORT

The Community Development Committee, at its meeting held on 2010 December 14, received and adopted the *attached* report presenting the results of the neighbourhood consultation process regarding the proposed City water pump station development at 1255 Duthie Avenue.

Respectfully submitted,

Councillor C. Jordan
Chair

Councillor D. Johnston
Vice Chair

Councillor P. Calendino
Member

Copied to: City Manager Deputy City Managers Director Engineering Director Planning and Building Director Finance Director Parks, Recreation and Cultural Services City Solicitor
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TO: CHAIR AND MEMBERS
COMMUNITY DEVELOPMENT
COMMITTEE

DATE: 2010 December 09

FROM: DIRECTOR PLANNING AND BUILDING

FILE: 49500 02
Reference: Rez. #09-10

SUBJECT: PROPOSED WATER PUMP STATION AT 1255 DUTHIE AVENUE

PURPOSE: To present the results of the neighbourhood consultation process regarding the proposed City water pump station development at 1255 Duthie Avenue.

RECOMMENDATIONS:

1. **THAT** the refined proposal for a water pump station at 1255 Duthie Avenue be advanced for further public input as outlined in this report.
2. **THAT** a copy of this report be sent to the property owners and residents within the consultation area (see attached Sketch #1), and to those who made submissions to the open house process.

REPORT**1.0 INTRODUCTION**

The City is responsible for the delivery of municipal services, including the provision of reliable water service to ensure public health and fire safety. As such, the development and maintenance of water infrastructure, including water pump stations, is an important component of ensuring reliable water service to the City. The existing water pump station at Curtis Street and Duthie Avenue, which was constructed in the 1970s, provides water service to approximately 900 households within the Curtis-Duthie and Pandora water zone.

In 2008, the Engineering Department retained the consulting firm Kerr Wood Leidal Associates Ltd. to evaluate the service and condition of the existing water pump station at Curtis Street and Duthie Avenue to meet the existing and future needs of the community, as well as improve service for the Burnaby Mountain community by providing a back-up water source. The results of that review determined that the subject water pump station is approaching the end of its reliable water service and needs to be replaced. In early 2009, the Engineering Department approached the Planning and Building Department regarding the development of a new water pump station to replace the existing Curtis-Duthie water pump station on a vacant City-owned lot located in proximity to the North Burnaby Metro-Vancouver water distribution main. Staff conducted a detailed review of potential City-owned sites, based on the above noted criteria and

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 2

determined that the location at 1255 Duthie Avenue was the preferred site for the proposed water pump station.

In recognition that the aging and undersized Curtis-Duthie water pump station and related equipment needs to be replaced to meet future needs, the City initiated an application, Rezoning Reference #09-10, to rezone the subject City-owned property at 1255 Duthie Avenue from the R4 Residential District to the CD Comprehensive Development District, using the P2 Administration and Assembly District and P3 Parks and Public Use Districts as guidelines, in order to permit the development of a new water pump station to replace the existing Curtis-Duthie pump station, and to bring the zoning of the subject property into conformance with its existing open green space/urban trail park use (see attached Sketch #1).

On 2009 June 01, Council authorized the Planning and Building Department to work towards the preparation of a suitable plan of development for presentation to a Public Hearing on the understanding that a more detailed report would be submitted at a later date. As part of the advancement of the rezoning application, Council also directed that staff undertake a neighbourhood open house consultation process on the design of the station prior to finalizing the suitable plan of development for presentation at a Public Hearing.

This report presents staff responses to the primary issues of concern raised by residents participating in the neighbourhood open house consultation process, and recommends that a refined proposal for the pump station be advanced for further public input at a future Public Hearing.

2.0 PROPOSED SUITABLE PLAN OF DEVELOPMENT

2.1 The development of the proposed water pump station entails a 242 m² (2,605 sq. ft.) one-storey building to house the pump station, which has been designed by the architectural firm *Dialog*. As noted, this station is to replace an existing pump station located underground at Curtis Street and Duthie Avenue which is approaching the end of its reliable service life. The design of the station was advanced to integrate with the park site and surrounding residential neighbourhood. Key design elements include:

- siting of the proposed station with a minimum front, side and rear yard setback of 6.0 m (19.69 ft.), as well as a minimum 3.0 m (9.8 ft.) setback from the urban trail;
- a front exterior for the building that incorporates wood siding and a sloping roof, in line with the character and scale of the surrounding residential neighbourhood;
- a rear exterior of the building with concrete siding, as well as a green roof;
- pump, electrical, and generator rooms - all of which have been designed with features to mitigate noise impacts of the station on the surrounding neighbourhood;
- provision of two on-site parking spaces for City operations staff servicing the building with driveway access via Aldrin Place;

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 3

- an interpretive water flow meter feature located on the east building face, to inform park and urban trail users of the function of the building and the water flow rate to the reservoir;
- retention of large trees and planting of additional vegetation and landscaping to integrate the station within the park site;
- development of the urban trail plaza feature within the site which includes a rain garden, waterworks interpretive feature, water fountain (existing), benches, bike racks, and information kiosk; and
- consideration of Crime Prevention through Environmental Design (CPTED) matters through building-orientation and placement of lighting and landscaping.

2.2 The proposed water pump station is principally operated by electricity. There is also a diesel back-up generator in event that there is a power outage. The electrical pump will fill the Curtis water reservoir, which is located north of Burnaby Mountain Parkway within the Burnaby Mountain Conservation Area, on a daily basis via an underground watermain. In normal operations, noise from the electrical pump will be below detectable levels. The proposed water pump station will be accessed by City operations staff on a daily basis for approximately one hour per day for inspection and maintenance of the equipment and building.

On a monthly basis, the back-up generator would be tested for a period of one hour during weekday working hours. The proposed building is designed with high-grade mufflers, bafflers and building partitions to mitigate noise generated by the back-up generator when it is in operation. Noise levels will be within levels permitted under the Burnaby Noise or Sound Abatement Bylaw (55 DBAs), and will dissipate into the ambient traffic noise levels on Duthie Avenue. A fuel truck will also access the station three times a year during weekday hours to refuel the generator.

3.0 NEIGHBOURHOOD OPEN HOUSE CONSULTATION PROCESS

Prior to the finalization of the suitable plan of development for the proposed water pump station, staff initiated the Council directed neighbourhood open house consultation process. A brochure summarizing the rezoning application (Rezoning Reference #09-10) for the proposed development of a new water pump station, as well as its design, operations and relation to the proposed urban trail plaza feature, was mailed to property owners and residents of the surrounding residential neighbourhood within a 30 m radius of the subject property (see *attached* Sketch #1). The brochure also included a site plan and elevation drawings of the proposed water pump station.

In total, the brochure was mailed to 29 property owners and residents. The brochure invited property owners and residents to attend an Open House held on 2010 November 04 at Montecito Elementary School - Library, 2176 Duthie Avenue. The Open House presented the plan of development for the proposed water pump station.

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 4

The proposed plan of development was also available at the Planning and Building Department for review ten business working days prior to the Open House date.

A total of 19 people attended the Open House event, in which all but one attendee were residents and/or property owners within the mail-out area; one person visited the Planning and Building Department; and three people provided written comment. A total of 23 residents and owners in the area provided responses to the proposed development through the consultation process.

4.0 SUMMARY OF ISSUES RAISED AND RESPONSES

4.1 Of the 23 responses received, two responses were in favour of the proposed development. The majority of the respondents expressed concerns and/or non-support for the development of the proposed water pump station at the subject site at 1255 Duthie Avenue. The following summarizes the comments received from the majority of the respondents, and presents a staff response to the key issues raised.

4.2 Need for the Proposed Infrastructure

Public Comment: Some residents indicated that the reliability and quality of water service within their neighbourhood is adequate, and that new infrastructure (water pump station) is not necessary.

Staff Response: The provision of water is an essential service to residents and businesses within Burnaby to meet their day-to-day needs, as well as ensure fire safety. The existing water pump station at Curtis Street and Duthie Avenue, which serves the Curtis-Duthie and Pandora water zones, provides water service to approximately 900 households which include the households within the neighbourhood consultation area. As previously indicated in this report, it has been identified that the existing water pump station which provides water service to these water zones is approaching the end of its reliable service life and needs to be replaced. Also, it has been identified that the Burnaby Mountain community (which is principally served by the Kingsgate Water Pump Station) needs to secure a secondary water source in event of an emergency (i.e. fire) or temporary loss of water service from its primary source (i.e. repairs and maintenance). The proposed station would provide for the new infrastructure needed to serve the Curtis-Duthie and Pandora water zones, as well as the Burnaby Mountain community.

Water pump stations are a necessary infrastructure asset to ensure the provision of reliable water service to the area it serves to meet the day-to-day needs of residents and to ensure fire safety. Given that the existing water pump station for the Curtis-Duthie and Pandora water zones is approaching the end of its reliable water service life, and the need to secure a secondary water source for the Burnaby Mountain community, the development of a new water pump station within the area bounded by Curtis Street, Cliff Avenue, Halifax Street and Burnwood Drive/Phillips Avenue is an important City priority.

4.3 Potential Noise Impacts

Public Comment: Residents expressed concern that the proposed water pump station would pose noise impacts for the neighbourhood.

Staff Response: As indicated in this report, the proposed water pump station has been designed with high-grade mufflers, bafflers, building partitions, and other noise attenuation features to mitigate noise impacts from the electrical pump and the diesel-fuel back-up generator within the station.

The normal daily operations of the water pump station would be below detectable levels (less than 45 DBAs). As previously noted, on a monthly basis, staff will test the back-up generator for one hour during weekday working hours. Noise emitted by the station when the emergency generator is in operation will not exceed 55 DBAs, which is within the level of noise permitted under the Burnaby Sound or Noise Abatement Bylaw, and dissipates into the ambient traffic noise along Duthie Avenue. A fuel truck will access the station 3 times a year during week day hours to refuel the back-up generator. There is some noise that will be related to the activities of the refueling truck, however, this is of a short duration, and would be similar to noise experienced in the normal re-fueling in residences with oil fired home furnaces.

In summary, in terms of normal operations, the station will operate below detectable levels. When use of the emergency back-up generator is required, noise from this activity would be mitigated by the design features of the station to bring it to a level permitted under the Burnaby Noise or Sound Abatement Bylaw.

4.4 Traffic on Aldrin Place

Public Comment: Residents expressed concern that the development of the water pump station will increase traffic along Aldrin Place, posing vehicular and pedestrian traffic safety issues.

Staff Response: The anticipated change in local traffic volumes on Aldrin Place is extremely limited. The station is expected, on average, to only be accessed by one or two City staff passenger vehicles once each weekday. The proposed design provides for an on-site parking area for the City vehicles. The installation of a light standard at the subject cul-de-sac bulb is also proposed to provide additional lighting to ensure vehicular and pedestrian safety.

4.5 Public Safety, Vandalism and Loitering

Public Comment: Residents indicate that there have been incidences of graffiti and vandalism to existing signage and furniture within the park site (i.e. burned garbage cans, gratified park benches, etc.). There is a concern that the design of the proposed water

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 6

pump station, and urban trail plaza feature, will encourage increased incidences of loitering and vandalism (including graffiti) within the park and surrounding area.

Staff Response: Subsequent to the Neighbourhood Open House, the development proposal was submitted to the Crime Prevention through Environmental Design (CPTED) Review Committee, which includes representation from the RCMP, to review the design of the physical space and identify areas in which opportunities for crime or fear of crime could be reduced, including loitering, vandalism and other criminal activities. The Committee recommended some improvements to the pump station design which can be incorporated in a finalized plan for the development. These improvements include:

- provision of lighting at building access points and pedestrian walkways;
- installation of an additional light standard at the Aldrin Place cul-de-sac bulb; and
- removal of trees clusters within the subject site, and use of appropriate ground level landscaping (i.e. shrubs and ground cover vegetation).

Arising from suggestions received from residents at the 2010 November 04 Open House, other safety measures which are also proposed for incorporation into the design include the installation of an ornamental gate at the entrance of the proposed driveway access to 1255 Duthie Avenue.

With regard to concerns related to graffiti and vandalism of outdoor furniture, the proposed station will be coated with a material which will prevent spray paint from adhering to the surface. The proposed outdoor furniture for the urban trail plaza feature would also be designed to discourage graffiti.

With regard to the construction of the urban trail plaza feature, the CPTED Committee is generally in support of its design, and as recommended additional pedestrian lighting is proposed to be provided within this area.

Staff have also advised residents at the Open House that they should currently and in future contact the R.C.M.P directly to address incidences of loitering, vandalism and other criminal activities within the park site.

4.6 Potential Disruptions During Construction

Public Comment: Some concerns were expressed regarding the disruption the construction phase of development would pose to the surrounding residential neighbourhood.

Staff Response: The construction of the proposed water pump station is estimated to require a 6 month period to complete. During that time, some adjacent residential properties may experience unavoidable impacts of construction noise and access to the site. As part of the contract for construction, staff would ensure that the contractor is

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 7

aware of the residential setting of this site, and of the requirement to be in compliance with all relevant Bylaws and regulations, including the Burnaby Noise or Sound Abatement Bylaw.

4.7 Potential Impact on Market Value Residential Properties

Public Comment: Some concerns were expressed regarding a potential decrease in market value of residential properties due to the impact of the proposed adjacent water pump station, given the above grade design.

Response: The Legal and Lands Department have reviewed the proposed development and have concluded that there is no evidence that the water pump station would have an impact on the market value of adjacent residential properties as any potential impacts which would be deemed as a nuisance (i.e. noise) have been adequately addressed or mitigated. Staff are proposing that additional landscaping along the south property line, such as continuous cedar hedging, be provided to further mitigate potential visual impacts to the neighbouring properties at 1330 Aldrin Place and 1331 Duthie Avenue. Staff are also proposing the installation of an ornamental gate at the entrance of the proposed driveway access to 1255 Duthie Avenue to deter loitering within the site.

4.8 Site Selection Process

Public Comment: A number of concerns were raised regarding the suitability of the subject property at 1255 Duthie Avenue for the development of the proposed pump station. Specific queries included the site selection process and alternative site options.

Staff Response: Staff conducted a detailed review of potential City-owned sites for the location of the proposed water pump station based on the criteria that the station is located in proximity to the North Burnaby Metro-Vancouver water distribution main to ensure adequate water pressure to operate the station. Given this criteria, staff reviewed potential City-owned sites within the defined area bounded by Curtis Street, Cliff Avenue, Halifax Street and Burnwood Drive/Phillips Avenue (inclusive of the north-west portion of Squint Lake Park).

The following four City-owned sites were identified within this area as potential site locations for the proposed station as each property was noted as being within 10 m of the Metro-Vancouver water distribution main (see **attached** Sketch #2):

- (a) 7285 Kitchener Street;
- (b) 1541 Greystone Drive (Squint Lake Park);
- (c) Ptn. of 7400 Ednor Crescent; and
- (d) 1255 Duthie Avenue

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 8

The City-owned property at 1255 Duthie Avenue (*Site option (d)*) was identified as the preferred location for the proposed station, given its large site area and proximity to the Metro-Vancouver water distribution main. The use of other City-owned sites for the station were constrained by one or more of the following issues:

- insufficient lot area for the water pump station;
- potential land use conflicts with existing and future uses of these sites;
- the location of other existing rights-of-way and easements (i.e. oil pipelines, existing utilities, urban trails, etc.); and
- proximity to a fish bearing creek, wherein development of the site would be restricted by streamside protection and enhancement areas (i.e. Eagle Creek).

The results of the review were presented to Council in a 2009 May 04 closed report with the recommendation to advance the subject property at 1255 Duthie Avenue for rezoning as the preferred City-owned site for the development of the proposed water pump station. It is acknowledged that the subject property at 1255 Duthie Avenue currently forms part of the Burnaby Mountain Urban Trail corridor and is within an established single- and two-family residential neighbourhood. As such, the siting and design of the proposed station has been developed to integrate with the urban trail corridor with minimal impact to the surrounding residential neighbourhood. Details of the proposed development to achieve these objectives include:

- limiting the scale of the proposed station to the scale of the neighbouring single- and two-family dwellings;
- architectural features and building materials which integrate with the park site and are compatible with the character of the residential neighbourhood;
- provision of a minimum 6.0 m (19.69 ft.) setback along the Aldrin Place frontage and south side yard, as well as additional landscaping to screen the proposed station and integrate its siting with the overall urban trail corridor; and
- development of the urban trail feature plaza to enhance the subject site.

In summary, a high development standard has been applied to the plan for the pump station to ensure the suitability of the development proposal within the surrounding residential area.

4.9 Cost of the Water Pump Station

Public Comment: The estimated cost to develop the proposed water pump station was queried.

Staff Response: The current estimated cost to develop the proposed water pump station, and the associated building and pipe works is approximately \$2.8 million. It is noted that the cost of the station would increase by \$1,000.00 for each meter the station was located

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09Page 9

further away from the Metro-Vancouver Water Main. Sketch #2 (see attached) shows the location of the existing Metro-Vancouver Water Main in this area.

4.10 Potential Underground Location

Public Comment: A number of residents requested that information be provided regarding the potential to locate the proposed station underground at 1255 Duthie Avenue

Response: The potential to locate the proposed water pump station at 1255 Duthie Avenue underground (as well as partially underground) has been reviewed by the engineering consulting firm, Kerr Wood Leidal and Associates. Details of the preliminary proposal include the development of a 221 m² (2,380 sq. ft.) underground station, with access below grade via two access stairs. Components of an underground pump station that would still be required to be located above ground (at-grade) would include ventilation grates for the pump, generator and electrical rooms, equipment lifting areas, and driveway access for service trucks. The development would also require perimeter fencing to ensure continued ventilation and access to the subject building, as well as discourage vandalism.

The consulting firm, however, has advised that the location of the proposed station underground would pose the following issues:

- larger development footprint on the park site, including significant excavations, and loss of additional trees and landscaping (in comparison to the above-ground development proposal);
- safety concerns for City staff that access the station on a daily basis, including adequate ventilation, building access and exiting, work space and operations of equipment and tools;
- access issues for equipment, tools and consumables that cannot be hand carried via stairs, such that the use of a portable crane or hoist would be required;
- maintenance issues, including potential flooding and trapping of gases and vapours underground; and
- station repairs may result in increased complexities, costs and time to complete repairs and potential increased duration of loss of water service.

In view of the above, the location of the proposed station underground is not the preferred option. Staff would note that an underground location would also not substantially address or mitigate the issues raised by the neighbourhood, as discussed above, and in many aspects would result in a less suitable development for the site that respects the surrounding neighbourhood character.

To: Community Development Committee
From: Director Planning and Building
Re: Proposed Water Pump Station at 1255 Duthie Avenue

2010 December 09 Page 10

5.0 NEXT STEPS

This report summarizes the comments received by the City through the neighbourhood open house process. A response is provided by staff to the key issues and questions raised by residents and property owners. Arising from the issues raised through the neighbourhood consultation process and subsequent staff reviews, a number of enhancements are proposed to the design of the water pump station (from that presented at the Open House) including:

- installation of a light standard at the Aldrin Place cul-de-sac bulb to provide additional lighting to ensure vehicular and pedestrian safety;
- provision of lighting at building access points and pedestrian walkways;
- removal of trees clusters within the subject site, and use of appropriate ground level landscaping (i.e. shrubs and ground cover vegetation);
- additional landscaping along the south property line, such as continuous cedar hedging to further mitigate potential visual impacts to the neighbouring properties at 1330 Aldrin Place and 1331 Duthie Avenue; and
- installation of an ornamental gate at the entrance of the proposed driveway access to 1255 Duthie Avenue

Staff would propose to make the final revisions to the development plan for the site as outlined in this report, and would recommend that the refined proposal be advanced for further public input at a future Public Hearing. It is also recommended that a copy of this report be sent to the property owners and residents within the Open House consultation area, and those who made submission to the consultation process.

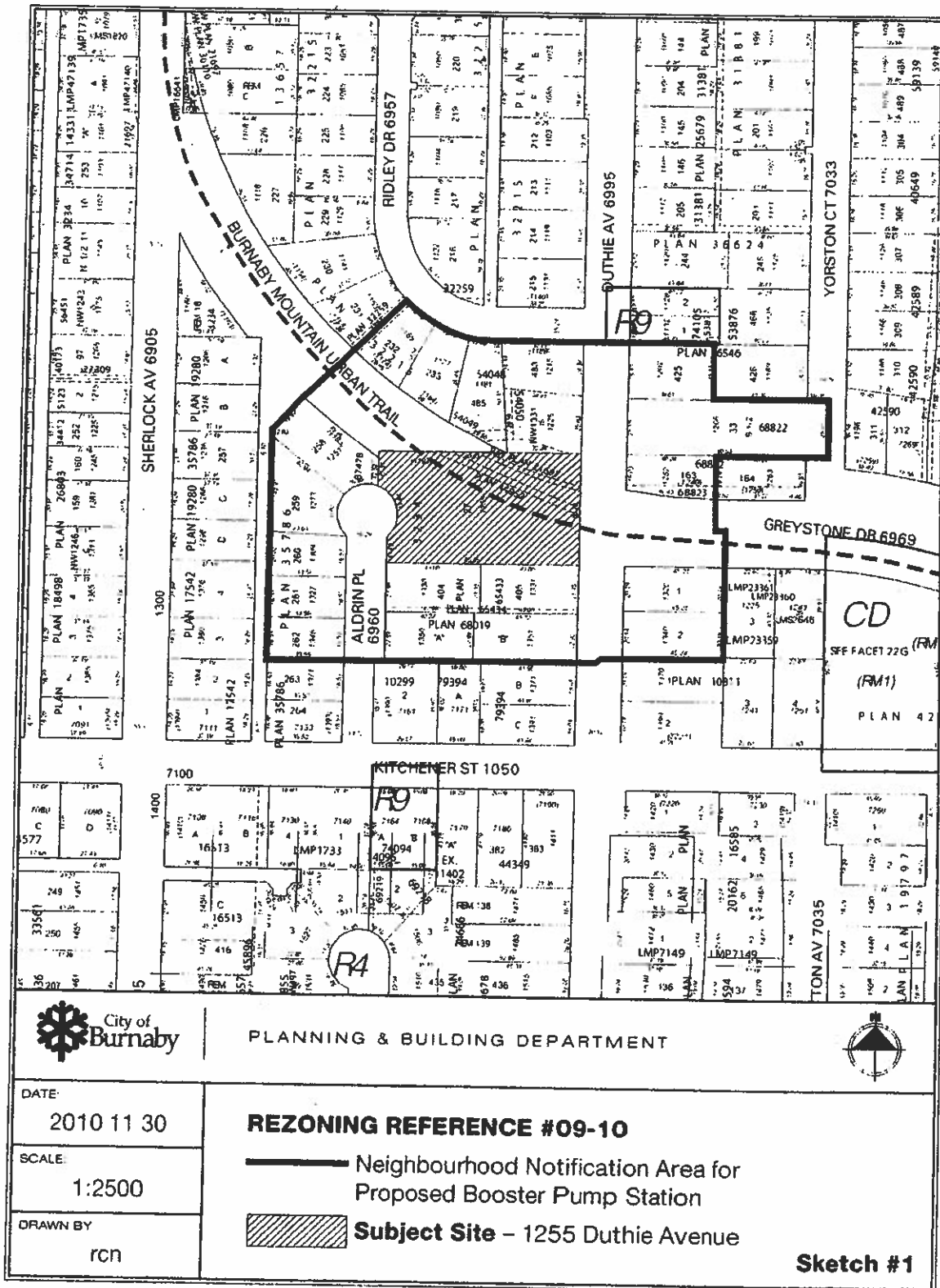

B. Luksun, Director
PLANNING AND BUILDING

ZM:spf

Attachments

cc: City Manager
Deputy City Managers
Director Engineering
Director Finance
Director Parks, Recreation & Cultural Services
City Solicitor
City Clerk

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PLANNING & BUILDING DEPARTMENT



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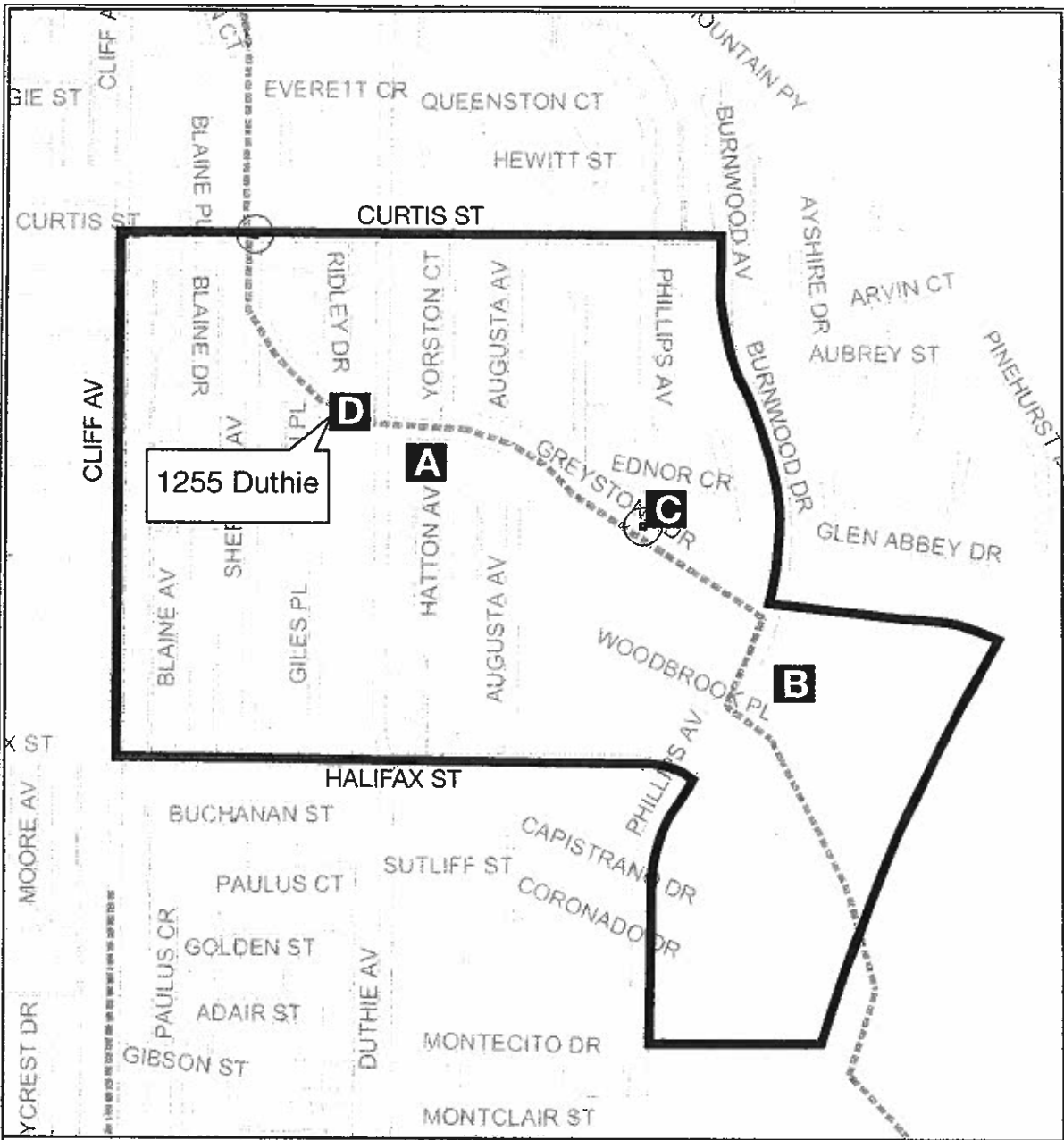
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REZONING REFERENCE #09-10

— Neighbourhood Notification Area for Proposed Booster Pump Station

Subject Site – 1255 Duthie Avenue

Sketch #1



PLANNING & BUILDING DEPARTMENT



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Site Options for the Proposed Water Pump Station

A B C D Site options

————— Area reviewed for proposed water pump station

- - - - - Metro Vancouver Water Distribution Main

Sketch #2