

RE: ENGINEERING SERVICES FOR DESIGN OF KENSINGTON AVENUE
BETWEEN BROADWAY AND HASTINGS STREET

ITEM 20

MANAGER'S REPORT NO. 54

COUNCIL MEETING Sept. 2/75

Included with the loan authorization by-laws for roads and parks to be considered by Council at its meeting of September 2, 1975 are road improvements for Kensington Avenue between Broadway and Hastings Street.

Following is the Municipal Engineer's report with respect to entering into an agreement for provision of engineering services for design of road improvements for the subject portion of Kensington Avenue.

RECOMMENDATION:

1. THAT the Corporation enter into an Agreement for engineering services with Vector Engineering Services Ltd. for the works listed in the Engineer's letter dated August 12, 1975. The fees for these services are to be in accordance with Section IV, Scale 1 (payroll plus 125%) of the "Outline of Services and Scale of Minimum Fees", published by the Association of Professional Engineers, dated September 5, 1973, to an estimated maximum fee of \$21,500 plus disbursements.

* * * * *

TO: MUNICIPAL MANAGER

AUGUST 28, 1975

FROM: MUNICIPAL ENGINEER

RE: ENGINEERING SERVICES FOR DESIGN OF KENSINGTON AVENUE
BETWEEN BROADWAY AND HASTINGS STREET

In reference to the approval of Item 33 (Supplementary) of the Manager's Report No. 53 on August 18, 1975, I have invited proposals for the provision of engineering services for the design of road improvements on Kensington Avenue between Broadway and Hastings Street construction of which has been staged for 1976.

In response to our letter of invitation and Terms of Reference dated August 12, 1975, see Attachment "A", we received proposals from four reputable firms. A brief summary of these proposals (see Attachments "B", "C", "D" and "E") is as follows:

Vector Engineering Services Ltd.

Complete design as per the Corporation's Terms of Reference for a fee estimated not to exceed \$21,500. plus disbursements in accordance with Section IV, Scale 1, of the Outline of Services and Scale of Minimum Fees published by the Association of Professional Engineers dated September 5, 1973. (Payroll plus 125%.) The noted exclusions, namely Benkleman Beam readings and underground exposures, are recognized by our Terms of Reference.

Hunter, Laird Engineering Ltd.

Complete design as per the Corporation's Terms of Reference for an estimated fee of \$22,500.

Associated Engineering Services Ltd.

Complete design as per the Corporation's Terms of Reference for an estimated maximum fee of \$25,200. plus disbursements in accordance with Section IV, Scale 1, of the Outline of Services and Scale of Minimum Fees published by the Association of Professional Engineers dated September 5, 1973. With regard to the note on pavement testing the Corporation normally does supply Benkleman Beam information to the Consultant.


Strong, Lamb & Nelson Ltd.

Complete design as per the Corporation's Terms of Reference for an estimated fee of \$52,766.

RECOMMENDATION:

THAT the Corporation enter into an Agreement for engineering services with Vector Engineering Services Ltd. for the works listed in the Engineer's letter dated August 12, 1975. The fees for these services are to be in accordance with Section IV, Scale 1, (payroll plus 125%) of the "Outline of Services and Scale of Minimum Fees" published by the Association of Professional Engineers dated September 5, 1973 to an estimated maximum fee of \$21,500 plus disbursements.

VNW:wlh
Atts.


MUNICIPAL ENGINEER

ITEM 20
 MANAGER'S REPORT NO. 54
 COUNCIL MEETING Sept. 2/75



A
 THE CORPORATION OF THE DISTRICT OF BURNABY

MUNICIPAL HALL
 4949 CANADA WAY
 BURNABY B.C. V5G 1M2

12 August, 1975

The Office of the Engineer

Vector Engineering Services Ltd.
 3375 Norland Avenue
 Burnaby 2, B.C.

Dear Sirs:

Re: Engineering Services for Design of Kensington Avenue
 Between Broadway and Hastings Street

The improvements to Kensington Avenue between Broadway and Hastings are part of an overall upgrading of a vital north-south arterial through the Central Valley. Construction work on these improvements is scheduled to commence in 1976, which sets an end of the year (1975) deadline for completion of all designs.

We therefore invite you to submit a proposal for your engineering services for the field survey, drafting, design and quantity take-off for this project.

The work shall be performed in accordance with our current standards and as detailed on the attached terms of reference and specification sheets.

Please note that property acquisitions, as shown on attached plan, cannot be started until sometime in December 1975, and therefore arrangements must be made to gather the necessary field information on private properties in order to complete the design on schedule.

In order to appoint a Consultant by the first of September, please submit your proposals by not later than 25 August, 1975.

Yours truly,

E. E. Olson, P. Eng.
 MUNICIPAL ENGINEER

By: V. N. Wiebe, P. Eng.
 DESIGN ENGINEER

VNW:cmg



Att:ha
 c.c. () Design Engineer

TERMS OF REFERENCE
ENGINEERING DESIGN OF KENSINGTON AVENUE
FROM BROADWAY TO HASTINGS STREET

The Consulting Engineer shall complete all field survey (except survey control), drafting and office work to design the Kensington Avenue road improvements in detail from Broadway to Hastings Street.

- (a) Design a 60 foot wide pavement standard (two 23 foot roadways separated by a 14 foot median) with curbs and gutters; four foot wide separated sidewalks on both sides and boulevard and median tree planting within an 86 foot street allowance. Property acquisitions to be acquired by Burnaby.
- (b) Design ornamental street lighting.
- (c) Design miscellaneous sections of storm sewer where necessary to complete the drainage system along Kensington Avenue.
- (d) Design miscellaneous sections of watermain where necessary to complete the water distribution system on Kensington Avenue.
- (e) Street gradients not to exceed 8 percent.
- (f) Survey control, bench marks and any legal survey necessary to prepare property acquisition drawings to be done by the Corporation of Burnaby.
- (g) Schedule of Quantities for all items of work as per attached Appendix V.
- (h) All designs to be in accordance with Corporation of Burnaby specifications and good engineering procedures. (Engineering Requirements attached.)
- (i) An Engineering Agreement will be entered into covering this work. (Sample copy attached).
- (j) Completion date for overall design to be 31 December, 1975.

Attch.

12 August, 1975

ITEM 20
MANAGER'S REPORT NO. 54
COUNCIL MEETING Sept. 2/75

"B"

Vector engineering services ltd.

3375 NORLAND AVENUE - BURNABY, B.C. V5B 3A8 TELEPHONE 298-2333

August 25, 1975

The Corporation of the District of Burnaby,
4949 Canada Way,
BURNABY, B.C.

ATTENTION: Mr. V. Wiebe, P. Eng.

Dear Sir:

Re: Engineering Design of Kensington Avenue
Broadway to Hastings Street
Our File 140

VSB 348
RECEIVED IN
ENGINEERING DEPT.
AUG 25 1975

REF	DATE
VW	

We submit herewith our proposal to provide engineering services for the design of proposed improvements to Kensington Avenue between Broadway and Hastings Street. Our engineering service would include all items described in your Terms of Reference. A completion date of December 31, 1975 is satisfactory.

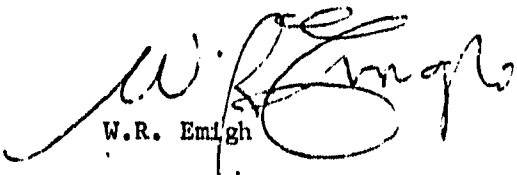
Our fee for this work would be in accordance with Scale 1 of the Scale of Minimum Fees published by the Association of Professional Engineers of B.C. (Payroll cost plus 125%).

We estimate that the fee for this service will not exceed \$21,500.00. Our estimated fee does not include any allowance for disbursements as covered by Section V of the Scale of Minimum Fees and these would be charged at cost plus 10%. The use of the company survey van and personal vehicles would be charged as a disbursement. We have not included any allowance for Benkelman Beam readings or the exposing of underground installations related to the proposed storm and water installations.

Thank you for the opportunity to present this proposal. Should you have any enquiries or need further information, please call our office.

Yours truly,

VECTOR ENGINEERING SERVICES LTD.



W.R. Emigh
WRE/jc

ITEM 20

MANAGER'S REPORT NO. 54

COUNCIL MEETING Sept. 2/75



HUNTER, LAIRD ENGINEERING LTD.

ANDREW HUNTER, P.ENG., B.C.L.S.
DAVID W. LAIRD, B.A., B.A.I., P.ENG.

202 - 26 LORNE STREET
NEW WESTMINSTER, B.C.
326-2721

RECEIVED IN
ENGINEERING DEPT.

AUG 25 1975

August 22, 1975

Engineering Department,
Corporation of the District of Burnaby,
4949 Canada Way,
BURNABY, B.C. V5G 1M2

Attention: Mr. V. Wiebe

Dear Sir:-

Re: Engineering Services for Design of
Kensington Ave. between Broadway
and Hastings Street

We have examined the above project and are pleased to submit our proposal of \$22,500.00 to complete all the work as outlined in your letter within the time designated.

Trusting you will find this in order. We look forward to hearing from you on this matter.

Yours very truly,

HUNTER, LAIRD ENGINEERING LTD.

Per: *DW Laird*

DWL:JC

ITEM 20 MANAGER'S REPORT NO. 54 COUNCIL MEETING Sept. 2/75
--

"D"



ASSOCIATED ENGINEERING SERVICES LTD 1661 W. 8TH AVE., VANCOUVER, B.C., V6J 1V1. TEL: (604) 736-7361. TELEX: 045-4577. CABLE: CANENCO

August 25, 1975

The Corporation of the
 District of Burnaby.
 4949 Canada Way,
 Burnaby, B. C.

Attention: Mr. E. E. Olson, P.Eng.,
 Municipal Engineer.

Dear Sirs:

Re: Kensington Avenue Reconstruction
 Broadway to Hastings Street
Proposal for Engineering Services

Thank you for your letter of August 12, 1975, inviting us to submit a proposal for engineering services in relation to the above reconstruction project. We are pleased to submit our proposal herewith, in accordance with your Terms of Reference, which are included as an appendix. Clarification of the extent of the work required was given by Mr. V. N. Wiebe in a recent discussion.

Introduction

The concept of improvements to Kensington Avenue as an important north-south arterial is very familiar to us. We would approach the design of the Broadway to Hastings Street section in the context of our involvement in the "Kensington Sperling Grade Separation Study", as well as our recent submission to the Canadian Transport Commission and our current design work on the Laurel Street to Broadway section. We have gained, and are still gaining experience in the overall features and problems of the Kensington Avenue scheme, and we have established a rapport with the utility authorities concerned and with the Department of Highways in Victoria, who would undoubtedly wish to be involved in any reconstruction work affecting Broadway, Curtis Street and Hastings Street. This contact would be particularly useful in the somewhat sensitive area of the intersections of Broadway and Kensington Avenue, where the Department are concerned with the preservation of the east-west integrity of Broadway.

.....2

VANCOUVER VICTORIA NANAIMO PRINCE GEORGE KAMLOOPS PRINCE RUPERT WHITEHORSE EDMONTON CALGARY REGINA

Pre-Design

If awarded this project, we propose to attend an initial meeting with the Corporation's Engineering and Planning Departments, to discuss the Terms of Reference and design details, in greater depth. We would expect to continue this liaison throughout the design period in order to effect the design most acceptable to the Corporation.

The field survey will be a most important feature of this project, as a large amount of detailed information will require to be collected. In this instance, we do not feel that aerial survey techniques would be suitable, and we propose to employ our experienced field staff to carry out the survey in accordance with the Corporation's requirements.

From an inspection of the site, it appears that the possibilities for overlaying the existing pavement are rather limited, as much of it will be under the new wide median. We would anticipate using the existing pavement as a model, and would carry out Benkelman beam testing on it. We propose to excavate shallow trial pits alongside the existing pavement and the structure revealed by these pits would be used in conjunction with the beam test results to design the most economical pavement structure.

We would expect to draw on the Corporation's records, as well as those of the utility authorities, to compile a comprehensive schedule of existing utilities and necessary relocations.

Detailed Design

The design drawings and schedule of quantities would be prepared in accordance with Corporation standards. The design stage will include the following activities:

1. Pavement Design. This would be based on test results as outlined above.
2. Alignment Design. The vertical alignment in particular would require careful consideration to minimize the effect on intersecting streets, whilst giving priority to Kensington Avenue.
3. Intersection Details. Each intersection would be considered in detail and would be designed to give continuity to Kensington Avenue with attention being paid to the design of curb returns and the appropriate channelization.
4. Property Acquisition. This will be defined on the drawings.
5. Restoration Work. A sensitive treatment of the edge of the right-of-way will be essential. In an attractive residential area, the details of retaining walls, driveway restoration and other such details have a great effect on the overall appearance, and particular attention would be paid to these aspects of the design.
6. Utility Relocations. It is anticipated that all existing telephone and hydro poles will require relocation. We would pursue this with the authorities, in addition to any relocation of underground utilities which may be necessary.
7. Street Lighting. This would be designed with ornamental poles on the boulevards, in accordance with the Corporation's standards.

ITEM 20
 MANAGER'S REPORT NO. 54
 COUNCIL MEETING Sept. 2/75

8. Road Markings and Traffic Signs. We understand that no traffic signal installation is envisaged at this time, but we would be in a position to design such installations for the Corporation at any future date.
9. Storm Sewer and Water Mains. These would be designed to complete the existing systems on Kensington Avenue.
10. Quantity Schedule.

Schedule

We would be in a position to commence work immediately if assigned the project, and anticipate no difficulty in completing the design by December 31, 1975. As we would expect to carry out the field work during September, our schedule would be dependent on completion of the survey control by the Corporation staff.

Fees

Our fees would be based on the Schedule of Minimum Fees - Scale 1, as published by the Association of Professional Engineers of British Columbia. Our estimated maximum fees to complete the assignment are as follows:

A. Pre-Design

- | | |
|---------------------|---------|
| 1. Field Survey | \$6,500 |
| 2. Pavement Testing | \$1,500 |

The sum included for pavement testing could be reduced if the District of Burnaby were able to supply a truck for beam testing and/or a backhoe for excavation of trial pits.

B. Detailed Design and Drafting

- | | |
|----------------------|----------|
| 1. Roadway | \$10,200 |
| 2. Street Lighting | \$ 3,200 |
| 3. Utilities | \$ 3,000 |
| 4. Quantity Schedule | \$ 800 |

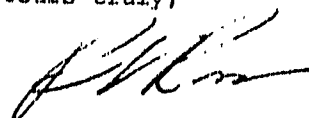
Disbursements would be charged at cost plus 5% and are not allowed for in the above figures.

Personnel

Resumes for the key staff members who would be involved in this project are appended. Some of these personnel have been and are still involved in work for the Corporation on the design of Kensington Avenue, and thus have experience of working with the Corporation standards and requirements.

We thank you for this opportunity to offer our services and look forward to your decision. We would be pleased to meet with you at your convenience to discuss our proposal and provide any further information you may require.

Yours truly,



Robert Ross, P.Eng.,
 Associate.

RR/do

ITEM 20
MANAGER'S REPORT NO. 54
COUNCIL MEETING Sept. 2/75

"E"

A PROPOSAL TO PROVIDE
PROFESSIONAL ENGINEERING SERVICES
TO
THE CORPORATION OF THE DISTRICT OF BURNABY
FOR
DESIGN OF KENSINGTON AVENUE

STRONG, LAMB & NELSON LTD.
9238 Scott Road,
Surrey, B. C.

ITEM 20
 MANAGER'S REPORT NO. 54
 COUNCIL MEETING Sept. 2/75



STRONG LAMB & NELSON LTD

2233 Grant Road Surrey BC V3V 4B7 : 589 3541 TLX 043 51169

August 22nd, 1975.

File: R.M.6

The Corporation of the District of Burnaby,
 Municipal Hall,
 4949 Canada Way,
 Burnaby, B. C.
 V5G 1M2

Attention: Mr. E.E. Olsen, P.Eng.
Municipal Engineer

Dear Sirs,

Re: Engineering Services for Design of
 Kensington Avenue between Broadway
 and Hastings Street

We thank you for giving us the opportunity to submit this proposal, for engineering services, on the above project.

The work to be performed was analyzed completely in the preparation of this proposal, and will be completed in accordance with the specified terms of reference.

Should you have any questions we would be pleased to meet with you at your convenience.

Yours truly,

STRONG, LAMB & NELSON LTD.

R. Martin, P.Eng.
 Manager

RM:pc

RELATED EXPERIENCE

In the Lower Mainland, over the last seven years the Surrey Branch office of Strong, Lamb & Nelson Ltd., has been responsible for the complete design and supervision of construction of over 50 miles of new streets, and street improvements, including all utilities.

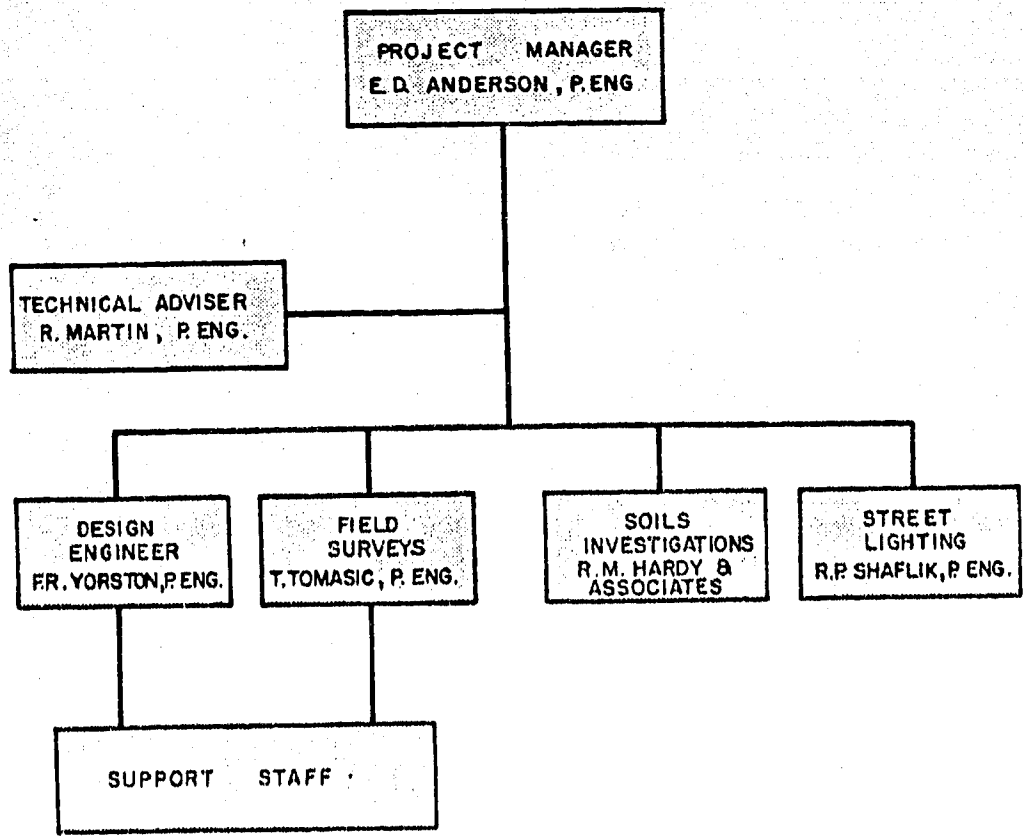
Recent work, specifically related, includes:

- Design of two miles of street improvements for the Corporation of Delta.
- Studies and preliminary designs for opening of approximately three miles of Browning Drive for the Corporation of Delta.
- Design and supervision of construction of over one mile of 128th Street reconstruction for the District of Surrey.
- Design of improvements to No. 5 Road, Richmond, over a length of approximately 3,200 feet.

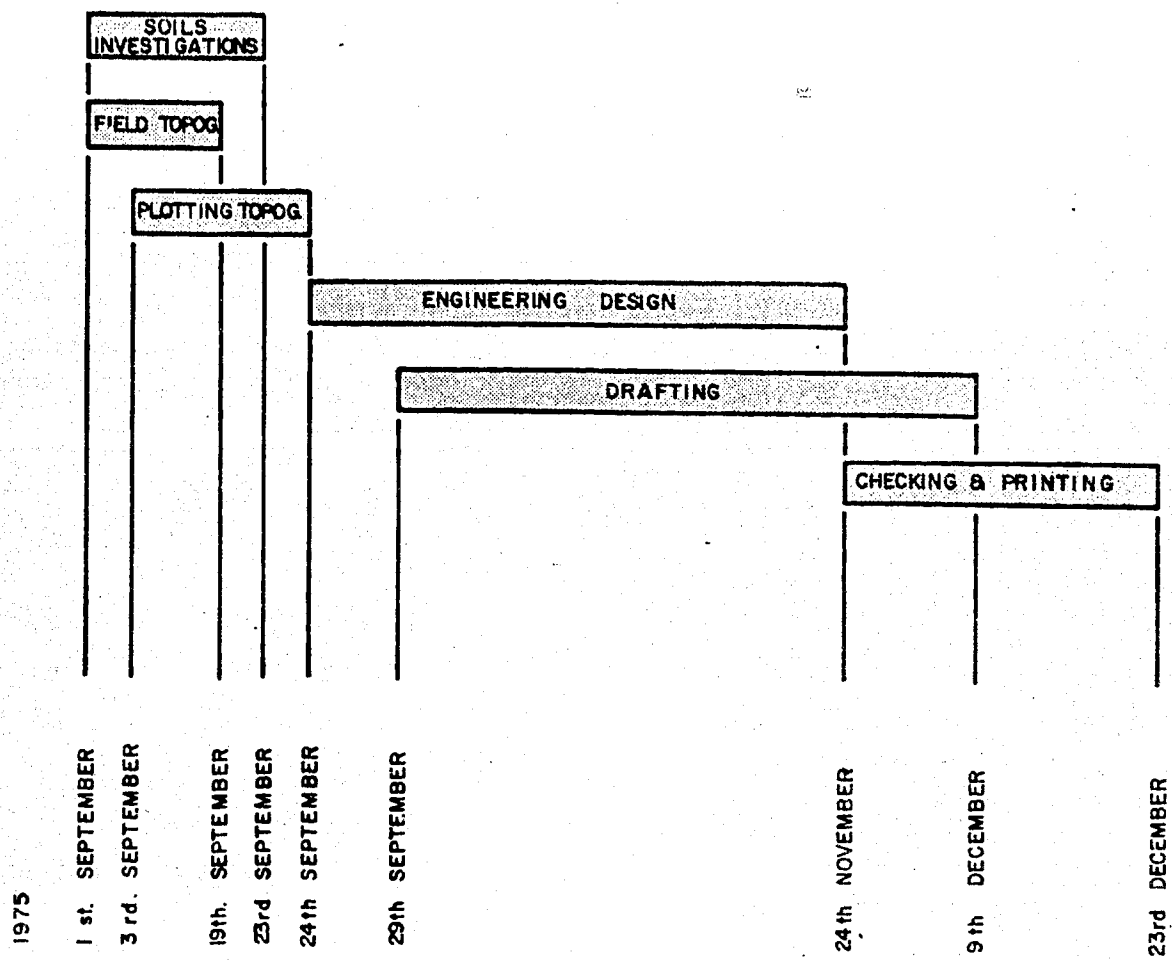
Staff members also have, individually, considerable related experience gathered in other areas of employment.

ITEM 20
MANAGER'S REPORT NO. 54
COUNCIL MEETING Sept. 2/75

P R O J E C T T E A M



PROJECT SCHEDULING



ITEM 20 MANAGER'S REPORT NO. 54 COUNCIL MEETING Sept. 2/75
--

Page 5

ENGINEERING FEES

1.	Topographic survey to locate all detail, cross-section and profile road, locate and determine elevations of existing utilities....	\$ 7,950.00
2.	Soils Investigation and report as required for pavement design.....	\$ 3,156.00
3.	Engineering design for roadworks, storm drainage and waterworks as required. Preparation of all construction drawings and schedule of quantities.....	\$39,260.00
4.	Engineering design for street lighting system and preparation of all construction drawings.....	\$ 2,400.00
	TOTAL FEES	<u>\$52,766.00</u>

NOTE: This proposal does not include calling tenders, supervision of construction, inspection of construction, and preparation of "as-constructed" drawings.

Should the Corporation request us to perform these services we would be pleased to negotiate a fee arrangement.