

REGION OF OTTAWA-CARLETON  
RÉGION D'OTTAWA-CARLETON

REPORT  
RAPPORT

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Our File/N/Réf.           **50 12-99-R093**  
Your File/V/Réf.

DATE                       6 October 1999

TO/DEST.                 Co-ordinator  
                              Transportation Committee

FROM/EXP.               Environment and Transportation Commissioner

SUBJECT/OBJET         **SUSSEX DRIVE MODIFICATIONS - STANLEY AVENUE TO  
PRINCESS AVENUE**

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#### **DEPARTMENTAL RECOMMENDATION**

**That Transportation Committee recommend Council:**

- 1. Approve the scope of works contained in this report;**
- 2. Approve the preliminary design for the project as detailed in the presentation drawings;**
- 3. Authorize the Environment and Transportation Department to proceed with the relocation of utilities to be determined in the detailed design stage;**
- 4. Approve that a traffic control signal not be installed at Sussex Drive and Rideau Gate, or;**
- 5. Approve that a traffic control signal be installed at Sussex Drive and Rideau Gate subject to the National Capital Commission:**
  - (a) paying the total cost of the signal installation;**
  - (b) paying the annual maintenance and operation costs, and;**
  - (c) executing a legal agreement with respect to (a) and (b).**

## BACKGROUND

The National Capital Commission (NCC) has contracted work for the refurbishment of the main entranceway columns at 24 Sussex Drive. As well, the Commission has developed plans to regrade and landscape the Ceremonial Area on the south-east corner of Sussex Drive at Rideau Gate, at the entrance to the Governor General's residence. This work is to be completed by 30 June 2000. The works include proposals for revisions to traffic lane arrangements on Sussex Drive from Stanley Avenue to Princess Drive, as well as changes on Rideau Gate and Thomas Street, both of which are under the jurisdiction of the City of Ottawa.

The separation of pedestrian and vehicular traffic flow including tour bus access/egress at Rideau Gate, is of primary importance to the Commission's development of the proposed modifications to the forecourt at the Governor General's entranceway. In order to actively control the Programming Area, a curb is introduced to delineate between the Ceremonial Area and the travelled portion of the Rideau Gate roadway. The resulting "T" intersection which is developed at Rideau Gate and Sussex Drive will offer limited lateral visibility thus the installation of traffic control signals becomes necessary to govern the operation of this intersection.

Within the regional road allowance on Sussex Drive, the Commission's work would involve minor modifications to existing curb lines plus changes to lane designations in order to reconfigure the roadway from a 4 UAU, two lanes per direction of travel, to a 2+1UAU, being one lane in each direction with a turning lane in the middle. This effectively extends the "parkway" lane arrangements and associated capacity capabilities some 625 m. southward on Sussex Drive from Princess Avenue to Stanley Avenue as shown on Figure 1. Future construction proposed by the Commission to incorporate a new sidewalk on the east side of Sussex Drive/Princess Avenue from Rideau Gate to Rockcliffe Driveway, as well as modifications to the intersection of Rockcliffe Driveway/Princess Avenue are shown in Figure 2.

The curb radius created by the bullnose design of the "Forecourt Area", coupled with the revised lane arrangements on Sussex Drive/Princess Avenue, will not accommodate right-turn movements by long vehicles - trucks and buses - from Rideau Gate onto Sussex Drive/Princess Avenue northbound. The Commission has addressed this situation by establishing that tour bus circulation will be organized to preclude such movements.

In accordance with the Region's cycling priority policy, bike lanes are incorporated in the NCC's proposal.

The Region had scheduled an asphalt overlay of the traffic lanes on Sussex Drive. This has been postponed north of Stanley Avenue to be co-ordinated with the NCC's works.

The Commission have confirmed that if the works are approved to proceed, the Commission will enter into an agreement with the Region such that the NCC will assume the responsibility for all the costs associated with the design, installation, maintenance and operating costs of the traffic control signals at the Sussex and Rideau Gate intersection.

From the Region's perspective, the curve at the intersection of Sussex at Rideau Gate is considered to be deficient in terms of its geometric design. Basic roadway curve design theory includes a banking or "superelevation" of the roadway - lower elevation of the inside edge, higher on the outer edge, in order to counteract the outward centrifugal force which a vehicle is subjected to as it travels around the curve. On the Sussex Rideau Gate curve, the existing cross-section from the centre line to the outside edge of the curve has a surface which slopes downward to the outside of the curve. This situation augments the centrifugal force on a vehicle and tends to expel the vehicle out of the side of the curve.

Collision information gathered for this location shows that over the three years - 1995 to 1997, approximately 26 of the 31 reported collisions at this location could be attributed to vehicles which did not successfully negotiate the curve. Sussex Drive between MacKay and Rideau Gate is ranked 32 out of 205 on the Region's 1997 Frequency Ranking Report for "no control" collision locations.

In order to mitigate the situation, it is proposed to revise the roadway cross-section to incorporate superelevation on the curve. The extent of this "civil" work is as shown on display Figure 3. The estimated cost for the design and construction of the geometric modification is \$445,000. It is recommended that the work be undertaken in conjunction with the NCC's work in order that the economics afforded by shared construction costs on mutual elements may be achieved. A joint design and construction initiative will facilitate the implementation of compatible curb and entranceway grades.

### PUBLIC PARTICIPATION

The Commission held a Public Information Session at Ottawa City Hall on Tuesday, 17 November 1998. Seventeen persons attended the event. All comments received by the Commission with respect to their proposals were positive.

### EXPENDITURE JUSTIFICATION

Works currently proposed by the NCC on curbs and entranceways adjacent to the intersection of Sussex Drive and Rideau Gate can be constructed either to match existing features or to tie into a new roadway profile. The opportunity exists at this juncture for the Region to affect an improvement to the roadway geometry and co-ordinate the reconstruction of adjacent NCC works.

If the Region's works were to be deferred, the NCC would be obligated to match to existing conditions. Subsequent modifications of the roadway would require reconstruction of some of the new NCC features.

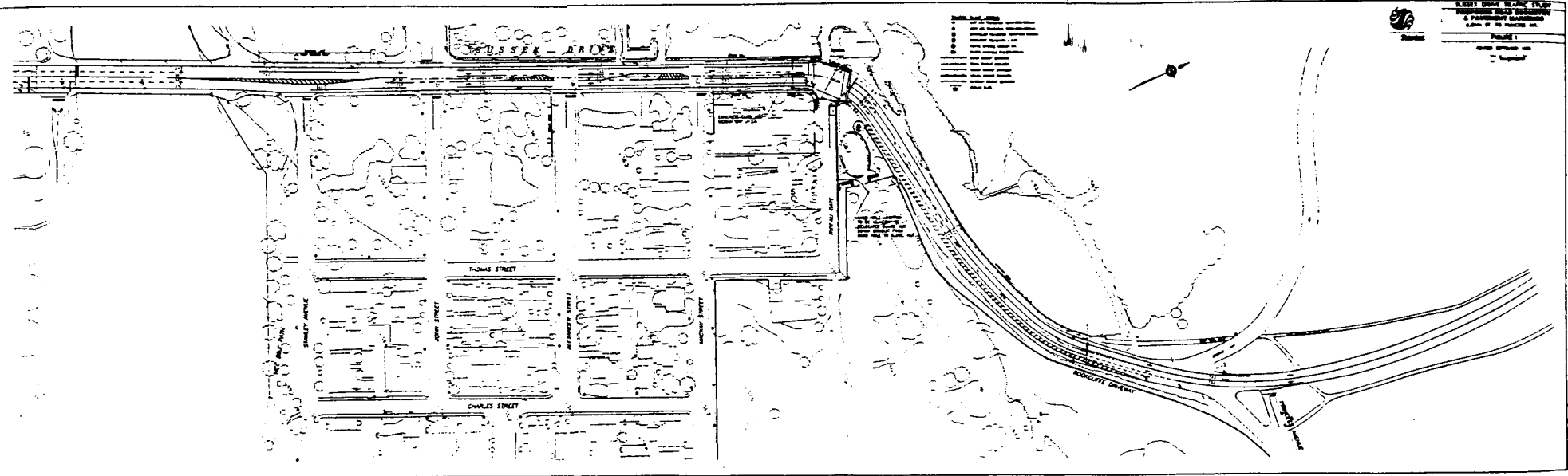
FINANCIAL STATEMENT


Funds will be provided in the 2000 Capital Budget, Order No. 900078, Sussex Drive at Rideau Gate.

*Approved by  
M.J.E. Sheflin, P.Eng.*

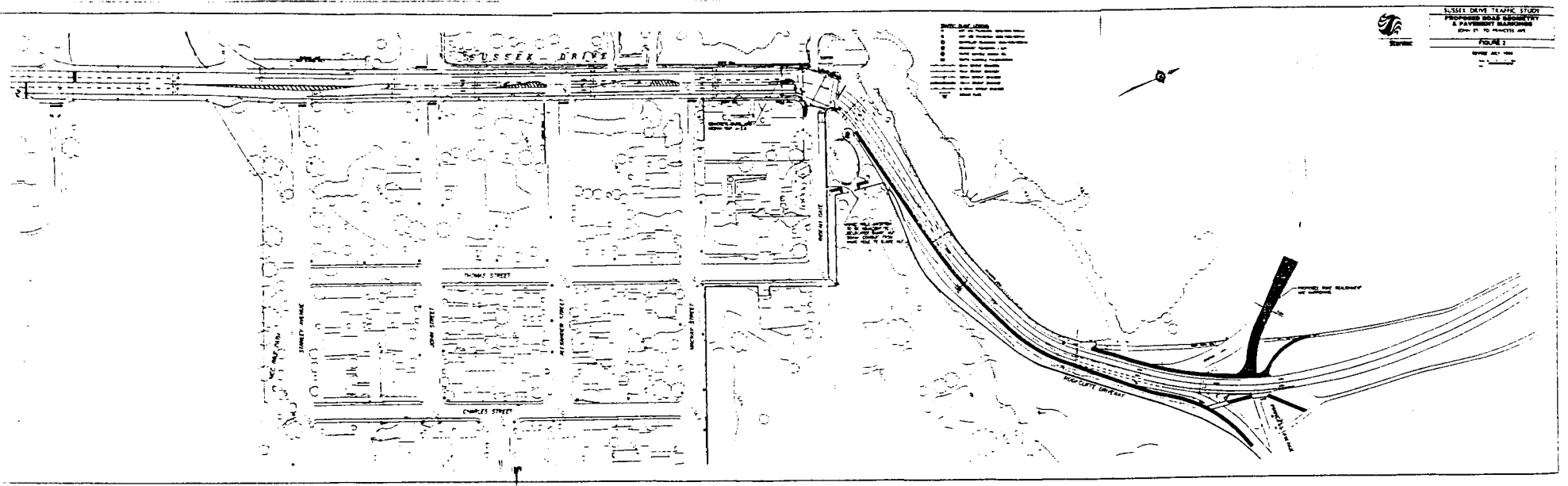
JBT/cpv

Attach ( 3 )

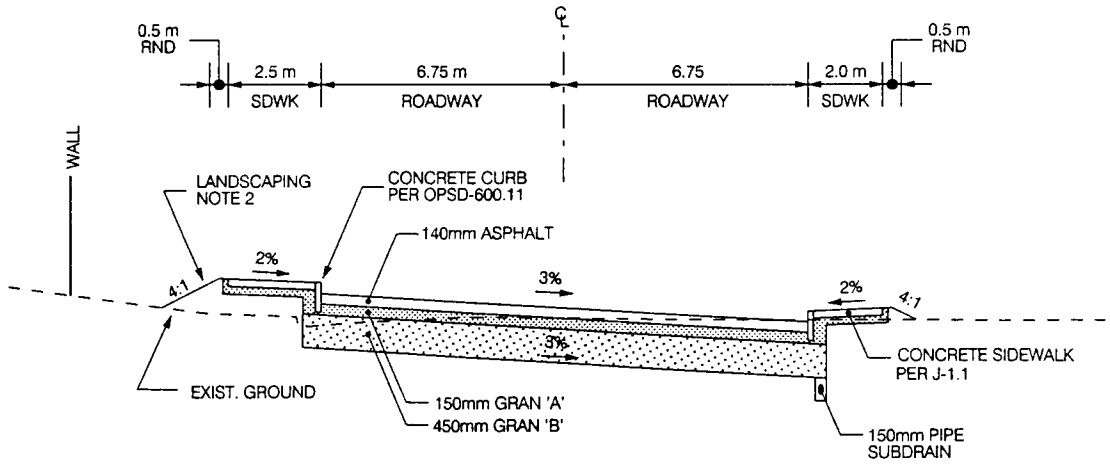
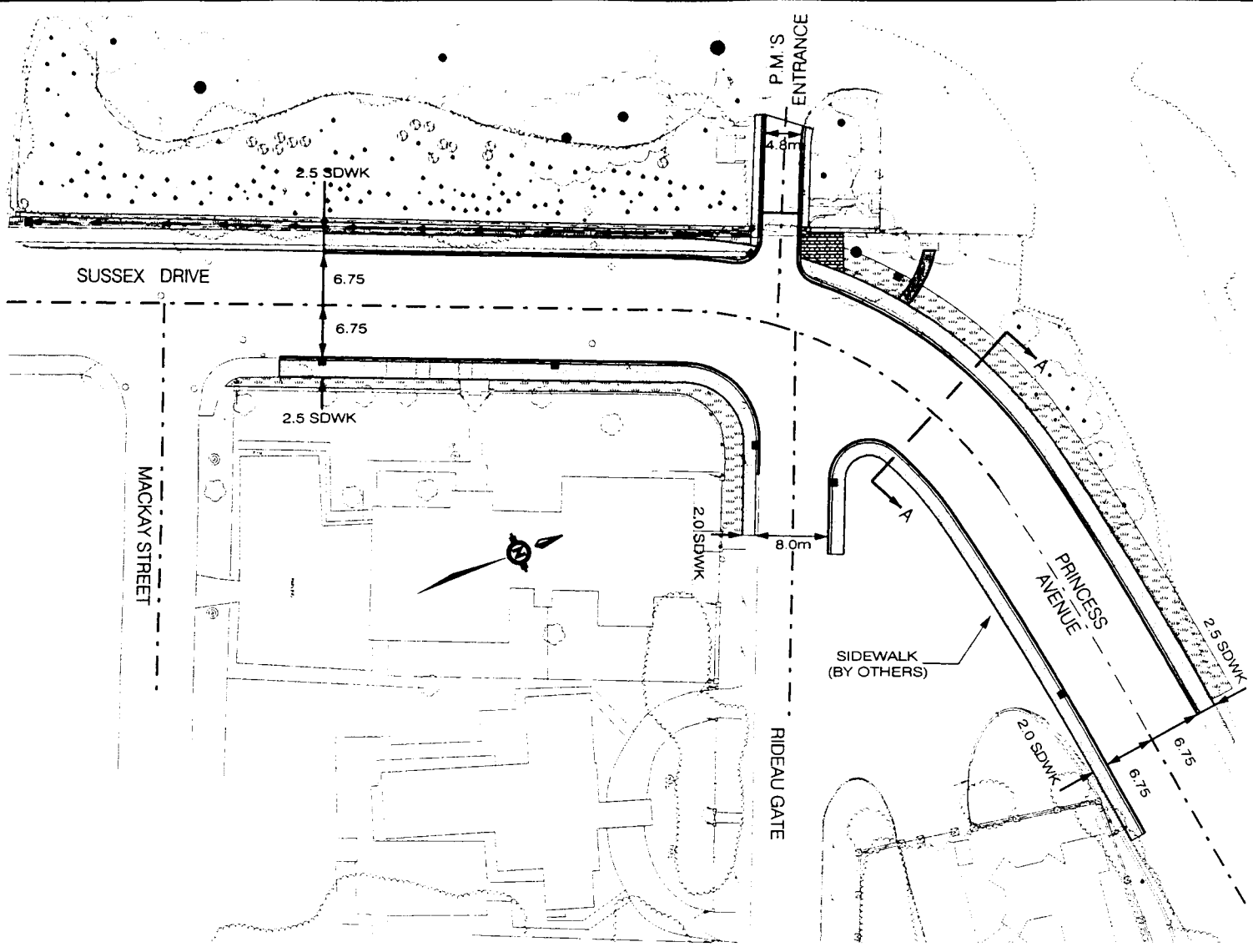



**DEPARTMENT OF TRANSPORT**  
 ROAD & TRANSPORT ENGINEERING  
 1/2000  
 ROAD DESIGN  
 ROAD DESIGN  
 ROAD DESIGN

Symbol	Description
(Symbol)	Proposed Road
(Symbol)	Proposed Footway
(Symbol)	Proposed Cycleway
(Symbol)	Proposed Drainage
(Symbol)	Proposed Sewer
(Symbol)	Proposed Water Main
(Symbol)	Proposed Gas Main
(Symbol)	Proposed Electricity Main
(Symbol)	Proposed Telephone Main
(Symbol)	Proposed Cable Main
(Symbol)	Proposed Cable TV Main
(Symbol)	Proposed Cable Modem Main
(Symbol)	Proposed Cable Internet Main
(Symbol)	Proposed Cable TV Service
(Symbol)	Proposed Cable Modem Service
(Symbol)	Proposed Cable Internet Service
(Symbol)	Proposed Cable TV Network
(Symbol)	Proposed Cable Modem Network
(Symbol)	Proposed Cable Internet Network
(Symbol)	Proposed Cable TV Distribution
(Symbol)	Proposed Cable Modem Distribution
(Symbol)	Proposed Cable Internet Distribution
(Symbol)	Proposed Cable TV Connection
(Symbol)	Proposed Cable Modem Connection
(Symbol)	Proposed Cable Internet Connection
(Symbol)	Proposed Cable TV Drop
(Symbol)	Proposed Cable Modem Drop
(Symbol)	Proposed Cable Internet Drop
(Symbol)	Proposed Cable TV Service Drop
(Symbol)	Proposed Cable Modem Service Drop
(Symbol)	Proposed Cable Internet Service Drop
(Symbol)	Proposed Cable TV Network Drop
(Symbol)	Proposed Cable Modem Network Drop
(Symbol)	Proposed Cable Internet Network Drop
(Symbol)	Proposed Cable TV Distribution Drop
(Symbol)	Proposed Cable Modem Distribution Drop
(Symbol)	Proposed Cable Internet Distribution Drop
(Symbol)	Proposed Cable TV Connection Drop
(Symbol)	Proposed Cable Modem Connection Drop
(Symbol)	Proposed Cable Internet Connection Drop



L-3511 DRIVE TRAFFIC STUDY  
 PROPOSED HOV-3 HOV-4 HOV-5  
 & PAYMENT MEASURES  
 APRIL 17, 2013 PROJECT 041  
 FIGURE 3  
 DATE: JUL 1, 2013



SECTION A-A  
NTS

		FIG. NO.	
		3	
1999 CAPITAL PROGRAMME TRANSPORTATION PROJECTS BRANCH MUNICIPAL DESIGN SECTION		SHEET	OF
SUSSEX DRIVE RECONSTRUCTION MACKAY ST. TO RIDEAU GATE		CONTRACT NO.	
Des:	L.P.D.	Chkd:	B.T.
Des:	L.P.D.	Chkd:	B.T.
Date:	SEPT. 1999		
Scale:	HORIZONTAL NTS		