

TO: CITY MANAGER

October 16, 1997

FROM: DIRECTOR PLANNING AND BUILDING

SUBJECT: Highway #1 High Occupancy Vehicle Project: Willingdon On-Ramp

PURPOSE: To seek approval from Council for the design and cost sharing for the new Willingdon on-ramp to be constructed as part of the Highway #1 High Occupancy Vehicle (HOV) Project.

RECOMMENDATIONS:

1. **THAT** Council approve the design of the Willingdon on-ramp as outlined in Section 3.0 of this report including a marked pedestrian crosswalk east of Ingleton Avenue and associated signing.
2. **THAT** Council approve the inclusion in the 1998/99 Capital Budget of \$380,000 to fund the City's cost share of the sewer and watermain, sidewalks, street lighting, landscaping and other improvements as outlined in Section 4.0 of this report.

REPORT

1.0 BACKGROUND

The Ministry of Transportation and Highways is currently proceeding with the final phase of construction of the Highway #1 High Occupancy Vehicle (HOV) Project. Part of this project will involve the development of a new on-ramp to Highway #1 just north of the Grandview Highway Overpass. As access to the on-ramp will be via Willingdon Avenue and Clydesdale Street, development of the on-ramp will require upgrading of Clydesdale which was formerly a municipal street. Clydesdale Street has recently been classified as a Provincial highway and renamed Grandview Highway. To avoid confusion with the existing section of Grandview Highway west of the Grandview Highway Overpass to Boundary Road, as shown in Figure 1 the section of Grandview Highway east of the overpass to Willingdon will continue to be referred to as Clydesdale Street in this report.

In recognition of the use of Clydesdale Street, the Ministry has been directed to obtain approval from the City of Burnaby prior to commencing design and construction for the project. Accordingly, City staff have been working with Ministry staff on developing a design for the project which meets the needs of businesses in the area and the residents of Regent Street as well as reflecting the general public interest in providing a safe facility. As

the Ministry must have agreement on the design concept for the on-ramp by the end of 1997 October and construction of the on-ramp by 1998 September, this proposal is being advanced at this time for Council consideration.

2.0 WILLINGDON ON-RAMP PROJECT

The Willingdon on-ramp Project consists of two parts including the construction of a new Willingdon on-ramp from Clydesdale Street (now Grandview Highway) at Ingleton Avenue to the freeway and the upgrading of Clydesdale Street to accommodate traffic from Willingdon Avenue westbound to the on-ramp.

2.1 Relocation of the Willingdon on-Ramp

Currently, traffic from Willingdon Avenue headed westbound to the City of Vancouver uses an on-ramp which merges with Highway #1 at the same location as traffic exiting from Highway #1 to the Grandview overpass and the signal at Boundary Road and Grandview. As shown in Figure 1, both of these movements cross each other or "weave" on the same section of highway posing a safety hazard. To resolve this issue as part of the Highway #1 HOV project, the Ministry will be relocating the westbound Willingdon Avenue to access Highway #1 at a point north and west of the Grandview overpass. Traffic from Willingdon would access this new on-ramp via Clydesdale Street which has formerly operated as a municipal street providing access to office/industrial developments between Boundary and Willingdon (including Slough Estates).

2.2 Clydesdale Street Upgrading

(i) Current Status

Currently, Clydesdale Street is a two lane interim standard road adjacent to Highway #1 located between Willingdon Avenue and the Grandview overpass. East of the existing Willingdon on-ramp, Clydesdale is a one-way street and west of the ramp it is a two-way street. Overall, Clydesdale functions as a local industrial street providing access via Gilmore and Ingleton to existing businesses in a large industrial area bounded by Highway #1, Dawson Street, Boundary Road and Willingdon Avenue. Four industrial properties take direct access from Clydesdale including a rear access to the Slough Estates office/industrial park. The street also provides on-street parking which is used by employees and visitors in the area. On its western end, six single family residential properties abut the street close to the location proposed for the new on-ramp.

(ii) Future Conditions

The relocation of the Willingdon on-ramp would change Clydesdale Street from a local industrial street into a major link for highway traffic from Willingdon to Highway #1 as shown in Figure 1. Clydesdale would become a one-way road westbound to the new on-ramp except for a short two way section between Gilmore and the Grandview overpass and would carry estimated traffic volumes of approximately 700-800 vehicles per peak hour compared to the current 150 vehicles per peak hour.

Access to the industrial area north of Clydesdale (including Slough Estates) would be continued via Gilmore but Ingleton Avenue would be closed at Clydesdale to accommodate the new on-ramp.

3.0 DESIGN ISSUES

In developing the design concept for the Willingdon on-ramp project, Ministry and City of Burnaby staff addressed a number of design issues including the following:

(i) Residential Property Acquisition

The new on-ramp will be constructed in close proximity to the existing single family residential properties located on Regent Street backing onto the freeway. As a result, the southerly portion of six properties will be required for either ramp or lane right-of-way as shown in Figure 2. Through construction of a retaining wall abutting these properties on the south, the design would minimize necessary property acquisition and rear lane access to be promised to four of these properties.

It should be recognized, however, that these properties are part of an isolated residentially zoned pocket within an established office/industrial precinct and lack sufficient access to the urban services and amenities available to other residential areas in Burnaby. Recognizing this situation, property owners may be offered the opportunity to sell their entire properties to the Ministry. These residential properties are within the Myrtle Street Study Area and are designated for M5 Light Industrial District development. As such the ultimate disposition of these properties would be assembly for office/industrial development.

(ii) Noise Impacts on Regent Street Residences

The development of the on-ramp will move traffic lanes closer to the Regent Street residences thereby potentially increasing ambient noise levels. To address this concern, the design provides for the installation of concrete security fences atop the new retaining wall which will be built on the south side of the rear access lane of these properties. It is expected that this fence will reduce noise levels after the on-ramp is in operation to a level equal to or less than current levels.

(iii) Access to the Industrial Area

The industrial area is currently accessed on the south via Clydesdale and the north-south streets of Ingleton or Gilmore. While the location of the on-ramp requires the closure of Ingleton Avenue as shown in Figure 1, the main access to the industrial area from Clydesdale eastbound to Gilmore will be maintained.

(iv) Driveways to Clydesdale Businesses

The design provides for the four existing driveways on Clydesdale Street which provide front access to three businesses and rear access to the Dominion Directory building in Slough Estates. To ensure that turning movements into and out of these driveways will not conflict with faster moving through-traffic destined to Highway #1, a separate right-turn lane is provided on the north side of Clydesdale Street adjacent to the driveways to accommodate right-turn in and right-turn out movements.

(v) Sidewalks

Currently, there are some sections of constructed sidewalk on the north side of Clydesdale and a continuous sidewalk from the Grandview overpass of Highway #1 to Boundary Road. In order to maintain the safety of pedestrians on Clydesdale and to provide improved access to transit operating on Boundary Road and on Willingdon Avenue a continuous sidewalk should be developed on the north side of Clydesdale from Willingdon Avenue to the Grandview Overpass. This will require construction of new sections of sidewalk between Gilmore and Willingdon which would be cost shared with the Ministry.

(vi) Pedestrian Crossing

The design for the Willingdon on-ramp does not provide a marked pedestrian crossing from the sidewalk on the north side of Clydesdale to the existing sidewalk on the Grandview Overpass. The number of pedestrians crossing at this point does not meet Ministry warrants for a marked pedestrian crosswalk. However, City staff take the view that as the current design through its sidewalk connections invites pedestrians to cross at a mid block location, those pedestrians should be afforded the protection of the Motor Vehicle Act through provision of a marked crosswalk located east of Ingleton Avenue. This view is supported by the conclusion of a safety review conducted by Hamilton Associates traffic consultants for the Ministry. Based on this safety review, the Ministry has indicated that a marked pedestrian crossing will be provided as requested by the City of Burnaby

(vii) Parking/Stopping Areas on Clydesdale

On street parking currently permitted on both the north and south sides of Clydesdale Street is used by the businesses on Clydesdale as well as some employees in Slough Estates. The project design currently does not accommodate on-street parking on Clydesdale to serve visitors or employees of businesses in the area. Short term visitor parking, however, could be made available on the north side of Clydesdale in the right-turn lane if it is requested by the businesses on Clydesdale. The Ministry is discussing this matter with business owners with a view to identifying the extent of demand for retaining parking/stopping areas.

(viii) Impact on Underground Utilities

The upgrading of Clydesdale presents an opportunity to replace the existing aging watermains and sanitary sewer forcemains. The existing utilities, although not in conflict with the proposed road improvements, will be subject to construction activities and additional loading and should be replaced to avoid a future breakage or leakage problem and to avoid disturbing the new construction in the future. The estimated cost of this utility replacement is approximately \$300,000 and is included as part of the City's share of the on-ramp project cost.

4.0 PROJECT COST SHARING

Under the cost sharing guidelines pursuant to the Highways Act, the Ministry shares with the municipality the cost of those elements which are additional to the basic design necessary to accommodate highway traffic. In working with the Ministry to develop the design City staff have requested the inclusion of a number of design elements to address the needs of Burnaby residents and employees including the following:


- (i) construction of sections of sidewalk and associated drainage to provide a continuous pedestrian facility from Willingdon Avenue to Boundary Road;
- (ii) development of a landscaped boulevard between the sidewalk and the curb on the north side of Clydesdale;
- (iii) street lighting from Gilmore Avenue to the Slough Estates access.
- (iv) underground and utilities including water and sewer mains

The total cost of these cost-shareable works is currently estimated at \$580,000 of which the Ministry's share would be \$200,000 and the City's share would be \$380,000 (net of GST). The City's share comprises \$300,000 for underground utilities and \$80,000 for pedestrian facilities and streetlighting.

5.0 CONCLUSION

The new Willingdon on-ramp to Highway #1 will improve the safety of the highway for both general traffic and carpools. However, the development of the on-ramp will necessitate the upgrading of Clydesdale Street to carry the higher traffic volumes destined to Highway #1. City staff have been working with the Ministry to develop a design which recognizes the needs of businesses on Clydesdale and in Slough Estates for safe access, continuous pedestrian facilities and limited parking/stopping areas as well as the needs of the single family residents on Regent Street for reduced noise levels and appropriate lane access.

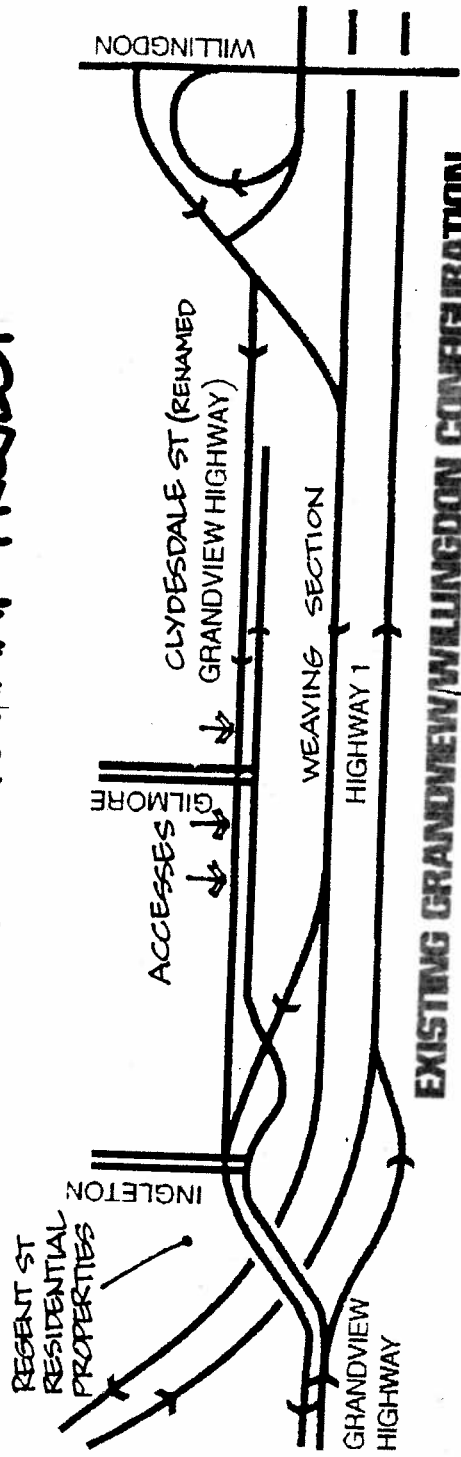
As some of these facilities are cost shareable with the Ministry, Council approval of sharing a portion of the costs of the sewer and watermain replacement, and pedestrian facilities including sidewalks, street lighting and landscaping is required for the Ministry to incorporate these facilities in the final design and construction contract for the project.


D.G. Stenson, Director
PLANNING AND BUILDING

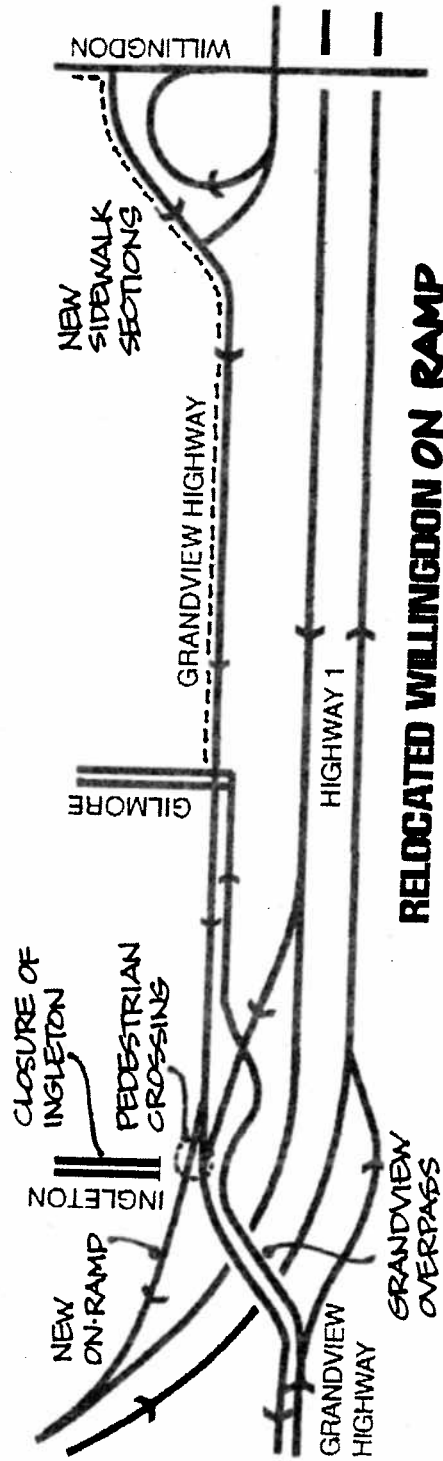
RG\ma
Attachments

cc: Director Engineering
Director Finance

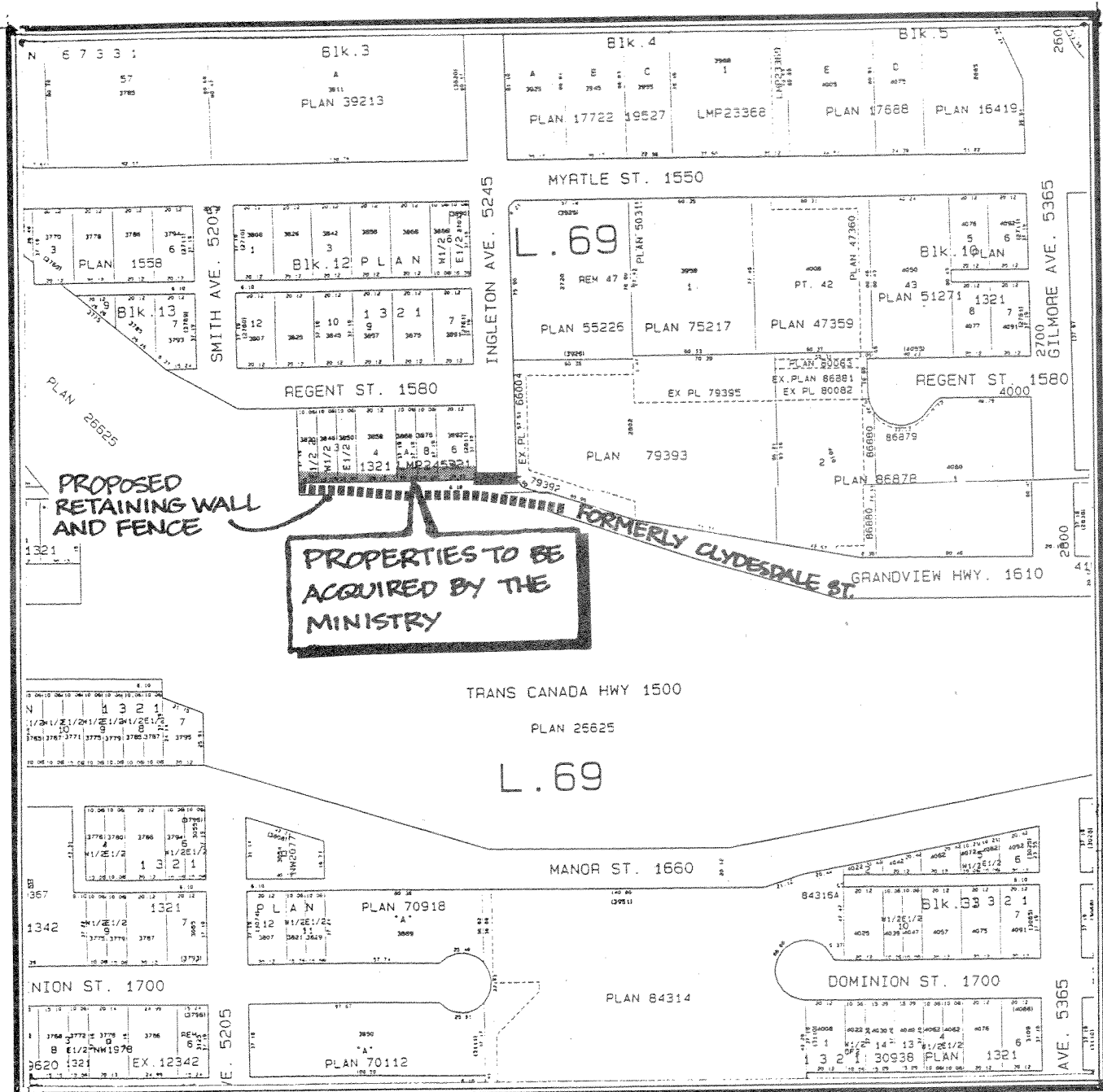
**FIGURE 1
WILLINGDON ON-RAMP PROJECT**



EXISTING GRANDVIEW/WILLINGDON CONFIGURATION



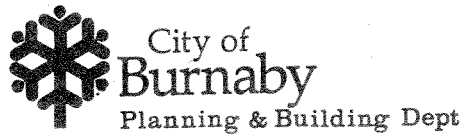
RELOCATED WILLINGDON ON RAMP



Date:

Scale:

Drawn By:



**WILLINGDON ON-RAMP:
REGENT STREET
RESIDENTIAL PROPERTIES**

FIGURE 2