



PROPOSAL  
FOR  
BUILDING ENVELOPE CONSULTING SERVICES  
AT  
TRINITY PLACE  
2490 W. 2<sup>ND</sup> AVENUE  
VANCOUVER, BC

File No. 10Z-01927

**PREPARED FOR**

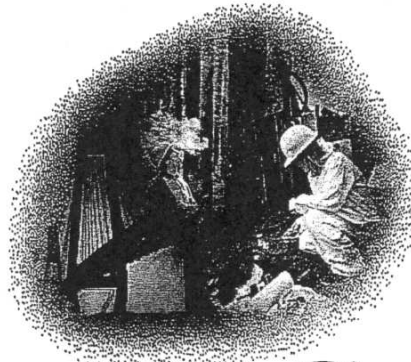
Strata Plan LMS 2833  
c/o Strataco Management Ltd.  
#101 – 4126 Norland Avenue,  
Burnaby, BC V5G 3S8  
Attention: Mr. Jean-Pierre Daem, Property Manager

December 23, 2010

Prepared by:

TROW ASSOCIATES INC.  
7025 Greenwood Street  
Burnaby, British Columbia  
Canada V5A 1X7

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December 23, 2010

File No.: 10Z-01927

The Owners Strata Plan LMS 2833, Trinity Place  
c/o Strataco Management Ltd.  
#101 – 4126 Norland Avenue  
Burnaby, BC V5G 3S8

Attention: Mr. Jean-Pierre Daem, Property Manager

***Proposal for Building Envelope Consulting Services for  
Trinity Place,  
2490 W. 2<sup>nd</sup> Avenue, Vancouver, BC***

Dear Mr. Daem:

**1.0 INTRODUCTION**

As requested, Trow Associates Inc. is pleased to present this proposal to provide building science consulting services for the above-referenced project. We understand that these services would include primarily the preparation of a Project Manual and the provision of Field Reviews for Trinity Place building envelope remedial work including replacement of balcony membranes, 2<sup>nd</sup> floor deck membranes, and wood swing doors (as described more fully below).

**2.0 PROJECT DESCRIPTION**

The complex is a 30-unit wood frame condominium building constructed above a one storey below-grade reinforced concrete parking garage in or around 1997. The building is clad with acrylic stucco and brick veneer, and has a low-slope roof. A building envelope assessment report was prepared by RDH Building Engineering Ltd. in November 2010. We understand that the Owners intend to proceed with the remedial work recommended in the report. We reviewed the report and RDH's recommendations. The recommended work includes replacement of the exposed East elevation cladding with rainscreen stucco, replacement of windows on the East elevation, replacement of balcony membranes and second floor deck membranes, replacement of exposed wood swing doors, addition of canopies and replacement of wood trims at select locations. Additional investigations of various assemblies are also recommended in the RDH report.

### **3.0 SCOPE**

The following is the scope of services we are proposing:

#### **Additional Investigations**

In the RDH report, additional investigations are recommended for the exterior walls adjacent to bathtubs and showers, brick-clad walls, windows and EIFS trims, and the ground floor sandwich slab assembly. As these assemblies and building components were not adequately investigated in the previous investigation, we recommend their review prior to proceeding with the Project Documents.

#### **Project Documents**

1. The Project Documents will include bidding and contract requirements, specifications, and drawings that describe the remedial work required. We feel that comprehensive documentation is crucial to ensuring the quality of the work, ease of construction, scheduling, suitability of materials, maintenance and renewals, economy, adherence to the Building Code, and limiting extras to the construction Contract.
2. We will perform additional destructive testing to the East wall to review the extent of damage.
3. The assistance of other consultants (e.g. code consultant, structural engineer) may be required. We have included an allowance for a basic Code review of the building. Allowances for structural consultant services are not included in our fees.
4. We will forward a draft copy of the Project Documents to the Owners for review before finalizing. If the Owners request significant changes, time spent implementing these changes may be charged at our hourly rates.
5. Once the Project Documents are near completion we will submit the Manual to third-party warranty providers so they can provide an estimate of their premium for the project.
6. We will provide a budget for the proposed construction work which will be based on our experience with completed projects. If the Strata wishes to have more accurate, current market pricing, a contractor can be retained to provide a budget estimate for work based on our Project Documents. A contractor would typically charge for this service. This is usually done prior to the Strata holding an SGM to raise funds for remedial work, and depends on the Strata's tolerance for risk in having to reassess if the budget is expended. We have not included for this service in this proposal.

We will not proceed with the preparation of the Project Documents unless we are assured that we will be retained for Field Review and Construction Contract Administration Services. This is necessary to ensure that the interpretation and execution of the Project Manual remains consistent.

### **Permit Application**

1. We will facilitate the application for a Building Permit by submitting the necessary documents to the municipality, including letters of assurance.
2. We are assuming that any changes to the appearance of the building exterior will not be significant and will not require the submission of a development permit revision application. These services are not included in this proposal.

### **Tender**

1. We will determine a list of contractors who we feel are suitable for the project. Typically we invite building envelope renovators who are licensed with the Homeowners Protection Office and with whom we have worked with in the past and whose work we have found acceptable.
2. We will confirm this list with the Strata.
3. Once the list is finalized, we will tender the work, typically to five (5) contractors. The bid period is typically three to four (3-4) weeks. Following the close of the bid period, the bids will be reviewed and a bid summary letter will be prepared by us for the Strata.
4. After the Strata selects a BER, we will prepare a Contract between the Strata and the BER. This Contract will be based on the Standard Construction Document CCDC #2, 2008 Stipulated Price Contract.

### **Field Reviews and Construction Contract Administration**

1. During the work, we will provide periodic field reviews to verify that the construction is proceeding in general conformance with the Contract documents. Field review reports will be issued to the Strata and the Contractor. The report will include descriptions of the work progress, observations, actions required, and scheduling. It will also collate outstanding "action items" that remain unanswered or unresolved, ensuring satisfaction of an "audit trail" of construction issues. Digital photographs will be taken to document select aspects of the work including building defects and structural damage. Depending on the stage of construction, we will attend the site approximately two to three times per week and a Field Review Report will be issued after each visit.
2. We will administer the construction Contract. This includes the preparation of change orders to the Contract, as required, and the review of the Contractor's invoices for general conformance with the work before forwarding the invoices to Strata for payment.
3. Occasionally during construction, significant wood decay and/or inadequate original design are encountered which require enhanced structural design services. Since the degree of structural design required to address the issues is difficult to quantify at this time, these services are not included in our fees.

4. At project close, we will ensure all warranties are in place and we will conduct a final review of the Work. We will also submit final letters of assurance to the municipality so that the building permit can be closed.

## **Maintenance Manual**

We will prepare a Maintenance Manual to assist with and record the scheduled maintenance of the major building envelope components. The manual will include select product literature where available, a brief description of the component, material or system, relative susceptibility to rain penetration and general weathering, and the frequency and preferred season to undertake maintenance work.

The manual will be presented in a 'workbook' format (binder) to allow for the addition of product or servicing/ subcontractor information. It will facilitate the documentation of targeted repairs, and constitute a 'living', single-source document acceptable to owners, subcontractors, consultants, warranty providers, financial institutions and potential future buyers.

## **4.0 QUALIFICATIONS OF FIRM and PERSONNEL**

Trow Associates Inc. is a Canadian-owned, international, multi-disciplinary company that provides specialized consulting engineering services. Clients include both the private sector and the public sector, representing over 50,000 projects completed by Trow since its inception in 1957.

Trow has more than 75 engineers and technicians solely dedicated to building envelope assessment and design. We have one of the largest full-scale, private wall and window testing facilities in Canada. The combined organization includes more than 3,600 professionals and technicians providing consulting, inspection and testing services to the construction and development industry.

When needed, each project benefits from the combined national experience of Trow's Building Science resources through integrated, internet-based communication and specialty databases that allow nearly immediate responses from senior specialists and hands-on technicians with decades of experience in building science. Trow has the capacity for cross-disciplinary input to resolve building science challenges internally through Trow's other professional disciplines such as environmental, materials, and geotechnical engineering.

Trow's British Columbia offices are in Burnaby, and Kamloops. Building Science staff is located in Burnaby and will have direct access to building scientists within Trow across the country, with all resources available in each of the branches.

Trow's Burnaby office is ISO9001 certified. ISO9001 is an international quality certification that defines minimum requirements for a company's Quality Management System (QMS). Trow's QMS comprises our policies and procedures to ensure customer requirements are met with consistency - resulting in greatly increased customer satisfaction. Our ISO9001 certification is maintained through regular audits (quarterly internal and annual external).

Since all staff must be trained on ISO9001, quality awareness increases. The QMS has built-in systems to report on key quality indicators, which helps develop a strong quality culture, where the staff recognizes problems and works on fixing them, resulting in increased confidence in delivering quality workmanship. The QMS promotes consistency in how work is performed and recorded. This helps new employees learn processes more quickly and reduces misunderstandings with customers. If a problem does occur, it is traced to its root cause and fixed, preventing any recurrence.

In summary, Trow widely and effectively combines the resources of an international, multi-disciplinary company with local experience. The key personnel in the Building Science of the Burnaby office include:

- Mr. Dino Chies, P.Eng., BEP, Division Manager
- Mr. Alex Chang, P.Eng., MAIBC, LEED <sup>AP</sup>, Project Manager
- Mr. Sathya Ramachandran, B.Arch., M.A.Sc., Project Manager
- Mr. David Taguchi, A.Sc.T., RRO, RCABC Approved Inspector, Senior Technologist
- Mr. Michael Peet, C.Tech., CPI, Senior Technician

The project would be led by Dino Chies, P.Eng. who has over twenty (20) years of construction management and building envelope consulting experience in the Lower Mainland of B.C. He has directly supervised the remediation of over seventy strata-titled properties and has an excellent reputation for providing professional service and cost-effective repairs. Dino has also represented many strata corporations as an expert witness in leaky condo mediations and has worked with most of the major law firms.

Resumes and a company profile are enclosed for your consideration.

## **5.0 SCHEDULING**

If we are awarded the contract within one week of the date of this proposal, we can proceed with the Project Manual as soon as background information (e.g. architectural drawings) is received. A draft version of the Project Manual can be submitted approximately four (4) weeks later.

Following the Strata's review, we will set up a bid site visit with contractors. We expect the bid period to last two to four (2-4) weeks. After the close of this period, the Strata will award the work to a selected contractor. We will prepare a contract for signing between the Strata and the Contractor. A construction start-up date can be agreed upon after the contract is executed.

If we are retained later than one (1) week of this proposal's date, we will have to re-evaluate our schedule at that time.

## **6.0 FEES**

Our fees, based on the proposed scope of services outlined in Section 3, will be invoiced as detailed in Schedule A. Mileage to and from the site is included. Normal disbursements are not included.

Any changes to the scope of services requiring additional time and expenditures will be invoiced on a time and expense basis in accordance with Schedule A (after approval from the Strata is given). For example, if we must retrieve architectural drawings from the municipality, time and expenses associated with this service will be charged.

Our fees for periodic field reviews are based on a construction schedule of six (6) months for the project from the start of the contractor's mobilization to substantial completion. Should the schedule proposed by the successful BER differ substantially from this, we reserve the right to adjust the fees for this portion of the work due to the anticipated additional services required.

## 7.0 ORDER OF MAGNITUDE ESTIMATE

As requested, we have prepared the following estimate of the project costs based on our visual review of the building and recommendations in the RDH report:

Item #	Building Item	Cost	Comments
1	Exterior wall	\$176,000	Rainscreen at exposed portion of east elevation including new windows and flashings.
2	Balconies and second floor decks	\$144,000	
3	Wood swing door, canopies, wood trims, misc.	\$42,000	
4	Contingency	\$72,400	Allowance of 20% of construction costs
5	<b>SUBTOTAL</b>	<b>\$434,400</b>	
6	Engineering - Pre-construction - Additional Investigations, Project Documents, Permit Application, Tender	\$34,000	Includes additional investigations, \$2000 allowance for disbursements
7	Engineering - Construction - Field Reviews and Construction Contract Administration	\$56,000	Contract administration and field reviews during construction
8	Maintenance Manual	\$4,000	
9	Code and Structural Consultants	\$4,000	Estimate
10	Building permit	\$0.00	Normally waived by the City of Vancouver for building envelope repairs
11	Landscape repair, legal	\$10,000	Allowance only
12	<b>SUBTOTAL</b>	<b>\$542,400</b>	
13	HST (12%)	\$65,100	
14	Third Party Warranty Insurance	\$16,000	Estimate
15	<b>TOTAL</b>	<b>\$623,500</b>	

E.&O.E.

Notes:

1. Property management fees not included. Costs rounded to nearest \$100.



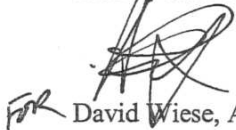
## **8.0 CLOSURE**

We trust that you find our proposal acceptable and we look forward to working with you on this project. The attached Schedule A - Fees to be Invoiced and Rates and Work Authorization, form part of this proposal. In order to provide insurance coverage on this project, our insurer requires that we enter into an approved agreement form. We prefer to use the ACEC-31 Prime Agreement Between Client and Engineer.

Please contact the writer should you have any questions or concerns.

Yours truly,

**TROW ASSOCIATES INC.**



For David Wiese, ASCT  
Senior Technologist  
Building Science Division

**Reviewed by:**



Dino Chies, P.Eng., BEP  
Branch Manager  
Building Science Division Manager

Attachments    - Schedule A – Fees to be Invoiced and Rates  
                      - Work Authorization



## ***Schedule A***

### ***Fees to be Invoiced and Rates***



**Trow Associates Inc.**  
7025 Greenwood Street  
Burnaby, BC V5A 1X7  
Telephone 604-874-1245  
Fax 604-874-2358

## SCHEDULE A

<b>Date:</b> December 23, 2010	<b>Project Mgr.:</b> Dino Chies, P.Eng, BEP	<b>Proposal No.:</b> 10Z-01927	
<b>Billing Client Name:</b>	The Owners, Strata Plan LMS 2833		
<b>Attention:</b>	c/o Strataco Management Ltd., Attn: Mr. J.P. Daem, Property Manager		
	#101 – 4126 Norland Avenue, Burnaby V5G 3S8		
<b>Project Name:</b>	Trinity Place		
<b>Project Address:</b>	2490 W. 2 <sup>nd</sup> Avenue, Vancouver, BC		
<b>Scope of Work and Fees</b>			
<b>Activities</b>	<b>Staff</b>	<b>Unit Rate</b>	<b>Total (\$)</b>
Building Envelope Consulting Services			
Additional Investigations			\$4,000
Project Documentation			\$22,000
Permit Application			\$3,000
Tender			\$3,000
Field Reviews and Construction Contract Administration			\$56,000
Maintenance Manual			\$4,000
	Senior Project Engineer	200.00/hr	
	Project Engineer	150.00/hr	
	Senior Technician/EIT	110.00/hr	
	Technician	80.00/hr	
	Office Support	65.00/hr	
	Normal Expenses	Cost Plus 20%	
	Mileage	\$0.50/km	Incl.
	HST	12%	
<b>TOTAL (excluding disbursements, HST)</b>			<b>\$92,000</b>

## ***Work Authorization***



**Trow Associates Inc.**  
7025 Greenwood Street  
Burnaby, BC V5A 1X7  
Telephone (604) 874-1245  
Fax (604) 874-2358

## WORK AUTHORIZATION

<b>Client Name</b>	<b>The Owners, Strata Plan LMS 2833</b>		
<b>Address</b>	c/o Strataco Management Ltd. #101 – 4126 Norland Avenue Burnaby, BC V5G 3S8		
<b>Attention:</b>	<b>Mr. Jean-Pierre Daem, Property Manager</b>		
<b>Contact Email</b>	managers@stratacomgmt.com	<b>Client ID Number:</b>	
<b>Contact Phone</b>		<b>Contact Fax</b>	

Trow Associates Inc. is authorized to provide services at:

<b>Project Name:</b>	Trinity Place
<b>Project Location:</b>	2490 W. 2 <sup>nd</sup> Avenue, Vancouver, BC
<b>The services to be performed are limited to:</b>	Building Envelope Consulting Services

<b>Project Manager:</b>	<b>Dino Chies, P.Eng., BEP</b>
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Charges for the services will be paid in accordance with Trow letter dated December 23, 2010.

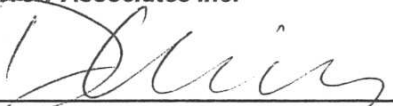
<b>Report Distribution:</b>	Client – 2 copies
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Please return one **signed** copy of this work authorization as confirmation of your requirement and as your authorization for Trow Associates Inc. to proceed.

### LIMIT OF LIABILITY FOR TROW ASSOCIATES INC.

The client expressly agrees that Trow's employees, officers, directors, and agents shall have no personal liability to the client in respect of a claim, whether in contract, tort and/or any other cause of action in law. Accordingly, the client expressly agrees that it will bring no proceedings and take no action in any court of law against any of Trow's employees, officers, directors, or agents in their personal capacity. The client agrees to the following limitations of liability of Trow and its consultants and sub-consultants: 1) Trow shall have no liability to the client or any third party, in contract or tort for related claim obligations including those arising from the presence, discharge, release, escape or effect of mould, mildew, or other fungus in any form contaminants, or any other hazardous, dangerous or toxic substance; 2) Trow's total aggregate liability with respect to all claims by the CLIENT or any third party (other than Mould Related Claims), whether in contract or in tort arising directly or indirectly from TROW's acts, errors, or omissions shall be the lesser of \$50,000, or Trow's total fee for the Services rendered under this Agreement, or the limits of insurance available under TROW's professional liability, and; 3) The CLIENT shall hold harmless and indemnify TROW for any and all claims brought against TROW that are Mould Related Claims or claims in excess of TROW's total aggregate liability (as defined in subsection 2 above).

#### On Behalf of Trow Associates Inc.

**Signature:**   
**Print Name:** Dino Chies, P.Eng., BEP  
**Date:** December 23, 2010  
**Project No.:** 10Z-01927

#### On Behalf of Client or Authorized Representative

**Signature:** \_\_\_\_\_  
**Print Name:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Reference:** \_\_\_\_\_

Terms: Charges are payable upon receipt of the final invoice at the completion of the services. Interest will be charged at 2% per month (24% per annum) on any balance after 30 days.