



**Contract 2831Q**

**Supply and Installation of NEW WORKSYARD TOWER - ENGINEERING AND  
INSTALLATION**

Bidders are requested to respond to this Quotation call as instructed subject to the provisions contained herein.

Name of Bidder: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Telephone No: \_\_\_\_\_ Fax No.: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Title: \_\_\_\_\_

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### **Instructions to Bidders**

1. Sealed quotations, plainly marked on the envelope:

**CONTRACT 2831Q - SUPPLY AND INSTALLATION OF NEW WORKSYARD  
TOWER - ENGINEERING AND INSTALLATION**

will be received at the Information Counter, Main Floor, Richmond City Hall, addressed to the Purchasing Section, 6911 No. 3 Road, Richmond, BC, V6Y 2C1, until 12:00 noon, Local time:

**Tuesday, March 28, 2006**

2. Quotations received in the office of the Purchasing Section after the above-mentioned time and date will be returned unopened.
3. Quotations must be submitted on the attached Forms and be authorized by a signing officer of the Bidder's company. The entire Request for Quotation must be returned to the City.
4. This Document with completed Forms will become part of the Contract Documents between the City and the successful Bidder.
5. The City reserves the right to accept all or any part of a quotation or to waive irregularities at their own discretion. The lowest or any quotation will not necessarily be accepted.
6. The City reserves the right to award the equipment listed on the Optional Schedule of Quantities and Prices based on information received at time of bidding.
7. Proprietary names, unless otherwise stated, are used solely to establish standards of materials and finish. Items of other manufacture may be accepted as equal to those specified, at the discretion of the City.
8. The City of Richmond estimates that this contract will be awarded within 2 weeks of the closing date. All bidders submitting Quotations for the Project will be advised as to the outcome. Please note that Bid results for those contracts posted on the City Web Site and/or BC Bid will be listed on BC Bid within two (2) weeks of the award of Contract.
9. Prices, in Canadian currency, shall be shown for the work specified and shall include all wages and benefits for those personnel engaged on this contract, expenditures for materials, equipment, travel expenses, assessments for Workers' Compensation, Unemployment Insurance, Canada Pension Plan or any similar statute, costs of

**Instructions to Bidders (Cont'd)**

subcontracts, insurance premiums, bonds, royalties, permits and licences, taxes, tariffs and duties, overhead, profit, and all other expenditures in connection with the work.

10. The contractor will be required to Indemnify and Insure the City as shown in the General Conditions of the Contract.

Bidders shall have the Undertaking of Liability Insurance Form Letter L1-1 (attached) completed and submitted with their Quotation.

All policies and certificates shall be submitted to the Purchasing Section before a contract is issued to carry out the work.

11. Bidders shall examine the contract documents and visit the site of the work to understand the contract requirements of the project. The City will not make allowances for the contractor's failure to make proper site investigation.
12. Each Bidder shall state on the lists provided to be submitted as part of his quotation, information regarding their previous contracts, subcontractors and equipment that he proposes to use to carry out this contract to completion. It is the intention of the City not to award the contract to any Bidder who does not furnish satisfactory evidence that he has the ability and experience to perform the various works covered under this Contract, and that he has sufficient capital and plant to enable him to execute the said works successfully, and to the satisfaction of the City, and to complete and deliver said works as quoted in his Quotation.
13. Inquires during submission of Quotation should be directed as follows:

Purchasing

Tel: 604-276-4287

David Phipps

Supervisor, Purchasing

City of Richmond

E-mail: [purchasing@richmond.ca](mailto:purchasing@richmond.ca)

Technical

Tel: 604-270-8721

John Marion

Electronics Engineering Technologist

City of Richmond

E-mail: [jmarion@richmond.ca](mailto:jmarion@richmond.ca)

William Wong

Tel: 604-233-3339

Electronics Engineering Technologist

City of Richmond

E-mail: [wwong@richmond.ca](mailto:wwong@richmond.ca)

14. Quotations may be withdrawn by written notice only, provided such notice is received at the office of the City's Purchasing Section prior to time set as closing time for receiving Quotations.

**Instructions to Bidders (Cont'd)**

15. Quotations shall be open for acceptance for 60 days following the submission closing date.
16. Bidders are advised that submissions of quotes shall be in compliance to the Freedom of Information and Privacy Act.
17. Any interpretation of, additions to, deletions from, or any other corrections to the Contract documents, will be issued as written addenda by the City of Richmond. It is the sole responsibility of the potential bidders to check with the City of Richmond's Website, BCBid and/or the Purchasing Section to ensure that all available information has been received prior to submitting a bid.
18. The City, it's agents and employer shall not be responsible for any information given by way of verbal communication.

**Quotation Form**

Purchasing Section  
City of Richmond  
6911 No. 3 Road  
Richmond, BC V6Y 2C1

The undersigned Bidder, having carefully read and examined the Instructions to Bidders, Undertaking of Liability Insurance, Quotation Form, Quotation Annexures, General Conditions of Contract, Specifications and Drawings, and having full knowledge of the work required, does hereby offer to provide all necessary materials in strict accordance with the Specifications and to do all therein called for on the terms and conditions and under the provisions therein set forth at the:

**LUMP SUM TOTAL QUOTED PRICE OF \$\_\_\_\_\_**

**PAYMENT TERMS \_\_\_\_\_ EARLY PAYMENT TERMS \_\_\_\_\_**

The above price includes and covers duties, Federal, (including G.S.T.), Provincial Taxes, handling and transportation charges, and all other charges incidental to and forming part of this Quotation.

The undersigned Bidder agrees to complete the whole of the works within \_\_\_\_\_ weeks of acceptance.

Name of Bidder: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone No: \_\_\_\_\_

Name, Signature, and  
Title of Signing Officer: \_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

E-mail: \_\_\_\_\_

Web Address: \_\_\_\_\_

**Schedule of Quantities and Prices**

The City shall pay in Lawful money of Canada the amount shown for the following items subject to the conditions of the Contract Documents.

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>COST</b>
1	Engineering, Design, Supply and Installation of new Communications Tower at the Public Works Worksyard.	\$ _____

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Subtotal \$ \_\_\_\_\_

Provincial Sales Tax \$ \_\_\_\_\_

Goods and Services Tax \$ \_\_\_\_\_

**TOTAL QUOTED AMOUNT** \$ \_\_\_\_\_  
**(carried forward to Quotation Form)**

\_\_\_\_\_  
Payment Terms

\_\_\_\_\_  
Early Payment Terms

\_\_\_\_\_  
Bidder's Initials

**Optional Schedule of Quantities and Prices**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>COST</b>
1	Steel Shipping Container to be used for Communications Building (approx. 20' X 8')	\$ _____
2	Exterior Prime and Paint	\$ _____
3	Standard Steel Door (3'6" X 8')	\$ _____
4	Fencing and Bollards Around the Tower	\$ _____

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Subtotal \$ \_\_\_\_\_

Provincial Sales Tax \$ \_\_\_\_\_

Goods and Services Tax \$ \_\_\_\_\_

**TOTAL QUOTED AMOUNT** \$ \_\_\_\_\_



FORM LETTER LI-1

**Undertaking of Liability Insurance**

(To be submitted with Quotation)

City of Richmond  
6911 No. 3 Road  
Richmond, BC V6Y 2C1

Dear Sirs:

We, the undersigned (insert insurance company's name) \_\_\_\_\_ do hereby undertake and agree to insure the Contractor in the amount of \$5,000,000.00 as outlined in the attached "General Conditions of the Contract" and agree to:

- a. Name the City of Richmond, its officers, officials, agents, and employees as additional insured in connection with the work being proposed by the Contractor.
- b. State that such policy applies to each insured in the same manner and to the same extent as if separate policy had been issued to each insured named in the policy.
- c. State that the policy cannot be cancelled, lapsed, or materially changed without at least 30 days written notice of cancellation delivered to the City Clerk of the City of Richmond at 6911 No. 3 Road, Richmond, BC V6Y 2C1.
- d. State that coverage provided by such insurance shall protect the Contractor and the City of Richmond during the performance of the works and services specified in the attached Form of Quotation and specifically that the insurance required by such Quotation shall be consistent with the requirements therein.

if the Contract is awarded to (insert bidder's name) \_\_\_\_\_

EXCEPTIONS:

\_\_\_\_\_

Dated at \_\_\_\_\_, British Columbia, this \_\_\_\_ day of \_\_\_\_\_, 2006.

BY: \_\_\_\_\_ TITLE: \_\_\_\_\_

This form must be signed by the Insurance Company or an authorized Broker on behalf of the Insurance Company.

A SEPARATE FORM MUST BE SIGNED FOR EACH POLICY IF MORE THAN ONE POLICY.

**List of Previous Contracts**

The Bidder has recently undertaken and completed the Contracts described following and authorizes the City of Richmond to inquire as to the nature of the Bidders performance on these contracts.

	<b>DESCRIPTION OF CONTRACT</b>	<b>TOTAL PRICE OF CONTRACT</b>	<b>DATE COMMENCED</b>	<b>DATE COMPLETED</b>
Company:				
Contact Name:				
Phone:				
E-mail:				
Company:				
Contact Name:				
Phone:				
E-mail:				
Company:				
Contact Name:				
Phone:				
E-mail:				
Company:				
Contact Name:				
Phone:				
E-mail:				

(If additional space is required, attach additional)

**List of Subcontractors**

The Bidder agrees that the subcontractors shown herein is the list of subcontractors that he proposes to use to carry out those part of the work shown on the list and, subject to their approval by the City, the Bidder agrees to employ the listed subcontractors and no others.

Nothing contained in the contract documents shall create any contractual relation between any subcontractor and the City.

The Bidder agrees that if he is awarded the contract, he will bind every subcontractor by the terms of the contract documents, as far as applicable to his work.

<b>Description of Parts of Work to be Sublet to Subcontractors</b>	<b>Name, Address, and Telephone Number of Subcontractor(s) to be Used to Carry Out the Various Parts of the Work Described</b>
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### **List of Equipment**

The Bidder proposes to use the equipment listed below in carrying out the work covered by this Contract (list only the major pieces of equipment to be used):

<b>Number of Units</b>	<b>Brief Description of Equipment (state its use, make, age, and general condition)</b>	<b>Check Whether: Owned by Bidder</b>	<b>Rented/ Leased</b>
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(If additional space is require, attach additional)

**Attached Documentation**

<b>TITLE.</b>	<b>Sheet No.</b>
Thurber Engineering Geotechnical Soil Study Report	8 Pages

## **Specifications**

### **New WY Tower – Engineering and Installation Specifications**

#### **1. Background information**

The City of Richmond's Works Yard requires a new Communications Tower due to the following:

- 1.1 Our current tower has been deemed unsafe for the following 3 key reasons:
  - a. The current location of the tower is not structurally adequate to accommodate the existing tower and antennas;
  - b. The current tower is not Engineered Stamped to CAN/CSA S37-01 standards;
  - c. The current tower anchor points and base are causing specific roof structure stress.
- 1.2 The current tower must be removed for potential liability reasons, and a new tower must be in place prior to removal due to the essential equipment that it houses.
- 1.3 The tower is located at the Public Works Worksyard – 5599 Lynas Lane, Richmond, BC V7C 5B2.

#### **2. Foundation Specifications**

- The foundation must be engineered in accordance with the attached Geotechnical Soil Study Report which includes piles, rebar, concrete, etc.
- The foundation must not be larger than 6.1m x 6.1m (20ft x 20ft)

#### **3. Tower Specifications**

The new tower must be:

- Self supporting tower mounted on designated ground area and comply with the latest North American CSA standards and certification (CSA S37 or higher)
- Approximately 30 meters (~100 feet) in height
- Include a safety Climb/Cable System
- Painted red and white (alternating) as per Transport Canada specifications and regulations

The new tower must include:

- A red beacon (obstruction light) on top of the tower as per Transport Canada Specifications and Regulations
- A bridge (3m) for TX cable from tower to building
- Grounding system
- Engineering to support the following antennas and brackets:

Qty	Example Antenna	Weight (Kg / lb)	Location on Tower
3	Sinclair (SRL-420)	6.3 / 12.9	High
1	Sinclair (SRL-310C-4HD)	6.8 / 15.0	Mid
1	Sinclair (SRL-210-4)	26.8 / 59.0	Low
4	Bluewave Yagi (BW9411Y-2)	1.1 / 2.7	Scattered

- Future Considerations for weight calculations should include:
  - 4 - Bluewave Yagi (BW9411Y-2)
  - 1 – Sinclair (SRL-420)

#### 4. Antennas and Cables Specifications

- 7/8 TX Cables 150m (492ft) are required
- RF connectors for all cables
- All antennas will be provided by the City of Richmond

#### 5. Installation Specification

- Installation of Piles and Foundation
- Installation of Tower, Safety Climb/Cable System, Obstruction Light
- Installation of Antennas, TX Cable, RF Connectors, and Grounding System

#### 6. Documentation

- All documentation and drawings must be provided and stamped by a Professional Engineer in British Columbia for tower and foundations designs
- All safety Climb/Cable System related documents

#### 7. Optional Equipment and Installation

- Steel shipping container to be used for communications building (approx. 20'x8')
- Exterior prime and paint
- Standard steel door (3'x6'8")
- Fencing and bollards around the tower

#### 8. Other Notes

- Installation equipment on site (eg. Cranes) must not exceed 34.9m (114.17ft) to adhere to Transport Canada Regulations.

#### 9. Technical Contacts

##### ***John Marion***

Electronics Engineering Technologist  
 Radio and Communications Department  
 Public Works Administration  
 City Of Richmond Public Works Division  
 Tel: 604-244-1215 / Fax: 604-233-3308  
 E-mail: [jmarion@richmond.ca](mailto:jmarion@richmond.ca)

##### ***William Wong***

Electronics Engineering Technologist  
 Radio and Communications Department  
 Public Works Administration  
 City of Richmond Public Works Division  
 Tel: 604-233-3339 / Fax: 604-233-3308  
 E-mail: [wwong@richmond.ca](mailto:wwong@richmond.ca)

## **Environmental Terms and Conditions of Contract**

### **1.0 Environmental Policy Requirements**

#### **1.1 The City of Richmond's Environmental Purchasing Policy**

The City of Richmond's Environmental Purchasing Policy states:

In order to increase the development and awareness of environmentally sound products and services, City of Richmond staff will review their contracts and tender specifications for goods and services, to ensure that wherever possible and economically feasible, specifications are amended to provide for consideration of environmental characteristics. Consideration may be given to those environmental products that are certified by an independent accredited organization.

The City of Richmond as a whole will endeavour to increase its use of products and services that are more responsible to the environment in the way they are made, used, transported, stored and packaged and disposed of. It is recognized that analysis is required in order to ensure that the products are made available at competitive prices, and that the environmental benefits provided by a product or service should not significantly affect the intended use of that product or service.

- 1.1.1 The City of Richmond reserves the right to request information from bidders that will demonstrate compliance to this environmental purchasing policy.
- 1.1.2 Bidders are asked to supply information on environmentally preferable products and services that meet all specifications and performance requirements.
- 1.1.3 Placing the City of Richmond in breach of its environmental policy or environmental laws will result in the termination or suspension of an agreement, at the sole discretion of the City.



## General Conditions of the Contract

### 1. Definitions

The two parties to the Contract/Purchase Order are the Contractor and the City, defined as follows:

**The Contractor:** The successful bidder for the work upon receipt of a purchase order and/or written acceptance of his Quotation from the City.

**The City:** City of Richmond.

Acceptance of the City of Richmond's Purchase order deems acceptance of all conditions of the supply and installation contract.

### 2. Work to Satisfaction of City

The whole of the works and the manner of performing this Contract shall be done to the entire satisfaction and approval of the City, and it shall be the sole judge of the work and materials in respect of both quality and quantity, and its decision with regard to work or materials, or as to the meaning and intention of this Contract, or any part or parts thereof, shall be binding and final upon the Contractor.

### 3. Work to be in Conformity with Contract Documents and Drawings

All work shall be done in strict conformity with the Contract Documents and drawings which form a part of the Contract. The intent of the contract documents is to include all labour, materials, equipment, services, supplies and all the things necessary for the proper and complete execution of the work.

### 4. Permits

The Contractor shall comply with all codes, laws, regulations, and ordinances which concern the work, and unless otherwise provided herein shall obtain and pay for all applicable permits, licences, and certificates.

### 5. Use of Premises

The Contractor shall confine the use of the premises for his work as directed by the City and shall comply with regulations which govern the building or institution where the work is located.

At the conclusion of the work, the Contractor shall clean up and remove all debris and rubbish to the satisfaction of the City.

**General Conditions of the Contract (Cont'd)****6. Light, Power, and Heat**

The City's supply of electrical energy will be available to the Contractor without charge.

The City's supply of water will be available to the Contractor without charge.

The Contractor, upon completion of the work, shall remove temporary connections and extension of services, leaving the existing structures and services undamaged.

**7. Warranty**

Unless otherwise specified, the Contractor warrants that only the best workmanship and materials will be employed and if, within a period of one (1) year from the date of acceptance of the work by the City, such work or supplies or any portion thereof are found by the City to be defective or faulty due to imperfect or bad workmanship or material, the Contractor agrees to replace such defective supplies and correct such defective work forthwith without expense to the City.

**8. Liens**

The Contractor shall fully indemnify the City from and against any and all liability or expenses by way of legal costs or otherwise in respect of any claim which may be made for a lien or charge at law or inequity or to any claim or liability under the Builders Lien Act, or to any attachment for debt, garnishee process, or otherwise.

**9. Patent Fees**

The Contractor shall pay all royalties and licence fees and shall save the City harmless from loss on account of suits or claims of infringement of patents in the doing of the work.

**10. Default**

- (a) The City may, by notice of default to the Contractor, terminate the whole or any part of this Contract if the Contractor fails to perform any provision of this Contract within the time specified or to perform any other provision of this contract.
- (b) In the event the City terminates this Contract in whole or in part as provided in clause (a), the City may procure supplies or services similar to those so terminated, and the Contractor shall be liable to the City for any excess costs for such similar supplies or services.

**General Conditions of the Contract (Cont'd)**

- (c) The Contractor shall not be liable for any excess costs under clause (b) if failure to perform the Contract arises by reason of strikes, lockouts, acts of God, or acts of the City.

**11. Taxes**

Unless otherwise provided herein, the Contractor shall pay all government sales or excise taxes in force at the date of the Agreement, provided that any increase or decrease in such taxes shall increase or decrease the amount due under the Contract accordingly. Invoices shall show the appropriate amounts for Goods and Services Taxes and Provincial Sales Taxes separately.

**12. Laws**

The laws of British Columbia shall govern the work.

**13. Time**

Time shall be the essence in this Contract.

**14. Assignment**

Neither party to the Contract shall assign the Contract without the written consent of the other.

**15. Notices**

Any notice required to be given in this Contract shall be deemed to be duly given to the City if sent by registered mail addressed to the City's Purchasing and Risk Manager at Richmond "City Hall, 6911 No. 3 Road, Richmond, BC V6Y 2C1" and to the Contractor if sent by registered mail addressed to the Contractor at the address set forth in the Quotation.

**16. Inquiries**

Contractor's inquiries to the City during construction should be directed to the following:

***John Marion***

Electronics Engineering Technologist  
Radio and Communications Department  
Public Works Administration  
City Of Richmond Public Works Division  
Tel: 604-244-1215 / Fax: 604-233-3308  
E-mail: [jmarion@richmond.ca](mailto:jmarion@richmond.ca)

***William Wong***

Electronics Engineering Technologist  
Radio and Communications Department  
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City of Richmond Public Works Division  
Tel: 604-233-3339 / Fax: 604-233-3308  
E-mail: [wwong@richmond.ca](mailto:wwong@richmond.ca)

**General Conditions of the Contract (Cont'd)****17. Settlement of Complaints Re: Work**

If, in the opinion of the Manager Purchasing and Risk, the work is improperly, defectively, or insufficiently performed, or being performed, the Manager Purchasing and Risk may, in writing, order the Contractor to re-execute or correct the work in accordance with such order; and if the Contractor fails to comply with such order within ten working days, the Manager Purchasing and Risk may, at any time thereafter, execute or cause to be executed the order so given, and the Contractor shall, on demand, pay to the City of Richmond, all costs, damages, and expenses incurred in respect thereof or occasioned by reason of the non-compliance by the Contractor with any such orders; and if the Contractor fails to pay such costs, damages, and expenses, the City of Richmond may retain and deduct such costs, damages, and expenses from any amount then or thereafter payable to the Contractor under this Contract.

**18. Other Contractors**

The City may have his own work forces and other contractors on the site while the work of this Contract is under way. The City shall coordinate the work of all Contractors on the site and require their coordination with each other.

The Contractor shall report to the City any apparent deficiencies in other contractors' work which would affect the work of this Contract immediately the deficiencies come to his attention.

**19. Changes in the Work**

The City may make changes to the work; the Contract price, and time being adjusted accordingly. Except for emergencies, all changes will be made by written order.

**20. Protection**

The Contractor shall maintain protection of all his work and materials from damage and shall protect the City's and any adjoining property from injury due to the Contractor's work.

**21. Payments**

The City shall make progress payments once a month for work completed and materials on the site upon receipt of the Contractor's invoice.

Except for the final payment, the City shall holdback 10% of the amount of progress claims. The City shall pay the holdback 55 days after completion of the work upon receipt of the contractor's written claim for final payment accompanied by a Statutory Declaration stating that the Contractor has discharged every obligation and paid or satisfied every just claim incurred by him in connection to the Contract, including claims

**General Conditions of the Contract (Cont'd)**

by his subcontractors, and upon receipt of clearance from the Workers' Compensation Board.

**22. Indemnification and Insurance**

The Contractor will indemnify, hold, and save harmless the City from and against all claims, losses, damages, costs, actions, and other proceedings, made, sustained, brought or prosecuted in manner, based upon, occasioned by, attributable to any injury, including death, property damage, infringement, or damage arising from any act or omission of the Contractor, his employees, officers, volunteers, servants, or agents or persons from whom the Contractor has assumed responsibility in the performance or purported performance of this agreement.

The Contractor shall, at his own expense, through the terms of the contract secure, maintain, and pay for the following coverages:

- (a) Comprehensive General Liability Insurance with a limit of not less than \$2,000,000 inclusive per occurrence for bodily injury and property damage and \$2,000,000 for personal injury. The policy or policies shall cover all premises and operations necessary or incidental to the performance of this agreement and include but not necessarily be limited to the following coverages:
1. Contractual liability assumed under this agreement.
  2. Contingent employer's liability with respect to operations of sub-contractors.
  3. Owner's protective liability.
  4. Cross liability.
  5. Automobile liability (non-owned, hired).
  6. Completed operations liability 24 months after completed operations.
  7. Voluntary medical payments.
- (b) "Course of Construction" Property Damage Insurance covering all risks of physical loss or damage on an occurrence basis, including loss of use of property, and including losses or damage from flood or earthquake. The coverage provided shall amount to no less than 80% of the total value of the work done and material delivered to the site, or under the control of the Contractor, payable to the City and Contractor as their interests may appear, and protecting each in such terms as will preclude subrogation claims by the insurer against anyone insured thereunder.

**General Conditions of the Contract (Cont'd)**

The City, its officers, officials, and employees shall be added as additional named insured on all such policies. All such insurance provided by these policies shall be primary regardless of any insurance or self insurance that may be enforced at the time of any loss or claim that insures the City, its officers, officials, and employees.

The policy or policies shall be underwritten by an insurance company or companies licensed to do business in the Province of British Columbia and who meet with the reasonable approval of the City. Prior to the commencement of the work defined by this agreement, the Contractor shall furnish the City through the Office of the Manager Purchasing and Risk a certified original copy of all such policies as evidence that such insurance is in force. The Contractor agrees that such insurance policies cannot be cancelled, lapsed, or materially changed without at least 30 days' written notice to the City.

Maintenance of such insurance and the performance of the Contractor of his obligations under this clause shall not relieve the Contractor of liability under the indemnification provisions here and above set forth. The foregoing insurance provisions shall not limit the insurance required by Municipal, Provincial, or Federal law.

It shall be the full responsibility of the Contractor to determine whether any additional insurance coverage is necessary and advisable for its own protection and/or to fulfil its obligations under this Contract. Any such additional insurance shall be provided and maintained by the Contractor its own expense.

It is understood that this agreement is strictly between the Contractor and the City and the Contractor is an independent contractor for the City and no employment relationship, partnership, agency, or joint venture exists between the City, the employees of the Contractor and/or its agents and/or their employees, and/or its Contractors and/or their employees. Any disputes between the Contractor and any of its employees and/or its agents and/or their employees and/or their Contractors and/or their employees shall be resolved by the Contractor with no involvement by the City.

**23. Workers' Compensation Board Coverage/Prime Contractor**

The Contractor agrees that it shall at its own expense procure and carry or cause to be procured and carried and paid for, full Workers' Compensation Board coverage for itself and all workers, employees, servants and others engaged in or upon any work or service which is the subject of this contract. The Contractor agrees that the City has the unfettered right to set off the amount of the unpaid premiums and assessments for such Workers' Compensation Board coverage against any monies owing by the City to the Contractor. The City shall have the right to withhold payment under this contract until the Workers' Compensation Board premiums, assessments or penalties in respect of work done or service performed in fulfilling this contract had been paid in full.

**General Conditions of the Contract (Cont'd)**

The Contractor agrees that it is the Prime Contractor for the purposes of the Workers' Compensation Board Occupational Health and Safety Regulations for the Province of British Columbia. The Contractor shall have a safety program acceptable to the Workers' Compensation Board and shall ensure that all Workers' Compensation Board safety rules and regulations are observed during performance of this contract, not only by the Contractor but by all subcontractors, workers, material men and others engaged in the performance of this contract. Prior to commencement of construction, the Contractor shall complete and file a "Construction Notice of Project" with the Workers' Compensation Board and shall provide a copy of the same to the City confirming that the Contractor shall be the Prime Contractor responsible for coordination of safety and health under Part 3 of the Workers Compensation Act and Part 20 of the WCB Occupational Health and Safety Regulations.

The Contractor shall provide the City with the Contractor's Workers' Compensation Board registration number and a letter from the Workers' Compensation Board confirming that the Contractor is registered in good standing with the Workers' Compensation Board and that all assessments have been paid to the date thereof prior to the City having any obligation to pay monies under this contract. The Contractor shall also provide a signed copy of the Prime Contractor Designation Document.

The Contractor shall indemnify the City and hold harmless the City from all manner of claims, demands, costs, losses, penalties and proceedings arising out of or in any way related to unpaid Workers' Compensation Board assessments owing from any person or corporation engaged in the performance of this contract or arising out of or in any way related to the failure to observe safety rules, regulations and practices of the Workers' Compensation Board, including penalties levied by the Workers' Compensation Board.



**Note:** Receipt of this completed form will assist us in calling for future bids. Please complete and submit this form prior to the closing date and time as shown on the Request for Quotation/Proposal/Tender form.  
Please remember to include Quotation/Proposal/Tender No. at right.

Quotation/Proposal/Tender

No **2831Q.**

**A Quotation/Proposal/Tender is not being submitted for the following reason(s):**

- |  |  |
|--|--|
| <input type="checkbox"/> We do not manufacture/supply the required goods/services  | <input type="checkbox"/> Cannot obtain raw materials/goods in time to meet delivery requirements |
| <input type="checkbox"/> We do not manufacture/supply to stated specifications     | <input type="checkbox"/> Cannot meet delivery requirements                                       |
| <input type="checkbox"/> Specifications are not sufficiently defined               | <input type="checkbox"/> Cannot quote/tender a firm price at this time                           |
| <input type="checkbox"/> Insufficient information to prepare quote/proposal/tender | <input type="checkbox"/> Insufficient time to prepare quote/tender.                              |
| <input type="checkbox"/> Quantity too small  | <input type="checkbox"/> We are unable to competitively quote/tender at this time.               |
| <input type="checkbox"/> Quantity too large  | <input type="checkbox"/> We do not have facilities to handle this requirement                    |
| <input type="checkbox"/> Quantity beyond our production capacity                   | <input type="checkbox"/> Licensing restrictions (please explain)                                 |
| <input type="checkbox"/> Cannot meet packaging requirements                        | <input type="checkbox"/> Agreements with distributors/dealers do not permit us to sell directly. |
| <input type="checkbox"/> Cannot handle due to present plant loading                | <input type="checkbox"/> Other reasons or additional comments (please explain below)             |

I / We wish to quote / tender on similar goods / services in future <input type="checkbox"/> Yes <input type="checkbox"/> No	Authorized Company Official – Signature and Title	Date
This space for City of Richmond Comments	Firm Name	
	Address	
	City	
	Province	Postal Code
	Telephone Number	





May 30, 2005

File: 14-130-11

City of Richmond  
5599 Lynas Lane  
Richmond, BC  
V7C 5B2

Attention: Mr. William Wong

**PROPOSED COMMUNICATIONS TOWER  
5599 LYNAS LANE, RICHMOND**

Dear Sirs:

Thurber Engineering Ltd. (TEL) has completed a geotechnical investigation for the above project. This letter reports the results of the investigation and provides foundation recommendations for the proposed tower.

Use of this report is subject to the attached Statement of General Conditions.

**1. INTRODUCTION**

We understand that the City of Richmond plans to construct a communications tower immediately south of the Survey and Inspectors Building at the City works yard at the above address. The planned free standing tower will be about 30 m high. Anticipated foundation loads are of the order of 400 kN for each of the 3 legs in tension and compression.

The scope of our work is to investigate the soil conditions at the site and provide foundation recommendations for proposed tower.

**2. INVESTIGATION PROGRAM**

Test Hole 05-1 was drilled to 12 m depth on May 25, 2005, at the location shown on the enclosed plan (Dwg. 14-130-11-1). The soil conditions were logged in the field and representative disturbed samples were collected for routine visual classification and moisture content testing in our laboratory. Fines content (percent passing the No. 200 sieve) was determined for selected samples.

A Dynamic Cone Penetration Test (DCPT) was conducted to 10.7 m depth at the same location before the auger hole was advanced. The DCPT tip is similar in shape and size to the Standard Penetration Test (SPT) split-spoon sampler and is driven using the same hammer energy. In our



experience, DCPT blow counts are approximately equivalent to SPT N-values.

### 3. RESULTS OF THE INVESTIGATION

The results of the drilling and laboratory testing are summarized on the enclosed test hole log. The log provides complete, detailed description of the soils encountered which must be used in preference to the generalized description given below.

Soil conditions at this location comprise about 1 m of granular fill over organic silt and silt, underlain by sand to the depth investigated. The organic content in the native silts below the fill is high in the upper portion of the zone, and generally decreases with depth. The silts are very soft to soft and are underlain by sand below 4.2 m depth. The sand is compact above 7.3 m depth and dense below, except for a thin compact zone between 9.2 and 9.6 m depth. Sand deposits are expected to extend below the depth investigated.

Depth to groundwater in the open test hole was 1.5 m. Groundwater levels are likely to fluctuate seasonally.

### 4. DISCUSSION AND RECOMMENDATIONS

The native soils below 1 m depth are weak and compressible, thus are not suitable to support the tower foundations. Furthermore, the sands above about 7.5 m depth are considered susceptible to liquefaction in a major seismic event. The zone between 9.2 and 9.8 m depth may also be liquefaction-susceptible, subject the fines content of the sand in that depth interval. Accordingly, pile foundations for the proposed tower should develop resistance below 7.5 m depth, and consider the liquefaction in the above noted thin zone.

Two pile options are discussed below. Other alternative pile systems and capacities may be considered. We can provide such input when the foundation loads have been determined. For preliminary design, the uplift capacity of pipe piles driven below the above noted depths can be taken as being proportional to the pile diameter. Recommended capacities given below are subject to the structural capacity of the pile.

The tower can be founded on concrete-filled steel pipe piles. 610 mm diameter piles driven to 12 m depth should develop 235 kN allowable uplift capacity. The allowable compression capacity should be at least 450 kN.



Screw piles are also a feasible alternative at this site. Nominal 208 mm diameter pipe with at least two 610 mm helices, with the lower helix installed at or below 11 m depth, should have an allowable uplift and compression capacity of the order of 450 kN.

Settlement of a pile-supported tower should be negligible. Pile installation should be inspected by TEL.

We trust this information is sufficient for your present needs. Should you have any questions or require further information, please do not hesitate to call us.

Yours very truly,  
Thurber Engineering Ltd.  
David Hill, P.Eng.  
Review Engineer

Brian Nakai, P.Eng.  
Principal



## STATEMENT OF GENERAL CONDITIONS

### 1. STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering or environmental consulting practices in this area. No other warranty, expressed or implied, is made.

### 2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

### 3. BASIS OF REPORT

The Report has been prepared for the specific site, development, design objectives and purposes that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document, subject to the limitations provided herein, are only valid to the extent that this Report expressly addresses proposed development, design objectives and purposes, and then only to the extent there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation or to consider such representations, information and instructions.

### 4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS WE MAY EXPRESSLY APPROVE. The contents of the Report remain our copyright property. The Client may not give, lend or, sell the Report, or otherwise make the Report, or any portion thereof, available to any person without our prior written permission. Any use which a third party makes of the Report, are the sole responsibility of such third parties. Unless expressly permitted by us, no person other than the Client is entitled to rely on this Report. We accept no responsibility whatsoever for damages suffered by any third party resulting from use of the Report without our express written permission.

### 5. INTERPRETATION OF THE REPORT

- a) Nature and Exactness of Soil and Contaminant Description: Classification and identification of soils, rocks, geological units, contaminant materials and quantities have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature. Comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions. All investigations utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarizing such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and the Client and all other persons making use of such documents or records with our express written consent should be aware of this risk and this report is delivered on the express condition that such risk is accepted by the Client and such other persons. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.
- b) Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of the Client or other persons providing information relied on by us. We are entitled to rely on such representations, information and instructions and are not required to carry out investigations to determine the truth or accuracy of such representations, information and instructions.

(see over . . . .)



## INTERPRETATION OF THE REPORT *(continued . . . .)*

- c) **Design Services:** The Report may form part of the design and construction documents for information purposes even though it may have been issued prior to the final design being completed. We should be retained to review the final design, project plans and documents prior to construction to confirm that they are consistent with the intent of the Report. Any differences that may exist between the report recommendations and the final design detailed in the contract documents should be reported to us immediately so that we can address potential conflicts.
- d) **Construction Services:** During construction we must be retained to provide field reviews. Field reviews consist of performing sufficient and timely observations of encountered conditions to confirm and document that the site conditions do not materially differ from those interpreted conditions considered in the preparation of the report. Adequate field reviews are necessary for Thurber to provide letters of assurance, in accordance with the requirements of many regulatory authorities.

## 6. RISK LIMITATION

Geotechnical engineering and environmental consulting projects often have the potential to encounter pollutants or hazardous substances and the potential to cause an accidental release of those substances. In consideration of the provision of the services by us, which are for the Client's benefit, the Client agrees to hold harmless and to indemnify and defend us and our directors, officers, servants, agents, employees, workmen and contractors (hereinafter referred to as the "Company") from and against any and all claims, losses, damages, demands, disputes, liability and legal investigative costs of defence, whether for personal injury including death, or any other loss whatsoever, regardless of any action or omission on the part of the Company, that result from an accidental release of pollutants or hazardous substances occurring as a result of carrying out this Project. This indemnification shall extend to all Claims brought or threatened against the Company under any federal or provincial statute as a result of conducting work on this Project. In addition to the above indemnification, the Client further agrees not to bring any claims against the Company in connection with any of the aforementioned causes.

## 7. SERVICES OF SUBCONSULTANTS AND CONTRACTORS

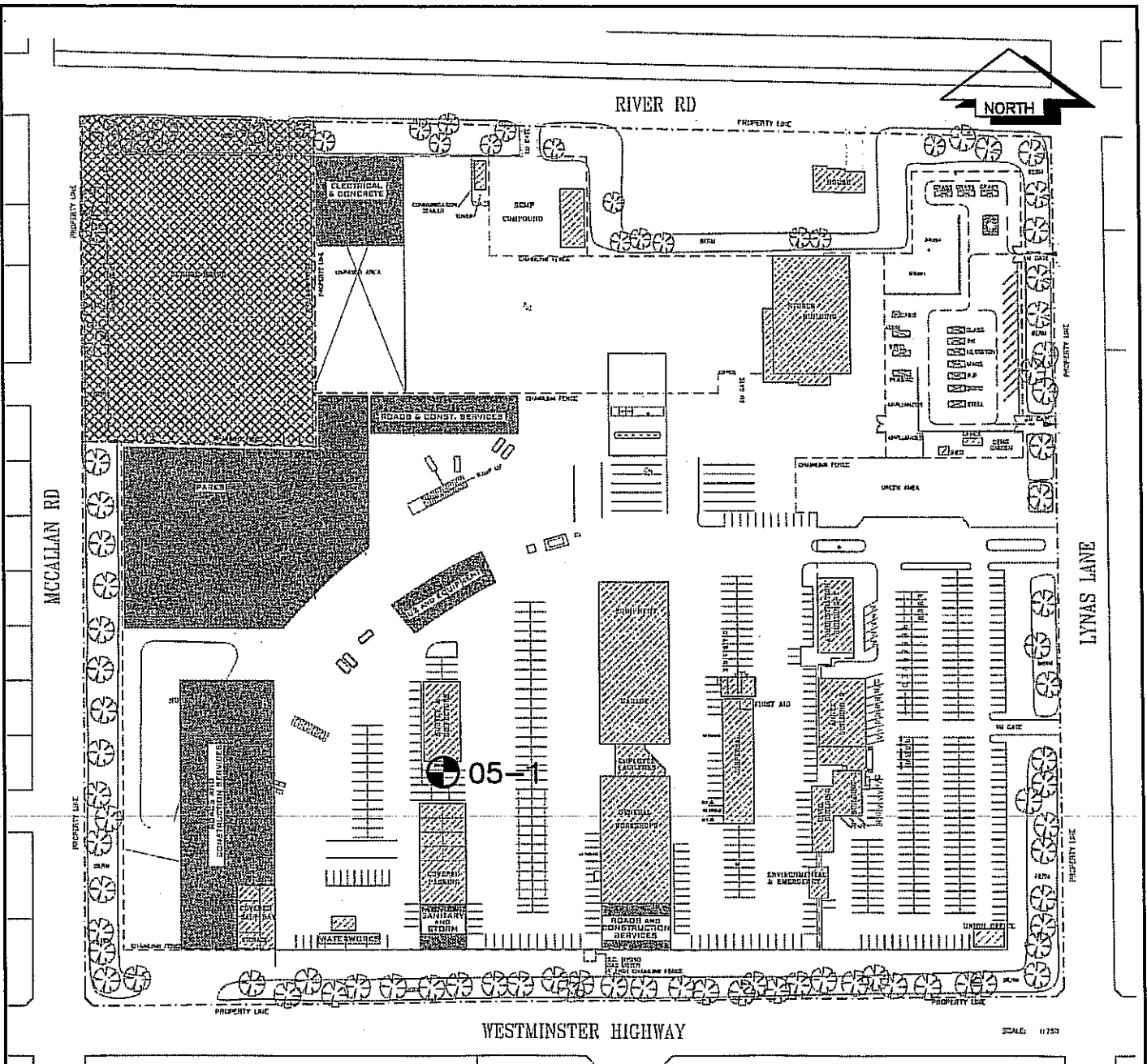
The conduct of engineering and environmental studies frequently requires hiring the services of individuals and companies with special expertise and/or services which we do not provide. We may arrange the hiring of these services as a convenience to our Clients. As these services are for the Client's benefit, the Client agrees to hold the Company harmless and to indemnify and defend us from and against all claims arising through such hirings to the extent that the Client would incur had he hired those services directly. This includes responsibility for payment for services rendered and pursuit of damages for errors, omissions or negligence by those parties in carrying out their work. In particular, these conditions apply to the use of drilling, excavation and laboratory testing services.

## 8. CONTROL OF WORK AND JOBSITE SAFETY


We are responsible only for the activities of our employees on the jobsite. The presence of our personnel on the site shall not be construed in any way to relieve the Client or any contractors on site from their responsibilities for site safety. The Client acknowledges that he, his representatives, contractors or others retain control of the site and that we never occupy a position of control of the site. The Client undertakes to inform us of all hazardous conditions, or other relevant conditions of which the Client is aware. The Client also recognizes that our activities may uncover previously unknown hazardous conditions or materials and that such a discovery may result in the necessity to undertake emergency procedures to protect our employees as well as the public at large and the environment in general. These procedures may well involve additional costs outside of any budgets previously agreed to. The Client agrees to pay us for any expenses incurred as the result of such discoveries and to compensate us through payment of additional fees and expenses for time spent by us to deal with the consequences of such discoveries. The Client also acknowledges that in some cases the discovery of hazardous conditions and materials will require that certain regulatory bodies be informed and the Client agrees that notification to such bodies by us will not be a cause of action or dispute.

## 9. INDEPENDENT JUDGEMENTS OF CLIENT

The information, interpretations and conclusions in the Report are based on our interpretation of conditions revealed through limited investigation conducted within a defined scope of services. We cannot accept responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report. This restriction of liability includes but is not limited to decisions made to develop, purchase or sell land.

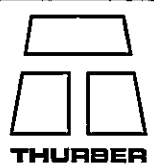


**LEGEND**

 Test hole

**NOTES**

1. Test hole location is approximate.
2. Base plan provided by the City of Richmond.

DESIGNED BN	City of Richmond		
DRAWN KM	<p><b>TEST HOLE LOCATION</b></p>		
DATE May 25, 2005			
APPROVED			
SCALE NTS	5599 Lynas Lane	Richmond, B.C.	DWG. NO. 14-130-11-1

VED01840.DWG

# LOG OF TEST HOLE

TEST HOLE NO.  
**05-1**

LOCATION: See Dwg. 14-130-11-1

TOP OF HOLE ELEV:

METHOD: Solid Stem Auger

DRILLING CO.: Dynamic Drilling Ltd.

INSPECTOR: LP

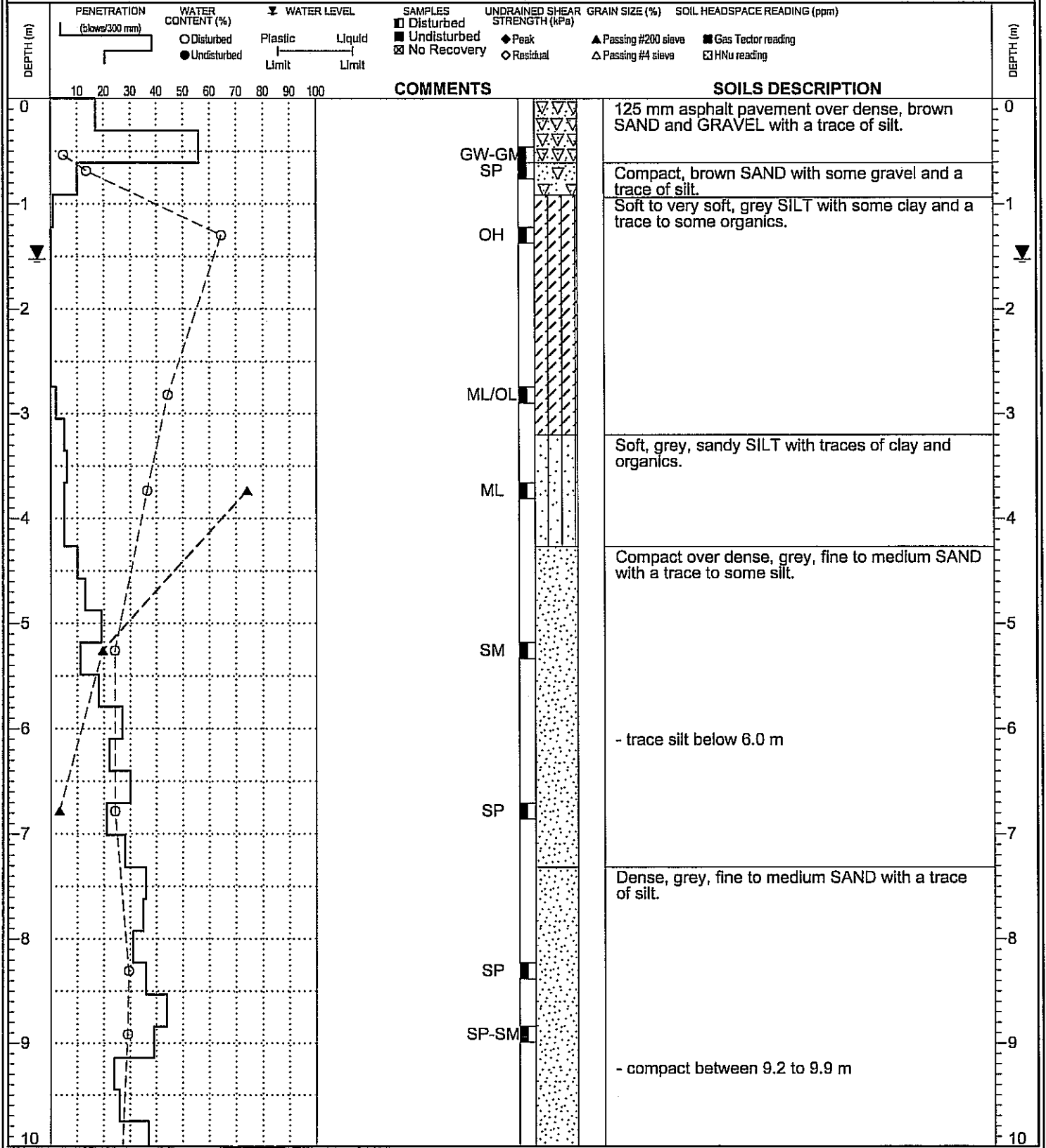


CLIENT: City of Richmond

PROJECT: Communications Tower  
5599 Lynas Lane, Richmond

DATE: May 25, 2005

FILE NO.: 14-130-11



# LOG OF TEST HOLE

TEST HOLE NO.  
**05-1**

LOCATION: See Dwg. 14-130-11-1



CLIENT: City of Richmond  
PROJECT: Communications Tower  
5599 Lynas Lane, Richmond

TOP OF HOLE ELEV:

METHOD: Solid Stem Auger

DRILLING CO.: Dynamic Drilling Ltd.

INSPECTOR: LP

DATE: May 25, 2005

FILE NO.: 14-130-11

DEPTH (m)	PENETRATION (blows/300 mm)	WATER CONTENT (%) ○ Disturbed ● Undisturbed	WATER LEVEL ▼ Plastic Limit Liquid Limit	SAMPLES ■ Disturbed ■ Undisturbed ☒ No Recovery	UNDRAINED SHEAR STRENGTH (kPa) ◆ Peak ◇ Residual	GRAIN SIZE (%) ▲ Passing #200 sieve △ Passing #4 sieve	SOIL HEADSPACE READING (ppm) ■ Gas Tector reading ☒ HNu reading	DEPTH (m)
10	~35	~45						10
11	~35	~45						11
12	~35	~45						12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20

SP

SP-SM

Dense, grey, fine to medium SAND with a trace of silt.  
- 2 cm thick organic seam at 10 m

- 2 cm thick organic seam at 11.6 m

End of hole at required depth.