

BURNABY BICYCLE ADVISORY COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

RE: BC PARKWAY CROSSINGS REVIEW

RECOMMENDATION:

1. **THAT** Council forward a copy of the *attached* report to the Traffic and Transportation Committee (Traffic Safety Division) for further consideration of the improvements discussed in the report.

REPORT

The Bicycle Advisory Committee at its meeting held on 2001 November 22, received and adopted the *attached* report from the Assistant Director Engineering - Traffic and Engineering Systems providing additional information, as requested by the Bicycle Advisory Committee members to reflect the Committee's concerns regarding the roadway crossings review of the BC Parkway including concerns raised in the 2000 January 19 BC Parkway Improvement Committee report.

Respectfully submitted,

Councillor N. Harris
Chair

Mayor D. Drummond
Vice Chair

: COPY - CITY MANAGER
- DIRECTOR ENGINEERING

City of Burnaby

INTER-OFFICE COMMUNICATION

TO: BICYCLE ADVISORY COMMITTEE **DATE:** 2001 11 14
FROM: ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENGINEERING SYSTEMS **FILE:** 55-07-09
SUBJECT: BC PARKWAY CROSSINGS REVIEW
PURPOSE: To provide additional information regarding the roadway crossings review of the BC Parkway including concerns raised in the 2000 January 19 BC Parkway Improvement Committee report.

RECOMMENDATION:

1. **THAT** a copy of this report be sent to the Traffic Safety Committee and for further consideration of the improvements discussed in the report.

REPORT

1.0 INTRODUCTION

At the 2001 May 24 meeting of the Burnaby Bicycle Advisory Committee, the Burnaby RCMP Bike Squad appeared as a delegation. The bike squad representatives that patrol the BC Parkway submitted a summary of concerns regarding a number of roadway crossings along the trail. Staff were asked to report on the concerns raised.

The staff report reviewed all road crossings along the corridor to provide a context for improvements. As a number of the crossing locations had been subject to previous consideration by the Traffic Safety Committee, a report, "Improvements to Road Crossings Along the BC Parkway" was submitted to the Committee. Subsequently at its 2001 September 10 meeting, Burnaby Council adopted the Traffic and Transportation Committee (Traffic Safety Division) recommendation, "THAT Council forward a copy of this report to the Bicycle Advisory Committee and the RCMP Burnaby Bike Squad."

Although the previous report considered all crossings, a more detailed description of the identified deficiencies was requested by the BAC, along with answers to the problems identified in the BC Parkway Improvement Committee 2000 January 19 report. Accordingly, the earlier report was referred back to staff in order to incorporate and address these concerns.

2.0 BACKGROUND

The BC Parkway was originally developed by BC Transit in conjunction with ALRT construction for Expo 86. The Parkway alignment generally follows the elevated guideway of the SkyTrain line within a BC Hydro right-of-way, however, there are sections of the route which utilize City sidewalks, roadways and road crossings. The presence of an operating freight railway line was a fundamental constraint on the design of the alignment as was the narrower right-of-way southeast of Buller. The railway is no longer active, and complete removal of rail tracks is expected within the next year. This will provide the opportunity to improve some of the road crossings by pathway realignment as discussed below.

Burnaby has also constructed a similar bike path/trail facility along the wide abandoned Highland Park rail-spur right-of-way. The Highland Park spur connects to the BC Parkway at Buller Avenue and terminates at the northwest corner of the Edmonds and Kingsway intersection. Development of the BC Parkway east of Buller has been constrained by a very limited main line right-of-way. There is also a short north-south trail that links the two lines just west of Griffiths enabling users to bypass the Parkway between Buller and Rumble.

Diagram #1 illustrates both routes, and the associated roadway crossings.

3.0 JURISDICTION

As the Highland Park Line trail is a City owned facility under an annual lease agreement with B.C. Hydro, all responsibility for trail maintenance rests with the City departments. Specifically, the Parks Department administers the trail itself, while the Engineering Department is accountable for the roadway crossings along the trail. This also applies to the north/south trail link mentioned above.

All maintenance of the BC Parkway within the BC Hydro right-of-way is the direct responsibility of TransLink, as successor to BC Transit. The maintenance by Translink includes route signs, landscaping, and surface repairs. The City's maintenance obligation is limited to roadway crossings along the parkway alignment, and the sections of the Parkway which deviate onto City owned property or road right-of-ways. The areas of responsibility for both BC Transit and the City of Burnaby are also shown on Diagram #1.

4.0 ROADWAY CROSSINGS

The BC Parkway Improvement Committee report makes reference to road crossing difficulties from a cyclist point of view. As a multi-use facility the BC Parkway and its crossings must accommodate a variety of users. As pedestrians are the least mobile and most vulnerable BC Parkway users, the road crossing facilities must consider and suit them in their design.

Whenever a cyclist leaves the BC Parkway alignment to use a sidewalk, he/she must dismount to become a pedestrian. The BC Motor Vehicle Act (BCMVA) is clear in defining anyone riding a bike as a motor vehicle. Accordingly, cyclists must use the road unless otherwise directed or permitted to do so. When they are on the BC Parkway cyclists are allowed(welcome) to mix with pedestrians.

As the road crossings are treated as pedestrian facilities the standard TAC Pedestrian Crossing Control Manual is used as a guideline to determine application, installation and warrants to select traffic control. In determining the type of crosswalk most suited to a particular location, a number of factors are considered including, pedestrian volume (factoring for age and ability), roadway width, vehicular volume and speed, sight lines and visibility conditions, proximity of adjacent crossing facilities, and crossing accident history.

The manual outlines a hierarchy of crossing control ranging from unmarked crosswalk, to marked crosswalk; special crosswalk; pedestrian signal and grade separation. According to the BC Motor Vehicle Act, every intersection includes crosswalks where the driver must yield right-of-way to a pedestrian. The addition of crosswalk markings, signs, overhead flashing amber lights, etc. does not change the rights and duties of motorist and pedestrian. The pedestrian enjoys no more “legal” protection at a marked crosswalk than they would at an unmarked crosswalk at an intersection although many believe they do.

As pedestrian crosswalk issues are often emotionally charged, there can be a tendency to assume that using more traffic control devices will resolve pedestrian safety problems. However experience has shown that the overuse of devices may reduce their overall effectiveness. Marked crosswalks are intended to draw pedestrians to a safest crossing location and alert motorists that pedestrians may be present. If all crossing points were marked they would become ubiquitous to motorists while encouraging pedestrians to cross at inferior locations. The same would apply to a proliferation of unwarranted pedestrian signals. On less busy roads, pedestrian signals would invariably increase delay to both pedestrians and motorists. Accordingly, traffic control devices including highest level crosswalks are selected and implemented to ensure that the most troublesome locations receive attention commensurate with the problem.

There are a total of 14 roadway crossings along the portion of the BC Parkway within Burnaby, and the Highland Park Line Trail incorporates 5 more crossings along its route. Staff have reviewed each

location noting the level of crossing protection, the presence of curb letdowns, and any potential obstacles or obstructions to cyclists. A summary of those findings were provided and requests for letdowns were scheduled where needed.

Individual road crossings along both the BC Parkway and Highland Park Line Trail are discussed in detail below along with any proposed improvements.

4.1 BC Parkway Crossing Locations

Boundary Road (Vanness)

Crossing control at this location is provided by a pedestrian/cyclist signal at Vanness Avenue. An overpass of Boundary following the old railway bridge alignment has been discussed in the past.

Kingsway

The official Parkway crossing of Kingsway is at the Boundary Road signal, an existing pedestrian overpass on Kingsway 150 m to the east is an alternative. Realignment of the Parkway along the rail right-of-way between Boundary and Kingsway has been suggested in conjunction with implementing the Boundary and Vanness overpass (previously noted). This would require installation of a new crossing on Kingsway at approximately Smith Avenue and would require a minimum of a pedestrian actuated signal.

Central Park Access Road

This is a low volume, internal, parking lot driveway crossing. Currently it is marked with twin parallel lines and makes use of old railway crossing signs. It does not meet any base warrant for installation of pedestrian crossing control signs or markings. A request for bollards to be installed has been forwarded to the Parks Department.

Patterson Avenue (Beresford/Central Blvd)

There is a marked crosswalk on the north leg of the Beresford intersection which aligns with the BC Parkway path. The signs and markings meet pedestrian crossing application guidelines and are appropriate for the traffic volume and crossing demand. The location has good sight lines. As there are four legal crossing locations on Patterson in this vicinity, encouraging consolidation by marking the busiest safe crossing helps focus driver's attention, thereby creating a safer crossing. When crossing, cyclists are constrained to cross as pedestrians. However the BC Parkway report suggests making allowance for westbound cyclists to cross Patterson on-road to bypass the bus stop. As there is no road on the west side of Patterson and Beresford is stop controlled, this is not technically advantageous for the cyclist who would still have to first yield right of way to Patterson traffic, and secondly dismount to cross the sidewalk on the west side.

Wilson Avenue (Beresford/Central Blvd)

There is no marked crossing at this location as Wilson is a lightly travelled road. For consistency a marked crosswalk is proposed.

Willingdon Avenue (Beresford/Central Blvd)

The present alignment of the Parkway at Willingdon Avenue encourages facility users to cross at the Beresford/Willingdon intersection rather than at the Central Boulevard signal. Ultimately the Parkway will be re-aligned to naturally direct users to the existing signalized intersection. An approximate estimate for the realignment is \$30,000. Staff are currently pursuing the inclusion of the Parkway re-alignment in conjunction with amenity provisions related to a proposed new development northwest of Central Boulevard and Willingdon. The intersection of Willingdon and Beresford is located 27 metres south of the Central Boulevard traffic signal. The longer term plan for this intersection is to restrict "left-out" movements from Beresford, however the "left-in" movements will be maintained to facilitate access to the Patterson Skytrain station to the west and residential apartments to the east at least through the medium term.

An additional westbound right turn signal head is being installed at the signalized intersection to take advantage of the southbound left turn overlap and clear out conflicting vehicle movements with pedestrians on the north leg.

Imperial Street (Central Blvd)

The existing traffic signal at the Central Blvd./Imperial junction provides a safe crossing location for Parkway users. No curb letdowns currently exist, however they are scheduled for installation.

The Parkway follows City sidewalks from the point where Central Boulevard crosses under the SkyTrain to east of the Jubilee intersection. Improvements to this segment are constrained by existing rights-of-way but will be made as the opportunity to acquire property for right-of-way expansion arises.

There has been past concern with trail users following the rail right-of-way and crossing Central Boulevard at a mid block location made particularly hazardous by the curve in the road. Signs have been installed to correctly direct Parkway users and seem to be working. Encouraging crossing at this location would exact a toll in safety.

The issue would then be compounded by a hazardous crossing of Imperial at Jubilee. There is no marked crossing of Imperial at this location although as a street intersection it is a BCMVA crosswalk. Marking this crosswalk is not recommended given the two adjacent traffic signal controlled crossings at Nelson Avenue and Central Boulevard.

Jubilee Avenue (Imperial Street)

The stop sign control on Jubilee Avenue provides adequate protection for Parkway users on the south leg. It is proposed that parallel crosswalk markings be installed at this location as an addition to the stop bar to enhance the on street continuity of the trail.

Nelson Avenue

The marked crosswalk at this location is further supplemented with overhead, illuminated signing and crosswalk downlighting.

Royal Oak Avenue (Beresford)

Parkway users are directed to cross Royal Oak Avenue at the pedestrian signal at Beresford Street. This signal also serves Royal Oak Station SkyTrain users.

While this crossing has been the subject of discussion at previous Committee meetings, little opportunity exists to improve the connection from the Parkway to this signal until the adjacent site to the south redevelops.

MacPherson Avenue

A marked crosswalk provides crossing protection for Parkway users.

Buller Avenue

East of Buller Avenue, the Highland Park Line splits from the actual alignment followed by the BC Parkway. The BC Parkway crosses Buller at the South Beresford/Prenter intersection while the Highland Park line users are diverted to the North Beresford intersection. This latter connection can be improved through realignment following the abandoned Highland Park Line rail bed.

The signing at this point of divergence is not altogether clear. Staff are pursuing the placement of a schematic map to show first time users the options. For greater clarification it is proposed that marked crosswalks be installed at the intersections of both North and South Beresford Street on Buller Avenue.

For about 350m east of Buller the Parkway consists of a narrow gravel chipwalk adjacent to Prenter Street. For cyclists this portion is used more effectively as an on-road facility given the light traffic on Prenter Street. With the removal of the rail tracks there will be an opportunity to move the Parkway alignment to the old track bed. Staff will pursue discussion of this option with TransLink staff.

Gilley Avenue

The traffic signal at Rumble and Gilley provides the crossing point for Parkway users. While there is a rail bed to the north, the pathway has been aligned through a City lot to take advantage of the signalized crossing.

Rumble Street at Prenter Street

An overhead marked crosswalk with downlighting provides a crossing point for Parkway and Highland Park link users at the Prenter Street intersection. Negotiations for formal abandonment of the rail bed to the west is ongoing.

Southpoint Drive (Station Hill Dr)

This is a “legal” crossing location. However, the vertical alignment of Southpoint Drive south of Station Hill Court limits the sight lines of approaching vehicles. Marking a crosswalk is not recommended as it may reduce caution by suggesting a level of safety that road markings and side mounted signs cannot provide.

For the time being, the nearby signal at 20th Street offers a better level of crossing control. The adopted Area Road Plan proposes to close the south leg of Southpoint with the completion of the Marine Way/10th Avenue Connector. This will eliminate any concerns with sight lines.

4.2 Highland Park Line Trail and Link

Gilley Avenue

The City recently installed a marked crosswalk on Gilley Avenue between North and South Beresford Street. Curb modifications for cyclists are approved but not yet completed.

Griffiths Drive (Beresford)

The traffic signal at the Beresford Street intersection of Griffiths Avenue provides crossing protection for Highland Park trail users.

Salisbury Avenue (Beresford)

The mid-block crossing of Salisbury Avenue is identified by a marked crosswalk.

Prenter Street (north of Rumble)

There is a marked crosswalk at this location.

Beresford Street (west of Griffiths)

This crossing point is identified by an overhead illuminated crosswalk. Curb modifications for cyclists are provided on the south side of Beresford Street only. Arrangements have been made to accommodate cyclists on the north side of the roadway.

5.0 OTHER ISSUES IDENTIFIED IN THE BC PARKWAY REPORT

Signs - As part of the GVRD Sector Regional Greenway Plan a comprehensive review of all Greenway/Trail signs is being conducted. As the BC Parkway is a Regional Greenway, directional signs and markings will be amended once the Region wide standard is finalized. Map boards and directional signs to ancillary amenities will be part of this, but subsequent to the main route marking. This coordinated effort between TransLink and City staff is ongoing. When the signing is standardized, staff will address the directional signing deficiencies at intersections as identified in the Parkway report.

Vegetation - TransLink should ensure the use of abrasive vegetation adjacent the path to keep trail users from shortcutting through flower beds or for security reasons is judicious. The planting of abrasive vegetation adjacent the path is generally not desirable if someone can fall into it.

Lighting - Burnaby Parks does not encourage the use of Urban Trials at night as a response to personal safety concerns. While lighting has been pursued by the City around Skytrain stations to deter criminal activity, the addition of lighting along the full corridor could actually have the opposite effect.

Other - Re-alignment of the Parkway trail at discussed locations can be addressed now that major portions of the rail bed have been lifted. Routing at Stations and the associated bus stop conflicts are more difficult to correct as options are limited and they must typically be tied into an adjacent road crossing.

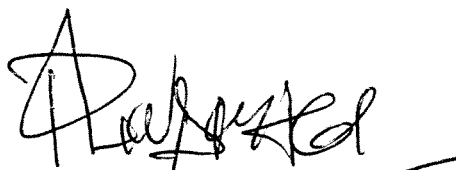
6.0 DISCUSSION AND CONCLUSION

The development of the BC Parkway and Highland Park Line Trail along rail right-of-way has been particularly advantageous because the number of road crossings of the railway line is limited. Often the road crossings occur at "mid block" locations where pedestrians do not have the crosswalk "rights" that the Motor Vehicle Act provides at street intersections. Accordingly, where it has been reasonable to do so, the trail has been diverted to nearby street intersections to enhance crossing protection. This has been particularly beneficial where the trail crosses a busy road and the proximate intersection has signal control. For example, in the case of Imperial and Central Boulevard, following the old rail alignment was relinquished in favour of a safer sidewalk alignment. Widening this section to trail standard is a long term goal as there is insufficient right-of-way to construct the path now.

At other quieter locations, the City has installed marked crosswalk protection irrespective of warrants in order to maintain the integrity and continuity of the trail while providing enhanced pedestrian safety. At a number of locations at times when traffic is light, trail users avoid detouring

and take the straight bee-line path. To respond to this, staff have either moved crosswalks or at a greater cost sought to realign the trail approach to the crosswalk.

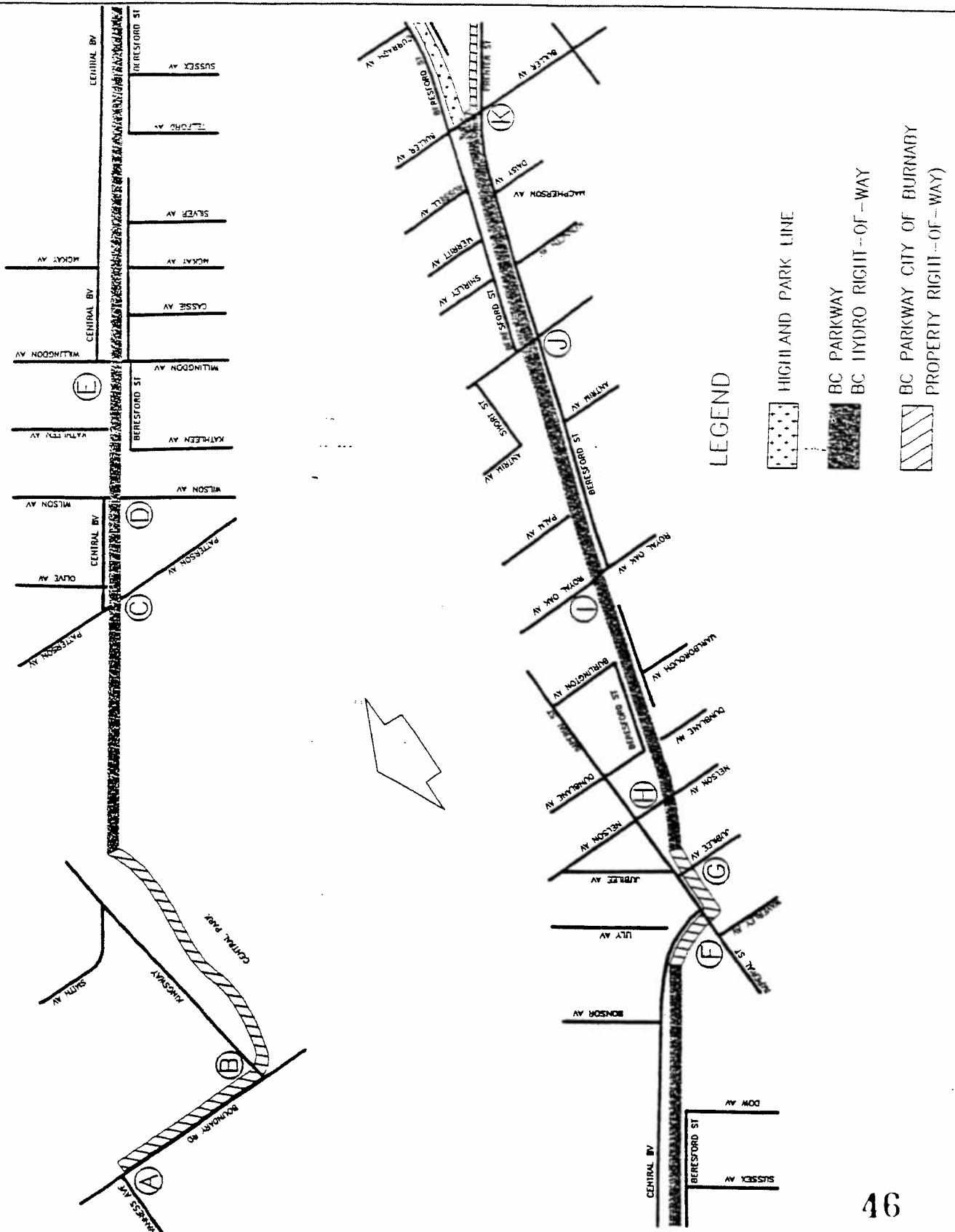
The RCMP Bike Squad delegation also noted locations where the rails remain embedded in the roadway where adjacent track has been removed. Staff are working on a program that should address these concerns. While there will be a cost to the City, budgeting for the work cannot proceed until the regulatory formalities of rail line abandonment have been addressed. Southern Railway, BC Hydro and the City have been working collaboratively on the proposed abandonment of this rail line. In the interim, rail crossing warning signs will be reviewed. The proposed changes should substantially address the concerns raised by the Bike Squad.



~~P. Liivamagi, P. Eng.
ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENG. SYSTEMS~~

MDS:

cc: City Manager



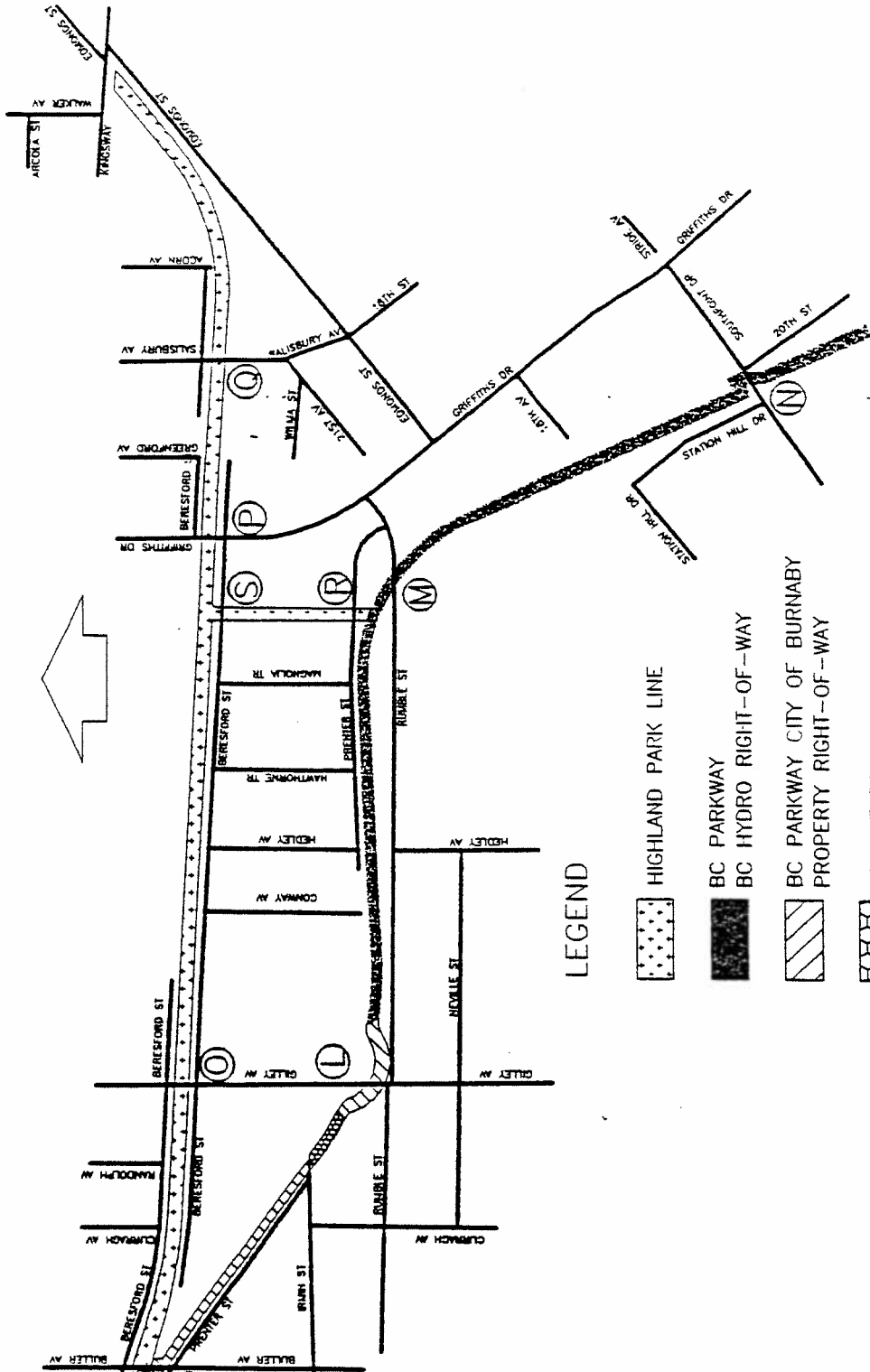
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





EXHIBIT 2A 1A

BC PARKWAY ALIGNMENT & JURISDICTION

DRAWN BY: GWF	SCALE: N.T.S.	A 568A
APPRV'D BY:	DATE: 01-08-27	



LEGEND

-  HIGHLAND PARK LINE
-  BC PARKWAY
-  BC HYDRO RIGHT-OF-WAY
-  BC PARKWAY CITY OF BURNABY
-  PROPERTY RIGHT-OF-WAY
-  PRIVATE EASEMENT

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City of
Burnaby
ENGINEERING DEPARTMENT

NO.	DATE	REVISION
		EXHIBIT 2B 1B
		BC PARKWAY (& HIGHLAND PARK) ALIGNMENT & JURISDICTION
DRAWN BY:	GWF	SCALE: N.T.S.
APPR'V'D BY:		DATE: 01-08-27

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