



City of Coquitlam

Contract Documents 51167

Como Lake Avenue at Montrose Street Traffic Signal



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Invitation to Tenderers



INVITATION TO TENDER

DATE OF ISSUE: June 2, 2021

Tender No. 51167

Como Lake Avenue at Montrose Street Traffic Signal

The City of Coquitlam invites tenders for **Contract 51167 – Como Lake Avenue at Montrose Street Traffic Signal**, generally consisting of the following, but not limited to:

- Installation of a traffic signal on an arterial roadway.

Tender Documents and Drawings are available for downloading from the City of Coquitlam website: www.coquitlam.ca/BidOpportunities

Printing of Tender documents and drawings is the sole responsibility of the Tenderers.

Tenders submitted must be accompanied by a copy of the original specified 10% Bid Bond and will be received:

On or Before 2:00 pm local time

Wednesday, June 23, 2021

("Closing Date and Time")

Instructions for Tender Submission

Tender submissions are to be consolidated into one (1) .pdf file and uploaded electronically through QFile, the City's file transfer service accessed at website: qfile.coquitlam.ca/bid

1. In the "Subject Field" enter: Tender Number and Name
2. **Add consolidated Tender file in PDF format**, and Send
(Ensure your web browser remains open until you receive 2 emails from Qfile to confirm upload is complete.)

Tenders will not be opened in public. The unevaluated Tender results will be forwarded to all participants by email.

Inquires

All inquiries are to be submitted in writing by email, no later than 3 full business days prior to Tender Closing Time quoting the Tender Name and Number sent to:

Email: bid@coquitlam.ca

Addenda

Tenderers are required to check the City's website for any updated information and Addenda issued before the Closing Date at: www.coquitlam.ca/BidOpportunities

Any changes to the Tender documentation will be issued by means of written Addenda and posted on the City's website and will form part of the Tender. No amendment of any kind to the Tender is effective unless it is posted in a formal written Addendum on the City website. Upon submitting a Tender, Tenderers will be deemed to have received notice of all Addenda that are posted on the City's website and deemed to have considered the information for inclusion in the Tender submitted.

The City does not retain a bidder's list or bidder's registry. Tenderers are encouraged to register as plan takers and may view the Tender Documents and Drawings by contacting the Vancouver Regional Construction Association (VRCA), website: www.my.vrca.ca, ph: 604-294-3766, or email vrca@vrca.ca, quoting the Coquitlam Tender Reference Number.

Should there be any discrepancy in the documentation provided, the City's original file copy shall prevail.

Tenders shall remain open for acceptance for 60 days following the submission Closing Date.

The City reserves the right to accept or reject any or all Tenders and the lowest or any Tender may not necessarily be accepted. The City also reserves the right to cancel any request for Tender at any time without recourse by the Tenderer.

The City, prior to award of any Tender, may negotiate with the Tenderer presenting the lowest price compliant Tender, for changes in the Work, materials, specifications or conditions without having any duty or obligation to advise any other Tenderers or to allow them to modify their Tenders, and the City will have no liability to any Tenderer as a result of such negotiations or modifications.

The City will not be responsible for any costs incurred by the Tenderer in preparing the Tender.

Procurement of goods and services is conducted in accordance with Chapter 5 of the Canadian Free Trade Agreement (CFTA) and the New West Partnership Trade Agreement (NWPTA).

M. Pain
Purchasing Manager

Instructions to Tenderers

Tender 51167

Como Lake Avenue at Montrose Street Traffic Signal

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INSTRUCTIONS TO TENDERERS

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

The City of Coquitlam

Contract: **Como Lake Avenue at Montrose Street Traffic Signal**

Reference No. **51167**

- | | | |
|------------|-------------------------|---|
| 1.0 | Introduction | <p>1.1 These Instructions apply to and govern the preparation of tenders for this <i>Contract</i>. The <i>Contract</i> is generally for the following work:</p> <ul style="list-style-type: none">• Installation of a traffic signal on an arterial roadway. <p>1.2 All inquiries regarding this Tender are to be submitted in writing referencing the Tender Name and Number sent to:</p> <p>E-mail bid@coquitlam.ca</p> <p>All inquiries will be received a minimum of 3 full business days prior to Tender Closing Time.</p> <p>Inquiries received after that time may not receive a response.</p> |
| 2.0 | Tender Documents | <p>2.1 The Tender Documents which a Tenderer should review to prepare a Tender consist of all of the <i>Contract Documents</i> listed in Schedule 1 entitled "Schedule of Contract Documents". Schedule 1 is attached to the Agreement which is included as part of the Tender Package. The <i>Contract Documents</i> include the drawings listed in Schedule 2 to the Agreement, entitled "List of Contract Drawings".</p> <p>2.2 <u>A portion of the Contract Documents are included by reference. Copies of these documents have not been included with the tender package.</u> These documents are the General Conditions, Specifications and Standard Detail Drawings. They are those contained in the publication entitled "Master Municipal Construction Documents - General Conditions, Specifications and Standard Detail Drawings". Refer to Schedule 1 to the Agreement or, if not specified in Schedule 1, then the applicable edition shall be the most recent edition as of the date of the <i>Tender Closing Date</i>. <u>All sections of this publication are by reference included in the <i>Contract Documents</i>.</u></p> <p>2.3 Any additional information made available to Tenderers prior to the Tender Closing Time by the Owner or representative of the Owner, such as geotechnical reports or as-built plans, which is not expressly included in Schedule 1 or Schedule 2 to the Agreement, is not included in the Contract Documents. Such additional information is made available only for the assistance of Tenderers who must make their own judgments about its reliability, accuracy, completeness and relevance to the <i>Contract</i>, and neither the Owner nor any representative of the Owner gives any guarantee or</p> |

representation that the additional information is reliable, accurate, complete or relevant.

**3.0 Submission of
Tenders**

- 3.1 Tenders must be submitted on the Tender Form provided, accompanied by a copy of the original 10% Bid Bond quoting the Tender Name and Number, and be uploaded to the City's file transfer website.

Tenders must be received on or before:

Tender Closing Time: 2:00 p.m. local time

Tender Closing Date: June 23, 2021

For the purpose of the Tender submission, digital copies of original documents and signatures sent electronically are accepted. Original documents are required upon request by the City.

**Instructions for
Tender
Submission**

- 3.2 **Tender submissions are to be consolidated into one (1) PDF file and uploaded electronically through QFile, the City's file transfer service accessed at website: <http://qfile.coquitlam.ca/bid>**
- 1. In the "Subject Field" enter: Tender Number and Name**
 - 2. Add consolidated Tender file in PDF format and Appendix 1 in XLS format, and Send** (ensure your web browser remains open until you receive 2 emails from Qfile to confirm upload is complete and was sent to email: bid@coquitlam.ca)

Tenderers are responsible to allow for ample time to complete the submission process. For assistance, phone 604-927-3037 or Fax 604-927-3035.

- 3.3 Tenders submitted shall be deemed to be received when displayed as a new email in the in-box of the above email address. The City will not be responsible for any delay or for any Tenders not received for any reason, including technological delays or issues by either party's network or email program, and the City will not be liable for any damages associated with Tenders not received.
- 3.4 The City reserves the right to accept late Tenders to allow for technological delays. The City also reserves the right to accept Tenders received by fax (604-927-3035) or email: bid@coquitlam.ca.

Please Note: Due to Covid-19 prevention measures, in-person tender submissions will not be accepted. It is also reasonable to consider that City staff may be given a work from home mandate. Under this scenario, Fax submissions may not be received. Be advised that filing electronically through Qfile will be the most reliable method during these uncertain times.

- 3.5 Tenders will not be opened in public. The unevaluated results will be forwarded to participants by email.

**4.0 Additional
Instructions to
Tenderers**

- 3.6 Tender submissions are subject to the Freedom of Information and Protection of Privacy Act and contents may be disclosed if required to do so, pursuant to the Act.

Additional Instructions to Tenderers

**Obtaining
Documents**

- 4.1 The following documents which are referred to and form part of the Contract Document package may be obtained as follows:
- Copies of the Master Municipal Construction Documents Volume II (2009), General Conditions, Specifications and Standard Detail Drawings are available separately from:

Support Services Unlimited
Suite 102
211 Columbia Street
Vancouver BC V6A 2R5
Tel: 604-681-0295
Fax : 604-305-0424
 - City of Coquitlam Supplementary Specifications and Detailed Drawings to the MMCD 2009 Edition.

City of Coquitlam Engineering & Public Works Department
3000 Guildford Way
Coquitlam, BC V3B 7N2
Tel: 604-927-3500
Fax: 604-927-3525

Copies of the City of Coquitlam Supplementary Specifications and Detailed Drawings to the MMCD 2009 Edition are available for viewing and downloading off the City of Coquitlam website:
[Supplementary Specifications and Detailed Drawings to MMCD](#)

**Test
Excavations**

- 4.2 Prior to the excavation of test holes on road allowances or privately owned property the Tenderer shall obtain permission from the Municipality or Owner of the property and comply with their requirements for restoration of disturbed surfaces and utilities. Failure to comply with Municipal by-laws restricting this practice may result in prosecution of the offending party.

**Business
License**

- 4.3 The successful Tenderer shall provide evidence of a City of Coquitlam Business License or Tri-Cities Intermunicipal Business License prior to commencement of work or supply of materials. For more information, contact Business License Division Ph: 604-927-3085 or apply online at website:
[City of Coquitlam Business License](#)

No Claim

- 4.4 Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, as a result of participating in this Tender, including accepting a non-compliant bid and by submitting a Tender, each Tenderer shall be deemed to have agreed that it has no claim.

	No Cost	4.5	The City will not under any circumstances be responsible for any costs incurred by the Tenderer in preparing the Tender.
	Right to Accept or Reject any Tender	4.6	<p>The City reserves the right to accept or reject any or all Tenders and the lowest or any Tender may not necessarily be accepted. In its sole discretion, the City may reject or retain for its consideration, tenders which are nonconforming because they do not contain the content or form required by the instructions to tenderers or for failure to comply with the process for submission set out in these instructions to tenderers.</p> <p>The City specifically reserves the right to reject all Tenders if none is considered to be satisfactory and, in that event, at its option, to call for additional Tenders.</p>
	Negotiation	4.7	The City, prior to award of any Tender, may negotiate with the Tenderer presenting the lowest price compliant Tender, for changes in the Work, materials, specifications or conditions without having any duty or obligation to advise any other Tenderers or to allow them to modify their Tenders, and the City will have no liability to any Tenderer as a result of such negotiations or modifications.
	Cancellation of Tender	4.8	The City reserves the right to cancel any request for Tender at any time without recourse by the Tenderer. The City has the right to not award this work for any reason including choosing to complete the work with the City's own forces.
	Conflict of Interest	4.9	Tenderers shall disclose any actual or potential conflicts of interest and existing business relationships it may have with the City, their elected or appointed officials or employees.
	Collusion	4.10	Tenderers will not discuss or communicate with one another in regards to the preparation of their Tenders. Each Tenderer will ensure that its participation in the Tender process and that of its team members is conducted without collusion or fraud. Failure to comply with this requirement may lead to disqualification without further notice or warning.
	Instruction to Tenderers – Part II		Delete Instructions to Tenderers – Part II Contained in the Edition of the Publication “Master Municipal Construction Documents 2009” and replace with the following:
5.0	Tender Requirements	5.1	<p>A tender should be on the Form of Tender as provided and be signed by the authorized signatory(s) as follows:</p> <p>5.1.1 if the tenderer is a partnership or joint venture then the name of the partnership or joint venturer should be included, and each partner or joint venturer should sign personally; if a partner of joint venture is a corporation then such</p>

- corporation should sign as indicated in paragraph 5.1.3 below; and
- 5.1.2 if the tenderer is a corporation then the full name of the corporation should be included, together with the names and signatures of authorized signatories.
 - 5.1.3 For the purpose of the Tender submission, digital copies of original documents and electronic signatures are accepted. Original documents are required upon request by the City.
- 5.2 A tender must be accompanied by tender security ("*Bid Security*") in the form of:
- 5.2.1 a copy (digital or Electronic copy is acceptable) of the original bid bond in an amount equal to 10% of the Tender Price, issued by a surety licensed to carry on the business of suretyship in British Columbia in a form reasonably satisfactory to the *Owner*;
- 5.3 Tenderer should be competent and capable of performing the various items of work. Tenderer shall complete the following statement sheets appended to the Form of Tender:
- 5.3.1 Appendix 1 – the Lump Sum;
 - 5.3.2 Appendix 2 – a "*Preliminary Construction Schedule*", generally in the form attached as Appendix 2 to the Form of Tender, and showing *Substantial Performance* by the date or within the duration, shown in paragraph 2.2 of the Form of Tender.
 - 5.3.3 Appendix 3 – name and brief description of the previous experience of the *Superintendent* the tenderer will use for the *Work*;
 - 5.3.4 Appendix 4 – a list of previous comparable work, including a brief description of that work, approximate contract value, and references (with phone numbers);
 - 5.3.5 Appendix 5 – a complete list of all subcontractors, if any, that the tenderer will use for the *Work* including full names.; and
 - 5.3.6 Appendix 7 – is provided for information only, to indicate the Contract Insurance is to be submitted by the successful Tenderer upon Notice of Award.
- 5.4 The successful tenderer will, within 15 *Days* of receipt of the written *Notice of Award*, be required to deliver to the *Owner* the items listed in FT 5.1.1, including a Performance Bond and a Labour and Material Payment Bond as described in FT 5.1.1(a), failing which the provisions of FT 6.1 will apply.

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| 6.0 | Qualifications, Modifications, Alternative Tenders | <p>6.1 Tenders which contain qualifications, or omissions, so as to make comparison which other tenders difficult, may be rejected by the <i>Owner</i>.</p> <p>6.2 A tenderer may, at the tenderer's election, submit an alternative tender ("<i>Alternative Tender</i>") which varies the materials, products, designs or equipment by the <i>Owner as Approved Equals</i> as the case may be, <u>but an <i>Alternative Tender</i> must be in addition to, and not in substitution for a tender which conforms to the requirements of the <i>Contract Documents</i>.</u></p> <p>6.3 The only <i>Alternative Tender</i> that the <i>Owner</i> may accept is an <i>Alternative Tender</i> submitted by that tenderer whose conforming tender, submitted as required by paragraph 6.2 of these Instructions to Tenderers, would have been accepted by the <i>Owners</i> in the preference to other conforming tenders, if no <i>Alternative Tenders</i> had been invited.</p> |
| 7.0 | Approved Equals | <p>7.1 Prior to the <i>Tender Closing Time and Date</i>, a tenderer may request the <i>Owner</i> to approve materials, products, or equipment ("<i>Approved Equal</i>") to be included in a tender in substitution for items indicated in the <i>Contract Documents</i>.</p> <p>7.2 Applications for an <i>Approved Equal</i> must be in writing, and supported by appropriate supporting information, data, specifications, and documentation.</p> <p>7.3 If the <i>Owner</i> decides in its discretion to accept an <i>Approved Equal</i>, then the <i>Owner</i> will issue an addendum to all tenderers.</p> <p>7.4 The <i>Owner</i> is not obligated to review or accept an application for an <i>Approved Equal</i>.</p> |
| 8.0 | Inspection of the <i>Place of the Work</i> | <p>8.1 All tenderers, either personally or through a representative, are responsible to examine the <i>Place of the Work</i> before submitting a tender. A tenderer has full responsibility to be familiar with and make allowance in the tender for all conditions at the <i>Place of the Work</i> that might affect the tender, including any information regarding subsurface soil conditions made available by the <i>Owner</i>, the location of the <i>Work</i>, local conditions, topographical soil conditions, weather and access. Unless otherwise specified in the <i>Contract Documents</i>, a tenderer is not required to do subsurface investigations. By submitting a tender, a tenderer represents that the tenderer has examined the <i>Place of the Work</i>, or specifically elected not to. No additional payments or time extensions shall be claimable or due because of difficulties relating to conditions at the <i>Place of the Work</i> which were reasonably foreseeable by a contractor qualified to undertake the <i>Work</i>.</p> <p>8.2 Tenderers are referred to GC 11.2.1 regarding Concealed or Unknown Conditions.</p> |
| 9.0 | Interpretation of <i>Contract Documents</i> | <p>9.1 If a tenderer is in doubt as to the correct meaning of any provision of the <i>Contract Documents</i>, the tenderer may request clarification as instructed in paragraph 1.2 of the Instructions to Tenderers.</p> |

- 9.2 If a tenderer discovers any contradictions or inconsistencies in the *Contract Documents* or its provisions, or any discrepancies between a provision of the *Contract Documents* and conditions at the Place of the Work as observed in an examination under paragraph 8 of the person named in paragraph 1.2 of the Instructions to Tenderers.
- 9.3 If the *Owner* considers it necessary, the *Owner* may issue written addenda to provide clarification (s) of the *Contract Documents*.
- 9.4 No oral interpretation or representations from the *Owner* or any representative of the *Owner* will affect, alter, or amend any provision of the *Contract Documents*.
- 10.0 Prices**
- 10.1 The Tendered Price will represent the entire cost excluding *GST* to the *Owner* of the complete *Work* based on the estimated quantities in the *Lump Sum* of the Form of Tender. Notwithstanding the generalities of the above, tenderers shall include in the tendered prices (including unit prices, lump sum prices, or other forms of pricing) sufficient amounts to cover:
- 10.1.1 the costs of all labour, equipment and material included in or required for the *Work*, including all items which, whole not specifically listed in the *Lump Sum*, are included in the *Work* specifically or by necessary inference from the *Contract Documents*;
- 10.1.2 all assessments payable with respect to labour as required by any statutory scheme such as unemployment insurance, holiday pay, insurance, CPP and all employee benefits and the Workers Compensation Act;
- 10.1.3 all overhead costs, including head office and on-site overhead costs, and all amounts for the *Contractor's* profit.
- 10.2 The tendered prices and all subcontracts must allow for compliance with all applicable laws regarding trade or other qualifications of employees performing the *Work*, and payment of appropriate wages for labour included in or required for the *Work*.
- 11.0 Taxes**
- 11.1 The tendered prices shall cover all taxes and assessments of any kind payable with respect to the *Work*, but shall not include *GST*. *GST* shall be listed as a separate line item as required by GC 19.3.
- 12.0 Amendment of Tenders**
- 12.1 A tenderer may amend or revoke a tender by giving written notice, delivered by Email or fax, to the office referred to in paragraph 3.4 of the Instructions to Tenderers at any time up until the *Tender Closing Date and Time*. An amendment or revocation that is received after the *Tender Closing Date and Time* shall not be considered and shall not affect a tender as submitted.

- 12.2 An amendment or revocation must be signed by an authorized signatory of the tenderer in the same manner as provided by paragraph 5.1 of these Instructions to Tenderers.
- 12.3 Any amendment that expressly or by inference discloses the tenderer's *Tender Price* or other material element of the tender such that, in the opinion of the *Owner*, the confidentiality of the tender is breached, will invalidate the entire tender.
- 12.4 An acceptable form of a tender amendment which tenderers may, but are not required to, use is as follows:

"Contract:

(TITLE OF CONTRACT)

Reference No.

(OWNER'S CONTRACT REFERENCE NO.)

TO:

(NAME OF OWNER)

We the undersigned wish to amend our tender which we submitted for the above *Contract* by deleting the following tendered prices or items from our tender:

(TENDERED PRICES AND/OR TENDER ITEMS IN THE TENDER THAT ARE TO BE AMENDED)

and substituting the following revised tendered prices or items:

(REVISED TENDERED PRICES OR TENDER ITEMS)

The extensions in our tender should be adjusted accordingly, and our ***Tender Price*** as set out in Appendix 1 of our submitted **Form of Tender**, and on the ***Lump Sum***, increased / decreased by \$_____, excluding GST. We have not included our revised ***Tender Price*** in order to preserve the confidentiality of our tender.

Signed and delivered the ____ day of _____, 20____."

- 12.5 If a tender amendment or revocation is sent by fax, the tenderer assumes the entire risk that equipment and staff at the office referred to in paragraph 3.4 of the Instructions to Tenderers will properly receive the fax containing the amendment or revocation before the *Tender Closing Date and Time*. The *Owner* assumes no risk or responsibility whatsoever that any fax will be received as required by paragraph 12.1 of these Instructions to Tenderers, and shall not be liable to any tenderer if for any reason a fax is not properly received.

13.0

**Duration of
Tenders**

13.1

After the *Tender Closing Time*, a tender shall remain valid and revocable as set out in paragraph 5.1 of the Form of Tender.

- | | | | |
|-------------|--|------|--|
| 14.0 | Qualifications
of Tenderers | 14.1 | By submitting a tender a tenderer is representing that it has the competence, qualifications and relevant experience required to do the <i>Work</i> . |
| 15.0 | Award | 15.1 | <p>In exercising its discretion, the <i>Owner</i> will have regard to the information provided in the Appendices to the Form of Tender as described under IT5.3 including the proven experience of the tenderer, and any listed subcontractors, to do the <i>Work</i>.</p> <p>Tenders received will be evaluated to provide the City with greatest value based on quality, service, price and experience. Evaluation Criteria will include but is not limited to:</p> <ol style="list-style-type: none">1. Ability to meet specifications and required completion date2. Contractor's past experience, references, reputation and compliance to specifications3. Demonstrated successful experience on similar projects and specific equipment installation4. Price: purchase price, maintenance costs, availability of parts and service, warranty and compatibility with existing equipment and/or conditions5. Any other criteria, the City deems, at its sole discretion, necessary to evaluate Tenders;6. Lowest price will not necessarily be accepted. |

The City may, in its absolute discretion, not award to a Tenderer if the Tenderer, or any officer or director of a corporate Tenderer, is or has been engaged, either directly or indirectly through another corporation or legal entity, in a legal action against the City and its elected and appointed officers and employees or any of them in relation to:

- a) any other contract or services; or
- b) any matter arising from the City's exercise of its powers, duties or functions under the *Local Government Act*, the *Community Charter* or any other enactments; within five years of this Tender Offer.

For purposes of this section, the words "legal action" includes, without limitation, mediation, arbitration, hearing before an administrative tribunal or lawsuit filed in any court.

Without limiting the City's sole discretion, in determining whether or not to award to a Tenderer pursuant to this clause, the City will consider such factors as whether the legal action is likely to affect the Tenderer's ability to work with the City and its employees, agents, consultants and representatives or any of them and whether the City's past experience with the Tenderer in the matter that resulted in the legal action indicates that the City is likely to incur increased staff and legal costs or either of them in the administration of this contract if it is awarded to the Tenderer.

In the event that the lowest total Tender Price by two or more Tenderers is the same amount, the City will select a Tenderer with an overall satisfactory performance record in having completed work on previous relevant projects

that are provided as references, and on City projects. Information obtained from references will not be disclosed or discussed with any Tenderer. If all references are equal, selection will be determined by a coin toss in a manner to be directed by the City.

Where only one Tender is received the City may reject such and re-tender on a selected basis.

- 15.2 The *Owner* will notify the successful tenderer in writing.
- 15.3 If there are any discrepancies in the *Lump Sum* between the unit prices and the extended totals then the unit prices shall be deemed correct, and corresponding corrections shall be made to the extended totals. If a unit price or extended total has been omitted, the following shall apply:
- a) If a unit price is given but the corresponding extended total has been omitted, then the extended total shall be calculated from unit price and the estimated quantity, and inserted as the extended total;
 - b) If an extended total is given but the corresponding unit price has been omitted, then the unit price shall be calculated from the extended total and estimated quantity, and inserted as the unit price;
 - c) If both the unit price and the corresponding extended total for a tender item have been omitted, then the following test shall be applied to determine whether the tender shall be rejected as incomplete:
 - (i) the highest of the unit prices tendered by other tenderers for that tender item shall be used as the test unit price, and the corresponding test extended total shall be calculated from the test unit price and the estimated quantity;
 - (ii) if the test extended total for the tender item exceeds 1% of the revised total *Tender Price*, including the test extended total, or if the revised total *Tender Price*, including the test extended total, alters the ranking of the tenderers according to the lowest *Tender Price*, then the omitted unit price for that tender item is deemed to materially affect the *Tender Price* relative to other tenders and the tender shall be rejected;
 - (iii) if the tender is not rejected under subparagraph (ii) of this IT 15.3 (c), then the unit price and the extended total for that tender item shall both be deemed to be, and the costs for that tender item shall be zero deemed to be included in other tender items prices;
 - d) In no event shall page totals in the *Lump Sum* or the total *Tender Price* be used to calculate missing extended totals or unit prices.

15.4 Upon receiving notification of being the successful Tenderer, the Tenderer shall submit a Pandemic Prevention Policy and Procedures (4P) document detailing occupational health and safety policies to prevent the spread of Covid-19 to the public, the Tenderer's employees, and sub-contractors during construction operations. The Owner reserves the right to require additions or changes to the 4P document prior to the execution of the Contract. After the Contract is in place, the Contractor will be expected to enforce the 4P document to the satisfaction of the Contract Administrator. If the Contract Administrator deems the 4P document is not being satisfactorily followed, the Contract Administrator may stop work at the sole expense of the Contractor until the Contractor's employees and sub-contractors have been provided proper training and orientation in regard to the 4P document.

16.0 Subcontractors

16.1 The *Owner* reserves the right to object to any of the subcontractors listed in a tender. If the *Owner* objects to any of the subcontractor(s) then the *Owner* will permit a tenderer to, within 5 days, propose a substitute subcontractor(s) acceptable to the *Owner* provided that there is not resulting adjustment in the *Tender Price* or the completion date set out in paragraph 2.2 of the Form of Tender. A tenderer will not be required to make such substitution and, if the *Owner* objects to a listed *Subcontractor(s)*, the tenderer may, rather than propose a substitute subcontractor(s), consider its tender rejected by the *Owner* and by written notice withdraw it tender. The *Owner* shall, in the event, return the tenderer's bid security

17.0 Optional Work

17.1 If the *Lump Sum* includes any tender prices for *Optional or Provisional Work*, as defined in GC 7.4.1, the tenderers must complete all the unit prices for such *Optional or Provisional Work*. Such tender prices shall not include any general overhead costs, or other costs, or profit, not directly related to the *Optional or Provisional Work*.

17.2 Notwithstanding that the *Owner* may elect not to proceed with the *Optional or Provisional Work*, the tender prices for any *Optional or Provisional Work*, including the extended totals for *Optional or Provisional Work* unit prices, shall be included in the *Tender Price* for the purpose of any price comparisons between tenders.

Form of Tender



Form of Tender

Tender No. 51167

Como Lake Avenue at Montrose Street Traffic Signal

Summary

Name of **Contractor**: _____

Tender Price (exclude GST): \$ _____
(FROM APPENDIX 1 OF FORM OF TENDER)

Tender submitted must be accompanied by a copy of the original 10% Bid Bond and will be received

**On or before 2:00 pm (local time)
Wednesday, June 23, 2021**

Instructions for Tender Submission

Tender submissions are to be consolidated into one (1) .pdf file and uploaded electronically through QFile, the City's file transfer service accessed at website: qfile.coquitlam.ca/bid

- 1. In the "Subject Field" enter:** Tender Number and Name
- 2. Add consolidated Tender file in PDF format, and Send** (ensure your web browser remains open until you receive 2 emails from Qfile to confirm upload is complete and was sent to the correct email address: bid@coquitlam.ca)

Tenderers are responsible to allow ample time to complete the Tender submission process. If assistance is required, phone 604-927-3037 or fax 604-927-3035.

June 2021

THE CITY OF COQUITLAM
3000 Guildford Way
Coquitlam BC V3B 7N2

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER
STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

Contract Name: Como Lake Avenue at Montrose Street Traffic Signal

Reference No. 51167

TO OWNER:

1 WE, THE UNDERSIGNED:

- 1.1 have received and carefully reviewed all of the *Contract Documents*, including the Instructions to Tenderers, the City of Coquitlam Supplementary General Conditions, the City of Coquitlam Supplementary Contract Specifications, the specified edition of the "Master Municipal Construction Documents – General Conditions, Specifications and Standard Detail Drawings" and the following Addenda:

_____;
(ADDENDA, IF ANY)

- 1.2 shall fully disclose any actual or potential conflicts of interest and existing business relationships we may have with the City, their elected or appointed officials or employees:

- 1.3 have full knowledge of the *Place of the Work*, and the *Work* required; and

- 1.4 have complied with the Instructions to Tenderers; and

2 ACCORDINGLY WE HEREBY OFFER:

- 2.1 to perform and complete all of the *Work* and to provide all the labour, equipment and material all as set out in the *Contract Documents*, in strict compliance with the *Contract Documents*; and
- 2.2 to achieve *Substantial Performance* of the *Work* on or before **October 15, 2021**; and
- 2.3 to do the *Work* for the price set out in Appendix 1, "*Lump Sum*". For the purposes of tender comparison, our offer is to complete the *Work* for the "*Total Tendered Price*" as set out on Appendix 1 of this Form of Tender. Our *Total Tendered Price* excludes *GST*.

3 WE CONFIRM:

- 3.1 that we understand and agree that the owner is in no way obliged to accept this Tender.

4 WE CONFIRM:

- 4.1 that the following Appendices are attached to and form a part of this tender:

- 4.1.1 the Appendices as required by paragraph 5.3 of the Instructions to Tenderers - Part II; and
- 4.1.2 the *Bid Security* as required by paragraph 5.2 of the Instructions to Tenderers - Part II.
- 4.1.3 the Certificate of Compliance on the form provided in Appendix 7 of this Form of Tender.

5 WE AGREE:

- 5.1 that this tender will be irrevocable and open for acceptance by the *Owner* for a period of **60** calendar days from the day following the *Tender Closing Date and Time*, even if the tender of another Tenderer is accepted by the *Owner*. If within this period the *Owner* delivers a written notice ("*Notice of Award*") by which the *Owner* accepts our tender we will:
 - 5.1.1 within **15 Days** of receipt of the written *Notice of Award* deliver to the *Owner*:
 - a) a Performance Bond and a Labour and Material Payment Bond, each in the amount of 50% of the *Contract Price*, issued by a surety licensed to carry on the business of suretyship in the province of British Columbia, and in a form acceptable to the *Owner*;
 - b) a "clearance letter" indicating that the Tenderer is in WCB compliance; and
 - c) a copy of the insurance policies as specified in SGC 24 indicating that all such insurance coverage is in place and;
 - d) a letter confirming the *Contractor* as "Prime Contractor" for the Contract as specified in SGC 21.2.1.
 - 5.1.2 within **2 Days** of receipt of written "*Notice to Proceed*", or such longer time as may be otherwise specified in the *Notice to Proceed*, commence the *Work*; and
 - 5.1.3 sign the Contract Documents as required by GC 2.1.

6 WE AGREE:

- 6.1 that, if we receive written *Notice of Award* of this *Contract* and, contrary to paragraph 5 of this Form of Tender, we:
 - 6.1.1 fail or refuse to deliver the documents as specified by paragraph 5.1.1 of this Form of Tender; or
 - 6.1.2 fail or refuse to commence the *Work* as required by the *Notice to Proceed*,

then such failure or refusal will be deemed to be a refusal by us to enter into the Contract and the *Owner* may, on written notice to us, award the *Contract* to another party. We further agree that, as full compensation on account of damages suffered by the *Owner* because of such failure or refusal, the *Bid Security* shall be forfeited to the *Owner*, in an amount equal to the lesser of:

- 6.1.3 the face value of the *Bid Security*; and
- 6.1.4 the amount by which our *Tender Price* is less than the amount for which the *Owner* contracts with another party to perform the *Work*.

7 OUR ADDRESS is as follows:

Phone: _____ - _____ - _____

Fax: _____ - _____ - _____

Email: _____

Attention: _____

This Tender is executed this _____ day of _____, 20____.

Contractor:

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

8 WE CONFIRM:

8.1 our Goods and Services Tax (GST) registration status is as follows:

8.1.1 for information purposes, our GST Registration Number is:

(GST REGISTRATION NUMBER)

or;

8.1.2 by signature hereunder, we certify we are **not required** to provide a registration number:

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY)

APPENDIX 1

FORM OF TENDER

Contract 51167

Como Lake Avenue at Montrose Street Traffic Signal

LUMP SUM

(see paragraph 5.3.1 of the Instruction to Tenderers)

(All prices and quotations including the Contract Prices shall Exclude GST)

(Should there be any discrepancy in the information provided, the City's original file copy shall prevail)

Total Lump Sum Price (exclude GST): \$ _____

(Transfer the amount to Form of Tender Summary Page 1)

Name of Contractor: _____

APPENDIX 2

FORM OF TENDER

Contract 51167
Como Lake Avenue at Montrose Street Traffic Signal

PRELIMINARY CONSTRUCTION SCHEDULE
(See paragraph 5.3.2 of the Instructions to Tenderers)

INDICATE SCHEDULE WITH BAR CHART WITH CONSTRUCTION DURATIONS

CONSTRUCTION ACTIVITY	JULY	AUGUST					SEPTEMBER				OCTOBER	
	4	1	2	3	4	5	1	2	3	4	1	2

Substantial Completion Date: **October 15, 2021**

APPENDIX 3

FORM OF TENDER

**Contract 51167
Como Lake Avenue at Montrose Street Traffic Signal**

EXPERIENCE OF SUPERINTENDENT

(See paragraph 5.3.3 of the Instructions to Tenderers)

Proposed Project Superintendent _____

List of Project Experience

PROJECT:		Dates:	
Work Description:			
Responsibility:			
Owner/Reference:		Phone NO:	

PROJECT:		Dates:	
Work Description:			
Responsibility:			
Owner/Reference:		Phone NO:	

PROJECT:		Dates:	
Work Description:			
Responsibility:			
Owner/Reference:		Phone NO:	

APPENDIX 4

FORM OF TENDER

Contract 51167

Como Lake Avenue at Montrose Street Traffic Signal

CONTRACTOR'S COMPARABLE WORK EXPERIENCE
(See paragraph 5.3.4 of the Instructions to Tenderers)

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

PROJECT:		VALUE (\$):	
OWNER:		Phone Number:	
Work Description:			

APPENDIX 5

FORM OF TENDER

Contract 51167
Como Lake Avenue at Montrose Street Traffic Signal

SUBCONTRACTORS
(See paragraph 5.3.5 of the Instructions to Tenderers)

Trade:		Tender Item:	
Work Description:			
Subcontractor:		Phone No:	

Trade:		Tender Item:	
Work Description:			
Subcontractor:		Phone No:	

Trade:		Tender Item:	
Work Description:			
Subcontractor:		Phone No:	

Trade:		Tender Item:	
Work Description:			
Subcontractor:		Phone No:	

Trade:		Tender Item:	
Work Description:			
Subcontractor:		Phone No:	

APPENDIX 6

FORM OF TENDER

Contract 51167
Como Lake Avenue at Montrose Street Traffic Signal

Bid Bond

NO. _____

\$ _____

KNOW ALL MEN BY THESE PRESENTS THAT

As Principal, hereinafter called the Principal, and

As Surety, hereinafter called the Surety, are held and firmly bound unto

As Obligee, hereinafter called the Obligee, in the amount of

_____ Dollars (\$ _____) lawful money of
Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their
heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a written Tender to the Obligee, dated the _____ day of
_____, 2021, for Contract _____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the aforesaid Principal shall have the Tender
accepted within sixty (60) days from the Closing Date of Tender and the said Principal will, within the time required,
enter into a formal contract and give good and sufficient bonds to secure the performance of the terms and conditions
of the Contract, then this obligation shall be null and void; otherwise the Principal and Surety will pay unto the Obligee
the difference in money between the amount of the bid of the said Principal and the amount for which the Obligee
legally contracts with another party to perform the work if the latter amount be in excess of the former.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of six (6) months from the date of this Bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these
presents to be sealed with its corporate seal duly attested by the signature of its Attorney-In-Fact,
this _____ day of _____, 2021.

SIGNED, SEALED AND DELIVERED

In the presence of:

)
)
)
)
)

PRINCIPAL

SURETY

APPENDIX 7

FORM OF TENDER

Contract 51167

Como Lake Avenue at Montrose Street Traffic Signal

CERTIFICATE OF COMPLIANCE for CONTRACT INSURANCE

This is provided for information to certify that the Tenderer does hereby undertake and agree to supply to the City of Coquitlam, upon award, contract insurance listed below for the project requirements indicated:

Contract Number: **51167**

Contract Name: **Como Lake Avenue at Montrose Street Traffic Signal**

Description of Work:

- Installation of a traffic signal on an arterial roadway.

Commercial General Liability: **\$5,000,000 limit**

Special Coverage Required:	<u>YES</u>	<u>NO</u>	<u>Special Coverage Description</u>
	()	(X)	Shoring and Underpinning Hazard
	()	(X)	Pile Driving and Vibrations
	()	(X)	Excavation Hazard
	()	(X)	Demolition
	()	(X)	Blasting

We also certify that the insurance coverage will meet the requirements of the Supplementary General Conditions Section 24 – Insurance, included as part of the Contract Documents, and that the proof of insurance will be provided on the City of Coquitlam Certificate of Insurance form, without amendments, except for the exclusions noted above.

Name of Tenderer (printed)

Authorized Signature

Date

Agreement

AGREEMENT

Between Owner and Contractor

(FOR USE WHEN UNIT PRICES FORM THE BASIS OF PAYMENT - TO BE USED ONLY WITH THE GENERAL CONDITIONS AND OTHER STANDARD DOCUMENTS OF THE UNIT PRICE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.)

THIS AGREEMENT made in duplicate this ____ day of _____, 2021.

Contract: Como Lake Avenue at Montrose Street Traffic Signal

Reference No. 51167

BETWEEN:

The City of Coquitlam
3000 Guildford Way
Coquitlam BC V3B 7N2

(the "Owner")

AND:

(the "Contractor")

The *Owner* and the *Contractor* agree as follows:

1 THE WORK - START/COMPLETION DATES

- 1.1 The *Contractor* will perform all *Work* and provide all labour, equipment and material and do all things strictly as required by the *Contract Documents*.
- 1.2 The *Contractor* will commence the *Work* in accordance with the *Notice to Proceed*. The *Contractor* will proceed with the *Work* diligently, will perform the *Work* generally in accordance with the construction schedules as required by the *Contract Documents* and will achieve *Substantial Performance* of the *Work* on or before **October 15, 2021**, subject to the provisions of the *Contract Documents* for adjustments to the *Contract Time*.
- 1.3 Time shall be the essence of the Contract.

2 CONTRACT DOCUMENTS

- 2.1 The “*Contract Documents*” consist of the documents listed or referred to in Schedule 1, entitled “Schedule of Contract Documents”, which is attached and forms a part of this Agreement, and includes any and all additional and amending documents issued in accordance with the provisions of the *Contract Documents*. All of the *Contract Documents* shall constitute the entire *Contract* between the *Owner* and the *Contractor*.
- 2.2 The *Contract* supersedes all prior negotiations, representations or agreements, whether written or oral, and the *Contract* may be amended only in strict accordance with the provisions of the *Contract Documents*.

3 CONTRACT PRICE

- 3.1 The price for the *Work* (“*Contract Price*”) shall be the sum in Canadian dollars of the following:
- a) the items of *Work* listed in the *Contract Documents*; plus
 - b) any adjustments, including any payments owing on account of *Changes* and agreed to *Extra Work*, approved in accordance with the provisions of the *Contract Documents*.
- 3.2 The *Contract Price* shall be the entire compensation owing to the *Contractor* for the *Work* and this compensation shall cover and include all profit and all costs of supervision, labour, material, equipment, overhead, financing, and all other costs and expenses whatsoever incurred in performing the *Work*.

4 PAYMENT

- 4.1 Subject to applicable legislation and the provisions of the *Contract Documents*, the *Owner* shall make payments to the *Contractor*.
- 4.2 If the *Owner* fails to make payments to the *Contractor* as they become due in accordance with the terms of the *Contract Documents* then interest calculated at 2% per annum over the prime commercial lending rate of the Royal Bank of Canada on such unpaid amounts shall also become due and payable until payment. Such interest shall be calculated and added to any unpaid amounts monthly.

5 RIGHTS AND REMEDIES

- 5.1 The duties and obligations imposed by the *Contract Documents* and the rights and remedies available hereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.
- 5.2 Except as specifically set out in the *Contract Documents*, no action or failure to act by the *Owner*, *Contract Administrator* or *Contractor* shall constitute a waiver of any of the parties’ rights or duties afforded under the *Contract*, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach under the *Contract*.

6 NOTICES

- 6.1 Communications among the *Owner*, the *Contract Administrator* and the *Contractor*, including all written notices required by the *Contract Documents*, may be delivered by email, by hand or by fax, or by pre-paid registered mail to the addresses as set out below:

The *Owner*:

The City of Coquitlam
3000 Guildford Way
Coquitlam, BC V3B 7N2

Tel: 604-927-3500
Fax: 604-927-3505

The *Contractor*:

Tel:
Fax:
Email:
Attention:

The *Contract Administrator*:

The City of Coquitlam
3000 Guildford Way
Coquitlam BC V3B 7N2

Tel:
Fax:
Email:
Attention:

- 6.2 A communication or notice that is addressed as above shall be considered to have been received:
- a) immediately upon delivery, if delivered by hand; or
 - b) immediately upon transmission if sent or received by email or fax; or
 - c) after 5 days from date of posting if sent by registered mail.
- 6.3 The *Owner* or the *Contractor* may, at any time, change its address for notice by giving written notice to the other at the address then applicable. Similarly if the *Contract Administrator* changes its address for notice then the *Owner* will give or cause to be given written notice to the *Contractor*.
- 6.4 The sender of a notice by email or fax assumes all risk that the fax will be received properly, and the provisions of paragraph 12.5 of the Instructions to Tenderers Part II apply to the sender.

7 GENERAL

- 7.1 This *Contract* shall be construed according to the laws of British Columbia.
- 7.2 The *Contractor* shall not, without the express written consent of the *Owner*, assign this *Contract*, or any portion of this *Contract*.
- 7.3 The headings included in the *Contract Documents* are for convenience only and do not form part of this *Contract* and will not be used to interpret, define or limit the scope or intent of this *Contract* or any of the provisions of the *Contract Documents*.
- 7.4 A word in the *Contract Documents* in the singular includes the plural and, in each case, vice versa.
- 7.5 This agreement shall enure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns

This agreement shall enure to the benefit of and be binding upon the parties and their successors, executors, administrators and assigns.

IN WITNESS WHEREOF the parties hereto have executed this Agreement the day and year first written above.

Contractor:

(FULL LEGAL NAME OF CORPORATION, PARTNERSHIP OR INDIVIDUAL)

(AUTHORIZED SIGNATORY)

(AUTHORIZED SIGNATORY AND POSITION - PRINT)

Owner:

The City of Coquitlam

(MANAGER, DESIGN AND CONSTRUCTION)

Representative as Per G.C. 17

(MANAGER, CAPITAL PROJECTS AND INSPECTIONS)

Como Lake Avenue at Montrose Street Traffic Signal

Reference No: 51167

Schedule 1

Schedule of Contract Documents

(INCLUDE IN LIST ALL DOCUMENTS INCLUDING, IF ANY, SUPPLEMENTARY GENERAL CONDITIONS, SUPPLEMENTARY SPECIFICATIONS, SUPPLEMENTARY STANDARD DETAIL DRAWINGS)

The following is an exact and complete list of the *Contract Documents*, as referred to in Article 2.1 of the Agreement.

NOTE: The documents noted with “*” are contained in the “Master Municipal Construction Documents – General Conditions, Specifications and Standard Detail Drawings”, edition dated 2009. All sections of this publication are included in the *Contract Documents*.

1. Agreement, including all Schedules;
2. Supplementary General Conditions, if any;
3. General Conditions*;
4. Supplementary Specifications, if any;
5. Detail Specifications, if any;
6. Specifications*;
7. Supplementary Detail Drawing, if any;
8. Standard Detail Drawings*;
9. Executed Form of Tender, including all Appendices;
10. Drawings listed in Schedule 2 to the Agreement –“List of Drawings”, if any;
11. Instructions to Tenderers;
12. The following Addenda:
 - As issued
13. COQUITLAM “Supplementary Specifications Master Municipal Construction Documents” March 2016

Como Lake Avenue at Montrose Street Traffic Signal

Reference No: 51167

Schedule 2

LIST OF DRAWINGS

(Complete Listing of All Drawings, Plans and Sketches That Are Part of the Contract Documents)

Bound in this Document:

Appendix A: Traffic Management Plan

Appendix B: List of Approved Materials and Products

Appendix C: Contract Drawings

TITLE	SHEET NUMBER	REVISION DATE	REVISION NUMBER
COMO LAKE AT MONTROSE - ISSUED FOR TENDER COVER PAGE	N/A	N/A	N/A
GENERAL NOTES	1 of 4	May 27/21	3
TYPICAL DETAILS	2 of 4	May 27/21	3
OVERALL ROAD PLAN COMO LAKE AVENUE AT MONTROSE INTERSECTION ROAD WORKS	3 of 4	May 27/21	3
INTERSECTIONS COMO LAKE AVE AT MONTROSE ROAD ROAD WORKS	4 of 4	May 27/21	3
MONTROSE STREET AND COMO LAKE AVENUE STREET LIGHTING	1 of 5	May 27/21	-
MONTROSE STREET AND COMO LAKE AVENUE STREET LIGHTING	2 of 5	May 27/21	-
MONTROSE STREET AND COMO LAKE AVENUE TRAFFIC SIGNAL	3 of 5	May 27/21	-
MONTROSE STREET AND COMO LAKE AVENUE TRAFFIC SIGNAL	4 of 5	May 27/21	-
MONTROSE STREET AND COMO LAKE AVENUE TRANSMISSION COORDINATION DRAWING	5 of 5	May 27/21	-

Supplementary General Conditions

SUPPLEMENTARY GENERAL CONDITIONS

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1.0 DEFINITIONS

- 1.1 Abnormal Weather** 1.1.1 **(Replace clause 1.1.1 as follows):**
Abnormal Weather” means temperature, precipitation, wind or other weather conditions in which the monthly average, differs from the statistical average for that condition in that period by more than one standard deviation, calculated based on data available from Environment Canada. Coquitlam’s Burke Mountain Rain Gauge will be used to compare the rainfall summary versus the available data from Environment Canada.
[City of Coquitlam Rainfall](#)

2.0 DOCUMENTS

- 2.2 Interpretation** 2.2.4 (1) **(Replace clause 2.2.4 (1) as follows):**
The Contract Documents shall govern and take precedence in the following order as listed in Schedule 1 of the Agreement, taking precedence over all Contract Documents.

4.0 CONTRACTOR

- 4.1 Control of the Work** 4.1.1 **(Add to clause 4.1.1 as follows):**
The *Contractor* is responsible for all survey layout for the construction of the Work to the design specifications and/or elevations as shown on the contract drawings or as amended on site by the Contract Administrator.

- 4.1.2 **(Add to clause 4.1.2 as follows):**
The Contractor shall not deposit any material upon any street, sidewalk, boulevard or other property, without the Contract Administrator’s or the Owner’s permission, nor shall he allow the same to remain longer than necessary. All surplus spoil and rubbish and other waste material shall be removed from the site so that the area of work is cleaned up and restored to as clean a condition as it was before the Contract started, within four days of the Contract Administrator’s written request to do so, failing which the Owner may carry out the work or have the work carried out by others and recover the costs from the Contractor or may deduct the cost from any monies due or that may become due to the Contractor.

- 4.1.3 **(Add new clause 4.1.3 as follows):**
Work can be performed during the normal weekday working hours of 0700h to 1900h, unless specified otherwise in Supplementary Specifications - Appendix A: Traffic Management Detail Specifications. Written permission from the Contract Administrator will be required for any works to be performed outside of the normal working days of Monday to Friday.

No Sunday work will be permitted, except in case of emergency and then only with the written permission of the Contract Administrator and to such extent as he deems necessary.

In case the Contractor decides to work on a day which is a Statutory Holiday, he shall provide the Contract Administrator in writing at least (4) days in advance of such holiday, stating those

places where said work is to be conducted. In case the Contractor fails to give such notice in advance of any Statutory Holiday, no work within the terms of the contract shall be done on such holiday.

The cost of inspections on a Sunday or on a Statutory Holiday by City staff/s will be at Contractor's expense.

4.2 Safety

4.2.2

(Add new clause 4.2.2 as follows):

In an emergency, gas pipeline rupture or leak, Contact FortisBC's 24 Hour Emergency Line (1-800-663-9911) and Coquitlam Fire (911) immediately and then City Coquitlam Utility Control Centre (604-927-6287).

4..3 Protection of Work, Property and the Public

4.3.1

(Replace clause 4.3.1 as follows):

In performing the Work, the Contractor shall protect the Work and the Owner's property and other person's property from damage. The Contractor shall at the Contractor's own expense make good any such damage which arises as the result of the Contractor's operations. If the Contractor causes damage to private property, the Contactor must obtain a written release from the owner of the damaged property.

4.3.5.1

(Add clause 4.3.5.1 as follows):

The Contractor shall notify the Contract Administrator immediately if damage occurs to any City or third party utility or structure.

4.3.7

(Add new clause 4.3.7 as follows):

Any lands other than those upon which the work is to be performed, which may be required for temporary facilities, storage purposes or access to the work site, other than those provided by the *Owner*, shall be provided by the *Contractor* at his own cost, with no liability to the *Owner*.

4.6 Construction Schedule

4.6.1

(Replace clause 4.6.1 as follows):

The Contractor shall within the time set out in the Form of Tender prepare and submit to the Contract Administrator for his approval a construction schedule (the Baseline Construction Schedule) indicating the planned start and completion dates of major activities of the Work. The Baseline Construction Schedule shall be in more detail than the Preliminary Construction Schedule and shall indicate completion of the Work in compliance with any specified Milestone Dates, including Substantial Performance.

4.6.6

(Replace clause 4.6.6 as follows):

The time for the performance of the Work shall commence on the date specified in the Notice to Proceed, or if not so specified, on the date the Notice to Proceed is issued. The Notice to Proceed will not be issued until the documentation required under paragraph 5.1.1 of the Form of Tender has been submitted and the construction schedule has been approved.

4.6.8

(Add new clause 4.6.8 as follows):

Any requests to lengthen the work schedule shall be made in writing by the Contractor within five working days of knowledge

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of the reason for the extension. The Contract Administrator will adjust the schedule at his discretion upon receipt of a written request.

4.7 Superintendent

4.7.4

(Add new clause 4.7.4 as follows):

The key personnel named in the Contractor's Tender response, shall remain in these key positions throughout the project. In the event that key personnel leave the Contractor's firm, or for any unknown reason are unable to continue fulfilling their role, the Contractor must propose a suitable replacement, and obtain written consent from the Owner. Acceptance of the proposed replacement is at the sole discretion of the Contract Administrator and the Owner.

4.8 Workers

4.8.2

(Add new clause 4.8.2 as follows):

The Contractor shall, upon the request of the Contract Administrator, remove any person employed by him for the purposes of the Contract who, in the opinion of the Contract Administrator, is incompetent or has conducted himself improperly, and the Contractor shall not permit a person who has been removed to return to the Place of Work.

4.9 Materials

4.9.3

(Add new clause 4.9.3 as follows):

The Contractor shall, at his cost,

- a) Be responsible for storing all of the materials supplied for the Work either by himself or the Owner, until it has been incorporated into the completed Work;
- b) Store all materials in a manner which will prevent damage from the weather, dirt, foreign matter, vandalism and theft;
- c) Arrange for and/or verify the time of delivery of all materials to be supplied by himself or the Owner to ensure that delivery will coincide with his work schedules.
- d) Examine with the Contract Administrator the quantities and details of all materials supplied by the Owner at the time and place of delivery or those materials already at the Place of Work, and prepare and sign a Statement of Materials Acceptance, specifically noting and rejecting any defective material;
- e) Replace all materials supplied by himself or the Owner which are found to be stolen, missing or damaged while under his care;
- f) Replace all materials found to be defective in manufacture which have been supplied by himself.

4.11 Subcontractors

4.11.3

(Replace clause 4.11.3 as follows):

The Contractor shall, upon notice of the Contract Administrator, remove any Subcontractor employed by him for the purposes of the Contract who, in the opinion of the Contract Administrator, is incompetent or has conducted himself improperly, and the Contractor shall not permit the Subcontractor who has been removed to return to the Place of Work. The removal of a Subcontractor under this clause shall not be considered a Change and the Contract Price and the Contract Time shall not be adjusted.

4.12	Test and Inspections	4.12.1	<p><i>(Replace clause 4.12.1 as follows):</i></p> <p>The Contractor shall perform or cause to be performed all tests, inspections and approvals of the Work as described in the Contract Documents or as required by the Contract Administrator as part of Quality Control. The Contractor shall complete all the necessary testing at the frequencies described in the Contract Document unless otherwise approved by the Contract Administrator.</p> <p>Acceptable test and inspection results will not relieve the Contractor of its obligations under the Contract to correct defects or deficiencies in the Work.</p>
		4.12.11	<p><i>(Add clause 4.12.11 as follows):</i></p> <p>Failure to follow DFO/FLNRO BMPs and the approved permit for Instream Works or as instructed by Contract Administrator will result in shut-down of the work. The Contractor must take all steps to mitigate impacts to aquatic resources, environment and habitats before work can re-start on site. No claim will be accepted by the Owner for costs associated with this work shut-down.</p>
4.14	Final Clean-up	4.14.1	<p><i>(Replace clause 4.14.1 as follows):</i></p> <p>Prior to applying for Substantial Performance, the Contractor shall remove all surplus products, tools, construction machinery and equipment relating to the Work that is not required for the performance of the remaining Work. The Contractor shall also remove waste, debris and waste products other than caused by the Owner or Other Contractors, and leave the Place of Work clean and suitable for occupancy by the Owner unless otherwise specified in the Contract Documents or directed by the Contract Administrator.</p>
4.16	Notice of Disruption	4.16.2	<p><i>(Add new clause 4.16.2 as follows):</i></p> <p>Written notice must be provided to all properties which may be physically affected by the construction not less than one week and not more than two weeks prior to construction.</p> <p>Notify occupants directly affected by the work 48 hours in advance of commencement of construction. Cost of notifying area occupants of ensuing construction and delivery of the notices is incidental to the Contract.</p>
7.0	CHANGES		
7.1	Changes	7.1.3	<p><i>(Replace clause 7.1.3 as follows):</i></p> <p>Additional work that the Owner may wished performed that does not satisfy the requirements of subparagraphs (a) and (b) of GC 7.1.1 is extra work (Extra Work) and is not a Change. Pursuant to GC 8, Extra Work may be declined by the Contractor or may, upon agreement between the parties, be undertaken as Extra Work.</p>
7.4	Optional Work	7.4.2	<p><i>(Add new clause 7.4.2 as follows):</i></p> <p>If there are Optional items or Provisional items included in the <i>Lump Sum</i>, those items shall be used only as directed and at the sole discretion of the Contract Administrator through the issue of</p>

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a Change Order. These items will be paid at the contract unit price as part of regular progress payments. Only quantities used will be eligible for payment. No claim will be accepted for unused Optional or Provisional quantities. Clause 9.4 Quantity Variations will not be applicable for these items.

**9.0 VALUATION OF
CHANGES AND EXTRA
WORK**

9.2 Valuation Method 9.2.4

(Replace clause 9.2.4 as follows):

Once a quotation is accepted by the Contract Administrator, or other agreement reached between the Contract Administrator and the Contractor regarding adjustments to the Contract Price or Contract Time on account of a Change or Extra Work, the Contractor shall not be entitled to claim or receive additional payment, or adjustment to the Contract Time on account of a Change or Extra Work.

9.4 Quantity Variation 9.4.1

(Replace clause 9.4.1 as follows):

If for any reason, including an addition or deletion under GC 7.1.1(1) or 7.1.1(2) respectively, the actual quantity of a unit price item varies by more than plus or minus the Variance Threshold Percentage from the estimated quantity for that unit price item listed in the Lump Sum (the "Tender Quantity") or as otherwise agreed to pursuant to these Contract Documents, then either the Owner or the Contractor may by written notice request the other party to agree to a revised unit price, considering the change in quantities. A party shall make a request for a revised unit price as soon as reasonably possible after the party concerned becomes aware of the quantity variation.

9.4.2 ***(Delete clause 9.4.2 (2))***

10.0 FORCE ACCOUNTS

10.1 Force Account Costs 10.1.1(1)

(Add to clause 10.1.1(1) as follows):

Costs for the Contractor's Superintendent, Project Managers, Health and Safety Personnel, and Office/Administration Staff are not eligible for labour costs as those costs are considered incidental to the mark up owing for overhead and labour.

10.1.1(4) ***(Replace clause 10.1.1(4) as follows):***

Force Account Work performed by a subcontractor shall be paid for in the lesser of: (i) the amount provided by subparagraphs (1), (2) and (3) of this GC, plus a mark-up of 5%, or (ii) the actual amount the Contractor pays the subcontractor including a mark-up of 10% on such actual costs to cover all overhead and profit.

**12.0 HAZARDOUS
MATERIALS**

12.2	Discovery of Hazardous Materials	12.2.2	<i>(Replace clause 12.2.2 as follows):</i> If the Contract Administrator observes any materials at the Place of Work that the Contract Administrator knows or suspects may be Hazardous Materials, then the Contract Administrator shall immediately give written notice to the Contractor and the Contractor shall immediately stop the Work or portion of the Work as required by GC 12.2.1(1).
13.0	DELAYS		
13.1	Delay by Owner or Contract Administrator	13.1.2	<i>(Add new clause 13.1.2 as follows):</i> The Owner may at any time suspend the work or any portion thereof provided he gives the Contractor five (5) days' written notice of delay. The Contractor shall resume work upon written notice from the Owner. The Contractor shall be entitled to: <ul style="list-style-type: none">a) An extension of the Contract time equivalent to the length of suspension of work.b) Reimbursement by the Owner for directly related out-of-pocket additional costs, reasonably and necessarily incurred by the Contractor as a result of such suspension. No additional payment will be made to the Contractor for any loss of profits or overhead.
13.3	Unavoidable Delay	13.3.1	<i>(Add to clause 13.3.1 as follows):</i> Beyond the reasonable control of the Contractor also includes pandemic or community outbreak
13.8	Direction to Stop or Delay	13.8.3	<i>(Add new clause 13.8.3 as follows):</i> The Contract Administrator may order the Contractor to stop work if at any time the Contract Administrator is of the opinion that there exists a danger to life or property.
13.9	Liquidated Damages for Late Completion	13.9.1	<i>(Replace clause 13.9.1 as follows):</i> If the Contractor fails to meet the Milestone Date for Substantial Performance as set out in the Form of Tender, paragraph 2.2 as may be adjusted pursuant to the provisions of the Contract Documents, then the Owner may deduct from any monies owing to the Contractor for the Work: <ul style="list-style-type: none">(1) An amount of \$1,000.00 for each calendar day the actual <i>Substantial Performance</i> is achieved after the Substantial Performance Milestone Date; plus(2) All direct out of pocket costs, such as costs for safety, security or equipment rental, reasonably incurred by the Owner as a direct result of such delay. If the monies owing to the Contractor are less than the total amount owing by the Contractor to the Owner under (1) and (2) then any shortfall shall immediately, upon written notice from the Owner, and upon Substantial Performance, be due and owing by the Contractor to the Owner.

18.0 PAYMENT

**18.1 Preparation of
Payment Certificate**

18.1.1 ***(Replace clause 18.1.1 as follows):***
The Contract Administrator shall prepare and issue a certificate for the period ending the last calendar day of the month.

18.4 Holdbacks

18.4.2 ***(Add to clause 18.4.2 as follows):***
At the sole discretion of the Contract Administrator, an amount equivalent to 10% of the contract award value or 200% of a reasonable estimate, whichever is higher, may be held without interest until all deficiencies have been remedied and accepted by the Contract Administrator.

**18.6 Substantial
Performance**

18.6.5 ***(Replace clause 18.6.5 as follows):***
The Owner may release any builders lien holdback on the 56th day following the date of Substantial Performance, or other date as required by law, but the Owner may hold back the amounts for any deficiencies or filed builders liens as provided in GC 18.4.2, 18.4.3 and 18.4.4.

18.6.6 ***(Replace clause 18.6.6 as follows):***
The *Contract Administrator*, as defined herein, shall be the *Payment Certifier* responsible under Section 7 of the *Builders Lien Act* for certifying *Substantial Performance* of the *Work* of the *Contractor*, but not the *Work* of *Subcontractors*. The *Contractor* shall cooperate with and assist the *Contract Administrator* by providing information and assistance in a timely manner as the *Contract Administrator* considers necessary to carry out the duties of the *Payment Certifier* for the *Contract*.

The *Contractor* shall be the *Payment Certifier* responsible under Section 7 of the *Builders Lien Act* for certifying *Substantial Performance* of the *Work* of each *Subcontractor*. Prior to certifying completion for a *Subcontractor*, the *Contractor* shall consult the *Contract Administrator* and obtain the *Contract Administrator's* comments on the status of completion by the *Subcontractor*, including any deficiencies or defects in the *Subcontractor's Work* noted by the *Contract Administrator*. The *Contractor* will indemnify and save the *Owner* harmless from any and all liability the *Owner* may have to anyone arising out of the certification by the *Contractor* of *Substantial Performance* for that *Subcontractor*.

Notwithstanding any other provision of the *Contract*, no payments will be due or owing to the *Contractor* so long as a Lien filed by anyone claiming under or through the *Contractor* remains registered against the Project of any lands, or interest therein, on which *Work* for the project was performed. Failure of the *Contractor* to remove all Liens promptly will entitle the *Owner* to damages.

**21.0 WORKERS
COMPENSATION
REGULATIONS**

**21.2 Contractor is "Prime
Contractor"**

21.2.1 (Add to clause 21.2.1 as follows):

Prior to the issuance of the "Notice to Proceed" the Contractor must provide a signed "Prime Contractor Designation" form as provided in Appendix IV of these Supplementary General Conditions.

24.0 INSURANCE

(Replace section 24.0 as follows):

24.1 General

24.1.1

Importance of Prompt Attention to Insurance Requirements:

The Contractor shall provide the Owner with satisfactory evidence that the insurance required to be provided under this GC is in full force and effect.

24.1.2

Acceptable Insurance Carriers:

The insurer issuing any policy, or other document which is evidence of insurance to the Contractor, shall be an insurer licensed by the Superintendent of Insurance in the Province of British Columbia and registered with the Department of Insurance for Canada in Ottawa, except the Insurance Corporation of British Columbia, which is not subject to this condition.

24.1.3

Owner's Right to Change Terms:

Notwithstanding anything contained in the Contract Documents, the Owner will have the right to request a change to the specified terms and conditions respecting insurance at the sole option of the Owner. The Contractor will be notified in writing of any changes required by the Owner and will provide a quotation for such work.

24.1.4

Delivery of Insurance Documents:

All insurance policies or other acceptable specified documents shall be delivered to, and accepted by, the Owner before the Contract Documents are signed. No work shall be commenced by the Contractor or by anyone acting on the instructions of the Contractor, until the required Insurance Documents have been accepted by the Owner and the Contract Documents have been duly signed by the Owner and the Contractor.

24.1.5

Owner's Right to Insure:

Should the Contractor for any reason not comply with the specified requirements with respect to the insurance, the Owner will, at the Owner's option, have the right to purchase all or any part of such insurance which, in the opinion of the Owner, may be required to provide the specified insurance, and, in the event of so doing, the Owner will have the right to pay the premiums for such insurance and to withhold the amount of premiums so paid from any amount due and payable to the Contractor under the Contract.

24.2 Required Insurance

24.2.1

General

Damage to work (excluding Building Contracts where Section 24.3, Paragraph 24.3.1, Further Responsibilities of Contractor, applies).

The Contractor shall be responsible for any and all loss, or damage, whatsoever which may occur on or to the works, completed or otherwise, until such time as the entire works have been completed and the Notice of Acceptance has been issued by the Owner, except that loss or damage caused solely by an act of the Owner. In the event of any loss or damage occurring, the Contractor shall, on notice from the Contract Administrator, immediately put the works into the condition it was immediately prior to such loss or damage, all at the

Contractor's expense, except where such loss or damage was caused solely by an act of the Owner.

The Contractor shall be responsible for any and all loss or damage whatsoever which may occur on or to the works, completed or otherwise, arising out of the negligence of the Contractor, any subcontractors, and the employees or agents of any of them.

24.2.2

Public Liability Insurance:

(Other than Automobile Third Party Liability Insurance):

Evidence of Insurance:

The Contractor shall deposit with the Owner, before the work commences, a Certificate of Insurance, signed by an authorized representative of the insurer, such certificate to be as shown in Appendix III.

Effective Dates and Terms:

The effective date of the Certificate of Insurance shall be the date of the execution of the Contract Agreement and the term of this policy shall be from such effective date until a date not less than twelve (12) months after the date of Substantial Performance completion of all work under the Contract.

Limits of Liability:

For bodily injury and for property damage shall be inclusive limits not less than \$5,000,000.

24.2.3

Public Liability Insurance (Automobile):

The Contractor shall deposit with the Owner before the work commences a Certificate of Insurance with respect to owned automobiles on ICBC Form No. APV 47 entitled "Confirmation of Insurance Coverage" and with respect to Non-Owned Automobiles including hired automobiles and Contractual Liability on ICBC non-owned automobile policy Form APV 29 (if non-owned automobile coverage is not included under the comprehensive general liability coverage) each signed by an authorized representative of the Insurance Corporation of British Columbia.

- | | | |
|--|---|---|
| 24.3 Physical Loss or Damage With Respect to New Buildings under Construction and/or Major Additions to Existing Structures | 24.3.1 Responsibility for Placing Insurance: | The types of insurance required under this section will be provided and maintained at the expense of the City of Coquitlam during the term of the Contract and will be as follows unless otherwise changed by specific endorsement to these Insurance Specifications. |
| | 24.3.2 Insurance Coverage Required: | Builders Risk Completed Value "All Risks" Course of Construction Insurance. This policy will be written in the names of the City of Coquitlam and the Contractor with loss payable as their respective interests may appear. |
| | 24.3.3 Responsibility of Contractor – Limitations of cover and deductibles: | The insurance provided by the City of Coquitlam as described herein will not provide the Contractor with full protection against any and all kinds of loss or damage which may arise out of the Contract. It is, therefore, the responsibility of the Contractor to fully understand the scope of the cover provided with particular attention to the exclusions, limitations of cover and deductible provisions contained in the Insuring Agreements of the policies and it is further the responsibility of the Contractor to take out at the Contractor's expense, whatever other additional insurance the Contractor may consider necessary or desirable for his protection subject as hereinafter provided. The Contractor shall act in the same manner on insurance made available through the City of Coquitlam as he would if he had arranged such insurance himself. |
| | 24.3.4 Responsibility of Contractor – Direct Damage Insurance: | If the Contractor fails to do all or anything that is required of him concerning insurance, the City of Coquitlam may do what is required and any monies expended by the City of Coquitlam for that purpose shall be repayable and recoverable from the Contractor. Should any action, failure or negligence of the Contractor result in higher insurance costs being incurred by the City of Coquitlam, such additional costs shall be payable or recoverable from the Contractor. |
| | 24.3.5 Responsibility of Contractor – Machinery and Equipment Belonging to Others: | Unless otherwise directed by the City of Coquitlam in writing, the Contractor shall carry insurance covering loss or damage to construction machinery, tools and equipment owned by and/or on bare rental from a third party or parties and used by the Contractor in performing the work, which insurance shall be in a form satisfactory to the City of Coquitlam and having coverage in accordance with the actual cash value of such construction machinery, tools and equipment. Such policies shall also provide for subrogation to be waived against the City of Coquitlam. A certified copy of the policy shall be delivered |

to the City of Coquitlam not later than thirty days after the commencement of work under the Contract.

24.3.6 Contractor's Waiver of Liability to Coquitlam:

The Contractor hereby releases the City of Coquitlam from any and all liability for damages to the extent that such damages are covered by the course of construction insurance referred to in Section 24.3 of these specifications.

24.3.7 Liability of Contractor:

Neither the providing of insurance by the Contractor or the City of Coquitlam in accordance with the requirements hereof, nor the insolvency, bankruptcy, nor failure of any insurance company to pay any claim accruing shall be held to waive any of the provisions of this Contract with respect to the liability of the Contractor or otherwise.

24.3.8 Responsibility of Contractor for protection of work, persons and property:

The Contractor and all persons employed by the Contractor or under his control, and all employees and subcontractors, shall use due care that no person or property is injured, and that no rights are infringed in the prosecution of the work. Contractors shall take particular care to protect the work against loss or damage caused by riot, vandalism or malicious mischief and shall be at the expense of the Contractor provide all necessary safeguards in the form of watchmen and/or watch dog protection to prevent loss or damage of this type. The payment of deductibles is the responsibility of the Contractor and if not paid by the Contractor such amounts shall be deducted by the City of Coquitlam from payment due to the Contractor. These deductibles will normally be \$250.00 each claim.

24.3.9 Action to be taken in the event of loss or damage to the work covered by the Contract:

When any loss or damage occurs to the work or to any materials and supplies on the site of the work, the Contractor shall remove any and all damaged or destroyed property and shall rebuild or replace the damaged or destroyed work, materials, or supplies and complete the work to the satisfaction of the Owner. For such removal, rebuilding, or replacing, the Contractor shall be entitled to receive from the Owner the amount of insurance monies received by the Owner pursuant to the said adjustment which amount shall be paid to the Contractor as the work of rebuilding or replacing proceeds, and in accordance with the Agreement. Damage or destruction of the whole or any part of the work shall not affect the rights and obligations of either party under the Agreement, except that in such event the Contractor shall be entitled to such reasonable extension of time to complete the work as the Architect and/or Contract Administrator may decide.

24.3.10 **Further responsibility of Contractor:**
Other than with respect to loss or damage arising out of insured risks and herein before specified, the Contractor shall be responsible for all loss or damage whatsoever which may occur on or to the works completed or otherwise, until such time as the entire works have been completed and the Notice of Acceptance has been issued by the Owner, except that loss or damage caused solely by an act of the Owner.
In the event of any loss or damage occurring, the Contractor shall on notice from the Owner immediately put the works into the condition it was immediately prior to such loss or damage, all at the Contractor's expense except as previously stated.

24.3.11 **Owner Not Responsible for Loss or Damage or Loss of Use of Property of Contractors and their Employees:**
The Owner will not be responsible for securing or paying for insurance of any kind other than as specified in Section 24.3 of these specifications nor will the Owner have any responsibility whatsoever for loss or damage from whatever cause occurring to property owned, leased, or otherwise in the possession of the Contractor, subcontractors or their employees including, without restricting the generality of the foregoing, machinery, equipment, tools, supplies, and clothing at the construction site or elsewhere including loss of use of same.

24.4 **Additional Insured** 24.4.1 **The Contractor shall ensure the following are named as "additional insured" on the liability policy for this contract:**

- The City of Coquitlam

The City may identify private properties that are directly affected by construction. If so, the Contractor shall include the legal owners of these properties named as "additional insured" on the liability policy for this contract.

25.0 MAINTENANCE PERIOD

25.1 **Correction of Defects** 25.1.4 **(Add new clause 25.1.4 as follows):**
The Owner is authorized to make repairs to defects or deficiencies if, ten days after giving written notice, the Contractor has failed to make or undertake with due diligence the required repairs. However, in the case of emergency where, in the opinion of the Owner, delay is not reasonable, repairs may be made without notice being sent to the Contractor. All expenses incurred by the Owner in connection with repairs made pursuant to GC 25 shall be paid by the Contractor or may be deducted from the Maintenance Security, or other holdbacks. The Contractor shall promptly pay any shortfall.

**27.0 CONTRACTOR
PERFORMANCE
EVALUATION**

27.1

(Add new clause 27.1 as follows):

After the completion of the Contract, the Contractor will be evaluated on their performance of the Work. The evaluation will provide percentage scores on the following categories:

1. *Contract Administration*
2. *Construction Management*
3. *Schedule Management*
4. *Communications*
5. *Resource Management and Contractor Performance*
6. *Quality Management*

An evaluation summary report may be issued to the Contractor with scores for each of these categories. Upon request, the Contractor may attend a meeting with the City to discuss the evaluation.

This internal evaluation may be reviewed for reference on subsequent tenders with the City. Evaluation scores can form part of the tender analysis and influence contract award decisions. Evaluation Scores in categories that are below 50% may result in a suspension of tendering privileges with the City.

APPENDIX I

PERFORMANCE BOND

NO. _____ \$ _____

KNOW ALL MEN BY THESE PRESENTS THAT

As Principal, hereinafter called the Principal, and

As Surety, hereinafter called the Surety, are held and firmly bound unto

As Obligee, hereinafter called the Obligee, in the amount of

_____ Dollars
(\$)

lawful money of Canada, for the payment of which sum, well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a written contract with the Obligee, dated the _____

day of _____, 20____, for

in accordance with the drawings and specifications submitted, therefore, which contract, drawings and specifications and addenda thereto, to the extent provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall promptly and faithfully perform said Contract (including any addenda thereto, provided such addenda do not collectively increase the amount to be paid to the Principal by more than twenty per cent (20%) of the amount of the Contract except with the written consent of the Surety) then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

Whenever the Principal shall be, and declared by Obligee to be, in default under the Contract, the Obligee having performed Obligee's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or
2. Obtain a bid or bids for submission to Obligee for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee and Surety of the lowest responsible bidder, arrange for a contract between such bidder and Obligee and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009

paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term 'balance of the contract price', as used in this paragraph, shall mean the total amount payable by Obligee to Principal under the Contract less the amount properly paid by Obligee to Principal.

Any suit under this Bond must be instituted before the expiration of two (2) years from date on which the Notice of Acceptance under the Contract is issued.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Obligee named herein or the heirs, executors, administrators, or successors of Obligee.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-in-fact, this _____ day of _____ 20____.

SIGNED, SEALED and DELIVERED

In the presence of

)
)
)
)
)

PRINCIPAL

SURETY

APPENDIX II

LABOUR AND MATERIAL PAYMENT BOND

(Private Contracts – Trustee Form)

NO. _____

\$ _____

Note: This Bond is issued simultaneously with another Bond in favour of the Obligee conditioned for the full and faithful performance of the Contract.

KNOW ALL MEN BY THESE PRESENTS THAT

As Principal, hereinafter called the Principal, and

As Surety, hereinafter called the Surety, are, subject to the conditions hereinafter contained, held and firmly bound unto

As Trustee, hereinafter called the Obligee, for the use and benefit of the Claimants, their and each of their heirs, executors, administrators, successors and assigns in the amount of

Dollars
(\$ _____) lawful money of Canada, for the payment of which sum well and truly to be made, the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns jointly and severally, firmly by these presents.

SIGNED AND SEALED this _____ day of _____, 20____.

WHEREAS, the Principal has entered into a written contract with the Obligee dated the _____ day of _____, 20____, for

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall make payment to all Claimants for all labour and material used or reasonably required for use in the performance of the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A Claimant for the purpose of this Bond, is defined as one having a direct contract with the Principal for labour, material, or both, used or reasonably required for use in the performance of the Contract, labour and material being construed to include the part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment directly applicable to the Contract provided that a person, firm or corporation who rents equipment to the Principal to be used in the performance of the Contract under a contract which provides that all or any part of the rent is to be applied towards the

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009

purchase price thereof shall only be a Claimant to the extent of the prevailing industrial rental value of such equipment for the period during which the equipment was used in the performance of the Contract. The prevailing industrial rental value of equipment shall be determined, insofar as it is practical to do so, in accordance with and in the manner provided for in the latest revised edition of the publication of the Canadian Construction Association entitled "Rental Rates on Contractors' Equipment" published prior to the period during which the equipment was used in the performance of the Contract.

2. The Principal and the Surety hereby jointly and severally agree with the Oblige as Trustee that every Claimant who has not been paid as provided for under the terms of his contract with the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as a beneficiary of the trust herein provided for, sue on this Bond, prosecute the suite to final judgment for such sum or sums as may be justly due to such Claimant under the terms of his said contract with the Principal and have execution thereon. Provided that the Oblige is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants or any of them to enforce the provisions of this Bond. If any act, action or proceeding is taken either in the name of the Oblige or by joining the Oblige as a party to such proceedings then such act, action or proceeding shall be taken on the understanding and basis that the Claimants or any of them who take such act, action or proceeding shall indemnify and save harmless the Oblige against all costs, charges and expense or liabilities incurred thereon and any loss or damage resulting to the Oblige by reasons thereof. Provided still further that subject to the foregoing terms and conditions, the Claimants or any of them may use the name of the Oblige to sue on and enforce the provisions of this Bond.
3. No suit or action shall be commenced hereunder by any Claimant:
 - a) unless such Claimant shall have given written notice within the time limits hereinafter set forth to each of the Principal, Surety and Oblige, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal, Surety and Oblige at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the contract is located. Such notice shall be given (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal under either the terms of the Claimant's contract with the Principal or under the Mechanic's Liens Legislation applicable to the Claimant's contract with the Principal whichever is the greater within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimant's contract with the Principal; (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such claimant did or performed the last of the work or labour or furnished the last of the materials for which such claim is made under the Claimant's contract with the Principal.
 - b) after the expiration of one (1) year following the date on which Principal ceased work on the Contract including work performed under guarantees provided in the Contract.
 - c) Other than in a court of competent jurisdiction in the Province or District of Canada in which the subject matter of the Contract or any part thereof is situated and none elsewhere, and the parties hereto agree to submit to the jurisdiction of such court.
4. The amount of this Bond shall be reduced by and to the extent of any payments made in good further and in accordance with the provisions which may be filed of record against the subject matter of the Contract, whether or not claim for the amount of such lien be presented under and against this Bond.
5. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

IN TESTIMONY WHEREOF, the Principal has hereto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the signature of its Attorney-in-fact the day and year first above written.

SIGNED, SEALED and DELIVERED

In the presence of

)
)
)
)
)

PRINCIPAL

SURETY

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009

APPENDIX III

CERTIFICATE OF INSURANCE

This Certificate issued to the City of Coquitlam is to certify that policies of insurance, as described below, have been issued to the Insured named below and are in force at this time. It is understood and agreed that thirty (30) days' prior written notice by registered mail of any material alterations, transfer, assignment or cancellation of any of the policies listed below, either in part or in whole, will be given to the holder of this Certificate.

- A. This Certificate is issued to: **City of Coquitlam**
3000 Guildford Way
Coquitlam, BC V3B 7N2
- Named Insured and Mailing Address:
- B. CONTRACT NUMBER AND/OR NAME
- Description of the Work:
- C. INSURANCE POLICY
- Name of Insurer:
Policy Number:
Effective Date:
- Liability Limit:
Expiry Date:
- D. INSURANCE COVERAGE
- COMMERCIAL GENERAL LIABILITY** coverage is required to insure against liability from the activities arising out of operations or work in connection with the above-described project, including liability arising out of the use of City property.
- D.1 The minimum limit shall be \$5,000,000.00 inclusive per occurrence against bodily injury, personal injury and property damage.
- D.2 The City of Coquitlam, its employees, officers, agents and volunteers are added as Additional Insureds, but only with respect to operations conducted by or on behalf of the Named Insured in connection with the above-described project, operations or work.
- D.3 This insurance shall be primary as regards the City of Coquitlam, its employees, officers, agents and volunteers as Additional Insureds.
- D.4 Any deductible or reimbursement clause contained in the policy shall not apply to the City of Coquitlam and shall be the sole responsibility of the Named Insured.
- D.5 The insurance shall include the following coverages:
- D.5.1 Cross Liability Clause
- D.5.2 Non-Owned Automobile Liability
- D.5.3 Unlicensed Automobile Liability
- D.5.4 Blanket Contractual Liability
- D.5.5 Broad Form Property Damage Liability
- D.5.6 Owner's & Contractor's Protective Liability
- D.5.7 Products & Completed Operations Liability
- D.6 Indicate provision of special coverage for this project as required by the City:
- | YES | NO | Special Coverage Description |
|-----|-----|---|
| () | (X) | Shoring and Underpinning Hazard |
| () | (X) | Pile Driving and Vibrations |
| () | (X) | Excavation Hazard |
| () | (X) | Demolition |
| () | (X) | Blasting |
| D.7 | () | () PROFESSIONAL LIABILITY INSURANCE for Consultant Service Agreements |

The *Consultant* shall obtain and maintain for the duration of the *Services* as described in the Agreement, at its own cost, Professional Liability Insurance on terms and from an insurer satisfactory to the City of Coquitlam.

The Professional Liability Insurance policy shall insure the *Consultant's* legal liability for errors, omissions and negligent acts, to the extent of no less than \$500,000.00 per Claim and \$1,000,000.00 Aggregate.

Authorized Signature and Stamp

Date

Name and Title

City's broker to return to City Representative

Department

These Supplementary General Conditions must be read in conjunction with the General Conditions contained in the Master Municipal Construction Documents, Volume II, Printed 2009



APPENDIX IV

PRIME CONTRACTOR DESIGNATION

Subject: **Prime Contractor Designation**
Contract #: **51167**
Contract Name: **Como Lake Avenue at Montrose Street Traffic Signal** (the "Project")

_____ (the "Contractor") represents, acknowledges and agrees that:

1. in accordance with section 118 of the Workers Compensation Act, R.S.B.C. 1996, c. 492 (the "Workers Compensation Act"), the Contractor shall be the "Prime Contractor" and is qualified to act as the "Prime Contractor" in respect of the Project;
2. the Contractor accepts the duties and responsibilities for coordination of health and safety in accordance with the Workers Compensation Act and further agrees that it will do everything necessary to establish and maintain a system or process that will insure compliance with the Workers Compensation Act and the Regulations thereto;
3. the Contractor shall fulfill all the obligations of an "Owner" under section 119 of the Workers Compensation Act in respect of the Project site; and
4. that the City of Coquitlam has fulfilled its obligations as an "Owner" under section 119 of the Workers Compensation Act, in respect of the Project site.

Prime Contractor Name & Address:

Prime Contractor Signature

Date

Print Name

Please return a signed copy of this memo to the City of Coquitlam. If you have any questions, please contact the City's Health and Safety Advisor at 604-927-3068.

Supplementary Contract Specifications

These Supplementary Contract Specifications must be read in conjunction with the Specifications contained in the Master Municipal Construction Documents, Volume II, Printed 2009 and the City of Coquitlam Supplementary Specifications and Detailed Drawings

File #: 11-5220-01/000/2021-1 Doc #: 4080472.v2

Supplementary Contract Specifications

to the
MASTER MUNICIPAL SPECIFICATIONS
Volume II – Platinum Book

Como Lake Avenue at Montrose Street Traffic Signal CONTRACT 51167

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The following Supplementary Specifications are to be considered part of the Specifications. These Supplementary Specifications take precedence over the Master Municipal Specifications.

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CONTRACT SPECIFIC NOTATIONS

**1.00 CONTRACT SPECIFIC
INSTRUCTIONS**

1.01 Coordination of Work

The Contractor shall be responsible to consult with all affected businesses, residents, transportation companies regarding delays, detours, and any other works affecting any transit service in the area, and will be responsible to coordinate the works with City crews and other contractors working in the area. If working area is to become a multiple-employer workplace as defined by WorkSafe BC, the Contractor shall remain the Prime Contractor.

1.02 Outside Agency Approval

In accordance with the Contract Documents, the Contractor is responsible to consult with and obtain any approval required to meet and comply with all of the conditions required from outside agencies such as, but not limited to, BC One Call, Metro Vancouver, BC Hydro, Telus, Kinder Morgan, and FortisBC in the Place of Work.

The installation of the signal ducts will cross two IP FortisBC Gas Mains and a 230KV oil-filled BC Hydro Transmission Cable (2L051). Permission to cross these utilities must be obtained prior to any work taking place. The City's consultant has submitted applications for approval.

Transmission Cable Requirements will generally consist of the following:

- A BC Hydro Transmission inspector is required for crossing the 230KV Cable.
- The duct shall be installed above the cable and maintain a minimum clearance of 0.3 meters to the 2L051 cable installation.
- Prior to the installation, the Contractor is required to daylight the 2L051 cable installation using hydrovac to confirm the extent and location of the 2L051 cable installation at the crossing location.
- Excavation above and/or within 1 meter of either side of the 2L051 cable installation shall only be done by hydrovac or hand digging.
- Any backfill placed above or within 1 metre of either side of the 2L051 cable installation shall be thermal backfill as per BC Hydro Standard ES42-B0013_R0. Compaction of the thermal backfill above the 2L051 cable installation shall be as follows:
 - o 150mm lifts of thermal backfill shall be installed up to 300mm above the Transmission installation. Only a hand compaction (tamper or roller) is permitted.
 - o 300mm lifts of thermal backfill shall be installed from 300mm up to 1000mm above the Transmission installation. Only a hand compaction (tamper or roller), or a hand operated compactor/vibrator (surface vibrator) is permitted.
 - o 300mm lifts of thermal backfill shall be installed from 1000mm above the Transmission installation, and above. In addition to hand compaction (tamper or roller), and a hand operated compactor/vibrator (surface vibrator), a mechanical/hydraulic-plate compactor is permitted.

Hydro excavation will be required near the FortisBC IP supply mains under the presence of a FortisBC inspector.

Contractor to contact FortisBC and BC Hydro and arrange for an inspector a minimum of 3 business days prior to excavating within proximity of the utilities.

**1.03 Cooperation with
Emergency and
Maintenance
Activities**

The Contractor will be responsible to cooperate with regular maintenance or emergency vehicles and staff for access to the site when required including:

- Fire, Police, and Ambulance
- Waste Management (garbage pick-up)
- City Utilities Maintenance (or representatives)
- City Parks and Recreation Maintenance (or representative)

CONTRACT SPECIFIC NOTATIONS

- Other City Contractors

1.04	FORTIS BC Emergency Protocol	In an emergency, gas pipeline rupture or leak, Contact Fortis BC 24 Hour Emergency Line (1-800-663-9911) & Fire Department (911) immediately and then City Coquitlam Utility Control Centre (604-927-6287).
1.05	Lane Closure Restrictions	The contractor shall refer to Appendix A – Traffic Management Detail Specifications.
1.06	Hours of Work	The contractor shall refer to Appendix A – Traffic Management Detail Specifications.
1.07	Schedule of Work	All work under this Contract is to be completed within the designated Contract Duration. The Contractor must provide sufficient resources in a <u>continuous effort and site presence</u> to complete all the work within the allotted time.
1.09	Survey Layout	Construction layout will be the responsibility of the Contractor. The Contract Adminsitrator will provide AUTOCAD Drawings to the Contractor.
1.10	Location of Existing Utilities	<p>The contractor is responsible to verify the depth and location of all utilities (watermains, storm mains, sanitary mains & etc.), including outside agency utilities (i.e. Terasen Gas Mains & etc.) and service connections (water, storm & sanitary services at the mains & property lines) by hand digging or by Hydro-Vac in the presence of the Inspector.</p> <p>Pre-locates must be completed as soon as possible after award of the contract so changes can be completed by the Engineer prior to site construction. Contact BC One for location of outside agency utilities.</p> <p>The contractor will not receive any compensation or allowance for delays if work is halted due to utilities & services connections not located prior to commencing construction.</p> <p>City of Coquitlam does not guarantee water, storm or sanitary services connections are perpendicular to the mains or property lines, the contractor will not receive any compensation for the time to locate these connections or for exposing hidden services at the property lines.</p> <p>Payment for this work will be treated as incidental and included in the lump sum payment.</p>
1.11	Manholes & Valves	Access to manholes and valves must be maintained at all time for city utilities crews and external utility companies. In case of an emergency the cost for exposing any buried manhole or valve covers during construction will be paid by the contractor.
1.12	Utility Adjustments - City Infrastructure and/or Other Agency Infrastructure	<p>The Contractor is responsible for adjusting all utilities, belonging to Coquitlam and/or other agencies that are affected by the road works. All adjustments to utilities must be completed to the satisfaction of the utility owner. Utility adjustment will be considered incidental to the contract unless otherwise noted in the Contract Documents.</p> <p>The Contractor should note that certain utility owners may decide to complete their own adjustments. The Contractor will be required to cooperate with any utility company providing their own adjustments.</p> <p>The Contractor shall be responsible to contact the appropriate utility company with in minimum of seventy-two (72) hours of the work. No adjustment shall be made without the written approval of the utility company.</p> <p><u>All manholes must be vertically adjusted a minimum of twenty-four (24) hours prior to paving.</u></p>

- | | | |
|------|---|--|
| 1.13 | Temporary Asphalt Pavement Restoration | The Contractor will be required to backfill all trenches (in paved areas) and place a temporary patch (50mm of hot mix asphalt), as per Coquitlam Standard Drawing COQ-G4, the same day excavation is made, unless otherwise approved by the Contract Administrator. |
| 1.14 | Accesses | The Contractor is responsible to maintain all business/residential vehicles and pedestrian accesses open at all times. The contractor may provide temporary accesses if the affected owner agrees. All costs associated with temporary accesses will be at the contractor's expense. |
| 1.15 | Verification of Dimensions and Quantities | Before proceeding with work, visit site and check and verify dimensions and quantities. Report variations between drawings and site conditions to the Contract Administrator before proceeding with work. |
| 1.16 | Precautions | Protect areas under construction from damage caused by excessive erosion, flooding, heavy rains, etc. Repair or replace unprotected damaged areas as directed by the Contract Administrator at no cost to the Owner. |
| 2.00 | CONSTRUCTION ACTIVITY | |
| 2.01 | Pavement Markings | <p>The Contractor will be responsible for temporary traffic markings necessary for traffic direction and safety until permanent markings are installed.</p> <p>The Contractor is responsible for the permanent pavement markings after paving is complete.</p> |
| 2.03 | Site Clean-up During Construction and End of Construction | <p>The Contractor will be responsible for the complete clean-up of the work site during construction & at the end of construction <u>and prior to the Substantial Performance review</u>. This work is considered incidental to the Contract.</p> <p>The work will include cleaning of all catch basins periodically or as directed by the Contract Administrator within the Work area, or nearby location as affected by the Work. All cleaning is to be performed by <u>vacuum truck to the satisfaction of the Contract Administrator</u> and will include off-site disposal of waste material.</p> <p>Payment for this work will be incidental and included in the lump sum payment.</p> |
| 3.00 | MANDATORY MEETINGS AND CONTRACTOR REPRESENTATIVES AND SUBCONTRACTORS | |
| 3.01 | Pre-Construction Meeting Requirements | <p>After the Award of the Contract, the Contractor (Project Manager & Superintendent) will be required to attend a Pre-Construction Meeting with the Contract Administrator and provide all necessary information required by the Contract Administrator prior to provision of a Notice to Proceed. Items required to be provided at the meeting include:</p> <ol style="list-style-type: none"> 1. A Detailed Construction Schedule showing the start date & completion date. 2. Proof of insurance 3. Performance Bond and Labour and Materials Payment Bond 4. WCB Clearance Letter and copy of Notice of Project 5. City of Coquitlam Business License 6. A copy of portions of your Health and Safety Plan including the Title Page, Table of Contents, and portion showing latest revision date. |

CONTRACT SPECIFIC NOTATIONS

**3.02 Contract Superintendent
and Subcontractors**

In compliance with the **MMCD General Conditions, Section 4.7, Superintendent**, the Contractor shall have a competent senior representative, (the "Superintendent") in **FULL TIME attendance** at the Place of Work while work is being performed for the duration of the contract.

This (FULL TIME) attendance is also required when work is being performed by Subcontractors.

Work done by Subcontractors is to be directed by the Superintendent and monitored on site ensuring conformance to the Contract Documents and other particular direction to the Superintendent by the Contract Administrator.

The Owner is not responsible for the direction of Subcontractors.

**3.03 Changes of Contractor
Representatives &
Subcontractors**

The Superintendent and Subcontractors indicated in the Form of Tender shall not be changed unless:

1. The Owner requests a replacement
2. The Contractor submits an application for a change, in writing, to the Contract Administrator with the change being approved in writing.

END OF SECTION

1.0 GENERAL

1.3 Submission

Delete 1.3.2 and
replace with the
following

Submit one copy of an accurate project record document in final form prior to applying for Substantial Performance including any video report. Record documents to include changes in the Issued for Construction Drawings, new elevation & location of all walkways/sidewalks, all utilities, manhole rim, catchbasin rim, vaults, valve boxes and inverts affected by the work. Legal Holdback will not be released until record documents have been submitted and accepted by the Contract Administrator.

END OF SECTION

- 1.0 QUALITY**
- The Contractor shall provide a final product conforming to the Contract Documents and the intent of the work.
- The work is to be accurate to the dimensional and tolerance requirements of the contract.
- Payment will be subject to adjustments based on quality assurance tests performed by the Contract Administrator.
- 1.01 Quality Control (QC) by Contractor**
- The MMCD (2009) definition of “Quality Control” is the process by which the Contractor checks specific materials, products, and workmanship to ensure strict conformance with the Contract Documents.**
- The Contractor is fully responsible for quality control of the materials, production, and construction processes.
- Quality control tests shall be performed by the Contractor, at their own expense, to ensure that products meet the contract specifications.
- Failure by the Contractor to conduct adequate quality control testing during production and construction will negate the Contractor’s ability to appeal the quality assurance tests used for acceptance/rejection of the work.
- Under no circumstances will QC test results produced after completion of the Quality Assurance (QA) results be considered for appeal purposes.
- Any changes in the Work with respect to the location, grade, or line shall be approved in advance by the Contract Administrator. Failure to notify the Contract Administrator of changes in writing may result in rejection of Work.
- 1.02 Inspection of Work, Quality Assurance, and Material Testing, by the Owner**
- The MMCD (2009) definition of “Quality Assurance” means the process by which the Owner evaluates if the work is being constructed in accordance with the Contract Documents. This definition will be used for this contract.**
- The *Contract Administrator* will provide construction review through spot inspections and spot materials testing for Quality Assurance.
- Any materials testing results indicating a non-conformance to the Contract Documents will require construction corrective action by the Contractor.**
- All subsequent testing to corrective action to verify conformance to the Contract Documents will be the full responsibility of the Contractor.**
- Inspection review by the Owner will not relieve the Contractor from providing a product that meets or exceeds the requirements of the Contract Documents.
- 1.1 Inspection**
- Materials testing shall be as described in MMCD General Conditions, Section 4.12 with the following change:
- Delete Section 4.12.2(a) and insert the following:
- Where the MMCD specification clauses for Inspection and Testing indicate the Contract Administrator will arrange for all testing for work described in this section will be amended to read The Contractor will arrange for and pay for all testing for work described in this section. The testing shall take place at the following prescribed rates and as directed by the contract administrator. The contract administrator has the authority to call for testing, up to the rates and frequencies specified, at the Contractors cost.
- .
- All testing covered under this item shall be performed by a CSA certified laboratory and technicians with copies of all test results to be sent directly to the Contract Administrator.

Re-testing resulting from failed first tests shall be at the Contractors expense.

1.2 Survey Layout

All Survey Layout will be completed by the Contractor in accordance with the Contract Drawings and Coordinate System set out within them. The Contractor will be provided digital AutoCAD files but shall be responsible to confirm elevations and tie in locations and report any discrepancies prior to construction.

1.3 Testing

Contractor shall carry out inspection and testing (QC) to ensure compliance with Contract Documents. Contractor shall submit test results within one week of testing to the Contract Administrator.

The Contractor shall provide test results prior to the preparation of the payment certificate.

1.4 Contractors Responsibilities

Furnish labour and facilities to:

1. Provide access to work to be inspected
2. Facilitate inspections and tests
3. Make good work disturbed by inspection and tests

1.5 Access to Work

Allow inspection testing agencies access to Work.

1.6 Tests

Test rates and frequencies (excluding failed tests), when not defined in the MMCD or Detail Specifications Sections shall be at the following frequencies:

1. Trench Backfilling and Compaction

1.1 Compaction: 1 test / 10 lm / 300mm lift

1.2 Sieve: 1 test / placed material / 50 m³

2. Granular Base

2.1 Compaction: 1 test / 500m² / 0.15m depth of granular base

2.2 Sieve: 1 test / placed material / 250 TONNES

3. Granular Subbase

3.1 Compaction: 1 test/500m² / 0.15m depth of granular subbase

3.2 Sieve: 1 test / placed material / 250 TONNES

4. Embankment (Subgrade)

4.1 Compaction: 1 test/ 50m² / 0.15m depth of fill

4.2 Sieve: 1 test / placed material / 100 TONNES

5. Asphalt

5.1 Marshall test: test per 250 TONNES placed per mix specified, min. 1 / day
ASTM D1559, D3203, C117, C136

5.2 Superpave: test per 250 TONNES placed per mix specified, min. 1 / day
CAI-SP2, ASTM D3203, C117, C136

5.3 Cores: 1 per 500 m²/lift

5.4 Continuous asphalt density testing during paving.

6. Subgrade Preparation

6.1 Compaction & Moisture: 1 test / 500 m²

7. Concrete Tests

7.1 Air, Slump & 1 Set Cylinders: 1 test / 10 m³, min. 1 set / day

1.7 Measurement for Payment

Payment for all work performed under this section will be incidental and included in the lump sum payment.

END OF SECTION

1.0	GENERAL	Add 1.0.6	<p>The <i>Contractor</i> is responsible for all temporary traffic control on the streets required for completion of the work. The <i>Contractor</i> will be responsible to provide a Traffic Management Plan (TMP) for approval (5) five working days prior to any lane closures taking place. TMP is to be prepared by a professional certified by the American Traffic Safety Services Association.</p> <p>The TMP shall outline the approach to traffic management, show recognition and minimization of risks indicates signing locations, identify Traffic Control Persons (TCP) stations, show lane shifting and proposed closures.</p> <p>The Contractor shall ensure safe passage of vehicles, cyclists and pedestrian through the work zone.</p>
		Add 1.0.7	<p>A Road and Sidewalk Closure Permit is required from Coquitlam for all work affecting pedestrian and traffic flow related to construction. A permit is required for each specific construction interference with pedestrian and traffic flow. The road and sidewalk closure permit form can be obtained for use from the City's website at http://www.coquitlam.ca. The Contractor must follow the approved TMP. Any changes to this TMP must be submitted to City's Traffic Operations for approval.</p>
		Add 1.08	<p>Refer to Appendix A – Traffic Management Detail Specifications.</p>
1.4	Traffic Control	Delete 1.4.1 and replace with the following	<p>The Contractor shall conduct his operations so as to cause the minimum obstruction and inconvenience to traffic and to places of business and residences adjacent to the Place of Work. No greater quantity of work shall be undertaken at any one time than can be properly conducted with due regard to the rights and interests of the public as may be determined by the Contract Administrator.</p> <p>The Contractor is to provide at all times safe and convenient means of approach and entrance to adjoining lanes, driveways, buildings and property both for vehicles and pedestrians to the satisfaction of the Contract Administrator. For this purpose, he shall construct and maintain suitable and safe platforms, approaches, structures, bridges, diversions or other works.</p> <p>Where traffic must cross open trenches, the Contractor shall provide suitable bridges. Where trenches have been backfilled or where road improvements are incomplete the Contractor shall take any steps necessary to prevent potholes or other traffic hazards. Where the Contract Administrator so instructs or where Contract Specifications so require, the Contractor shall provide temporary asphalt patching of such hazards.</p>
		Add 1.4.9.3.1	<p>The <i>Contractor</i>, as required by the <i>Contract Administrator</i> and the City, is to supply Construction Zone information signs (stationary), refer to MMCD 01 58 01 for the required identification signage.</p> <p>The <i>Contractor</i> is responsible for the removal of the signs at the completion of the work.</p>
		Delete 1.4.10.1.3 and replace with the following	<p>When workmen or equipment are employed over travelled way over brow of hills, around sharp curves or at other locations where oncoming traffic would not otherwise have adequate warning.</p>

**1.5 Measurement for
Payment**

Delete 1.5.1 and
replace with the
following

Payment for all work performed under this section will be incidental
to payment for work described in other Sections.

END OF SECTION

1.0	GENERAL		
1.0.3	Erosion and Sediment Control Supervisor	Add 1.03	The Erosion and Sediment Control (ESC) Supervisor is the Qualified Professional who is experienced in implementing ESC Plans and who is responsible for the inspection and monitoring of ESC Facilities to ensure these are installed and maintained in accordance with the ESC Plan, and if necessary, are modified during construction to ensure compliance with the Stream and Drainage System Protection Bylaw No. 4403, 2013.
1.2	Temporary Erosion and Sediment Controls	Delete 1.2.1 and replace with the following	<p>Properly drain all portions of the site. Protect the site and the watercourses to which it drains, directly or indirectly, against erosion and siltation in accordance with a Sediment Control Plan under the City of Coquitlam Stream and Drainage System Protection Bylaw No. 4403, 2013 during construction and until the maintenance period is completed. Ensure no silt, gravel, debris or other deleterious substance resulting from construction activity discharges into existing drainage systems or watercourses or onto highways or adjacent property. The <i>Contractor</i> is responsible for all damage that may be caused by water backing up or flowing over, through, from or along any part of the work or otherwise resulting from his operations.</p> <p>Keep existing culverts, drains, ditches and watercourses affected by the work clear of excavated material at all times. When it is necessary to remove or alter any existing drainage structure, provide suitable alternative measures for handling the drainage. Adequately support culverts and drainpipes across trenches to prevent displacement and interference with the proper flow of water due to trench settlement.</p> <p>Sweep streets, and clean catch basins, manhole sumps, detention tanks, and maintain siltation controls as often as the <i>Contract Administrator</i> and the City deems necessary.</p> <p>Follow all Federal and Provincial regulations and guidelines respecting protection of fish, fish habitat, and watercourses.</p>
		Delete 1.2.2.2 and replace with the following	Do not operate construction equipment in watercourses.
1.4	Environmental Protection	Add 1.4.3.5	Immediately contain and clean up any leaks and spills of prohibited materials at the <i>Place of Work</i> .
		Add 1.4.3.6	Ensure that a well-stocked spill kit is on-site at all times and that the <i>Contractor's</i> employees are familiar with appropriate spill response techniques.
		Add 1.4.3.7	Immediately notify the <i>Contract Administrator</i> and the City of any leaks or spills of prohibited materials that occur at the <i>Place of Work</i> .
		Add 1.4.3.8	Ensure that any fuel stored on-site is located at least 15 metres from the nearest stream, and is placed within a bermed and lined area, in order to prevent leaks or spills into the environment.
		Add 1.4.3.9	Ensure that no equipment fueling or servicing is conducted within 15 metres of a stream.
1.6	Measurement and Payment	Delete 1.6.1 and replace with the following	Payment for all work performed under this section will be incidental and included in the lump sum payment.

**1.9 Archaeological /
Historical Resources** Add 1.9

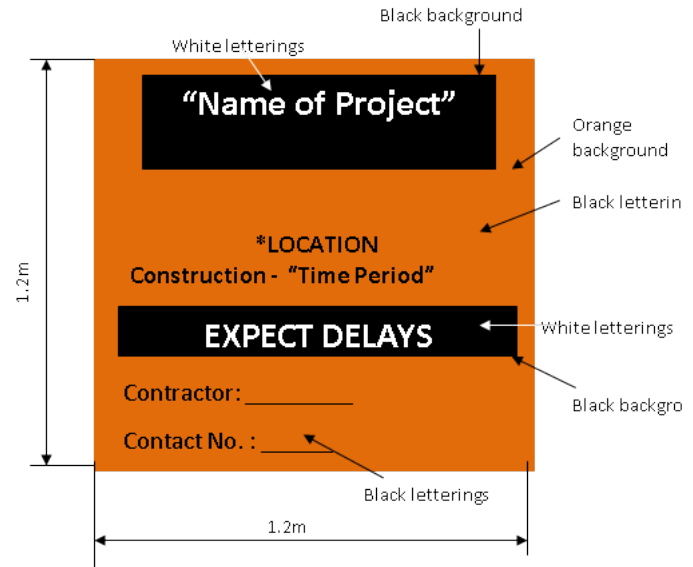
Immediately cease work and inform the *Contract Administrator* and the City, if any archaeological or historical resources are encountered during construction. Leave these resources in place and do not disturb them in any way.

END OF SECTION

1.3 Measurement and Payment

Delete 1.3.1 and replace with the following

Payment for the installation of three 1.2m x 1.2m static construction notification signs (shown below) includes supply, placement & removal. Payment for these signs is incidental and included in the lump sum payment.



END OF SECTION

1.4	Measurement and Payment	Delete 1.4.3 and replace with the following	<p>Payment for machine placed or hand formed C5 wide base concrete curb, excluding granular subbase & base, includes supply and placing of the concrete curb and gutter, tie-ins, transitions, subgrade preparation, compaction, saw cutting, and will cover all straight and curve sections and is included in the lump sum payment.</p> <p>Payment for excavation and disposal of excavated material will be made under payment item, Common Excavation – offsite disposal, in the lump sum payment.</p> <p>Payment for granular subbase and granular base under curb and gutter will be included in the lump sum payment.</p>
		Delete 1.4.5 and replace with the following	<p>Payment for concrete sidewalks, driveways, walkways, infills and all concrete ramps will be incidental and included in the lump sum payment, and includes all removal, disposal, supply and placing of the concrete, subgrade preparation, and granular base.</p>
		Add 1.4.10	<p>Payment for Detectable/Tactile Warning Surface Tile will be incidental and included in the lump sum payment, and includes supply and placing of Access Tile Model # ACC-R-2x4 (or approved equal) Truncated Dome Detectable Warning Tactile Surface 2'x4' replaceable cast in place - Yellow Color and installation as per the Manufacture's Specifications.</p>
2.1	Materials	Delete 2.1.5.1 and replace with the following	<p>Hand-formed and hand-placed concrete:</p> <p>Slump: 80 mm</p> <p>Air entrainment: 5 to 8%.</p> <p>Maximum aggregate size: 20 mm.</p> <p>Minimum cement content: 335 kg/m³.</p> <p>Minimum 28 day compressive strength: 32 MPa.</p>
		Add 2.1.7	<p>Tactile warning surface tile shall be replaceable cast-in-place style. Truncated domes shall be in square grid pattern with a 5 mm nominal raised height, base diameter of 23 mm and top diameter of 11.5 mm. Dome spacing range shall be between 40 mm – 60 mm.</p> <p>Color of the panel shall be Federal Yellow (Y) per US Federal Standard 595B Table IV, Color No. 335.</p> <p>Minimum size of the panel shall be 600 mm by 1200 mm.</p>
3.0	EXECUTION		
3.5	Concrete Placement	Delete 3.5.9 and replace with the following	<p>The <i>Contractor</i> is responsible for adjusting all utility manhole frames and valve boxes, belonging to Coquitlam and/or other agencies that are affected by the road works. All adjustments to utilities must be completed to the satisfaction of the utility owner. Riser rings will not be accepted.</p> <p>The <i>Contractor</i> should note that certain utility owners may decide to complete their own adjustments. The <i>Contractor</i> will be required to cooperate with any utility company providing their own adjustments.</p> <p>The <i>Contractor</i> shall be responsible to contact the appropriate utility company within a minimum of seventy-two (72) hours of the work. No adjustment shall be made without the written approval of the utility company. <u>All manholes must be vertically adjusted a minimum of twenty-four (24) hours prior to concrete placement.</u></p>

3.9 Expansion Joints

Delete 3.9.1 and
replace with the
following

Form transverse expansion joints at both ends of curb returns and at maximum spacing of 9.0 m for sidewalks, 30.0 m of curb and gutter, at each end of driveway crossing, at tangent point of circular work, and on either side of catch basins.

END OF SECTION

ROADWAY LIGHTING

1.0	GENERAL		
1.3	Shop Drawings	Delete 1.3.4 and replace with the following	Shop drawings for pole structures, where required, to be sealed by a Professional Engineer registered in British Columbia.
1.4	Electrical Energy Supply	Add 1.4.4	The Electrical Contractor shall process a letter of application to the City of Coquitlam for the Utility Company and attain all required permits.
1.5	Contractor Qualifications	Add 1.5.3	All on-site traffic signal installations shall be under the responsibility of a primary journeyman electrician with IMSA Level 1 Roadway Lighting Certification and have a minimum of three (3) years experience maintaining and installing street lighting systems. This primary journeyman electrician is expected to be on the work site and report work progress to City of Coquitlam's Traffic Operations staff, in addition to reporting to the Contract Administrator.
1.6	Permits and Tests	Add 1.6.4	Contractor shall provide the BC Safety Electrical Permit, and arrange all inspections with the City. The inspection entails, but not limited to, Coquitlam's Street Lighting Inspection Report, which can be obtained from Coquitlam's Traffic Operations staff.
		Add 1.6.5	Contractor to obtain approval of all buried portions of the installation from the City Inspector before any backfill is commenced.
2.0	PRODUCTS		
2.1	General	Delete 2.1.2 and replace with the following	All products supplied to be new, in accordance with Contract Documents. All products are to meet Canadian Electrical Code requirements and be certified by either CSA, UL®, or Intertek Testing Systems (Warnock Hersey) and be supplied with the certifier's label.
		Delete 2.1.3 and replace with the following	All products shall be in accordance with the City of Coquitlam's List of Approved Materials and Products List. Any products not listed with in the Approved List shall default to the current BCMOTI specification.
		Delete 2.1.5 and replace with the following	Equipment models listed within the City of Coquitlam's List of Approved Materials and Products shall be confirmed with the City immediately prior to their order to ensure that they are current. Cut-sheets, equipment make, model and serial number list to be provided to the City by the Contractor.
2.2	Conduit	Add 2.2.1.3	All exposed metallic surfaces to be hot dip galvanized.
2.3	Trench marker Tape	Add 2.3.2	Detectable (Magnetic) marker tape shall be used in all trenches containing interconnection (communications) conduit.
2.6	Concrete Bases	Add 2.6.2	Maximum of four (4) conduits shall enter the base of a luminaire pole, however more than four (4) may enter a service base.
2.8	Conductors and Cables	Add 2.8.5	.1 Minimum conductor size to be as follows, unless specified otherwise on Contract Drawing: .1 No 6 AWG for feeder conductors in conduit. .2 No 8 AWG for bond conductors in conduit. .3 No 12 AWG for luminaire conductors in poles.

2.9	Conductor Tags	Delete 2.9 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.11	Fuses and Fuse Holders	Delete 2.11 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.13	Receptacles	Add 2.13.3	Receptacles shall have a spring loaded cast aluminum covers.
		Add 2.13.4	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.14	Luminaires	Add 2.14.6	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.19	Service Panels	Add 2.19.1	Type 40A 120/240V, 60A 120/240V roadway lighting and 100A 120/240V combination roadway lighting / traffic signal, per Contract Drawing to include items listed within the 2009 MMCD Section 34 41 13 - Traffic Signals - 2.11.2
		Add 2.19.2	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.20	Wire Anti-Theft Devices	Add 2.20.1	Handhole access shall utilize security covers with reinforced backing bars.
3.0	EXECUTION		
3.1	General	Add 3.1.5	During the installation of the lighting system, maintain the existing system as noted on the Contract Drawing. If temporary or permanent relocations of related lighting equipment are required, such equipment shall be reinstated as required under the Contract Documents or as directed by the Contract Administrator.
3.3	Concrete Bases	Add 3.3.7	Concrete service bases detailed on Standard Detail Drawings CE1.3 and CE1.4, Type C1 and C3 service bases shall have five (5) conduits. See Coquitlam Standard Detail Drawing SS-E7.3.
		Add 3.3.8	All concrete bases shall be pre-cast concrete only, unless noted on Contract Drawing or directed by the Contract Administrator.
3.4	Junction Boxes and Vaults	Delete 3.4.1 and replace with the following	Install junction boxes as shown on Standard Detail Drawings E2.2 to E2.4. Install vaults as shown on Coquitlam Standard Detail Drawing SS-E2.5.
		Add 3.4.5	Bell end fittings shall be installed in all conduits entering junction boxes or vaults.
		Add 3.4.6	All junction boxes shall be provided with RPVC bars to support electrical connections and fuse holders. The RPVC bars shall be attached into the junction box side walls with the electrical connections/fuse holders tie-wrapped in place and installed in the up-right position.
		Add 3.4.7	Junction boxes requiring 3 or more sections must be approved by the City of Coquitlam's Traffic Operations staff.

3.5	Underground Conduit	Delete 3.5.2 and replace with the following	Minimum cover over conduits to be 600 mm in boulevard areas and 900 mm in roadway areas, unless otherwise specified in the contract documents.
		Delete 3.5.3 and replace with the following	Place trench marker tape 300 mm above installed conduit in trench. Trench marker tape not required for conduits installed via trenchless technology.
		Delete 3.5.5 and replace with the following Add 3.5.6	Empty conduits shall have a No. 8 HB Yellow/Green Mk pull string and capped at both ends. Conduit run shall contain no more than the equivalent of 4 – 90 degree bends.
		Add 3.5.7	Conduits shall be blown out with compressed air, from both ends if necessary, then swabbed out to remove stones, dirt, water and other material which may have entered during installation.
		Add 3.5.8	All conduits entering poles and cabinets shall be sealed with “Duct Seal”.
		Add 3.5.9	Conduit depth of bury to be recorded when a trenchless technology method is used.
		Add 3.5.10	Conduit shall not be bent in the field. Only factory bends will be accepted.
3.7	Electrical	Delete 3.7.2 and replace with the following	Mount electrical service panels in service base or on poles as shown on Standard Detail Drawings E7.2, E7.6 to E7.9, as well as Coquitlam Standard Detail Drawings SS-E7.3 to SS-E7.5.
3.8	Wiring	Delete 3.8.3 and replace with the following	Make conductor splices in handholes. See Standard Detail Drawing E7.11 for splice details.
		Delete 3.8.6 and replace with the following	Wire each luminaire and receptacle separately from the base of pole.
		Delete 3.8.7 and replace with the following	Neatly arrange and bundle wiring in junction boxes, pole handholes and service panels. Conductor connections in all access points to be installed in the up-right position, allowing for easy access
		Delete 3.8.11 and replace with the following	Bond all luminaires and receptacles with No. 12 RW90 green conductor, and steel junction box lids with No. 8 RW90 green conductor.
3.9	Pole Mounted Receptacle	Delete 3.9.1 and replace with the following	Pole mounted receptacles to be installed as detailed on the Contract Drawing and Coquitlam Standard Detail Drawings SS-E7.19 to SS-E7.23.
3.10	Luminaires and Photocells	Add 3.10.4	NEMA wattage label shall be visible at the bottom of the luminaire on all fixtures.
3.11	Grounding & Bonding	Add 3.11.5	Ground plates and grounding conductors are to have a minimum of 5 meters clearance between them and other utility grounding.
		Add 3.11.6	Remove all paint around bonding studs on inside of pole to expose the galvanized or metal surface prior to bonding equipment.

ROADWAY LIGHTING

**3.13 Pole Finish
Application**

Delete 3.13 and
replace with the
following

- .1 Prior to producing a powder finish product, the supplier must provide a Certificate of Compliance indicating that they have met or exceeded the following specifications. The supplier will name their independent testing agency and this information will be submitted to the City for their files.
- .2 The application process will be as follows:
 - .1 The pole or product will be hot dip galvanized.
 - .2 Powder will only be applied after the product is completely fabricated. No welding or bending will take place after the powder is applied.
 - .3 The pole or product will be thoroughly cleaned by brush blasting in accordance with SSPC-SP7. The brush blast will maintain a minimum profile of 0.5 mils. If brush blasting is done off site, then the product will be covered and shielded from any dirt or moisture during its return to the powder applicators facility. Where poles or products are not kept clean and dry or have any signs of flash rust they will be returned for further brush blasting.
 - .4 Once at the applicators facility the pole or product will be thoroughly cleaned and dried with an air gun. All hand marks or grease spots will be cleaned with a mild solvent.
 - .5 After brush blasting the entire pole or product will be pre-baked in an oven at 220 degrees C for at least 30 minutes to 1 hour, depending on steel thickness. The pre-baking must be done to prevent out-gassing during the curing cycle.
 - .6 The base powder coat will then be applied electrostatically while the pole or product is cooling from the 220 degrees C pre-bake period to allow the powder to melt and fuse to the surface. The base coat will be a minimum of 3 mils in thickness.
 - .7 After base coat is applied and set the topcoat will be applied to a thickness of 3 to 5 mils. The pole or product will be returned to the oven and heated to 190 to 220 degrees C (temperature will not exceed pre-bake) for a minimum of 25 minutes, depending on steel thickness. Thicker product material may require longer bake cycles to fully cure. Upon removal of the pole or product from the oven it will be left to rest until the pole or product is cool enough to the touch.
 - .8 Once the topcoat has cured and the poles or product cooled, they will then be individually wrapped (min 4" overlapping method) with 1/8" foam wrap over the entire pole or product. The poles or product will be bundled together and separated with suitable wood dunnage to avoid contact between the poles, product or other bundles. All bundles themselves will be fully wrapped with foam and with stretch-wrap as noted above. The poles or products will be handled and shipped with great care to prevent damage; damaged product will be cause for rejection of the item(s).
- .3 Testing process will be as follows:
 - .1 Each run of product in an oven will have at least one sample tested for:

- .2 Adhesion – The finished powder surface will have minimum pull-off strength exceeding 1000 PSI as tested in accordance with ASTM D4541.
- .3 Quality – The finished powder surface will be free from any holidays (skips or misses) as tested in accordance with ASTM D4541. The product will also be free from wrinkles, orange peel, cracking, pinholes, fish eyes, blisters, etc by visual inspection.
- .4 Color – The color will be verified to be within 3 DE of specialized color.
- .5 An independent firm such as CanSpec Testing who are qualified to test powder finish will do the testing at the supplier's expense. The result of tests must accompany the Certificate of Compliance and will be made available to the City or their representative upon request. A supplier who fails to test product as noted above will have their product rejected until the testing is completed and the product deemed acceptable by the testing agency.
- .6 Where the tested product fails on a given production run then a minimum of 30 % of the entire production run will be tested. If no other failures are found then the individual failed product will be stripped, reapplied and re-tested until it passes. If any of the 30% of product tested fails then the entire order will be stripped, reapplied and retested until it passes.
- .4 Field repairs will be undertaken as required to fix any scratches or imperfections in the final finish. Field repairs will be done as follows:
 - .1 Feather the damaged area with sandpaper.
 - .2 Clean area with solvent.
 - .3 Let dry.
 - .4 Neatly brush on an application of Aliphatic Urethane Acrylic Semi-Gloss High Build applied at 2-4 mils DFT over the entire sanded and damaged area. The ambient conditions will be dry and over 10 degrees C when the paint is applied.
 - .5 The pole supplier will warranty the integrity of the surface for a minimum of 1 year from the date of installation. The warranty will include all labour and materials required to provide replacement product if required. The powder finish will be the responsibility of the pole supplier. The warranty will apply to fading, blistering, cracking or chipping of the surface.

END OF SECTION

2.0 PRODUCTS

2.3 Pit Run Gravel

Add to 2.3.2

The use of recycled concrete shall be approved by the *Contract Administrator* and the City prior to use.

Add 2.3.3

Asphalt millings free from contaminated and other extraneous material, conforming to the specified gradations may be used as pit run gravel. The use of asphalt millings shall be approved by the *Contract Administrator* and the City prior to use.

2.7 Granular Pipe Bedding and Surround Material

Add to 2.7.1

All recycled or other extraneous materials shall be approved by *Contract Administrator* and the City prior to use.

2.10 Granular Base

Delete 2.10.2

Add 2.10.3

All 25 mm minus granular base is to conform to the following gradation specifications for Collector / Arterial Roads:

Sieve Designation (mm)	Percent Passing (%)
25	100
19	80-100
12.5	75-90
9.5	50-85
4.75	35-70
2.36	25-50
1.18	15-35
0.30	5-20
0.075	0-5

Add 2.10.4

The intention of the Gradation Chart is to identify the desired mix of size of aggregate in the granular base. The Target Percentage Passing is the middle of the shown Range.

Tests that show sieve values of Percent Passing that are consistently low or consistently high in two (2) or more consecutive tests will be considered to be non-conforming.

Add 2.13

Thermal backfill shall be durable, inert, crushed gravel made of granite or limestone and shall be free from clay and organic material that conforms to the following grading requirements:

ASTM D422-63 Sieve	Sieve Opening Size (mm)	Percent by Weight Passing
3/4"	19	100
3/8"	9.5	50 to 100
#4	4.75	35 to 70
#10	2	22 to 45
#40	0.425	5 to 20
#200	0.075	0 to 8

**2.11 Recycled Aggregate
Material**

Delete 2.11.1 and
replace with the
following

Aggregates containing recycled material may be utilized if approved by the Contract Administrator and the City. In addition to meeting all other conditions of the specifications, recycled material should not reduce the quality of the construction achievable with quarried materials. Recycled material shall consist only of aggregates, crushed portland cement concrete, or asphalt that is free of impurities.

END OF SECTION

CLEARING AND GRUBBING

**1.4 Measurement and
Payment**

Delete 1.4.1 and
replace with the
following

Payment for all clearing and grubbing will be made at lump sum price and include removal and disposal of all branches, stumps, trees, debris, hedges, timbers, logs and vegetation to complete the work and as shown on the Contract Drawings or as directed by the Contract Administrator. Works include cutting of branches & falling of trees affected by Work to create the necessary clearance to accommodate the construction and intended function of the Work, and as shown on Contract Drawing.

Payment includes trimming of small branches from trees or hedges as required, branch cutting/pruning to have a clean cut flush to branch collar and use of an approved tree paint to repair damage to surviving vegetation where branches have been removed.

Existing grass and top soil removal will be incidental and paid in the lump sum payment.

END OF SECTION

1.3	Measurement and Payment	Delete 1.3.1 and replace with the following	Payment for all work, performed under this section will be incidental to payment for work described in other Sections.
2.0	PRODUCTS		
2.1	Materials	Add 2.1.10	Protective Fencing: Posts - Pressure treated wood 100 mm dia.; Post to be 1.8 m to 2.0m in height at 2.0 m O.C. Snow fence as per Coquitlam Approved Products List; Flagging Tape - 4" Orange glow - 'Tree Retention Area'.
2.0	EXECUTION		
3.1	Existing Trees	Add 3.1.7	The <i>Contractor</i> is responsible to minimize damage to all trees which are to remain.
		Add 3.1.8	The <i>Contractor</i> will be responsible for all claims and costs including the cost of examination by an Arborist, repair, removal and replacement of trees, as required by the Arborist, the <i>Contract Administrator</i> and the City for tree damage where proper notification was not received from the <i>Contractor</i> . Damage will be assessed based on the International Society of Arboriculture Guidelines. The term shall be for a period of one year following the date of Substantial Performance of the <i>Work</i> .
		Add 3.1.9	Place protective fencing/barricades as per Coquitlam Standard Detail Drawings COQ-R26, where identified on the Contract Drawings. <i>Contractor</i> shall maintain fence in good condition during construction.
		Add 3.1.10	When work is to be performed inside fenced areas, <i>Contractor</i> shall take care to avoid damage to existing vegetation. Work to be done inside areas of existing vegetation to be retained includes: <ul style="list-style-type: none"> .1 Removal of isolated trees as directed by the <i>Contract Administrator</i> and the City. .2 Selective pruning and tree removal at edges to create tidy and well-shaped forest edge. .3 Placing planting soil and planting of trees.
		Add 3.1.11	Do not park, service or fuel vehicles within the vegetation retention areas.
3.4	Pruning	Add 3.4.2	Do not cut roots or branches of retained trees without approval of the <i>Contract Administrator</i> and the City.

END OF SECTION

COLD MILLING

**1.5 Measurement and
 Payment**

Delete 1.5 and
replace with the
following

Payment for cold milling is incidental to work described in Section 31
24 13S, Clause 1.8.4, and includes cost of mobilization,
demobilization and demonstration milling test section.

END OF SECTION

1.0 GENERAL

1.8 Limitations of Open Trench

1.8.1
Replace last sentence
with the following

If circumstances do not permit complete backfilling of all trenches, and where permitted by the *Contract Administrator* and the City, adequately protect all open trenches or excavations with approved fencing or barricades and, where required, with flashing lights.

2.0 PRODUCTS

2.2 Use of Specified Materials

Delete 2.2.1.2

Delete Pit Run Sand

Delete 2.2.3.3

Delete Pit Run Sand

3.0 EXECUTION

3.3 Excavation

Delete 3.3.1.2 and
replace with the
following

Connections to existing waterworks systems are to be made by the *Contractor* under the inspection / supervision of the *Contract Administrator* and the City.

3.6 Surface Restoration

Delete 3.6.2.4 and
replace with the
following

Restore lawns with approved topsoil and sod to match existing lawn.

Delete 3.6.3.1 and
replace with the
following

Restore surface with a minimum 100 mm of 19 mm granular road base material.

Delete 3.6.7.5 and
replace with the
following

Restore Pavement as detailed on Coquitlam Standard Detail Drawing COQ-G4. Temporary patch shall be a minimum thickness of 50 mm thickness. Permanent restoration to existing asphalt thickness (minimum of 75 mm) with a 35 mm key where existing thickness permits. A 50 mm key is required on Arterial and Collector Roadways. Dry if necessary and paint clean, dry edge with asphalt emulsion (tack coat).

END OF SECTION

GRANULAR BASE

2.0 PRODUCTS

- | | | |
|--------------------------|-------------|--|
| 2.1 Granular Base | Add 2.1.1.3 | 25 mm minus crushed gravel conforming to the gradation specifications for Collector/Arterial Roads under Section 31 05 17S – 2.10.3. |
|--------------------------|-------------|--|

3.0 EXECUTION

- | | | |
|--------------------------|---|---|
| 3.5 Proof Rolling | Delete 3.5.1 and replace with the following | For proof rolling, use fully loaded single axle, to 80 KN (18, 000 lb) minimum, dump truck. |
|--------------------------|---|---|

Add 3.5.7	Prior to paving with asphalt concrete, the base surface shall be checked by the <i>Contract Administrator</i> and the City, for deflections utilizing a Benkelman Beam, in order to insure that the final rebound requirements can be obtained with the asphalt pavement. In the event that such deflection are in excess of those required to produce the final standards, than the base shall be adequately strengthened by additional gravel or asphalt concrete to insure that final deflections as follows are not exceeded.
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The Benkelman spring rebound value of the completed pavement surface shall not at any point exceed 0.75 mm for arterial industrial roads and lanes, 1.15 mm for collector roads, and 1.5 mm for local roads and lanes as determined in the procedures outlined in the Transportation Association of Canada publication "Pavement Management Guide."

END OF SECTION

ASPHALT TACK COAT

- | | | | |
|----------------------|--------------------------------|---|---|
| 1.4 | Measurement and Payment | Delete 1.5.1 and replace with the following | Payment for asphalt tack coat will be incidental and included in the lump sum payment for all portions of existing pavement to be tack coated in preparation for placement of hot mix asphaltic concrete |
| | | Delete 1.5.2 and replace with the following | Pavement surface cleaning, as per section 32 01 11, and all other work incidental to the application of tack coat is included in the lump sum payment. |
| 3.0 EXECUTION | | | |
| 3.2 | Application | Add to 3.2.3 | Asphalt tack coat to be applied using a truck mounted spray bar unless otherwise approved by the <i>Contract Administrator</i> and the City. Contractor shall demonstrate, to the <i>Contract Administrator</i> and the City, prior to application that all spray nozzles are operational and providing a consistent application. |

END OF SECTION

1.0 GENERAL

1.5 Measurement and Payment

Delete 1.5.1 and replace with the following

Payment for asphaltic concrete paving shall be incidental and included in the lump sum payment, and includes all construction joint preparation, asphaltic surface milling to tie into existing asphalt, saw cutting, supply and placing of the asphaltic concrete, compaction and cleaning frames, covers and lids of castings affected and taped temporary pavement markings.

The contractor will not receive any additional compensation for Hand Work, Special Equipment & Machinery to complete the Hot Mix Asphaltic Paving Work as shown on the Contract Drawings, as required for restoration, or as directed by the Contract Administrator.

Delete 1.5.3 and replace with the following

Payment for asphaltic concrete sidewalks, pathways, driveways, and infill strips paving shall be incidental and included in the lump sum payment, and includes all construction joint preparation, saw cutting, supply and placing of the asphaltic concrete, compaction and cleaning frames, covers and lids of castings affected.

Delete 1.5.4 and replace with the following

Payment for extruded 50mm or 150mm asphalt concrete curb, 25mm depth at driveway crossings shall be incidental and included in the lump sum payment, and will include asphaltic concrete, all preparatory & construction preparation, pavement cleaning, tack coat and placing by extrusion.

The Contractor is responsible for the protection of the new placed curb until it can accept vehicle traffic, the contractor will not receive any compensation for protecting the curb and the Contract Administrator may reject any curb that is not protected and damaged.

1.6 Inspection and Testing

Add 1.6.3

Test cores will be taken by the *Contract Administrator* in the areas of new paving and will include cores along construction joints to ensure compliance with the required design and compaction.

2.0 PRODUCTS

2.1 Materials

Add 2.1.2.1

Usage of recycled asphalt shingles will not be permitted.

Add 2.1.2.2

Usage of softening agents, rejuvenators, or recycling agents will not be permitted.

2.2 Mix Design

Delete 2.2.2 and replace with the following

Mix may contain up to a maximum of 15 % by mass of RAP for Upper Course Asphalt and 20 % by mass of RAP for Lower Course Asphalt without a special mix design. The *Contract Administrator* and the City may approve higher proportion of RAP if *Contractor* demonstrates ability to produce mix meeting requirements of the specification.

Delete 2.2.3.2 Marshall Stability and replace with the following

Marshall Stability at 60°C for both lower and upper courses to be 10 KN min.

3.0 EXECUTION

3.3 Preparation

Delete 3.3.3 and
replace with the
following

The *Contractor* is responsible for adjusting all utility manhole frames and valve boxes, belonging to Coquitlam and/or other agencies that are affected by the road works. All adjustments to utilities must be completed to the satisfaction of the utility owner. Utility adjustment within the paved surface will be considered incidental to the *Work* unless otherwise noted in the *Contract Documents*.

The *Contractor* should note that certain utility owners may decide to complete their own adjustments. The *Contractor* will be required to cooperate with any utility company providing their own adjustments.

The *Contractor* shall be responsible to contact the appropriate utility company with in minimum of seventy-two (72) hours of the work. No adjustment shall be made without the written approval of the utility company.

All manholes must be vertically adjusted a minimum of twenty-four (24) hours prior to paving. The use of riser rings for adjusting manhole frames and value boxes will not be permitted.

3.7 Joints

Delete 3.7.5 and
replace with the
following

Construct butt joints at locations as shown on the *Contract Drawing* and as directed in the field by the *Contract Administrator* and the City.

END OF SECTION

PAINTED PAVEMENT MARKINGS

1.0 GENERAL

1.2 Scope

Delete 1.2.1 and replace with the following

Pavement Markings: Miscellaneous taped temporary and permanent pavement paint markings including pedestrian crosswalk, merge and diverge markings, stop lines, solid and broken line road lane markings including edge lines of merge and diverge markings, bike symbols, etc. to be provided as shown on the *Contract Drawing*.

1.5 Measurement and Payment

Delete 1.5.3 and replace with the following

Payment for permanent thermoplastic pavement markings and eradication shall be incidental and included in the lump sum payment, and covers the supply of materials and placement of pavement markings & eradication of markings as shown on the Contract Drawings.

2.0 PRODUCTS

Delete 2.1.1 and replace with the following

All permanent paint markings shall be marked with thermoplastic manufactured by LAFRENTZ Road Markings, HITEX North America (HiBrite Extrude Thermoplastic), or ENNIS-FLINT (Extruded Thermoplastic).

2.1 Materials

Delete 2.1.6 and replace with the following

Pavement Markings:

Delete 2.1.7 and replace with the following

Thermoplastic material

- .1 Material composition shall be at the discretion of the manufacturer subject to the approval of the Contract Administrator and the City. Each formulation shall be identified by a code number.
- .2 No retained water when tested by ASTM D-570.
- .3 Specific gravity of the supplied product shall be within 3 % of that specified for the selected formulation.
- .4 Material shall not deteriorate upon contact with deicing chemicals, gasoline, diesel fuel or grease dropped by traffic.
- .5 Material shall not break down, deteriorate, scorch or discolour, if held within the application temperature range specified by the manufacturer for a period of four hours and it must be able to be reheated from room temperature to the application temperature four (4) times without showing any of these detrimental effects.
- .6 When applied at the temperature recommended by the manufacturer and at a film thickness of 2 to 4 mm, the material shall set solid and show no tracking under traffic after elapsed times as follows:
 - .1 Two (2) minutes at an air temperature of 10° C, relative humidity less than 75 %, and road surface temperature from 10° C to 20° C.
 - .2 Five (5) minutes at an air temperature of 32° C, relative humidity less than 75 %, and road surface temperature from 35° C to 50° C.

- .3 The drying time under conditions intermediate between the two air temperatures shall be interpolated using a straight line model.
- .7 The quantity, type, and gradation of the component reflecting glass spheres premixed in the thermoplastic material shall be at the discretion of the manufacturer, but shall provide retroreflection levels specified below.

3.0 EXECUTION

Add to 3.3.1.3

Temporary raised pavement markings (TRPMs) are to be provided on all multi-lane roadways as directed by the *Contract Administrator* and the City.

3.3 Application

Delete 3.3.3.3 and replace with the following

Thermoplastic material shall be heated in the melter to a temperature of 382 °F.

END OF SECTION

1.0 GENERAL

1.0 General Requirements

Delete
replace
following

1.0.1
with
the

.1 Section 32 91 21 refers to those portions of the Works that are unique to the supply, placement and finish grading of Growing Medium. This section must be referenced to and interpreted simultaneously with all other sections pertinent to the Works described herein.

For the purpose of this specification, the term "Growing Medium" shall mean a soil produced offsite by homogeneous blending of mineral particulates, micro organisms and organic matter which provides suitable medium for supporting intended plant growth and the term "Topsoil" shall mean on-site native or surface soil material which may be used as Growing Medium provided it meets standards set for imported material Growing Medium and can be modified to meet the requirements set out for specified Growing Medium.

Add 1.0.3

.3 For the purpose of this specification, the term 'Soil-Testing Laboratory' shall mean an independent laboratory, recognized by the landscape nursery industry, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

1.5 Inspection and Testing

Delete 1.5 and replace
with the following

- .1 The Contractor is responsible for testing imported Growing Medium and all related cost incurred. Testing shall be carried out by an approved Soil Testing Laboratory.
- .2 The sample analysis shall be of tests done on the proposed Growing Medium from samples taken at the supply source within a minimum of 14 days in advance of Growing Medium placement. Allow 7 days for soil testing by the laboratory for each sample. The sample shall be picked up by the Soil Testing Laboratory from the supply source. The Growing Medium sample shall be a composite of at least three (3) samplings for the proposed source and shall be at least one (1) litre in volume.
- .3 Forward a copy of all test results directly to the Contract Administrator and the City for review. The analysis shall outline the testing laboratory's required amendments such as sand, organic matter, fertilizers and lime to achieve adequate growing conditions.
- .4 The Contractor shall not deliver any Growing Medium to the site until the test results have been reviewed and approved by the Contract Administrator and the City.
- .5 All submitted soil analysis must be dated and include supplier name and phone number, project location and submitted to Contract Administrator and the City for approval prior to commencing work. Soil analysis shall include measurements of:
 - .1 Percent sand, fines, silt and clay
 - .2 Organic matter to 100%
 - .3 pH, acidifying additive required to achieve noted herein
 - .4 Water soluble salts
 - .5 Total carbon to nitrogen ration
 - .6 Total nitrogen and available levels of phosphorus, potassium, calcium & magnesium
- .6 At the discretion of the Contract Administrator and the City submit up to two (2) additional samples, at intervals outlined by

the Contract Administrator and the City, of Growing Medium taken from material delivered to the site. Samples shall be taken from a minimum of three (3) random locations and mixed to create a single uniform sample of testing. Results of these tests shall be forwarded to the Contract Administrator and the City for review.

- .7 The Contractor is responsible for soil analysis and requirements for amendments to supply Growing Medium as specified. Failure to satisfy these contractual requirements could result in the Contractor being required to remove unacceptable Growing Medium at their expense.
- .8 Notify the Contract Administrator at least forty-eight (48) hours prior to Growing Medium placement for inspection.
- .9 Refer to General Conditions, Clause 4.12 Tests and Inspections.

1.6 Product Handling Add 1.6

- .1 All materials to be handled and adequately protected to prevent damage. Do not handle Growing Medium in an excessively wet, extremely dry, frozen condition or in any manner in which structure may be adversely affected. Growing Medium whose structure has been damaged by handling under these conditions shall be rejected and shall be replaced by the Contractor at their expense.
- .2 Stockpile materials in bulk form in paved areas or in pre-approved areas of the site. Provide additional protection of storage under roof or tarpaulins.
- .3 Take all precautions to prevent contamination of Growing Medium and amendments from wind blown soil particles, weed seeds and from insects. Contamination of the Growing Medium and amendments may result in their rejection for use.
- .4 Store fertilizer and chemical amendments in the manufacturer's original containers.
- .5 All Growing Medium shall be delivered to site premixed from a recognized Growing Medium source ensuring consistency throughout the mix.

2.0 PRODUCTS Delete 2.0 and replace with the following

2.1 Materials

- .1 Growing Medium Preparation
 - .1 Shall be prepared from Compost Material with Sand and other Soil Amendments as required to meet the specifications herein.
 - .2 Ensure commercial processing and mixing of Growing Medium components are done thoroughly by a mechanized screening process. Do not mix the components by hand. Ensure the resulting product is a homogeneous mixture having the required properties throughout free of stones 25 mm or larger in any dimension, woody plant parts, toxic materials, foreign object and other extraneous materials harmful to plant growth. Provide composted soil free from crabgrass, couch grass, equisetum, convolvulus, or other noxious weeds or seed or parts thereof.

.2 Inorganic Soil Amendments

- .1 Sand: Imported pit sand or river pump sand, free of impurities, chemicals, horsetails, and other noxious weeds. The saturation extract electrical conductivity of salinity shall not be greater than 3.0 millimhos/cm at 25 degrees C.

Sieve Size (mm)	Percent passing (%)
4.75	95-100
0.50	0-40
0.050	0-5

- .2 Fertilizers: Uniform in composition, free flowing and dry, granular, pill form, or pelleted commercial product with 50% of total nitrogen (if applicable) derived from natural organic material in a slowly available form delivered in unopened water proof containers with the manufacturer's guaranteed N-P-K analysis, type and trade name attached to each container. The planting soil test results will specify a formulation and application rate to achieve the levels of nitrogen, phosphorous and potassium required. Fertilizer to meet the requirements of the Canada Fertilizer Act.

- .1 Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:

- .1 Class: Class T, with a minimum 99 percent passing through No. 8 (2.36 mm) sieve and a minimum 75 percent passing through No. 60 (0.25 mm) sieve.
- .2 Provide lime in form of dolomitic limestone.

- .3 Perlite: Horticultural perlite, soil amendment grade.

.3 Organic Soil Amendments

- .1 Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 25 mm sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

- .1 Organic Matter Content: 50 to 60 percent of dry weight containing no cedar, redwood, wood or bark.
- .2 Colour: dark brown to black in colour.

.2 Peat:

- .1 Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.

.3 Wood Residual

- .1 Content of wood residuals such as Fir or Hemlock sawdust present in the Growing Medium shall not cause the total carbon to total Nitrogen ration to exceed 40:1.
- .2 Cedar or redwood sawdust shall not be present in Growing Medium.

2.7 Growing Medium Properties for Different Applications

Properties	Low Traffic Lawn Areas, Trees and Large Shrubs	High Traffic Lawn Areas	Planting Areas, Planters Shrubs & Groundcover
Texture: Particle size classes by Canadian System of Soil Classification	Percent of Dry Weight Mineral Fraction (%)		
Gravel (greater than 2 mm less than 75 mm)	0-10	0	0
Sand (greater than 0.05 mm and less than 2 mm)	50-70	80-90	50-70
Silt (larger than 0.002 mm and less than 0.5 mm)	10-30	5-20	10-30
Clay (less than 0.002 mm)	7-20	2-5	7-20
Organic Content Percent of Dry Weight	5-10	3-5	25-30
Drainage Minimum saturated hydraulic conductivity (cm/hr) in place	2.0	7.0	2.0
Acidity (pH)	6.0-6.5	6.0-6.5	5.0-6.0

2.8 Miscellaneous Products

- .1 Root Barrier: 400x610 mm linear root barrier, copolymer polypropylene, 50% recycled plastic, black in colour. Supplier of Root Barrier shall be as per the Coquitlam Approved Products List.
- .2 Construction Adhesive shall be as per the Coquitlam Approved Products List.
- .3 Drain Mat: Light duty, uv stable, impermeable cusped core bonded to a layer of non-woven filter fabric with the following minimum properties:
 - .1 Compressive Strength -718 kN/m² as per ASTM D-1621
 - .2 Flow Rate – 188 l/min/Metre as per ASTM D-4716
 - .3 Approximate profile thickness of 10 mm.
 - .4 Supplier of Drain Mat shall be as per the Coquitlam Approved Products List.
- .4 Filter Fabric: Install root barriers in accordance with manufacturer's reviewed installation instructions where indicated on reviewed drawings with vertical root directing ribs facing inwards towards trees or plants; connect panels together as required.
Supplier of Filter Fabric shall be as per the Coquitlam Approved Products List.
- .5 Drain Rock: Shall consist of clean round stone or crushed rock. Acceptable material includes 19 mm drain rock or torpedo gravel conforming to the following gradations.

Percent Passing		
Sieve Designation	Coarse	Fine (Torpedo gravel)
25 mm	100	
19 mm	0-100	
9.5 mm	0-5	100
4.75 mm	0	50-100
2.36 mm		10-35
1.18 mm		5-15
0.60 mm		0-8
0.30 mm		0-5
0.15 mm		0-2

2.9 Structural Soil

- .1 Soil stabilizer shall be friable, containing a minimum of 4% and maximum of 6% organic matter by dry weight, free from stones and debris over 30 mm. Acidity (ph) shall be in the range 5.5-7.5. Carbon to nitrogen ratio shall not exceed 40:1, and salinity shall not exceed 3.0 milliohms at 25 deg C. Gravel greater than 2 mm shall not exceed 10% of total weight.
- .2 Supplier of Structural Soil shall be as per the Coquitlam Approved Products List.
- .3 Growing Medium to be a gap-graded mixture.
- .4

Texture of Growing Media	Percentage of mixture
Gravel: greater than 2 mm-less than 75 mm	0%
Sand: greater than 0.0 5mm-less than 2 mm	max 60%
Silt: greater than 0.002-less than 0.0 5mm	max 35%
Clay: less than 0.002mm	max 15%
Clay and silt combined	max 40%
Acidity (pH)	6.0-7.0
Drainage: minimum saturated hydraulic	3.0
Conductivity (cm/hr) in place	
Salinity: saturated extract conductivity shall not exceed	3.0 milliohms/cm at 25 degC
Organic content: percent of dry weight	8-12%
- .5 Stone ballast: Clean inert stone of high angularity is preferred over washed gravel. Stone dimension aspect ratio should be 1:1:1 with a maximum 2:1:1 length:width:depth. Single size stone, 60 mm-75 mm clear sieve designation: Blasted Quarry Rock. Aggregate to be used for structural soil shall be free of any foreign elements or material.
- .6 Structural Geotextile
 - Shall be installed as a structural filter layer directly above the compacted structural soil mixture. Do not install fabric until adequate compaction of the structural soil mixture has been confirmed. Filter fabric shall be selected and deigned to withstand wear and tear during construction without deterioration of its strength and filtering properties.
 - .1 Supplier of Geotextile shall be as per the Coquitlam Approved Products List.
- .7 Ground dolomite limestone containing no less than 85% of its total weight as calcium carbonate and magnesium carbonate shall be used to control ph level. The degree of grind for the limestone shall allow 100% of the total weight to pass a #10 (2 mm) sieve, 90% to pass a #18 (1 mm) sieve and 20% to pass a #40 (0.105 mm) sieve. Spread-easy fertilizer shall be used as a slow release fertilizer source of calcium and magnesium.

			<p>.8 Mixing of structural soil: Blend as per following ratios:</p> <p>.1 5 metric tones (MT) of aggregate</p> <p>.2 1 cubic meter of growing media</p> <p>.3 2 kg soil stabilizer</p> <p>.9 Moisten mixture with fine spray of clean potable water while mixing to activate soil stabilizer product. Do not over mix. Place mixture in 300 mm lifts through entire area of structural soil mixture. Compact each lift to 95% MPD prior to placement of next lift. Install filter fabric such to ensure a minimum of 60 cm overlap of all fabric seams and beyond edge of structural soil.</p>
2.10	Growing Medium	Add 2.10.18	Growing medium to be planter blend equivalent to "Level 2P" planter mix and compliant with Canadian Landscape Standards. Refer to "Level 2P Groomed" properties as per Table 6.3.5.3 "Properties of growing media for Level 2 Groomed and Level 3 Moderate Areas" of the Canadian Landscape Standard, page 83 complete).
		Add 2.10.19	All preparation and installations of growing medium to comply with Canadian Landscape Standards (typical).
3.0	EXECUTION		
3.2	Preparation of Subgrade	Delete 3.2.4 and replace with the following	Remove debris, roots, branches, stones in excess of 50 mm diameter and other deleterious materials, soil contaminated with calcium chloride, toxic materials and petroleum products, and debris which protrudes more than 25 mm above the surface. Dispose of all removed material off site to approved offsite disposal area at no additional cost to the Owner.
		Delete 3.2.5 and replace with the following	Course cultivate entire area which is to receive Growing Medium to depth of 250mm. Cross cultivate those areas where equipment used for hauling and spreading has compacted soil.
		Add 3.2.6	Grade transitions shall be smooth and even and shall blend into surrounding areas as determined by the Contract Administrator and the City.
		Add 3.2.7	Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
3.3	Processing Growing Medium	Add 3.3.4	<p>Growing Medium shall be imported and stockpiled on site in a location approved by the Contract Administrator and the City.</p> <p>.1 Carry out stock piling operation such that the Growing Medium structure is not compromised through compaction, vibration or other actions.</p> <p>.2 Stock piled Growing Medium shall be protected from rain, drying and contaminants.</p> <p>.3 Growing Medium shall be free of subsoil, pests, roots, wood, construction debris, undesirable grasses including crabgrass or couch grass, noxious or weeds and weed seeds or parts thereof foreign objects and toxic materials. Presence of these contaminants shall be grounds for rejection of Growing Medium and replacement at no cost to the Owner.</p>
3.4	Placing Growing Medium	Delete 3.4.2 and replace with the following	Place Growing Medium to the required finished grades with adequate moisture, in uniform lifts of 100 mm to 150 mm compacted

			to 80 MPD during dry weather, over dry, unfrozen Sub Grade where planting is indicated free of any standing water.															
		Delete 3.4.5 and replace with the following	Minimum depths after settlement and 80% compaction: <table><tr><td>.1</td><td>Trees pits:</td><td>900 mm</td></tr><tr><td>.2</td><td>Shrub beds:</td><td>450 mm</td></tr><tr><td>.3</td><td>Ground cover areas:</td><td>300 mm</td></tr><tr><td>.4</td><td>Lawn areas:</td><td>300 mm</td></tr><tr><td>.5</td><td>Blvd. areas:</td><td>150 mm</td></tr></table>	.1	Trees pits:	900 mm	.2	Shrub beds:	450 mm	.3	Ground cover areas:	300 mm	.4	Lawn areas:	300 mm	.5	Blvd. areas:	150 mm
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.3	Ground cover areas:	300 mm																
.4	Lawn areas:	300 mm																
.5	Blvd. areas:	150 mm																
		Add 3.4.6	Increase sand content to 90% in the planting soil below lawns where heavy wear by pedestrians or maintenance equipment is anticipated. Increase sand content in a 1.5m wide strip at the bottom of swales, banks or other wet areas and as directed by the Landscape Architect. On steep south or west facing banks, reduce sand content in lawns and planting beds to 50 - 60% for better moisture retention.															
3.5	Applying Fertilizers	Delete 3.5 and replace with the following	<table><tr><td>.1</td><td>Addition of amendment components shall be at the rates indicated in the Growing Medium analysis recommendations via the following methods:</td></tr><tr><td>.1</td><td>Lime: Applied with mechanical spreaders over entire planting areas and contained planters. <table><tr><td>.1</td><td>Do not apply by hand.</td></tr><tr><td>.2</td><td>Mix thoroughly into the top 100 mm of Growing Medium.</td></tr><tr><td>.3</td><td>Do not allow lime to come into direct contact with nitrogen - phosphate - potash fertilizers.</td></tr></table></td></tr><tr><td>.2</td><td>Fertilizer: Applied with mechanical spreaders over entire planting areas and contained planters. Do not apply by hand. Do not mix into Growing Medium.</td></tr></table>	.1	Addition of amendment components shall be at the rates indicated in the Growing Medium analysis recommendations via the following methods:	.1	Lime: Applied with mechanical spreaders over entire planting areas and contained planters. <table><tr><td>.1</td><td>Do not apply by hand.</td></tr><tr><td>.2</td><td>Mix thoroughly into the top 100 mm of Growing Medium.</td></tr><tr><td>.3</td><td>Do not allow lime to come into direct contact with nitrogen - phosphate - potash fertilizers.</td></tr></table>	.1	Do not apply by hand.	.2	Mix thoroughly into the top 100 mm of Growing Medium.	.3	Do not allow lime to come into direct contact with nitrogen - phosphate - potash fertilizers.	.2	Fertilizer: Applied with mechanical spreaders over entire planting areas and contained planters. Do not apply by hand. Do not mix into Growing Medium.			
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3.6	Finish Grading	Delete 3.6.1 and replace with the following	Manually fine grade Growing Medium installation to contours and elevations shown on drawings or as directed by Contract Administrator and the City. Eliminate rough spots and low areas to ensure positive drainage.															
		Add 3.6.3	Finish Grade of Growing Medium shall be 25 mm from finished elevation of adjacent curb or planter wall unless otherwise noted on drawings.															
3.9	Clean-up	Delete 3.9 and add the following	<table><tr><td>.1</td><td>Ensure all paved areas, tops of planters, adjacent surfaces have been thoroughly cleaned. Ensure all discoloration of adjacent surfaces as a result of Growing Medium installation have been removed.</td></tr><tr><td>.2</td><td>Dispose of materials not required and repair any damage to adjacent surfaces (as determined by the Contract Administrator and the City) off site at no additional cost to the Owner.</td></tr></table>	.1	Ensure all paved areas, tops of planters, adjacent surfaces have been thoroughly cleaned. Ensure all discoloration of adjacent surfaces as a result of Growing Medium installation have been removed.	.2	Dispose of materials not required and repair any damage to adjacent surfaces (as determined by the Contract Administrator and the City) off site at no additional cost to the Owner.											
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3.10	Weed Control	Add 3.10	<table><tr><td>.1</td><td>Ensure all weeds and weed roots that have germinated during the course of work of this section have been eliminated from Growing Medium.</td></tr></table>	.1	Ensure all weeds and weed roots that have germinated during the course of work of this section have been eliminated from Growing Medium.													
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- | | | | | |
|-------------|------------------------|----------|----|---|
| | | | .2 | Provide the City Representative and Consultant with a written outline of weed removal methodology seven (7) days prior to starting weed removal operations. |
| 3.11 | Structural Soil | Add 3.11 | .1 | Refer to 2.9 in this specification and as shown on the Contract Drawings. |

END OF SECTION

SODDING

1.0	GENERAL	Delete 1.0.2 and replace with the following	This section is based on the “British Columbia Landscape Standards and the B.C. Nursery Trades Association. This standard is intended to set a level of quality which is equaled or bettered in the construction documents.										
1.4	Handling and Storage	Delete 1.4.3 and replace with the following	Schedule sod deliveries such that sod installation occurs within twenty-four (24) hours of being lifted from the source sod farm.										
		Delete 1.4.4 and replace with the following	Sod shall be neatly stacked or rolled at the source sod farm, delivered and unloaded on sturdy pallets which are no more than 3 pallets high.										
1.5	Drainage Control	Delete 1.5.1 and replace with the following	Provide for proper water management and drainage of site during work of this section. Water management shall include silt traps, erosion control measures, temporary water collection ditches, as well as their adequate maintenance to ensure that storm water which may become laden with soil, growing medium or hydraulic seed is detained and cleaned prior to discharge from Place of Work.										
1.6	Samples	Add 1.6.2	Submit one (1) square metre of sod to the Contract Administrator and the City for review. Ensure sample is complete with name of sod farm, base soil type, seed mix percentage.										
		Add 1.6.3	Contract Administrator and the City shall review sod sample for approval prior to installation. The sample accepted by the review will form the standard by which the project will be supplied.										
		Add 1.6.4	Should the Contractor require the source of sod supply to change during the construction a written request must be provided to the Contract Administrator and the City 48 hours in advance. The request shall be followed up by submission of proposed sod substitution sample and include the name of sod farm, base soil type, seed mix percentage for Contract Administrator and the City review prior to the delivery.										
2.0	PRODUCTS												
2.1	Sod	Delete 2.1.1 and replace with the following	Sod to be approved by the Contract Administrator and the City and to be nursery grown, true to type, conforming to standards of nursery Sod Growers’ Association and their Nursery Sod Specifications. Sod to be quality, cultured turf grass grown from seed approved by Canada Department of Agriculture, free of disease, clovers, stones, pests and debris.										
		Add 2.1.1.1	Nursery sod: .1 Shall be No. 1 Premium grade and contain only species of grass indicated on the supplier’s certificate. .2 Sod shall be ‘non-netted’										
		Add 2.1.1.2	Table Guideline of Approved Sod Mix Ratios										
			<table><tr><td colspan="2">Supreme Soil Base Sod</td></tr><tr><td>(Elka II) Perennial Ryegrass</td><td>40%</td></tr><tr><td>(Shamrock) Kentucky Bluegrass</td><td>30%</td></tr><tr><td>(Cindy) Chewing Red Fescue</td><td>30%</td></tr><tr><td>Seed Rate: 50g per square metre</td><td></td></tr></table>	Supreme Soil Base Sod		(Elka II) Perennial Ryegrass	40%	(Shamrock) Kentucky Bluegrass	30%	(Cindy) Chewing Red Fescue	30%	Seed Rate: 50g per square metre	
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(Cindy) Chewing Red Fescue	30%												
Seed Rate: 50g per square metre													

SODDING

		Add 2.1.8	All sod shall be completely free of invasive and/or noxious broadleaf weeds, grasses including but not limited to poa annua, disease, fungi, detrimental nematodes and detrimental insects.
2.2	Water	Delete 2.2.1 and replace with the following	Potable, free of impurities that would inhibit seed germination. Contractor to ensure adequate water is available to maintain seeded areas during germination and in a vigorously growing, healthy state until Total Performance of work of this section.
2.3	Fertilizer	Add 2.3.2	Fertilizer shall be complete synthetic slow release fertilizer. Type and application shall be as required by the growing medium analysis report.
2.4	Wooden Pegs	Add 2.4	.1 Wooden Pegs shall be 19 mm x 19 mm x 150 mm long No. 1 grade or better Hem/fir.
2.5	Binder Twine	Add 2.5	.1 Binder Twine shall be hemp based multiple strand string.
2.6	Flagging Tape	Add 2.6	.1 Flagging Tape shall be 30 mm wide, biodegradable ribbon tape made of non woven cellulosic material, and red color, or an approved equivalent.
3.0	EXECUTION		
3.1	Finish Grade Preparation	Delete 3.1.2 and replace with the following	Prior to the placement of sod Contract Administrator and the City to review and direct minor adjustments and refinements of finish grades prior to the Contractor proceeding. Review includes grades, growing medium depth and condition of finished surface. Subsequent to the Contract Administrator and the City review the Contractor shall re-grade, add growing medium and make adjustments as directed by Contract Administrator and the City.
		Delete 3.1.5 and replace with the following	Fine grade growing medium to lines and levels shown on Contract Drawings. Ensure that all low spots, humps and irregularities are eliminated prior to review by Contract Administrator and the City.
3.2	Sodding	Delete 3.2 and replace with the following	.1 Sod shall not be placed during hot dry summer periods, at freezing temperatures, or over frozen growing medium. .2 Allow sod to dry sufficiently during wet weather to prevent tearing during lifting and handling. .3 Handle sod carefully to minimize tearing and dropping of soil. .4 Placement of Sod: .1 Lay sod in rows smooth and flush to adjoining grass areas and paving and top surfaces of curbs unless shown otherwise on Contract Drawing. Ensure there is a full roll width between the new sod and any adjoining surfaces. Small cut pieces from a full roll will not be accepted. .2 Stagger joints and ensure that sod sections are butted closely together without overlapping or leaving gaps between sections. .3 Cut out irregular or thin sections with a sharp knife. .4 Cut sod to fit tight around landscape elements. .5 Cut sod to create clean, smooth lines along all plant beds.

SODDING

- .5 Placement of Sod on Slopes:
 - .1 Lay sod with the length of each sod section parallel to slope taking extra care to ensure that sod sections are butt tight and each sod section is set in a staggered formation.
 - .2 On slopes exceeding 3:1 gradient ensure sod is secured with wooden pegs at intervals of not more than 450 mm along the center of each section. Ensure wooden pegs are driven flush with the sod.
 - .3 Prior to acceptance of sod areas that have been secured with wooden pegs either remove the wooden pegs or drive each wooden peg at least 50 mm below finished grade.
 - .4 Where required, place erosion control mesh or netting and secure with stakes or staples sunk firmly into ground to a minimum depth of 150 mm at maximum intervals of 4 meters along pitch of slope. Place stakes or staples horizontally across slope at intervals equal to width of mesh or netting minus 150 mm and drive flush with top of sod.
- .6 Use a light roller to ensure that there is full, close contact between sod and growing medium. Use of a heavy roller to correct irregularities in grade is not permitted.
- .7 Ensure all sodded areas are watered immediately after installation. Verify that water applied to has penetrated through sod into top 100 mm of growing medium. Continue watering operations as needed to ensure that adequate moisture content is maintained to encourage deep root growth and healthy, vigorous leaf growth.
- .8 Protect newly placed sod from heavy foot traffic during installation and until acceptance by the Contract Administrator and the City. Protection shall include but is not limited to placement of wood planks or plywood of sufficient thickness to bear the imposed weight and prevent damage to sod or displacement and/or compaction of sod/growing medium.
- .9 Sod that has been damaged by construction operation, construction / site personnel or construction traffic shall be replaced at no cost to the Owner. Replacement shall include removal of growing medium, regarding of sub grade, replacing growing medium and sod as required.
- .10 Water sod area immediately with sufficient amounts to saturate sod and upper 100 mm of growing medium. Do not allow the sod to dry out so that the joints become visible.

3.4 Grass Maintenance

Delete 3.4 and replace with the following

- .1 Maintenance of sodded areas shall begin immediately after sodded operation and shall continue until all deficiencies noted in the Substantial Performance review have been rectified to the satisfaction of the Contract Administrator and the City and conditions for Total Performance have been achieved. The Contractor is to notify the Contract Administrator and the City in writing forty eight hours (48) prior to stopping maintenance operations.

SODDING

- .2 Sod Cutting: After the 'first' cut of sodded lawn areas cutting operations shall be carried out on a weekly (seven day) basis until Total Performance by Contract Administrator and the City:
 - .1 First cut of sodded lawn areas shall occur when a uniform grass height of 75 mm has been attained. First cut shall be to a height of 65 mm.
 - .2 Continue regular weekly cutting at a height of 65 mm until Total Performance.
 - .3 Cutting operations shall be such that each cut is at right angles to the previous cut.
 - .4 Contractor to remove grass clippings after each cut and dispose of off site.
 - .5 Roll when required to remove any minor depressions or irregularities.
 - .6 Immediately repair seeded areas that show deterioration or bare spots. Top-dress all areas showing shrinkage due to lack of watering and seed with seed mix that matches the original seed mix.
- .3 Fertilizer analysis shall conform to recommendations provided with growing medium analysis. Application of fertilizer shall follow manufacturers' recommendations noting that after October 1 lawn areas shall not be fertilized until April 15th of the following spring.
- .4 Sodded lawn areas shall be kept free of invasive and/or noxious broadleaf weeds, grasses including but not limited to poa annua, disease, fungi, detrimental nematodes and detrimental insects.
- .5 All maintenance equipment and practices are to conform to the BC Landscape Standard Level 2 'Groomed'.
- .6 Protect all sodded areas against trespassing and from damage at all times clearly marked, staked, string and flagging tape.
 - .1 Perimeter Protection: Where directed by the Contract Administrator and the City, sodded areas shall be surrounded by a 900 mm high barrier made up of the following components:
 - .1 Wood posts placed at 1.8 metres on centre.
 - .2 Wood Posts to be driven to a depth of 300mm.
 - .3 String two (2) strands of hemp based binder twine (or equal product) between posts. Insure one full wrap of twine around each post.
 - .4 Tie 300 mm strands of 'red' flagging tape at 450 mm intervals along the entire length of both strands of twine.
 - .5 Maintain perimeter protection until Total Performance issued. Upon acceptance by Contract Administrator and the City, remove perimeter fence and dispose of off site.

SODDING

3.5 Condition for Total Performance

Delete 3.5.1 and replace with the following

Conditions for Total Performance of Sodded areas:

- .1 Sodded areas exhibit fully established root systems.
- .2 No seams are visible between sod sections.
- .3 Sod areas are smooth and evenly graded. No depressions, foot marks or vehicle tracks.
- .4 Sod is free of bare and dead spots and does not have any broadleaf weeds, noxious grasses including but not limited to poa annua.
- .5 No surface growing medium is visible when grass has been cut to height of 65 mm.
- .6 Sodded areas have been cut a minimum of two (2) times, at seven (7) day intervals.
- .7 Sodded areas are a uniform green colour with no discoloured sections or patches.
- .8 Sodded areas exhibit a thick, dense, uniform and healthy appearance.

Add 3.5.2

Lawns sodded after September 30th will be not be reviewed for Total Performance until April 30th the next year.

3.6 Guarantee / Maintenance

Delete 3.6.1 and replace with the following

The Contractor hereby guarantees that the sod will remain free of weeds and defects for a period of one (1) year from the date of Substantial Performance. The Contractor shall make all corrections, adjustments and replacements required as a result of failure of all products in this section. During the Maintenance Period, the Contractor will replace sodded areas, determined by Contract Administrator and the City, to be dead or failing at the end of the Maintenance Period. Replacements to be made at next appropriate season and, conditions of guarantee will apply to all replacement seeding for one full growing season.

Delete 3.6.2 and replace with the following

The Owner reserves the right to extend the Contractor's Maintenance Period and responsibilities for one (1) additional year if, at end of the initial guarantee period, the development and growth of the sod is not sufficient to ensure future survival.

END OF SECTION

1.0 GENERAL

- | | | | |
|-----|----------------------------------|---|---|
| 1.3 | Shop Drawings | Delete 1.3.4 and replace with the following | Shop drawings for pole structures, where required, to be sealed by a Professional Engineer registered in British Columbia. |
| 1.4 | Electrical Energy Supply | Add 1.4.4 | The Electrical <i>Contractor</i> will process a letter of application to the City of Coquitlam for the Utility Company and attain all required permits. |
| 1.5 | Contractor Qualifications | Add 1.5.3 | All on-site traffic signal installations shall be under the responsibility of a primary journeyman electrician with IMSA Level 2 Signal Certification and have successfully completed at least five (5) traffic signal system installations. This primary journeyman electrician is expected to have to be at the <i>Place of Work</i> and report work progress to City of Coquitlam's Traffic Operations staff, in addition to reporting to the <i>Contract Administrator</i> . |
| | | Add 1.5.4 | <p><u>Fibre Optic Cable:</u></p> <p>.1 All fibre optic cable installations workmanship, material and/or installation practices and activity will be equal to or better than the standards established by the CAN/CSA T529-530-M90 Standards and the Canadian Electrical Code.</p> <p>.2 Those retained to complete the work must be authorized, trained and certified by the manufacturers they represent. They must have a minimum of two (2) years experience installing and testing multimode and single mode cables of all types as well as experience with LC and SC connectors.</p> <p>.3 Those retained to complete the work must have experience installing cabling for FDDI (Distribution System Data Interface) compliant 100 Mbit/sec, SONET, ATM, Token Ring or Ethernet networks using industry accepted systems and practices. Experience with leading manufactures fiber products and systems would be beneficial.</p> <p>.4 Those retained to complete the work must be prepared, trained and equipped to properly test the fibre cabling system, including the fibre transmission media and connectors. Each optical fibre of each section of cable will be tested using an "Optical Time Domain Reflectometer" (OTDR) and will meet the specifications before installation. After installation an "Optical Light-loss Testing Sets" (OLTS) will be mandatory to determine cable length, locate any fibre breaks or anomalies, measure attenuation of fibre's, connectors and assess fibre uniformity. Those retained to complete the work will provide a report showing all values measured during these tests.</p> |
| 1.6 | Permits and Tests | Add 1.6.5 | <i>Contractor</i> shall provide the BC Safety Electrical Permit, and arrange all inspections with the City. The inspection entails, but not limited to, Coquitlam's "Intersection and Cabinet Start-up Checklist", which can be obtained from Coquitlam's Traffic Operations staff. |
| 1.8 | Record Drawings | Add 1.8.2 | Final payment(s) will be withheld until record drawings are received. |

1.9	Measurement and Payment	Delete 1.9.2 and replace with the following	<p>The traffic signal Lump Sum Price includes all labour, equipment, and materials to complete the works as shown on the Contract Drawings and as specified in the Contract Documents. This shall consist of all permit & fees for electrical inspections, testing, other costs associated with electrical works undertaken by others, temporary & permanent asphalt restoration, concrete walk and wheelchair letdown restoration including granular base, tactile strip installation, grass boulevard restoration, pavement marking installation & eradication, and signage placement as described in the Contract Drawings and as described in these supplementary contract specifications.</p> <p>The <i>installation</i> also includes pickup, delivery and installation of all materials supplied by the City, from the City' works yard, at 500 Mariner Way.</p>
2.0	PRODUCTS		
2.1	General	Delete 2.1.2 and replace with the following	All products supplied to be new, in accordance with <i>Contract Documents</i> . All products are to meet Canadian Electrical Code requirements and be certified by either CSA, UL®, or Intertek Testing Systems (Warnock Hersey) and be supplied with the certifier's label.
		Delete 2.1.3 and replace with the following	All products shall be in accordance with the City of Coquitlam's List of Approved Materials and Products List. Any products not listed with in the Approved List shall default to the current BCMOTI specification.
		Delete 2.1.5 and replace with the following	Equipment models listed within the City of Coquitlam's List of Approved Materials and Products shall be confirmed with the City immediately prior to their order to ensure that they are current. Cut-sheets, equipment make, model and serial number list to be provided to the City by the <i>Contractor</i> for each traffic signal location. Material supplied by City of Coquitlam and installed by <i>Contractor</i> , shall be shown in the <i>Contract Documents</i> .
2.2	Conduit	Add 2.2.1.3	All exposed metallic surfaces to be hot dip galvanized.
2.3	Trench marker Tape	Add 2.3.2	Detectable (manetic) market tape shall be used in all trenches containing interconnection (communications) conduit.
2.5	Concrete Junction Boxes	Delete 2.5 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products. For Concrete Vaults: Refer to Coquitlam Standard Detail Drawing SS-E2.5.
2.8	Conductor Tags	Delete 2.8 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.10	Fuse and Fuse Holders	Delete 2.10 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.11	Service Panels	Add 2.11.5	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.16	Traffic and Pedestrian Signals	Delete 2.16.1 and replace with the following	Traffic signal heads to be yellow polycarbonate with 300 mm round signal indications, and conform to Section 601 Signal and Pedestrian Heads BCMOTI E&SMS V1. All primary and secondary signal heads shall have yellow aluminum backboards with 75 mm border of yellow prismatic retro-reflective sheeting (3M™ Scotchlite™ Diamond Grade™ VIP Reflective Sheeting Series 3990 or approved alternate).

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		Delete 2.16.2 and replace with the following	Fire signal head assembly as per Coquitlam Standard Detail Drawing SS-E5.19.
		Add 2.16.3	Signal head backboards with plumbizer gaps or knock out sections will not be accepted for adjustable bracket signal head mounting method.
2.17	LED Signal Modules	Delete 2.17 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.19	Signal Mounting Hardware	Add 2.19.8	Primary signal head safety cable to be 3/32" galvanized steel aircraft cable.
		Add 2.19.9	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.20	Audible Signals	Delete 2.20 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.21	Pedestrian /Cyclist Pushbuttons	Delete 2.21 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.22	Luminaires	Add 2.22.6	Refer to the City of Coquitlam's List of Approved Materials and Products.
2.29	Illuminated Crosswalk Signs	Delete 2.29 and replace with the following	Refer to the City of Coquitlam's List of Approved Materials and Products. Illuminated sign safety cable to be 3/32" galvanized steel aircraft cable.
3.0	EXECUTION		
3.1	General	Add 3.1.5	During the installation of the traffic signal system, maintain the existing traffic signal and/or signs as noted on the <i>Contract Drawing</i> . If temporary or permanent relocations of related traffic signal equipment or signs are required, such equipment shall be reinstated as required under the <i>Contract Documents</i> or as directed by the <i>Contract Administrator</i> .
3.3	Concrete Bases	Add 3.3.7	Concrete service bases detailed on Standard Detail Drawings CE1.3 and CE1.4, Type C1 and C3 service bases shall have five (5) conduits. See Coquitlam Standard Detail Drawing SS-E7.3.
		Add 3.3.8	Lifting cables on concrete controller bases shall be removed after base installation.
		Add 3.3.9	All concrete bases shall be pre-cast concrete only, unless noted on <i>Contract Drawing</i> or directed by the <i>Contract Administrator</i> .

TRAFFIC SIGNALS

3.4	Junction Boxes and Vaults	Delete 3.4.1 and replace with the following	Install junction boxes as shown on Standard Detail Drawings E2.2 to E2.4. Install vaults as shown on Coquitlam Standard Detail Drawing SS-E2.5.
		Add 3.4.5	Bell end fittings shall be installed in all conduits entering junction boxes or vaults.
		Add 3.4.6	Junction boxes requiring 3 or more sections must be approved by the City of Coquitlam's Traffic Operations staff.
		Add 3.4.7	All junction boxes shall be provided with RPVC bars to support electrical connections and fuse holders. The RPVC bars shall be attached into the junction box side walls with the electrical connections/fuse holders tie-wrapped in place and installed in the up-right position.
3.5	Underground Conduit	Delete 3.5.2 and replace with the following	Minimum cover over conduits to be 600 mm in boulevard areas and 900 mm in roadway areas, unless otherwise specified in the contract documents.
		Delete 3.5.3 and replace with the following	Place trench marker tape 300 mm above installed conduit in trench. Trench marker tape not required for conduits installed via trenchless technology.
		Delete 3.5.5 and replace with the following	Empty conduits shall have a No. 8 HB Yellow/Green Mk pull string and capped at both ends.
		Add 3.5.6	Conduit run shall contain no more than the equivalent of 4 – 90 degree bends.
		Add 3.5.7	Conduits shall be blown out with compressed air, from both ends if necessary, then swabbed out to remove stones, dirt, water and other material which may have entered during installation.
		Add 3.5.8	All conduits entering poles and cabinets shall be sealed with "Duct Seal".
		Add 3.5.9	Conduit depth of bury to be recorded when a trenchless technology method is used.
		Add 3.5.10	Traffic signal communications conduit shall enter and leave junction boxes through bell end fittings in the horizontal position (no bends) and shall run straight through the junction box unless a change in alignment occurs, or as otherwise specified on the <i>Contract Drawing</i> .

TRAFFIC SIGNALS

		Add 3.5.11	Conduit shall not be bent in the field. Only factory bends will be accepted.
3.7	Traffic Signal and Pedestrian Head Mounting	Delete 3.7.1 and replace with the following	Install traffic signal and pedestrian signal heads as shown and Standard Detail Drawings E5.2 and E5.9 only. Banding straps shall be used for primary signal heads.
		Add 3.7.5	Primary traffic signal heads shall be safety cabled to the traffic signal pole arm using 3/32" galvanized steel aircraft cable looped through the traffic signal backboard and fastened with a rope clip.
3.8	Audible Signals	Delete 3.8.1 and replace with the following	Install audible signal in accordance with Coquitlam Standard Detail Drawing SS-E5.12.
3.10	Luminaires and Photocells	Add 3.10.4	NEMA wattage label shall be visible at the bottom of the luminaire on all fixtures.
3.13	Electrical Service Panels	Delete 3.13.1 and replace with the following	Mount electrical service panels in service base or on poles as shown on Standard Detail Drawings E7.2, E7.6 to E7.9, as well as Coquitlam Standard Detail Drawings SS-E7.3 to SS-E7.5.
3.14	Wiring	Delete 3.14.3 and replace with the following	With the exception of conductor spliced of detector loop wires to shield cables, make conductor splice in pole handholes. Make splices of detector loop wires to shielded cable in junction boxes.
		Delete 3.14.13 and replace with the following	Bond all signal heads and luminaires with No. 12 RW90 green conductor, and steel junction box lids with No. 8 RW90 green conductor.
		Add 3.14.14	Detector loop cable splices shall be soldered with rosin core solder (no acid core or acid flux) then cap with waterproof gel filled wire nut and tape with vinyl di-electric tape. Suspend and ty-wrap splices at top of junction box with open end of wire nut pointing down. Loop shield drain conductor shall cut and be isolated from the system ground. See Coquitlam Standard Detail Drawing SS-E8.4.
3.16	Traffic Controller	Add 3.16.8	Silicone sealant shall be applied to both sides of the rubber gasket, which is placed between the traffic signal cabinet and the concrete base to ensure a weather tight seal.
		Add 3.16.9	Traffic cabinet interior shall be kept dry during inclement weather.
3.19	Advance Warning Signs	Add 3.19.2	Contrary to Standard Detail Drawing E10.3, Item A shall be a 300 mm signal head section with LED display.

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		Add 3.19.3	Advance warning signs shall have yellow prismatic retro-reflective sheeting (3M™ Scotchlite™ Diamond Grade™ VIP Reflective Sheeting Series 3990 or approved alternate).
3.20	Grounding & Bonding	Add 3.20.5	Ground plates and grounding conductors are to have a minimum of 5 meters clearance between them and other utility grounding.
		Add 3.20.6	Grounding rod or plate electrodes shall not be installed inside the traffic signal cabinet base.
		Add 3.20.7	Remove all paint around bonding studs on inside of pole to expose the galvanized or metal surface prior to bonding equipment.
3.22	Pole Finish Application	Delete 3.22 and replace with the following	<p>.1 Prior to producing a powder finish product the supplier must provide a Certificate of Compliance indicating that they have met or exceeded the following specifications. The supplier will name their independent testing agency and this information will be submitted to the City for their files.</p> <p>.2 The application process will be as follows:</p> <p>.1 The pole or product will be hot dip galvanized.</p> <p>.2 Powder will only be applied after the product is completely fabricated. No welding or bending will take place after the powder is applied.</p> <p>.3 The pole or product will be thoroughly cleaned by brush blasting in accordance with SSPC-SP7. The brush blast will maintain a minimum profile of 0.5 mils. If brush blasting is done off site then the product will be covered and shielded from any dirt or moisture during its return to the powder applicators facility. Where poles or products are not kept clean and dry or have any signs of flash rust they will be returned for further brush blasting.</p> <p>.4 Once at the applicators facility the pole or product will be thoroughly cleaned and dried with an air gun. All hand marks or grease spots will be cleaned with a mild solvent.</p> <p>.5 After brush blasting the entire pole or product will be pre-baked in an oven at 220 degrees C for at least 30 minutes to 1 hour, depending on steel thickness. The pre-baking must be done to prevent out-gassing during the curing cycle.</p> <p>.6 The base powder coat will then be applied electrostatically while the pole or product is cooling from the 220 degrees C pre-bake period to allow the powder to melt and fuse to the surface. The base coat will be a minimum of 3 mils in thickness.</p> <p>.7 After base coat is applied and set the topcoat will be applied to a thickness of 3 to 5 mils. The pole or product will be returned to the oven and heated to 190 to 220 degrees C (temperature will not exceed pre-bake) for a minimum of 25 minutes, depending on steel thickness. Thicker product material may require longer bake cycles to fully cure. Upon removal of the pole or product from the</p>

oven it will be left to rest until the pole or product is cool enough to the touch.

- .8 Once the topcoat has cured and the poles or product cooled, they will then be individually wrapped (min 4" overlapping method) with 1/8" foam wrap over the entire pole or product. The poles or product will be bundled together and separated with suitable wood dunnage to avoid contact between the poles, product or other bundles. All bundles themselves will be fully wrapped with foam and with stretch-wrap as noted above. The poles or products will be handled and shipped with great care to prevent damage; damaged product will be cause for rejection of the item(s).
- .3 Testing process will be as follows:
 - .1 Each run of product in an oven will have at least one sample tested for:
 - .2 Adhesion – The finished powder surface will have minimum pull-off strength exceeding 1000 PSI as tested in accordance with ASTM D4541.
 - .3 Quality – The finished powder surface will be free from any holidays (skips or misses) as tested in accordance with ASTM D4541. The product will also be free from wrinkles, orange peel, cracking, pinholes, fish eyes, blisters, etc by visual inspection.
 - .4 Color – The color will be verified to be within 3 DE of specialized color.
 - .5 An independent firm such as CanSpec Testing who are qualified to test powder finish will do the testing at the supplier's expense. The result of tests must accompany the Certificate of Compliance and will be made available to the City or their representative upon request. A supplier who fails to test product as noted above will have their product rejected until the testing is completed and the product deemed acceptable by the testing agency.
 - .6 Where the tested product fails on a given production run then a minimum of 30 % of the entire production run will be tested. If no other failures are found then the individual failed product will be stripped, reapplied and re-tested until it passes. If any of the 30% of product tested fails then the entire order will be stripped, reapplied and retested until it passes.
- .4 Field repairs will be undertaken as required to fix any scratches or imperfections in the final finish. Field repairs will be done as follows:
 - .1 Feather the damaged area with sandpaper.
 - .2 Clean area with solvent.
 - .3 Let dry.
 - .4 Neatly brush on an application of Aliphatic Urethane Acrylic Semi-Gloss High Build applied at 2-4 mils DFT over the entire sanded and damaged area. The ambient conditions will be dry and over 10 degrees C when the paint is applied.
 - .5 The pole supplier will warranty the integrity of the surface for a minimum of 1 year from the date of installation. The warranty will include all labour and materials required to provide replacement product if required. The powder finish

TRAFFIC SIGNALS

will be the responsibility of the pole supplier. The warranty will apply to fading, blistering, cracking or chipping of the surface.

3.26	Uninterruptable Power Supply	Add 3.26.2	Uninterruptable power supply/cabinet to be installed on the side of the traffic controller cabinet as detailed on the <i>Contract Drawing</i> and Coquitlam Standard Detail Drawing SS-E7.24.
3.28	Illuminated Street Name Signs	Add 3.28.1	Install illuminated street name signs as detailed on the <i>Contract Drawing</i> and Coquitlam Standard Detail Drawing SS-E5.18
		Add 3.28.2	Illuminated street name signs shall be safety cabled to the traffic signal pole arm using 3/32" galvanized steel aircraft cable.
3.29	Emergency Vehicle Pre-emption	Add 3.29.1	Emergency vehicle pre-emption system to be installed as detailed on the <i>Contract Drawing</i> and Coquitlam Standard Detail Drawing SS-E5.16.
		Add 3.29.2	Cable shall be continuous with a minimum of 2m of cable slack to be provided at each end, with no splices. Cabinet termination to be completed by City.
3.32	Owner Supplied Materials	Add 3.32.1	Those retained to complete the work must notify the City in writing (seven) 7 days prior to the time materials are required.
		Add 3.32.2	Unless otherwise noted, those retained to complete the work will make all necessary arrangements and pay all costs for the collection of the materials and for delivery to the <i>Place of Work</i> . They will assume responsibility for materials at the time they are picked up.
		Add 3.32.3	<p>Owner supplied materials generally consist of the following:</p> <ul style="list-style-type: none"> .1 Traffic controller equipment and cabinet. .2 Uninterruptable power supply equipment and cabinet. .3 Emergency pre-emption equipment. <p>The exact list of materials supplied by the Owner to be confirmed with the City of Coquitlam Traffic Operations staff and <i>Contract Administrator</i>. In the case of private development projects requiring City supplied materials, the cost for supply and installation of these materials will be borne by the Developer.</p>
3.33	Fibre Optic Cable	Add 3.33	<ul style="list-style-type: none"> .1 Fibre optic cables will be terminated to a twelve (12) port LC coupler panel. .2 When installing Fibre Optic Communications Conduit, Fibre optic warning tape (150 mm wide orange plastic tape labelled "WARNING FIBRE OPTIC COMMUNICATIONS CABLE") and Detectable (Magnetic) marker tape is to be placed over all conduits containing fibre optic cable. .3 During installation of new boxes or with all existing boxes ensure that they have been cleared of any soil, sand or gravel and other materials that have accumulated in the base of the junction box.

These Supplementary Contract Specifications must be read in conjunction with the Specifications contained in the Master Municipal Construction Documents, Volume II, Printed 2009 and the City of Coquitlam Supplementary Specifications and Detailed Drawings

Ensure that all empty conduits have a proper RPVC coupling and cap inserted (friction fit - DO NOT GLUE) into each duct. Once the conduit is populated, replace cap with bell coupling and glue in place.

- .4 All communication conduits will be flushed with water and dried with compressed air. This process will be followed by pulling through a suitable size Blowing Mouse, a clean soft cloth and new No. 8 HB Yellow/Green Mk pull string
- .5 Perform a visual inspection of the proposed cable route and be aware of any potential problem areas. Locations in which cables will be terminated must be inspected and plans made for hardware and cable slack storage. Space and access for termination of the cable should be considered prior to starting the job. Develop a cable placement plan based upon the cable route survey and your available equipment and personnel resources. Submit a plan to the City for acceptance prior to starting work.
- .6 Be aware that any damage due to excessive pulling, bending, or crushing, may alter the cable's transmission characteristics to the extent that the cable section will have to be replaced at the Project's expense.
- .7 Fibre optic cables will be installed in continuous runs in conduit between the traffic signal controller cabinets (no splices are allowed).
- .8 DO NOT EXCEED THE MINIMUM BEND RADIUS OF THE FIBRE. During installation do not exceed the minimum bend radius as specified by the manufacture.
- .9 DO NOT IMPROPERLY PULL OR EXCEED THE CABLE'S RATED PULLING TENSION as specified by the cable manufacturer. Excess pulling may not actually break the fibre, but it can cause the fibre attenuation to increase so that the installed system may not operate within the specified requirements.
- .10 DO NOT EXCEED THE VERTICAL RISE SPECIFICATION as specified by the cable manufacturer unless intermediate tension relief is used. Secure the cable to new or existing supports wherever possible.
- .11 Take precautions to protect reeled and unreeled cable from any source of damage, whether attended or unattended. Be particularly careful with pre-connected sections of cable produced to meet specific length requirements as any damage to the cable may require replacement of the entire section.
- .12 If the cable must be unreeled during installation, the "figure-eight" configuration should be used to prevent kinking or twisting. Do not coil the cable in a continuous direction except for lengths of 30 meters or less. The preferred size of the "figure-eight" is about 4.5 meters in length, with each loop about 1.5 meters to 2.4 meters in diameter.
- .13 If a cable puller is used, ensure that the recommended pulling tension of the cable is not exceeded. Do not pull through junction boxes, especially 90-degree conduit fittings, unless precautions are taken to maintain the minimum bend radius.

- .14 When installing cable in conduits, ensure the conduit does not exceed the minimum bend radius. Avoid pull boxes unless the maximum bend radius can be maintained. In controller cabinets, fibre optic cables will be tied together with ty-wraps. Each cable will be labelled within 10 cm of the terminated ends with a tag and text stating the street intersection of the opposite cable end. Cables will be tagged in the controller cabinet and all other access points with "CAUTION, FIBRE OPTIC CABLE" tags. Leave enough cable slack at termination points to allow the cable to be routed through the termination hardware to a polishing/splicing table, plus a minimum of 3 meters additional slack. Cable slack will be coiled and secured with Velcro ties for breakaway protection. Cable to termination panel will be secured to cabinet with ty-wraps
- .15 If cable lubricants are necessary, ensure that they are compatible with the cable's outer sheath. Refer to the lubricant specification sheet to ensure compatibility. In all cases avoid the use of detergent-based lubricants, as these types of lubricants promote stress cracks.
- .16 Excess cable inside pull boxes will be coiled and mechanically secured in place with Velcro straps such that the minimum bend radius is not exceeded and the cable is suspended above the pull box. The Velcro straps are to provide 'breakaway' protection in the event of an accidental dig-up between pull boxes.
- .17 Adhesive warning labels 3M – 5016 – FO type or accepted alternate will be affixed to each fibre optic cable in each access point. Access points include pull boxes and traffic signal controller cabinets. Decal strip holders, 3M – 5012 or accepted alternate, will be used and will be secured in place using cable ties. Warning labels will be oriented so they are visible and are not blocked by other cables or equipment.
- .18 After installation, each segment of each fibre will be tested using an Optical Time Domain Reflectometer (OTDR) and power meter equipment. Testing will be done in each direction on each fibre and at both 1310nm and 1550nm wavelengths. Launch cable will be used as per the OTDR manufacturer's specifications. Those retained to complete the work will provide a report detailing the results of each test including OTDR test results in graphical format, cable length, any fibre breaks or anomalies, attenuation of fibre's, connectors and fibre uniformity.
- .19 Final testing and inspection of the cable installation will be conducted with the City on-site.

END OF SECTION

Appendix A - Traffic Management Detail Specifications

1.0 GENERAL

- .1 This Traffic Management detail specification refers to the Contractor's specific plans to identify project traffic risks affecting the *Work*, provide Traffic Control Plans, and to implement the traffic control for the safe passage of vehicles and pedestrian through the work zone.

1.1 Related Works

- .1 Traffic Regulation MMCD Section 01 55 00S.

1.2 References

- .1 WorkSafe BC, Occupational Health and Safety (OHS) Regulation, Section 18 – Traffic Control.
- .2 B.C. Ministry of Transportation (MOT) Traffic Control Manual for Work on Roadways.

1.3 Project Requirements

- .1 Hours of Work and Traffic Restrictions for this project are identified in **Appendix 1** of this document.
- A Road and Sidewalk Closure Permit form application must be submitted to City's Traffic Operation Division 5 working days prior to start of work.

- .2 A Road and Sidewalk Closure Permit is required by Coquitlam for all work affecting traffic flow related to construction. A permit is required for each specific construction interference with traffic flow. The Road and Sidewalk Closure Permit Request form is attached as **Appendix 2** to this document. A digital copy of the Road and Sidewalk Closure Permit form can be obtained for use during the contract from the City's website at www.coquitlam.ca/closure.

1.4 Measurement and Payment

- .1 For this Contract, payment for all work performed under this sections shall be treated as incidental work, including a Traffic Management Plan (TMP), Traffic Control Persons (TMP), traffic markings & all temporary traffic signs, devices as required for traffic & pedestrian safety; and all other items described in the Section 01 55 00S.

2.0 PRODUCTS

2.1 Traffic Management Plan

- .1 The Contractor is required to assign a Traffic Manager for the Contract with the responsibility of preparing the Traffic Management Plan and the Traffic Control Plans, as well as the responsibility for continuing implementation of traffic control for the Work.

- .2 The Traffic Management Plan (TMP) will consist of the following components:
 - .1 Identification of risks to traffic during the Work
 - .2 Traffic Control Plans for individual stages of the construction
 - .3 Incident Management Plan for the response to an unplanned event and recording of incident information.
- .3 Submission of the TMP is to be made to the *Contract Administrator* within five (5) days of the *Notice of Award* of the *Contract*, and must be approved by the *Contract Administrator* prior to start of the *Work*.
- .4 Review of the TMP will be performed by the Contract Administrator. Comments for revisions to the TMP will be returned to the *Traffic Manager* for implementations.
- .5 The Contractor shall comply with all the requirements of applicable laws, rules, regulations, codes and orders of the municipal and other appropriate authorities concerned with work on streets or highways and shall post proper notices and/or signals, and provide necessary barriers, guards, lights, flagmen or watchmen as may be necessary for proper maintenance of traffic and protection of persons and property from injury or damage. All costs involved in respect to the above requirements will be deemed to be included in the Contract Price.
- .6 The Contractor shall give due notice to local police and fire departments prior to beginning construction and shall comply in all respects with their requirements.
- .7 The Contractor, during the progress of the work, shall make adequate provision to accommodate the normal traffic along streets and highways immediately adjacent to or crossing the work so as to cause the minimum of inconvenience to the general public.
- .8 The Contractor is required to maintain local traffic and driveway access during all stages of construction. This includes maintaining a 1.5m width walkway or pathway through the construction site for pedestrians.
- .
- 2.2 Incident Management and Reporting
 - .1 The Contractor shall facilitate incident response vehicles and staff and move traffic safely and expeditiously through or around an incident on site and provide assistance to emergency response personnel as required. An incident includes, but is not limited to, motor vehicle accidents, emergency road repairs, disabled vehicles, and debris on the road. The immediate response to an

emergency shall by necessity make use of available devices and equipment.

- .2 If an incident occurs on site, the Contractor will be required to submit a report to the Contract Administrator documenting details of the incident including event, location, date, time, action taken, duration and restoration of site.

2.3 Traffic Control Plans

- .1 The Contractor shall designate a qualified Traffic Control Supervisor for the works, per the requirements of WCB regulations Section 18.

The designated Traffic Control Supervisor may be the same individual that is designated as the Traffic Manager, or may be a separate individual qualified for the responsibilities of this function.

- .2 The Contractor shall prepare weekly the anticipated traffic control activities, locations, and durations for the upcoming week.
- .3 Permissible delays shall only be considered outside Peak Hours. Permissible delays are categorized as follows:
 - a) Minor Delays - Less than two (2) minutes in duration; for occasional interruption due to construction activities. These delays shall be coordinated with available breaks in the traffic flow.
 - b) Major Delays - Maximum five (5) minutes in duration; for occasional interruption of traffic for construction activities if traffic volumes permit. These delays are not permitted on Como Lake Avenue between 6am and 7pm, and shall be coordinated with available breaks in the traffic flow.
- .4 The Contractor is responsible for ensuring that the flow of traffic is unimpeded by construction-related activities.

3.0 EXECUTION

3.1 Traffic Control Plan

- .1 A copy of the approved current Traffic Plan must be held on site by both the Site Superintendent as well as the person/company responsible for the traffic control implementation.
- .2 Failure to produce a valid approved Traffic Plan on site, or having work not follow the Traffic Control Plan will result in immediate shut-down of the work. The Contractor will be required to safely restore facility conditions to allow traffic flow at their expense. The Contractor must take all steps to acquire an approved Traffic Control Plan before work can re-start on site. No claim will be

accepted by the Owner for costs associated with this work shut-down.

3.2 Road and Sidewalk
Closure Permits

- .1 The Contractor must have, on-site, a copy of an approved Road and Sidewalk Closure Permit valid for the work being done. Failure to produce a valid Road and Sidewalk Closure Permit on-site will result in shut-down of the work. Failure to comply on what is stated on the approved permit will result in shut-down of the work. The Contractor will be required to safely restore facility conditions to allow traffic flow at their expense. The Contractor must take all steps to acquire a Road and Sidewalk Closure Permit before work can re-start on site. No claim will be accepted by the Owner for costs associated with this work shut-down.

3.3 Traffic Control
Personnel
& Equipment

- .1 The Contractor shall supply all necessary traffic control devices required to perform traffic control services for the project. Signs and traffic control devices not applying to existing conditions shall be removed. Where operations are carried out in stages, only those traffic control devices that apply to the current stage are to be left in place.
- .2 There must be sufficient Traffic Control Persons (TCPs) on site to appropriately and safely direct traffic in all sections of the Work.

3.4 Signage

- .1 Supply, installation, maintenance and removal of all works-related signs shall be the responsibility of the Contractor. The location and type of each sign shall be indicated on the approved Traffic Control Plan, for each stage of the works.

Traffic control signs and devices must be positioned and used as specified in the Traffic Control Plan and signs and devices must be located so as to allow traffic to move by or through the work area in a controlled manner and, if necessary, to come to a controlled stop with due regard for the prevailing weather and road conditions.

Signs shall be checked daily for legibility, damage, suitability and location. Signs and delineators shall be cleaned as frequently as necessary to ensure full legibility and reflectance.

3.5 Detours

- .1 Any proposed detours must be approved by the Contract Administrator and conducted in accordance with the approved Traffic Plan and the Traffic Control Manual for Work on Roadways.

3.6 Abrupt Changes in
Surface Elevations

- .1 The Contractor shall minimize any abrupt changes in roadway elevation left exposed to traffic during both working and non-working hours.

A wedge of asphalt must be used as a transition to vertical differences in travelled areas and have a slope of 4:1 or less.

- 3.7 Cyclist and Pedestrian Access .1 The Contractor shall make provision for pedestrians, wheel chairs and bicycles to have safe access across the work zone at all times. If this cannot be readily accommodated, then acceptable detours and appropriate signs shall be provided.

- 3.8 Temporary Pavement Markings .1 The Contractor shall be responsible for the application and removal of all temporary pavement markings and reflective devices.

All temporary markings must be removed after installation of permanent markings.

4.0 TRAFFIC RESTRICTIONS

- 4.1 Road and Sidewalk Closure Permits 1 A City of Coquitlam Road and Sidewalk Closure Permit is required for each instance of closure and will be valid for a maximum period of one (1) week and, if still necessary, re-submittal of a Road and Sidewalk Closure Request is required.

A copy of the approved Road and Sidewalk Closure and Road Closure Permit must be held on site by both the Site Superintendent and the person/company responsible for the traffic control implementation.

- .2 **Total Road Closure Is Not Permitted.**

- .3 Detours will only be permitted as approved by the Contract Administrator and must have a complete Traffic Control Plan indicating detour route, signing, and duration. Detours will not be allowed without sufficient lead time for commercial and retail operation to react appropriately to detour information provided to them.

- .4 The construction work site is located near schools. Contractor should make arrangements to accommodate traffic during school pickup and drop off times.

5.0 CONSTRUCTION OPERATIONS

- 5.1 Truck Routes .1 The Contractor is restricted to the City's designated Truck Routes. The current Truck Route Map is available on the City's website at www.coquitlam.ca and can be found under **Residents, Transit & Transportation, Trucking Routes**.

- | | | |
|-----|-------------------------------------|---|
| 5.2 | Road Specific Considerations | .1 Ensure that Traffic Management Plan accommodates businesses and residences during construction activities. |
| 5.3 | Work stoppage due to traffic | .1 The City will not control or direct traffic control activities of the Contractor, but may require an immediate stop to any work where, in the sole opinion of the Contract Administrator, the provided traffic management plan is ineffective or creating unreasonable delays. |
| 5.4 | Construction Activity and Signage | .1 The Contractor will be responsible to place other construction information signs as required to inform the public of construction activities, and ensure safe travel through the work site. |
| 5.5 | Construction Zone Information Signs | <p>.1 The Contractor is required to provide, one week prior to start of work, three stationary signs, one in each of the approaches to the Como Lake Avenue/Montrose Street intersection, to inform traffic of existing and anticipated conditions at the intersection. The precise locations for these signs will be provided by the Contract Administrator.</p> <p>Ensure that signs and locations are addressed in the Traffic Management Plan. All signs are to be removed at the end of the construction period.</p> |

Appendix 1
CONTRACT HOURS OF WORK and TRAFFIC RESTRICTIONS

1.0	GENERAL	
1.1	Contract Number	51167
1.2	Contract Name	Como Lake Avenue at Montrose Street Traffic Signal
1.3	Contract Limits	As shown on the Contract Drawings
2.0	ROAD SECTION	
2.1	Como Lake Avenue	<p>.1 Minimum Requirements:</p> <ul style="list-style-type: none"> a. Minimum posted work zone speed limit: 50 km/h; b. Minimum temporary construction zone speed limit: 30 km/h; c. Minimum number of lanes opened in off peak hours: one in each direction; d. Minimum number of lanes opened during peak hours: two in peak direction, one in opposing direction; e. Minimum number of lanes opened during non-working hours: two in each direction.
		<p>.2 Peak Hours:</p> <ul style="list-style-type: none"> • 6:00am to 9:00am Westbound • 3:00pm to 6:00pm Eastbound
2.2	Montrose Street	<p>.1 Minimum Requirements:</p> <ul style="list-style-type: none"> a. Minimum posted work zone speed limit: 50 km/h; b. Minimum temporary construction zone speed limit: 30 km/h; c. Minimum number of lanes opened during working hours: one single lane alternating traffic; d. Minimum number of lanes opened during non-working hours: two (one in each direction)
		<p>.2 Peak Hours:</p> <ul style="list-style-type: none"> • Not applicable
3.0	HOURS OF WORK	
3.1	Allowable Hours of Work	<p>.1 Unless there are other contract restrictions for work times, work can be performed during the normal weekday working hours of 07:00 hrs to 17:00 hrs.</p>
		<p>.2 Work is allowable on Saturdays but is restricted to a 09:00 hrs. start time to 17:00 hrs.</p>
		<p>.3 No work is allowed on Sundays or statutory holidays without specific permission arranged through the Contract Administrator.</p>

4.0	OPERATIONS	
4.1	Truck Routes	.1 The Contractor is restricted to the City's designated Truck Routes. The current Truck Route Map is available on the City's website at www.coquitlam.ca and can be found under Residents/Transit & Transportation/Trucking Routes .

APPENDIX 2



City of Coquitlam
Road and Sidewalk Closure Permit Request

Traffic Operations Division
3000 Guildford Way, Coquitlam BC V3B 7N2
Phone: 604-927-6250 Fax: 604-927-6255
Email: trafficoperations@coquitlam.ca

Submit to the Traffic Operations Division a minimum of 5 business days prior to the intended closure date.

~~Permit Fee: \$75.00 (Effective February 1, 2019)~~

~~Payment Methods: After review, and if approved, payment options will be emailed to the applicant.~~

Application Date:

City Project Number (if applicable):

Contact Information

Company Name:
Applicant Name:
Name of Contractor doing work for Company/Applicant:
Phone: Fax:
24 Hour Emergency Phone: Email:

Location, date and time, and traffic control plan information

I request approval to close (check all that apply): Direction: ☐ Northbound ☐ Southbound ☐ Eastbound ☐ Westbound
☐ Curb/Outside Lane ☐ Centre/Inside Lane ☐ Right Turn Lane ☐ Left Turn Lane ☐ Cycling Lane ☐ Sidewalk
☐ Single Lane Alternating Traffic ☐ Full Closure

Road/Street Name:
Location Description:

Date & Time Information: Dates:
Starting Ending
Hours:
Starting Ending

Purpose:

Will this closure disrupt: Bus Routes or Stops? ☐ Yes ☐ No If yes, the Applicant will need to contact Coast Mountain Bus Company regarding disruptions.

Will this closure disrupt: Garbage/Recycling Routes or Pick Up? ☐ Yes ☐ No If yes, the Applicant will need to assist the contractor and/or contact the City's Environmental Services Group. www.coquitlam.ca/trashtalk

Traffic Control Plan*:

- (a) Traffic Management Manual for Work on Roadways Figure Number _____, or
(b) A Traffic Control Plan (*attach separately*) indicating signage, taper lengths, direction of traffic, work area, and north arrow

Traffic control persons (flag persons) on duty? ☐ Yes ☐ No If yes, specify how many: _____

*** Important Notice:** All operations within the road right-of-way must comply with Worksafe BC regulations and BC Ministry of Transportation standards for work on roadways.

Application Checklist

- ☐ Permit Fee
- ☐ Prime Contractor Designation Letter
- ☐ City of Coquitlam Certificate of Insurance
- ☐ Traffic Control Plan or Traffic Management Manual for Work on Roadways Figure Number _____
- ☐ Coast Mountain Bus Company (Phone: 778-593-5774 | Email: special.events@coastmountainbus.com) contacted regarding impact to bus routes and bus stops
- ☐ City of Coquitlam Environmental Services Group (Phone: 604-927-3500 | Email: wastereduction@coquitlam.ca) contacted regarding impact to garbage/recycling routes and pick up

I HEREBY AGREE to the terms stipulated herein and further agree to indemnify and save harmless the City against any and all claims, actions, or expenses whatsoever or by whomsoever brought against the City by the reason of the City granting us this Road and Sidewalk Closure Permit. I further agree to accept responsibility to ensure proper situation control and street sweeping for the duration of the road or sidewalk obstruction.

Date

 _____
Applicant Signature

Office Use Only PERMIT STATUS

- | | | |
|---|--|--|
| <input type="checkbox"/> Permit Fee | <input type="checkbox"/> Prime Contractor Letter | <input type="checkbox"/> Certificate of Insurance |
| <input type="checkbox"/> Traffic Control Plan | <input type="checkbox"/> Impact to bus service | <input type="checkbox"/> Impact garbage and recycling collection |

☐ Request is denied for the following reason(s): _____

☐ Request is approved with the following change(s): _____

☐ Request is approved as submitted

Date

Traffic Technologist or Designate

***Appendix B –
List of Approved Materials
and Products***

List of Approved Materials and Products

Alternates to the items in this list require the approval of the Mgr. Capital Projects & Inspections

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
26 56 01	Roadway Lighting				
		Cobra Head Style Luminaires	• LED Roadway Lighting (LRL)	• NXT Series	<ul style="list-style-type: none"> • LED • 3000K - Local Roads (bus routes are 4000k) • 4000k - Collector and Arterial Roads • 7 pin PEC connector • Shorting cap • Field Adjustable Driver required for Cobra Head style fixtures • Wattages per design • 2 Tenon adaptors required for post top poles using Cobra Head Luminaires – <ul style="list-style-type: none"> a) LRL Part# (FP-FTP-NXT-GY-06-LF) b) Valmont WCE Part# (WCE TEN-3.5-FIT-PC) RAL7035
			• American Electrical Lighting (AEL)	• Autobahn	
		Decorative Roadway Luminaires	• Phillips Lumec	<ul style="list-style-type: none"> • TR20 • Capella • Domus • CAND 1 / CAND 2 	
			• Architectural Area Lighting (AAL)	• Flex	
		Pathway / MUP Lighting	• Lumca	• CP0401-SLF	<ul style="list-style-type: none"> • LED • 4000K • 7 pin PEC connector • Shorting cap • Wattages per design plans
			• Cree	• ARE-EDG	
			• Lithonia	• Aeris AS1-LED series	
			• Phillips Lumec	<ul style="list-style-type: none"> • TR20 • Capella • Domus • CAND 1 / CAND 2 	
		Photocell / Shorting Caps	• DTL (Dark to Light)	<ul style="list-style-type: none"> • DE 120 for 102V • DE 124 for 120/240V • DE 347 for 347V • DE 480 for 480V 	<ul style="list-style-type: none"> • Electronic c/w relay contacts
			• Intermatic	• P/N LED45652	
		Poly/Conc Junction Boxes	<ul style="list-style-type: none"> • CIF Composites Inc • Duralite 	Sizes: <ul style="list-style-type: none"> • 17 x 30 • 24 x 36 	<ul style="list-style-type: none"> • 2 Sections max • Plastic Junction Boxes Will Not Be Accepted • Round Junction Boxes will not be Accepted

		Product	Manufacturer	Approved Model	Restrictions/Additional Specifications
		Concrete Junction Boxes	<ul style="list-style-type: none"> • AE Concrete 	<ul style="list-style-type: none"> • TYPE 66 = T266 • TYPE 37 = B937 • TYPE C = 5686 	
		Poles / Arms	<ul style="list-style-type: none"> • Valmont West Coast Engineering • Nova Pole • Lumec 		<ul style="list-style-type: none"> • Galvanized and Powder Coated. • As per Design Drawings or Local Neighborhood Design Guidelines
		Concrete Bases	<ul style="list-style-type: none"> • AE Concrete • Langley Concrete 		<ul style="list-style-type: none"> • Per MMCD / Refer to Supplementary Drawing SS-E7.3
		Service Bases	<ul style="list-style-type: none"> • Valmont West Coast Engineering • Nova Pole 		<ul style="list-style-type: none"> • PER MMCD / Refer to Supplementary Drawing SS-E7.3 • Galvanized and Powder Coated • Robust Tab For Padlock
		Service / Electrical Panels	<ul style="list-style-type: none"> • West Coast Electric • Valid 	<ul style="list-style-type: none"> • Aluminum or Stainless Steel 	<ul style="list-style-type: none"> • Refer to Supplementary Drawing SS-E7.3 and SS-E7.4 • Surge Protection Device required for primary service. I_{max} 50, 20kA, 120/240V, 50/60Hz. Must be installed within panel.
		Conductor Tags	<ul style="list-style-type: none"> • Panduit 	<ul style="list-style-type: none"> • MP250-C TAGS 	<ul style="list-style-type: none"> • On All Cables (Black Indelible Marker Pen)
		Conduit	<ul style="list-style-type: none"> • Various 	<ul style="list-style-type: none"> • CSA C22.2 No. 211.2 	<ul style="list-style-type: none"> • RPVC
		Hydro Dip Service (RPVC Straps / Lag Bolts / Conduit Guard)	<ul style="list-style-type: none"> • Various 	<ul style="list-style-type: none"> • MMCD 	
		Fuse Holders (Pole Hand Holes)	<ul style="list-style-type: none"> • Tron 	<ul style="list-style-type: none"> • Tron HEB-AA c/w 2 L-Type Insulating Boots 	
		Fuse Holders (Junction Boxes)	<ul style="list-style-type: none"> • Ideal • Buchanan 	<ul style="list-style-type: none"> • 65 KIT Water Proof 	
		Fuses	<ul style="list-style-type: none"> • Bussman 	<ul style="list-style-type: none"> • 10-A Buss KTK 	
		Receptacles	<ul style="list-style-type: none"> • Leviton 	<ul style="list-style-type: none"> • Leviton Smartlock Pro Slim (WR) GFCI 	<ul style="list-style-type: none"> • Or City Approved Corrosion Resistant Alternate
		Cable Lubricant	<ul style="list-style-type: none"> • Ideal 	<ul style="list-style-type: none"> • Poly Water Dyna-Blue • Poly Water Aqua-Gel II 	

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
		Paint Color RAL Codes			<ul style="list-style-type: none"> • Coquitlam Green-RAL 6028 • Coquitlam Black-RAL 9005 • Town Centre Brown-RAL 8014 • Mallardville Grey-RAL 7024
Irrigation System					
2.1	Irrigation Pipe – PVC			<ul style="list-style-type: none"> • CSA Series 160 >50mm • CSA Series 200 <50mm 	Comply with CSA B137.3
	Irrigation Pipe - HDPE			<ul style="list-style-type: none"> • SDR 17 >50mm • SDR 11 <=50mm 	Comply with ASTM D-1248 as a Type III, Class C, Category 5, Grade P34 material and with ASTM D-3350 as a 345434C cell material.
2.2	Backflow Prevention Device		<ul style="list-style-type: none"> • Watts 	<ul style="list-style-type: none"> • Model 007-QT 	
2.3	Water Meter		<ul style="list-style-type: none"> • Sensus • Neptune 	<ul style="list-style-type: none"> • Touch Read • Pro Read 	See City Website for Water Meter Specifications
2.4	Water Meter Box		<ul style="list-style-type: none"> • Carson Series • AE Concrete 	<ul style="list-style-type: none"> • 1419 • Model 5686 	See City Website for Water Meter Specifications
2.5	Electronic Control Valves		<ul style="list-style-type: none"> • Toro 		24 VAC Solenoid Actuated Globe Pattern
2.6	Master Valve		<ul style="list-style-type: none"> • Toro 	<ul style="list-style-type: none"> • 220 Series 	
2.7	Pressure Regulating Modules		<ul style="list-style-type: none"> • Rain Bird 	<ul style="list-style-type: none"> • PRS-Dial 	
2.8	Automatic Controllers		<ul style="list-style-type: none"> • Toro 	<ul style="list-style-type: none"> • Sentinel Satellite Controller 	
2.9	Control Wire	Wire	<ul style="list-style-type: none"> • Paige Wire 	<ul style="list-style-type: none"> • P7079D 	Common Wire to be 12-gauge Master Valve Wire to be 14-gauge
		Flow / pulse transmitter wiring	<ul style="list-style-type: none"> • Belden 	<ul style="list-style-type: none"> • PE39 	8mm Aluminum Polyester Shield Black HDPE Jacket
		Wire splice	<ul style="list-style-type: none"> • 3M 	<ul style="list-style-type: none"> • DBY connector 	

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
32 91 215	• Topsoil and Finish Grading				
2.5	<i>Growing Medium</i>		<ul style="list-style-type: none"> • Fraser Richmond Bio-Cycle • BC Eco Soil Recycling Corp • YardWorks • Denbow 		
2.7	<i>Bark Mulch</i>		Answer Garden Products	• Nutri-Mulch	
2.9	<i>Misc. Products</i>	Root Barrier	Deep Root	• LB12-2	
		Adhesive	OSI Sealants	PL 200	
		Drain Mat	Nilex Geotextile	Nudrain WD/15	
		Filter Fabric	Nilex Geotextile	Nilex 4545	
2.9	<i>Structural Soil</i>	Soil	Answer Garden Products	Humus Builder	
		Structural Geotextile	Nilex Geotextile	Nilex 4553	
32 92 195	<i>Hydraulic Seeding</i>				
2.2	<i>Seed Mix</i>	Perennial Rye		<ul style="list-style-type: none"> • Elka II • Gator 3 • Top Hat • Charismatic • All Star • Derby Supreme 	
		Fescues		<ul style="list-style-type: none"> • Cindy • Longfellow II • Cindy Lou • Quatro • Shademaster II 	
		Kentucky Bluegrass		<ul style="list-style-type: none"> • Shamrock • Boardway • Midnight • Julius • Allure 	
3.5.3	<i>Fertilizer</i>			• Evergrow 28-3-8	
32 92 20	<i>Seeding</i>				
2.1.2	<i>Seed Mix</i>	Perennial Rye		<ul style="list-style-type: none"> • Elka II • Gator 3 • Top Hat • Charismatic • All Star • Derby Supreme 	
		Fescues		<ul style="list-style-type: none"> • Cindy • Longfellow II • Cindy Lou • Quatro • Shademaster II 	

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
		Kentucky Bluegrass		<ul style="list-style-type: none"> • Shamrock • Boardway • Midnight • Julius • Allure 	
32 93 01S	<i>Planting of Trees, Shrubs and Ground Covers</i>				
2.3		Fertilizer	<ul style="list-style-type: none"> • Agrico 	<ul style="list-style-type: none"> • Evergro Tabs 	
2.4		Mulch	<ul style="list-style-type: none"> • Yard Works • Eco-Soil • Fraser Richmond Bio-cycle 		Composted
2.8		Guying Wire	<ul style="list-style-type: none"> • Tree Guy Systems 	<ul style="list-style-type: none"> • Arrow Anchor 	
2.11		Anti-desiccant	<ul style="list-style-type: none"> • GSI Horticultural 	<ul style="list-style-type: none"> • Moisturin 	
2.12		Flagging Tape		<ul style="list-style-type: none"> • Indenti-Tape 	
2.13		Tree Trunk Protection	<ul style="list-style-type: none"> • Deep Roots Products 	<ul style="list-style-type: none"> • Arborgard 	
2.16		Tree Ties	<ul style="list-style-type: none"> • Deep Roots Products 	<ul style="list-style-type: none"> • Arbor Tie 	
33 11 01	<i>Waterworks</i>				
2.2.1	<i>Water Main Ductile Iron</i>	Ductile Iron	<ul style="list-style-type: none"> • McWane Group • US Pipe • Canada Pipe 		CL 50 for all mains less than 400mm dia. and Pressure Class 350 for all mains 400mm dia or larger
2.2.2	<i>Water Main PVC</i>	PVC (C900) PVCO (C909)	<ul style="list-style-type: none"> • Ipex Royal Pipe Systems • Ipex 	<ul style="list-style-type: none"> • Blue Brute • Bionax 	To AWWA C900 / C 905/ C 909 – 100 mm to 300 mm diameter DR18 min. Compliance with MMCD updated Section 33 11 01 2.2.2.2S for thickened bell and spigot pipe All PVC/PVCO mains shall be pigmented blue. Nitro gasket shall be used when hydro carbon is encountered in surrounding soil. PVC/PVCO to be used only where shown on approved construction drawings.
2.2.3	<i>Water Main HDPE</i>	HDPE	<ul style="list-style-type: none"> • KWH Pipe • Performance Pipe 	<ul style="list-style-type: none"> • Sclairpipe • DriscoPlex 	HDPE to be used only where shown on approved construction drawings.

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
2.2.4.2/3	Water Main Fitting Ductile Iron	Ductile Iron Compact Ductile Iron	<ul style="list-style-type: none"> Terminal City Iron Works Norwood Foundry Sigma Products Star Pipe Products 		AWWA C 153 & C110, cement mortar lined. Cast iron fittings are not acceptable
2.2.10	Tie Rod, Bolts/Nuts				Type 304 Grade A stainless steel for all hardware
2.2.12	Couplings and Flange Coupling Adapters	Plain End Coupler	<ul style="list-style-type: none"> Robar Smith-Blair Romac Mueller Ford EBBA Iron 	<ul style="list-style-type: none"> Robar 1508 Smith-Blair441 Romac 501 Mueller MRC Ford FC1 EBBA 3800 	Type 304 Grade A stainless steel for all hardware All couplings and flange adapters are to have a fusion epoxy coating.
		Flanged Adapter	<ul style="list-style-type: none"> Robar Smith-Blair Romac Mueller EBAA Clow Star Pipe Products Sigma 	<ul style="list-style-type: none"> Robar 7504/7506 Smith-Blair912 Romac FCG Mueller EBAA Iron 1000 Clow Series 40, DI Clow Series 90, PVC Star Series 400 Sigmaflange 	Type 304 Grade A stainless steel required for all hardware. All couplings and flange adapters are to have a fusion epoxy coating.
		Restrained Flange Adaptors	<ul style="list-style-type: none"> Romac Uniflange EBAA Star Pipe Products 	<ul style="list-style-type: none"> Romac RFCA Uniflange RFAP EBAA 2100 Super Flange Series 7200 	Type 304 Grade A stainless steel required for all hardware. All restrained flange adapters are to have a fusion epoxy coating.
		Repair Clamps	<ul style="list-style-type: none"> Canpac Mueller Robar Clow Romac Cambridge Brass 	<ul style="list-style-type: none"> Canpac CR-2 Mueller 510 Robar 5626 Clow 200 Romac SS2 Teck Series 425, 825, 1625 	Repair clamps shall be stainless steel. Type 304 Grade A stainless steel required for all hardware.

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
2.2.13	<i>Joint Restraint Ductile Iron Mains</i>		<ul style="list-style-type: none"> • UniFlange Series 1400 • EBAA Iron • Clow • Star Pipe Products 	<ul style="list-style-type: none"> • UniFlange Series 1400 • EBAA Iron 1100 • Clow Tufgrip TDG • Split Stargrip Series 3100 	<p>All joint restraints shall have a pressure rating equal to the mainline pipe.</p> <p>All joint restraints are to have a fusion epoxy coating.</p> <p>Type 304 Grade A stainless steel required for all hardware.</p>
	<i>Joint Restraint PVC / PVCO Mains</i>		<ul style="list-style-type: none"> • UniFlange • EBAA Iron • Star Pipe Products 	<ul style="list-style-type: none"> • UniFlange Series 1300 • UniFlange Series 1500 • EBAA 1500 • EBAA 1900 • PVC Stargrip Series 4100 	<p>No wedge action type for PVC or PVCO pipes.</p> <p>Restraint systems for PVC or PVCO pipe shall be approved by the pipe manufacturer to not reduce the pipe recommended working pressure.</p> <p>All joint restraints are to have a fusion epoxy coating.</p> <p>Type 304 Grade A stainless steel required for all hardware.</p>
	<i>Restrained Joint Pipe Systems (PVC)</i>		<ul style="list-style-type: none"> • Ipex • Royal 	<ul style="list-style-type: none"> • Ipex Terrabrute • Royal Bulldog • Royal Cobra Lock 	Restrained pipe joint systems to be approved prior to use.
	<i>Restrained Joint Pipe Systems (DI)</i>		<ul style="list-style-type: none"> • US Pipe • McWane 	<ul style="list-style-type: none"> • Field Lok Gasket • SureStop Gasket 	Restrained pipe joint systems to be approved prior to use.
2.3	<i>Valves and Valve Boxes</i>	50mm – 300mm Resilient-seated Mainline Gate Valve	<ul style="list-style-type: none"> • Mueller • Clow Canada • AVK • American Flow Control • Terminal City 	<ul style="list-style-type: none"> • Mueller A2362 • Clow 2639 • AVK • AFC Series 2500 • IBBM 	All valves shall have epoxy coated ductile iron body to AWWA C 509.
		375mm or greater Mainline Butterfly Valve	<ul style="list-style-type: none"> • Pratt • Mueller 	<ul style="list-style-type: none"> • Pratt Groundhog • Mueller Lionseal 	AWWA C 504 Class 150B
2.3.5	<i>Air Valve</i>		<ul style="list-style-type: none"> • Apco • Val-Matic • Pratt • Crispin 	<ul style="list-style-type: none"> • APCO 140C • Val-Matic 201C • Pratt UL • Crispin UL 	

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
2.3.6	Water Valve Box	Nelson Box, 450mm length 150mm riser pipe with circular box	<ul style="list-style-type: none"> • Terminal City • Dobney • Westview • Trojan 		Cover shall be marked with "Water".
2.3.7	Curb Stop Box		<ul style="list-style-type: none"> • Terminal City • Dobney • Westview • Trojan 		Per Supplementary Specification Dwg. COQ-W2b
2.5	Water Service Connection	Type K Copper – 19mm to 75mm			ASTM B88M
2.5.3.2	Saddles for Ductile Iron Mains		<ul style="list-style-type: none"> • Robar • Smith Blair • Mueller • Romac • Cambridge Brass 	<ul style="list-style-type: none"> • Robar 2506 • Smith Blair 317 • Mueller DR2S • Romac 202NS • Teck Series 840X 	<p>Saddles required for service installation on all ductile iron mains.</p> <p>All saddles are to have a fusion epoxy coating.</p> <p>Type 304 Grade A stainless steel required for all hardware.</p>
2.5.3.3	Saddles for PVC / PVCO Mains		<ul style="list-style-type: none"> • Canpac • Robar • Cambridge Brass • Mueller 	<ul style="list-style-type: none"> • Canpac SC2 • Robar 2506 • Teck Series 840X • Mueller DR2S 	<p>Saddles required for service installation on all PVC / PVCO mains.</p> <p>All saddles are to have a fusion epoxy coating.</p> <p>Type 304 Grade A stainless steel required for all hardware.</p>
2.6	Hydrant		<ul style="list-style-type: none"> • Terminal City • Canada Valve • Clow Canada • Mueller 	<ul style="list-style-type: none"> • TC C71P, TC-1, TC-20P • "Century" • M93 Brigadier • Centurion 	<p>Must have Storz fitting on pumper port</p> <p>Refer to Supplementary Specifications for paint colors</p>
2.7	Corporation Stop		<ul style="list-style-type: none"> • Cambridge • Ford • Mueller • AY-MacDonald 	<ul style="list-style-type: none"> • Cambridge 311 • Ford B1000 • Mueller B2500800N • MacDonald 74700 	<p>Shall be full-port ball valve to 38 mm only.</p> <p>Shall be 300psi working pressure.</p> <p>Shall have large tee head.</p> <p>Use mainline gate valve for sizes >38 mm</p>
2.7	Curb Stop		<ul style="list-style-type: none"> • Cambridge • Ford 	<ul style="list-style-type: none"> • Cambridge 202 • Ford B44- 	<p>Shall be full-port ball valve to 50 mm with 90° turn stop.</p> <p>Use mainline gate valve</p>

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		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
			<ul style="list-style-type: none"> • Mueller • AY-MacDonald 	343G <ul style="list-style-type: none"> • Mueller B25209 • MacDonald 76100 	for larger sizes > 50mm
33 30 01	<i>Sanitary Sewers</i>				
2.1	Concrete				Not allowed
2.2	PVC Pipe, Mainline Smooth Profile	PVC SDR35	<ul style="list-style-type: none"> • IPEX • Royal • JM Eagle 		Sizes > than 600 mm to be approved by the Engineer
2.3	Sanitary Service Connection	PVC SDR28	<ul style="list-style-type: none"> • IPEX • Royal • JM Eagle 		Minimum size shall be 100mm
	Inspection Chamber	Inspection Chamber	<ul style="list-style-type: none"> • Le-Ron • Pro-Line Fittings • Galaxy Plastics 		IC's shall have locking lid with gasket
	Tees and Wyes	PVC SDR35	<ul style="list-style-type: none"> • IPEX • Royal • Galaxy Plastics • GPK Products 		Manufactured wye fitting shall be used for all connections on new mains.
	Sewer Couplers PVC – Other Other – Other		<ul style="list-style-type: none"> • Rollee • Fernco 	<ul style="list-style-type: none"> • Rollee • Fernco 	Couplers (Shear band type) shall have appropriate adaptor gaskets to suit OD of pipe material being coupled
	Sewer Couplers PVC – PVC		<ul style="list-style-type: none"> • Royal/Le-Ron • Pro-Line Fittings • Galaxy Plastics 		To be gasketed push on type
33 34 01	<i>Sewage Force mains</i>				
2.2.4	Low-pressure Sewage Force mains	HDPE with fusion welded joints	<ul style="list-style-type: none"> • KWH • Performance Pipe 	<ul style="list-style-type: none"> • Sclairpipe • DriscoPlex 	AWWA C906
	Service Connections	Wyes and Tees			Manufactured fitting shall be used for all connections on new mains.
33 40 01	<i>Storm Sewers</i>				
2.1	Concrete Pipe	Non-reinforced and Reinforced Concrete	<ul style="list-style-type: none"> • Langley Concrete • Ocean Pipe 		

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
2.2	PVC Pipe, Mainline Smooth Wall	PVC SDR35	<ul style="list-style-type: none"> • IPEX • Royal • JM Eagle 		Sizes > than 600 mm to be approved by the Engineer.
2.4	HDPE Pipe, Mainline Open Profile		<ul style="list-style-type: none"> • Armtec • Hancor 	<ul style="list-style-type: none"> • Armtec Boss 2000 • Hancor Blue Seal 	Allowed on a case by case basis as approved by the Engineer.
2.6	Service Connections	PVC SDR28	<ul style="list-style-type: none"> • IPEX • Royal • JM Eagle 		Minimum size shall be 150mm.
	Tees and Wyes	PVC SDR35	<ul style="list-style-type: none"> • IPEX • Royal • Galaxy Plastics • GPK Products 		Manufactured wye fitting shall be used for all connections on new mains.
		Insertable Tee	<ul style="list-style-type: none"> • Inserta Tee 		Insertable tee only permitted for connections to existing PVC and Concrete mains which are 375mm mains or larger.
	Inspection Chamber	Inspection Chamber	<ul style="list-style-type: none"> • Le-Ron • Pro-Line Fittings • Galaxy Plastics 		IC's shall have locking lid with gasket
33 44 01	Manholes and Catchbasins				
2.1	Precast Manhole Sections	Manhole base and riser section	<ul style="list-style-type: none"> • Langley Concrete • Ocean Pipe • Diamond Concrete 		
2.1.7	Manhole Frames and Covers	Ductile Iron for Arterial Roads	<ul style="list-style-type: none"> • Westview Sales • Dobney 	<ul style="list-style-type: none"> • TR 724 • C Series 	Manhole frame shall be secured to the concrete manhole lid with 3 12 mm diameter redi-rods and appropriate Hilti anchors and nuts No cast or ductile iron adjusting grade rings permitted
2.1.7	Manhole Frame and Cover	Cast Iron per MMCD for Non-arterial Roads	<ul style="list-style-type: none"> • Dobney Foundry • Westview Sales Ltd. 	<ul style="list-style-type: none"> • C Series • TR18 	Refer to Supplementary Standard Drawing COQ-S16 for required lettering on Manhole Covers for sanitary and storm sewers, including in fish habitat areas. Shall be compatible and interchangeable with existing City of Coquitlam castings.

		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
2.1.7	Low-profile Frame and Covers				Use of 100mm low profile frames and cover to be approved by the Engineer
	2.1.13 Catch Basin and Other Castings	CB Frame	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> B24 TR24 	Top Inlet Catch Basin – MMCD Standard Drawing S11
		CB Grate	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> B23 TR23R&L 	Top Inlet Catch Basin – MMCD Standard Drawing S11
		CB Frame – Side Inlet Assembly	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> B39A TR39A 	Refer to Supplementary Standard Drawings COQ-S11A – Side Inlet Catch Basin Assembly
		CB Grate – Side Inlet Assembly	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> B39 TR39 	Refer to Supplementary Standard Drawings COQ-S11A – Side Inlet Catch Basin Assembly
		Curb Inlet	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> B24FTH TR24C 	
		Lawn Basin Grate (600mm Barrel)	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> B22A TR22 	Lawn Drains – MMCD Standard Drawing S12
		Lawn Basin Grate (300mm Barrel)	<ul style="list-style-type: none"> Dobney Foundry Westview Sales Ltd. 	<ul style="list-style-type: none"> D2A TR12 	Lawn Drains – MMCD Standard Drawing S12
03 30 20	Concrete Walks, Curbs and Gutter				
		Cast-in-Place Tactile panel	<ul style="list-style-type: none"> Access Tile Amor-Tile 	<ul style="list-style-type: none"> ACC-R-2x4 ADA-C-2448 	See Supplementary Drawing COQ-C9E
34 41 13	Traffic Signal				
		Polymer Concrete Junction Boxes	<ul style="list-style-type: none"> CIF Composites Inc Duralite 	Sizes: <ul style="list-style-type: none"> 17 x 30 24 x 36 	2 Sections max Plastic Junction Boxes Will Not Be Accepted Round Junction Boxes Will Not Be Accepted
		Concrete Junction Boxes/Vaults	<ul style="list-style-type: none"> AE Concrete 	<ul style="list-style-type: none"> SP635-1.3.3 (4040 Service Box) Type 66=T266 Type 37=B937 Type C =5686 	Refer to Supplementary Drawing SS-E2.5
		Poles / Arms	<ul style="list-style-type: none"> Valmont West Coast Engineering Nova Pole 		Galvanized and Power Coated (See Roadway Lighting Section for Paint Codes)

		Product	Manufacturer	Approved Model	Restrictions/Additional Specifications
		Concrete Bases	<ul style="list-style-type: none"> • AE Concrete • Langley Concrete 		For Concrete service bases refer to Supplemental Drawing SS-E7.3
		Service Bases	<ul style="list-style-type: none"> • Valmont West Coast Engineering • Nova Pole 		Refer to Supplemental Drawings SS-E7.3 and SS-E7.4 Robust Tab for Padlock
		Service / Electrical Panels	<ul style="list-style-type: none"> • West Coast Electric • Valid 	Aluminum or Stainless Steel.	Refer to Supplemental Drawing SS-E7.3 Surge Protection Device required for primary service. I _{max} 50, 20kA, 120/240V, 50/60Hz. Must be installed within panel.
		Vehicle Signal Heads	<ul style="list-style-type: none"> • Econolite 	<ul style="list-style-type: none"> • Polycarbonate Yellow Body Colour 	C/W Cowl Visors or as indicated on Contract Dwgs.
		Backboards	<ul style="list-style-type: none"> • Econolite 	<ul style="list-style-type: none"> • Aluminum, Yellow Powder Coat 	All Primary Vehicle Signal Heads Front Face with 3M Diamond Grade as indicated on Contract Drawings Optional for Secondary Signal, as indicated on contract drawings.
		Pedestrian & Countdown Signal Heads	<ul style="list-style-type: none"> • Econolite • Eagle 		MoT Specifications (Aluminum) <ul style="list-style-type: none"> • 300mm Square c/w Aluminum Peak Visors • Color of Heads, Visors and Brackets to Match Pole
		Vehicle LED Signals	<ul style="list-style-type: none"> • Dialight 	Dialight P/N: <ul style="list-style-type: none"> • Red P/N: 433-1210-003XL15 • Yellow P/N: 433-3230-901XL15 • Green P/N: 433-2220-001XL15 	300mm Round Color Tinted Lens. Clear lens required for bi-modal signal modules P/N: 4306370-001
		Pedestrian LED Signals	<ul style="list-style-type: none"> • Dialight Top Section – Walk /Don't Walk • Bottom Section – Countdown 	Dialight P/N: <ul style="list-style-type: none"> • P/N: 430-6772-001X • P/N: 430-7773-001X 	ITE Specifications 300mm Square
		Photocells / Shorting Caps			See Roadway Lighting Section

		Product	Manufacturer	Approved Model	Restrictions/Additional Specifications
		Cobra Head Style Luminaires (LED)	• LED Roadway Lighting (LRL)	• NXT Series	<ul style="list-style-type: none"> • LED • 4000k • 7 pin PEC connector • Shorting cap • Wattages per design plans
			• American Electrical Lighting (AEL)	• Autobahn Series	
		Advanced Accessible Pedestrian Station (AAPS)	• Polara	• Navigator EZ Comm	• IN2 System
		Audible Pedestrian Signals (APS)	• Novax	• DS102A-3W APS P/N: PLS001188	Enclosure to match pole colour
		Pedestrian or Cyclist Push Button	• Polara	• Bulldog BDLM2-Y	2 wire system
		PED Push Button Plate	• Greenlite Traffic	• GEL239 (R or L)	Black Symbol on White Background
		Cyclist Push Button Plate	• Greenlite Traffic	• GEL240 (R or L)	Black Symbol on White Background
		Cyclist / Ped Combo Sign Unit	• Greenlite Traffic		Black Symbol on White Background
		Signal Cable	• Texcan	• IMSA 7C, 12C, 19C & 25C No. 14 Stranded Copper	
		Signal Detector Loop Homerun Cable	• Texcan	• IMSA Spec. 50-2 2C No. 14 Stranded Copper	
		Individual Conductor	• Texcan	• RW90 Stranded Copper	Size and Color as per Plans
		Cable Lubricant	• IDEAL	<ul style="list-style-type: none"> • Poly Water Dyna-Blue • Poly Water Aqua-Gel II 	
		Conduit	• Various	• CSA C22.2 NO. 211.2	RPVC
		Conductor Tags	• Panduit	• MP250-C Tags	On all Cables (Black indelible marker pen)
		Fuse Holders (<u>Pole Hand Holes</u>)	• Tron	• Tron Heb-AA c/w 2 L-type Insulating Boots	
		Fuse Holders (<u>Junction Boxes</u>)	<ul style="list-style-type: none"> • Ideal • Buchanan 	• 65 KIT Water Proof	
		Fuses	• Bussman	• 10-A Buss KTK 600V	Amperage and Rating as per Plans

		Product	Manufacturer	Approved Model	Restrictions/Additional Specifications
		Hydro Dip Service (RPVC Straps, Lag Bolts & Conduit Guard)	• Various	• MMCD	
		Overhead Adjustable Bracket	• Olson Aluminum Castings	• Sky-Bracket	C/W Stainless Steel Hardware
		Side Mount Brackets	• Greenlite Traffic	• GEL 189G	C/W Stainless Steel Hardware
		Illuminated Street Name Signs	• Greentop Lighting • Temple Edge Lit • Valid	• Clear Lexan Panels • 3M 4090T – sheeting (translucent) • 3M ElectroCut 1175 blue film • 9" letter height (suffix 4") • Clearview font - 4W • Upper and lower case lettering	Mounting hardware: CANBRAC for vertical installation or PELCO for hangar assembly SE-5015-42-PNC
		Illuminated Pedestrian Signs	• Greentop Lighting • Valid	• MMCD	• Optional 300mm yellow LED signals and enclosures, as indicated on contract drawings. • Provided with Signal mounting hardware. •
		Traffic Controller	• Econolite	• Cobalt	Supplied by City
		Traffic Cabinet	• Econolite	• P44DD • MSX	Supplied by City
		Uninterruptable Power Supply (UPS)	• Alpha Technologies	• FXM-1100	Supplied by City
		UPS Cabinet c/w Indicator Light	• Valid	• KSD481716PG - CQ	Supplied and Installed by City
		Fire Hall Controller	• Novax	• PLS000874 / PLS000877	Supplied by City
		Special Crosswalk Controller	• Novax	• PLS 000635 / PLS 000859	Supplied by City
		Traffic Video Detection System	• Econolite	• Autoscope • Power Cable	Supplied by City • Autoscope Vision • Econolite P/N CBL 1175-011
			• Miovision	• Traffic Link Detection	Supplied by City: • SmartView 360 Camera • Smart Sense

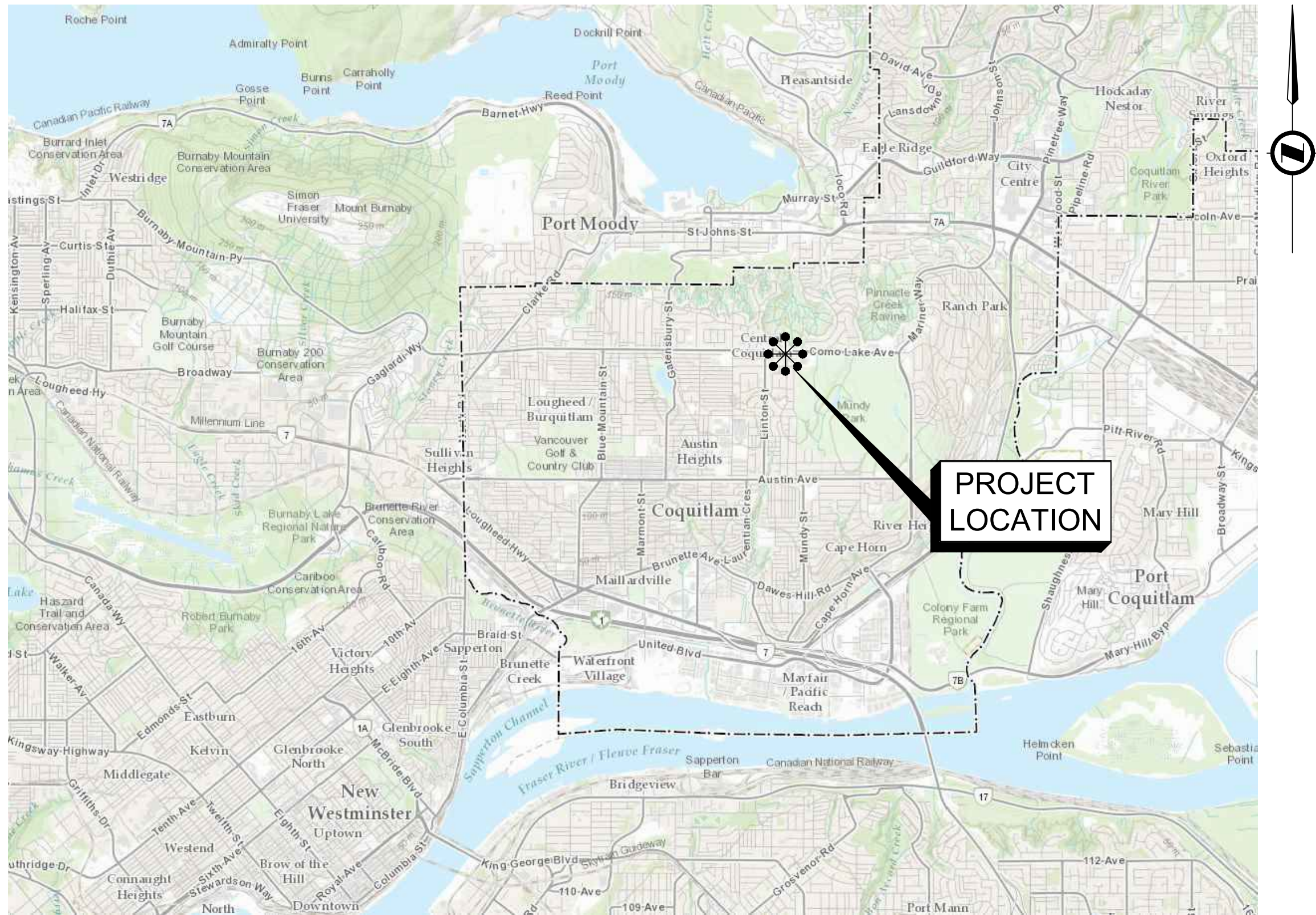
		<i>Product</i>	<i>Manufacturer</i>	<i>Approved Model</i>	<i>Restrictions/Additional Specifications</i>
					<ul style="list-style-type: none"> • Smart Link • TrafficLink Antenna • Mount P/N: 33120519 • Cat5e cable w/drain
		PTZ Cameras	<ul style="list-style-type: none"> • Pelco 	Spectra Enhanced IP <ul style="list-style-type: none"> • HPOE • CAT5e Ethernet cable • Mounting Hardware • Surge Protection • Product Registration 	P/N S6230EG1 PE-POE75U1UP Two runs of CAT5e cables required: One for the Ethernet connection, and the 2 nd for optional inputs (cabinet door switch) Confirm with City regarding mount type: <ul style="list-style-type: none"> • Paramount PP350 OR: • 2 piece mount – PA402 and IWM Series. • Sky-Bracket (if required) DITEK Corp. (Product code DTK-PVPIP) Registration Update code for Camera Addition – DS Control Point
		EV Pre-emption System	<ul style="list-style-type: none"> • Emtrac 	Priority Detector Card – ST 9283 <ul style="list-style-type: none"> • Antenna • Antenna Cable (LMR240DB) • Mounting Bracket • BNC Connectors 	Supplied by City
		Radio Communication Equipment	<ul style="list-style-type: none"> • Encom 	<ul style="list-style-type: none"> • Commpak BB 5.8 • Cable – CAT5e 	Supplied by City
		Paint Color RAL Codes			<ul style="list-style-type: none"> • Coquitlam Green-RAL 6028 • Coquitlam Black-RAL 9005 • Town Centre Brown-RAL 8014

Appendix C – Contract Drawings

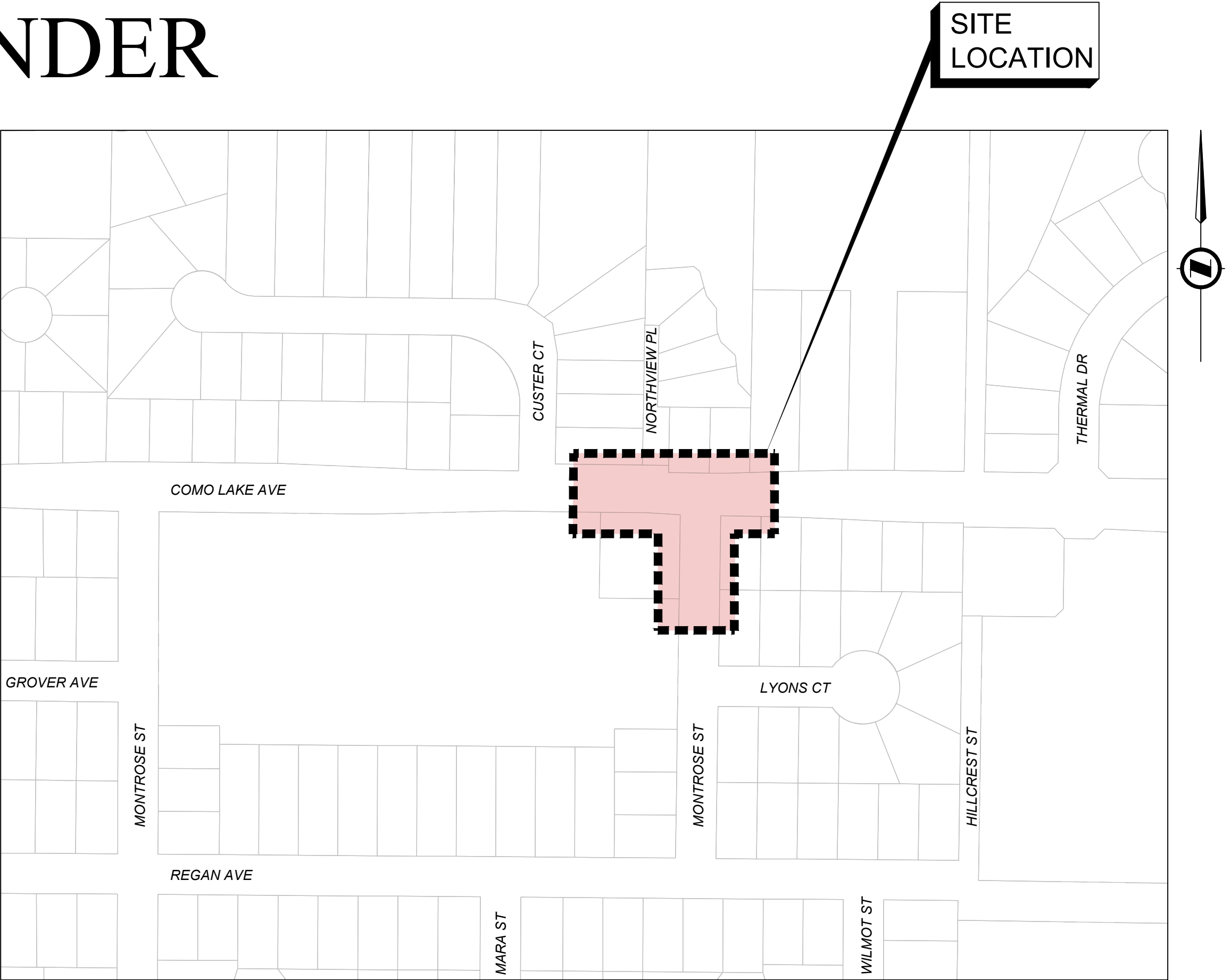


Como Lake at Montrose

ISSUED FOR TENDER



LOCATION PLAN
NTS



SITE PLAN
NTS

DRAWING INDEX	
NUMBER	TITLE
00	COVER SHEET
01	GENERAL NOTES
02	TYPICAL DETAILS
03	OVERALL ROAD PLAN
04	INTERSECTION PLAN

GENERAL NOTES:

ELEVATIONS ARE RELATIVE TO CVD28GVRD. HORIZONTAL COORDINATES ARE IN NAD83 / UTM ZONE 10 GROUND COORDINATES.

1.
- ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE PLATINUM EDITION (2009) OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) AND MMCD SUPPLEMENTARY UPDATES TO DATE AND CITY OF COQUITLAM SUPPLEMENTARY SPECIFICATIONS AND DETAIL DRAWINGS UNLESS OTHERWISE NOTED.
2.
- RESIDENTS DIRECTLY AFFECTED BY CONSTRUCTION SHALL BE GIVEN AT LEAST 5 DAYS NOTICE PRIOR TO THE START OF CONSTRUCTION. IF CONSTRUCTION ENTERS ONTO PRIVATE PROPERTY, THE CONTRACTOR WILL REQUIRE WRITTEN AUTHORIZATION FROM THE PROPERTY OWNER PRIOR TO UNDERTAKING ANY WORK.
3.
- THE LOCATION OF EXISTING UTILITIES IS COMPILED FROM OWNER AND UTILITY SUPPLIED RECORD DRAWINGS AND ARE CONSIDERED APPROXIMATE ONLY. THE EXACT LOCATION AND EXTENT OF UTILITIES SHOULD BE DETERMINED BY CONSULTING THE LOCAL AUTHORITIES AND UTILITY COMPANIES CONCERNED. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND INVERT ELEVATION BY HAND OR HYDROVAC EXCAVATION BEFORE CONSTRUCTION OF UTILITY CROSSINGS AND SHALL BE RESPONSIBLE FOR RESTORATION OF ANY DAMAGE TO EXISTING UTILITIES. ANY COSTS ASSOCIATED WITH UTILITY CONFLICTS THAT WERE NOT PRELOCATED WILL BE THE CONTRACTORS RESPONSIBILITY.
4.
- THE CONTRACTOR IS TO NOTIFY THE CITY OF COQUITLAM 48 HOURS IN ADVANCE OF ANY CONSTRUCTION OR UTILITY RELOCATION/CONFLICTS.
5.
- REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR A MIN 72 HOURS PRIOR TO CONSTRUCTION.
6.
- ALL SURVEY MONUMENTS WITHIN THE PROJECT BOUNDARIES SHALL BE PROTECTED DURING THE COURSE OF THE WORK. SHOULD ANY SURVEY MONUMENT REQUIRE RAISING OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEERING AND OPERATIONS DEPARTMENT AT LEAST 72 HOURS IN ADVANCE OF SCHEDULING WORK. ALL DISTURBED MONUMENTS WILL BE REPLACED BY A B.C. LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
7.
- SURVEY PINS DISTURBED DURING THE COURSE OF CONSTRUCTION SHALL BE REPLACED BY A B.C. LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
8.
- ALL PUBLIC ROADWAYS AFFECTED BY THE WORKS SHALL BE KEPT IN A CLEAN STATE AT ALL TIMES. DUST CONTROL MEASURES SHALL ALSO BE EMPLOYED DURING THE COURSE OF THE WORK.
9.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, AND FOR COORDINATING THE VARIOUS PARTS OF THE WORK. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THERE IS NO DISRUPTION TO SERVICE, AND IF DISRUPTION IS ANTICIPATED, TO NOTIFY THE CONTRACT ADMINISTRATOR A MINIMUM OF 72 HOURS PRIOR, AND OBTAIN APPROVAL FOR THE DISRUPTION.
10.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCAVATED MATERIAL UNSUITABLE FOR REUSE AT A SUITABLE OFF-SITE DISPOSAL AREA, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
11.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY UTILITY POLE SUPPORTS NECESSARY TO COMPLETE THE WORKS AS AN INCIDENTAL ITEM TO GENERAL CONTRACT REQUIREMENTS WHERE AND AS REQUIRED.
12.
- CONTRACTOR TO MAINTAIN AN UP TO DATE SET OF AS-CONSTRUCTED DRAWINGS AT ALL TIMES. AS-CONSTRUCTED DRAWINGS TO BE DELIVERED TO THE CONTRACT ADMINISTRATOR AT SUBSTANTIAL PERFORMANCE FOR PREPARATION OF FINAL RECORD DRAWINGS. THE CONTRACT ADMINISTRATOR SHALL BE PROVIDED ACCESS TO REVIEW THE AS-CONSTRUCTED DRAWINGS AT ALL TIMES TO CONFIRM THEY ARE UP TO DATE.
13.
- THE CONTRACTOR SHALL MAINTAIN AND MONITOR THE PROVISIONS FOR EROSION CONTROL AND SEDIMENT AS PER THE CITY BYLAW 4403, 2013 AND AS PER THE CONTRACT DOCUMENTS.
14.
- ALL WHEELCHAIR LETDOWNS ARE TO BE BROOM FINISH.

TRAFFIC MANAGEMENT, NOTIFICATION AND APPROVALS NOTES:

1.
- THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SIGNAGE, BARRIERS, FLASHING INDICATORS, ETC. AT ALL TIMES TO ENSURE THE SAFETY OF THE PUBLIC. TRAFFIC CONTROL WILL BE REQUIRED FOR ALL CONSTRUCTION WORKS WITHIN THE TRAVELED PORTION OF THE ROAD. NO ROAD SHALL BE CLOSED WITHOUT THE WRITTEN CONSENT OF THE TRAFFIC OPERATIONS DEPARTMENT.
2.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EXCAVATED MATERIAL UNSUITABLE FOR REUSE AT A SUITABLE OFF-SITE DISPOSAL AREA, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
3.
- THE CONTRACTOR SHALL ENSURE THAT ALL APPROVALS REQUIRED FOR THE PROPOSED WORKS HAVE BEEN OBTAINED FROM ALL AUTHORITIES AND AGENCIES PRIOR TO COMMENCING THE WORK.
4.
- THE CONTRACTOR SHALL ARRANGE FOR, AND COORDINATE THE WORKS DONE BY:

CITY OF COQUITLAM; AND

FRANCHISE UTILITIES (BC HYDRO, FORTIS GAS, BC TRANSMISSION CORP., SHAW CABLE, TELUS AND METRO VANCOUVER).
5.
- THE CONTRACTOR SHALL CONTACT THE APPROPRIATE PERSONNEL AT LEAST 72 HOURS PRIOR TO THE WORK. SCHEDULING AND OTHER CONSTRUCTION CONSTRAINTS IMPOSED BY THESE WORKS SHALL BE TAKEN INTO ACCOUNT.
6.
- RESIDENTS DIRECTLY AFFECTED BY CONSTRUCTION OF THESE WORKS AND SERVICES SHALL BE GIVEN 5 DAYS WRITTEN NOTICE OF THE PROPOSED START OF CONSTRUCTION. THE CONTRACTOR IS TO DISTRIBUTE A NOTICE OF CONSTRUCTION LETTER TO ALL AFFECTED RESIDENTS AND BUSINESSES. FOLLOWING CONSTRUCTION ACTIVITY ON ANY PRIVATE PROPERTY, A WRITTEN RELEASE MAY BE REQUIRED FROM THE PROPERTY OWNER AT THE DISCRETION OF THE CITY.
7.
- A TRAFFIC AND PEDESTRIAN SAFETY CONTROL PLAN SHALL BE SUBMITTED BY THE CONTRACTOR PRIOR TO THE PRE-CONSTRUCTION MEETING.
8.
- APPROVALS FOR REQUIRED TREE CUTTING OR TRIMMING NOT INDICATED IN CONTRACT DRAWINGS SHALL BE OBTAINED BY THE CONTRACTOR FROM THE CITY PRIOR TO WORK BEING PERFORMED.
9.
- CONTRACTOR TO OBTAIN APPROVED LANE CLOSURE REQUEST FORM FOR ALL WORKS. APPROVED REQUESTS ARE CIRCULATED TO ALL EMERGENCY SERVICES.
10.
- CONTRACTOR TO SUBMIT A TRAFFIC MANAGEMENT PLAN WITH LANE CLOSURE REQUEST FOR ALL MAJOR ROADS AND ANY LOCAL ROADS WHICH REQUIRE ANY DETOURS.
11.
- ALL TRAFFIC CONTROL TO CONFORM TO THE LATEST EDITION OF THE BC TRAFFIC CONTROL MANUAL FOR WORK ON ROADWAYS.
12.
- APPROVAL OF NOISE VARIANCE FOR ALL WORK OUTSIDE OF NORMAL APPROVED WORK HOURS REQUIRED BY THE CITY.
13.
- NOTICE OF CONSTRUCTION SIGNS TO BE INSTALLED AT ALL PROJECT LIMITS AND PREFERRED DETOUR ROUTE. NOTIFY CONTRACT ADMINISTRATOR WITH CONSTRUCTION SCHEDULE AND LOCATIONS. SIGNS PROVIDED AND INSTALLED BY THE CONTRACTOR.
14.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLETION OF ALL TAPED TEMPORARY AND PERMANENT PAINT AND THERMOPLASTIC PAVEMENT MARKINGS IN THE PLACE OF THE WORK. PERMANENT LANE MARKINGS ARE TO BE PLACED WITHIN SEVENTY-TWO (72) HOURS OF FINAL PAVING AND PERMANENT THERMOPLASTIC PAVEMENT MARKINGS ARE TO BE PLACED WITHIN FIVE (5) DAYS OF FINAL PAVING. ALL TEMPORARY MARKINGS TO BE REMOVED IMMEDIATELY FOLLOWING PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
15.
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE TRAFFIC MANAGEMENT DETAILED SPECIFICATIONS IN THE CONTRACT DOCUMENTS.

PLOT DATE: May 27, 2021

REV NO	REVISIONS	DATE	DRAWN	APPR'D
1	PRELIMINARY DESIGN	2020/08/11	CF	CB
2	DETAILED DESIGN	2020/11/12	JD	CB
3	ISSUED FOR TENDER	2021/05/27	CF	CB
4				
5				



GENERAL

GENERAL NOTES



#503, 4190 Loughheed Hwy, Burnaby, B.C. V5C 6A8
T: (604)620-2098 F: (604)620-2098

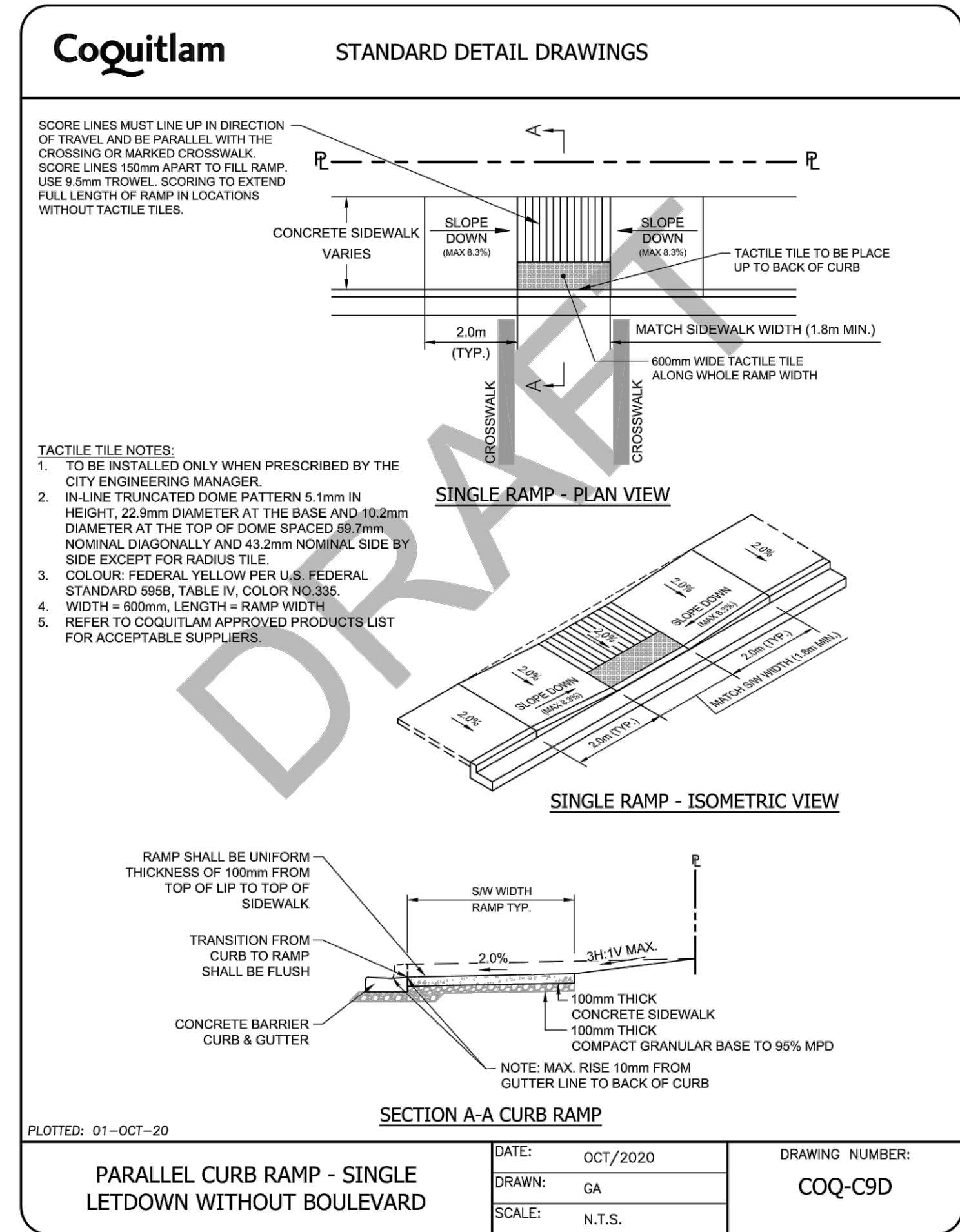
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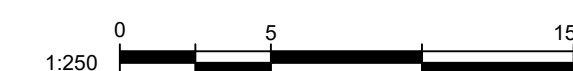
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32663

SCALE	CREATION DATE	DWG. NO.
DRAWN BY CF	DESIGN BY CB	01 OF 04
CHECKED BY CB	APPROVED BY CB	
		REV. 3

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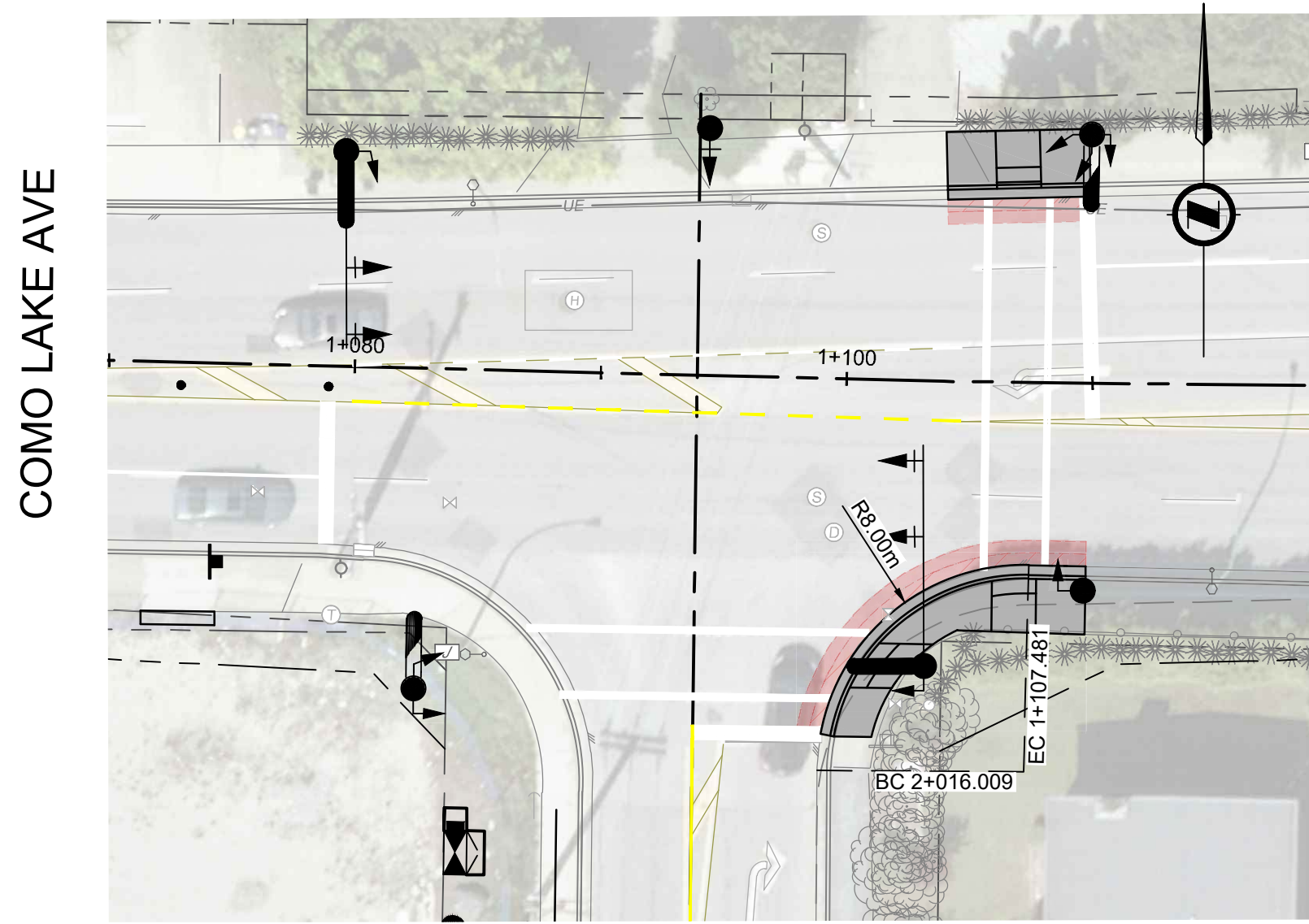




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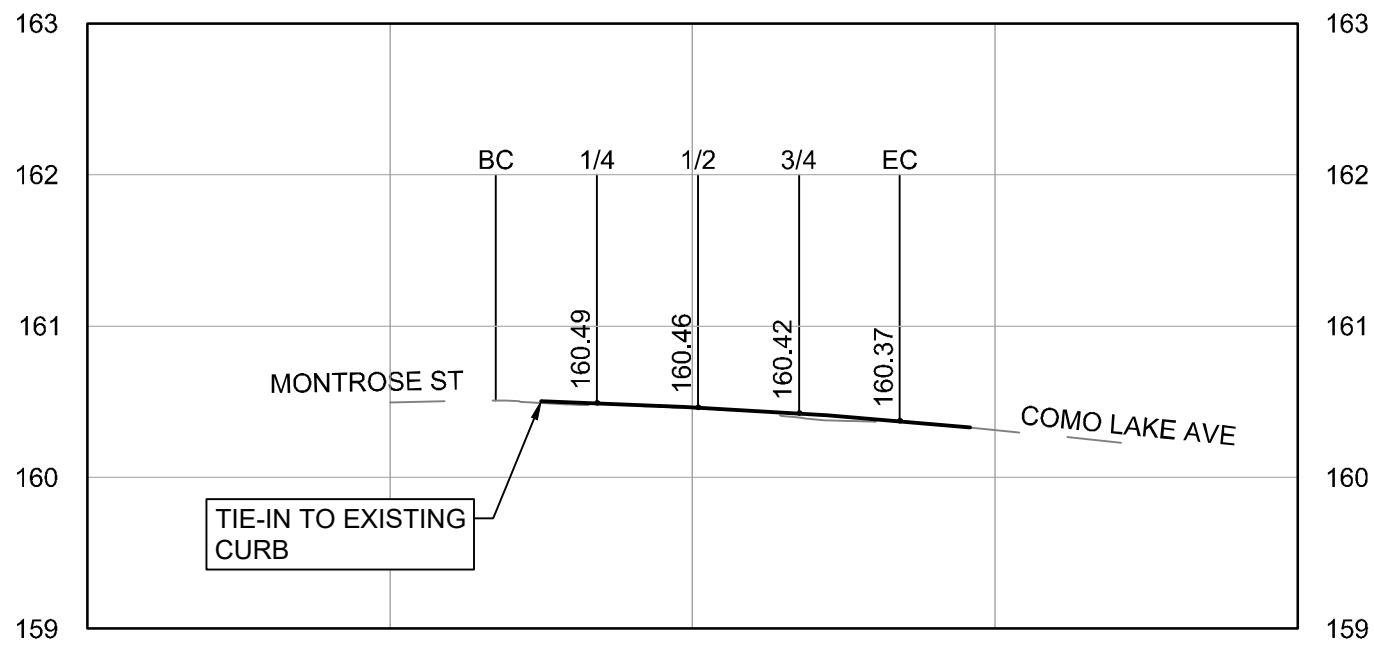
PLOT DATE: May 27, 2021

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DRAWN BY	CF	DESIGN BY	CB	
CHECKED BY	CB	APPROVED BY	CB	
				REV. 3



COMO LAKE AVE - MONTROSE INTERSECTION




HORZ. 1:250

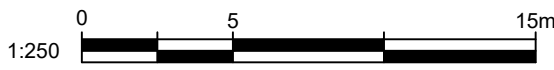


CURB RETURN PROFILE

HORZ. 1:250 - VERT. 1:50

SURFACE TREATMENT

-  FULL DEPTH PAVEMENT
-  MILL & INLAY PAVEMENT
-  CONCRETE CURB/SIDEWALK



PLOT DATE: May 27, 2021

REV NO	REVISIONS	DATE	DRAWN	APPR'D
1	PRELIMINARY DESIGN	2020/07/10	CF	CB
2	DETAILED DESIGN	2020/11/12	JD	CB
3	ISSUED FOR TENDER	2021/05/27	CF	CB
4				
5				



ROAD
WORKS

INTERSECTIONS
COMO LAKE AVE AT MONTROSE ROAD



#503, 4190 Loughheed Hwy, Burnaby, B.C. V5C 6A8
T: (604)620-2056 F: (604)620-2056

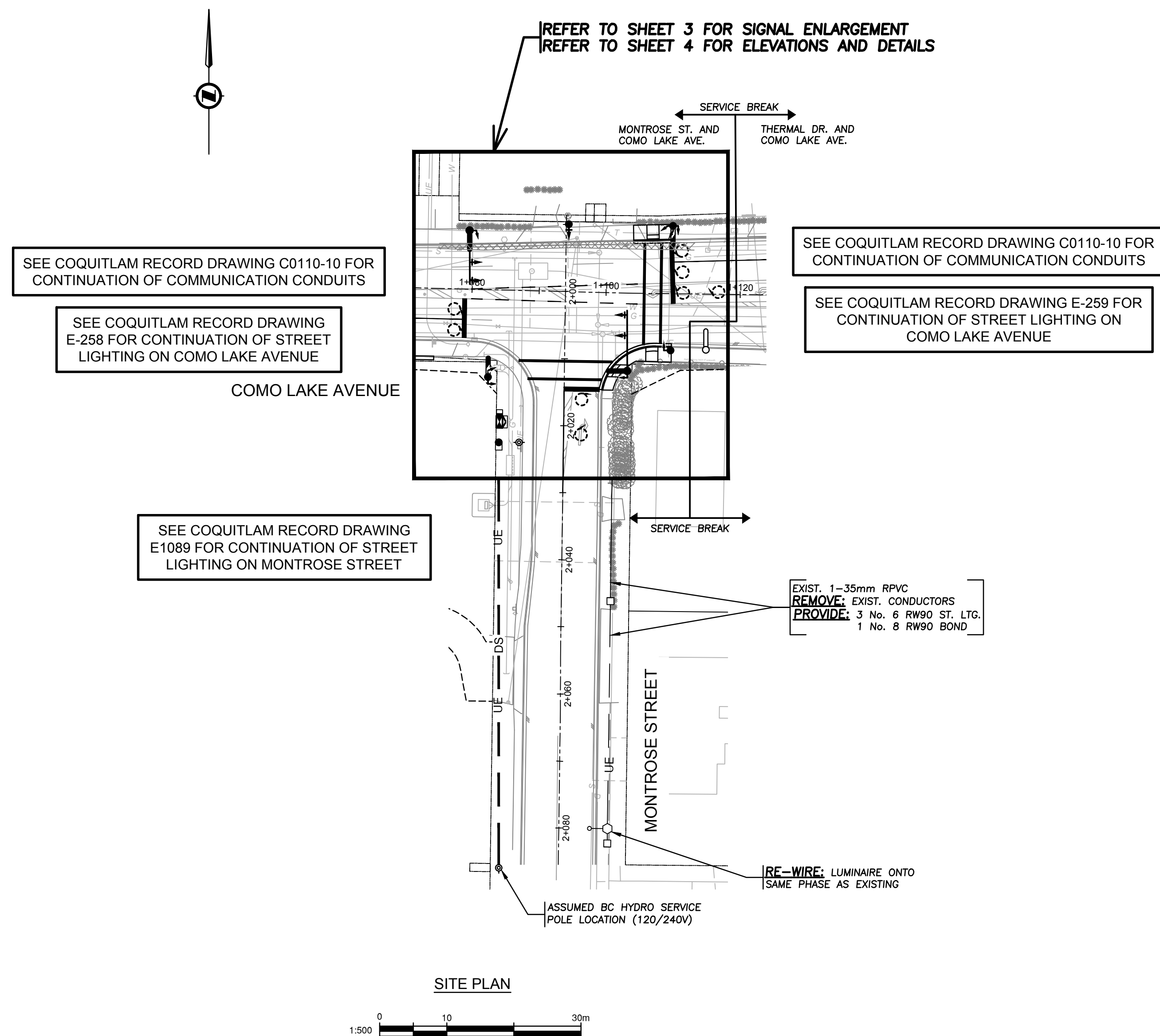
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DESIGN NO.

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CHECKED BY	CB	APPROVED BY	CB	04
				REV. 3

32663

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NOT FOR CONSTRUCTION

2021-05-27

CAUTION!

EXCAVATION NEAR OVERHEAD UTILITY POLE

ANY UNDERGROUND EXCAVATION WITHIN SOIL FOUNDATION INTERACTION AREA REQUIRES TEMPORARY UTILITY POLE SUPPORT. REFER TO ESS5 E3-04 GUIDE FOR CIVIL EXCAVATION NEAR DISTRIBUTION POLES FOR DETAILS. REFER TO BC HYDRO WORK ON WOOD POLES MANUAL (ON SAFEHUB) AND BC HYDRO 2017-1-F POLE HOLDING REQUIREMENTS FOR APPROVED TEMPORARY POLE SUPPORT METHODS. FOR MORE INFORMATION CONTACT workmethods@bchydro.com

LOCATING EQUIPMENT

FOR CLARITY CONDUITS, JUNCTION BOXES AND STREETLIGHT POLES MAY NOT BE SHOWN AT DESIGN OFFSETS. CONTRACTOR SHALL LOCATE ALL EQUIPMENT BASED ON STATIONS AND/OR OFFSETS AS NOTED AND SHALL NOT RELY ON COORDINATES OBTAINED FROM DMD DIGITAL DRAWINGS. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES TO DMD & ASSOCIATES PRIOR TO ORDERING EQUIPMENT.

CHECK BEFORE YOU DIG

CONTRACTOR SHALL REFER TO MUNICIPAL RECORD / CIVIL DESIGN DRAWINGS FOR ALL OTHER UTILITIES, SERVICE LOCATIONS, AND DETAILS. THE EXACT LOCATION OF THESE UTILITIES SHALL BE DETERMINED ON SITE BY THE CONTRACTOR. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES TO DMD & ASSOCIATES PRIOR TO ORDERING BASES.

OVERHEAD POWER LINE CONFLICTS

CONTRACTOR SHALL CONFIRM ON SITE PRIOR TO CONSTRUCTION THAT POLES & EQUIPMENT WILL MEET WorkSafeBC CLEARANCE REQUIREMENTS FOR OVERHEAD PRIMARY AND SECONDARY LINES. CONTRACTOR TO REPORT ANY CONFLICTS OR DISCREPANCIES TO DMD & ASSOCIATES PRIOR TO ORDERING POLES AND INSTALLING CONCRETE BASES.



COQ. ASBUILT No.

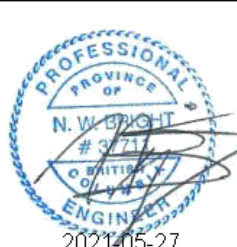
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#12-17358 104A Avenue, Surrey, BC, Canada V4N 5M3
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DMD PROJECT No. 6988-20-02 of 05



No.	Date	By	Revisions	Eng.
27-05-2021	NB	ISSUED FOR TENDER		
26-03-2021	NB	DETAILED SUBMISSION		
02-10-2020	NB	PRELIMINARY SUBMISSION		

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EP	06-07-2020
Drawn by	Date
YJ	06-07-2020
Checked by	Date
NB	06-07-2020
Approved by	Date
-	-

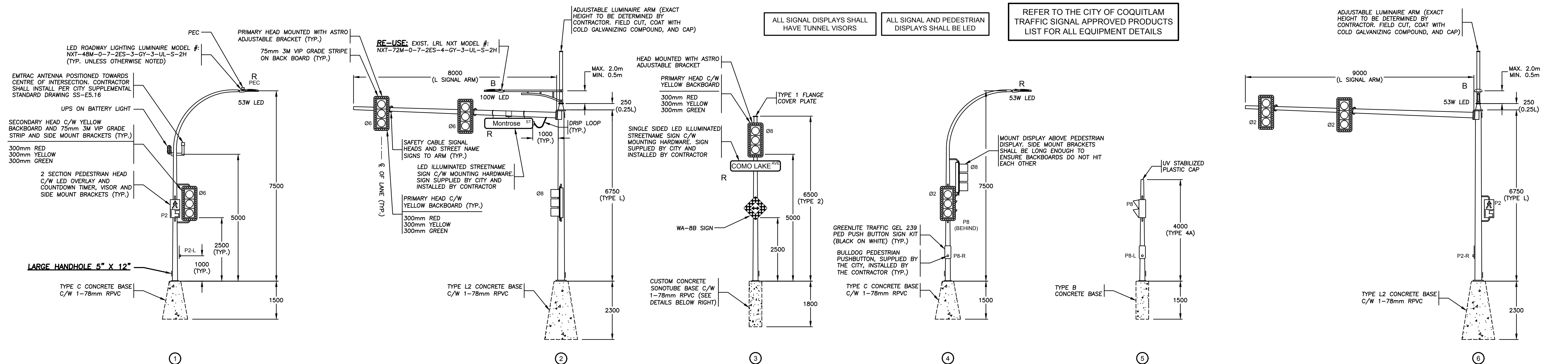


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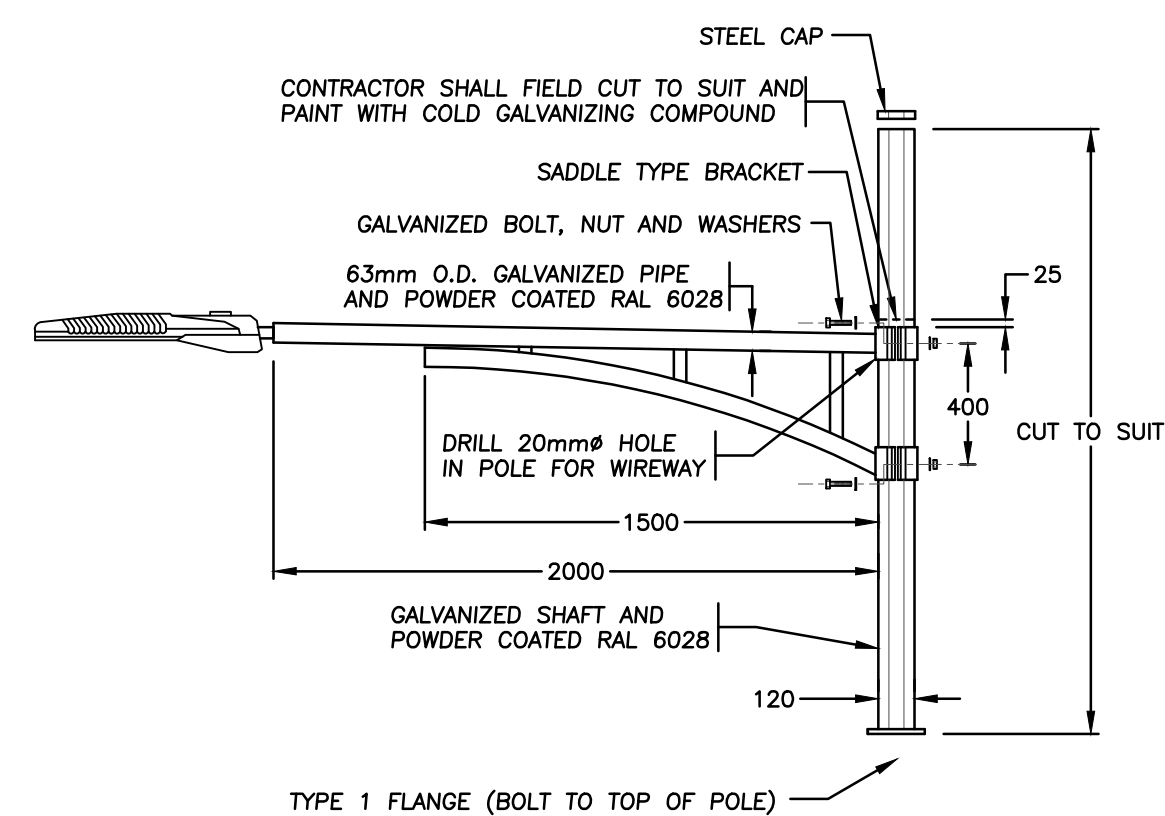
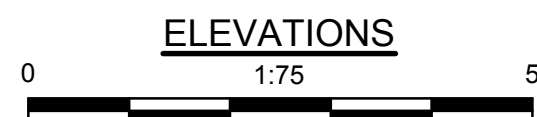
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Eng. Project No. -

Project MONTROSE STREET AND
COMO LAKE AVENUE
Description STREET LIGHTING

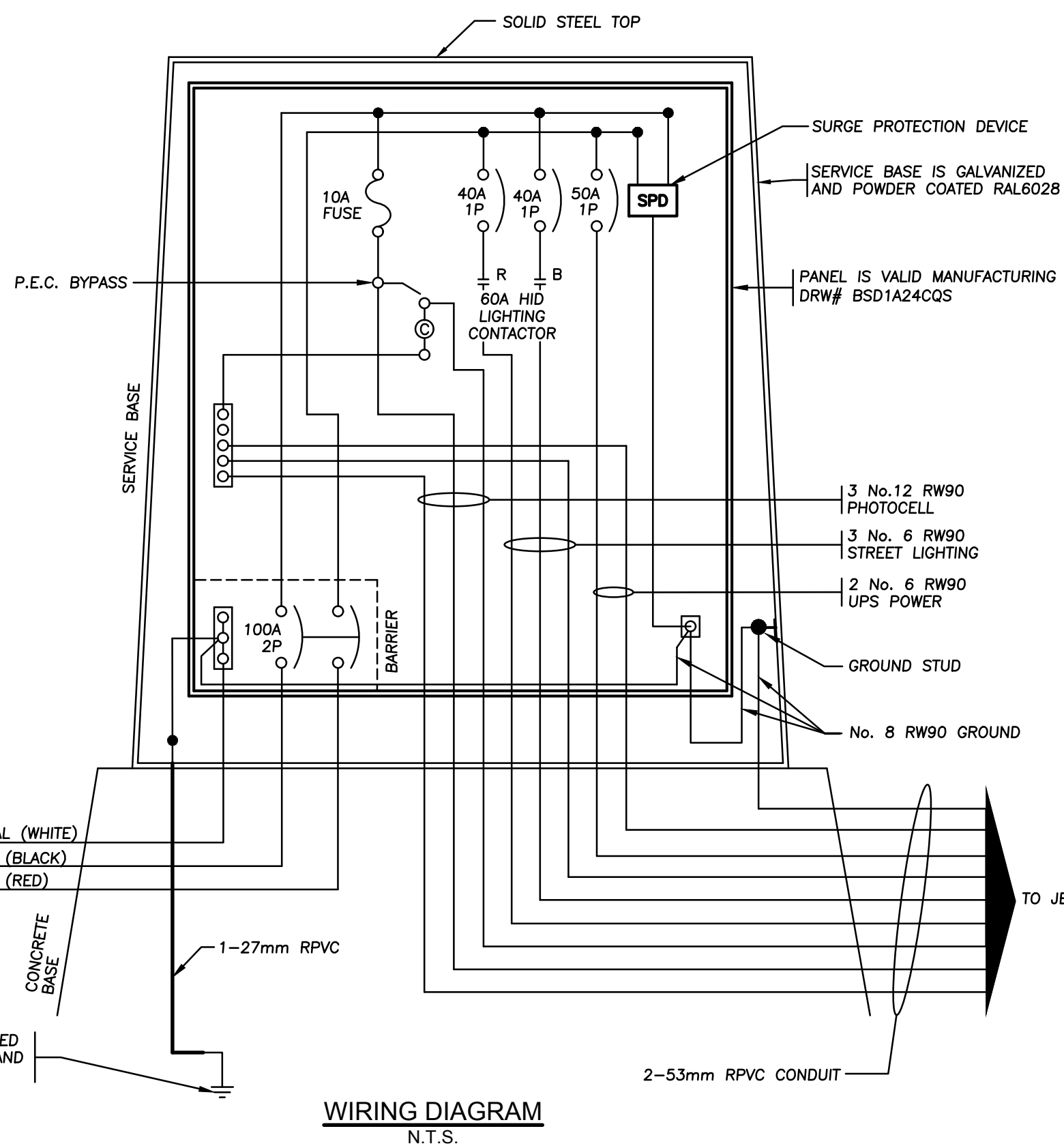
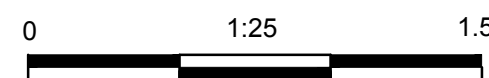
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WAVETRONIX VEHICLE DETECTION WILL BE
SUPPLIED AND INSTALLED BY OTHERS.



ADJUSTABLE 2A LUMINAIRE ARM - DETAILS



NOT FOR CONSTRUCTION

2021-05-27

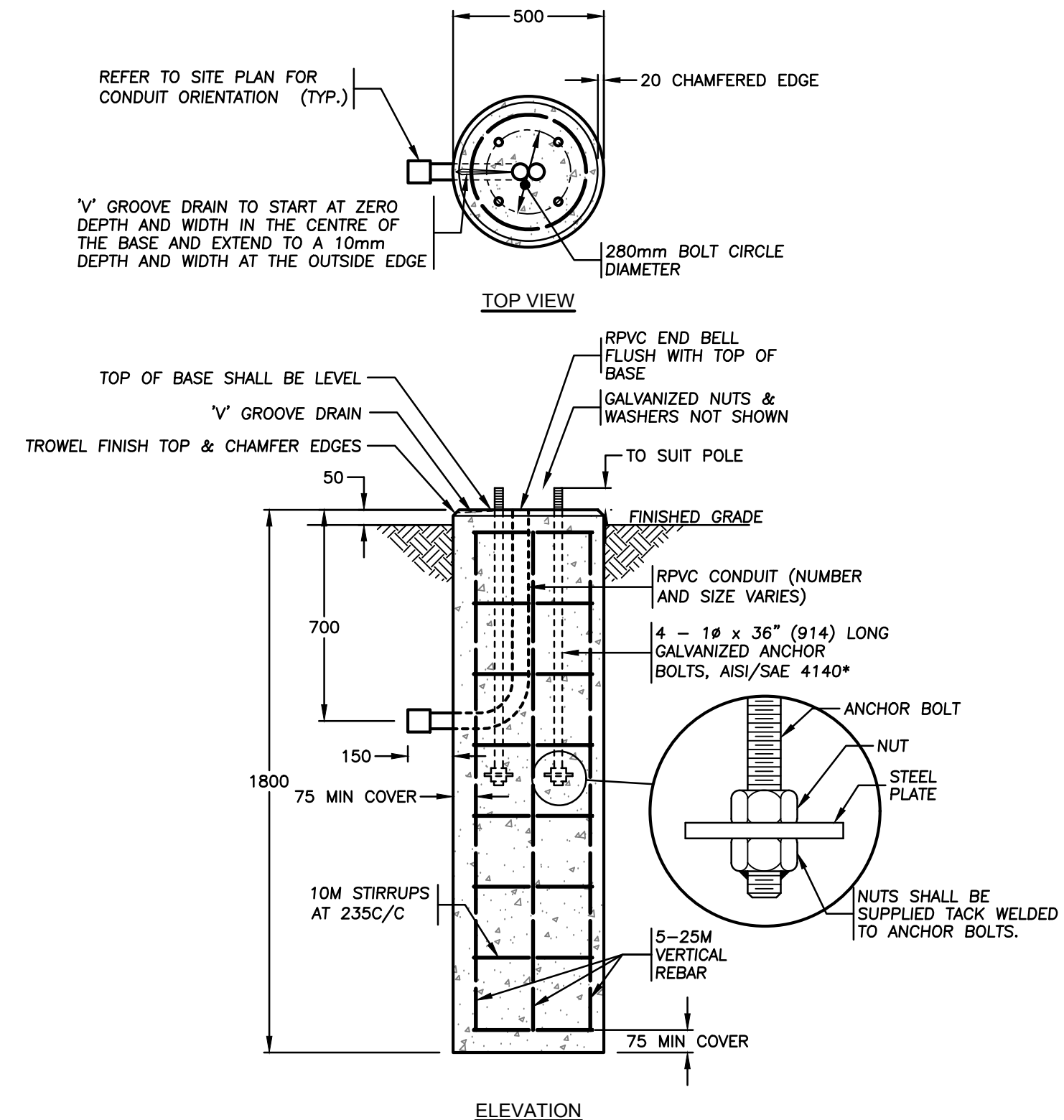
SONOTUBE CONCRETE BASE NOTES

- ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH CAN/CSA G14-M92
- APPLY LUBRIPATE OR OTHER SUITABLE GREASE TO EXPOSED PORTION OF ANCHOR BOLTS AND NUTS PRIOR TO POLE INSTALLATION
- CONCRETE TO HAVE A MINIMUM STRENGTH OF 30MPa AT 28 DAYS.
- FOOTINGS ARE DESIGNED FOR SOILS WITH A MINIMUM ALLOWABLE BEARING PRESSURE OF 125kPa.
- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MINISTRY STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2012 ISSUE) UNLESS OTHERWISE NOTED ON THESE DRAWINGS OR IN THE SPECIAL PROVISIONS.
- BACKFILL SHALL BE S.G.S.B. IN ACCORDANCE WITH SECTION 202 OF BC MOTI STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NO MORE THAN 150mm THICK TO 100% STANDARD PROCTOR MAXIMUM DENSITY (ASTM D-698).
- CONTRACTOR SHALL PROVIDE ALL MEANS NECESSARY TO ENSURE THAT EXCAVATIONS SHALL REMAIN DRY DURING CONSTRUCTION.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 20 x 20 U.N.O.
- CONFIRM ANCHOR BOLTS AND THEIR PLAN ORIENTATION PRIOR TO SETTING IN CONCRETE FORMS.

CONDUCTOR COLOUR CODE (FROM HANDHOLE TO SIGNAL)

ITEM	SIGNAL SECTION	CONDUCTOR COLOUR
Ø2	RED YELLOW GREEN	RED YELLOW BLUE
Ø6	RED YELLOW GREEN	RED (RED T.T.) YELLOW (RED T.T.) BLUE
Ø8	RED YELLOW GREEN	RED (ORANGE T.T.) BROWN (ORANGE T.T.) BLUE
P2	DON'T WALK WALK PUSH BOTTON	YELLOW BLUE PURPLE/PURPLE (YELLOW T.T.)
P8	DON'T WALK WALK PUSH BOTTON	BROWN (ORANGE T.T.) BLUE PURPLE/PURPLE (ORANGE T.T.)
ITEM	SIGNAL SECTION	CONDUCTOR COLOUR
SIGNAL NEUTRAL	NEUTRAL	WHITE
STREET/SIGN LIGHTING LUMINAIRES	B R	BLACK RED
TRAFFIC CONTROLLER	POWER	BLACK
PHOTOCELL	POWER	BLACK
	SWITCH LEG	RED
PANEL SUPPLY	POWER POWER	BLACK RED
NEUTRAL	NEUTRAL	WHITE
GROUND/BOND	GROUND/BOND	GREEN

NOTE: T.T. DENOTES TAPE TRACER.



SONOTUBE CONCRETE BASE DETAIL
N.T.S.

BC
1
CALL
BEFORE
YOU DIG
1-800-474-6886
or by CELLULAR #888
Vancouver Area 257-8840
CALL AT LEAST TWO FULL WORKING
DAYS BEFORE YOU PLAN TO DIG

COQ. ASBUILT No.

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DMD PROJECT No. 6988-20-04 of 05



No.	Date	By	Revisions	Eng.
27-05-2021	NB	ISSUED FOR TENDER		
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02-10-2020	NB	PRELIMINARY SUBMISSION		

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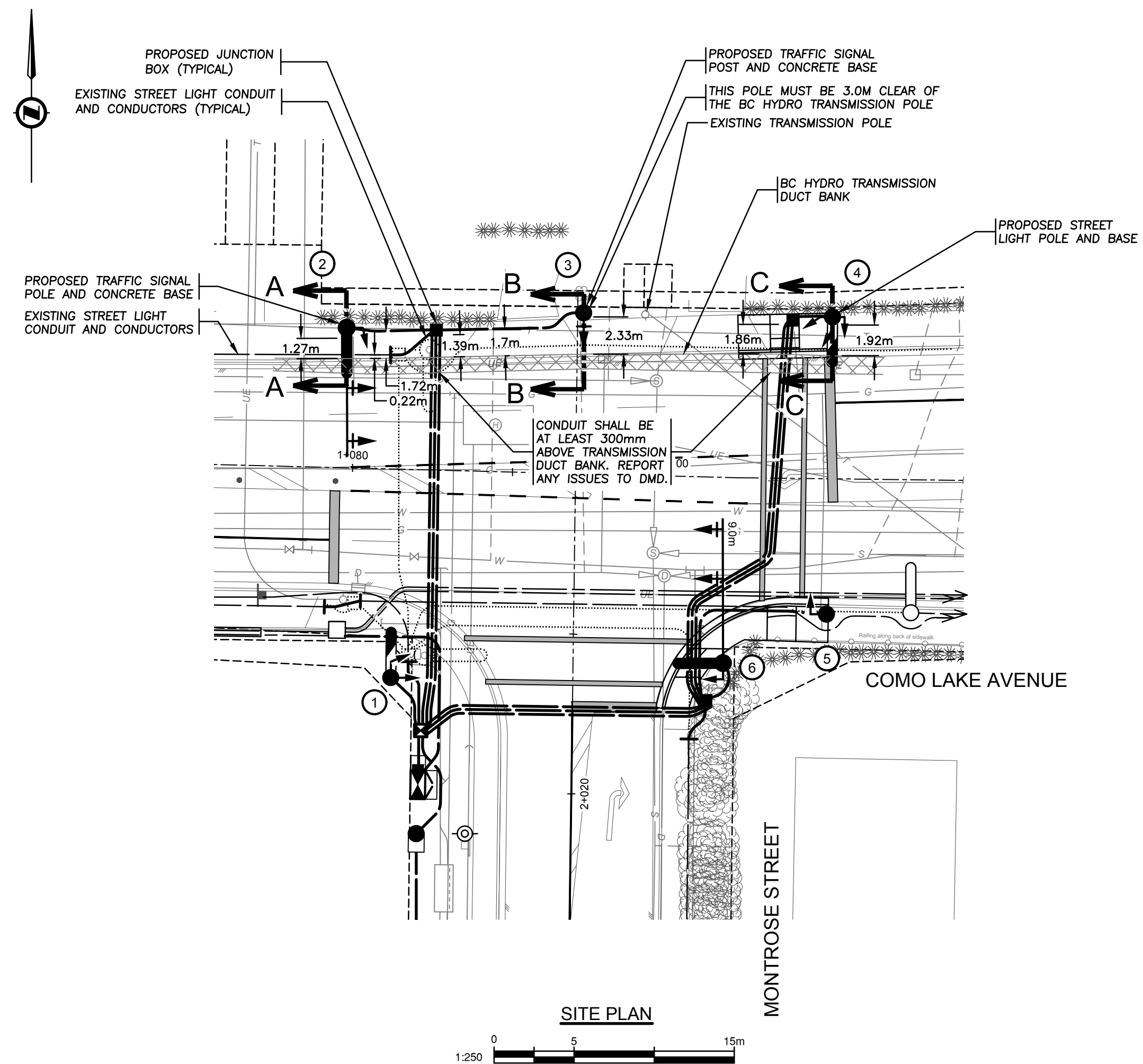
Coquitlam

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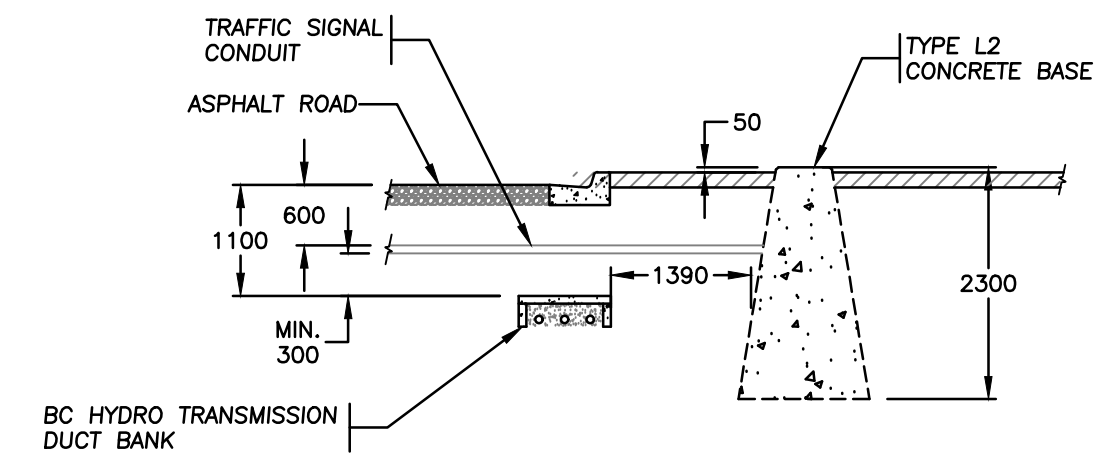
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Eng. Project No. .

Project
**MONTROSE STREET
ON COMO LAKE AVENUE**
Description
TRAFFIC SIGNAL

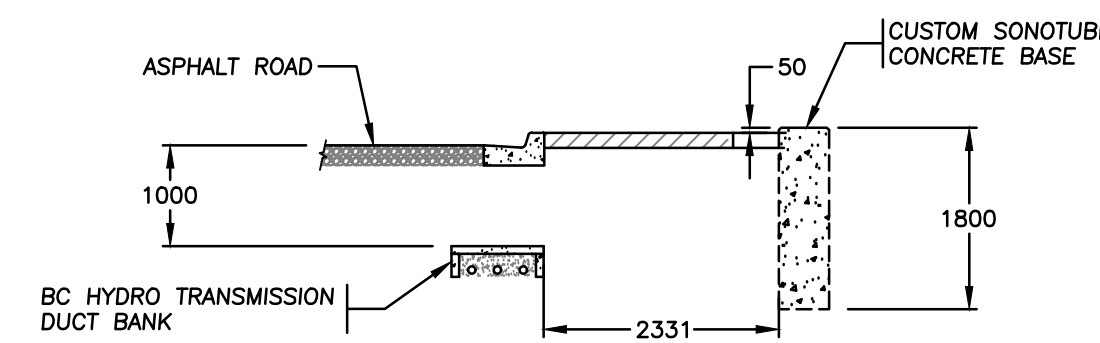
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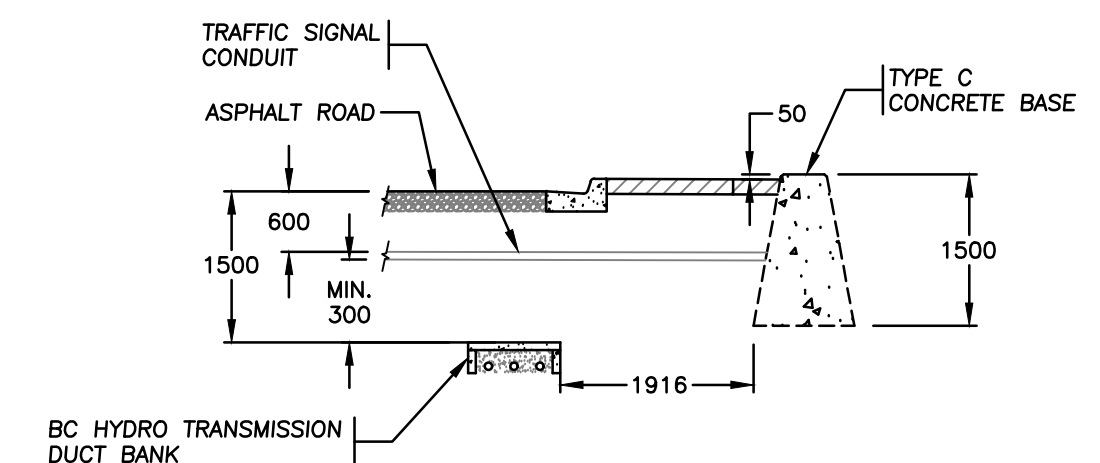
PRIOR TO THE WORK, THE CONTRACTOR SHALL USE AN UNDERGROUND LOCATING SERVICE TO LOCATE AND MARK THE LOCATION AND DEPTH OF THE UNDERGROUND TRANSMISSION CIRCUIT CABLES IN THE AREA OF THE WORK. ALL EXCAVATION WITHIN 1m OF DUCT BANK SHALL BE CARRIED OUT USING A HYDRO-VAC OR BY HAND-DIGGING. AN INSPECTOR IS REQUIRED FOR THE DAYLIGHTING WORK.



SECTION A-A
1:75



SECTION B-B
1:75



SECTION C-C
1:75

230KV TRANSMISSION CIRCUIT WAS DAY-LIGHTED AND SURVEYED ON JULY 17TH, 2020

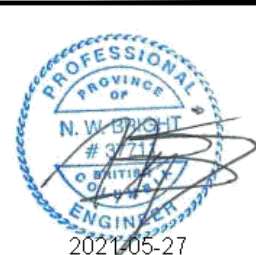
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2021-05-27



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Sheet of 5 of 5
Eng. Project No. .

Project **MONTROSE STREET
ON COMO LAKE AVENUE**
Description **TRANSMISSION COORDINATION
DRAWING**
File: 6988-20-TS