

**TO:** CITY MANAGER

1999 AUGUST 04

**FROM:** DIRECTOR PLANNING AND BUILDING

**SUBJECT:** CULVERTING OF A SECTION OF A TRIBUTARY OF SILVER CREEK,  
THE "WESTERLY WATERCOURSE" AT 8335 EASTLAKE DRIVE  
(FORMER SEARS CANADA PROPERTY)

**PURPOSE:** To provide information regarding Department of Fisheries and Oceans' (DFO) and Ministry of Environment, Lands and Parks' (MOELP) approvals to culvert a relocated section of a tributary of Silver Creek on the western portion of 8335 Eastlake Drive (formerly the Sears Canada property).

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**RECOMMENDATION:**

1. **THAT** this report be received for information.

**REPORT**

**1. BACKGROUND**

At its meeting of 1999 July 26, Council requested staff report on the culverting of the stream that runs adjacent to the Sears Centre which is a tributary of Silver Creek, informally referred to as the "westerly watercourse" at 8335 Eastlake. This request was in response to a recent letter to the editor in the 1999 July 18 edition of the *Burnaby Now* which suggested DFO approval was not in place in regard to the culverting of this section of the tributary draining into Silver Creek. This report provides the information requested by Council.

**2. HISTORY OF AGENCY APPROVALS TO CULVERT A SECTION OF A TRIBUTARY TO SILVER CREEK, "THE WESTERLY WATERCOURSE"**

As identified in the 1999 July 06 report to Council on the public hearing issues associated with the rezoning of 8335 Eastlake, the original location of the westerly watercourse was diverted eastward into a temporary channel between 1968 and 1973 in connection with the building of the Sears warehouse at 2820 Underhill Avenue (see Figure 1). This watercourse is culverted for 1200m downstream where it daylights south of Winston Street at the BNR

line prior to discharging into the Brunette River. The relocated channel was constructed to temporary standards with extremely steep side slopes (1.5:1). The channel was characterized by semi-vertical areas of failure as high as 5m with extensive sedimentation and erosion. The original Lake City industrial subdivision servicing concept included culverting both the westerly and easterly watercourses (both tributary to Silver Creek) through this site although servicing was not required until this portion of the site was developed or subdivided so that appropriate locations of storm sewers and easements could be established. This preceded Council's adoption of an open watercourse policy (1979) as well as the introduction of DFO and MOELP's *Land Development Guidelines for the Protection of Aquatic Habitat* and is reflective of the development conditions on the site and the approach to stormwater management, primarily involving culverting, at the time.

In 1991, an application for subdivision of the subject property into two lots was received from Sears Canada. As part of the servicing requirements for the subdivision, request was made to culvert both the easterly and westerly watercourses. At this time, Council had an adopted policy recommending watercourses be maintained in an open condition unless approved by Council based on special conditions and staff recommendations by all departments concerned. Staff recommended culverting a portion of the westerly watercourse due to the severe geotechnical instability of the stream channel walls and erosion and sedimentation concerns which could impact downstream fish habitat as well as the City's stormwater system. It was recommended that the lower 200 foot portion (upstream of Eastlake) of the westerly watercourse be maintained in an open state and potentially enhanced as grades were stable and mature vegetation existed. Recommendation was made to culvert the easterly watercourse for similar reasons. It was recognized that both tributaries were not fish accessible and possessed limited habitat value. Council adopted the recommendations of the report on 1991 December 09.

Under the Federal Fisheries Act which protects fish and fish habitat, approval by DFO was required prior to the proposed culverting and storm system upgrades. This was granted in a letter from DFO dated 1993 June 15. DFO indicated at the time that although their agency did not generally support the practice of culverting streams, the upper sections of the westerly watercourse were recognized as very unstable as substantiated in a geotechnical report. Compensation for the riparian habitat that would be lost with culverting was required. As no opportunities for enhancement onsite existed, compensation in the form of a \$5,000 donation to DFO's Habitat Conservation Fund was requested so that enhancement works could be implemented in the Burnaby Lake watershed. To this end, compensatory funds were paid to BCIT's Burnaby Lake Systems Project for enhancement works in the watershed which have since been implemented. Funds were applied towards various enhancement projects within the watershed including riparian plantings on Still Creek, Eagle Creek and Stoney Creek as well as the installation of baffles to enhance fish passage through a culvert on Eagle Creek. In addition to compensation, requirements for sediment control and site

practices based on the *Land Development Guidelines for the Protection of Aquatic Habitat* were stipulated by DFO. DFO's approval for culverting of the westerly watercourse was given without a stipulated time limit.

MOELP approval was also required under the Provincial Water Act involving changes in and about streams for proposed culverting and storm system upgrades. This was granted in a letter from MOELP dated 1993 July 12. The approval was granted for works to be implemented in the low flow, "fisheries window" (period least sensitive to fish) and completed by 1993 September 30. Similar requirements to those of DFO with regard to sediment control and vegetation protection were stipulated in the approval letter.

Following the necessary approvals by DFO and MOELP for stream enclosure in 1993, the applicant (Sears Canada) proceeded to satisfy all other conditions of subdivision which was subsequently approved by the City on 1995 October 3. A bonding and servicing agreement between the owners and Burnaby was entered into and compensatory funds regarding fish habitat were paid to the BCIT - Burnaby Lake Systems Project, however no physical works with regard to culverting of watercourses were completed.

In early 1998, the owner indicated they wished to proceed with completion of the terms of the subdivision agreement. As the previous approval by MOELP specified completion of proposed works in 1993 and had expired, a current review of the proposed stream enclosures by the environmental agencies was requested by the City.

DFO and MOELP jointly re-assessed the proposal for stream enclosures. Enclosure of a portion of the westerly watercourse with maintenance of the lower 200 foot section in an open condition continued to be supported due to the severe geotechnical instability and erosive nature of the stream banks, lack of fish access and the earlier compensatory agreement which had been fulfilled. This decision was supported in a 1998 August 25 letter from MOELP which specifies both agencies' approval of the culverting of a portion of the westerly watercourse. Criteria for completion of works within the 1998 fisheries window (July 31st - August 15<sup>th</sup>) were identified.

The re-examination of the easterly watercourse resulted in a recommendation by MOELP to retain the section of the watercourse passing through the subject property in an open state with a reduced streamside setback, enhanced riparian planting and upgrades to the storm system which could manage and dissipate stream flows and energy effectively. This is supported in a 1998 October 20 letter from MOELP which indicates DFO's concurrence with this decision.

Works to culvert a portion and construct storm system upgrades on the westerly watercourse were completed in the fall of 1998 and reviewed to the satisfaction of MOELP. Riparian

planting along the lower 200 foot open section of the westerly watercourse is yet to be completed in the fall of 1999. Sale and the subsequent initiation of a rezoning of the subject property followed these works.

### 3. CONCLUSIONS

This report provides information regarding the history of reviews and approvals by DFO, MOELP and the City regarding the culverting of a portion of the westerly watercourse, a tributary of Silver Creek, on the property at 8335 Eastlake Avenue as requested by Council. Reviews and approvals regarding the retention of the easterly watercourse (also a tributary to Silver Creek) in an open, improved state on the subject property are also discussed. As identified in this report, it is clear that approvals by DFO and MOELP were in place prior to the implementation of works to culvert a portion of the westerly watercourse in the fall of 1998.

Approval was given by DFO and MOELP for this culverting due to severe geotechnical instability of the sideslopes and erosive nature of the watercourse. This watercourse originally traversed through the Sears Canada warehouse site and was temporarily relocated into a steep ditch when the warehouse was constructed in the late 1960's. The tributary is culverted for 300m upstream and 1200m downstream from the recently culverted section and has been assessed by environmental agencies to have no fish access and limited habitat value although it contributes food and nutrients to the downstream, open section of Silver Creek. Approvals for this culverting are supported in letters by DFO (1993 June 15) and MOELP (1993 July 12) and more recently in a letter from MOELP dated 1998 August 25 which stipulates DFO's concurrence with this decision. These decisions are also consistent with the City's review based on its open watercourse policy which permits the culverting of streams only under special conditions and with the approval of Council.

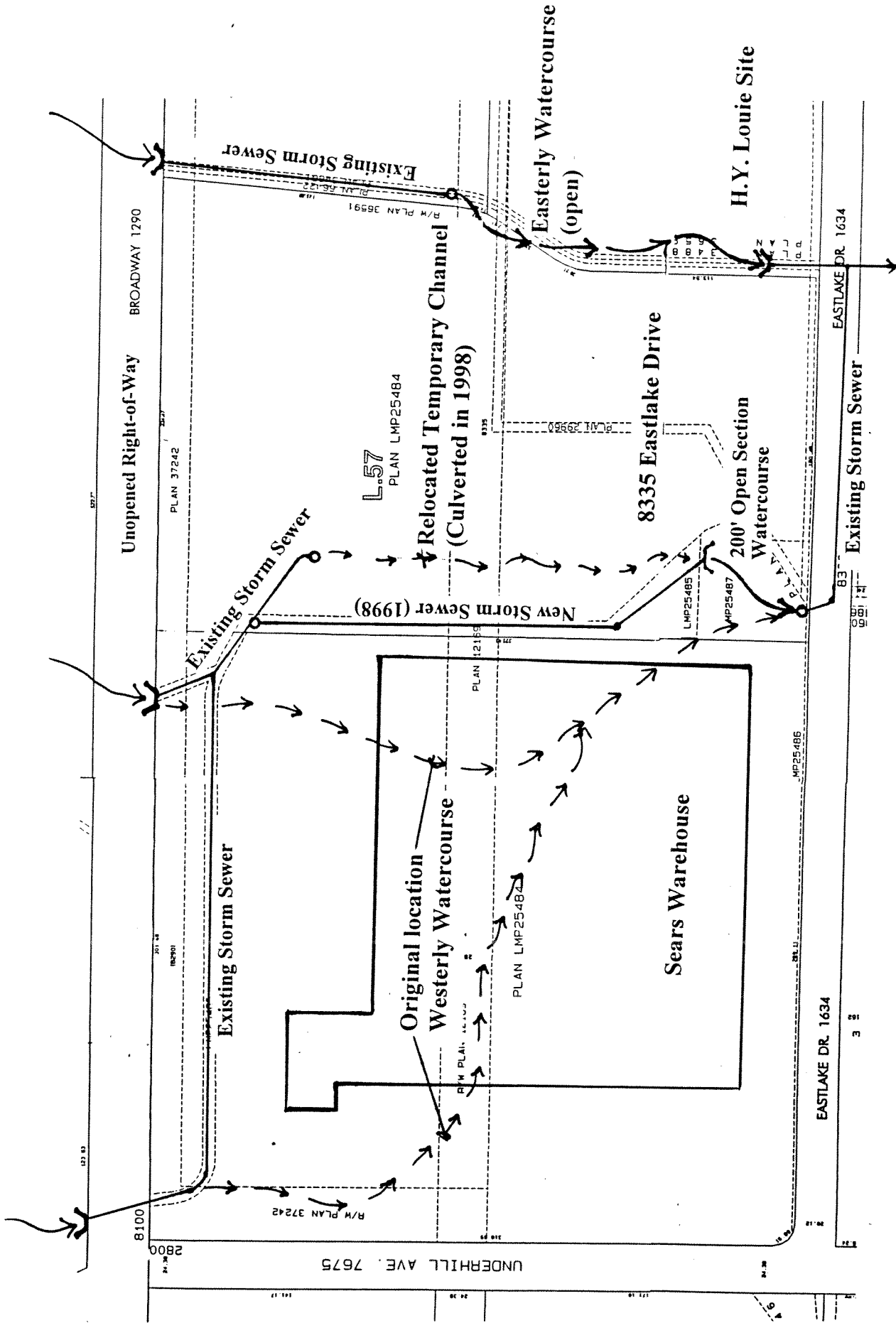
This is for the information of Council.



D.G. Stenson, Director  
PLANNING AND BUILDING

SH:ma  
Attachment

cc: Director Engineering



**Figure 1 : Westerly and Easterly Watercourses - Tributaries to Silver Creek Through 8335 Eastlake Drive**

**Note: Building and watercourse locations approximate**



