



**CITY OF RICHMOND**

**REPORT TO COMMITTEE**

**TO:** Public Works and Transportation Committee      **DATE:** December 11, 2000  
**FROM:** Jeff Day, P. Eng.  
          Director, Engineering      **FILE:** 6340-20-P.00306  
**RE:** 11000 Block Granville Avenue North Side Ditch Infill

**STAFF RECOMMENDATION**

It is recommended that:

1. The ditch infill project for the north side of the 11000 block of Granville Avenue be removed from consideration as a candidate for funding in the Year 2001 Capital Budget, and
2. The ditch infill project for the north side of the 11000 block of Granville Avenue remain for consideration as a candidate for funding in the year 2004 within the proposed 5 year Capital Program.

Jeff Day, P. Eng.  
Director, Engineering

FOR ORIGINATING DIVISION USE ONLY	
<b>ROUTED TO:</b>	<b>CONCURRENCE</b> <i>[Signature]</i> <b>CONCURRENCE OF GENERAL MANAGER</b>
Public Works Drainage .....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/> <i>[Signature]</i>

STAFF REPORTORIGIN

At the April 19, 2000, Public Works and Transportation Committee meeting, it was resolved:

- (1) *That infill of the ditch along the south side of the 11000 block of Granville Avenue, along with selective regrading and cross drainage of the north side ditch, proceed in the year 2000 in accordance with the approved 2000 capital plan, and*
- (2) *That the performance of the south side ditch infill be monitored to assess any need to accelerate the infill of the ditch along the north side of the 11000 block Granville Avenue in the 5 year capital plan, and*
- (3) *That the ditch infill project for the north side of the 11000 block of Granville Avenue, be considered as a candidate for funding in the Year 2001 Capital Budget.*

Item (1) of the resolution was completed in July of 2000. This report addresses items (2) and (3) of the resolution.

ANALYSIS

On April 19, 2000, staff presented a report to the Public Works and Transportation Committee regarding the infill of the ditch on the south side of the 11000 block Granville Avenue (Shell Road/CN Right of Way to No. 5 Road). At the same meeting, a delegation of residents from the north side of Granville Avenue requested that the City infill the ditch on the north side of the 11000 block of Granville Avenue concurrent with the south side ditch infill to address local drainage concerns. Rather than proceed immediately with infill of the north ditch, staff proposed to monitor the effectiveness of the south side ditch infill for alleviating local drainage problems. This monitoring was to determine if there was any need to accelerate infill of the north side ditch to occur in 2001 rather than 2004 as originally planned.

The ditch infill on the south side of the 11000 block of Granville Avenue, including cross drains interconnecting the north side ditch to the new south side storm sewer, was completed by the end of July, 2000. During the summer of 2000, the Ministry of Transportation and Highways also completed drainage improvements at the Steveston Highway and No. 5 Road interchange, which ultimately resulted in lower water levels in the 11000 block Granville Avenue north side ditch.

Historically, rainfall has tended to increase during the months of October and November and continue through the winter months. Accordingly, in October 2000 staff began monitoring water levels in the 11000 block Granville Avenue north side ditch. While the 2000 fall and winter rainfall has been lower than average, there have been periods of heavy rainfall during which meaningful monitoring could occur. At no time did the water level in the ditch exceed 0.3 metres (1 foot) depth at any of the six monitoring locations along the north side ditch of the 11000 block of Granville Avenue. The recorded water levels are substantially lower than those

observed prior to the improvements when water levels were typically high with standing water deeper than 0.6m (2 feet) in places, and occasionally near the top of the ditch bank. The ditch monitoring record information is appended herewith. Furthermore, no drainage related flooding complaints have been received in the area since completion of the south ditch improvements in July 2000.

When the north side ditch infill does proceed, it should be scheduled concurrently with the watermain construction along the north side road shoulder of Granville Avenue. This watermain is soon due for replacement. Smart sequencing of these projects will minimise overall costs and construction related disruption for local residents.

It should also be noted that the Greater Vancouver Water District (GVWD) has currently proposed the construction of a large transmission watermain along the Granville Avenue corridor with approximate scheduling from 2005 to 2008. The GVWD advises that they are not yet able to determine precisely which year this section of road will be impacted. However, delaying construction of the ditch infill at this time provides some flexibility for co-ordinating construction of the ditch infill with the GVWD transmission watermain.

#### FINANCIAL IMPACT

The proposed 2001 Capital Program currently includes the ditch infill on the north side of the 11000 block of Granville Avenue as a candidate for funding in order to ensure that sufficient funds would be available should immediate improvements be required for the north side Granville Avenue ditch. As improvements and funds are not required at this time, there will be no financial impact.

#### CONCLUSION

Staff initiated a water level monitoring program for the north side ditch in the 11000 block of Granville Avenue following completion of the south side Granville Avenue ditch infill. Monitoring results indicate that the infill of the ditch along the north side of Granville Avenue, 11000 block is not required at this time and as a result it is recommended that the ditch infill be considered for construction in 2004 as originally proposed in the 5 year Capital Program.



Steve Ono, P.Eng.  
Manager, Engineering Design & Construction

SO:rg

# Appendix A

## Ditch Monitoring Summary Results

Date /Time	Address on Granville	Sta.	Inv. Elev of culvert crossing (m)	Depth from top of water to top of stake (m)	Depth from top of water to top of bank (m)	Water Depth (cm)	Weather Condition / Comments
10/31/00 10:15	11001	0+50		1.400	1.350	28	*Med/Heavy rain overnight & morning. *Flow blocked at 11511 Granville east side culvert crossing (dirt covering culvert). *Ditch needs cleaning east of 11711. *Flow through cross-culverts is good.
	11111	1+27	0.998	1.510	1.450	17	
	11211	2+10	0.899	1.370	1.255	19	
	11291	2+99	0.927	1.540	1.380	26	
	11731	4+95	0.737	1.830	1.755	0	
	11871	6+50		1.650	1.595	20	
11/8/00 9:00	11001	0+50		1.400	1.350	26	*Med rain overnight. *Culvert cleared at 11511 Granville on 11/08/00. *Flow through cross-culverts is good.
	11111	1+27		1.510	1.450	20	
	11211	2+10		1.405	1.290	18	
	11291	2+99		1.400	1.240	26	
	11731	4+95		1.860	1.785	0	
	11871	6+50		1.700	1.645	27	
11/23/00 1:30	11001	0+50		1.380	1.330	29	*Moderate rain overnight & throughout the day. *Flow through cross-culverts is good.
	11111	1+27		1.390	1.330	27	
	11211	2+10		1.395	1.280	14	
	11291	2+99		1.520	1.360	29	
	11731	4+95		1.800	1.725	0	
	11871	6+50		1.720	1.665	23	
11/29/00 1:30	11001	0+50		1.370	1.320	22	*Moderate rain overnight & throughout the day. *Flow through cross-culverts is good.
	11111	1+27		1.440	1.380	23	
	11211	2+10		1.410	1.295	19	
	11291	2+99		1.540	1.380	20	
	11731	4+95		1.850	1.775	5	
	11871	6+50		1.670	1.615	23	
12/12/00 10:30	11001	0+50		1.410	1.360	23	*No rain. *Flow through cross-culverts is good.
	11111	1+27		1.480	1.420	17	
	11211	2+10		1.480	1.365	15	
	11291	2+99		1.560	1.400	25	
	11731	4+95		1.830	1.755	0	
	11871	6+50		1.720	1.665	18	

13