COMMITTEE OF THE WHOLE - APRIL 3, 2006

INVESTIGATION OF THE FEASIBILITY OF CONSTRUCTING A SIDEWALK ON THE SOUTH SIDE OF WOODBRIDGE AVENUE AT THE CP OVERHEAD RAIL LINE

Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That this report be received for information purposes regarding the feasibility for construction of a concrete sidewalk on the south side of Woodbridge Avenue between #275 Woodbridge Avenue and Old Firehall Parkette.

2. That Option D be included as a provisional item in Bid T06-033, Woodbridge Avenue Resurfacing and Watermain Replacement and that staff report on funding and construction staging alternatives at the time that a report is presented on award of the Bid.

Economic Impact

Engineering Services staff have estimated that the costs of installing the subject sidewalk is in the range of $166,000.00 to $230,000.00, depending on the alternative selected. The 2006 Capital Budget has not allocated funds for this work.

Purpose

To investigate the feasibility of constructing a concrete sidewalk on the south side of Woodbridge Avenue between #275 Woodbridge Avenue and Old Firehall Parkette.

Background - Analysis and Options

Council at its meeting of March 20, 2006 (Item 21, Report No. 14 of the Committee of the Whole) approved the following recommendation;

> *"The Committee of the Whole recommends that staff provide a report to the Committee of the Whole meeting of April 3, 2006, on the feasibility and cost implications of constructing a walkway access on the south side of Woodbridge Avenue to the CP overhead rail line, including the concerns expressed with the underpass at William Street."*

Engineering Services staff have investigated this request and report as follows (Please refer to Attachment No. 1 for a Location Map).

An existing high-level Canadian Pacific Railway (CPR) overhead bridge crosses Woodbridge Avenue at James Street. Due to the steep south boulevard slope in this vicinity, a sidewalk was not previously constructed at this location. In addition, there is insufficient room for a City standard 1.5m wide sidewalk adjacent to the existing CPR bridge pier along the eastbound lane.

Staff considered the following four options for constructing the sidewalk (Please refer to Attachments 2 to 5):

Option 'A' - (Attachment No. 2)

Construct 1.5m wide concrete sidewalk behind the existing curb on the approaches to the bridge. Construct concrete tunnel in the embankment behind the CPR bridge pier. The estimated cost for this Option is $230,000.00. CPR approval is required for this Option.

Option 'B' - (Attachment No. 3)

Construct 1.5m wide concrete sidewalk behind the existing curb on the approaches to the bridge. Excavate behind the CPR bridge pier and construct an engineered sectional retaining wall behind CPR bridge pier. The estimated cost for this Option is $175,000.00. CPR approval is required for this Option.

Option 'C' – (Attachment No. 4)

Construct 1.5m wide concrete sidewalk behind the existing curb on the approaches to the bridge. At the CPR bridge, relocate the existing concrete curb-and-gutter 1.5m north of its existing location and construct 1.5m concrete sidewalk. Install some form of pedestrian protection (e.g., steel beam guide-rail, New Jersey barriers, etc.) adjacent to the roadway and provide pavement markings for traffic control. This Option would result in a 'bump-out' in the curb at the CPR bridge. The estimated cost for this Option is $175,000.00. CPR approval is required for this Option.

Option 'D' – (Attachment No. 5)

Construct 1.5m wide concrete sidewalk behind the existing curb on the approaches to the bridge. At the CPR bridge, relocate the existing concrete curb-and-gutter 0.9m north of its existing location and construct a 1.8m concrete sidewalk abutting the CPR bridge pier. Provide appropriate pavement markings for traffic control and install a pedestrian handrail. Although the handrail would not provide for pedestrian protection, it would provide a level of security higher than areas where the sidewalk is adjacent to the curb. This Option would result in a slight 'bump-out' in the curb at the CPR bridge. The estimated cost for this Option is $166,000.00. CPR approval is required in this Option.

In Options A through D above, the existing City services within the south boulevard, (e.g.: light standards), would require relocation. These four Options also include the construction of an engineered sectional retaining wall along the back of the sidewalk on the approaches to the bridge to separate the sidewalk grade from the steep boulevard slope and preserve private property. In addition, these Options involve removal and relocation/replacement of the existing privately installed structures located within the City boulevard limits (e.g.: retaining walls and stairs). The existing driveways would also need extensive grading onto private property to allow the installation of the new sidewalk. Such grading would require the authorization of the respective property owner.

In 1990, Engineering Department staff unsuccessfully applied for CPR approval for the installation of a sidewalk link utilizing a retaining wall behind the abutment through the CPR right of way. Since the field conditions and CPR design concerns would not have changed since that time, it is considered unlikely that CPR approval could be achieved for Options A and B above. Accordingly, we believe that only Options C and D are feasible.

We note that the tender for the construction of a watermain on Woodbridge Avenue and crossing the CPR right-of-way is currently being finalized. This project will include resurfacing of Woodbridge Avenue and some curb replacement. If one of Options C or D could be implemented as part of that project, some economics could be realized. Accordingly, in order to obtain firm pricing on the desired sidewalk, it is recommended that Option D be included as a provisional item in the tender. This would provide a firm price and time for staff to identify funding sources for the sidewalk.

With respect to the William Street underpass, the CPR bridge crossing is a narrow, low subway type structure with supporting abutments at the edge of traveled roadway. William Street is an urbanized thoroughfare width pavement with varying from 8.5 metre at James Street to

approximately 5.0 metre under the bridge. Sidewalks exist on the east side of James Street to Woodbridge Avenue and along the north side of William Street from west of the bridge to Kipling Avenue. There is no available platform under the bridge itself to allow for unobstructed pedestrian passage. In fact, the narrow roadway width will not even permit freeflow passage of two vehicles coincidentally. In terms of provision for sidewalk extensions, there is no opportunity given the present road configuration and bridge structure limitations.

Relationship to Vaughan Vision 2007

This report is consistent with the priorities previously set by Council and the necessary resources have not been allocated and approved.

Conclusion

The estimated range of costs to construct the subject Woodbridge Avenue sidewalk is between $166,000.00 and $230,000.00, depending on the alternative. In order to construct the sidewalk under Options 'A' through 'D' above, CPR approval is required.

Only options C and D are considered feasible. Since the City is planning another major construction contract in the roadway in this area, it would be appropriate to include Option D as a provisional item in the tender for the Woodbridge Avenue project to obtain a firm price for the work. Staff could then explore funding alternatives and make a recommendation on the construction as part of the tender award. CPR approval would be required and construction of the sidewalk is dependent upon receipt of approval.

Attachments

1. Location Map
2. Option 'A'
3. Option 'B'
4. Option 'C'
5. Option 'D'

Report prepared by:

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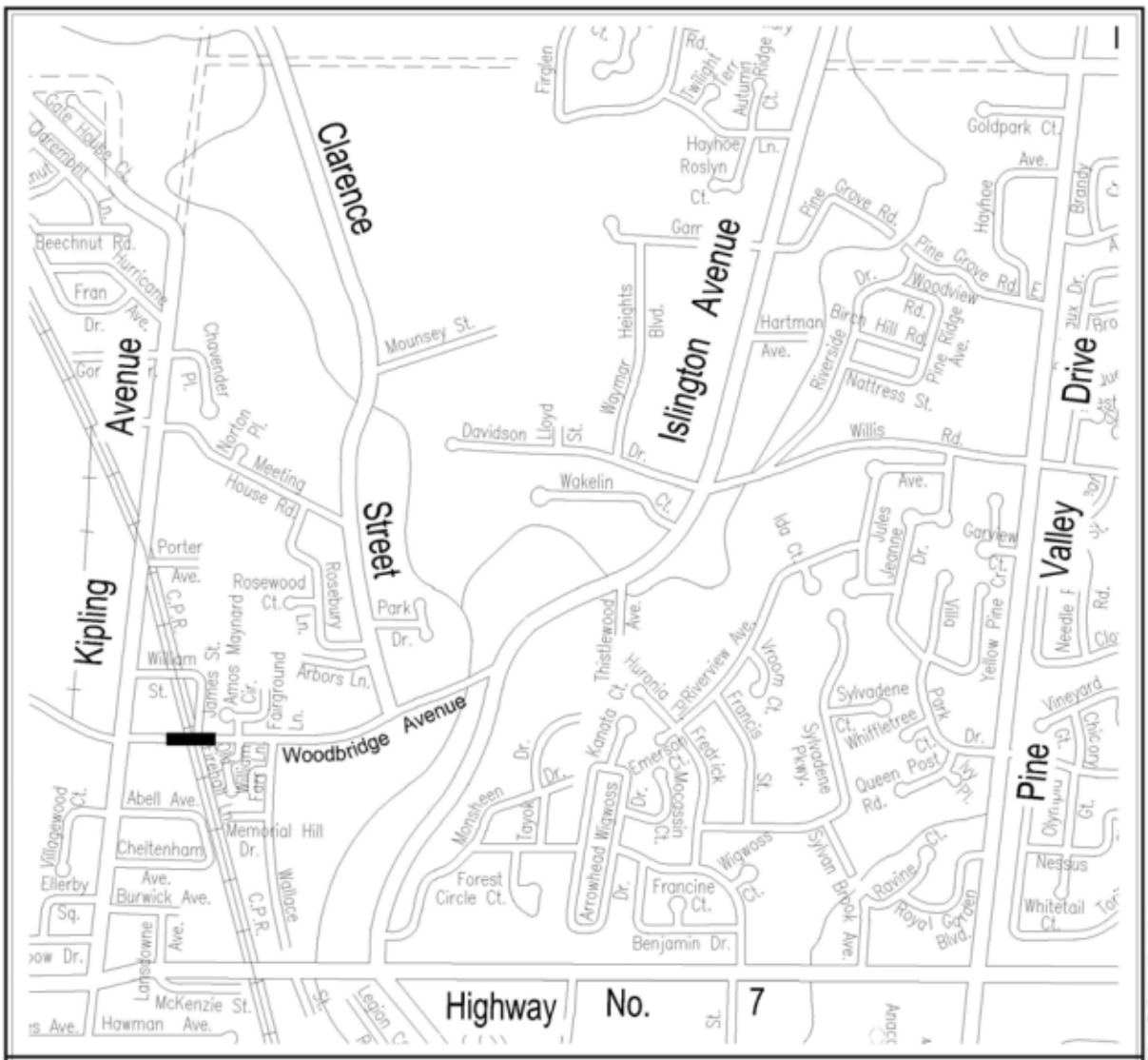
Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works

Gary Carroll, P. Eng.
Director of Engineering Services

ATTACHMENT No. 1



WOODBRIDGE AVENUE
SIDEWALK FEASIBILITY

LOCATION : Part of Lot 7, Concession 7

LEGEND

SUBJECT ROAD

NOT TO SCALE

CITY OF VAUGHAN – ENGINEERING DEPARTMENT

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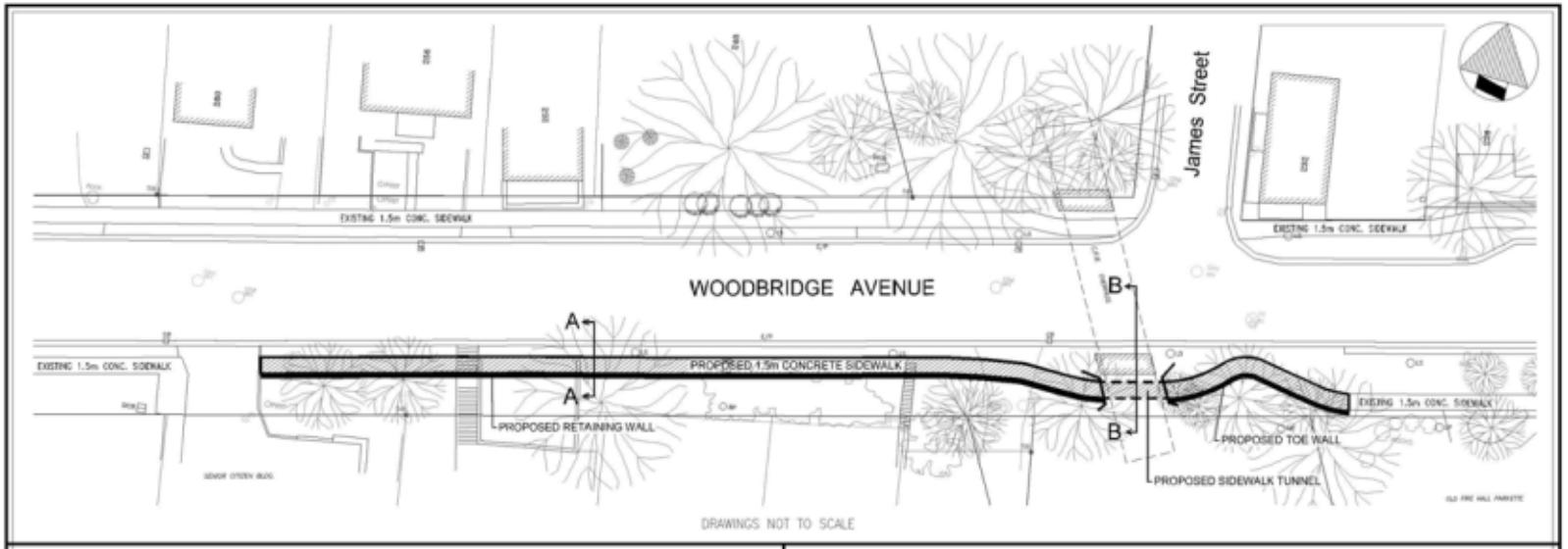
ATTACHMENT 2
OPTION `A'



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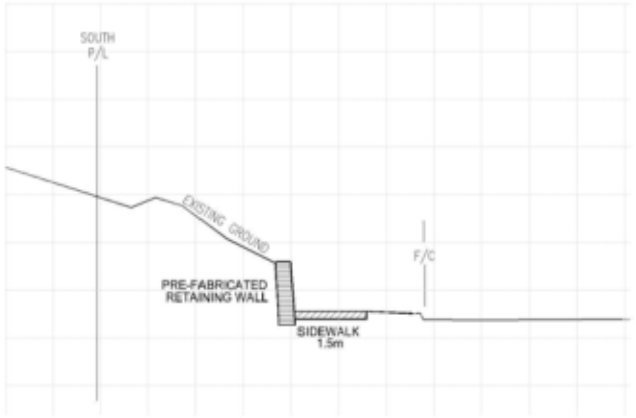

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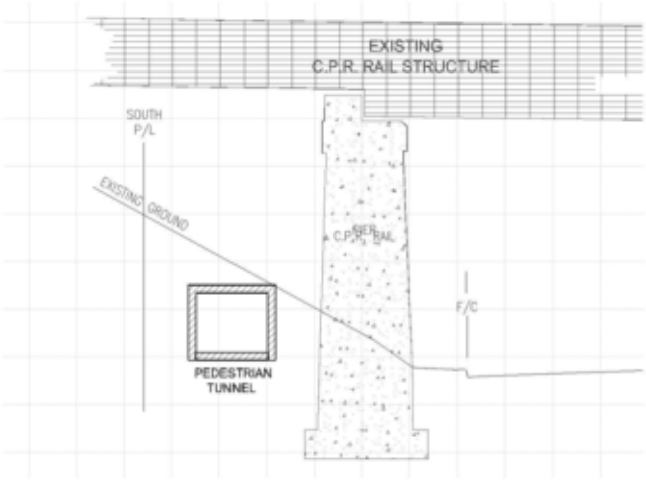

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CITY OF VAUGHAN – ENGINEERING DEPARTMENT

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ATTACHMENT 3
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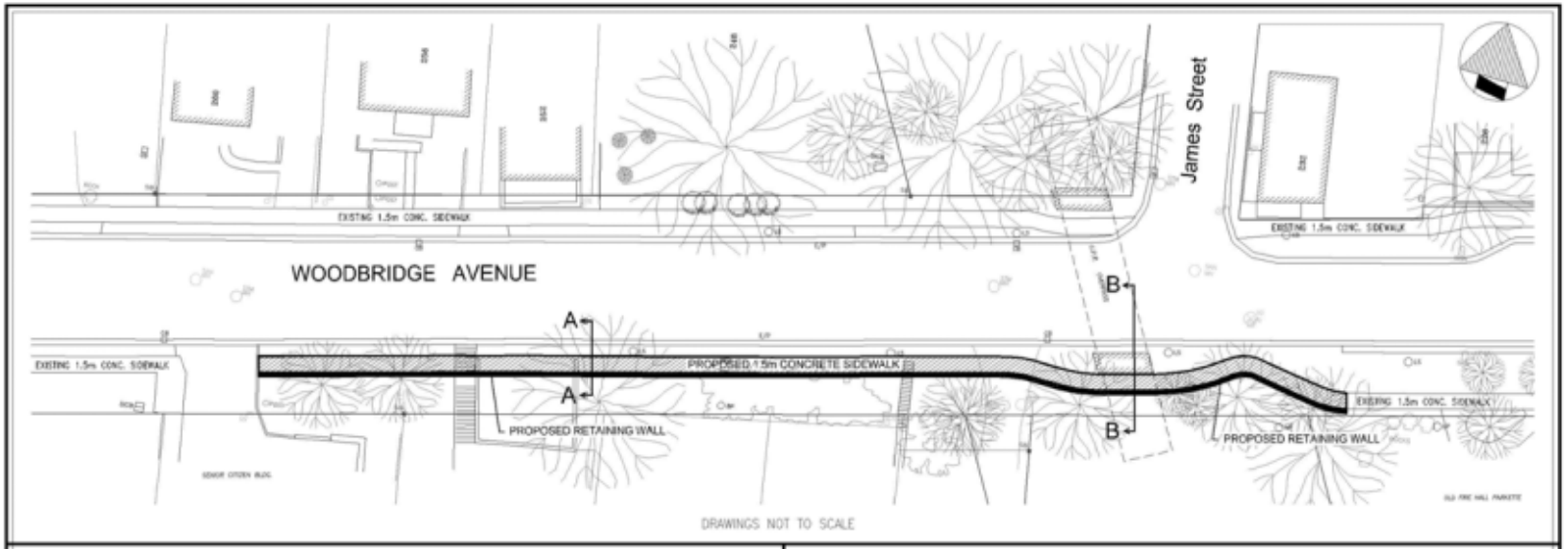

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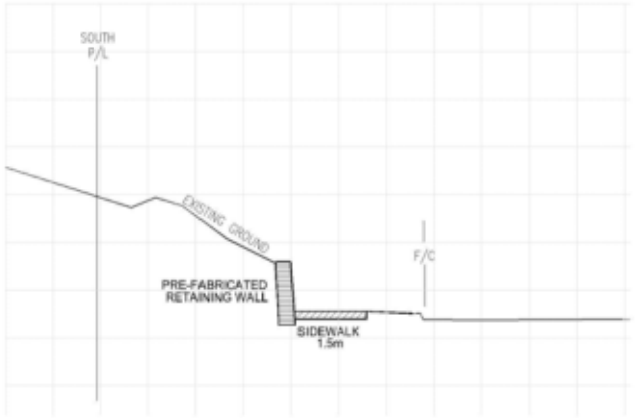

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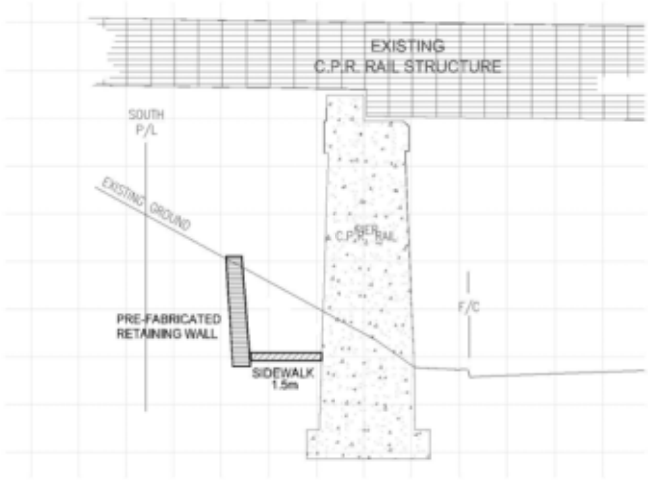

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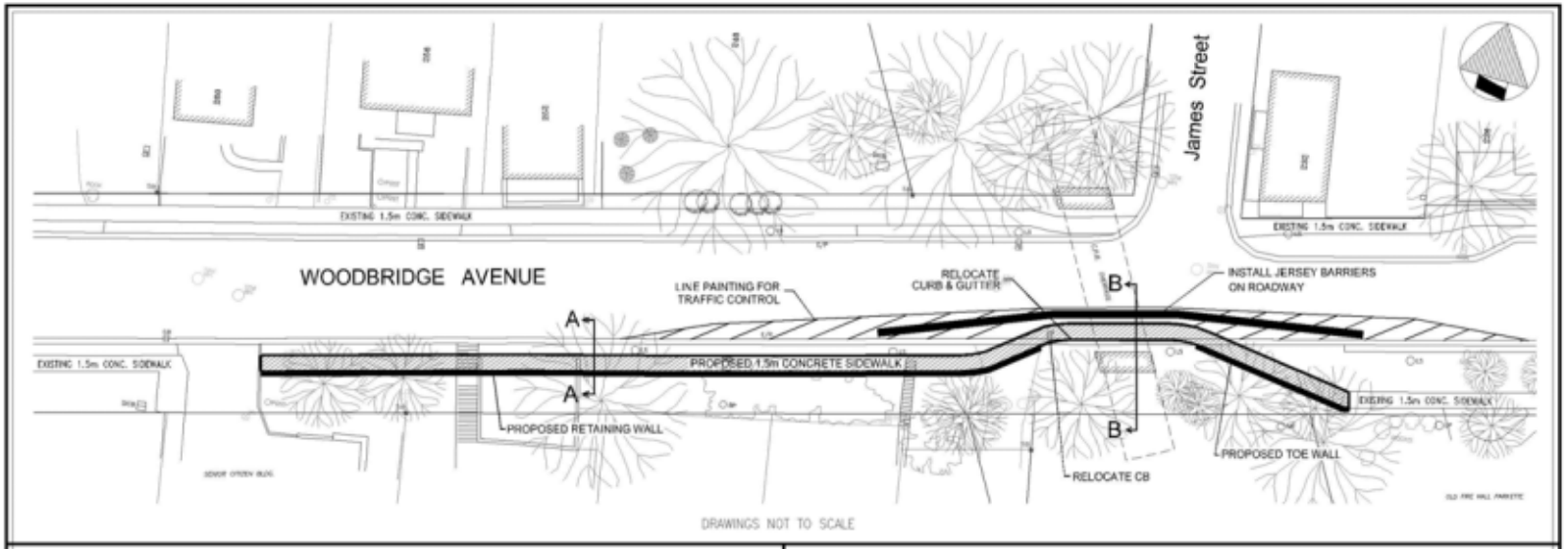

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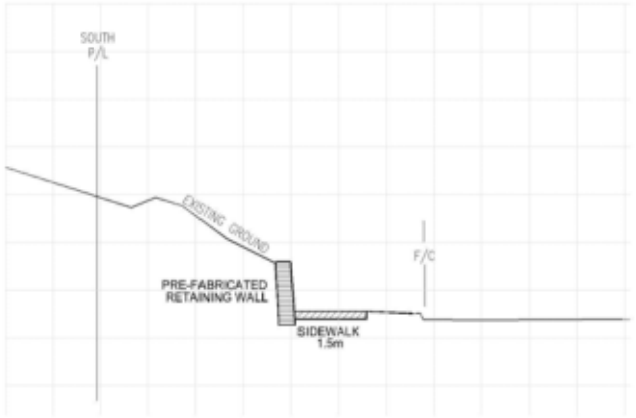

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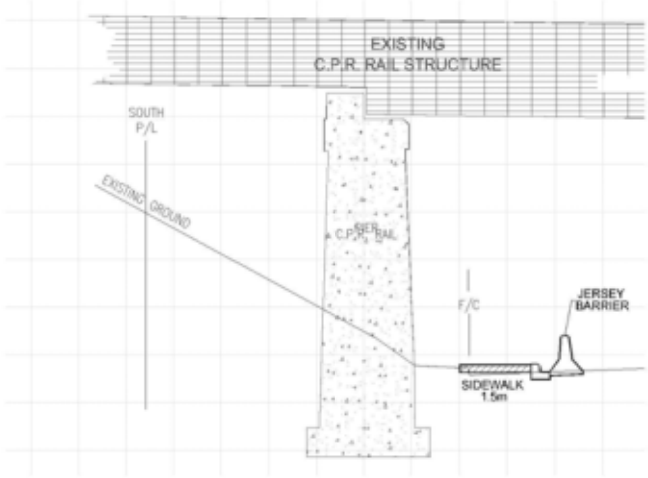

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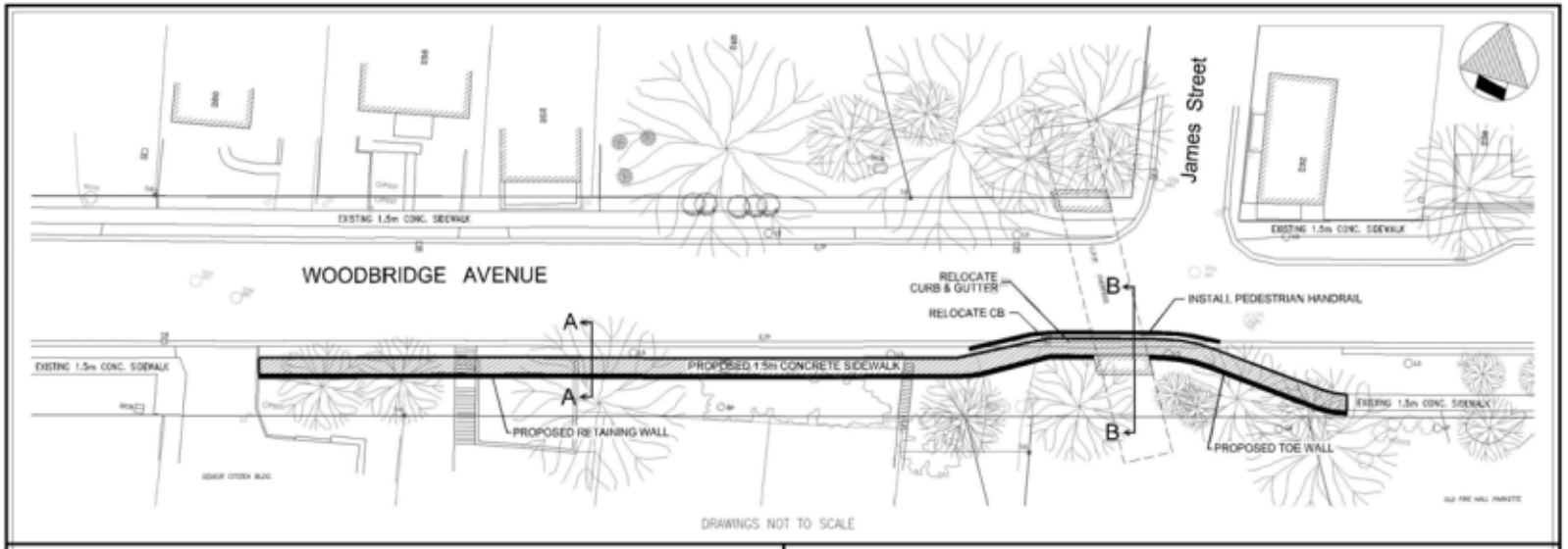
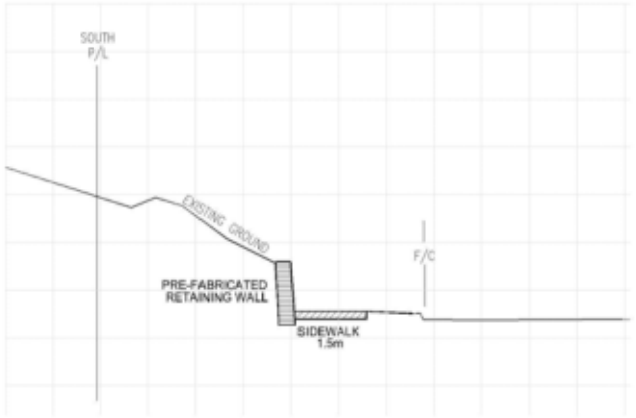
ATTACHMENT 5
OPTION `D'





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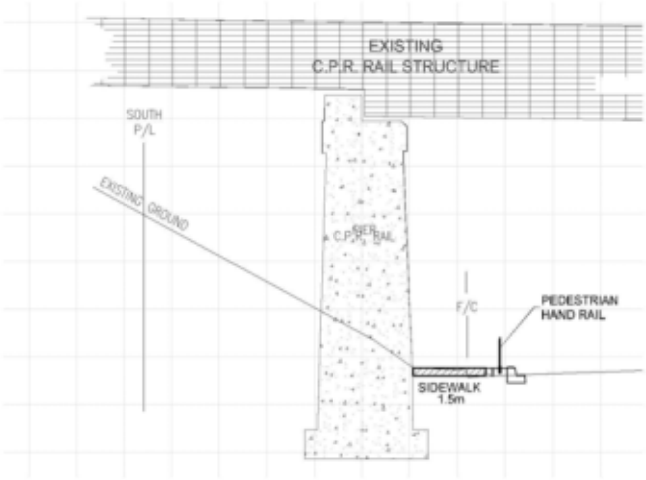

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