
RDN

REGIONAL DISTRICT OF NANAIMO

TRANSPORTATION SERVICES BUILDING

ROOF REPLACEMENT 2017

Project No. RFT 17-04

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August 28, 2017

DIVISION 0

00010 DIRECTORY

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OWNER REPRESENTATIVE: **RDN – Regional District of Nanaimo**
Darren Marshall PH: (250) 390-6516
Manager, Fleet & Projects Email: dmarshall@rdn.bc.ca

ROOFING CONSULTANT: **J. WATSON ROOFING CONSULTING INC.** Cell: (250) 634-4392
James (Jim) Watson PH: (250) 391-7887
224 Seafield Road Email: jwatson1@telus.net
Victoria, BC V9C 1S5

REQUEST FOR TENDER
RFT No. 17 – 04
REGIONAL DISTRICT OF NANAIMO TRANSIT SYSTEM
RDN TRANSPORTATION & EMERGENCY SERVICES BUILDING ROOF REPLACEMENTS
2017

Closing Date: September 15, 2017

Time: 2:00 pm Main Reception Desk (2nd Floor) Administration Building

Location: Regional District of Nanaimo
6300 Hammond Bay Road
Nanaimo, BC V9T 6N2

Attention: Darren Marshall, Manager, Fleet & Projects

Bidder: _____
Name of Firm Contact Name

Address Postal Code

Telephone Number

RDN TRANSPORTATION & EMERGENCY SERVICES BUILDING ROOF AREA TOTAL TENDER PRICE
(excluding GST) (GST)
\$ \$

ADDENDA

ADDENDUM NO. _____ DATED _____

It is herewith acknowledged that the foregoing Addenda have been received and form part of the Tender.

Table of Contents

1.0	INSTRUCTION TO BIDDERS
2.0	INTENT
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5.0.	MATERIALS AND WORK BY CONTRACTOR
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8.0	OWNERSHIP OF RESPONSES
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21.0	CCDC-2 STIPULATED PRICE CONTRACT

REGIONAL DISTRICT OF NANAIMO

**REQUEST FOR TENDERS
RFT No. 17 – 04**

RDN Transportation & Emergency Services Building Roof Replacements 2017

1.0 INSTRUCTION TO BIDDERS

- 1.1 The Owner, the Regional District of Nanaimo (RDN), offers to receive Tenders for the RDN Transportation & Emergency Services Roof Replacement 2017. Tenders must be sealed and signed and clearly marked RFT No. 17 – 04 and will be received by the RDN by hand, mail or delivery, up to the time and date stated on the summary sheet. No Tender submissions or amendments will be received by fax or email.
- 1.2 Any interpretation of, additions to, deletions from, or other corrections to the tender, will be issued as written addenda by the RDN. It is the sole responsibility of the bidders to check that all available information has been received prior to submitting a Tender, including receipt of all addenda.
- 1.3 Bidders are responsible for all costs relating to the preparation and submission of Bids. Except as expressly and specifically permitted in these instructions, no Bidders shall have any claim for any compensation of any kind whatsoever as a result of participating in the Tender, and by submitting a proposal, each proponent shall be deemed to have agreed that it has no claim.
- 1.4 All prices tendered must be in Canadian funds.
- 1.5 All Bids are irrevocable and must not be withdrawn for a period of sixty (60) days after the tender close date.
- 1.6 This Tender and any Contract resulting from this Tender shall be governed by and interpreted in accordance with the laws of the Province of British Columbia.
- 1.7 The Bid Form being submitted must be signed by an authorized representative of the Bidder.

2.0 INTENT

The RDN is requesting tenders to replace an existing Styrene Butadiene Styrene (SBS)/tar & gravel roof at the RDN's Transit shop facility. Work will involve the following:

2.1

- a. Removal and disposal of metal flashing, cleaning and priming of existing membrane surface.
- b. Install new asphaltic cover board in two part polyurethane adhesive, two ply SBS roof membrane system, accessory flashings, drains and sheet metal flashing.

2.2 The detailed specifications are attached.

2.3 The Owner (RDN) will enter into a CCDC 2 Stipulated Price Contract with the successful bidder (CONTRACTOR) subject to the terms and stipulations in this tender, including the Supplementary Conditions contained herein.

2.4 The Consultant is J. Watson Roofing Consulting Inc.

3.0 INFORMATION TO BIDDERS

3.1 Completion Date: December 31, 2017

The contract awarded under this Tender must be completed by no later than September 15, 2017.

4.0 SALES TAX

Any contract awarded as a result of this Tender will be subject to GST. Taxes are therefore to be shown separately and included in the Tender.

5.0. MATERIALS AND WORK BY CONTRACTOR

5.1 The Tender price shall include all labour, equipment, and materials required to complete the proposed work in response to this Tender, including any cranes required for the construction and removal and installation of the roof top units.

5.2 Tender price shall include testing under the RCABC RoofStar Guarantee program.

6.0 ENQUIRIES

Technical Inquiries:	RDN Transportation Contact:
<p>James (Jim) Watson, PRC, PRO J. Watson Roofing Consulting Inc. 224 Seafield Rd., Victoria, BC V9C 1S5 Cell: (250) 634-4392 Phone/Fax: (250) 391-7887 E-Mail: jwatson1@telus.net</p>	<p>Darren Marshall Regional District of Nanaimo 6400 Hammond Bay Rd., Nanaimo BC V9T 6N2 Phone 250-390-6516 E-Mail: dmmarshall@rdn.bc.ca</p>

7.0 AWARD

- 7.1 Award of this Tender is subject to approval of the RDN Regional Board and full funding being available for this project. After acceptance by the RDN, a written acceptance will be issued to the successful Bidder.
- 7.2 Proponents are required to respond to all specifications in order to be considered a valid Proposal.
- 7.3 Bids which contain qualifying conditions or which otherwise fail to conform to the requirements of this tender may result in a request for clarification to the bidder or outright rejection on the bid, at the RDN's sole discretion. Without limiting any other provision of these instructions to tender, the RDN may, however, retain for consideration bids which are non-conforming because they do not contain the content or form required by the tender or for failure to comply with the process for submission set out herein.
- 7.4 Notwithstanding any custom or trade practice to the contrary, the RDN reserves the right to reject any and/or all Proposals for any reason or to accept any Proposal that the RDN, in its sole unrestricted discretion, deems most advantageous to itself, and may reject any and all Bids, and may waive any technical or formal defect in a Bid and accept that Bid. The lowest or any Proposal may not necessarily be accepted. The Proponent acknowledges the rights of the RDN under this clause and absolutely waives any right of action against the RDN for failure of the RDN to accept its proposal whether such right of action arises in contract, negligence, or any other cause of action, other than bad faith on the part of the RDN.
- 7.5 Without limiting the foregoing, the RDN may, in its absolute discretion reject a bid submitted by a bidder if the bidder's past performance of similar work for the owner has resulted in outstanding or ongoing legal liability or legal claims against the RDN.

- 7.6 Without limiting any other provision of this Tender, the RDN reserves the right to reject any tenders of a company that owes, or whose principals owe, overdue monies to the RDN at the time of tendering.
- 7.7 While previous experience with the RDN is not required and is not in any way confer an advantage, the RDN's previous experience with the proponent may also be taken into consideration in the evaluation of its proposals. The RDN reserves the right to rely upon its records, references and recollection in this regard.
- 7.7 Tenders received after the tender close date and time will be rejected and returned unopened.
- 7.8 Unless otherwise requested in writing by the designated RDN employee in this tender, a proponent must not contact or communicate with any elected or appointed officer or employee of the RDN other than the designated employee in relation to the Proposal prior to the award of such Proposal as outlined in this tender. Any such communication will result in disqualification of the Proposal from further consideration.

8.0 OWNERSHIP OF RESPONSES

- 8.1 All documents, including Responses, submitted to the RDN become property of the RDN. The RDN is subject to the provisions of *The Freedom of Information and Protection of Privacy Act*. As a result, while Section 21 of the *Act* does offer some protection for third party business interests, the RDN cannot guarantee that any information provided to the RDN can or will be held in confidence.

9.0 RESPONSIBILITY OF TENDERERS

- 9.1 Each Bidder is responsible for informing itself as to the contents and requirement of this Tender. Each Bidder is solely responsible to ensure that they have obtained and considered all information necessary to understand the requirements of the Tender and to prepare and submit their Bid.
- 9.2 If a Bidder is in doubt as to the true meaning of any part of this Tender, or finds omissions, discrepancies or ambiguities, a request for interpretation or correction may be submitted to the RDN Transportation Contact and, if deemed necessary by the Regional District, an addendum will be issued. This procedure also applies should the Regional District, of its own accord, wish to expand or delete any part of this Tender.

10.0 ACCURACY OF INFORMATION

10.1 The Regional District makes no representation or warranty, either expressed or implied, with respect to the accuracy or completeness of any information contained in or referred to in this Tender. The Town will not be responsible for any loss, damage or expense incurred by a Bidder as a result of any inaccuracy or incompleteness in this Tender, or as a result of any misunderstanding or misinterpretation of the terms of the Tender on the part of any Bidder.

11.0 CANCELLATION

11.1 The Regional District reserves the right to cancel this Tender at any time and for any reason, and will not be responsible for any loss, damage, cost or expense incurred or suffered by any Bidder as a result of that cancellation.

12.0 BIDDERS' EXPENSES

12.1 Bidders are solely responsible for all of their own costs and expenses relating to the preparation and submission of Bids. Without limiting section 13.1, if the Regional District elects to reject all Bids, the Regional District will not be liable to any Bidder for any claims, whether for costs or damages incurred by the Bidder in preparing the tender, loss of anticipated profit in connection with any final Contract, or any other matter whatsoever.

13.0 LIMITATION OF DAMAGES

13.1 The Bidder, by submitting a Bid, agrees that it will not claim damages, for whatever reason, relating to the Contract or in respect of the competitive process, including any costs incurred by the Bidder in preparing its Bid and the Bidder, by submitting a Bid, waives any claim for loss of profits if no Contract is made with the Bidder.

14.0 AVAILABILITY FOR ACCESS

14.1 Access to complete the work is only available during the following times:

- Exclusive access to the roof is available from 6:00 am to 6:00 pm up to, December 31, 2017. Other times and dates may be available working around Transit Shop programming.
- The rooftop gas lines to be decommissioned by Owner; if necessary.

15.0 FORM OF TENDER

The following format and sequence should be followed in order to provide consistency and ensure each Tender submitted receives full consideration. All pages should be consecutively numbered.

15.1 Summary page: Bidder information with the stipulated price.

15.2 Section 1 – Work Schedule: Confirmation the contract can be completed in the times indicated under the availability of access dates.

16.0 SCHEDULE OF CONTRACT DOCUMENTS

16.1 Form agreement CCDC 2 stipulated price contract Articles A1-A8 (attached – Appendix 'A').

16.2 Form agreement CCDC 2 stipulated price contract definitions and general conditions (not attached).

16.3 Supplementary Conditions for CCDC 2 stipulated price contract (attached as Appendix D).

16.3 Project specifications (attached).

16.4 Roof Layout Plan (attached).

17.0 BID BONDS

17.1 Ensure the Bid Form is accompanied by a bid bond in the amount of ten percent (10%) of the Bid Price. Certified cheques and guaranteed letters of credit will not be accepted.

17.2 Ensure the bid bond is issued on a CCDC 220 Bid Bond form or other form approved by the Surety Association of Canada and issued by a Surety acceptable to the *Owner*.

17.3 If a successful bidder declines to enter a Contract within the period set out in the Bid Form, or a further agreed period of time, the principal and surety will be required to pay to the *Owner* a sum equivalent to the difference between the principal's bid and the accepted bid or ten percent (10%) of the principal's bid, whichever is the lesser.

18.0 TENDER MEETING

18.1 A mandatory site meeting will be held on Thursday, August 31, 2017 between 9:00 a.m. and 10:00 a.m., for all contractors to view the job site and calculate the extent of the work. Meet at the Transportation Services entrance, 6400 Applecross Road, Nanaimo BC,

(entrance off Calinda Rd.) in the RDN Transit building right hand side of the main parking lot.

19.0 PROJECT SPECIFICATIONS

The scope of work is detailed and specified in the attached specification.

20.0 PROJECT WARRANTY

The project will be covered under the Roofing Contractor Association Ten year RoofStar Guarantee programme; see specification for details. Upon completion of the contract, the Contractor shall provide a Company Workmanship Guarantee covering all workmanship defects for a period of Ten (10) Years; and an asphalt Shingle Manufacturer's Life-Time Limited Material Defects Warranty to the Owner for the roofing application completed. Cost of the Guarantee and Material Warranty are to be included in the Tender Price, and; in addition, provide a RCABC Guarantee Corp. 10 year "Roof Star" Labour and Material Guarantee inclusive of all inspection fees and administration costs.

21.0 CCDC-2 STIPULATED PRICE CONTRACT

21.1 CCDC-2 Article A-1/A-8 (successful tender).

21.2 CCD2 – Definitions and General Conditions of Stipulated Contract price (not attached).

21.3 CCDC2 – Supplementary Conditions (attached as Appendix D).

Appendix 'A'

Standard Construction Document CCDC 2 – 2008

AGREEMENT BETWEEN OWNER AND CONTRACTOR

For use when a stipulated price is the basis of payment.

This Agreement made on the _____ day of _____ in the year _____.

by and between the parties

Regional District of Nanaimo
6300 Hammond Bay Road, Nanaimo, in the Province of British Columbia
hereinafter called the "Owner"

and

hereinafter called the "Contractor"

The Owner and the Contractor agree as follows:

ARTICLE A-1 THE WORK

The Contractor shall:

- 1.1 perform the Work required by the Contract Documents for
Transportation Services Building Roof Replacement 2017

_____ *insert above the name of the Work*

located at

6400 Applecross Road, Nanaimo, in the Province of British Columbia

_____ *insert above the Place of the Work*

for which the Agreement has been signed by the parties, and for which

J. Watson Roofing Consulting INC.
James (Jim) Watson, 224 Seafield Road, Victoria, BC

_____ *insert above the name of the Consultant*

is acting as and is hereinafter called the "Consultant" and

- 1.2 do and fulfill everything indicated by the Contract Documents, and
- 1.3 commence the Work by the _____ day of _____ in the year _____ and, subject to adjustment in Contract Time as provided for in the Contract Documents, attain Substantial Performance of the Work, by the _____ day of _____ in the year _____.

ARTICLE A-2 AGREEMENTS AND AMENDMENTS

- 2.1 The Contract supersedes all prior negotiations, representations or agreements, either written or oral, relating in any manner to the Work, including the bidding documents that are not expressly listed in Article A-3 of the Agreement - CONTRACT DOCUMENTS.
- 2.2 The Contract may be amended only as provided in the Contract Documents.

CCDC 2 – 2008 File 005213

1

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ARTICLE A-3 CONTRACT DOCUMENTS

3.1 The following are the *Contract Documents* referred to in Article A-1 of the Agreement - THE WORK:

- Agreement between *Owner* and *Contractor*
- Definitions
- The General Conditions of the Stipulated Price Contract

*

Request for Tender - RFT - 25 - August - 2017 Including

Directory - 1 page

Request for Tender - 6 pages

Specification Index:

DIVISION NO. & TITLE	SECTION No. & TITLE	PAGES
DIVISION 1 - GENERAL REQUIREMENTS 01011	Summary of Work	1-4
	01041 Project Coordination	1-2
	01200 Project Meetings	1-1
	01220 General Instructions	1-2
	01300 Submittals	1-1
	01310 Construction Schedule	1-1
	01400 Quality Control 1-1	
	01500 Temporary Facilities and Controls/Site Security	1-3
	01600 Material and Equipment	1-2
	01700 Contract Closeout	1-4
DIVISION 2 – SITE WORK	02052 Deconstruction, Demolition Waste Management and Disposal	1-2
DIVISION 3, 4 & 5 – NOT USED		
DIVISION 6 - WOOD AND PLASTICS	06100 Rough Carpentry	1-2
DIVISION 7 - THERMAL AND MOISTURE PROTECTION		
	07213 Board Insulation & Overlay Board	1-2
	07535 Modified Bituminous Membranes	1-9
	07620 Metal Flashing,	1-2
	07900 Sealants	1-2
Appendix 'A' - Statement of work as per the Transportation Services Building Roof Replacement 2017 (attached)		
Appendix 'B' - Prime Contractor Preconstruction Meeting Form (attached)		
Appendix 'C' - Existing Known Hazard Assessment Form (attached)		
Appendix 'D' - Supplementary Conditions (attached)		
DRAWINGS		
A-01 ROOF LAYOUT DRAWING		
A-02 ROOFING SYSTEM INSTALLATION		
A-03 SPUN COPPER ROOF DRAIN		
A-04 DRAINAGE SCUPPER TYPICAL		
A-05 ROOF SECTION THROUGH LOW PARAPET WALL TYPICAL		

* (Insert here, attaching additional pages if required, a list identifying all other Contract Documents e.g. supplementary conditions; information documents; specifications, giving a list of contents with section numbers and titles, number of pages and date; material finishing schedules; drawings, giving drawing number, title, date, revision date or mark; addenda, giving title, number, date)

CCDC 2 – 2008 File 005213

2

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RDN - Regional District of Nanaimo
TRANSPORTATION SERVICES BUILDING

2017 Roof Replacement

Project No. RFT 17-04

ARTICLE A-4 CONTRACT PRICE

4.1 The *Contract Price*, which excludes *Value Added Taxes*, is:

_____ /100 dollars \$ _____

4.2 *Value Added Taxes* (of _____ %) payable by the *Owner* to the *Contractor* are:

_____ /100 dollars \$ _____

4.3 Total amount payable by the *Owner* to the *Contractor* for the construction of the *Work* is:

_____ /100 dollars \$ _____

4.4 These amounts shall be subject to adjustments as provided in the *Contract Documents*.

4.5 All amounts are in Canadian funds.

ARTICLE A-5 PAYMENT

5.1 Subject to the provisions of the *Contract Documents*, and in accordance with legislation and statutory regulations respecting holdback percentages and, where such legislation or regulations do not exist or apply, subject to a holdback of Ten _____ percent (10 %), the *Owner* shall:

- .1 make progress payments to the *Contractor* on account of the *Contract Price* when due in the amount certified by the *Consultant* together with such *Value Added Taxes* as may be applicable to such payments, and
- .2 upon *Substantial Performance of the Work*, pay to the *Contractor* the unpaid balance of the holdback amount when due together with such *Value Added Taxes* as may be applicable to such payment, and
- .3 upon the issuance of the final certificate for payment, pay to the *Contractor* the unpaid balance of the *Contract Price* when due together with such *Value Added Taxes* as may be applicable to such payment.

5.2 In the event of loss or damage occurring where payment becomes due under the property and boiler insurance policies, payments shall be made to the *Contractor* in accordance with the provisions of GC 11.1 – INSURANCE.

5.3 Interest

.1 Should either party fail to make payments as they become due under the terms of the *Contract* or in an award by arbitration or court, interest at the following rates on such unpaid amounts shall also become due and payable until payment:

- (1) 2% per annum above the prime rate for the first 60 days.
- (2) 4% per annum above the prime rate after the first 60 days.

Such interest shall be compounded on a monthly basis. The prime rate shall be the rate of interest quoted by

Bank of Canada

(Insert name of chartered lending institution whose prime rate is to be used)

for prime business loans as it may change from time to time.

.2 Interest shall apply at the rate and in the manner prescribed by paragraph 5.3.1 of this Article on the settlement amount of any claim in dispute that is resolved either pursuant to Part 8 of the General Conditions – DISPUTE RESOLUTION or otherwise, from the date the amount would have been due and payable under the *Contract*, had it not been in dispute, until the date it is paid.

ARTICLE A-6 RECEIPT OF AND ADDRESSES FOR NOTICES IN WRITING

6.1 *Notices in Writing* will be addressed to the recipient at the address set out below. The delivery of a *Notice in Writing* will be by hand, by courier, by prepaid first class mail, or by facsimile or other form of electronic communication during the transmission of which no indication of failure of receipt is communicated to the sender. A *Notice in Writing* delivered by one party in accordance with this *Contract* will be deemed to have been received by the other party on the date of delivery if delivered by hand or courier, or if sent by mail it shall be deemed to have been received five calendar days after the date on which it was mailed, provided that if either such day is not a *Working Day*, then the *Notice in Writing* shall be deemed to have been received on the *Working Day* next following such day. A *Notice in Writing* sent by facsimile or other form of electronic communication shall be deemed to have been received on the date of its transmission provided that if such day is not a *Working Day* or if it is received after the end of normal business hours on the date of its transmission at the place of receipt, then it shall be deemed to have been received at the opening of business at the place of receipt on the first *Working Day* next following the transmission thereof. An address for a party may be changed by *Notice in Writing* to the other party setting out the new address in accordance with this Article.

Owner

Regional District of Nanaimo

*name of Owner**

6300 Hammond Bay Road, in the Province of British Columbia

address

facsimile number

email address

Contractor

*name of Contractor**

address

facsimile number

email address

Consultant

J. Watson Roofing Consulting INC.

James (Jim) Watson

*name of Consultant**

224 Seafield Road, Victoria, BC V9C 1S5

address

(250) 391-7887

facsimile number

jwatson1@telus.net

email address

* If it is intended that the notice must be received by a specific individual, that individual's name shall be indicated.

ARTICLE A-7 LANGUAGE OF THE CONTRACT

7.1 When the *Contract Documents* are prepared in both the English and French languages, it is agreed that in the event of any apparent discrepancy between the English and French versions, the English / ~~French~~ # language shall prevail.
Complete this statement by striking out inapplicable term.

7.2 This Agreement is drawn in English at the request of the parties hereto. La présente convention est rédigée en anglais à la demande des parties.

ARTICLE A-8 SUCCESSION

8.1 The *Contract* shall enure to the benefit of and be binding upon the parties hereto, their respective heirs, legal representatives, successors, and assigns.

In witness whereof the parties hereto have executed this Agreement by the hands of their duly authorized representatives.

SIGNED AND DELIVERED
in the presence of:

WITNESS

signature

name of person signing

signature

name of person signing

WITNESS

signature

name of person signing

signature

name of person signing

OWNER

Regional District of Nanaimo

name of owner

signature

name and title of person signing

signature

name and title of person signing

CONTRACTOR

name of Contractor

signature

name and title of person signing

signature

name and title of person signing

N.B. Where legal jurisdiction, local practice or Owner or Contractor requirement calls for:
(a) proof of authority to execute this document, attach such proof of authority in the form of a certified copy of a resolution naming the representative(s) authorized to sign the Agreement for and on behalf of the corporation or partnership; or
(b) the affixing of a corporate seal, this Agreement should be properly sealed.

CCDC 2 – 2008 File 005213

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RDN - Regional District of Nanaimo
TRANSPORTATION SERVICES BUILDING

2017 Roof Replacement

Project No. RFT 17-04

Appendix 'B'

 <p>REGIONAL DISTRICT OF NANAIMO</p>	<p>Prime Contractor Preconstruction Meeting Form</p>
---	---

Date: _____ Meeting Location: RDN Transit Office

Firm Name: _____ Contract No.: _____

Prime Contractor: _____

Prime Contractor's Superintendent: _____

RDN Contract Representative: _____

AGREEMENT

The Prime Contractor:

- Acknowledges appointment as Prime Contractor defined by WorkSafe BC OH&S Regulations Sections 20.2 and 20.3, and in the *Workers' Compensation Act, Sections 118 Clauses 1 and 2*.
- Understands the Owners duties as defined in the *Workers' Compensation Act, Sections 119*.
- Understands for any discrepancy establishing health and safety protocol, WorkSafe BC OH&S Regulation and/or the *Workers' Compensation Act (Part 3)* shall prevail.
- Acknowledges being informed of any known workplace hazards by the Owner or Owner's delegate, by signing attached "Existing Known Hazard Assessment" form.
- Shall communicate known hazards to any persons who may be affected and ensure appropriate measures are taken to effectively control or eliminate the hazards.
- Shall ensure all workers are suitably trained and qualified to perform the duties for which they have been assigned.
- Shall ensure or coordinate first aid equipment and services as required by WorkSafe BC OH&S Regulation.
- Shall coordinate the occupational health and safety activities for the project.
- Assumes responsibility for the health and safety of all workers and for ensuring compliance by all workers with the *Workers' Compensation Act (Part 3)* and WorkSafe BC OH&S Regulation.
- Understands any WorkSafe BC violation by the Prime Contractor may be considered a breach of contract resulting in possible termination or suspension of the contract and/or any other actions deemed appropriate at the discretion of the Owner.
- Understands any penalties, sanctions or additional costs levied against the Prime Contractor will be the responsibility of the Prime Contractor.
- Accepts the following required documents shall be maintained and made available upon request from the Owner and/or WorkSafe BC Prevention officer at the workplace.

The documents required to be maintained and available by the Prime Contractor will include, but not be limited to:

- All notices which the Prime Contractor is required to provide to WorkSafe BC as per WorkSafe BC OH&S Regulation.
- Any written summaries of remedial action taken to reduce occupational health and safety hazards within the area of responsibility.
- All directives and inspection reports issued by WorkSafe BC.
- Records of any incidents and accidents occurring within the Prime Contractor's area of responsibility.
- Completed accident investigations for any incidents and accidents occurring within the Prime Contractor's area of responsibility.

On a construction workplace, these additional documents are required to be maintained and available by the Prime Contractor:

- Records of all orientation and regular safety meetings held between contractors and their workers, including topics discussed, worker names and companies in attendance.
- Written evidence of regular inspections within the workplace.
- Occupational first aid records.
- Worker training records.
- Current list of the name of a qualified person designated to be responsible for each subcontractor (employer's) site health and safety activities.
- Diagram of the emergency route to the hospital.

The following information must be provided to the Owner Representative:

- WorkSafe BC Notice of Project
- WorkSafe BC Clearance Letter
- Prime Contractor's OH&S Safety Program
- Prime Contractor's OH&S Safety Program Document

▪ First Aid Attendants: _____

▪ Safety Supervisor: _____

▪ Location of First Aid Station: _____

Signature of Prime Contractor: _____

Signature of Owner Contract Representative: _____

Appendix 'C'

EXISTING KNOWN HAZARD ASSESSMENT

Discussion between the Prime Contractor and the Regional District of Nanaimo (RDN) Representative

Date: _____ Meeting Location: _____

Prime Contractor: _____

Prime Contractor Representative: _____

- RDN Contract Representative to make the Prime Contractor aware of any known extraordinary pre-existing hazards peculiar to the contract.
- It is recognized the known pre-existing hazards identified may not be a comprehensive list and due caution is always required.
- Use additional pages if necessary.

Identified Extraordinary Hazards	Action required to eliminate or control hazards and ensure worker safety
Comment:	
Comment:	
Comment:	

Prime Contractor Representative (signature)

RDN Representative (signature)

Prime Contractor Representative (printed)

RDN Representative (printed)

RDN - Regional District of Nanaimo
TRANSPORTATION SERVICES BUILDING

2017 Roof Replacement

Project No. RFT 17-04

Appendix 'C'

Site Name/ID	Build Date	Area (m ²)	General Condition
Transit Building – 6400 Applecross Road	1975	Footprint – 1,760± Gross Area – 1,950±	Good

Site Description:

The structure is a one and a half story, block, steel and wood-frame constructed industrial office building. The building HVAC is a combination of a heat pump system and electric baseboards. Insulation was not observed but is presumed to be fiberglass. Floors are a mix of unfinished concrete or finished with carpet and rubber products. Walls are a mix of painted concrete block, drywall and wood paneling. Ceilings are a mix of drywall and textured drywall. The exterior finish is concrete block and wood siding. Soffits and exterior detail are wood construction. Roofing consists of asphalt roll roofing and a green roof system. Windows are metal frame. The building is connected to municipal sewer and water, and hydro. In 2008 an addition was completed and extensive renovations were done to the main office areas of the building. In 2014 the ceiling was replaced in the garage area. It is possible that asbestos-containing drain pipe is present in the walls of the garage bay and underground at this property but this could not be safely sampled at the time of our inspection. Due to the age of the building it is possible that vermiculite insulation is present in the voids in the concrete block walls. Drilling walls to conduct sampling was not performed.

Asbestos Containing Materials:

Material	Location & Area	Type & % Asbestos	Accessibility	Condition	Friability	In Bldg. Airstream	Risk Level*
N/E	N/E	N/E	N/E	N/E	N/E	N/E	N/E

Lead Containing Materials:

Material	Location	Lead Content (ppm)	Accessibility	Condition	Leachable	Risk Level*
N/E	N/E	N/E	N/E	N/E	N/E	N/E

N/E = Not Established

Other Hazardous Materials:

Type	Form & Location(s)	Risk Level*
Arsenic	NONE	N/A
Mercury	Fluorescent Lights and Tubes Throughout Building	Low
PCBs	NONE	N/A
Petroleum	9,000 L CNG Tank, 25,000 L Diesel Tank, 410 L Diesel Generator, Waste Oil Tank	Moderate
Controlled Products	Lubricants and Parts Washers in Garage Bay	Low
UPFI	NONE	N/A
Ozone-Depleting	NONE	N/A
Silica	Concrete Block/Mortar, Drywall	Low
Radioactive	NOTHING ON SITE CHECKLIST	N/A
Bio-Hazard	NONE	N/A

*Risk to Occupants, materials in undisturbed state

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

Appendix 'D'

The Articles of Agreement between *Owner* and *Contractor*, the General Conditions of the Canadian Standard Construction Document Stipulated Price Contract CCDC 2 – 2008 (the "*Contract*"), the Instructions to Bidders and Supplementary Conditions together with the following alterations and additions shall apply in their entirety to the *Contract*.

ARTICLES

The General Conditions (CCDC2) are hereby revised as follows:

DEFINITIONS

Replace Definitions 19, 20, and 22 with the following:

19. Subcontractor

Subcontractor has the meaning attributed to the term "subcontractor" in the Builders Lien Act.

20. Substantial Performance of the Work

Substantial Performance of the Work has the meaning attributed to the term "completed" in the Builders Lien Act.

22. Supplier

Supplier has the meaning attributed to the term "material supplier" in the Builders Lien Act.

Add the following:

27. Builders Lien Act

Builders Lien Act means the British Columbia Builders Lien Act, S.B.C. 1997, c.45, as amended, as in effect on the date of this Contract.

28. Certificate of Completion

Certificate of Completion means a certificate issued by the Consultant in accordance with section 7 of the Builders Lien Act and GC 5.4.2.

29. Change

Change means a Change Order or Change Directive.

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

30. Safety Regulations

Safety Regulations means the rules, regulations, and practices required by the construction health and safety legislation applicable to the Place of the Work.

PART 1 GENERAL CONDITIONS

GC 1.1 CONTRACT DOCUMENTS

Replace GC 1.1.7.1 with the following:

GC 1.1.7.1 the order of priority of documents, from highest to lowest shall be:

- (a) Addenda and Appendices, if any;
- (b) Supplementary Conditions;
- (c) Agreement between Owner and the Contractor;
- (d) Definitions;
- (e) General Conditions;
- (f) Specifications;
- (g) Schedules; and
- (h) Drawings.

GC 2.2 ROLE OF THE CONSULTANT

Add the following:

GC 2.2.19 The Consultant or the Owner, acting reasonably, may from time to time require the Contractor to remove from the Project any personnel including project managers, superintendents or Subcontractors. Such persons shall be replaced by the Contractor in a timely fashion to the satisfaction of the Consultant or the Owner, as the case may be, at no cost to the Owner.

GC 2.3 REVIEW AND INSPECTION OF THE WORK

Amend GC 2.3.5 as follows:

GC 2.3.5 Add the following to the end of GC 2.3.5 “Where it is necessary to correct any portion or portions of the Work, the corrected work shall, if required by the Consultant, be retested or reinspected, at the Contractor’s sole cost and expense.”

Add the following:

GC 2.3.8 The Consultant, the Owner and their representatives shall at all times have access to the Project and be permitted to examine the Work and materials used or to be

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

used for the Work, and the Contractor agrees to provide reasonable facilities for such inspection.

GC 2.4 DEFECTIVE WORK

Add the following:

GC 2.4.4 Defective Work remedied shall be covered by warranties as per GC 12.3 WARRANTY, except that the time for such warranties shall not begin until the later of the time identified in GC 12.3 or the time that the defective Work is remedied to the satisfaction of the Consultant.

GC 2.4.5 Neither acceptance of the Work by the Consultant or the Owner nor any failure by the Consultant or the Owner to identify, observe or warn of defective Work or any deficiency in the Work shall relieve the Contractor from the sole responsibility for rectifying such defect or deficiency at the Contractor’s sole cost..

GC 3.5 CONSTRUCTION SCHEDULE

Amend GC 3.5.1.2 as follows:

GC 3.5.1.2 Replace the words “on a monthly basis or as stipulated by the Contract Documents” with “on a monthly basis, as stipulated by the Contract Documents, or as reasonably requested by the Owner or the Consultant.”

GC 3.5.2 – Add new paragraph as follows:

“Weather conditions permissible for roofing are subject to the discretion of the Contractor and the Consultant. If the Contractor and the Consultant disagree regarding whether weather conditions are permissible for roofing, the Consultant shall make the final determination. In no case shall roofing work be carried out under the following conditions:

1. When temperature of the substrate or air is lower than or is forecast to drop below 2 degrees during the course of the work.
2. During wet weather forecast imminent wet weather, or when site conditions have been adversely affected recent wet weather.”

GC 3.7 SUBCONTRACTORS AND SUPPLIERS

Replace G.C. 3.7.2 with the following:

GC 3.7.2 The Contractor shall employ those Subcontractors and Suppliers proposed by the Contractor and agreed in writing, prior to the execution of this Contract, by the Owner. The Contractor acknowledges and agrees that it shall not be permitted to change any Subcontractor or Supplier without cause and the prior written consent of the Owner.

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

Add the following:

GC 3.7.7 The Contractor agrees that the Owner may, at any time, review its project payment records and make reasonable inquiries of the Contractor's Subcontractors and Suppliers in order to verify the status of invoices or payments claimed by the Subcontractors and Suppliers of the Contractor.

GC 3.7.8 The Contractor shall ensure that all agreements, arrangements and contracts entered into with Subcontractors, Suppliers, consultants and any other entity regarding the performance of the Work, are assignable to the Owner, without the need to obtain consent of such Subcontractor, Supplier, consultant or other entity. The Contractor shall provide proof of such on request by the Owner.

GC 5.2 APPLICATIONS FOR PROGRESS PAYMENT

Add the following to the end of GC 5.2.2:

GC 5.2.2 Applications for progress payments shall be made in a mutually acceptable form.

GC 5.2.8 The Contractor shall submit with the second and subsequent applications for payments, a statutory declaration on CCDC Form 9B stating that all wages, Subcontractors and Suppliers have been paid toward the performance of the Work, together with satisfactory evidence of compliance with the W.C.B. regulations.

GC 5.2.9 Products that are delivered to the Place of the Work, or to another storage site approved in writing by the Owner or the Consultant, prematurely prior to installation or consumption shall not be pre-paid for unless agreed upon in writing by the Consultant or the Owner. On the making of such payment, the Owner shall take title to such Products.

GC 5.2.10 The Contractor shall be responsible for the protection and security of the Products stored at the Place of the Work and replace any material damaged or stolen from the Place of the Work at no cost to the Owner.

GC 5.3 PROGRESS PAYMENT

Add the following:

GC 5.3.2 The Owner shall make payment to the Contractor on account as provided in Article A-5 of the Contract - PAYMENT no later than the later of (a) 30 days from the end of the month in the amount approved by the Consultant; and (b) 30 days after receipt of a fully complete and approved application for payment.

GC 5.3.3 The Consultant shall not certify any payment until the Construction Schedule required in GC 3.5 and the evidence of insurance required by GC 11.1 have been received by the Owner.

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

GC 5.4 SUBSTANTIAL PERFORMANCE OF THE WORK

Add the following to the end of GC 5.4.2:

GC 5.4.2 When the Consultant finds that Substantial Performance of the Work has been reached, the Consultant shall issue a Certificate of Completion. If the Consultant determines that Substantial Performance of the Work has not been achieved, the Contractor shall perform the work required to achieve Substantial Performance of the Work and thereafter provide the Consultant with another application for a Certificate of Completion. This process shall be repeated until a Certificate of Completion is issued in accordance with this paragraph 5.4.2. Additional costs, if any, incurred by the Owner for processing any second or subsequent application shall be borne by the Contractor, shall be due on demand, and may be deducted and retained by the Owner from any payment then or thereafter due to the Contractor under this Contract.

Add the following:

GC 5.4.4 Concurrently with the issuance of the Certificate of Completion, the Consultant shall prepare a written list of items of the Work to be corrected and/or completed that were apparent to him in his inspection and assessment of the Work. The issuance of this list does not relieve the Contractor from its obligation to correct and/or complete all deficiencies in the performance of the Contract as provided for in GC 2.4 - DEFECTIVE WORK. In addition to the monies to be held back in accordance with the *Builders Lien Act*, the Owner may hold back monies, as estimated by the Consultant at equal to two (2) times the cost to correct and/or complete the items appearing in the said list, from the net payment to be made following the issuance of the Certificate of Completion. As defects and deficiencies on the Consultant's list are remedied, the holdback monies corresponding to such defects and deficiencies shall be released to the Contractor. If the Contractor should fail to complete and/or correct such items within a reasonable time, the Owner may use the monies held back for defects and deficiencies to complete and/or correct such items.

GC 5.5 PAYMENT OF HOLDBACK UPON SUBSTANTIAL PERFORMANCE OF THE WORK

GC 5.5.3 *Delete G.C. 5.5.3*

Amend G.C. 5.5.4 as follows:

GC 5.5.4 Add the following words at the beginning of G.C. 5.5.4: "Provided that no claims of Builders Lien have been filed with respect to the Project,". At the end of the last sentence, after the words "the Owner", add the words "This paragraph shall not be interpreted or construed to in any way negate, reduce, diminish or abrogate any right of setoff or claim which the Owner may have pursuant to the Contract, at law or in equity to the holdback amount that relates solely to the Contractor and

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

not to holdback that relates to its Subcontractors, (including national holdbacks related to Suppliers and Consultants) arising as a result of, or in relation to, the Work.” The Owner's right to set-off is conditional on the Contractor having received reasonable notice (no later than Substantial Completion) of claims that are subject of a set-off.

GC 5.7 FINAL PAYMENT

Replace GC 5.7.4 with the following:

GC 5.7.4 Subject to the provision of GC 10.4 - WORKERS' COMPENSATION, the *Builders Lien Act*, and the provisions of this Contract, the Owner shall, no later than thirty (30) days after the issuance of a final certificate of payment, pay the Contractor as provided in Article A-5 of the Contract – PAYMENT.

Add the following:

GC 5.7.5 Neither the final payment nor any part thereof shall become due until the Contractor obtains and delivers to the Owner a complete release of any liens arising out of this Contract (other than his own), but the Contractor, may, if any Subcontractor or Supplier refuses to furnish a release of such lien, take all steps necessary to have such lien removed expeditiously.

GC 5.7.6 The issuance of final certificate of payment in no way relieves the Contractor from correcting deficiencies or defects not readily apparent at the time of issuance of this certificate.

GC 5.8 WITHHOLDING OF PAYMENT

Add the following:

GC 5.8.2 If the Contractor fails to provide a W.C.B. clearance certificate when required, the Owner may withhold seven percent (7%) of the full amount of any progress payment to off-set W.C.B. assessments and the Owner has the right, but not the obligation, to make payments directly to the W.C.B. in relation to any unpaid assessments and all such payments shall be payments on account of any amounts due to the Contractor. No amount held back pursuant to this clause shall be released until the Owner receives the required W.C.B. clearance certificates.

GC 5.8.3 If the Work includes removal or disposal of asbestos and/or asbestos containing products, the Owner may withhold an additional ten percent (10%) of the value of the work required to remove and dispose of the asbestos and/or asbestos containing products, as determined by the Consultant. No amount held back pursuant to this clause shall be released until the Owner receives details of the method of disposal and the location of the disposal site together with satisfactory written proof demonstrating that the asbestos and/or asbestos containing

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

products have been removed and disposed of in accordance with all applicable Federal, Provincial and Municipal statues, regulations, standards, codes and other requirements.

PART 6 CHANGE IN THE WORK

GC 6.1 OWNER’S RIGHT TO MAKE CHANGES

Add the following:

6.1.3 Where additional instructions provided by the Owner or the Consultant to the Contractor result in increased costs, the Contractor shall not be entitled to any reimbursement by the Owner for such costs unless the Contractor provides the Consultant with written notice of the increased costs within fifteen (15) Working Days of receiving the above instructions, in which case GC 6.1.1 and GC 6.1.2 shall apply.

6.1.4 The valuation of any Changes shall be determined, at the Owner's discretion, by one or more of the following methods:

- .1 Estimate of the cost to perform the change in the Work, including a mark-up which is generally consistent with the mark-up permitted under GC 6.1.5, supported by back-up documentation sufficient to permit verification by the Consultant, and acceptance by the Owner or the Consultant in a lump sum;
- .2 By the cost and a fixed or percentage fee; or
- .3 Unit prices, where unit prices have been specifically quoted.

6.1.5 Where Changes are to be paid for under GC 6.1.4.2, the cost to the Owner shall be the actual cost of the Work plus a percentage covering overhead and profit on additional work only, after all credits included in the Change have been deducted, as follows:

- .1 for work to be completed by the Contractor’s own forces, a mark-up on the actual cost of 10% (5% for overhead and 5% for profit);
- .2 for work to be completed by the forces of a Subcontractor or Supplier, a mark-up on the actual cost of 5% for the Contractor and 10% (5% for overhead and 5% for profit) for the Subcontractor or Supplier;
- .3 for the purpose of GC 6.1.5, the “actual cost” of labour shall be calculated using either:
 - (i) 150% of each worker’s hourly wage; or

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

- (ii) 150% of each worker’s annual salary divided by 2,000 hours per year;
- .4 for deleted work, no sums added or deleted for overhead and profit, and credit is to be for the actual cost of the deletion;
- .5 all Changes shall not include the (GST) Goods and Services Tax. The applicable GST shall be listed separately on all change order quotations.

GC 6.4 CONCEALED OR UNKNOWN CONDITIONS

Add the following:

GC 6.4.5 The Contractor acknowledges that it has inspected the Place of the Work for the physical conditions described in GC 6.4.1 and has disclosed its findings to the Owner. The Contractor shall not be entitled to, and shall not claim, any additional compensation, or extension of Contract Time as a result of any conditions that were or ought to have been discovered upon reasonable inspection by the Contractor prior to the date of the Contract.

GC 6.4.6 No claims for additional compensation, or for an extension of Contract Time, shall be allowed if the Contractor fails to give notice to the Owner, as required by GC 6.4.1.

GC 6.6 NOTICE OF CLAIMS

Replace GC 6.6 with the following:

GC 6.6.1 Except where a different notice period is expressly set out in the Contract, the Contractor waives any claim for an extension of the Contract Time, change in the Contract Price, adjustment or interpretation of the Contract Documents, any other relief with respect to the terms of the Contract Documents or any other claim for loss, damage, cost or expense arising from or in any way related to the Project, unless the Contractor provides a notice in writing of the claim to the Owner and the Consultant within ten (10) Working Days after occurrence of the event giving rise to such claim or ten (10) Working Days after the Contractor first recognized, or ought reasonably to have recognized, the conditions giving rise to the claim, whichever is later.

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

GC 7.1 OWNER’S RIGHT TO PERFORM THE WORK, TERMINATE THE CONTRACTOR'S RIGHT TO CONTINUE WITH THE WORK OR TERMINATE THE CONTRACT

Replace GC 7.1.2 with the following:

GC 7.1.2 If the Contractor should neglect to prosecute the Work in accordance with the Contract, the Owner may, without prejudice to any other right or remedy the Owner may have, notify or have the Consultant notify the Contractor in writing that the Contractor is in default of the Contractor's contractual obligations and instruct the Contractor to correct the default in the five (5) Working Days immediately following receipt of such notice.

Amend GC 7.1.4.1 as follows:

GC 7.1.4.1 Delete the words “provided the Consultant has certified such cost to the Owner and the Contractor”.

Amend GC 7.1.5.3 as follows:

GC 7.1.5.3 Delete the words “as certified by the Consultant”.

Add the following:

GC 7.1.6 The Owner may terminate this Contract for its convenience at any time and without cause, upon giving not less than thirty (30) days prior notice to the Contractor. In this event, the Owner shall pay to the Contractor all amounts due to the Contractor on account of the Contract Price earned to that date together with reasonable and properly documented costs incurred by the Contractor in demobilizing and terminating its contracts with Subcontractors and Suppliers.

GC 7.1.7 Where the Owner has exercised its right to terminate the Contract pursuant to the provisions of GC 7.1.1 or 7.1.4, the Contractor shall forthwith upon notification of the exercise of such right, make available to the Owner, its authorized agents and representatives, all books and records of the Contractor relating to the Work. Upon the Owner exercising such right to stop the Work or terminate the Contract, the Contractor shall be deemed, without further formality, to have sold, assigned and set over unto the Owner, without further consideration, those agreements, arrangements and contracts with Subcontractors, Suppliers, engineers and others to which the Contractor is a party with respect to the performance of the Work which the Owner designates in writing to the Contractor after the giving of notice to stop the Work or terminate the Contract. The remaining such contracts shall continue to be the property and responsibility of the Contractor. The Contractor shall, upon written request by the Owner and in form reasonably satisfactory to the Owner, execute such further assignments to give effect to the foregoing as the Owner shall reasonably require.

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

GC 7.2 CONTRACTOR’S RIGHT TO SUSPEND THE WORK OR TERMINATE THE CONTRACT

Amend GC 7.2.4 as follows:

GC 7.2.4 After the words “within five (5) Working Days” in the second line add the words “, or such longer period as may reasonably be required to correct any default of the type described in subparagraph 7.2.3 (provided that in no event will there be an extension for payment defaults)”.

Replace GC 7.2.5 with the following:

GC 7.2.5 If the Contractor terminates the Contract under the conditions set out above, the Owner shall pay to the Contractor all amounts due to the Contractor on account of the Contract Price earned to that date together with reasonable and properly documented costs incurred by the Contractor in demobilizing and terminating its contracts with Subcontractors and Suppliers.

GC 9.4 CONSTRUCTION SAFETY

Add the following:

GC 9.4.2 The Contractor is responsible for all site safety and shall be deemed to be the “Prime Contractor” for the purposes of all occupational health and safety regulations from the effective date of this Contract until such time as the Owner delivers to the Contractor written notice that another contractor has been appointed “Prime Contractor”.

GC 9.4.3 The Contractor shall file any notices or any similar document (including, without limitation, a Notice of Project where applicable) required pursuant to the Contract or the Safety Regulations. This duty of the Contractor will be considered to be included in the Work and no separate payment therefore will be made to the Contractor.

GC 9.4.5 The Contractor shall promptly report in writing to the Prime Contractor (with copies to the Owner and the Consultant) all accidents of any sort arising out of or in connection with the performance of the Work whether on or adjacent to the Place of the Work, giving full details and statements of witnesses. If death or serious injuries or damages are caused, the accident shall be promptly reported by the Contractor to the Owner and Consultant by telephone or messenger, with written notice to follow, in addition to any reporting required under the Safety Regulations.

PART 12 INDEMNIFICATION, WAIVER OF CLAIMS AND WARRANTY

GC 12.1 INDEMNIFICATION

Replace GC 12.1.1 with the following:

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

GC 12.1.1 The Contractor shall defend, indemnify and save harmless the Owner from and against all claims, demands, losses, costs, damages, actions, suits or proceedings, inclusive of interest and all legal costs on a solicitor and own client basis, whether in respect of losses suffered by the Owner or in respect to claims by third parties that arise out of, or are attributable in any respect to, the Owner's involvement as a party to this Contract, provided such claims are:

.1 caused by:

(1) the negligent acts or omissions of the Contractor or anyone for whose acts or omissions the Contractor is liable, or

(2) a failure of the Contractor to fulfill the terms and conditions of the Contract; and

.2 made by Notice in Writing within a period of 2 years from the date of Substantial Performance of the Work.

GC 12.1.2 *Replace GC 12.1.2 with the following:*

The provisions of this GC 12.1 shall survive the termination of this Contract howsoever caused and no payment or partial payment, no issuance of a final certificate of payment and no occupancy in whole or in part of the Work, shall constitute a waiver or release any of the provisions of this GC 12.1.

Delete GC 12.1.3 and 12.1.4

GC 12.2 WAIVER OF CLAIMS

Delete GC 12.2.3, 12.2.4 and 12.2.5.

GC 12.3 WARRANTY

GC 12.3.2 *Amend GC 12.3.2 as follows:*

Delete the following from GC 12.3.2 "to the extent that the design and Contract Documents permit such performance."

GC 12.3.4 *Amend GC 12.3.4 as follows:*

In the first line of GC 12.3.4, delete reference to GC 12.3.2.

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

Add the following:

GC 12.3.5 All warranties including, without limitation, the roofing warranty and those for mechanical or electrical equipment and systems in use by the Contractor before the date of Substantial Performance of the Work shall commence when the Certificate of Readiness is issued for the Work.

GC 12.3.6 The Contractor shall assign to the Owner the benefit of all guarantees and warranties for all Products and Work used or incorporated in the Work and shall ensure that such assignment is also effected by all Subcontractors, Suppliers or consultants from whom the same have been obtained. Thereafter, as reasonably required by the Owner, the Contractor shall make, do, execute and deliver such instruments in writing as may be necessary or desirable to assure the enforceability of such guarantees and warranties.

GC 12.3.7 Nothing in this Contract shall be deemed to limit any rights of the Owner to sue the Contractor either at law or in equity on any cause of action arising out of its performance of or failure to perform the terms of this Contract, or to claim damages, contribution or indemnity from the Contractor or any other person under the terms of this Contract.

GC 12.3.8 – Add new paragraphs as follows:

“Notwithstanding any other provision of this Agreement, the Contractor shall provide a written RCABC Guarantee Corp. 10 Year “Roof Star” Guarantee that commences from the date of an Approved Final Inspection Report. All costs for this Guarantee, including inspection are to be at the Contractor's sole cost. Additionally, The Contractor shall provide a 10 year SBS membrane manufacturer’s material warranty, at no cost to the owner.”

GC 12.3.9 – Add new paragraphs as follows:

“The Contractor shall provide copies of all final project guarantees and warranties to Regional District of Nanaimo at 6400 Applecross Road Nanaimo, British Columbia V9V 1K8.”

GC 13 MISCELLANEOUS

Add the following:

GC 13.1 The Contractor confirms that it is an expert in this field of work and is fully knowledgeable and experienced in all aspects of required procedures, methods, regulations, codes and municipal requirements and understands that the Owner is relying on this expertise, knowledge and experience.

GC 13.2 Notwithstanding any provisions of the Contract Documents to the contrary, no approval, review or inspection by the Consultant or the Owner or any person

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

acting on their behalf, of the Work or any submittals by the Contractor shall relieve the Contractor of its obligation to perform and complete the Work in accordance with the Contract Documents.

GC 13.3 Industry reference standards, whether or not bound in the Contract Documents, shall apply to relevant sections of the Work.

END OF SECTION

CRPS: Transportation Dept. – Roof Repairs
CRPS:
PROJECT NO: 5330-20-TRANS-Roof

SECTION: 00800
PAGE: 34 OF 86
DATE: June 2017

SUPPLEMENTARY CONDITIONS TO THE CCDC-2-2008 STIPULATED PRICE CONTRACT

Schedule "D" – Drawings

[NTD: to be provided after trade pricing for CCDC 2 fixed]

DIVISION 1 **00020 SPECIFICATION INDEX** **Page 1 of 1**

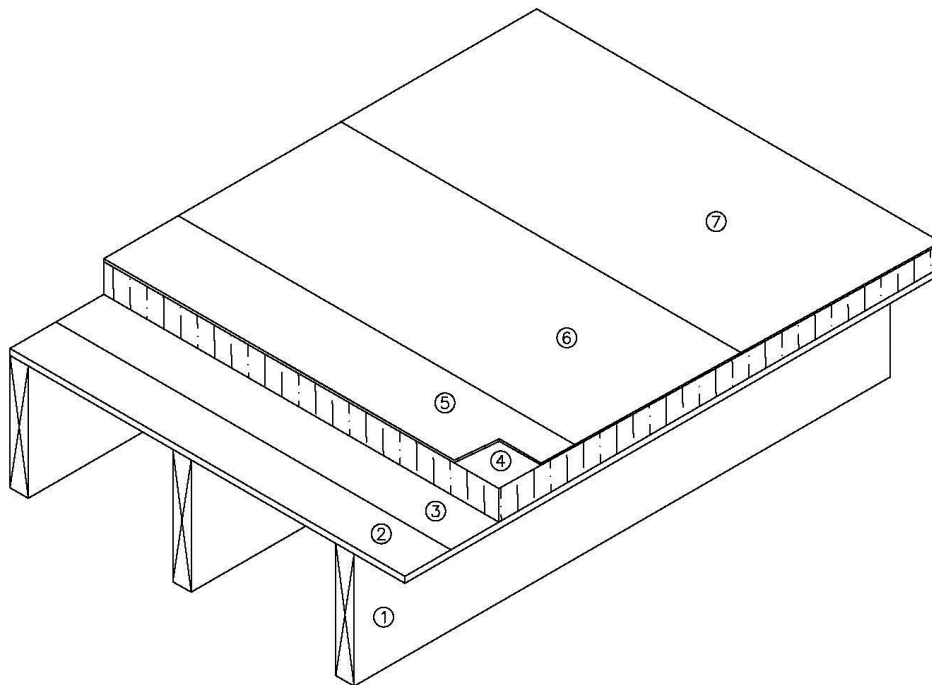
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DIVISION 0 – INDEX OF DRAWINGS

Regional District of Nanaimo
 Nanaimo Transit Centre
 6400 Applecross Road, Nanaimo BC

<p>The purpose of this drawing is to illustrate the general nature of the work. All distances and conditions are approximate and should be verified by the contractor.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">LEGEND</th> </tr> <tr> <td style="padding: 2px;">Roof Drain</td> <td style="padding: 2px;">● RD HVAC □</td> </tr> <tr> <td style="padding: 2px;">Plumbing</td> <td style="padding: 2px;">○ Chimney ⊗</td> </tr> <tr> <td style="padding: 2px;">Fan</td> <td style="padding: 2px;">□ Vent □</td> </tr> <tr> <td style="padding: 2px;">Scupper</td> <td style="padding: 2px;">● Plumbing Vent ⊗</td> </tr> </table>	LEGEND		Roof Drain	● RD HVAC □	Plumbing	○ Chimney ⊗	Fan	□ Vent □	Scupper	● Plumbing Vent ⊗	<p style="text-align: center;">Regional District Of Nanaimo Nanaimo Transit Centre</p> <p style="text-align: center;">2017 Roof Replacements</p>	<p style="text-align: center;">J. WATSON ROOFING CONSULTING INC. ROOFING AND WATER PROOFING CONSULTANT 224 Seafield Road, Victoria BC, V9C 1S5 Phone: (250) 391-7887 Fax: (250) 391-7887</p>
LEGEND													
Roof Drain	● RD HVAC □												
Plumbing	○ Chimney ⊗												
Fan	□ Vent □												
Scupper	● Plumbing Vent ⊗												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">DESIGNED: JW</td> <td style="padding: 2px;">SCALE: NTS</td> <td rowspan="2" style="padding: 2px; vertical-align: middle;">DRAWING NUMBER: A-01</td> </tr> <tr> <td style="padding: 2px;">DRAWN: MR</td> <td style="padding: 2px;">DATE: June 27, 2017</td> </tr> </table>	DESIGNED: JW	SCALE: NTS	DRAWING NUMBER: A-01	DRAWN: MR	DATE: June 27, 2017						
DESIGNED: JW	SCALE: NTS	DRAWING NUMBER: A-01											
DRAWN: MR	DATE: June 27, 2017												

Roofing System Installation



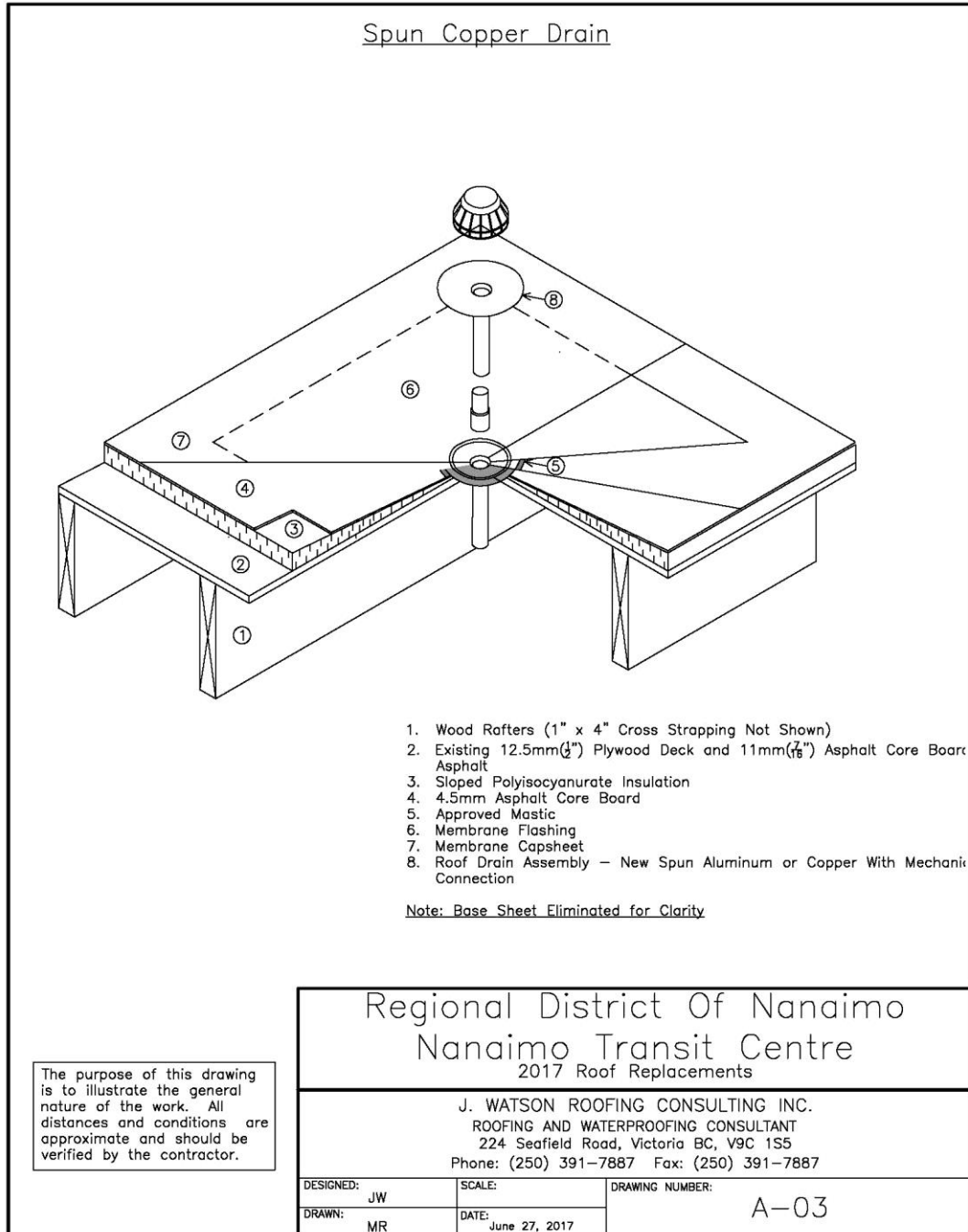
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2. 12.5mm (1/2") Plywood Deck
3. Existing Membrane (Vapour Barrier)
4. Sloped Polyisocyanurate Insulation
5. 4.5mm Asphalt Core Board
6. SBS Base Sheet
7. Torch Applied SBS Cap Sheet

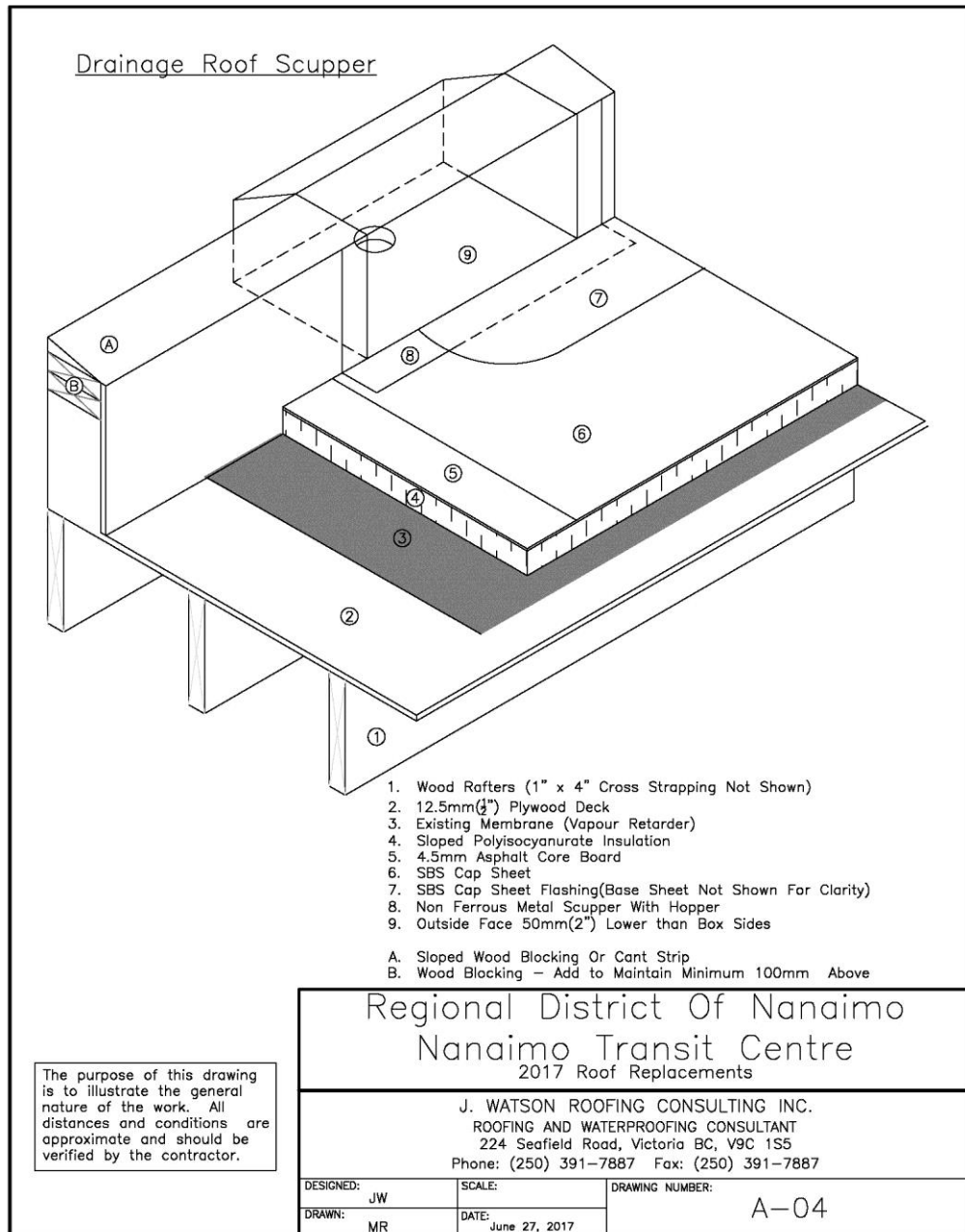
The purpose of this drawing is to illustrate the general nature of the work. All distances and conditions are approximate and should be verified by the contractor.

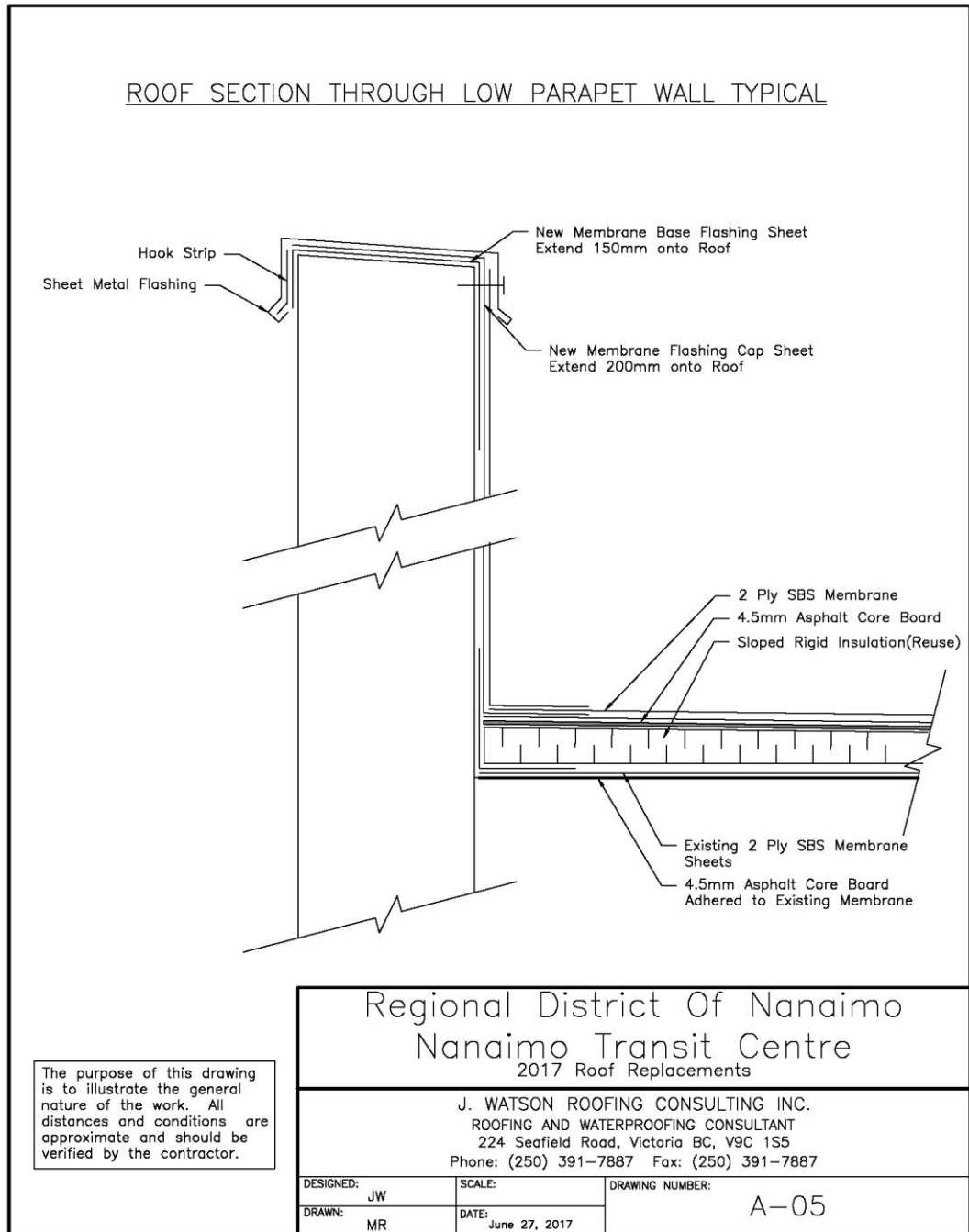
Regional District Of Nanaimo
 Nanaimo Transit Centre
 2017 Roof Replacements

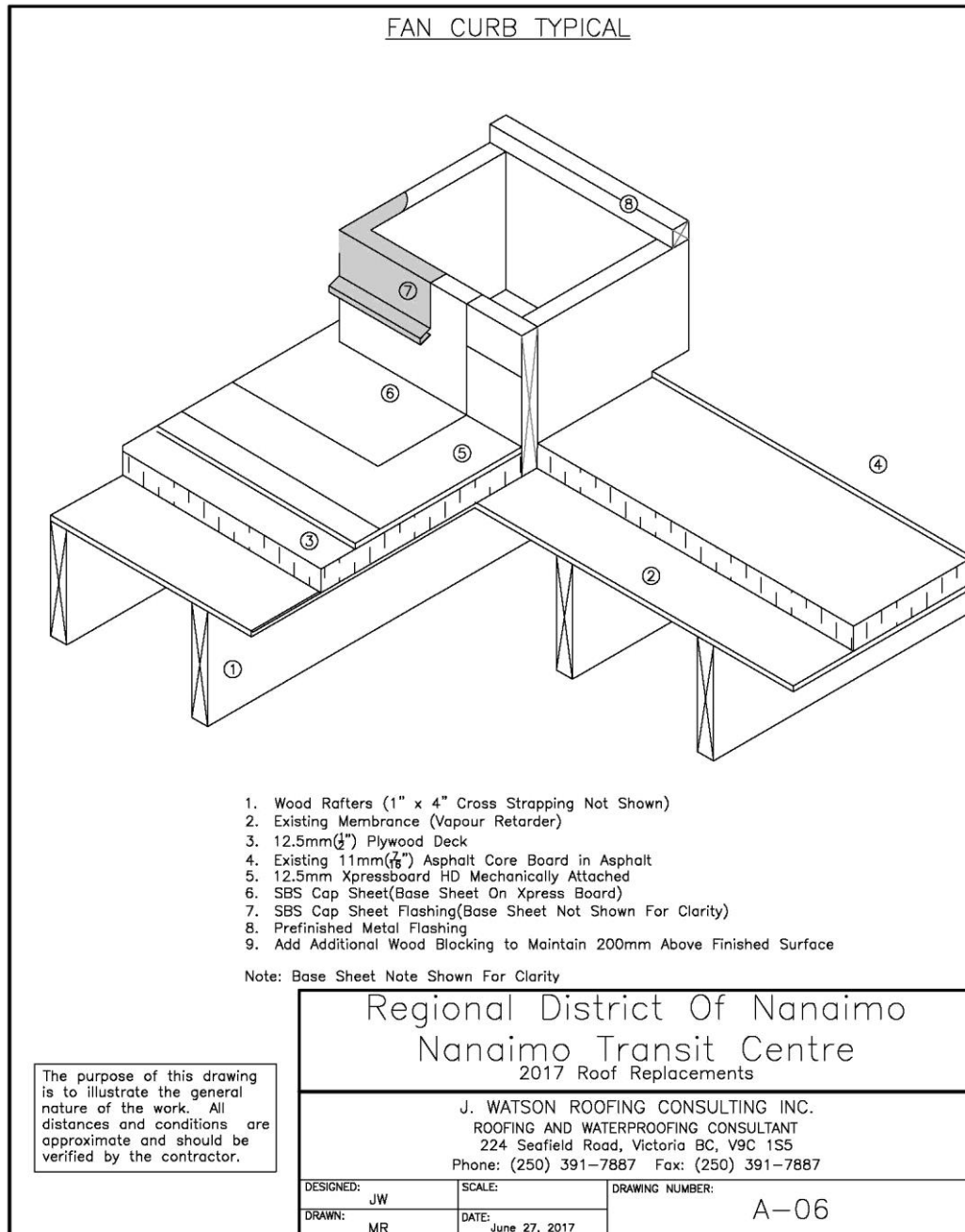
J. WATSON ROOFING CONSULTING INC.
 ROOFING AND WATERPROOFING CONSULTANT
 224 Seafield Road, Victoria BC, V9C 1S5
 Phone: (250) 391-7887 Fax: (250) 391-7887

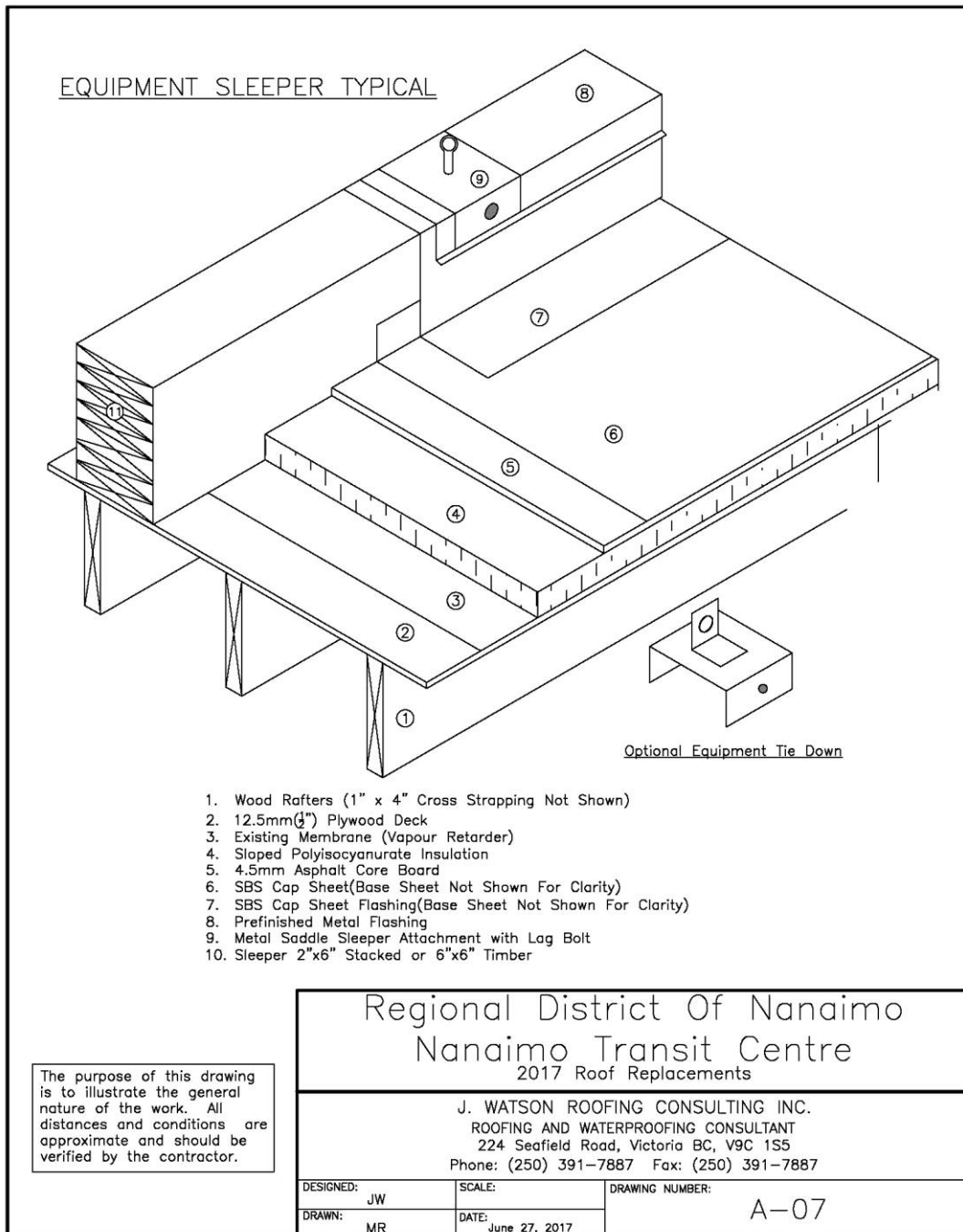
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DRAWN: MR	DATE: June 27, 2017	



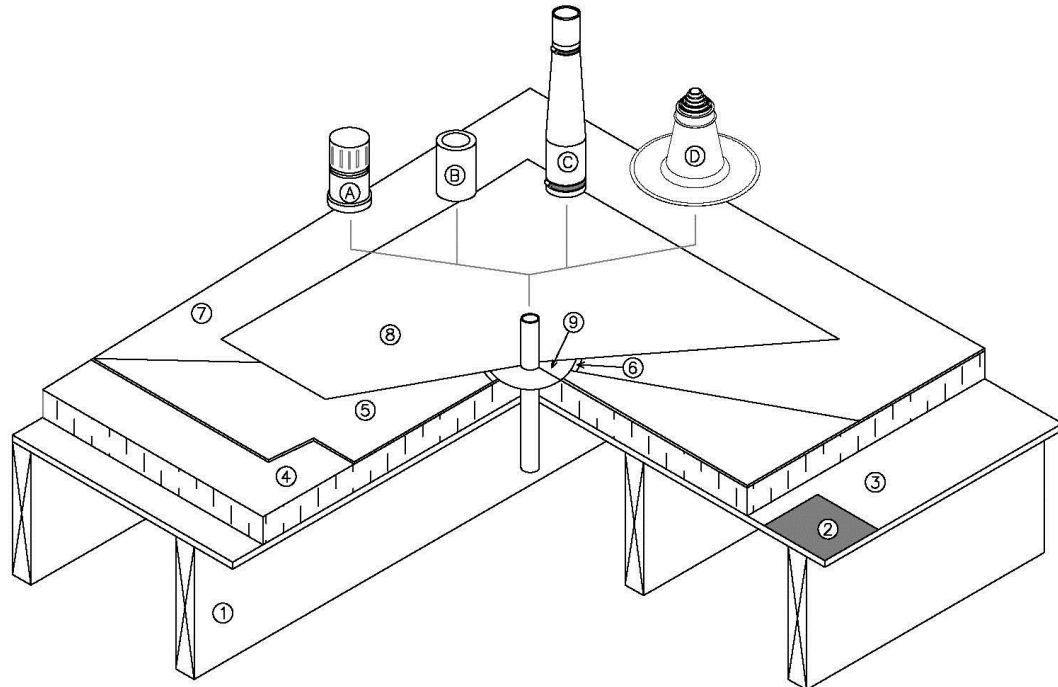








METAL PLUMBING FLASHING



1. Wood Rafters (1" x 4" Cross Strapping Not Shown)
 2. Existing Membrane (Vapour Barrier)
 3. Sloped Rigid Insulation (Adhesive Applied)
 4. 4.5mm Asphalt Core Board In Adhesive
 5. Approved Mastic
 6. Membrane Flashing
 7. Membrane Base Sheet(Cap Sheet Not Shown For Clarity)
 8. Welded Aluminum Pipe Flashing
-
- A. Typical Aluminum Cap
 - B. Typical Lead Cap
 - C. Rubber Collar With Clamps
 - D. 5 Skin Flashing

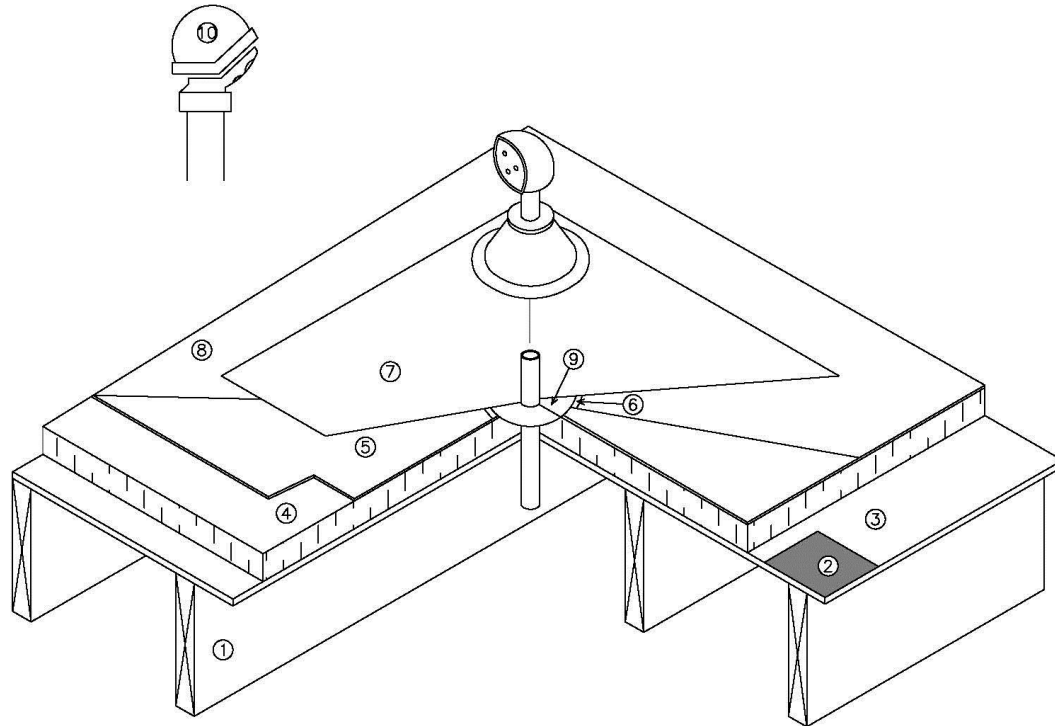
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 224 Seafield Road, Victoria BC, V9C 1S5
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DESIGNED: JW	SCALE:	DRAWING NUMBER: A-08
DRAWN: MR	DATE: June 27, 2017	

Cable Flashing On Wood Deck



1. Wood Rafters (1" x 4" Cross Strapping Not Shown)
2. 12.5mm (1/2") Plywood Deck
3. Existing Membrane (Vapour Barrier)
4. Sloped Rigid Insulation (Adhesive Applied)
5. 4.5mm Asphalt Core Board In Adhesive
6. Approved Mastic
7. Membrane Flashing
8. Membrane Base Sheet (Cap Sheet Not Shown For Clarity)
9. Menzies Gooseneck Flashing or Approved Equivalent

The purpose of this drawing is to illustrate the general nature of the work. All distances and conditions are approximate and should be verified by the contractor.

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 224 Seafield Road, Victoria BC, V9C 1S5
 Phone: (250) 391-7887 Fax: (250) 391-7887

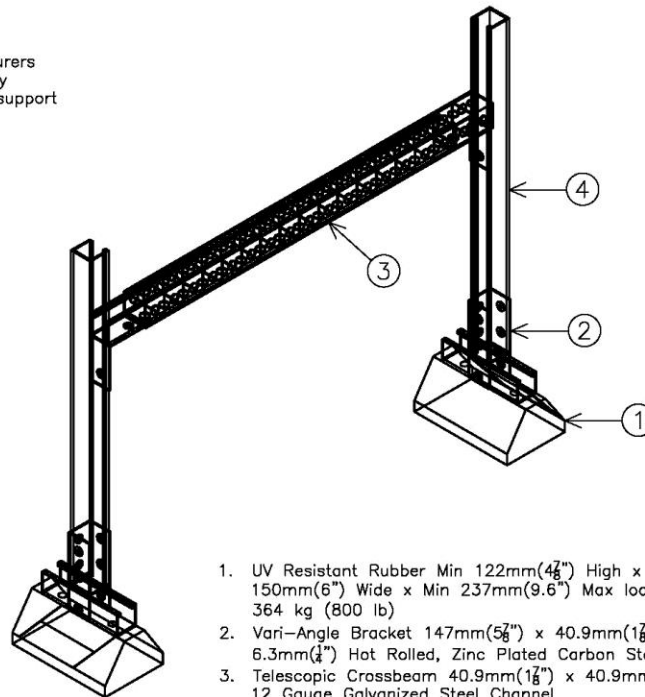
DESIGNED: JW	SCALE:
DRAWN: MR	DATE: June 27, 2017

DRAWING NUMBER:
A-09

CABLE TRAY ADJUSTABLE SUPPORT
 (MIFAB DSA10 OR APPROVED ALTERNATIVE)

NOTE:

Do not exceed manufacturers maximum loading capacity for insulation. Space to support duct work



1. UV Resistant Rubber Min 122mm(4 $\frac{7}{8}$ "") High x Min 150mm(6") Wide x Min 237mm(9.6") Max load = 364 kg (800 lb)
2. Vari-Angle Bracket 147mm(5 $\frac{7}{8}$ "") x 40.9mm(1 $\frac{5}{8}$ "") x 6.3mm($\frac{1}{4}$ "") Hot Rolled, Zinc Plated Carbon Steel
3. Telescopic Crossbeam 40.9mm(1 $\frac{5}{8}$ "") x 40.9mm(1 $\frac{5}{8}$ "") 12 Gauge Galvanized Steel Channel
4. 14 Gauge Galvanized Steel Channel

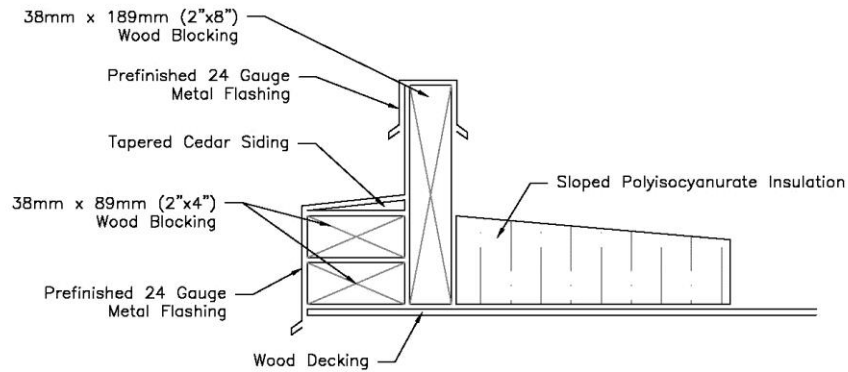
The purpose of this drawing is to illustrate the general nature of the work. All distances and conditions are approximate and should be verified by the contractor.

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 ROOFING AND WATERPROOFING CONSULTANT
 224 Seafield Road, Victoria BC, V9C 1S5
 Phone: (250) 391-7887 Fax: (250) 391-7887

DESIGNED: JW	SCALE:	DRAWING NUMBER: A-10
DRAWN: MR	DATE: June 27, 2017	

PARAPET DETAIL SLOPED INSULATION



NOTE: Roof membrane not shown for clarity

The purpose of this drawing is to illustrate the general nature of the work. All distances and conditions are approximate and should be verified by the contractor.

Regional District Of Nanaimo Nanaimo Transit Centre 2017 Roof Replacements		
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DESIGNED: JW	SCALE:	DRAWING NUMBER:
DRAWN: MR	DATE: June 27, 2017	A-11

DIVISION 1 - GENERAL REQUIREMENTS - SPECIFICATIONS

SUMMARY OF WORK

Section 01011

Page 1 of 4

1.0 GENERAL

1.1 DOCUMENTS

This section of the specifications forms part of the contract documents and is to be read,

1.2 SUMMARY OF WORK

This section of Work includes furnishing of all labor, materials, services and equipment necessary to provide a replacement roofing system for the office / warehouse roof area on the Nanaimo Transportation Services Building located at 6400 Applecross Road Nanaimo, British Columbia. The work included is as shown on the roof plan and on the attached drawings and; all as specified herein.

.1 General scope of work includes, but is not limited to, the following:

.1 Removal and disposal of the existing gravel ballast, extruded polystyrene insulation, wood cants, sleepers, plates, redundant equipment, and equipment curbs, etc. **and;**

.2 Removal and disposal of all existing, metal flashings, penetration flashings, drains, vents, plumbing & electrical flashing jacks, etc. **and;**

.3 Supply and installation of new two ply SBS roofing system including but not limited to additional wood blocking at parapets, sleepers, and curbs for height of new sloped and flat format polyisocyanurate insulation fastened to the wood deck as well as one layer of asphalt core board insulation overlay board adhered with two part urethane adhesive **and;**

.4 Supply and installation of new metal flashings at all roof perimeters up stands and roof penetration hardware, new drains & roof penetration hardware, supply and installation of proprietary supports for all roof top cables and pipes, **and;**

.5 Supply and installation of four new skylights that match the existing skylight type and size and a sleeper pad for the attachment of the antenna tower near the existing location.

SUMMARY OF WORK (Continued)

Section 01011

Page 2 of 4

.6 Unfasten and reposition the opening direction of the existing roof hatch and refasten, as per owner's directions, **all as specified herein.**

.7 Supply and installation of three new spun copper roof drains on existing adjoining roof area Bay No. 4. Owner will provide new interior plumbing lines to the ponded locations for the new drains.

.2 New Roofing Installation Outline:

.1 Supply and installation of new two ply SBS membranes base and cap sheet membranes, torched applied, onto one layer of asphalt core overlay board adhered to mechanically attached sloped and flat format polyisocyanurate insulation to RGC Standards over reinforced kraft vapour retarder, all as detailed and as specified herein; **and**

.2 Soprema Inc. **or** IKO Industries Ltd. two ply SBS membranes base sheet and cap sheet membrane torched applied to one layer of asphalt core overlay board. All remaining roofing system components, insulation, vapour retarder are to be mechanically attached to RGC standards. Fastener plate & screw patterns and installation methods **MUST** conform to these specifications and RGC standards application procedures; **and**

.3 Supply and installation of new metal flashing at all perimeters, curbs and equipment sleepers, new cable and pipe hardware flashing at all roof deck protrusions and penetrations, as well as new manufacturers proprietary supports for pipes and cables.; **and**

.4 Supply and installation of wood blocking at existing parapet perimeter to maintain 100mm (3.5") above the finished roof surface at parapet walls. Supply and install new treated wood blocking for damaged or rotted equipment sleepers and curbs. Removal and relocation of existing roof hatch and supply and installation of new skylight domes, **all as specified herein.**

.3 Existing Roofing System as determined by cut tests:

West End Main Roof Area:

1) Gravel ballast, 25mm (12") thick extruded polystyrene insulation, two ply SBS roofing membrane adhered to base sheet nailed to the existing flat wood deck.

East End Main Roof Area:

2) Gravel ballast, 25mm (12") thick extruded polystyrene insulation, two ply SBS roofing membrane adhered to base sheet nailed to the existing sloped (1%) wood deck.

1.3 ENVIRONMENTAL REQUIREMENTS

.1 Requirements of RCABC - RGC Standards and Manufacturer shall be followed for acceptable weather conditions during application of the roofing system.

.2 Do not carry out roofing operations during wet weather. Do not apply roofing to wet surfaces or when rain is imminent.

.3 Existing Conditions (roof top equipment operation): Proceed with the new work of this section only when temporary lines are securely installed and are performing as per interior requirements.

.4 Coordinate metal flashing and trim work with the installation of roofing, drains, nailers, curbs etc.

.5 Interior Protection: The interior of the building and its contents shall be at all times protected from damage consequential to the execution of this contract and any repairs or claims for damage shall be the sole responsibility of the Contractor.

.6 Protect adjacent work and surfaces from splashes sprays or spills. Keep grounds around project clean on a daily basis.

.7 Under no circumstances shall any portion of the roof be left open to the weatherovernight. Ensure all portions are sealed watertight before leaving the roof. The roofing assembly to the completed base sheet and base stripping and acceptable night seal must be installed and completed each day.

.9 Do not store tools, materials, etc. on top of roof-top mechanical equipment. Keep roof-top equipment clean of all roofing debris.

.8 The use of radios, iPods and music devices other than those meant for work communication purposes are not permitted and will not be tolerated.

SUMMARY OF WORK

Section 01011

Page 4 of 4

.10 Supply and maintain a portable toilet on site for use of the workers in a designated location. The toilets shall be maintained in a clean, sanitary, secure and safe manner at all times.

.11 Smoking on roof or anywhere other than owner designated areas is **not** permitted.

1.4 REFERENCE DOCUMENTS

.1 The Contractor shall provide, at the site, one copy of each of the following documents for general reference.

.2 Contract documents as listed under the Agreement.

.3 Project specifications, reviewed shop drawings, all addendums issued for project, a set of sloped insulation layout drawings as provided by the sloped insulation manufacturer.

.4 Worker's Compensation Board of British Columbia (Work Safe) Accident Prevention Regulations.

.5 Latest addition of RGC Roofing Practices Manual and or continuous access to manual on Roofing Contractors Association of BC web site: www.rcabc.org

DIVISION 1 - GENERAL REQUIREMENTS

PROJECT COORDINATION

Section 01041

Page 1 of 2

1.5 PROJECT MEETINGS

.1 As required by the Consultant or Owner Representative, the Contractor shall call site meetings at regular intervals to which all invited sub trades (if any) must attend. The representative will provide physical space and make arrangements for the meeting. Owner's representative (Project Officer) will chair the meetings and shall prepare and distribute the minutes of such meetings. Minutes shall be distributed within seventy-two (72) hours of the meeting date.

.2 Special project meetings may be called at the request of the Owner's Representative Consultant, or the Contractor.

1.6 SECURITY

.1 No security will be provided or compensation paid by the Owner for material, equipment, or work stolen, lost, damaged or destroyed. The Contractor shall be responsible for watching the work & equipment at all times and for making good all deficiencies at no extra cost to the contract sum.

.2 Subcontractors shall make their own arrangements to ensure the security of their own equipment, materials and work in cooperation with the Contractor.

.3 The Contractor shall designate areas of the site as, indicated on the site plan, to be used as temporary lock fast stores and subcontractors shall comply with the Contractor's instructions in this regard.

1.7 CONSTRUCTION SAFETY

.1 The Contractor shall comply with all applicable laws and regulations of federal, Provincial and municipal authorities concerning construction safety.

.2 The Contractor shall comply with Worker's Compensation Act of British Columbia Accident Prevention Regulations (Work Safe latest editions) and shall provide all necessary safety requirements as prescribed by the Act for his work.

.3 Precautions shall be taken to prevent the overloading of any part of the existing structure, during the progress of the work and damage resulting from such overloading shall be made good at the expense of the Contractor.

1.8 CREW SIZE & CONTINUITY OF WORK

.1 During roofing removal and installation of new roofing the Contractor shall maintain a minimum crew of 8 workers with qualifications as specified in section 1.6.3. Exceptions for crew size will only be made during sheet metal installation. Safety monitors, if utilized do not constitute 'workers with qualifications'. Sheet metal installation shall follow completion of other work by no more than 5 working days.

.2 With due allowance for inclement weather, the Contractor shall diligently pursue total completion of the project in the best possible time.

.3 The cap sheet installation shall follow base sheet installation within one week.

1.9 ENVIROMENTAL CONDITIONS

.1 Weather conditions permissible for roofing are subject to the discretion of the roofing contractor and the Consultant, except that in no case shall roofing work be carried out under the following conditions:

.1 When temperature of the substrate or air is lower than or is forecast to drop below 2 degrees during the course of the work.

.2 During wet weather forecast imminent wet weather, or when site conditions have been adversely affected by recent wet weather.

DIVISION 1 - GENERAL REQUIREMENTS

1.10 GENERAL INSTRUCTIONS

Section 01220

Page 1 of 2

.1 RELATED SECTIONS

- .1 Mechanical Division 15 – Section 15700 Heating Ventilating, and Air Conditioning Equipment.
- .2 Electrical Division 16 – Section 16100 Wiring Methods.

.2 REFERENCES

- .1 Roofing Contractors Association of British Columbia (RCABC), Roofing Practices Manual (RPM), latest edition.
- .2 CGSB 37-GP-56M, Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing.
- .3 Membrane Manufacturers, Technical Manual, latest edition.

.3 CONTINGENCY ALLOWANCES

- .1 The Owner has a reserve contingency allowance in place to cover unforeseen circumstances as noted below.
- .2 All extra cost items to be approved by owner or owner representative and must be supported by invoices and / or approved change orders. The cash allowance is intended for, but not limited to the following items:
 - .1 Rotted or deteriorated structural members, other than perimeter wood blocking and curbs

.4 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver and store materials in original sealed containers with all Manufacturers' labels intact. Store and keep dry all materials, accessories, elevated from contact with ground, roof or deck and from moisture and protected from weather with purpose-made tarps.

1.10 GENERAL INSTRUCTIONS

Section 01220

Page 2 of 2

DELIVERY. STORAGE AND HANDLING (continued)

Polyethylene other non-breathable plastic coverings are not acceptable. Ensure materials and tarps are secure from severe winds. Do not rely on Manufacturer's packaging for weather protection.

.1 Carefully remove and store in secure manner existing duct cladding (brown flashing) and custom manufactured ductwork supports for reuse after replacement of roofing and flashings.

.2 Store all insulation materials so as to keep dry and avoid condensation under material wrappers and weather protection.

.3 Store membrane rolls upright in strict accordance with the Membrane Manufacturer's published instructions. Do not stack pallets more than one high.

.4 Store membrane rolls, etc. in heated enclosures prior to use where climatic conditions warrant and as recommended by the Manufacturer; bring only enough rolls for immediate use to the work area.

.5 Store all combustible materials away from heat and open flame.

.6 Do not stockpile materials or equipment, or operate equipment so as to overload the structure in any way. Any damage from overloading the deck or its supporting members shall be repaired or replaced at the Contractor's own expense.

.5 GUARANTEES

.1 Provide a written RCABC Guarantee Corp. 10 Year "Roof Star" Guarantee that commences from the date of an Approved Final Inspection Report. All costs for this Guarantee, including inspection to be included in the tender submitted; **and** in addition provide a 10 year SBS membrane manufacturer's material warranty, at no cost to the owner.

.2 Provide copies of all final project guarantees and warranties to Regional District of Nanaimo at 6400 Applecross Road Nanaimo, British Columbia V9V 1K8. **Attention:** Project Manager **Mr. Darren Marshall**, as a condition of Final Acceptance of this project.

.3 Inspections on this project is pre-assigned to:

J. Watson Roofing Consulting Inc.,
224 Seafield Road, Victoria, BC V9C 1S5
Telephone: cell - 250-634-4392 Office Phone: 250-391-7887 Fax: 250-3917887
Email: jwatson1@telus.net

DIVISION 1 - GENERAL REQUIREMENTS

1.11 SUBMITTALS

Section 01300

Page 1 of 1

Preferred format for all submittals is as .PDF or .doc electronic files whenever possible.

.1 Prestart Meeting Submittals

- .1 Obtain and provide at the Prestart Meeting written certification from the Membrane Manufacturer certifying that the installer is approved by Manufacturer for installation of the specified system and supply of the required warranty documents.
- .2 Provide a list of all personnel who may be working on the site and copies of all trade qualifications of workers assigned to the project at the Prestart Meeting.
- .3 Product data: At the Prestart Meeting Submit 2 sets of Manufacturer's technical product data, published installation instructions and maintenance recommendations for each type of roofing product to be used.
- .4 Prepare and submit 2 copies of a written Strategic Material Application in Flame Sensitive Locations (SMAFSL) Plan, as outlined in 1.10, to the Owner's Representative and Consultant, detailing the methods of application and material to be used in identified flame sensitive areas at the Prestart Meeting. SMAFSL to include installation practices around building air intake locations.
- .5 Submit two sets of standard metal flashing color samples for selection by the Owner at the Prestart Meeting.

.2 Other Submittals

- .1 For changes to the specified work submit shop drawings detailing construction details, assembly, profiles, materials, and installation for conditions requested by the Consultant.
- .2 Provide sheet metal flashings shop drawings to consultant for review prior to fabrication.
- .3 Submit written weekly and or daily work schedules, via e-mail or fax, as required by the Consultant or Owner's Representative, prior to the start of work in each area. Verbal communication or phone messages only will not be acceptable.

DIVISION 1 - GENERAL REQUIREMENTS

1.12 CONSTRUCTION SCHEDULE

Section 01310

Page 1 of 1

.1 GENERAL SCHEDULES

.1 Immediately following the award of the contract and **before** commencement of the Work **on** the work site, the Contractor shall convene a meeting at the site with the Owner's representative (The Consultant(s), Subtrades (if any) in attendance. At this meeting, the roof replacement and deck repair work sequence as well as scheduling will be discussed and finalized in detail including priorities, timing of existing service interruptions and the like; special project procedures and any questions with respect to the roof replacement and deck repairs, scheduling or procedures will be brought forward and clarified,

.2 In order to improve the roof replacement and deck repair schedule, modifications to the construction schedule may be suggested by the Owner's representative, Consultant(s) or the Contractor before and during the roof replacement and deck repairs and such modifications may be implemented by mutual agreement.

.2 COMPLETION SCHEDULE

.1 It is the intention that this project be substantially completed by the **31st day of December 2017**.

.3 CREW SIZE & CONTINUITY OF WORK

.1 During roofing removal and installation of new roofing the Contractor shall maintain a minimum crew of eight (8) workers with qualifications as specified in section 1.6.3. Exceptions for crew size will only be made during sheet metal installation. Safety monitors, if utilized, do not constitute 'workers with qualifications'. Sheet metal installation shall follow completion of other work by no more than seven (7) working days.

.2 With due allowance for inclement weather, the Contractor shall diligently pursue completion of the project in the best time possible.

.3 SBS Membrane cap sheet installation shall immediately follow base sheet installation within seven (7) days.

DIVISION 1 - GENERAL REQUIREMENTS

1.13 QUALITY CONTROL

Section 01400

Page 1 of 1

.1 GENERAL

.1 For the work, obtain primary materials from a single Manufacturer, which has produced products and systems successfully for not less than 10 years. Submit job references on request of the Consultant. All materials shall be only as recommended or accepted by the primary Membrane Manufacturer.

.2 Contractor shall be experienced in the application of the materials and shall supply job references, and client references upon request, to show modified bitumen installation experience of similar size and scope of this project for at least 5 years. Client references to be supplied on request.

.3 Contractor's Field Supervision: Contractor must maintain full time supervisor and same foreman on the job site during all times when roofing work is in progress. Supervisor must have roofing qualification and have a minimum 10 years' experience in roofing work similar in nature and scope of specified roofing. Roofing crew makeup shall be trade qualified journeyman roofers in the ratio of no more than 1 to 3 (at least one journeyman to three labours). Qualifications may be reviewed prior to award of contract and will be reviewed on site.

.4 Prior to commencement of the work, the Consultant, the Roofing Contractor, the Roofing Contractor's Foreman and the Owner's Representative shall meet on site (the Pre-Start Meeting) to review the materials, details, work schedule and the Owner's requirements. A Manufacturer's Representative shall visit the site during start-up to assist & ensure that the installers and the Consultant/Inspector are instructed in the most up-to-date and correct membrane installation procedures.

.5 A copy of the complete specifications, drawings, submittals and addenda shall be on site at all times.

.1 The project foreman must be familiar with all aspects of the specifications and all personnel must read and understand the contents of the specification prior to the start of work.

.2 Replacement of project designated foreman and key qualified roofing journey persons will not be permitted without prior written approval from the roofing consultant.

-
- .6 Advise all project suppliers to deliver materials to site **only** when the roofing crew is on site.

DIVISION 1 - GENERAL REQUIREMENTS

**1.14 TEMPORARY FACILITIES and
CONTROLS / SITE SECURITY**

Section 01500

Page 1 of 3

.1 Site Access: Site Access: From exterior by Contractor supplied, installed and maintained ladders. Electrical connection is available at site for power related tools and or chargers.

.2 Parking is restricted to essential company vehicles, cranes and bins only. Worker vehicles shall **only** be parked at owner designated location onsite. (Parking is available in adjacent parking lot).

.3 Notify Owner's Representative, Consultant, of intent to start work at least three (3) days prior to commencing any work. Provide daily notification of any changes in work schedule.

.4 The building occupants **will be** sensitive to noise, vibration, dust or any logistical activity that prevents ready access to the building. The Contractor is to cooperate and communicate with the Owner's Representatives and onsite maintenance personnel regarding the location of equipment, materials or personnel, so as to minimize the impact to occupants and the operation of the facility as much as possible.

.5 FIRE PREVENTATIVE MEASURES

.1 The Contractor is to use this section of the specifications as a guide for the development of a risk assessment evaluation and a Strategic Material Application in Fire Sensitive Location Plan (SMAFSL). The Contractor is not to rely solely on these specifications for fire hazard assessment and appropriate work procedures.

.2 The Contractor shall make himself familiar with the construction of the building prior to and during the scope of work, as well as with the actual use and occupancy of the building in determining appropriate Fire Safety Plans. Consultation with the Owner's Representative, their designate and Tenants shall form an integral part of the Fire Safety Plan. The SMAFSL shall include installation practices around building air intake locations.

**1.14 TEMPORARY FACILITIES and
CONTROLS / SITE SECURITY**

Section 01500

Page 2 of 3

.3 Proposals for the use of alternate materials and or installation practices, prior to work, or as encountered, are to be submitted to the Consultant prior to implementation.

.4 Proposals to modify the materials or installation practices are designed to specifically address installation fire concerns and not to be considered an opportunity to change the specified membrane system or generate extra costs.

.5 A SMAFSL Plan based on the Contractor's installation knowledge, familiarity with the building and the building use, and documented consultation with the Owner's Representative shall form part of a plan to be supplied by the successful bidder at the Prestart Meeting. A copy of this plan is to be submitted to the Owner's Representative and Consultant and be available upon request for review by any other regulatory agency.

.6 Comply with Owner's instructions for obtaining Hot Works Permits where required.

.7 Comply with or exceed RCABC Safety Precautions - Torching for Modified Bituminous Systems as described in the RCABC Roofing Practices Manual, Tab 5.0.1. Deficiencies in Fire Extinguisher Requirements will not be tolerated.

.8 Where torches are used for drying or application, a minimum of one 10 lb. ABC fire extinguisher with current charge tags intact is required for each torch on the roof, the extinguisher at all times shall be within 20' (6m) of the worker using the torch. Workers shall be able to demonstrate verbal competence in the use of the extinguisher upon request of the Consultant.

.9 In addition to fire extinguisher requirements set out in paragraph 1.10.8, there shall be a fully charged water hose extended to the roof level for use while hot work is underway. In the event that water service is not readily available at least one "2A Rated Hand Operated Pressurized Water Extinguisher" shall be at roof level

.10 All work involving propane torch application of roofing materials shall conform to the British Columbia Fire Code, Section 5.2 "Hot Works", 2006 or latest version. Take particular note of the mandatory Fire Watch Requirements of this section. Fire watch

**1.14 TEMPORARY FACILITIES and
CONTROLS / SITE SECURITY**

Section 01500

Page 3 of 3

personnel shall have at their disposal a hand held infra-red non-contact thermometer to aid in identifying hotspots and must be used as part of the fire watches duties

.1 Make fire watch records available for review on request to the Owner's Representative, Consultant / Inspector or any other regulatory agency.

.2 Fire watch shall be 1 hour minimum from time of torch extinguishment or as directed by the Owner.

.11 Leaving materials and equipment stored at a reroofing site can result in a potentially dangerous situation, subsequently, the following additional procedures are to be followed:

.1 Secure roofing materials or equipment on the building when the roofing crew is not on site.

.2 No materials are to be left on the ground overnight. Where materials must be stored on the ground overnight a security guard must be posted to patrol the site.

.3 Propane tanks are to be secured or removed on a daily basis. Torches are to be removed from propane bottles and secured at the end of each workday.

.4 All ladders accessing the site must be removed and secured each night. All ladder type hoists must be secured or removed to prevent others from accessing the roof site.

.5 Garbage bins to be removed on a regular basis. Consult and cooperate with the Owner's Representative so that bins do not interfere with building operations or deliveries.

DIVISION 1 - GENERAL REQUIREMENTS

1.15 MATERIAL AND EQUIPMENT Section 01600 Page 1 of 1

1. REFERENCES

- .1 Roofing Contractors Association of British Columbia (RCABC), Roofing Practices Manual (RPM), latest edition.
- .2 CGSB 37-GP-56M, Membrane, Modified Bituminous, Prefabricated and Reinforced for Roofing.
- .3 Soprema Inc. & IKO Industries Ltd. Technical Manuals, latest editions.

2. DESIGN STANDARD

- .1 CGSB 37-GP-56M, high performance Modified Bituminous Membranes , listed as accepted for use in the RGC Roof Star Guarantee Program have been selected for this project. The specifications are based on products that comply with this standard.
- .2 Other Manufacturers of similar products with similar performance characteristics are invited to submit proposals through the Roofing Contractor at the time of tender.
- .3 All accessory materials must be supplied and / or approved in writing by the project designated roofing consultant / Inspector. Proposals must include product technical data sheets or site- specific descriptions and printed manufacturer's installation instructions and must comply fully with the experience and job reference requirements of Section 1.6 Quality Assurance of these specifications.

3. ROOFING MATERIALS

- .1 **Standards:** conform to RCABC Guarantee Standards and appropriate CSA, CGSB, and ASTM standards for materials used in specified roofing system; use only materials listed in RCABC Accepted Material Listing in the RCABC.s Roofing Practices Manual.
- .2 Use winter-grade or summer grade materials correctly in accordance with the manufacturer's specified temperature parameters for such applications.
- .3 Membrane Accessories: Use only primers, adhesives, sealants and mastics supplied and or approved by the membrane manufacturer
- .4 Alternative Membranes Materials: Membrane Manufacturers and suppliers are invited to submit and apply for membrane approvals for use on this project.

Applications are to be presented in a format that facilitates comparison to defined requirements.

DIVISION 1 - GENERAL REQUIREMENTS

1.16 CONTRACT CLOSEOUT

Section 01700

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1. PROTECTION AND FINAL CLEAN UP

- .1 Protect finished roof areas from damage and ensure that only authorized traffic and persons are allowed on roof until after final inspection.
- .2 During roofing protect buildings and grounds from debris and equipment. Site is to be kept in a neat, tidy, safe and workmanlike condition at all times.
- .3 Upon completion, site is to be left in a clean condition to the complete satisfaction of the Owner's Representative. Clean all spills, splatters etc. caused during the Roof Replacement. Remove and dispose of all debris, wrappers etc. and verify that all drains are functioning properly.

2. DOCUMENT SUBMITTALS

- .1 Maintenance manuals, administrative documentation, as built drawings, etc. shall be delivered to the owner representative in accordance with Administrative Documentation.
- .2 Submit all required material prior to Final Application for Payment.
- .3 Provide a copy of all final project guarantees & warranties to, J. Watson Roofing Consulting Inc., as a condition of Final Acceptance of this project.
- .4 Submit a final statement of accounting providing the total adjusted Contract Price, all previous payments, and any monies remaining due. Consultant shall issue a final change order that reflects any approved adjustments to the Contract Price not previously made.

3. INSPECTION

- .1 Refer to Supplementary General Conditions.
- .2 In preparation for application for Certificate of Substantial Performance, carefully inspect the Work and ensure that it is complete, that all major and minor roofing as well as sheet metal deficiencies are complete, defects are corrected, building is clean and in condition for occupancy.

1.16 CONTRACT CLOSEOUT

Section 01700

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.3 Notify the Owners Representative and Consultant in writing, of the satisfactory completion of the Work and request a final inspection.

DIVISION 2 - SITEWORK

**DECONSTRUCTION, DEMOLITION WASTE Section 02052
MANAGEMENT & DISPOSAL**

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2.1 DEMOLITION

- .1 Cooperate with Owner's Representative so that occupants are properly notified and Owner's operations are not unduly disturbed.
- .2 Arrange and coordinate with owner for scheduling for the **temporary disconnection and reconnection of rooftop units, duct work and gas lines where and when necessary. Provide owner forces minimum of 72 hour notice for disconnection.**
- .3 Use only purpose made chutes, cranes or other pre-approved method for removal of old materials from roofs areas to ground. Take precautions to control dust around chutes and disposal bins. Tarp bins as necessary. Keep area around chute and garbage bin broom-clean at all times.
- .4 All roof areas used for loading and access are to be protected. Any damage to building or roof areas as a result of their use or to building components will be corrected and paid for by the Roofing Contractor.
- .5 Remove only as much roofing as can be covered with temporary water tight membranes on the same day.
 - .1 Under no circumstances shall any portion of the roof be left open to the weather overnight. Ensure all portions are watertight before leaving the roof. The roofing assembly, to the completed base sheet and base stripping, must be installed and completed each day.
- .6 Inspect the prepared deck, and if defects or depressions are found to exist that will seriously affect drainage, make proposals to the Consultant for correcting such defects.
- .7 When installing additional wood plates or blocking on parapet walls to receive flashings ensure positive slope to the inside of the building.

DECONSTRUCTION, DEMOLITION WASTE Section 02052
MANAGEMENT & DISPOSAL

Page 2 of 2

.8 As part of the fire safety plans and fire prevention measures, appropriate to the membrane “system” and prior to the installation of asphalt core boards and base stripping, install fire prevention tape at all junctions or gaps in overlay boards or any location where the contractor feels the entry of flame could have negative effects. Apply tape in 65 mm. widths to membrane substrate with approximately half on either side of the joint or transition that is being protected.

.9 Remove existing metal flashing, SBS roofing membrane, fiberboard, insulation, deteriorated wood plates on main and mechanical roof areas including all roof protrusion flashings (drains, vents, plumbing stacks, etc.).

.10 Carefully remove all debris remaining from the previous roof system and sweep and vacuum all drains free of debris.

.11 Carefully Inspect the existing board deck and visible wood framing for damage and replace all damaged materials with new replacement materials of equal or better quality.

.12 Carefully dis-connect ductwork and provide temporary hook-ups (connections) **if required**, by use of flex pipe or by other, pre-approved by consultant / owner representative, means in order to maintain appropriate essential service levels for both intake and exhaust services for CONTINUOUS operation of building. Note: Reconnect ductwork chases and seal to industry standards upon completion of new roofing and flashing. **Disconnection and reconnection of communication aerial and gas lines, to permit installation of new roof assembly will be the owner’s responsibility.**

.13 Remove all equipment protrusion or penetration flashings that may be identified by owner / consultant representatives as redundant (no longer required). Fill all openings in deck with matching materials in order to comply with Building Code Standards. Equipment, including redundant roof curbs, sleepers, vent flashing, cable & pipe flashing, etc.

DIVISION 6 – WOOD & PLASTICS

ROUGH CARPENTRY

Section 06100

Page 1 of 2

1.1 SECTION INCLUDES

- .1 Materials and installation procedures for plywood sheathing, dimensional lumber for replacement of wood blocking, curbs, and sleepers, etc.

1.2 RELATED SECTIONS

- .1 Section 07535 Modified Bituminous Sheet Roofing.
- .2 Section 07213 Board Insulation & Insulation Overlay Boards.
- .3 Section 07900 Sealants.

1.3 REFERENCES

- .1 Canadian General Standards Board: 37-GP-56M.
- .2 CSA A123.21-04 Standard Test Method for the Dynamic Wind Uplift Resistance.
- .3 Roofing Contractors Association of BC (RCABC): listed in the RGC Accepted Materials List of the RGC Roofing Practices Manual.
- .4 Health Canada / Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).

2. PRODUCTS

2.1 WOOD SHEATHING, DIMENSION LUMBER, CURBS AND CANTS

- .1 Where required, plywood for sheathing shall be 12.7mm (1/2") or as existing or detailed, whenever in direct contact with any masonry materials, plywood shall be preservative pressure treated. Existing cant strips and blocking to be removed in order to install new wood members at roof perimeters.

ROUGH CARPENTRY (continued)

Section 06100

Page 2 of 2

.2 Dimension lumber for perimeters, sleepers and penetration curb replacement etc.: Hemlock / Fir, factory vacuum-pressure impregnated with disodium octaborate tetrahydrate (DOT) preservative to AWWA C9-99 to obtain an average net retention of 2.7 kg/m³B2O₃ (0.17 pcf) by assay.

.3 Wood for exposed sleepers: borate treated solid wood cut to shape or CCA treated plywood with appropriate support blocking as detailed.

.4 Nails: spiral or ring type, hot dip galvanized or stainless steel and of a suitable length for the purpose. Screws for attachment of plywood or lumber to steel substrates, studwork or suitable for the purpose.

.1 Use only drill type fasteners for attaching sheathing or blocking to concrete or masonry. Do not use power actuated fastening devices without the written consent of the Consultant.

.2 Use only Hot Dipped Galvanized or stainless steel 304 or 316 fasteners to attach CCA treated wood.

.5 Wood Blocking used for extending height of low curbs and or sleeper heights shall be borate treated solid wood cut to shape or CCA treated plywood with appropriate support blocking.

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

BOARD INSULATION AND

Section 07213

Page 1 of 3

INSULATION OVERLAY BOARDS

1.1 SECTION INCLUDES

- .1 Materials and installation procedures for use of Polyisocyanurate Insulation for both Flat and Sloped formats as well as for Asphalt Core Boards.

1.2 RELATED SECTIONS

- .1 Section 06100 Rough Carpentry – Plywood Sheathing, wood blocking, wood plates, wood sleepers, 75mm fir tongue & groove wood decking, etc.
- .2 Section 07535 Modified Bituminous Sheet Roofing.

1.3 REFERENCES

- .1 Canadian General Standards Board: CAN / ULC S704-0151-26-M.86 faced polyisocyanurate ridged insulation.
- .2 CSA A123.21-04 Standard Test Method for the Dynamic Wind Uplift Resistance.
- .3 Underwriters Laboratories of Canada (ULC) listed as to external fire exposure only (ULC S107).
- .4 Roofing Contractors Association of BC (RCABC): listed in the RGC Accepted Materials List of the RGC Roofing Practices Manual.

PART 2 PRODUCTS

2.1 FLAT / SLOPED RIGID INSULATION

- .1 Flat format Polyisocyanurate Insulation shall be minimum of 37.7 mm (1-1/2”) thick, comply with ULC- S704-10 & CAN/CGSB-51.26-M86 and shall be listed as Accepted Material in Tab 2.2 of the RCABC RGC Roofing Practices Manual.

.2 Sloped Format Insulation shall be a minimum thickness of 37.7mm (1-1/2") at edge of drain and scuppers wells, shall slope to existing interior roof drain & scupper locations and conform with Polyisocyanurate Insulation to Can/ULC-S704-10 & CAN/CGSB-51.26-M86, precut and tapered to provide minimum positive slope of 1% (1/8" in 12"), shall be listed as an Accepted Material in Tab 2.2 of the RGC Roofing Practices Manual.

2.2 INSULATION OVERLAY BOARD

.1 Insulation overlay board for protection layer over the prepared sloped and flat insulation, shall be asphalt core boards, one layer of 4.8 mm (3/16") thickness, adhered with two part urethane adhesive to RCABC standards with joints staggered from previous insulation layer and rows by a minimum of 300 mm (12"). Insulation overlay board shall be listed as an Accepted Material in Tab 2.2 of the RCABC RGC Roofing Practices Manual.

PART 3 EXECUTION

3.1 INSULATION INSTALLATION

.1 Lay sloped format polyisocyanurate insulation over flat insulation base layer and vapour retarder on wood deck, stagger and offset joints a minimum of 300mm (12") from previous rows.

.2 Install sloped format as per insulation manufacturers layout, minimum of 25mm (1") thickness at drain wells, at minimum of 1% (1/8" in 12") sloped continuing to outside walls. Note: Drain well dimensions are 1200mm x 1200mm (4 ft. x 4 ft.).

.3 Mechanically attach polyisocyanurate insulation with RGC accepted & manufacturers approved Proprietary plates & fasteners in compliance with RGC Roof Star Guarantee Standards.

3.2 OVERLAY BOARD INSTALLATION

.1 Remove waterproof covers only prior to installation. Do not incorporate any wet, damp or damaged materials into the roof system.

- .2 Install only components that can be covered with roof membrane on the same day.
- .3 Install one (1) layer of 4.8 mm thick by 1.22 m x 2.44 m, asphalt core board acceptable to membrane manufacturer staggered a minimum 100mm (12") from adjacent board layer and rows. Adhere with two part urethane adhesive to insulation in 150mm (6") ribbons and to RCABC - RGC Guarantee Standards.
- .4 Upon conclusion of each working period, exposed surfaces and edges of the insulation shall be sealed and rendered watertight by temporary seal. This seal shall be removed and disposed of on resumption of work. Ensure the transition is smooth and does not impede drainage.

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

**MODIFIED BITUMINOUS MEMBRANES
AND ACCESSORIES**

Section 07535

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1.1 SECTION INCLUDES

- .1 Materials and installation procedures for Modified Bituminous Membranes.

1.2 RELATED SECTIONS

- .1 Section 06100 Rough Carpentry – Plywood Sheathing, wood blocking, wood plates, wood sleepers, etc.
- .2 Section 07213 Board Insulation & Insulation Overlay Boards.
- .3 Section 07900 Sealants.

1.3 REFERENCES

- .1 Canadian General Standards Board: 37-GP-56M.
- .2 CSA A123.21-04 Standard Test Method for the Dynamic Wind Uplift Resistance.
- .3 Roofing Contractors Association of BC (RCABC): listed in the RGC Accepted Materials List of the RGC Roofing Practices Manual.
- .4 Health Canada / Workplace Hazardous Materials Information System (WHMIS).
 - .1 Material Safety Data Sheets (MSDS).

1.4 SUBMITTALS

- .1 Submit product samples & data sheets in accordance with Section 01300 – Submittal Procedures. Include:
 - 1. Product characteristics
 - 2. Performance criteria
 - 3. Limitations

**MODIFIED BITUMINOUS MEMBRANES
AND ACCESSORIES**

Section 07535

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.2 Submit proof of manufacturer's CCMC Listing, Listing number and material acceptance listing with Roofing Contractors Association of BC (RCABC).

2.1 MEMBRANES

.1 Bituminous solvent-based primer for torch applied membranes: ELASTOCOL 500 as manufactured by Soprema Inc.; or IKO Modified Bitumen Primer by IKO Industries Ltd.

.2 Polymer non-bituminous solvent-based primers for self-adhesive membranes, ELASTOCOL STICK as manufactured by Soprema Inc.; or SAM Adhesive by IKO Industries Ltd.

.3 Roof Membrane Base Sheet: SBS modified bitumen sheet, 3 mm thick, mass 3.8 kg/M², conforming to CAN/CGSB 37-GP-56M (9~ Draft), thermofusible film top and bottom surface, ELASTOPHENE FLAM GF 3.0mm thick as manufactured by Soprema Inc. or 3.0 mm thick, mass 3.8 kg/M², conforming to CAN/CGSB 37-GP-56M (9~ Draft), Torchflex TF-95-FF Base thermofusible film top and bottom as manufactured by IKO Industries Ltd.

.4 Base Sheet Flashing (Stripping): SBS modified bitumen sheet, 3.0 mm thick, conforming to CGSB 37-GP-56M, with thermofusible film top and bottom, SOPRALENE FLAM 180 as manufactured Soprema Inc.: or 3.0 mm thick, mass 3.17 kg/M², conforming to CAN/CGSB 37-GP-56M (9~ Draft), film top and bottom as manufactured by IKO Industries Ltd.

.5 Base Sheet "SELF ADHERING" Flashing (Stripping) for use in flame sensitive areas only: SBS modified bitumen sheet, 3.0 mm thick, mass 2.8 kg/M², conforming to CGSB 37- GP-56M, with thermofusible film on top and self-adhesive surface, on the bottom, Sopralene FLAM STICK, as manufactured Soprema Inc. or Armourbond 180, 3.0 mm thick, mass 3.45 as manufactured by IKO Industries Ltd.

.6 Roof Membrane Cap Sheet: SBS modified bitumen sheet 4.0mm thick (nominal) thermofusible bottom surface, granulated top surface, conforming to CGSB37-GP-56M, Sopralene 180 GR manufactured by Soprema Inc. Color to be light Grey; or 4.0mm thick (nominal), mass 4.82 Torchflex TP – 180 Cap Sheet as manufactured by IKO Industries Ltd. Color to be mid Grey. Note: Utilize 4.0mm thick SBS granulated cap sheet 250 GR. with sanded bottom surface applied in membrane Manufacturer's approved membrane adhesive.

**MODIFIED BITUMINOUS MEMBRANES
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.7 Fire Protection: For additional protection in flame sensitive locations, as determined by the contractor, a 165 mm (6 5/8") wide tape consisting of a glass fleece reinforcement and SBS modified bitumen shall be installed. Tape as recommended by the membrane manufacturer.

2.2 MEMBRANE ACCESSORIES

.1 Bituminous solvent-based primer for torch applied membranes acceptable for use by primary membrane manufacturer.

.2 Polymer non-bituminous solvent-based primers for self-adhesive membranes.

.3 Membrane Underlay Board for use over asphalt contaminated surfaces: semi-rigid waterproof sheet with a rubber filled asphalt core, sandwiched with 2 layers of fiberglass reinforcement, with a thermofusible poly film finish. Sheet shall be 4.8 mm thick by 1.22 m x 2.44 m.

.4 Roof Mastic for installation beneath hardware flanges and for use when installing mastic and granules at the base of flanged flashings: Mastic type as required by the Membrane manufacturer's "system" criteria.

.5 General-purpose caulking: FLEXIBLE SEAL as distributed by Pro-Line Construction Materials Ltd. or All Weather Products.

.6 Liquid Membrane Detailing: For difficult to flash details as directed by consultant: Liquid-applied two-component PMMA coating c/w woven polyester reinforcement Manufacturers Accepted Proprietary Flashing System.

.1 The use of the specialty flashing system shall be specifically approved in advance by the membrane manufacturer for each application.

.7 Roofing Assembly Attachment: To be mechanically attached with insulation plates & screws through asphalt core board and the existing cover board & insulation, to a minimum of 75mm (3") inch of penetration into existing deck. Mechanically attach to RCABC pattern for board size used.

**MODIFIED BITUMINOUS MEMBRANES
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2.3 VENTS, PIPES, ALUMINUM ROOF PENETRATION FLASHINGS

- .1 Use "Hot Weld" products as manufactured by Menzies Metals or pre-approved alternative.
- .2 Replace all plumbing jacks, with new Aluminum roof penetration hardware. Penetration hardware to be a minimum of 8" above finished roof.
 - .1 Plumbing stacks shall have Aluminum caps of appropriate size and fit. Caps are to be securely fastened to the stack or incorporate an EPDM membrane skirt & clamp.
- .3 Plumbing pipes inside hardware to be minimum 8" above finished roof. Extend plumbing piping or cut back as necessary.
- .4 Prime top surface of all metal flanges, including sheet leads and allow to dry for 24 hours prior to installation.
- .5 Set flanges of drains and metal penetration flashings in a full bed of mastic and secure in Place.
- .6 Over flanges, etc. apply a 30" square piece of base sheet target flashing centered over the protrusion turned 45° to membrane direction and fully torch in place.

2.4 CAST, SPUN COPPER OR ALUMINUM DRAINS

- .1 Install fully adhered base membrane sheet in roof drain well.
- .2 Copper or aluminum Insert Drains: Install new "Hot Welded" drains at existing locations and where indicated on sloped insulation drawing and provided 75mm (3") Blue Seal drain seal connector or approve alternative.
- .3 Thoroughly wire brush both sides of copper flanges, prime and allow drying a minimum 24 hours.

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.4 Apply full bed of mastic to underside of copper drain and scupper flange, set drain / scupper in place and mechanically attach with minimum (six) 6 fasteners.

.5 Install base sheet stripping “target flashing” centered over the drain / scupper and cut out to 1” outside of drain bowl flange to full bottom of sump. Fully torch the membrane flashing.

2.5 SKYLIGHTS

.1 Acrylic Dome fixed AOF – 6 - Bronze with brown outside fastened frame – Columbia Skylights sized to fit the existing skylight curbs.

.2 Install new skylights as per skylight manufacture guidelines, with manufacture approved seals, and fasteners. New skylights are to be sized to fit the existing skylight curbs.

PART 3 EXECUTION

3.1 INSTALLATION

.1 FLAME PROTECTION UNDERLAYMENT INSTALLATIONS

.1 Apply only membranes approved for specific use by the membrane manufacturer and in compliance with RCABC Fire Safety Recommendations.

.2 Ensure continuous coverage on exposed wood decks of all combustible materials and seal with manufacturers recommended fire guard tape at all roof perimeters deck protrusions and openings.

.3 Self-adhesive modified bituminous membranes shall only be installed when ambient temperature meets or exceeds the manufacturers printed product installation temperatures. Install vapour retarder membrane as per RGC Guarantee Standards C7 Tab 2.1.3 Page 3 of the RGC Roofing Practices Manual.

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.2 BASE SHEET INSTALLATION

.1 Unroll membranes before use and allow sheets to relax for minimum 20 minutes or longer in colder weather conditions as recommended by the Membrane Manufacturer.

.2 Install base sheet in strict accordance with the Membrane Manufacturer's instructions, The Membrane Manufacturer's printed instructions form an integral part of the installation portion of the specifications.

.3 Install Self-Adhesive base sheet membrane around the perimeter of roof, curbs, up-stands, etc. as flame protection (pre-strip) before installing field of roof.

.4 Self-Adhesive base sheet side laps shall be 75mm (3") and end laps 150mm (6").

.5 Provide a smooth application, free of voids, wrinkles, fish mouths or tears, if minor repair patches are required, ensure patches extend minimum 6" beyond defect, and are neat, square to membrane direction and fully bonded to the base sheet.

.6 The roofing assembly to the completed base sheet and base stripping must be installed and completed each day, no exceptions.

.3 BASE SHEET FLASHING INSTALLATION

.1 Upon completion of the first ply of membrane and before application of the second ply, provide membrane flashing at all up-stands, curbs, penetrations, etc. that have **not been** previously pre-stripped with self-adhered membranes.

.2 Prime all appropriate substrates and allow to dry.

.1 All surfaces that are contaminated by asphalt shall be overlaid with a Cover board suitable to the manufacturer. Cover boards can be designed to receive either torch applied or self-adhering base sheet stripping plies.

**MODIFIED BITUMINOUS MEMBRANES
AND ACCESSORIES**

Section 07535

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.3 Cut membrane in (one) 1 meter (roll width) pieces by the length to suit the detail and install one ply of membrane flashing to vertical surfaces and carefully seal to the base sheet. All base sheet stripping shall be applied from 4" onto the flat surface of the roof 'up and over parapets and extend down the outside face of the exterior edge minimum 100mm (4").

.4 In areas that have been determined to be flame sensitive install "SELF ADHERING" or "ADHERED WITH MASTIC" base sheet flashing stripping as applicable with appropriate primer or adhesive as per Manufacturer's instructions.

.5 In these locations ensure through careful planning that the poly facer on the field base sheet is defeated away from the actual point of installation. Do not defeat the poly facer in flame sensitive locations.

.6 All self-adhering base sheets are to be installed using procedures and techniques (hand rolling) as per Manufacturer's printed installation.

.7 Install membrane gussets at all locations required by Membrane Manufacturer's written membrane manual installation instructions.

.8 Base sheet stripping plies shall be nailed at the top edge or the outside supports as applicable.

.9 Install base sheet stripping in one piece over equipment sleepers and terminate 100mm (4") onto roof field membrane.

.4 CAP SHEET INSTALLATION

.1 Cap sheet installations shall follow base sheet installation by a maximum of one (1) week. "Phased" construction will not be acceptable under any circumstances.

.2 Drain Sumps: Torch install cap membrane in drain sumps to edge of copper drain bowl or cast bowl flange, butter off and install mastic and granules to finish.

.3 Start at the low point and in the same direction as the base sheet.

**MODIFIED BITUMINOUS MEMBRANES
AND ACCESSORIES**

Section 07535

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.4 Unroll and allow sheets to relax, align sheets and staggering from the base sheet below by a minimum of 300mm (12") from side as well as end laps and clip / bevel corners.

.5 Re-roll Cap Sheet Membranes from both ends, prior to torching and after alignment.

.6 Ensuring that membrane is aligned properly, fully torch weld the cap sheet to the base sheet. During this application, both surfaces shall be simultaneously melted, forming a bead of molten asphalt that is pushed in front of the roll being applied. Immediately after torching cap sheet while it is still hot, use a clean trowel or hard rubber roller to seal end laps and T-joints; do not use roofer's torching cane.

.7 Granulated Cap Sheet shall have side laps of 75mm (3") and end laps of 150mm (6"). Surface granules on end laps must be embedded prior to installation of the following sheet.

.8 After installation of the cap sheet check the seal on all membrane laps with a trowel. Avoid excessive asphalt bleed out in side and end laps.

.9 Provide a smooth application free from wrinkles, fish-mouths and tears. If minor repair patches are required, ensure patches are full roll width, neat, square with rounded corners and fully bonded to the cap sheet.

.10 For surface repairs to membrane granules (if or when required) and to seal low or unusual roof detail configurations embed matching granules in PMMA Liquid Applied Membrane such as Alsan RS as Manufactured by Soprema Inc. or Parapro PMMA 123 Flashing Resin Liquid Applied Membrane as Manufactured by Siplast, OR other pre-approved alternate.

.5 CAP SHEET FLASHING INSTALLATION

.1 Cut cap sheet membrane in (one) 1 meter (roll width) pieces by the length to suit the detail. Extend onto the horizontal surface a minimum of 150mm (6".) Side laps shall be 75mm (3") and staggered a minimum of 100mm (4") with laps of the base sheet.

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- .2 Using a chalk line lay out a straight line on the cap sheet surface, parallel to the roof edge 150mm (6") inside the roof from the base of the cant or plane change.
- .3 Using a torch and a round nosed trowel or a purpose made de-granulating tool, embed the cap sheet granules into the heated bitumen, from the chalk line to the edge of the sheet.
- .4 SBS Membrane Flam granulated cap sheet flashing shall be torch welded directly on to the base sheet proceeding from bottom to top. Ensure a neat and uniform bond.
- .5 Cap sheet stripping shall be applied to extend down the interior vertical face from the top outside edge of the curb onto the flat portion of the roof a minimum of 150mm (6").

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

METAL FLASHING AND TRIM

Section 07620

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1.1 RELATED WORK

- .1 Section 06100 Rough Carpentry – Plywood Sheathing, wood blocking, wood plates, wood sleepers, 75mm fir tongue & groove wood decking, etc.
- .2 Section 07535 Modified Bituminous Sheet Roofing & Accessories.
- .3 Section 07900 Sealants.

1.2 REFERENCES

- .1 ASTM A653/A653M-06 SS Grade 33, Z275 (G90) coating. 0.64 mm (0.0252”, 24 (gauge) galvanized steel sheet. Thickness tolerance as per ASTM A924/A924M-06 ± 0.08mm (0.003”) for sheet widths not exceeding 1500mm (60”).
- .2 RGC Roofing Practices Manual. Roofing Contractors Association of British Columbia (RCABC).
- .3 Mechanical Contractors Association & Heating Refrigeration Air Conditioning Contractors of Canada.

1.3 SAMPLES

- .1 Submit manufacturer’s standard product samples of sheet metal and metal cladding material, colors and finishes.

2 PRODUCTS

2.1 SHEET METAL FLASHING, PIPE & CABLE SUPPORTS

- .1 24 ga. sheet steel galvanized steel to ASTM A525, ZF275 coating, pre-finished with Silicone Modified Polyester (SMP) 2-Coat system, Finish minimum of (five) 5 micron (0.2mil) primer plus a 20 micron (0.8) mil top coat. Top side dry film thickness to be a minimum 20 microns (0.8mil) or pre-approved alternative, standard color as chosen by owner. Or .2 24 ga. sheet steel galvanized steel to ASTM A525, ZF275 coating, and pre-finished with 70% Polyvinylidene Fluoride resin (PVFD) 2- coat system. Finish minimum of 5 micron (0.2mil) primer plus a 20 micron (0.8) mil top coat. Top side dry film thickness to be a minimum 20 microns (0.8 mil).

2.2 CABLE & PIPE SUPPORTS & EXTENSIONS

.1 Install Manufacturers proprietary cable & pipe supports in order to adequately support all roof top equipment/lines, etc. Use MIFAB manufactured cable and pipe supports as detailed in accompanying project OR pre-approved alternate.

2.3 METAL FLASHING FABRICATION & INSTALLATION

.1 All metal flashings shall be installed to RCABC Guarantee Corp. standards and RCABC flashing details. 24 ga. sheet steel galvanized steel to ASTM A525, ZF275 and use standing seams and SLock seams where standing seams are impractical, sloped to the interior of the roof.

.2 Carefully remove existing metal base flashing around bottom perimeter of siding on inside walls of main roof area and install new base flashing skirt under existing reglet flashing upon completion of roofing membrane and membrane flashing .

.4 Form cap & base flashings to RCABC details, square, true, and accurate to size, free from distortion and other defects detrimental to appearance or performance.

.5 Provide for thermal movement of flashings and materials with which it comes in contact.

.6 Metal flashing outside perimeter clips (minimum 30" in length per 10 ft. length) fastened at 300mm (12") o/c and 75 mm (3") maximum from hook of the clip with non-corrosive screws suitable for the purpose. Cladding screw fasteners with neoprene washers, suitable for the purpose, Refer to RCABC Minimum Standard A6.10 latest revision. All anchoring shall meet or exceed RCABC standards. Use concealed fastening on outside faces unless otherwise approved by Consultant.

.7 All exposed edges of flashing shall be hemmed a minimum of 3/4" for rigidity. Metal flashings are to be securely anchored to continuous blocking or nailers using continuous clips for attachment fasteners at 12" c/c and 3" maximum from hook of

the clip with exterior screw fasteners suitable for the purpose. Apply sealant to all exposed cut edges on metal flashing standing seams.

.8 Flash sleepers, roof edge base flashing, curb openings, parapet walls and all items projecting through roofing as detailed. Ensure that no flashings pond water and that all drain to the interior of the roof area.

.9 Install settlement caps and or RCABC accepted stack flashing termination and similar round penetrations through the roof.

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

CAULKING & SEALANTS

Section 07900

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1.2 RELATED WORK

- .1 Section 06100 Rough Carpentry –Wood blocking, wood plates, wood sleepers, etc.
- .2 Section 07535 Modified Bituminous Sheet Roofing.
- .3 Section 07620 Metal Flashing and Trim.

1.3 MATERIALS / SEALANT

- .1 Sealants for other than membrane work shall be one part, moisture cure, polyurethane, Tremco DYMONIC or Schnee-Morehead 5M7100 PERMATHANE. Silicone based sealants shall not be used on this project.
- .2 FLEXIBLE SEAL General-purpose caulking as distributed by Slegg Construction Materials Ltd. or Materials Ltd. or All Weather Products.
- .3 ALSAN RS Flashing System as manufactured by Soprema Inc. Liquid-applied two component PMMA coating complete with woven polyester reinforcement.

1.4 EXECUTION

- .1 All surfaces to receive sealant must be prepared according to the Sealant Manufacturer’s printed instructions.
- .2 Apply sealant between flashings and dissimilar construction materials. Apply sealant neatly and hand tool all joints.
- .3 Do not use gum pan type flashings unless expressly instructed to do so in writing by the Consultant.

END OF SECTION