

Re: Letter dated May 3, 1974 from Mr. G.W. Spratt
Gordon Spratt and Associates Ltd.
1909 West Broadway, Vancouver
Use of Earth Anchors
Marlborough Mall at Kingsway and Marlborough Avenue

Appearing on the Agenda for the May 21, 1974 meeting of Council is a letter from Mr. G.W. Spratt regarding the Engineering Department's imposition of restrictions on construction procedures involving a building complex at the northwest corner of Kingsway and Marlborough Avenue. Following is a report from the Engineer on this matter.

RECOMMENDATIONS:

THAT the Corporation approve of the installation of earth anchors on Marlborough Avenue and Newton Drive in connection with the Marlborough Mall Project provided that the anchors are installed at a minimum depth of sixteen (16) feet; and

THAT the Corporation's approval be subject to prior approval having been obtained by the applicants from the appropriate Provincial Authorities for use of the subject road allowances, title to which are vested in the name of Her Majesty the Queen as Crown Lands.

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TO: MUNICIPAL MANAGER

MAY 17, 1974

FROM: MUNICIPAL ENGINEER

RE: USE OF EARTH ANCHORS - MARLBOROUGH MALL AT KINGSWAY AND MARLBOROUGH.

In a letter addressed to the Mayor and Members of the Council from Gordon Spratt & Associates Ltd., dated 3 May, 1974, an appeal has been requested on the Engineer's decision to not approve the proposed installation of earth anchors in the public right of way abutting the proposed Marlborough Mall on Marlborough Avenue and on Newton Street.

The earth anchors are proposed to support the earth at the property lines while excavating on the site to a depth of approximately 24 feet. The earth anchors involving No. 6 steel bars encased in concrete, are proposed to extend up to 35 feet into the Marlborough and Newton Street rights of way and will remain after construction as a permanent grid of underground obstructions in the rights of way spaced six feet vertically and six feet horizontally from near the surface to a depth of approximately 24 feet. This grid would present an obstruction to all future underground work in the two streets.

Gordon Spratt & Associates Ltd., in their representation to the Municipal Council, make an extensive case in favour of earth anchors as being a most efficient and economical method of retention of soils in deep excavations. They have noted that the City of Vancouver and other major North American cities have accepted such procedures and, in connection with the Marlborough Mall, the Standard Oil Company of B. C. have accepted the encroachment of the anchors under their abutting adjacent property. It should be noted that both the City of Vancouver and the Standard Oil Company are owners of the property under which they have given permission for the construction and retention of earth anchors whereas the rights of way of Marlborough and Newton are public rights of way in the name of Her Majesty the Queen and, under the circumstances, the Municipal Engineer considers that he could not recommend such a continuing private use of public rights of way. Public rights of way have been carefully guarded against permitting private use by individuals; for example, property owners abutting a lane often wish to run their drains across the lane to a ditch on the far side and this has occurred in many instances where the property owner does not have a ditch on his side of the lane and this and other such proposals, being considered as private use of the right of way, have not been approved.

Mr. Spratt's letter states on the second page that the Contractor has received favourable acceptance of the design by the District Engineer of the Provincial Department of Highways regarding the use of Kingsway. We have been in touch with Mr. A. Wallisser, District Engineer, for the Department of Highways and he advises that the Department of Highways have not accepted the design of earth anchors under Kingsway (which is the third street involved in this proposal and comes under

the jurisdiction of the Department of Highways), Mr. Wallisser advises that the Department of Highways are at the present time giving consideration to the proposal which, for them also, would set a precedent. Although they are more interested with the surface of a Highway than the underground works as opposed to a Municipality which is extremely interested and involved in both the surface and the underground works, Mr. Wallisser advised that he would be quite anxious to know what Burnaby's final decision is regarding earth anchors under public rights of way.

The drawings submitted by Gordon Spratt & Associates to the Design Engineer for consideration had a notation thereon to the effect that the contractor drilling the earth anchors under Newton and Marlborough would not be held responsible for damage caused to services while drilling operations were in progress. The reason given for this notation, which of course would not be acceptable as there have been examples in the City of Vancouver of drilling the earth anchors through sewers, is that the Engineering Department had been unable to supply elevations of water, sewer and electrical installations. The Design Engineer advises that he had previously given elevations of the related sewers to Howard Sturrock & Associates on behalf of the owners early in the design of this development and elevations of watermains could be given upon request but they would require testhole excavations as we do not maintain profiles of all our local watermains in the same manner as we do sewers. The information on any underground electrical facilities can be obtained from the B. C. Hydro and Power Authority. The drawing also shows a sewer existing on the cross section of Marlborough which in fact does not exist and which is to be constructed by the developer of the Marlborough Mall as a requirement of abandoning an existing sanitary sewer on easement across the southeast corner of his site. If the earth anchors had been constructed as proposed from the drawing in advance of the sewer work, the developer's sewer contractor would have later found it necessary to construct the sanitary sewer by cutting through the earth anchors.

There are alternative methods available and the Municipality would cooperate in this regard by issuing a hoarding permit to allow temporary surface use of the public rights of way (i.e. Marlborough and Newton) during construction. The developer would make his own arrangements with the B. C. Hydro to protect their duct on Newton and with the Department of Highways regarding Kingsway. The proximity of a watermain on the Kingsway frontage prohibits temporary use by hoarding permit.

Another available alternative would be for approval to be given for the use of earth anchors but for use only below a certain depth where the likelihood of present or future conflict with other utilities and services is minimal or virtually nonexistent. Your Municipal Engineer considers that such a minimum depth should be sixteen (16) feet.

Summary

The Municipal Engineer, in a letter dated May 1, 1974 addressed to Gordon Spratt & Associates, advised that he could not recommend to the Municipal Council such a continuing private use of public rights of way. This decision was based entirely on the matter of continuing private use of public rights of way and in no way was it to reflect questioning the soundness of engineering principals or good economics involved in the use of earth anchors for supporting the earth side walls in deep excavations.

It is considered reasonable to provide approval for the use of earth anchors but only for depths where there is little if any likelihood of conflict with other installations.

Your Municipal Engineer and Municipal Solicitor are both of the opinion that any Municipal approvals should be subject to Crown Provincial approval in recognition of the fact that Burnaby's road allowances are in the name of Her Majesty the Queen and are not owned by the Corporation.

ITEM 22
MANAGER'S REPORT NO. 39
COUNCIL MEETING May 21/74

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MUNICIPAL ENGINEER

EEO:pkm

cc: () Municipal Solicitor
() Chief Building Inspector