

TO: CITY MANAGER October 28, 1999

FROM: DIRECTOR PLANNING AND BUILDING OUR FILE: 08.230.3
DIRECTOR ENGINEERING

SUBJECT: CITY OF BURNABY SUBMISSION - MUNICIPAL INTEGRATION FUND
(MIF) RELATED TO SKYTRAIN PROJECT

PURPOSE: To seek Council endorsement of the City of Burnaby's submission for funding under the Municipal Integration Fund (MIF) for required items related to the Lougheed Corridor SkyTrain Project within Burnaby.

RECOMMENDATIONS:

1. **THAT** a copy of this report identifying items for funding SkyTrain under the Municipal Integration Fund and Rapid Transit Project 2000 (see Attachments 2 and 3) be submitted to TransLink and the Provincial Government on the understanding that additional associated items may be further identified as the detailed planning and design for the project advances.
2. **THAT** Council request that the TransLink Board and the Province not proceed with the proposed removal of \$25 million from the \$60 million Municipal Integration Fund from the Phase 1 works until such time as all basic elements of the Phase 1 SkyTrain extension identified through the design process are adequately funded either through the Rapid Transit Project 2000 budget or the Municipal Integration Fund.
3. **THAT** Council request the Provincial Government to support the SkyTrain Community Legacy Program as proposed by the Special Commission on SkyTrain and to initiate its commencement on a priority basis to secure the necessary rights-of-way and jointly begin the development of the proposed greenway connections.
4. **THAT** a copy of this report be forwarded to the Hon. Jenny Kwan, Minister Responsible for SkyTrain, the Hon. Joan Sawicki, Minister of Environment, Lands and Parks and to the other Burnaby MLA's.

REPORT

1.0 SUMMARY AND BACKGROUND

In 1999 June, the Province and TransLink reached an agreement on the cost sharing and construction of the SkyTrain extensions. This agreement recognized that the extensions will be constructed in two phases. The first phase involves the extension from New Westminster through a station at the Lougheed Mall to the vicinity of Vancouver City College in Vancouver. The second phase (the Coquitlam Extension) is to be constructed from Lougheed Mall to Coquitlam Centre.

TransLink and the Province are seeking to reach final agreement on the composition of the \$60 million Municipal Integration Fund components. The purpose of this report is to identify those basic SkyTrain related elements that need to be undertaken in Burnaby and to specify those items that should be earmarked for funding under the Municipal Integration Fund. Council endorsement of these elements provides the basis for a formal submission from the City to the Province and TransLink

This report raises the strong concern that because the TransLink Board has now allocated \$25 million of the \$60 million Municipal Integration Fund for the Coquitlam extension, there is the distinct possibility that there may not be sufficient funds to cover the items listed in *Attachments 2 and 3* of this report which are considered to be essential for the proper functioning and integration of the SkyTrain system. As well, the report identifies a need for the Province to initiate the SkyTrain Community Legacy Program with affected municipalities.

2.0 ACCOMMODATION OF THE SKYTRAIN ALIGNMENT

The SkyTrain alignment for the most part uses the Lougheed Highway right-of-way as it traverses through the City. For parts of the way, the alignment is on either the north or south side of the highway, while in others it runs down the centre.

Under the recently approved Greater Vancouver Transportation Authority (now TransLink) legislation, the City of Burnaby is the authority responsible for the operation and maintenance of the Lougheed Highway. As such, it was recognized from the outset by the City that the accommodation of the guideway and the stations would have an impact on the highway in terms of existing travel lanes, medians, left turn bays, traffic signals, utilities, sidewalks, street lighting, emergency stopping areas, open drainage areas and waterway

crossings that would need addressing. As well, there was a recognized need to protect the option for future needed improvements as contained in the adopted Transportation Plan and the Brentwood and Lougheed Town Centre Plans. Example items include the future grade separation of Lougheed Highway and Gaglardi Way, the accommodation of the Keswick and Delta pedestrian overpasses, future greenway components and additional lanes at key areas along the highway.

The City's strongly voiced concern about the need to identify and address those road impacts identified above *before* the commencement of the project construction was a key contributor to this important consideration being specifically included within the \$60 million enhancement fund referred to in the Provincial/TransLink Agreement.

3.0 PROJECT REVIEW PROCESS

To identify the range of impacts and needed improvements associated with the development of the SkyTrain facility, it was clear that a conceptual design plan was needed that involved the City, TransLink and the Rapid Transit Project Office (RTPO). To this end, the City requested the initiation of two concurrent planning processes. The first involved a Project Integration Committee (PIC) comprised of City, RTPO and TransLink staff that has met on 14 separate occasions dealing with the wide spectrum of alignment and impact issues along the entire corridor. Concurrent with this there has been a Station Transit Integration Committee (STIC) also meeting on a weekly basis and dealing with more detailed planning associated with each of the seven stations within the City of Burnaby. The two processes have focused on identifying and trying to resolve outstanding, and sometimes difficult, issues associated with the implementation of the SkyTrain facility within the corridor that needs to accommodate rapid transit, buses, bicycles, pedestrians and general traffic in a safe and well functioning manner.

The City and the Project Office are currently co-funding the services of a Engineering Consulting firm to translate the agreed to design concepts associated with the station areas and the Lougheed Corridor into a preliminary roadway geometric. This geometric is intended to provide the necessary level of certainty of the consequences of the project and the basis for determining cost responsibility for the various elements associated with the right-of-way improvements.

Notwithstanding the fact that this conceptual planning process for the project through Burnaby is not yet complete, the RTPO and TransLink are currently finalizing their lists of elements by the end of October that will need to be funded under the Municipal Integration Fund (MIF). Given this urgency in finalizing the MIF components, it is essential that the City present its position on the MIF related requirements based on the detailed work done to date. It should be recognized however that some additional items may be identified as the

detailed planning and design for the project is completed.

4.0 COST RESPONSIBILITIES - RTPO AND MIF

In the building of a SkyTrain system, there are a range of basic requirements to ensure that it is functional and properly integrated with the associated roadways, feeder elements (e.g. bus loops, kiss and ride areas, etc.) and adjacent land uses. Normally, one would expect that the base line budget for the SkyTrain project would address all of these requirements. However, in the current project, there is a division of cost responsibility for the various elements between the Province (by way of the RTPO) and the Municipal Integration Fund which is co-funded by the Province and TransLink.

City staff have prepared a list of Preliminary Cost Responsibility Principles (see *Attachment I*) as the basis for identifying, assigning and quantifying costs for the affected agencies. The representatives from TransLink and the RTPO have previously indicated their general concurrence with these principles.

Because of the tight timeline set by TransLink and the RTPO to identify the MIF elements, it has not been possible to first complete our review process leading to an agreed to preliminary design geometric for the entire right-of way through Burnaby. As such, only the RTPO and MIF elements as identified by Burnaby staff will be presented at this time and not the total recommended assigned cost responsibilities. Possible items that might be the source of funding by the City to upgrade or supplement certain elements (e.g. median treatment, sidewalk extensions, etc.) will be part of a subsequent report for Council consideration as part of the overall Capital Budget preparation process.

4.1 RTPO Base Line Budget

The RTPO has a base line budget (\$1.167 billion) that primarily deals with the construction of the guideway and the immediate station platforms (with the exception of the Lake City Station). The Minister Responsible for SkyTrain indicated in a previous letter to the City that *"the project budget includes provisions to restore existing roadworks, utilities and sidewalks disturbed by the project as well as provide retaining walls to preserve adjacent properties and vegetation, where warranted and station related improvements"*. The station related improvements referred to include completion of abutting street frontages to a finished standard as well as extensions from the plaza areas to the road frontages.

4.2 The Municipal Integration Fund

Supplemental funding to the base line budget of \$1.167 billion, in an amount up to \$60 million, to be equally cost shared between TransLink and the Province, was

provided for in the agreement between the Province and TransLink. This was to provide for certain items not included within the original scope of the two extensions. This is commonly referred to as the Municipal Integration Fund (MIF). Items identified in the agreement for this fund included the following:

" ... the Lake City Station and selected street improvements in Burnaby, mitigation along the Fraser River in New Westminster and such additional items determined by the parties, including, without limitation, bus loops, station enhancements and park and ride facilities."

Other comments from TransLink and the RTPO suggest that connections to adjacent bus stops, kiss and ride stops and adjacent walkways servicing the stations are eligible for funding under MIF.

The final authority for allocating costs under the up to \$60 million contained within the fund rests with the Province and TransLink. The designation of the \$60 million amount was done without benefit of estimates being prepared in consultation with the City.

In considering the role of MIF, it is therefore important to note that it is not, contrary to some popular opinion, something that is being used exclusively for "enhancements". In Burnaby, the MIF items related to right-of-way improvements that are identified in this report are part of the basic functional requirements of the system and cannot be regarded as enhancements. Under the current cost sharing arrangement between RTPO and MIF, it is crucial to recognize that the integrity of the SkyTrain system is tied to the use of both of these funding sources. As such, the allocation of funds from MIF has to be based on the results of detailed plans that address the basic functional and integration requirements of the system. In other words, the allocation of MIF needs to be based on the specific results of this detailed planning, rather than on some arbitrary sharing formula.

Burnaby's needs are markedly different from those of Vancouver and New Westminster in that the guideway traverses the City primarily along established roads. The guideway and the seven stations have differing impacts that require specific solutions to ensure the functionality of the system.

The Municipal Integration Fund is designated for the development of the station bus loops where required, on-street bus stops, passenger pick-up and drop-off areas, associated intersections, station street frontages, utility and signal improvements, and sidewalk connections to nearby bus stops and pedestrian feeder areas. Specific provision for the Lake City Station is contained within MIF. TransLink as an

independent funding source is responsible for additional bicycle lockers and racks where warranted and the development of the Lougheed Highway bus queue jumper project from GaglardiWay to Production Way.

Recent discussions with TransLink staff indicate that there are additional pressures being placed on MIF. Traffic studies associated with the various station areas that are underway are being charged to MIF as are administration costs including the salary of the MIF coordinator. As well, the RTPO is taking the position that they intend to use lane and separation distance standards less than those being requested by the City in the reconstruction of the disturbed portions of the Lougheed Highway. To help overcome this impasse, a safety audit is being done by ICBC to provide advice on the appropriate standards to be used. If the City requested standards are verified, it is our understanding that the project is proposing to use MIF to cover the costs above their "base" standard. Given our position that this should be covered by the RTPO budget, it has not been included in the City's MIF list.

Of even greater concern is a resolution passed by the TransLink Board on 1999 October 27 that authorizes TransLink staff to pursue an agreement that would see \$25 million out of the \$60 million maximum (this equates to 42% of the \$60 million) allotted for MIF to be reserved for the Coquitlam extension. The TransLink staff have acknowledged that the remaining \$35 million for the Phase 1 line would not be adequate to meet the costs of all items already identified by them. This action occurred without benefit of the full range of MIF items identified in this report. Until all the elements identified through the preliminary design process underway are addressed, either through the project budget or MIF, the allocation of a sizeable component from the \$60 million fund for the future extension to Coquitlam is considered to be a premature initiative that could have negative consequences on the integrity and quality of the Phase 1 project.

It is becoming progressively clear that the RTPO's baseline budget will not be increasing. Therefore as the project planning advances and additional costs identified, there could be a tendency for items to be shifted into MIF. Through the meetings that staff have had to date on this project, it is apparent that there is not full agreement on all the items identified in our submission, primarily due to the capped budget amount under which the Project is working.

5.0 THE BURNABY RELATED RTPO AND MIF REQUIREMENTS

The RTPO and MIF cost responsibility items as identified by staff are contained in *Attachments 2 and 3* respectively. As previously indicated, work is proceeding on the preparation of large scale geometric drawings that will incorporate the items contained in *Attachments 2 and 3*. Staff are providing these drawings to TransLink and RTPO as they

are being developed. Sketches 1 to 7 illustrate the range of items that have been identified and are evolving around each of the stations.

The preliminary "ball park" cost estimate of the MIF items as prepared by Burnaby staff is in the order of \$23.3 to \$27.9 million depending upon land acquisition cost assumptions. This includes the costs associated with the Lake City Station which is approximately \$10 million including the station, land acquisition, design and process costs. It must be emphasized that given the extreme time constraints and the incompleteness of the review process, these estimates do not purport to be highly accurate. They are a best effort "ball park" estimate to assist TransLink and the RTPO in their assessment of MIF requirements. One area that is potentially highly variable is the land acquisition component of the overall estimate. The assumption used in our lower estimate most closely relate to those utilized by TransLink. If one utilizes the figures from RTPO, land acquisition cost would increase by about \$4.6 million. Hence, the range from \$23.3 to \$27.9 million. It is the opinion of our Property Negotiator that if the bus loops and associated areas are acquired outright at current market values, then the land acquisition component of our estimate could prove to be even higher and could have a significant bearing on the MIF.

Some of the key RTPO elements over and above the construction of the guideway and the stations include the reconstruction of segments of Lougheed Highway where impacted by the guideway, replacement/relocation of services, drainage, bus stops, relocating street lights and the incorporation of structural modifications to the guideway to incorporate future urban trail overpasses at Keswick and Delta Avenues.

It should be noted that the items identified in *Attachments 2 and 3* are regarded as the basic elements identified to date required for a properly functioning system. The budget estimates associated with *Attachment 2* are not purported to be complete given the additional detailed planning work required, but they do reflect the results of a more comprehensive and detailed approach given the time available. They, nevertheless, give an order of magnitude that needs to be addressed in the MIF allocation process. Refinements to these estimates would occur with specific input from RTPO and TransLink as the design process unfolds.

During the course of the discussions/negotiations with the Project Office, staff has been mindful of the need to restrict requests that would place a burden on the project budgets. In our view, this objective has been met. Possible additional items for which an argument could have been made for inclusion in MIF to improve the system such as additional lighting along the entire length of the Lougheed Highway, upgraded median treatment and greenway connectors under the guideway were discussed, but not included by staff given the obvious pressures on the MIF. It is important to note that final agreement on the RTPO components identified in *Attachment 3* has not yet been reached with the project office. The majority of the required

road reconstruction costs along the Lougheed Highway caused by the impacts of the guideway should be incorporated within the RTPO base budget. Staff at this point are not aware as to which items are common between the City's list and the RTPO set of cost assumptions or which specific items the Project may be assuming can be absorbed through MIF. There are still some areas of difference where resolution is required.

From staff's perspective, there is not a large concern as to whether the required improvements identified in *Attachments 2 and 3* are funded under MIF or the base line RTPO budget. A bigger concern is that they are not undertaken because of a jurisdictional disagreement as to which budget they should be accommodated in because of insufficient budget amounts in either or both the MIF or RTPO budgets. The fact will remain that the identified items are necessary for the proper functioning of the system through Burnaby.

6.0 GREENWAY AND URBAN TRAIL ELEMENTS

The summary final report of the Special Commission on SkyTrain was completed in 1999 May and was presented to the Provincial Government for its consideration. Included in the recommendations of the Special Commission SkyTrain Review was the development of a SkyTrain Community Legacy Program to be implemented in conjunction with the SkyTrain extension project. This program is proposed to focus on the following two key components:

- a regional greenway to complement the SkyTrain guideway where practical and the development of adjacent and parallel greenway routes; and
- the support of SkyTrain related community enhancement initiatives within the affected neighbourhoods (e.g. removal of overhead wires, enhanced plantings, sidewalk improvements, etc.).

In support of this initial work, staff have prepared concept plans for an associated greenway system that incorporates sections of the guideway where it is on the side of the roadway as well as parallel links away from the guideway in recognition that there are sections of the guideway in the centre of the Lougheed Highway where it is not practical to establish an associated pedestrian greenway.

Staff have consistently requested that the RTPO secure public access easements in those areas where the guideway is on the side of the roadway to protect the opportunity for future development of the greenway corridor. This equates to two sections of the line in Burnaby totaling a length of about 4.3 kilometres. The project has responded that this is beyond the scope of its mandate and budget and it is only securing aerial easements for the guideway outside of the station areas.

Staff agree with the Special Commission on SkyTrain that commencement of a SkyTrain related greenway corridor is a highly desirable objective that should be acted upon. In this respect, it is recommended that Council request the Province to support the proposed SkyTrain Community Legacy Program as has been recommended by the Special Commission on SkyTrain and to release funds that would allow the commencement of this worthwhile project. The extent to which this initiative would be a jointly funded project would need to be determined in the development and implementation of the program.

7.0 NEXT STEPS

As indicated previously, work on the preliminary design for the project as it relates to Burnaby is progressing and is intended to be complete before year end. This recognizes that construction on the first guideway support column in Burnaby is scheduled for the end of November west of Austin Avenue. Priority is being placed on completion of the preliminary design work by Planning and Engineering staff to ensure that the majority of the City issues can be identified and addressed prior to the preparation of the final design. This work will culminate in a set of geometric drawings for the length of the right-of-way as it relates to the City.

To a large extent, the Station items identified will be addressed and reflected in the Station rezonings that will be presented to Council.

To address issues related to the actual construction of the line in Burnaby, it is intended that the current Project Integration Meetings (PIC) will continue but with a shift in emphasis on matters relating to implementation issues. Items such as traffic management plans, sediment control measures, hours of construction, municipal review and approval of design drawings and required inspections will be addressed and coordinated through this PIC process.

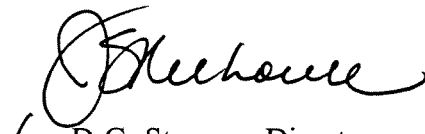
Another issue to be addressed relates to the use of City property to accommodate the guideway, primarily in the vicinity of Sperling Avenue. This will be the subject of a further report to Council.

8.0 CONCLUSIONS

The City has been and continues to support the concept of a rapid transit route along the Lougheed Corridor. Since the announcement by the Province of the SkyTrain technology for Phase 1 of the SkyTrain extension, City staff and Council have spent considerable resources in resolving issues with the RTPO and Translink to ensure that the project is properly integrated.

It is the view of staff that the MIF and RTPO responsibility elements identified have not been "padded". They are considered basic elements for a properly functioning and integrated system. As such, desirable components such as the proposed greenway and additional lighting for the Lougheed Highway have not been included in the MIF or RTPO budgets.

The focus of the City's position is that those basic elements essential to the project have to be identified and their costs adequately addressed. Of particular concern to the City in this regard are the required improvements of the system on the City's road rights-of-way (which includes the Lougheed Highway) impacted by the project. Based on the work completed to date it would appear that the proposal to reduce the amount available in MIF for Vancouver, Burnaby and New Westminister to \$35 million could be insufficient. This is compounded by the fact that many items which may logically be considered as Project costs are being assigned to MIF. As such, it is recommended that until all basic elements of the Phase 1 SkyTrain extension are identified through the design process and funding accounted for, TransLink and the Province should not proceed with the proposal to reduce \$25 million from the \$60 million Municipal Integration Fund for Phase 1 at this time.


D.G. Stenson, Director
PLANNING AND BUILDING


W.C. Sinclair, Director
ENGINEERING

JSB/BLS:sa

Attachments (10)

cc: Director Finance
Director Parks, Recreation and Cultural Services
City Solicitor

SKYTRAIN PROJECT

PRELIMINARY COST RESPONSIBILITY PRINCIPLES

RTPO	RTPO / TransLink MIF	TransLink	TransLink / Burnaby *	City of Burnaby	Legacy Fund
SkyTrain	Guideway, Gilmore Stn., Brentwood Stn., Sperling Stn., Holdom Stn., University Stn., Loughheed Stn.				
Loughheed Highway - Existing Facilities	Reconstruct the Loughheed Highway to reinstate the existing facilities.				
Loughheed Highway - Future Facilities	Ensure that the design and construction of the SkyTrain does not preclude future highway upgrading.	Gagliardi queue jump bus lanes on Loughheed.	New bus stops on Loughheed Highway outside of station areas.		
Connectivity Elements				New pedestrian facilities from each SkyTrain station or nearest available bus stop to existing development. **	Greenway or other urban trail facilities. ***
Station Area Rezoning Requirements	SkyTrain Station on site facilities including sidewalks, boulevards, pedestrian lighting, urban trails, landscaping (including boulevard trees).			New bus stops beyond the MRN required for bus route changes to and from SkyTrain stations.	

* Burnaby / TransLink Major Road Network Funded Transit Passenger Facilities
 ** As these facilities are adjacent to the Loughheed Highway an application for cost sharing will be presented to TransLink under the MRN
 *** If these costs are not assumed by a Legacy Fund then these projects may be undertaken by others

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City of Burnaby - Preliminary Municipal Integration Fund (MIF) Elements Related to SkyTrain

OCTOBER 28, 1999

Legend: ACS = abutting concrete sidewalk, C = curb, F = fire hydrants, G = Gutter, GB = grass boulevard, L = Landscaping, PL = pedestrian lighting, PPUODO = passenger pick-up/drop-off, R = reconstruction, S = Storm Sewer, SCFB = stamped concrete front boulevard, SCS = separated concrete sidewalk, STG = street trees with grates, UOU = underground overhead utilities, W = water main

	Chainage	Street	Location	From / To	Responsibility	Description	Capital / Design Cost Estimate
Lougheed Town Centre Station See Sketch 1	214900	North Road	road	Austin to Lougheed	MIF - Basic	reconfiguration of median and left turn bays	
	214900	Government Pl	at	North Road	MIF - Basic	signalize intersection	
	214900	Government Pl	road	North Road to Cul-de-sac	MIF - Basic	pavement rehabilitation, as required	
	214900	Government Pl	south	North Road to Austin / Government	MIF - Basic	sidewalk (C, G, PL)	
	214900	Lougheed	south	North Road to Austin / Government	MIF - Basic	median fence	
	214800	9850	on	Austin	MIF - Basic	relocate site services for Sears site	
	214800	9898 - A	on	Government Place	MIF - Basic	site servicing required	
	214700	Austin	at	east Mall entrance	MIF - Basic	remove existing bus signal	
	214700	bus loop	east	Government Place to bus loop	MIF - Basic	pedestrian walkway with lighting and fencing	
	214700	bus loop	east	Lougheed to bus loop	MIF - Basic	pedestrian walkway with lighting and fencing	
	214700	Government Pl	at	bus loop	MIF - Basic	site servicing	
	214700	Lougheed	north	adjacent to bus loop	MIF - Basic	urban frontage (C, G, STG, SCFB, SCS, L, PL), including drainage	
	214700	Lougheed	north	bus loop	MIF - Basic	bus loop (10 bay off-street)	
	214700	Lougheed	north	bus loop	MIF - Basic	Property required for bus loop, Government Pl and PPUODO	
	214600	Government Pl	road	Cul-de-sac to Austin	MIF - Basic	14 m road (C, ACS, STG, SL, SS, W, FH, pedestrian crossing)	
	214600	Government Pl	north	Cul-de-sac to pedestrian crossing	MIF - Basic	PPUODO / taxi stand	
	214600	Government Pl	to	Lougheed south side	MIF - Basic	water main relocation / upgrade	
214500	Government Pl	south	east station house to Austin / Gov'n Pl	MIF - Basic	weather protection and PL		
214500	Lougheed	at	bus loop	MIF - Basic	weather protection to and shelters and PL on bus loop		
214500	Lougheed	north	east station house to Lougheed	MIF - Basic	weather protection and PL		
214450	Austin	at	Government Place	MIF - Basic	signalize intersection		
214450	Austin	at	Government Place	MIF - Basic	westbound left turn lane (median reconstruction)		
214400	Lougheed	at	Austin	MIF - Basic	traffic signal upgrade for transit priority (controller)		
					sub-total	\$4,000,000	
University Station See Sketch 2	213450	Lougheed	north	Gagard to University Station site	MIF - Basic	water main	
	213450	Lougheed	north	Gagard to University Station site	MIF - Basic	urban trail (ped / bicycle connection)	
	213000	Production	east	station site	MIF - Basic	PPUODO / taxi stand (C, G, pavement)	
	213000	Production	at	station site	MIF - Basic	bus loop (4 bay off-street)	
	213000	Production	at	station site	MIF - Basic	Property required for bus loop	
	213000	Production	at	station site	MIF - Basic	weather protection to, shelters and PL on bus loop	
	212900	Lougheed	at	Production	MIF - Basic	traffic signal upgrade for transit priority (controller)	
	212900	Lougheed	south	Production - southwest corner	MIF - Basic	sidewalk	
	212900	Production	median	Lougheed to Thunderbird	MIF - Basic	median fence	
	212900	Production	west	Lougheed to Thunderbird	MIF - Basic	PPUODO / taxi stand (C, G, ACS, pavement)	
	212900	Production	at	Thunderbird	MIF - Basic	reconfigure Buns Master's parking lot / access	
	212900	Production	at	Thunderbird	MIF - Basic	reconstruct intersection and signalize	
212900	Production	road	Thunderbird to Lougheed	MIF - Basic	pavement rehabilitation, relocation of SL, as required		
212800	Thunderbird	south	Production west	MIF - Basic	PPUODO (ACS)		
212750	Lougheed	south	Brighton to eb far-side bus stop	MIF - Basic	sidewalk		
					sub-total	\$1,600,000	
Lake City Station See Sketch 3	211500	Lougheed	south	Piper to Lozels	MIF - Basic	sidewalk, drainage	
	211350	Lake City Wy	road	Enterprise to Lougheed	MIF - Basic	200 mm dia water main extension	
	211350	Lake City Wy	east	Lougheed to Enterprise	MIF - Basic	bus stop, shelter pad, wheelchair pad, acs (1.65 m)	
	211350	Lake City Wy	west	Lougheed to Enterprise	MIF - Basic	urban frontage (C, G, SCS, STG, PL)	
	211350	Lake City Wy	west	north side Lougheed	MIF - Basic	bus stop, shelter pad, wheelchair pad	
	211350	Lake City Wy	at	Station	MIF - Basic	PPUODO / taxi stand (off-street on station site)	
	211350	Lake City Wy	at	Station	MIF - Basic	Property required for station and PPUODO	
	211350	Lougheed	north	as required	MIF - Basic	pipe drainage ditch	
	211350	Lougheed	at	Lake City Wy	MIF - Basic	reconstruct intersection ("T") and signalize	
	211350	Lougheed	at	Lake City Wy	MIF - Basic	Lake City Station	
	211350	Lougheed	north	Lake City Wy to Greenwood	MIF - Basic	Lake City Station - design, public consultation and other RTPO	
211350	Lougheed	north	Lake City Wy to west end of station site	MIF - Basic	sidewalk, drainage		
211350	Lougheed	south	Lake City Wy to west end of station site	MIF - Basic	storm sewer		
211350	Lougheed	south	Lake City Wy to west end of station site	MIF - Basic	Park walkway upgrading and lighting		
					sub-total	\$11,200,000	
Sperling Station See Sketch 4	209400	Sperling	east	at Winston	MIF - Basic	bus loop (4 bay off-street)	
	209400	Sperling	at	bus loop	MIF - Basic	weather protection to and shelters end PL on bus loop	
	209400	Sperling	at	bus loop	MIF - Basic	Property required for bus loop	
	209300	Sperling	at	Lougheed	MIF - Basic	traffic signal upgrade for transit priority (controller)	
	209300	Sperling	east	Lougheed to Winston	MIF - Basic	PPUODO, CS (2.0 m), SCFB, STG, PL	
	209300	Sperling	west	Lougheed to Winston	MIF - Basic	reconstruct road	
	209300	Sperling	road	Lougheed to Winston	MIF - Basic	reconstruct road	
	209300	Sperling	median	Lougheed to Winston	MIF - Basic	median fence	
	209300	Sperling	east	north side Lougheed	MIF - Basic	northbound transit only lane / remove delta island	
	209300	Sperling	at	Winston	MIF - Basic	relocate employee parking lot driveway (Dairyland)	
209300	Sperling	at	Winston	MIF - Basic	reconstruct intersection and signalize		
209300	Sperling	east	Winston to Lougheed	MIF - Basic	northbound transit only lane		
					sub-total	\$1,900,000	
Holdom Station See Sketch 5	208000	Lougheed	north	Holdom to frontage road east of Holdom	MIF - Basic	sidewalk	
	207950	Holdom	west	bus loop and Goring	MIF - Basic	PPUODO / taxi stand (including C, G and SCS)	
	207950	Holdom	at	Lougheed	MIF - Basic	traffic signal upgrade for transit priority (controller)	
	207950	Holdom	east	Lougheed and Coastal Ford driveway	MIF - Basic	PPUODO / taxi stand (including R, C, G and ACS)	
	207950	Holdom	east	Lougheed to Coastal Ford driveway	MIF - Basic	storm drainage	
	207950	Holdom	west	Lougheed to Goring	MIF - Basic	infilling street lighting	
	207950	Holdom	road	Lougheed to Goring	MIF - Basic	pavement rehabilitation	
	207950	Lougheed	at	Holdom	MIF - Basic	extension of westbound left turn lane	
	207920	Holdom	at	bus loop	MIF - Basic	passenger shelters	
	207920	Holdom	west	bus loop	MIF - Basic	Property required for bus loop	
207920	Holdom	between	Lougheed and Goring	MIF - Basic	bus loop (1 bay off-street)		
207900	Lougheed	north	Holdom to bus stop west of Holdom	MIF - Basic	storm drainage		
207900	Lougheed	south	near-side of Holdom	MIF - Basic	bus stop, wheelchair pad, shelter pad		
					sub-total	\$1,000,000	
Brent. See Sketch 6	206400	Lougheed	south	Willingdon to Alpha (to connect to south pod)	MIF - Basic	asphalt sidewalk	
	206300	Lougheed	south	far-side of Willingdon	MIF - Basic	bus stop, curb, wheelchair pad	
	206200	Lougheed	north	station to existing bus loop	MIF - Basic	6 m pedestrian walkway (3 m covered), PL	
	206200	Lougheed	north	station to existing bus loop	MIF - Basic	property required for walkway to bus loop	
	206200	Lougheed	north	station to existing bus loop	MIF - Basic	modifications to the existing bus loop	
	206150	Willingdon	at	Helix	MIF - Basic	traffic signal upgrade for transit priority (controller)	
206150	Willingdon	at	Lougheed	MIF - Basic	traffic signal upgrade for transit priority (controller)		
					sub-total	\$1,900,000	
Gilmore Sketch 7	205300	Dewson	south	far-side of Gilmore	MIF - Basic	bus stop, shelter pad, wheelchair pad	
	205300	Gilmore	east	bus stop north of Dewson to Lougheed	MIF - Basic	PPUODO / taxi stand (including C, G, SCS, SCFB, STG, PL)	
	205300	Gilmore	median	Dewson to Lougheed	MIF - Basic	median fence	
	205300	Gilmore	west	Dewson to Lougheed	MIF - Basic	G, STG, SCFB, PL	
205300	Gilmore	road	Lougheed to Gilmore	MIF - Basic	reconstruct road (including 700 mm dia water main)		
					sub-total	\$700,000	
205000			total for all SkyTrain stations	MIF - Basic	Bike lockers	\$1,000,000	

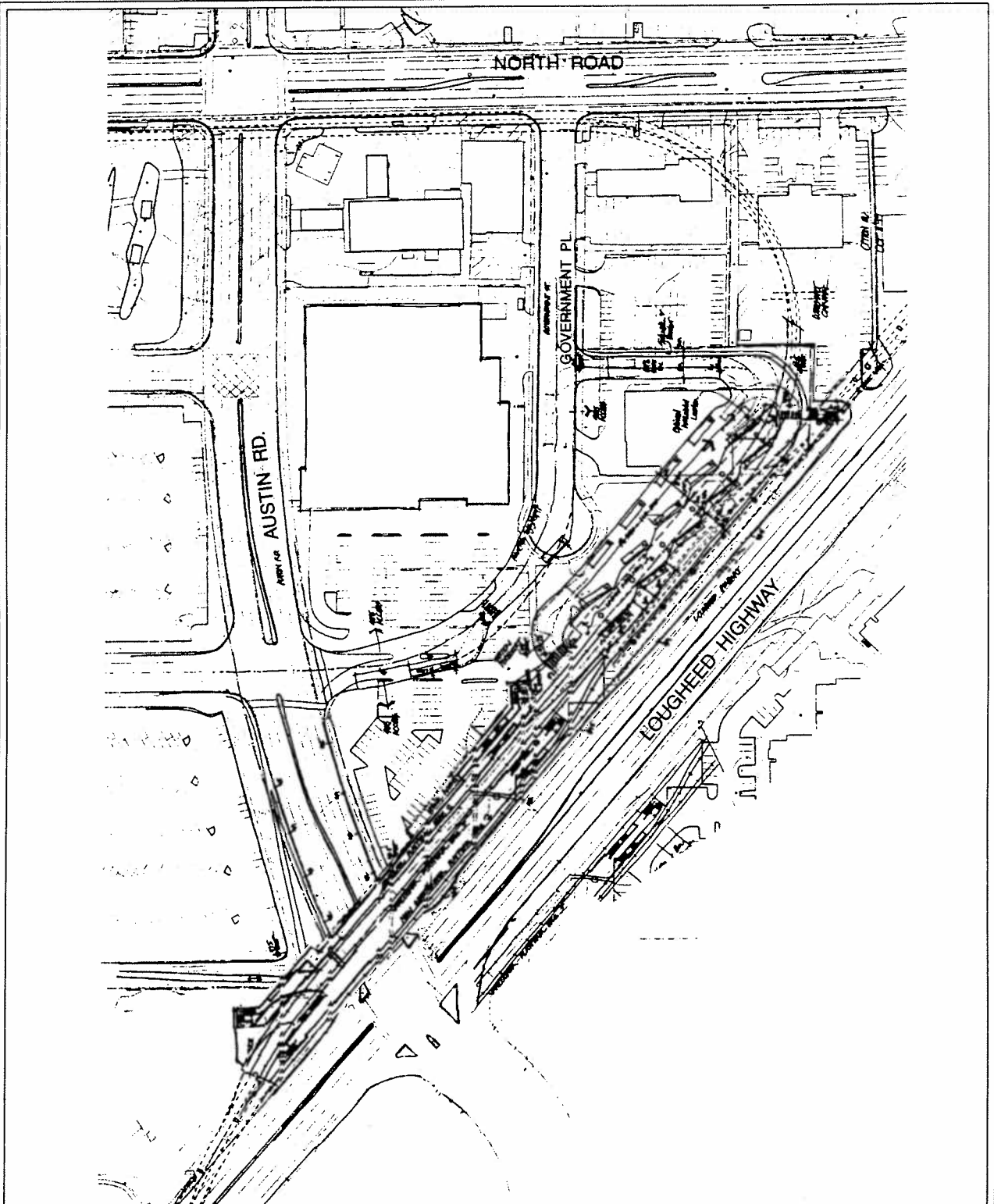
Based on TransLink property acquisition costs **\$23,300,000**
Based on RTPO property acquisition costs **\$27,900,000**

City of Burnaby - Preliminary RTPO Elements Related to SkyTrain

OCTOBER 28, 1999

Legend: ACS = abutting concrete sidewalk, C = curb, F = fire hydrants, G = Gutter, GB = grass boulevard, L = Landscaping, PL = pedestrian lighting, PPUDO = passenger pick-up/drop-off, R = reconstruction, S = Storm Sewer, SCFB = stamped concrete front boulevard, SCS = separated concrete sidewalk, STG = street trees with grates, UOU = underground overhead utilities, W = water main

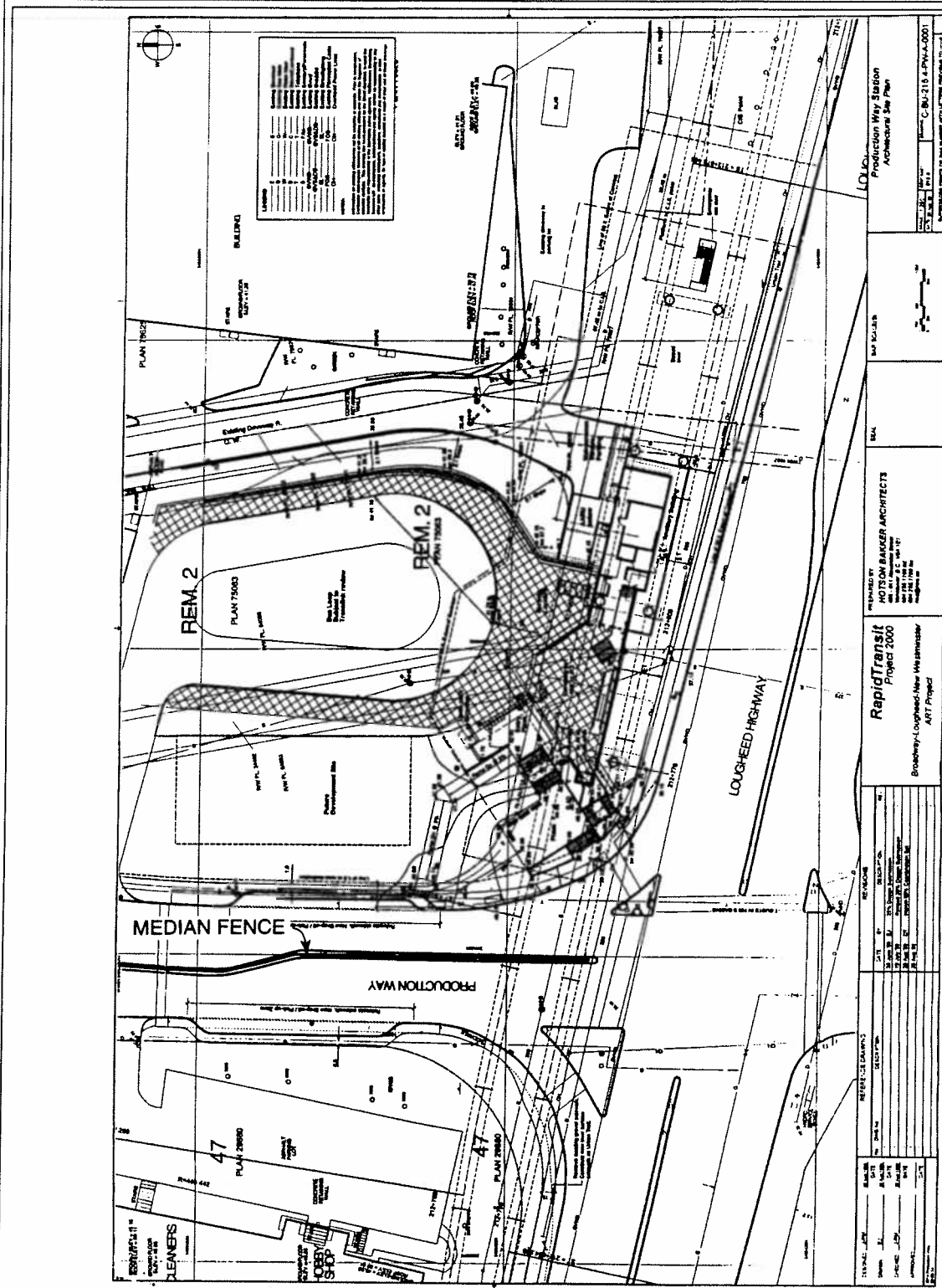
	Chainage	Street	Location	From / To	Responsibility	Description	
LTC	Sk 1	214500	Lougheed	north	west end of bus loop to Austin	RTPO	underground overhead wiring
		214500	Lougheed	north	west end of bus loop to Austin	RTPO	relocation of street lighting, as required
		214500	Lougheed	north	west end of bus loop to Austin	RTPO	urban frontage (G, SCS, SCFB, STG, PL)
		214400	Lougheed	at	Austin	RTPO	PPUDO - reduction of westbound right turn lane
University	Sketch 2	213300	Lougheed	north	east end of the station site to Production	RTPO	urban trail (ped / bicycle connection), SCFB, STG, PL
		213200	Lougheed	north	east end of station site to Production	RTPO	relocate sanitary sewer, as required
		213200	Lougheed	north	east end of station site to Production	RTPO	maintain access to trunk sanitary sewer
		213200	Lougheed	north	east end of station site to Production	RTPO	maintain access to storm sewer
		213200	Production	east	east end of station site to Production	RTPO	remove overhead wiring along Lougheed frontage
		213200	Production	east	east end of station site to Production	RTPO	extend water main and provide fire hydrants
		212900	Production	at	Lougheed	RTPO	reconfigure intersection and curbs on the north side
Sper	Sk 4	209400	Lougheed	south	east end of the Station site to Sperling	RTPO	urban trail (ped / bicycle connection), SCFB, STG, PL
		209400	Sperling	east	Lougheed to bus loop driveway	RTPO	urban frontage (SCS, SCFB, STG, UT, PL)
Holdom	Sketch 5	209300	Lougheed	south	east end of the Station site to Sperling	RTPO	relocate curb 1.3 m north including transitions
		207950	Holdom	west	Lougheed to bus loop	RTPO	urban frontage (SCS, SCFB, STG, PL)
		207950	Holdom	west	Lougheed to south edge of station site	RTPO	underground overhead wiring
		207950	Holdom	avenue		RTPO	extend sanitary sewer or pump across Holdom to trunk sewer
		207950	Lougheed	south	Holdom to west edge of station site	RTPO	urban frontage (SCS, SCFB, STG, PL)
		207900	Lougheed	south	Holdom to west edge of station site	RTPO	urban trail (ped / bicycle connection)
Brentwood	Sketch 6	206600	Lougheed	north	Beta to Alpha	RTPO	property required for proposed sidewalk
		206600	Lougheed	north	Beta to Willingdon	RTPO	retaining walls as required
		206400	Lougheed	south	Alpha to Willingdon	RTPO	ACS, PL and lighting as required under the land bridge
		206400	Lougheed	north	Alpha to Willingdon	RTPO	ACS, SCBB, STG, PL
		206400	Lougheed	south	Alpha to Willingdon	RTPO	underground overhead wiring
		206150	Lougheed	south	through 4550 Lougheed	RTPO	connect to storm sewer (pipd creek)
		206150	Lougheed	avenue		RTPO	extend existing sanitary sewer to service the station
		206150	Lougheed	Mall		RTPO	provide right-of-way for storm sewer under Mall site
		206150	Lougheed	north		RTPO	fire truck access
Gilmore	Sketch 7	205400	Dawson	north	Gilmore to east edge of station site	RTPO	property required for proposed sidewalks
		205300	Dawson	north	near-side of Gilmore	RTPO	urban frontage (SCS, SCFB, SCBB, STG, PL)
		205300	Gilmore	west	Dawson (Henning) to 3 m south of bus stop	RTPO	bus stop, shelter pad, wheelchair pad
		205300	Gilmore	east	Dawson to Lougheed	RTPO	1.8 m SCFB, 1.2 GB, PL
		205300	Gilmore	east	Dawson to PPUDO	RTPO	underground overhead wiring
		205300	Gilmore	east	far-side of Dawson	RTPO	urban frontage (SCS, SCFB, SCBB, STG, PL)
Guideway		205300	Gilmore	west	far-side of Dawson (Henning)	RTPO	bus stop, shelter pad, wheelchair pad
		214900	Lougheed	avenue	North Road to bus loop	RTPO	reconstruct Lougheed to accommodate guideway
		214900	Lougheed	n/s	North Road to bus loop	RTPO	property required for proposed sidewalks
		214400	Lougheed	avenue	Austin to 270 m west of Bell	RTPO	reconstruct Lougheed to accommodate guideway
		213800	Lougheed	south	Bell to Keswick	RTPO	revegetation as required
		213800	Lougheed	at	Keswick	RTPO	structural modification for future urban trail overpass
		211100	Lougheed	avenue	100 m east of Lozells to Bainbridge	RTPO	reconstruct Lougheed to accommodate guideway
		211000	Lougheed	n / s	Lozells to Bainbridge	RTPO	revegetation as required
		209100	Lougheed	south	Kensington to Holdom	RTPO	storm sewer required
		207000	Lougheed	at	Delta	RTPO	structural modification for future urban trail overpass
207000	Lougheed	avenue	Delta to 150 m east of Gilmore	RTPO	reconstruct Lougheed to accommodate guideway		



Loughheed Station



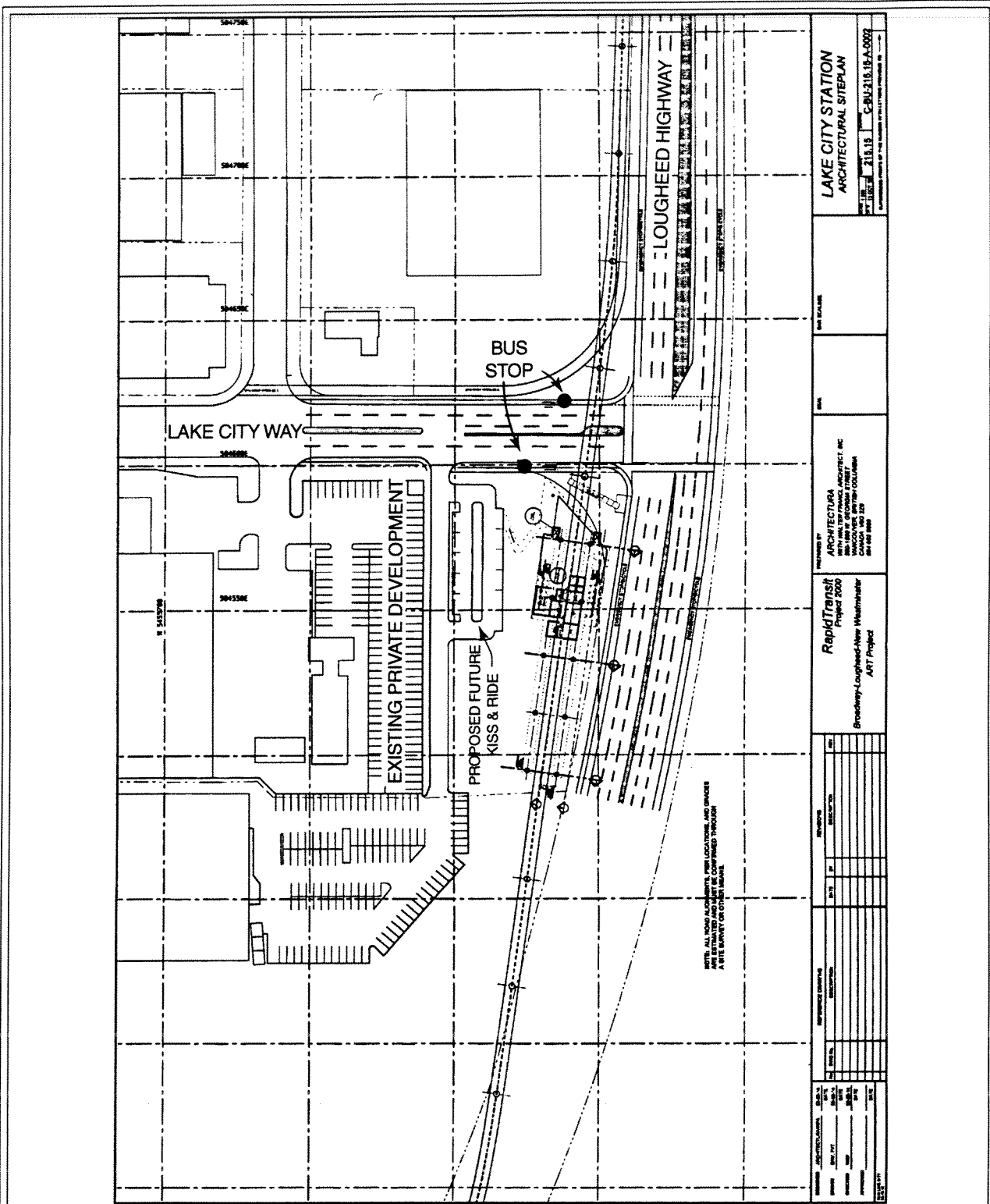
Sketch 1



University Station



Sketch 2



LAKE CITY STATION
ARCHITECTURAL SITEPLAN

DATE: 2/11/13
C-BU-2118-18-A-0002

SCALE: 1/8" = 1'-0"

DESIGNED BY:
ARCHITECTURA
WITH WILSON PERINCE ARCHITECT, INC.
1000 W. BROADWAY, SUITE 1000
CHICAGO, IL 60604
312.467.1000

Rapid Transit
Project 2020
Broadway-Lougheed-New Mainline
ART Project

NO.	DESCRIPTION	DATE	BY	REVISION

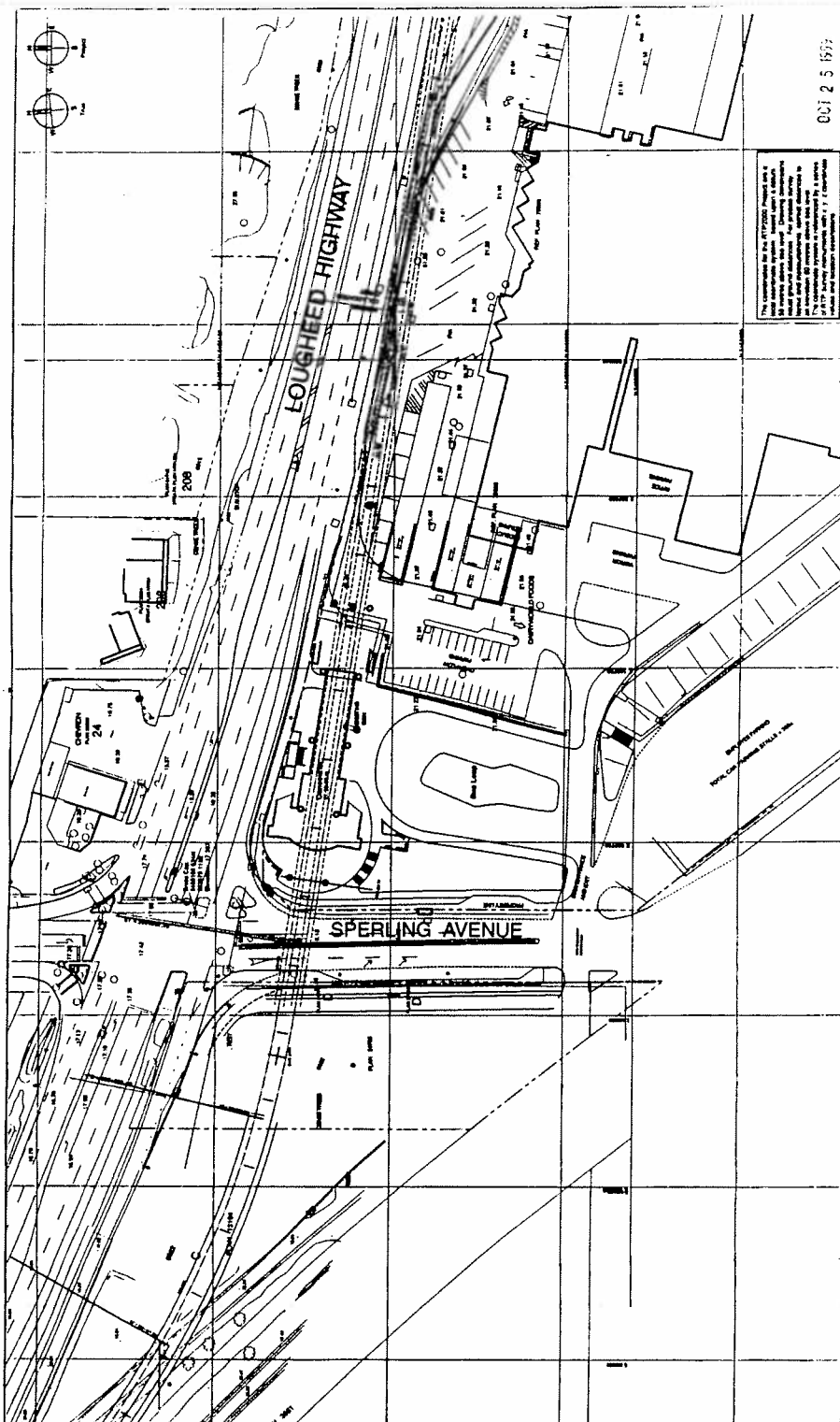
NO.	DESCRIPTION	DATE	BY	REVISION

NO.	DESCRIPTION	DATE	BY	REVISION

Lake City Station



Sketch 3



The Commission for the City of Burnaby, Project No. 4
 10000 Burnaby Highway, Burnaby, B.C. V5A 4E7
 604-291-1000
 10000 Burnaby Highway, Burnaby, B.C. V5A 4E7
 604-291-1000
 10000 Burnaby Highway, Burnaby, B.C. V5A 4E7
 604-291-1000

OCT 25 1973

Spering Station
 Architectural Concept Plan

PREPARED BY
 HOTSON BAKER ARCHITECTS
 10000 Burnaby Highway, Suite 100
 Burnaby, B.C. V5A 4E7
 604-291-1000

RapidTransit
 Project 2000
 Burnaby-Lougheed-New Westminster
 ART Project

DATE: 10/25/73
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 APPROVED BY: [Name]

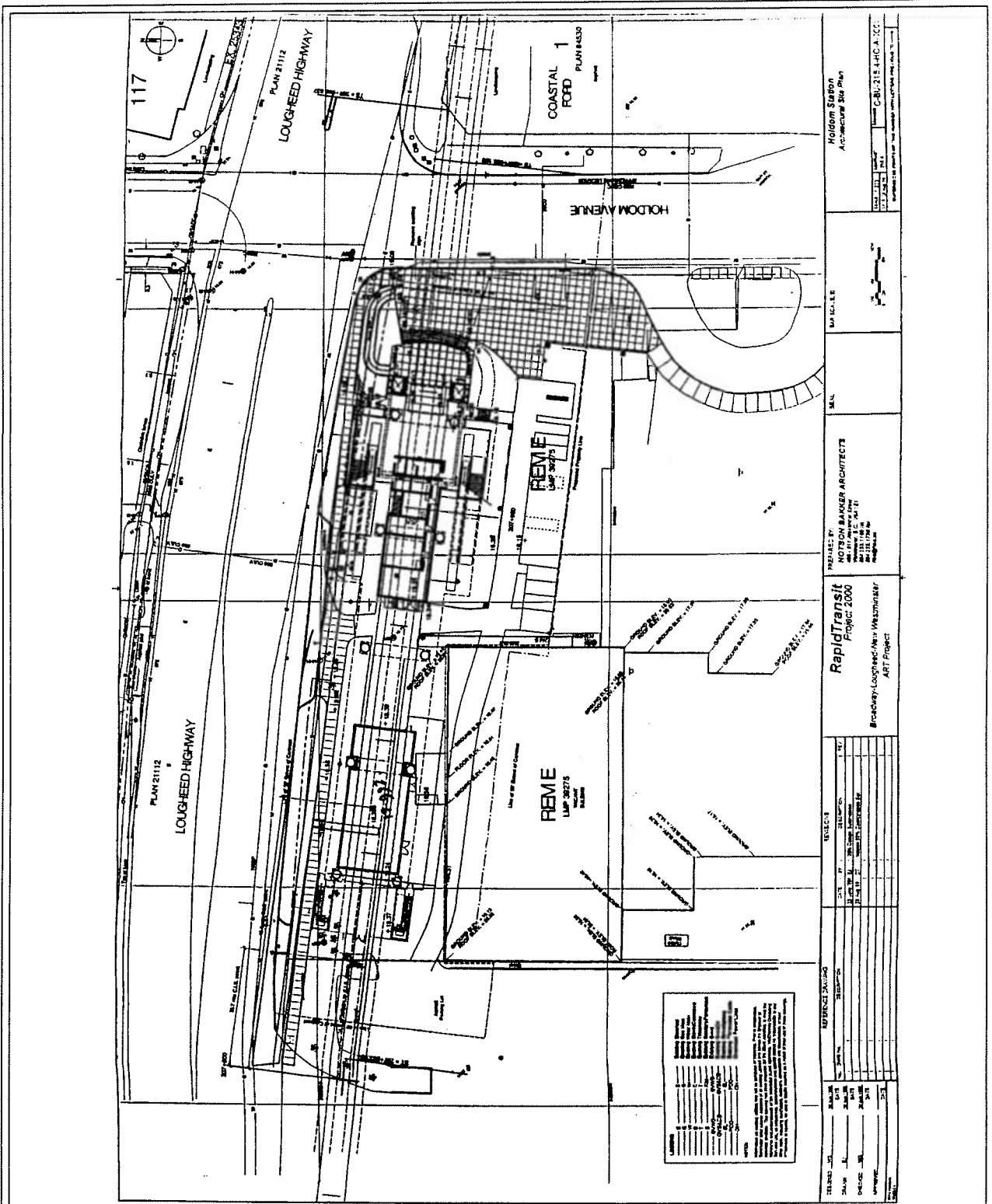
NO.	REVISIONS
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2	REVISED PER CITY ENGINEER COMMENTS
3	REVISED PER CITY ENGINEER COMMENTS
4	REVISED PER CITY ENGINEER COMMENTS
5	REVISED PER CITY ENGINEER COMMENTS

DATE	BY	DESCRIPTION
10/25/73	[Name]	ISSUED FOR PERMIT
11/15/73	[Name]	REVISED PER CITY ENGINEER COMMENTS
12/15/73	[Name]	REVISED PER CITY ENGINEER COMMENTS
1/15/74	[Name]	REVISED PER CITY ENGINEER COMMENTS
2/15/74	[Name]	REVISED PER CITY ENGINEER COMMENTS

Spering Station



Sketch 4

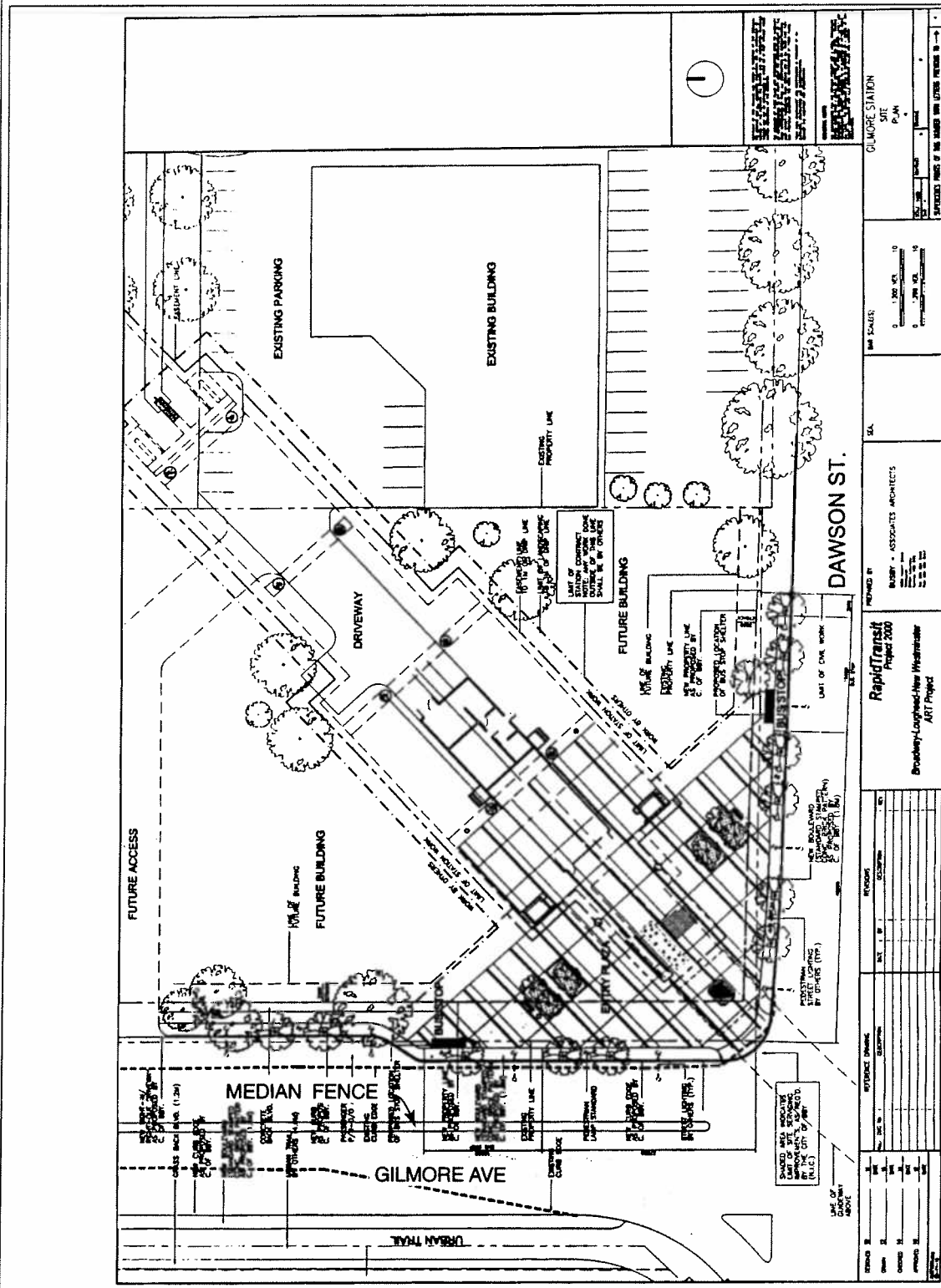


PREPARED BY: NOTSON BANKER ARCHITECTS 1000 WEST 12TH AVENUE SUITE 100 DENVER, CO 80202 PHONE: 303.733.1111 FAX: 303.733.1112		PROJECT: RapidTransit Project 2000 Broadway-Loughreid/New Westminster ART Project	DRAWN BY: DATE:	CHECKED BY: DATE:	APPROVED BY: DATE:	REVISIONS:
PROJECT NO.: SHEET NO.:		SCALE:	DATE:	DATE:	DATE:	NO.

Holdom Station



Sketch 5



GILMORE STATION SITE PLAN	
SHEET NO. 10 OF 10	DATE: 10/10/2000
DRAWN BY: [Name] CHECKED BY: [Name]	PROJECT: RapidTransit Project 2000 Brounby-Laughed-New Westminster ART Project
PREPARED BY: BURNBY + ASSOCIATES ARCHITECTS	SCALE: 1/8" = 1'-0"
PROJECT NO.: [Number]	SHEET NO.: 10
DATE: 10/10/2000	DRAWN BY: [Name]
CHECKED BY: [Name]	PROJECT: RapidTransit Project 2000
PREPARED BY: BURNBY + ASSOCIATES ARCHITECTS	Brounby-Laughed-New Westminster ART Project

Gilmore Station



Sketch 7