



REQUEST FOR TENDERS No. 22-038

GNPCC Biogas Flare Equipment Supply

ISSUED: March 28, 2022

CLOSING DATE AND TIME:

Submissions must be received on or before:
3:00 PM (15:00 hrs) Local Time on April 14, 2022

Submissions and Questions are to be directed to:

James Haddou
Project Engineer
Regional District of Nanaimo
6300 Hammond Bay Road, V9T 6N2
Phone: 250-390-6560
Email: jhaddou@rdn.bc.ca

Questions, or requested revisions to the form of contract, should be received at least five (5) business days before the closing date.

Proponent's Information Meeting:

None

Instructions to Bidders

ARTICLE 1. Closing Date/Time/Location and Submission Requirements

Bidders must submit their TENDER on or before 3:00 PM (15:00 hrs), Pacific Time, April 14, 2021.

Submission Requirements:

Bidders must, at minimum, submit a:

- Completed Tender Form. Optional pricing items shall not be included in the Total Stipulated Contract Price, but rather as potential adders to the contract at the RDN's discretion;
- Completed Vendor Data Form (Schedule B);
- Schedule of deliverables including the items listed in the Supplier Document Requirements in Schedule A: Scope of Work;
- Spare Parts List (Schedule A);
- Any supporting information (reference lists and/or other materials) to facilitate Regional District of Nanaimo (RDN) tender evaluation, with reference to Article 11 "Award" below.

Tenders will be accepted by Email only: In PDF format with "22-038 GNPCC Biogas Flare Equipment Supply" as the subject line to this electronic address:

jhaddou@rdn.bc.ca

The RDN will not be held responsible for any technological delays.

Tenders received by any other manner will not be accepted. Tenders will not be opened in public.

ARTICLE 2. Scope of Work

Tenders are invited from qualified and experienced firms to supply and deliver (1) biogas flare equipment package for the GNPCC flare upgrade project located at the Greater Nanaimo Pollution Control Centre, 4600 Hammond Bay Road, Nanaimo, BC, V9T 5A8. See Schedule A: Scope of Work for more information.

Delivery of the Goods is expected to be 24 weeks from issue of Purchase Order.

The Delivery Point for all equipment shall be:

Regional District of Nanaimo
Greater Nanaimo Pollution Control Centre
4600 Hammond Bay Road
Nanaimo, B.C. V9T 5A8

Attn: James Haddou

ARTICLE 3. Tender Documents

The Tender Documents referred to in this tender package include the following:

- (1) Request for Tenders, including the Supply Contractor's "Tender Form";
- (2) Schedule A: Scope of Work Document*;
- (3) Schedule B: Vendor Data Form;
- (4) Schedule C: Standard Form Supply Contract Supply Agreement;
- (5) Schedule C: Standard Form Supply Contract General Conditions.

* Includes the specifications, the drawings, and the standards.

The Tenderer must carefully examine the Tender Documents. Should a Tenderer find discrepancies in, or omissions from the Tender Documents, or should they be in doubt as to their meaning, they should, prior to submitting their tender, notify the RDN contact person in writing. The Tenderer may not claim, after the submission of a tender, that there was any misunderstanding with respect to the conditions imposed by the documents.

No verbal agreement or conversation made or had at any time with any officer, agency or employee of the RDN shall affect or modify any of the terms or obligations herein stated or deemed to be any representation of warranty.

ARTICLE 4. Addenda

If the RDN determines that an amendment is required to this TENDER, the RDN will post an addendum on the RDN (www.rdn.bc.ca) and BC Bid websites (www.bcbid.gov.bc.ca). Each addendum will be incorporated into and become part of the TENDER. No amendment of any kind to the TENDER is effective unless it is contained in a written addendum issued by the RDN. It is the sole responsibility of the Proponent to check and ensure all addendums are included prior to submitting their final Tender submission.

ARTICLE 5. Tender Price

All pricing is to be in Canadian Dollars and is to include all transportation costs to the delivery point. Prices shall be filled in where indicated on the Tender Form. In the event of a price extension discrepancy when calculating the total contract value, the RDN reserves the right to correct the totals.

ARTICLE 6. Federal and Provincial Sales Taxes

GST and PST shall be shown separately on the Tender Form based on the total contract value.

ARTICLE 7. Tender Signing

The TENDER must be executed by an authorized signatory in a position to legally bind their Company to the information contained in the Tender Form.

ARTICLE 8. Revisions to Tenders

Any revision to the tender by the Tenderer must be in writing properly executed and received on or before the posted closing date and time as per the submission instructions outlined in Article 1.

ARTICLE 9. Tender Withdrawal

A Tenderer may, without prejudice to themselves, withdraw their TENDER on written request received on or before the posted closing date and time as per the submission instructions outlined in Article 1.

ARTICLE 10. Tender Rejection

.1 The RDN reserves the right to reject any or all tenders or accept other than the lowest tender and to accept the tender which it deems most advantageous.

.2 The RDN may reject a tender if:

- a) After investigation and consideration, the RDN concludes that the Tenderer is not qualified to do the work and/or cannot do the work and perform the Contract in a manner satisfactory to the RDN.
- b) A tender contains qualifying conditions or otherwise fails to conform to these Instructions to Tenderers.
- c) A tender is incomplete, is considered incomplete in the Instructions to Tenderers, is obscure or irregular, which has erasures or corrections in the Tender Form or in which prices are omitted.
- d) The RDN may, in its absolute discretion, reject a Tender submitted by Tenderer if the Tenderer, or any officer or director of the Tenderer is or has been engaged either directly or indirectly through another corporation in a legal action against the RDN, its elected or appointed officers and employees in relation to:
 - any other contract for works or services; or
 - any matter arising from the RDN's exercise of its powers, duties, or functions under the Local Government Act or another enactment within five years of the date of this Call for Tenders.

In determining whether to reject a tender under this clause, the RDN will consider whether the litigation is likely to affect the Tenderer's ability to work with the RDN, its consultants and representatives and whether the RDN's experience with the Tenderer indicates that the RDN is likely to incur increased staff and legal costs in the administration of this contract if it is awarded to the Tenderer.

.3 The RDN may reject all tenders if for any reason the RDN considers to be in its best interest to do so, including without limitation for any of the following reasons;

- a) the lowest tender that the RDN considers otherwise acceptable is higher than the funds budgeted or otherwise available for the project;
- b) the RDN decides not to proceed with the project or to defer the project;
- c) if only one bid is received, then the tender may be reissued unless a financial analysis indicates that the sole bid represents a good value for the taxpayers ; or
- d) the RDN is delayed in obtaining, or is unable to obtain, all approvals or consents it considers necessary, whether required by law or otherwise.

.4 The RDN reserves the right to consider and to reject any tender or all tenders without notice to a Tenderer or Tenderers and without permitting a Tenderer to provide additional information.

.5 In no event will the RDN be responsible for a Tenderer's costs of preparing or submitting a tender.



ARTICLE 11. Award

Awards shall be made on tenders that will give the greatest value to the RDN based on price, quality, warranty, and delivery time. The RDN shall be free to assess these criteria based solely on the information provided with tenders. The lowest, or any tender may not necessarily be accepted. The RDN will, following receipt of an acceptable tender, issue in writing a Notice of Intent to award to the successful Tenderer. Award is anticipated to be made within 60 days of tender closing.

ARTICLE 12. Form of Supply Contract

The Supply Agreement and General Conditions of the Contract are enclosed at the end of this document. Tenderers should carefully review this form of Contract. Tenderers may (but are not required to) request that RDN consider revisions to the form of Contract, including the scope of supply. Tenderers should submit such requests to the RDN well before the Closing Date and Time. If the RDN agrees to a request received prior to the Time, then RDN will issue an Addendum to modify the Supply Contract. Failure to do so by the Tenderer means acceptance of the RDN form of Contract as presented.

ARTICLE 13. No Claim for Compensation

Except as expressly and specifically permitted in these Instructions to Tenderers, no Tenderer shall have any claim for any compensation of any kind whatsoever, as a result of participating in the tender, and by submitting a bid each Tenderer shall be deemed to have agreed that it has no claim.

ARTICLE 14. Solicitation of Board Members

"If a member of the Board, or a person who was a member of the Board in the previous six months has a direct or indirect interest in the contract, then the Tenderer shall report this to the RDN in accordance with Section 107 of the *Community Charter* upon being notified of the award of the contract.

The Tenderer warrants and represents that it has not received any information or a record from any Board member or former Board member contrary to Section 108 of the *Community Charter*." The successful Tenderer will be required to direct all communications related to their contract through the staff members responsible for the project.

ARTICLE 15. Freedom of Information and Protection of Privacy Act

All documents submitted to the RDN will be held in confidence by the RDN, subject to the provisions of the Province of British Columbia's *Freedom of Information and Protection of Privacy Act*. All tenders become the property of the RDN. The successful vendor and value of the award is routinely released.

ARTICLE 16. Conflict Of Interest

The Tenderer declares that it has no financial interest, directly or indirectly in the business of any third party that would be or be seen to be a conflict of interest in carrying out the services. It warrants that neither it nor any of its officers or directors, or any employee with authority to bind the Tenderer, has any financial or personal relationship or affiliation with any elected official or employee of the RDN or their immediate families which might in any way be seen to create a conflict.



ARTICLE 17. Collusion

The Tenderer shall not engage in collusion of any sort and shall ensure that no person or other legal entity, other than the Tenderer has an interest in the TENDER. Tenderers shall prepare their TENDER without any knowledge of, comparison of figures with, or arrangement with any other person or firm preparing a tender for the same work.



TENDER FORM
22-038 GNPCC Biogas Flare Supply
Page 1 of 2

Date: _____

Company Name: _____

Address: _____

Telephone: _____ Email: _____

To: Regional District of Nanaimo
C/O James Haddou
jhaddou@rdn.bc.ca

Having examined the Tender Documents, including any addenda, and having reviewed and complied with the Instructions to Bidders, we hereby offer to supply the Goods set forth in the aforesaid documents for the Stipulated Contract Price. Prices include the Supply Contractor's labour, material, equipment, staff training, material costs, commissioning & start-up spare parts, transportation costs, overhead and profit and shall represent the cost to the Regional District of Nanaimo (RDN) of such charges excluding taxes which shall be shown separately.

Lump Sum Total \$ _____

PST (7%) \$ _____

GST (5%) \$ _____

Total Stipulated Contract Price \$ _____

Optional Pricing 1: \$ _____
ADD: Unload, assemble, install, perform SAT, start up, and commission flare equipment package (excluding PST & GST)

Optional Pricing 2: \$ _____
REDUCTION: Provide standard single flame arrester assembly rather than the double flame arrester assembly specified (excluding PST & GST)



TENDER FORM
22-038 GNPCC Biogas Flare Supply
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WARRANTY DESCRIPTION

DELIVERY (DDP Delivery Point) weeks from receipt of order

ACCEPTANCE

- .1 The tender is open to acceptance for a period of sixty (60) calendar days from the date of bid closing.
- .2 We understand that the lowest or any Bid will not necessarily be accepted. The Owner may also elect not to proceed with the Project.
- .3 The RDN reserves the right to waive minor defects or irregularities in tenders.

Company: _____

Signature: _____
(Authorized Officer)

Printed: _____
(Authorized Officer)



GNPCC Flare Scope of Work Flare Stack

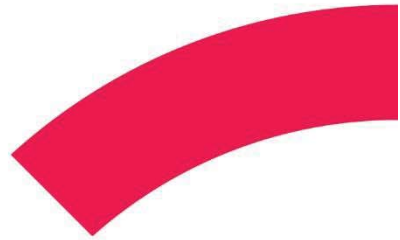
Prepared For: Regional District of Nanaimo

Submitted By: Allnorth

Allnorth Contact: Amin Sabzevari

Project Number: 2103127

Date: March 17, 2022





DOCUMENT INFORMATION

Project Number:	2103127
File Number:	1400
Filename:	2103127-1400-RFQ-FS001
Document Revision:	0

REVISION HISTORY

Rev.#	Date of Issue	Reviewed By	Approved By	Description
0	2022-03-17	AS	GT	Issued for Bid



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1 INTRODUCTION

The existing gas flare at Greater Nanaimo Pollution Control Centre (GNPCC)'s secondary treatment system was evaluated to determine if the capacity is adequate to flare the predicted future biogas produced upon completion of the secondary treatment upgrade. The existing flare system was constructed in 1997 and includes a 100 mm (3-inch) biogas flare system by Mactronic. Recent correspondence with Aereon indicates that the flare has a capacity of 3,200 Sm³/d which is inadequate for the estimated maximum biogas production of 6,900 Sm³/d. Thus it is recommended that the gas flare system be replaced.

2 PARTIES INVOLVED

- Regional District of Nanaimo (RDN)
- Allnorth Consultants Limited (ACL)

3 SCOPE OF SUPPLY

The scope shall include but not necessarily be limited to the engineering, supply, fabrication, and shipping of the following for the flare stack

- One (1) flare stack package completes with retractable pilot, pilot monitoring, ignition systems and fuel gas piping manifolds in compliance with all requirements of CSA B149.1, B149.3 and B149.6.
 - Smokeless flare stack with CSA certification.
 - Preferably, the flare stack shall be self supporting.
- The flare shall be equipped with:
 - one (1) condensate drain pot.
 - one (1) fuel gas train per pilot, compliant with CSA B149.3.
 - one (1) mating anchor bolt template baseplate for installation of the flare stack.
- The flare package shall include two (2) 100% rated flame arresters that will be installed in parallel. These flame arresters shall be shipped loose.
- Supplier shall list and supply all spares required for commissioning and start-up.
- The flare stack package will be shipped by Supplier to RDN's designated location and unloaded by others.
- Supplier shall supply and price a spare parts list for the Buyer's reference with bid submission. The list shall include start-up and commissioning spare, 2-years operation spares, and recommended capital spares.



- Supplier shall supply all documents, drawings, and test report as per Supplier Document Requirements.
- Supplier shall include a single two (2) hour training session with RDN Operations and Maintenance staff in the bid price.
- Optional Pricing for Installation Services including:
 - Supplier to unload and preassemble and test at the work site prior to lift (site acceptance testing -SAT).
 - Supplier to lift and install flare and assemble the equipment. Plot plan and site reference drawings available upon request.
 - Supplier to provide start-up and commissioning support for the flare.
- All piping components shall have CRN number.
- The flare stack package shall include the supply and install of all piping, valves, mechanical, process equipment, instrumentation and controls, junction boxes, and electrical wiring at Supplier's shop. The electrical heat tracing will be by others.
- Vendor to supply all required documents contained in Appendix A - Supplier Document Requirements along with the tender.
- The **bidders shall complete Bid Tab document** and provide with the tender.

3.1 Work Excluded

- Foundations.
- Offloading at site.
- Installation at site.
- Hold-down bolts.
- Supply and installation of all piping outside the battery limits.
- Supply, installation and connection of all power, control and instrumentation cabling outside the battery limits.

3.2 Process Requirements

- Equipment sizing and design shall be the responsibility of Supplier as per the attached flare stack data sheet, Number 220309-1400-DAT-FS001_A - Flare Stack Datasheet.
- Supplier shall provide a ground level radiation plot for the normal and emergency venting cases.
- Supplier to include the Mach No. in the data sheet for the calculated exit velocity.
- The continuous and maximum rate of radiation at grade generated from the flare shall be limited to 1.58 kW/m² as per API 520.



- The flare shall be smokeless.

3.3 Mechanical Requirements

- The flare stack package shall be complete in all aspects and shall be ready for commissioning and start-up upon installation of any shipped-loose items. The design shall be based on proven technology and designed for fail-safe operation.
- The arrangement of the flare and components including piping, valves, skid edge connections, and auxiliaries within the package limits shall be developed by Supplier and approved by the Buyer. The arrangement shall provide for simple and connect and disconnect of utilities, safe access for operation, routine maintenance, testing and replacement of components.
- Drawings shall use tagging system for equipment, piping and instruments as per Buyer's approval.
- Supplier deliverables shall be subject to final acceptance by the Buyer. The Buyer's approval of the Supplier's drawings and/ or design shall not relieve Supplier of their responsibility for correctness of design or regulatory compliance.
- Non-Pressure components welded to pressure components shall be of the same ASME P number as the pressure component.
- The flare stack shall have a continuous pilot with an auto re-lighting feature.
- The flare stack shall be complete with retractable pilot, pilot nozzles (supplier to confirm/advise number and design), pilot monitoring, and ignition systems as per B149.1 and B149.3.
- Each retractable pilot (if recommended by Supplier) shall be able to be raised and lowered using a winch. Supplier to provide options for motorized winch, hand crank or drill operated.

3.4 Civil and Structural Requirements

- The flare stack shall be mechanically installed on concrete pile cap with piles. Mating baseplate shall be supplied for installation of the flare stack. Design shall consider the requirements of API 537 Section 5 including, loading and unloading, transportation, erection, hydro-test, normal operating condition, fluid transients, and emergency operating conditions as applicable.
- The flare stack shall be designed for 2-point lifting by crane. The number of sections, center of gravity (COG) point(s) and lifting points shall be clearly stated in Supplier's drawings.
- Supplier shall supply a lift diagram complete with corresponding calculations authenticated by Professional Engineer Registered in the Province of BC (EGBC).
- Supplier shall provide foundation loading under the flare stack as well as anchor locations (as required) on the engineering drawing. Loads shall be unfactored for each load case for foundation design (by others). Loads shall consider both live and dead loads as per API 537.



3.5 Electrical Requirements

- The flare stack package shall be classified as Class 1, Zone 2, Group IIA, and Temperature Code T3. All electrical equipment, devices, and materials to be used for the installation shall be suitable for area classification Class 1, Zone 2, Group IIA and Temperature Code T3 and CSA approved.
- All electrical equipment nameplates shall include the area classification details including Zone / Gas Group / Temperature Code in accordance with CSA classification marking CSA C22.1-15, Section 18-052.
- The flare stack shall be equipped with lightning protection as per NFPA 780.
- Supplier shall design, provide, and install a NEMA 4X skid-edge control panel box for termination of equipment package electrical wiring including panel insulation and heater as required for winter operation and prevention of condensation.
- Supplier shall provide CSA approval for all electrical equipment. The panel itself shall be CSA approved/inspected with sticker affixed at the Supplier's facility.
- Supplier shall be responsible for the development of all control panel wiring schematics, and layouts: including all labelling inside the panel.
- Supplier shall be responsible for the sizing of the junction box and terminal blocks to accommodate all wire/cable sizes shown on the JB wiring diagram, including 25% spare terminals and 25% spare terminal strip space for future use.
- All wiring (including but not limited to exterior lights, control panel heaters) inside the control panel shall be included.
- Supplier shall provide one ground lug on the lower corners of the junction box/control panel enclosure.
- Supplier shall provide one ground lug on the lower corners of the flare stack for grounding and bonding of the structure.
- The pilot status signals back to the control system shall be 120VAC discrete and 4-20 mA HART analog.

3.6 Instrumentation and Control Requirements

- Any specified device must meet the process pressure and temperature design requirements, as well as ambient temperature requirements.
- A complete list of instrumentation and controls related drawings, instruments ranges and calibration data shall be submitted by Supplier.
- Electronic instrumentation, individual components, junction boxes, or local control panels shall be CSA approved, and suitable for the area classification in which they will be installed.



- ANSI/ ISA 12.27.01 regulations for primary and secondary electrical seal requirements on all electronic instrument devices shall be observed.
- All instruments and instrumentation fittings connected to pressure piping require a valid CRN number.
- Supplier shall supply, install, and calibrate the on-skid instrumentation.
- Shipped loose instruments shall be clearly identified and tagged for easy field installation. Necessary assembly procedures/instructions/drawings shall be provided by Supplier.
- All tag numbers for instrumentation, junction boxes, interface wiring, and cables shall be assigned by Buyer.
- Instruments shall be supplied with laser etched stainless-steel tags. Stainless steel tags shall be attached to each field instrument and valve with a stainless-steel wire.
- Supplier shall comply with Buyer preferred manufacturers for all instrumentation.
- Discrete signals shall be 120VAC and analog signals 4-20 mA HART. All analog instruments requiring external power shall be rated for 120VAC.
- All instrumentation shall be wired to the control panel enclosure by Supplier.
- All instruments shall be installed level and plumb and shall include visual indication for easy observation at operator eye level where practical.
- Instrument sensing lines shall be run such that there are no pockets or 90° bends to prevent hydrates and plugging at a minimum slope of 12:1.
- Instrument tube fittings shall be Swagelok, ASTM A276, no exception and installed as per Manufacturers' specifications.
- Instrument tubing shall be ASTM A269-TP316/ 316L SMLS, fully annealed. Tubing shall be installed as per Manufacture's specifications.
- Supplier shall provide installation details, instructions, and all required materials for shipped loose instrumentation and components to be installed at site. Instrumentation shall be designed for fail-safe operation and shall be wired to the skid edge control panel.
- Pressure transmitters shall be mounted such that liquid traps in the tubing are eliminated.
- Pressure instruments and pressure points to be supplied with instrument root valves and block and bleed valves.
- Process instrument connections shall have root valves.
- Supplier shall supply an Instrument and Controls cable schedule to capture all wiring between instrumentation and the package control panel.
- Use of intrinsically safe wiring methods to meet the respective area classification are not preferred and require Buyer's prior approval prior to use.
- The cable requirements are as per following Table 1.

**Table 1 –Instrumentation and Control Cable Requirements**

Scope Item / Criteria	Requirement / Comment
Low Voltage Cable (600V, 120/208V)	
600 V Cable general/lighting/utility 600 V Cable motors 120/208 V Cable	See General Engineering Specifications
Instrumentation Cable	
Discrete Signals	600V, 90°C RW90 conductors insulated #14AWG copper wire Outer PVC jacket, black, heat, flame, UV and water resistant Interlocked Steel Armour
Analog Signals	600V, 90°C RW90 conductors insulated #16AWG copper wire Individually shielded for multipair cables including overall shield Outer PVC jacket, black, heat, flame, UV and water resistant Interlocked Steel Armour

4 APPLICABLE CODES AND STANDARDS

Equipment shall be designed, constructed, inspected and tested in accordance with the latest revisions of the following standards at the time of PO issue, as applicable:

- API RP 505 Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities
- API STD 521, Pressure Relieving and Depressurizing Systems
- API STD 537 Flare Details for Petroleum, Petrochemical, and Natural Gas Industries
- API STD 598, Valve Testing and Inspection ASME STS-1 Steel Stacks
- ASME Boiler & Pressure Vessel Code, Section II, Material Specifications
- ASME Boiler & Pressure Vessel Code, Section V, Non-destructive Examination
- ASME Boiler & Pressure Vessel Code, Section IX, Welding & Brazing Qualifications
- ASME B16.5, Pipe Flanges and Flanged Fittings
- ASME B16.9, Butt Welding Fittings
- ASME B16.11, Forged Fittings, Socket-Welding and Threaded
- ASME B30.20, Below the Hook Lifting Devices
- ASME B31.3, Process Piping
- CSA B51, Boiler, Pressure Vessel and Pressure Piping Code
- CSA C22.1, Canadian Electrical Code
- CSA-S16, Design of Steel Structures
- CSA B149.1, Natural Gas and Propane Installation Code
- CSA B149.3, Code for the Field Approval of Fuel-Burning Appliances and Equipment
- CSA B149.6 Code for digester gas, landfill gas, and biogas generation and utilization
- CSA W47.1 Fusion Welding of Steel Company Certification
- CSA W59 Welded Steel Construction
- CSA A660 Certification of Manufacturers of Steel Building Systems
- CGA CR96-001, Flexible Metallic Hose
- CISC Handbook of Steel Construction
- NFPA 780 Standard for the Installation of Lightning Protection Systems
- NBC, National Building Code of Canada
- British Columbia Building Code



5 SITE DATA

5.1.1 Site Data

Table 2 - General Site Conditions

Condition	Site Attribute
Main Plant Location	Nanaimo, BC
Plant Elevation	28 m ASL
Atmospheric Pressure	101.3 kPaa
Basic hourly wind pressures <ul style="list-style-type: none"> • $q_{1/10}$ • $q_{1/50}$ 	0.39 kPa 0.50 kPa
Building code basis for site data	NBC 2015 and BCBC 2018
Wind Exposure Category	Open terrain
Prevailing Wind Direction	
Importance Category	Post -disaster $I_W = 1.25$ for ULS $I_E = 1.5$ for ULS
Ambient Temperatures <ul style="list-style-type: none"> Summer design dry bulb Summer dry bulb 2 ½ % Max. air temp for Air Cooler design Winter design Winter dry bulb 2 ½ % 	40°C 25°C -20°C
MDMT	-29°C
Rainfall <ul style="list-style-type: none"> • 15 minute rain • One day rain • Annual rain 	10mm 91mm 1500mm
Ground Snow Load <ul style="list-style-type: none"> • Load from snow depth (S_s) Load from rain falling on snow (S_r)	2.1 kPa 0.4 kPa



5.1.2 Seismic Data

Seismic site class is "E" based on existing geotechnical report by Levelton file ref: VI11-2427-00 dated 17 January 2012. Seismic Design Data for Nanaimo as per NBC 2015 is summarized in Table 3.

Table 3 - Seismic Design Data

Description	Value
Sa(0.2) =	1.02
Sa(0.5) =	0.942
Sa(1.0) =	0.542
Sa(2.0) =	0.328
Sa(5.0) =	0.104
PGA =	0.446
PGV =	0.684

5.1.3 Site Location, Coordinates and Limits

4600 Hammond Bay Road, Nanaimo B.C.

Flare Stack Datasheet

200-20 Townsite Road, Nanaimo, BC V9S 5T7 Phone: 250-753-7472

Client:	Regional District of Nanaimo	Date:	2022-03-17	Rev
Project:	GNPCC Flare	Document No. :	2103127-1400-DAT-FS001	0
Project No. :	2103127	Area:	N/A	
Equipment No. :	FS-645	Manufacturer:	VTA	
Equipment Name:	Flare Stack	Model No. :	VTA	
P&ID No. :	GN-03-9602	Serial No. :	VTA	
Service:	Biogas to Flare Stack			
Location:	Outside			

Rev	Date	Description	By	Chk	App
0	2022-03-17	Issued for Bid	MW	AS/AR	GT

Stamping Area

P-ENG Stamping

Permit to Practice

SECTION 1 - SITE CONDITIONS

1	Ambient Temperature:	Site Elevation:	28 m	m ASL	
2	Maximum 40 °C	Wind Velocity : Design:	14.44	Normal: 2.78	m/sec
3	Minimum -20 °C	Wind Gust	22		m/sec
4	Bara. Press. 101.3 kPaa	Humidity:	75%		
5	Design Temperature:	Instrument Air:	500 - 610		kPag
6	High 40 °C	Earthquake Zone: Za: Zv: V:			
7	Low -29 °C	Highest Sun Radiation in the Location:			W/m2

SECTION 2 - DESIGN/OPERATING CONDITIONS

No.	Specifications	Value			
8	Design Conditions	Vapor		Liquid	
9	Fluid Description:	Biogas (Note 2)			
10	Average Molecular Weight	25.7			
11	Fluid Flow: Min/Nor/Max (kg/hr)	10 / 218.6 / 312			
12	Fluid Volume Normal/Maximum (Sm3/sec)	0.056 / 0.08			
13	Density (kg/m3)	1.15			
14	Temperature/Pressure (°C / kPaa)	20 / 103.66			
15	Exit Velocity ((m/sec) / MACH)	9.84/ 0.03			
16	Steam Conditions (kPa @ °C)	N/A			
17		MW	Temperature (°C)	Pressure (kPag)	Flow (Sm3/hr)
18	Purge Gas	N/A	N/A	N/A	N/A
19	Pilot Gas	19.5	Ambient	35	VTA
20	Ignitor Gas	N/A	N/A	N/A	N/A
21	Low heating Value (kJ/SCM)				
22	Tip Pressure Drop (kPa)	Allowable		Calculated	VTA
23	Seal Pressure Drop (kPa)	Allowable		Calculated	VTA
24	Stack Pressure Drop (kPa)	Allowable		Calculated	VTA



SECTION 3 - MECHANICAL DESIGN DATA (VTA)				
25	Stack			Rev
26	Diameter _____ mm	Radiography _____	Stack Mat'l (ASTM) _____	
27	Height _____ m	All. Flux @ Base (GJ/h m2) _____	Base PL.Mat'l (ASTM) _____	
28	Minimum Thickness _____ mm	Corr. Allowance (mm) _____	Base Plate Size (mm) _____	
29	<input type="checkbox"/> Guyed <input checked="" type="checkbox"/> Self Supporting	Anchor Bolt Qty./Dia _____	Anchor Bolts (ASTM) _____	
30	<input type="checkbox"/> Guy Wires _____	<input type="checkbox"/> Shackles _____	<input type="checkbox"/> Turnbuckles _____	
31				
32	Flare Tip			
33	Tip Size (dia. X length) (mm) _____	Tip Material SS 316L	Turn Down _____	
34	<input checked="" type="checkbox"/> Smokeless	<input type="checkbox"/> Near Smokeless (%) _____	Wind Shroud Yes	
35	<input type="checkbox"/> Gas Assisted	<input type="checkbox"/> No Gas Assisted _____		
35				
36	Connections			
37	Flare header Size (NPS) 6	Inlet Nozzle Angle (deg) _____	Pilot Gas Conn.(NPS) 1	
38	Inlet Nozzle Size (NPS) _____	Inlet nozzle Rating (ANSI) _____	Ignitor Gas Conn.(NPS) _____	
39	Steam Conn. Size (NPS) _____	Steam Conn. Rating(ANSI) _____	Test Conn. (NPS/rating) _____	
40				
41	Seal			
42	<input type="checkbox"/> Molecular Seal	<input checked="" type="checkbox"/> Velocity Seal		
42	Type _____	Size (dia. X length)(mm) _____	Material _____	
43				
44	Blower (Not Preferred)			
45	Type _____	Motor HP _____	Enclosure _____	
46	Volume (SCFM) _____	Power (V/ph/Hz) _____		
47				
48	Pilots and Ignition System			
49	Pilot Manufacturer _____	Type/Model No. _____	Ignition Moni. Syst. _____	
50	Pilot Quantity VTA	Ignition Type _____	Thermocouple Qty _____	
51	Flame Fail Alarm (Thermocouple) Yes	Thermocouple Type _____	Ignitor Pwr (V/ph/Hz) 120V/1PH/60HZ	
52	Ignitor Manufacture _____	Ignitor Type _____	Retractable Pilots Yes	
53	Cable Type _____	Max. Allowable Temperature for Cable _____		
53	<input checked="" type="checkbox"/> Auto Re-ignition	<input type="checkbox"/> Manual Re-Ignition	<input checked="" type="checkbox"/> Continuous Pilot	
SECTION 4 - MISCELLANEOUS				
54	<input type="checkbox"/> Aircraft Warning Light	<input type="checkbox"/> Ladder c/w Cage	<input type="checkbox"/> Painter's Trolley	
55	<input type="checkbox"/> Painting	<input type="checkbox"/> Platform	<input checked="" type="checkbox"/> Lifting Lugs	
56	<input type="checkbox"/> One Piece Stack	<input type="checkbox"/> Two Piece Stack	<input checked="" type="checkbox"/> Tailing Lugs	
57	<input type="checkbox"/> Flanged Section	<input type="checkbox"/> Welded Sections	<input type="checkbox"/> Vendor Field Assemble	
58	<input type="checkbox"/> Integrated Flare Knockout Drum	<input type="checkbox"/> Automatic Flare Tip Retractor	<input checked="" type="checkbox"/> Drain Pot	
58	Insulation spec _____	Painting Spec _____	Erection WT (kg) _____	
59	Erection by _____	shipping by _____	Total WT (kg) _____	
60				
61	Documentation:	Yes/No	Yes, See Supplier Document Requirement (SDR)	
62	Non-Mechanical Requirements:			
63	Vendor Supply Checklist:			
64	General Arrangement Drawing	Yes/No	Yes, See Supplier Document Requirement (SDR)	
SECTION 5 - NOTES				
66	1. Vendor to provide process calculation for exit velocity, purge gas requirement, continuous pilot gas (fuel gas) consumption,			
67	and radiation intensity at different points on the ground level.			
68	2. Biogas composition in Vol %: O2= 0.5%, N2=1.5%, CO<0.1, CH4=64.3%, CO2=33.7%, H2S=170 PPMV.			
69	3. The normal flow is not continuous. Sometimes there is no biogas relief to flare and the flow comes in small burps.			



Appendix A Supplier Document Requirements



Regional District of Nanaimo

Project Number: 2103127

GNPCC Flare

Package Number: FS001

Supplier Document Requirements

E - Electronic Copy H - Hard Copy IOM - Installation, Operation and Maintenance Manual MDR - Manufacturer's Quality Data Report D - Delivery	Required with Tender	Required after Award		Include With	
	Copies	Copies	Weeks	IOM	MDR

Planning and Schedules

Production Schedule	1E	1E			
Production Updates		Bi-Weekly			

Mechanical and Process

Technical Bid Tab Document	1E	1E	2	Y	
General Arrangement Drawings		1E	2	Y	
P&ID		1E	2	Y	
Radiation profile		1E	3	Y	
Nozzle loads		1E	3	Y	
Equipment Datasheet		1E	3	Y	
Lift Procedures		1E	3	Y	
Recommended Spares		1E	3	Y	

Electrical, Instrumentation and Control

Control Panel Wiring Schematic		1E	2	Y	
Control Panel Layout Drawing		1E	2	Y	
Instrument List		1E	2	Y	
Cable Schedule		1E	2	Y	

Civil and Structural

Foundation Loads Include Support Locations and Anchorage Hold Down Requirement		1E	2	Y	
--	--	----	---	---	--

Certification and Testing

Equipment CSA certificates		1E	3		Y
Materials Certificates		1E	3		Y
ITP (Inspection Test Plan)		1E	3		Y
Test Records		1E	3		Y

Manuals and Data Reports

Installation, Operation and Maintenance Manual		1E+1H	D-2W		
Manufacturer's Quality Data Report		1E+1H	D		

Notes

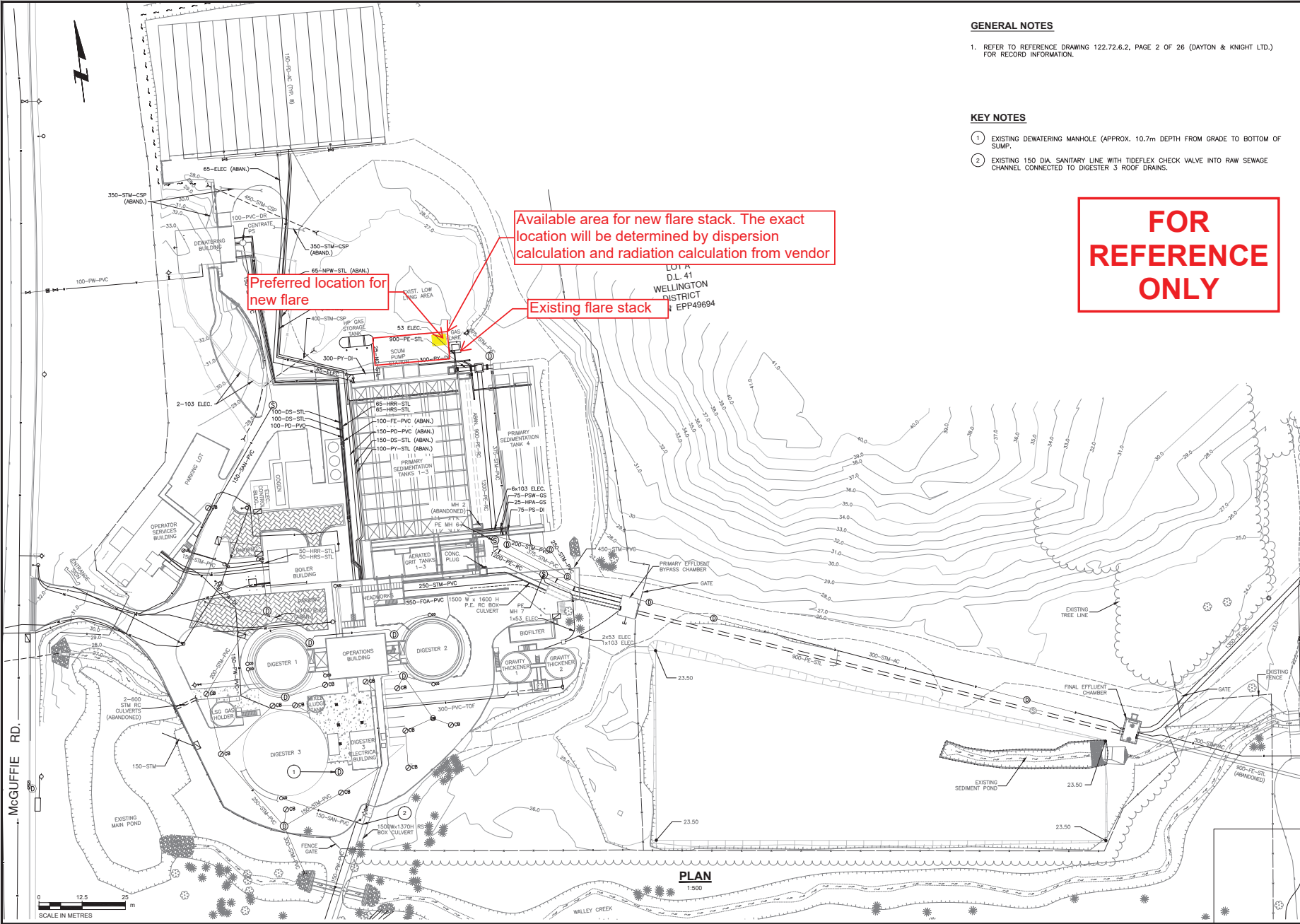
Vendor shall follow EGBC guidelines for stamping and permitting.

End of Vendor Data Requirements



Appendix B Drawings

Project Management Initials: _____ Designer: _____ Checker: _____ Approver: _____
 Printed By: horisp
 Plot File Location: May/01/2017 8:22 AM
 Layout Sheet Name: SITE & SERVICE
 Filename: P:\60343972\900-WORK\910-CAD\20-SHEETS\CIVIL\60343972_C105.DWG



GENERAL NOTES

1. REFER TO REFERENCE DRAWING 122.72.6.2, PAGE 2 OF 26 (DAYTON & KNIGHT LTD.) FOR RECORD INFORMATION.

KEY NOTES

1. EXISTING DEWATERING MANHOLE (APPROX. 10.7m DEPTH FROM GRADE TO BOTTOM OF SUMP.
2. EXISTING 150 DIA. SANITARY LINE WITH TIDEFLEX CHECK VALVE INTO RAW SEWAGE CHANNEL CONNECTED TO DIGESTER 3 ROOF DRAINS.

Preferred location for new flare
 Available area for new flare stack. The exact location will be determined by dispersion calculation and radiation calculation from vendor
 Existing flare stack

FOR REFERENCE ONLY

DATE	DESCRIPTION	BY	CHK
2017/03/01	ISSUED FOR CONSTRUCTION	MM	MM
2016/12/29	ISSUED FOR TENDER	MM	MM

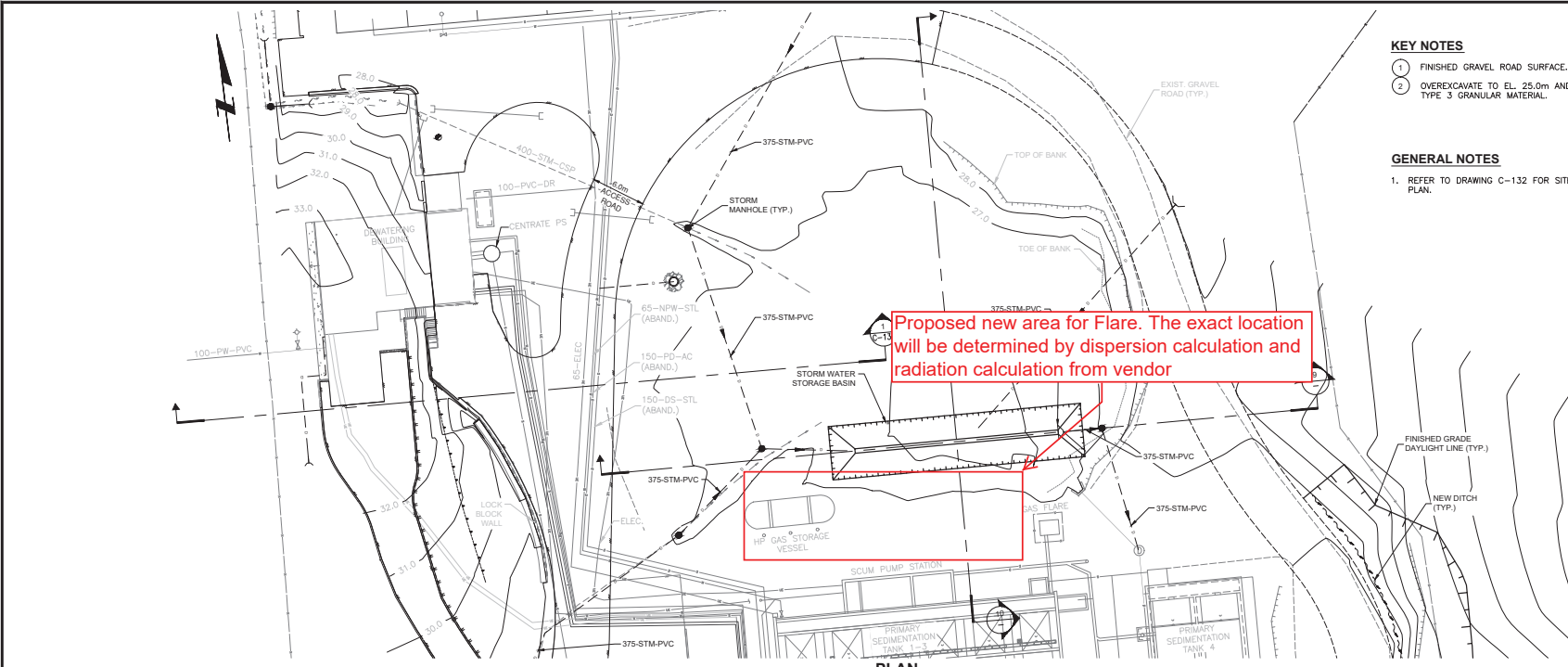
PREPARED FOR:
REGIONAL DISTRICT OF NANAIMO
 4th FLOOR, 4000 VICTORY WAY, BURNABY, B.C. V5A 4P4
 604-444-6600

PREPARED BY:
AECOM

PROJECT START DATE (M/Y) MAY / 2015
 PROJECT NO. 60343972
 FILENAME 60343972_C105.dwg
 RDN DRAWING No.
 DRAWING No. **C-105**

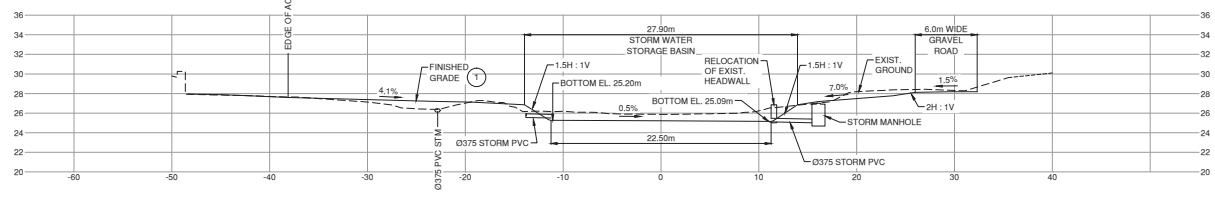
Project Management Initials: _____ Designer: _____ Checked: _____ Approved: _____

Printed By: borisp
 Plot File: C:\a\work\proj\60343972\60343972.dwg
 Layout: Sheet Name: C114
 Filename: P:\60343972\900-WORK\910-CAD\20-SHEETS\C114 TO C114.DWG

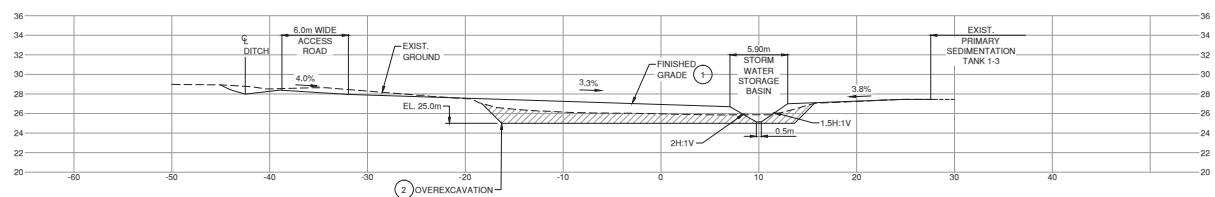


- KEY NOTES**
- 1 FINISHED GRAVEL ROAD SURFACE. REFER TO DETAIL C4-C-003.
 - 2 OVEREXCAVATE TO EL. 25.0m AND BACKFILL WITH TYPE 3 GRANULAR MATERIAL.
- GENERAL NOTES**
1. REFER TO DRAWING C-132 FOR SITE GRADING AND DRAINAGE PLAN.

PLAN
SCALE 1:250

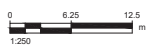


SECTION 9
SCALE - 1:250



SECTION 10
SCALE - 1:250

NOTICE:
 THE EXISTENCE, LOCATION AND ELEVATION OF UTILITIES AND/OR CONCEALED STRUCTURES AT THE PROJECT SITE ARE NOT GUARANTEED BY AECOM CANADA LTD.
 THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXISTENCE, LOCATION AND ELEVATION OF ALL SUCH UTILITIES AND/OR STRUCTURES AND IS RESPONSIBLE FOR NOTIFYING THE APPROPRIATE COMPANY, DEPARTMENT OR PERSON(S) OF ITS INTENTION TO CARRY OUT ITS OPERATIONS.



DATE	PTL	CHK BY	APP BY	DESCRPTION
2017/03/01 <td>KM <td></td> <td></td> <td>1 ISSUED FOR CONSTRUCTION</td> </td>	KM <td></td> <td></td> <td>1 ISSUED FOR CONSTRUCTION</td>			1 ISSUED FOR CONSTRUCTION
2016/12/3 <td>KM <td></td> <td></td> <td>0 ISSUED FOR TENDER</td> </td>	KM <td></td> <td></td> <td>0 ISSUED FOR TENDER</td>			0 ISSUED FOR TENDER
	CHK <td></td> <td></td> <td></td>			
	DES <td></td> <td></td> <td></td>			

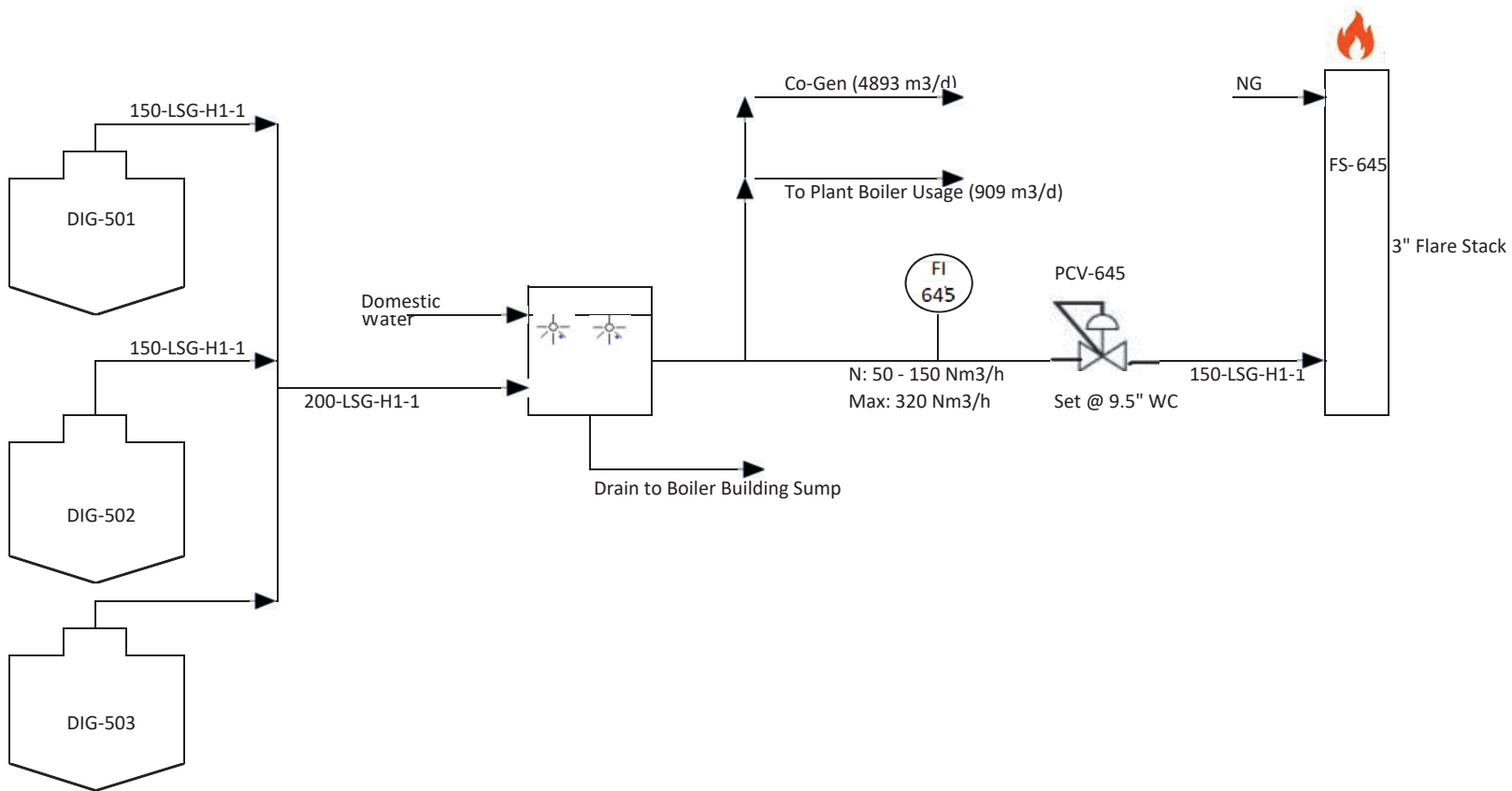


AECOM
 481 FLOOR, ACTION WAY
 BURBANK, B.C., V5A 4R4
 604-444-6900

REGIONAL DISTRICT OF NANAIMO
 GREATER NANAIMO POLLUTION CONTROL CENTRE
 SECONDARY TREATMENT UPGRADE
 CIVIL
 EXCAVATION PLAN AND SECTIONS
 STORM WATER STORAGE BASIN

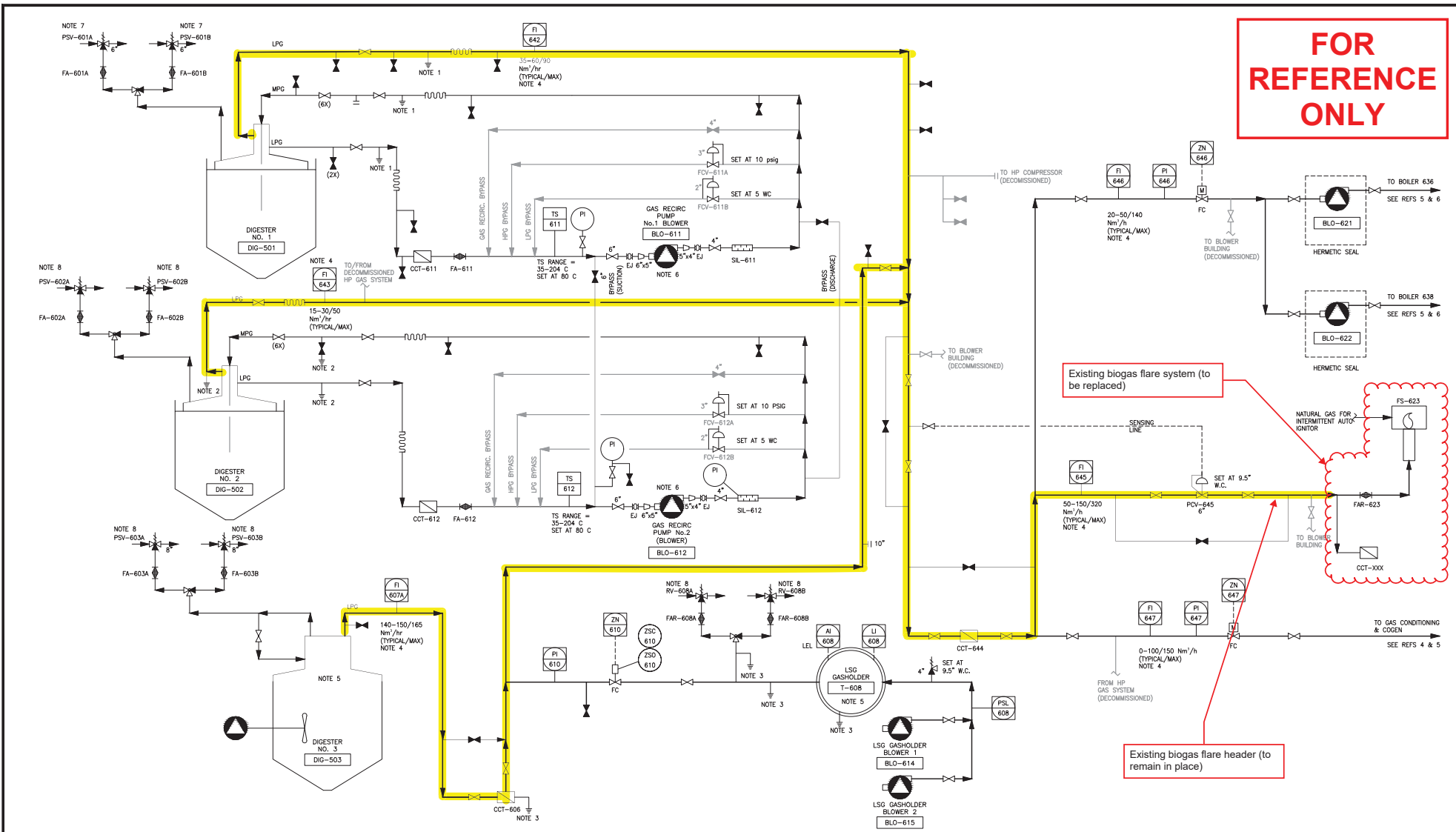
PROJECT START DATE (M/Y/Y) MAY / 2015
 PROJECT NO. 60343972
 FILENAME 60343972 C111 to C114.dwg
 RDN DRAWING No.
 DRAWING No. C-114

Existing System Sketch



Client: RDN
Project #: 2103127
Project: GNPCC Flare
By: AS
Date: March 17, 2022
Rev: A

**FOR
REFERENCE
ONLY**



DRAWING NO.	DRAWING DESCRIPTION/TITLE	REV.
GN-E-DIG-102	ELECTRICAL AREA CLASSIFICATIONS	1
GN-P-GEN-601	DIGESTER 1 & 2 BIOGAS P&ID	2
GN-P-GEN-602	DIGESTER 3 BIOGAS P&ID	3
GN-P-GEN-603	BIOGAS SCRUB & HP COMP P&ID	4
GN-P-GEN-604	BIOGAS BOILER BLOWERS P&ID	5
GN-P-GEN-801	BIOGAS BOILER LOOP P&ID	6

LEGEND:
 LPG = LOW PRESSURE GAS
 MPG = MEDIUM PRESSURE GAS
 FA/FAR = FLAME ARRESTOR
 CCT = CONDENSATE COLLECTION TANK
 PSV/RV = PRESSURE SAFETY VALVE
 FS = GAS FLARE

- NOTES:**
- 1) DRAIN TO CCT-601
 - 2) DRAIN TO DIGESTER 2
 - 3) DRAIN TO CCT-609
 - 4) FLOW VALUES = 25-75TH PERCENTILE/MAX (2019-2021 HISTORIAN)
 - 5) SEE REF 1 FOR ELECTRICAL CLASSIFICATION INFO
 - 6) BLO-611 & BLO-612 SIZED FOR APPROX. 7 PSIG AT 332 CFM
 - 7) SET AT 12" WC (RELIEF)
SET AT 0.5" WC (VACUUM)
 - 8) SET AT 12" WC (RELIEF)
SET AT 2" WC (VACUUM)

**NOT FOR
CONSTRUCTION**
 ISSUED FOR
INFORMATION
 Date: 2021/OCT/15

REV	DATE	DESCRIPTION	DRWN	CHKD	APVD
F	21/10/15	ISSUED FOR INFORMATION	DAT	CME	CM8
E	21/08/13	ISSUED FOR INFORMATION	DAT	-	CM8
D	21/06/08	ISSUED FOR HAZOP	DAT	-	CM8
C	20/01/21	ISSUED FOR INFORMATION	HR	KVS	CM8
B	19/12/16	ISSUED FOR HAZOP	HR	-	CM8
A	19/12/04	ISSUED FOR REVIEW	HR	-	-

CLIENT:
**REGIONAL DISTRICT OF
NANAIMO**

TITLE:
**GNPCC BIOGAS PROCESS
FLOW DIAGRAM**

CLIENT NO.: 19NAD104
 PROJECT NO.: 19NAD104
 DRAWING SIZE: ANSI 'D'
 SCALE: NTS

DRWN: HR
 HIR: KVS
 DATE: 19/12/03
 DSGN: -
 CHKD: -
 DATE: -
 APVD: -
 DATE: -

PROJECT:
**BIOGAS RECIRCULATION
SYSTEM**

ACL DWG NO.: 2100813-1013-PFD-001
 DWG NO.: **GN-G-105**

REV: **0**



REV	ISSUED FOR	DATE	BY	CHK	APVD	CLIENT:	Regional District of Nanaimo	REV
0	ISSUED FOR BID	3/17/2022	ML	AS	GT	PROJECT TITLE:	GNPCC Flare	0
						PROJECT No:	2103127	
						DOCUMENT No:	2103127-1400-TBE-FS001	
						CLIENT PROJECT No:	-	

Flare Stack - TECHNICAL BID EVALUATION

ITEM	EVALUATION CRITERIA	REQUIREMENT	VENDORS			COMMENT
			Vendor A	Vendor B	Vendor C	
1.0 GENERAL, DESIGN/OPERATING CONDITIONS						
1.01	Manufacturer:	<i>(Vendor to Advise)</i>				
1.02	Equipment Name:	<i>(Vendor to Advise)</i>				
1.03	Model Number:	<i>(Vendor to Advise)</i>				
1.04	Quantity:	1				
1.05	Type:	Smokeless Flare				
1.06	Design Conditions:	100% Vapor				
1.07	Fluid Description:	Biogas (Vol %: O2= 0.5%, N2=1.5%, CO<0.1, CH4=64.3%, CO2=33.7%, H2S=170 PPMV)				
1.08	Average Molecular Weight:	25.7				
1.09	Fluid Flow: Minimum/Normal/Maximum (kg/hr):	10 / 218.6 / 312				
1.10	Fluid Volume Normal/Maximum (Sm3/sec):	0.056 / 0.08				
1.11	Density (kg/m3):	1.15				
1.12	Temperature/Pressure (°C / kPaa):	20 / 103.66				
1.13	Exit Velocity ((m/sec) / MACH):	9.84 / 0.03				
1.14	Pilot Gas MW:	19.5				
1.15	Pilot Gas Pressure (kPag):	35				
1.15	Pilot Gas Temperature (°C):	Ambient				
1.16	Pilot Gas flowrate:	<i>(Vendor to Advise)</i>				
2.0 MECHANICAL DESIGN DATA						
2.01	Stack Diameter:	<i>(Vendor to Advise)</i>				
2.02	Stack height:	<i>(Vendor to Advise)</i>				
2.03	Support type:	Self supported				
2.04	Tip material :	SS 316 L				
2.05	Seal type:	Velocity seal				
2.06	Seal material :	SS 316 L				
2.07	The radiation intensity at the stack baseplate on the ground level:	1.58 kW/m^2				
2.08	The radiation intensity at 10 meters from the stack baseplate on the ground level:	<i>(Vendor to Advise)</i>				
2.06	Pilot quantity :	2 (Vendor to Confirm)				
2.07	Pilot Type/Model No.:	<i>(Vendor to Advise)</i>				
2.08	Continuous Pilot:	Required				
2.09	Flame Fail Alarm (Thermocouple):	Required				
2.10	Ignitor Pwr (V/ph/Hz):	120V/1PH/60HZ				
2.11	Auto Re-ignition:	Required				
3.0 MISCELLANEOUS						
3.01	Lifting Lugs:	Required				
3.02	Tailing Lugs:	Required				
3.03	Drain Pot:	Required				
ACCEPTABLE (YES / NO)						
RECOMMENDATION						
!	NOT SPECIFIED					
✘	NOT ACCEPTABLE					
▶	OPTION					
✓	ACCEPTABLE					

BETWEEN: VENDOR. (the "Supply Contractor")

AND: Regional District of Nanaimo (the "Corporation")

THIS AGREEMENT WITNESSES that the Supply Contractor and the Corporation agree as follows:

1. The Supply Contractor shall provide all labour, Supply Contractor's Plant and Equipment and materials required to supply the Goods within the required time, as required by the Contract Documents further defined in the Standard Form Supply Contract General Conditions.
2. The Corporation shall pay the Supply Contractor the Contract Price, as required by the Contract Documents.
3. The Contract Price shall be the sum in Canadian Dollars of the following:
 - (a) \$ _____ (Excl. Taxes), and
 - (b) any payments made on account of changes, as may be required by the Contract Documents.

The Contract Price shall be the entire compensation owing to the Supply Contractor by the Corporation for the Goods and shall cover and include necessary costs including but not limited to all supervision, labour, materials, Supply Contractor's Plant and Equipment, overhead, profit, financing costs, duty, shipping charges, fabrication and finishing, conveyance and delivery, packing, crating, freight, cartage, drafting charges, tariffs, warranty and all other costs and expenses whatsoever incurred in supplying the Goods (Incoterms DDP applies).

Except for the amounts which the RDN in good faith is disputing and except for any set off which the RDN may claim and except for invoices (or portions of invoices) in respect of which the RDN has requested and not received supporting evidence, the RDN shall pay invoices submitted to it for the Goods, within 30 days' receipt thereof.

4. Payment terms for the Goods shall be as follows:
 - (a) 10% of the Contract Price upon approval of the engineered drawing package;
 - (b) 40% of the Contract Price upon receipt of all materials required for fabrication/assembly;
 - (c) 50% of the Contract Price upon delivery and acceptance to the Delivery Point.

5. The Supply Contractor shall supply all Goods to the Delivery Point on the date requested and confirmed by the Corporation, with one week notice. For scheduling purposes, this date will be ___ weeks (*TBC depending on quoted delivery time*) from the date of the Supply Contract, plus or minus two weeks.
6. The Contract Documents shall form a part of this Agreement as though recited in full.
7. The Contract supersedes all prior negotiations, representations, or agreements, whether written or oral and is the entire agreement between the Corporation and the Supply Contractor with respect to the subject matter of this Agreement.
8. The Supply Contractor shall not assign the Contract, or any portion of the Contract, or any payments due or to become due under the Contract, without the express written consent of the Corporation which will not be unreasonably withheld.
9. No action or failure to act by the Corporation or an authorized representative of the Corporation shall constitute a waiver of any right or duty afforded any of them under the Contract or constitute an approval or acquiescence in any breach thereunder, except as may be specifically agreed in writing.
10. This Agreement shall ensure to the benefit of and be binding upon the Corporation and the Supply Contractor and their respective heirs, executors, legal representatives, successors and permitted assigns. In the event of more than one person being the Supply Contractor, the grants, covenants, provisos and claims, rights, powers, privileges, and liabilities shall be construed and held to be several as well as joint.
11. Time shall be of the essence of this Agreement.
12. This Agreement may be executed in any number of counterparts, each of which will be deemed to be an original and all of which taken together will be deemed to constitute one and the same instrument. Delivery by electronic transmission in portable document format (PDF) of an executed counterpart of this Agreement is as effective as delivery of an originally executed counterpart of this Agreement.

IN WITNESS WHEREOF the parties hereto have executed this Agreement as follows:

REGIONAL DISTRICT OF NANAIMO

by its authorized signatory on _____ day of _____, 20__ (the date of Agreement):

SIGNED on behalf of the Corporation by:

Signature: _____

Name: _____

Title: _____

VENDOR

by its authorized signatory on _____ day of _____, 20__:

SIGNED on behalf of the Supply Contractor by:

Signature: _____

Name: _____

Title: _____

Signature: _____

Name: _____

Title: _____

GENERAL

1.1 DEFINITIONS

The following words and terms, unless the context otherwise requires, in all Contract Documents, shall have the meanings set out below. Words importing the male gender include the female gender and either includes the neuter and vice versa and words importing the singular number includes the plural number and vice versa.

"Addenda" means the supplemental written conditions issued prior to execution of the Agreement which modify or interpret the Contract Documents by addition, deletion, clarification, or corrections;

"Agreement" means the Standard Form Supply Contract Form of Agreement;

"Contract" means the agreement formed by the Corporation's acceptance of the Proposal for the supply and delivery of the Goods as set out in the Contract Documents;

"Contract Documents" means the following documents:

- (1) the executed Supply Agreement
- (2) the General Conditions
- (3) any Addenda
- (4) the Supply Contractor Proposal Form
- (5) the original Supply Contractor Supporting Information, if any
- (6) the Specifications
- (7) the Drawings
- (8) the Standards
- (9) other relevant documents such as but not limited to letters of clarification and any reports or the like included by reference;

"Contract Price" has the meaning set out in the supply form of agreement;

"Corporation" means the Regional District of Nanaimo;

"Day" means calendar day;

"Delivery Date" has the meaning set out in the supply form of agreement;

"Delivery Point" means the Greater Nanaimo Pollution Control Centre, 4600 Hammond Bay Road, Nanaimo, B.C. V9T 5A8.

“Goods” means all material and non-material things to be provided by the Supply Contractor under the terms of the Contract;

“Person” includes an individual, corporation, partnership, and joint venture;

“Specifications” means that part of the Contract Documents consisting of general requirements and written descriptions of the technical features of materials, equipment, construction systems, standards and workmanship;

“Supply Contractor” means the person who or which execute the Agreement;

“Supply Contractor's Plant and Equipment” means the equipment, material, supplies and all other items (except labour) brought onto the Delivery Point by the Supply Contractor, but not to be incorporated in the Goods;

CONTRACT REQUIREMENTS

1.1.1 Successors' Obligations

The Contract shall enure to the benefit of and is binding upon not only the parties hereto but also their respective successors and permitted assigns.

1.1.2 Assignment of Contract

The Supply Contractor shall not assign the Contract in whole or in part, nor any payments due or to become due under the Contract without the prior written consent of the Corporation. No assignment of the Contract shall relieve the Supply Contractor from any obligation under the Contract or impose any liability on the Corporation. Involuntary assignment of the Contract as a result of, inter alia, bankruptcy, assignment of the Contract for the benefit of creditors or appointment of a receiver, or insolvency shall be deemed default under the Contract entitling the Corporation to terminate the Contract as hereinafter provided.

1.1.3 Waiver of Rights

Except as herein provided, no act or failure to act by the Supply Contractor or the Corporation at any time with respect to the exercise of any right or remedies conferred upon them under this Contract shall be deemed to be a waiver on the part of the Supply Contractor or the Corporation, as the case may be, of any of their rights or remedies. No waiver shall be effective except in writing. No waiver of one right or remedy shall act as a waiver of any other right or remedy or as a subsequent waiver of the same right or remedy.

1.1.4 Amendment of Contract Documents

The Contract Documents shall not be amended except as specifically agreed in writing signed by both the Corporation and the Supply Contractor.

1.2 LAWS, REGULATIONS AND PERMITS

1.2.1 The Contract shall be construed under and according to the laws of the Province of British Columbia and subject to an agreement to refer a dispute to mediation as per clause 2.3 Dispute Resolution. The parties agree to irrevocably attorn to the jurisdiction of the Courts of the Province of British Columbia.

1.2.2 The Supply Contractor shall give all notices required by law and shall comply with all laws, acts, ordinances, rules and regulations relating to or affecting the Goods. If any permits, authorizations, approvals or licences from any government or governmental agencies are necessary or desirable for the prosecution of the work they shall be obtained by the Supply Contractor at its expense, provided that the Supply Contractor shall not make application for any such permit, authorization, approval or licence without first obtaining the written consent of the Corporation.

1.2.3 **Patents, Royalties and Copyright**
The Supply Contractor shall pay all fees, royalties or claims for any patented invention, article, process or method that may be used upon or in a manner connected with the Goods or with the use of the Goods by the Corporation. Before final payment is made on the account of this Contract, the Supply Contractor shall, if requested by the Corporation, furnish acceptable proof of a proper release from all such fees or claims.

1.2.4 All references to money in the Contract Documents shall be interpreted as meaning lawful currency of Canada.

PART 2 CORPORATION-SUPPLY CONTRACTOR RELATIONS

2.1 AUTHORITY OF CORPORATION

2.1.1 Acceptability of Goods

The Corporation shall make the final determination of the acceptability of the Goods.

2.1.2 Appointment and Authority of Inspector

2.1.2.1 The Corporation may appoint an Inspector for the Goods at any time before or after award of the Contract. If the Corporation appoints an Inspector, the Inspector shall represent the Corporation, at any time during the supply process, up to and including the Delivery Point. The Inspector shall have the authority set out in the Contract Documents and such other authority as may be delegated in writing by the Corporation including but not limited to the following:

- (a) to make decisions regarding the Goods;
- (b) to make decisions regarding the manner of performance of the Goods;
- (c) to make determinations regarding deficiencies;

2.2 RESPONSIBILITIES OF THE SUPPLY CONTRACTOR

2.2.1 Attention to the Goods

The Supply Contractor shall diligently attend to the supply of the Goods so that they are delivered faithfully, expeditiously and in accordance with the Contract Documents.

2.2.2 Authorized Representative

The Supply Contractor shall advise the Corporation in writing of the name of the Supply Contractor's authorized representative.

2.2.3 Off-loading of Goods

The Supply Contractor shall provide all necessary instructions to ensure satisfactory off-loading of the Goods.

2.2.4 Shipment

The Supply Contractor shall properly package all Goods for safe shipment to the Delivery Point and a Notice of Shipment shall be sent by the Supply Contractor to the Corporation in advance of final delivery. The Notice of Shipment shall state the delivery date, the Purchase Order number, description of the goods, the Supply Contractor's name, and the carrier by which the shipment is being made. Clear title to the Equipment, free of all charges, liens and encumbrances shall pass to RDN when the Equipment(s) is received, inspected, deficiencies rectified, and accepted by the RDN at the delivery point. Until such time as title

of Equipment(s) is accepted by the RDN, the Supply Contractor shall be responsible for insurance claims related to the Equipment(s) and the RDN shall not be considered to have breached any Contract if there is a fire, damage or other cause which entitles an insurance company to seize or take possession of the Equipment or part thereof.

The passing of title to the RDN shall not affect any of the Dealer's obligations.

2.2.5 Errors and Omissions

If the Supply Contractor discovers that there are any errors or omissions in the Contract Documents, it shall immediately notify the Corporation in writing. The Corporation will review the matter and if it concludes that there is an error or omission, it shall determine the corrective actions to be taken and will advise the Supply Contractor accordingly. If the corrective work associated with an error or omission increases or decreases the amount of work called for in the Contract, the Corporation shall issue an appropriate change order. After discovery by the Supply Contractor of an error or omission in the Contract Documents any work thereafter performed by the Supply Contractor shall be done at its risk unless otherwise agreed by the Corporation.

2.3 DISPUTE RESOLUTION

2.3.1 Disputes

A dispute occurs between the Corporation and the Supply Contractor where there is a difference between the parties as to the interpretation, application, or administration of the Contract.

2.3.2 Dispute/Claim Resolution

- (1) All matters in dispute under this Agreement which is not first resolved between the parties acting reasonably may, with the concurrence of both the Regional District and the Supply Contractor be submitted to mediation to a single mediator appointed jointly by them.
- (2) No one shall be nominated to act as a mediator who is in any way financially interested in the business affairs of either the Regional District or the Supply Contractor.
- (3) If the parties cannot agree on the choice of a mediator, each party shall select a nominee and the nominees shall jointly appoint a mediator.

- (4) The mediation shall take place in Nanaimo, British Columbia, unless agreed otherwise. Parties will be responsible for their own costs.

PART 3 MATERIAL, EQUIPMENT AND WORKMANSHIP

3.1 GENERAL

The Goods shall be of the quality specified or better. All work related to the Contract Documents shall be done with equipment and workmanship of the best quality and description and by employment of properly skilled workers and in strict conformity with and as required by the Contract Documents. Materials and equipment shall be the product of suppliers or manufacturers of established good reputation, regularly engaged in the supply or manufacture of such materials or equipment.

3.2 DEMONSTRATION OF COMPLIANCE WITH CONTRACT REQUIREMENTS

3.2.1 Inspection

Inspections and testing shall not in any way relieve the Supply Contractor from any of its obligations or responsibilities under the Contract Documents, and shall not in any way prejudice or constitute a waiver of any rights or remedies of the Corporation or any guarantees, warranties or covenants in favour of the Corporation, and the Corporation shall be entitled to rely on the expertise and obligations of the Supply Contractor and its subcontractors and their consultants and engineers to the same extent as if such inspections and testing by the Corporation or any inspector or agent had not taken place.

If the Contract Documents, laws, ordinances, or any public regulatory authority requires parts of the Goods to be specially inspected, tested or approved, the Supply Contractor agrees that the Goods shall comply.

The Goods are subject to inspection and acceptance by the RDN within a reasonable time after receipt. The RDN will notify the Supply Contractor in writing of the rejection of any of the Goods which are not in accordance with the Contract Documents, and the Goods will be held subject to disposition by the Supply Contractor at the Supply Contractor's risk and subject to all charges accruing as a result of such rejection.

Notwithstanding any prior payment therefor, all Goods are subject to inspection and testing by the Corporation, at any time during the supply process, up to and including the Delivery Point.

3.2.2 Certification

The equipment must be certified by the Supply Contractor in accordance with the local authorities with jurisdiction. Where compliance of Goods, materials or equipment with the Contract Documents is not readily determinable through inspection and tests, the RDN may require that the Supply Contractor provide, at the Supply Contractor's expense, properly authenticated documents, certificates, or other satisfactory proof of compliance. These documents, certificates or other proof shall include performance characteristics, materials of construction and the physical or chemical characteristics of materials.

3.2.3 Electrical

Electrical products that plug into an electrical outlet must meet Canadian national safety standards and be certified by an accredited certification body such as CSA, cUL or cETL.

3.3 DEFECTIVE OR IMPROPER GOODS

3.3.1 Correction of Defective Goods

If upon inspection, testing or otherwise the Goods or any portion thereof are found to be non-conforming, unsatisfactory, defective, or inferior quality or workmanship, or fail to meet any guarantee of operating or other specifications contained herein, or any other requirements of the Contract Documents, then without prejudice to any other rights or remedies, the RDN may give notice of its dissatisfaction to the Supply Contractor in writing and the Supply Contractor shall immediately upon receipt of such notice do all things that are required to satisfy the RDN. If the Supply Contractor refuses or neglects to do all things that are required to satisfy the RDN within one week from the receipt of notice, the Corporation may employ some other person to do so and all expenses and costs consequent thereon or incidental thereto shall be charged to the Supply Contractor. The employment of such other person or the doing of the said work by the Corporation itself shall not affect the Supply Contractor's duties and liabilities hereunder or relieve the Supply Contractor from the performance and fulfilment of any or all of the Supply Contractor's warranties, covenants, undertakings, obligations and duties under the Contract.

3.3.2 If upon inspection, testing or otherwise the Goods or any portion thereof are found to be non-conforming, unsatisfactory, defective, or inferior quality or workmanship, or fail to meet any guarantee of operating or other specifications contained herein, or any other requirements of the Contract Documents, then without prejudice to any other rights or remedies, the Corporation may return the Goods or any part thereof to the Supply Contractor at the Supply

Contractor's sole cost and all amounts theretofore paid by the Corporation to the Supply Contractor on account of the Contract Price of such returned Goods, shall be repaid to the Corporation by the Supply Contractor. The Supply Contractor shall advise the Corporation in writing, where to return the Goods, and failing such advice from the Supply Contractor, the Supply Contractor agrees to accept the returned Goods at the Supply Contractor's registered office. Neither the inspection nor failure to make inspection, nor acceptance of Goods shall release the Supply Contractor from any warranties or other provisions of this Contract nor impair the Corporation's right to reject non-conforming Goods. The Corporation reserves the right even after it has paid for and accepted Goods to make a claim against the Supply Contractor on account of any Goods which do not prove to be satisfactory or are defective irrespective of the Corporation's failure to notify the Supply Contractor of a rejection of non-conforming Goods or revocation of acceptance thereof, or to specify with particularity any defect in non-conforming Goods after rejection or acceptance thereof.

3.3.3 Retention of Defective Goods

If in the opinion of the Corporation any portion of the Goods supplied under the Contract is defective or not in accordance with the Contract Documents and if the defect or imperfection in the same is not of sufficient magnitude or importance to make the Goods dangerous or undesirable, or if the removal of such Goods is impracticable, or will create conditions which are dangerous or undesirable, the Corporation shall have the right and authority to retain such Goods instead of requiring the defective or imperfect Goods to be removed and reconstructed, but the Corporation shall be entitled to make such deductions from the payments due or to become due to the Supply Contractor as are just and reasonable.

3.3.4 No Implied Approval

The fact that the Corporation has not disapproved of or rejected any part of the Goods shall not be deemed or be construed to be an acceptance of any such part of the Goods or any such materials.

3.4 WARRANTY AND GUARANTEE

3.4.1 The Supply Contractor agrees that the Goods manufacturer's standard warranty as outlined in the Supply Contractor's Proposal and is to the benefit of the Corporation and that the Goods are free from all defects arising from faulty construction, manufacturing, materials, equipment or workmanship for the period of the Goods manufacturer's standard warranty period.

- 3.4.2 During the warranty period, the Supply Contractor, upon the receipt of notice in writing from the Corporation, shall promptly make all repairs arising out of the defects. The Corporation shall be entitled to make such repairs, if 10 Days after the giving of such notice to the Supply Contractor, the Supply Contractor has failed to make or undertake with due diligence the repairs. In case of an emergency, where, in the opinion of the Corporation, delay could cause serious loss or damage, or inconvenience to the public, repairs may be made without notice being sent to the Supply Contractor, only after all reasonable attempts have been made to contact the Supply Contractor. The costs of any repair made by the Corporation in connection with this clause shall be charged to the Supply Contractor and the Supply Contractor shall reimburse the Corporation for such costs. All covenants and agreements shall continue to be binding on the Supply Contractor until they have been fulfilled.
- 3.4.3 The Corporation is relying on Supply Contractor's skill and judgment in selecting and providing the proper Goods and any applicable services for the Corporation's particular use. The Supply Contractor warrants to the Corporation and its successors in interest that the Goods and any services covered hereby will correspond with the description of the same in the Contract Documents, will conform to all applicable Specifications, will be of the best quality and, unless otherwise specified, will be fit for the purpose for which they are to be used and will conform in all aspects, both in the manufacture and use thereof, with all applicable safety orders or regulations of the Province of British Columbia. The Supply Contractor also warrants that the Goods are free and clear of all liens and encumbrances whatsoever and that the Supply Contractor has a good and marketable title to the same.
- 3.4.4 The Supply Contractor warrants and guarantees that the Goods are free from all defects arising at any time from faulty design in any part of the Goods.
- 3.4.5 The Supply Contractor represents that it has read the contract terms and the Specifications and has satisfied itself that the Goods can be supplied in accordance with the Specifications free of defects and fit for the purpose for which they are to be used.
- 3.4.6 The warranty period shall commence once the RDN accepts clear title of the Equipment.
- 3.4.7 The warranty should be made out to the Regional District of Nanaimo, 6300 Hammond Bay Road, Nanaimo, B.C. V9T 6N2

PART 4 INDEMNIFICATION AND INSURANCE**4.1 INDEMNIFICATION AND RELEASE**

- 4.1.1 The Supply Contractor shall save harmless and indemnify the Corporation and its directors, officers, servants, employees and agents (the “Indemnified Parties”) from and against all actions, claims, demands, proceedings, suits, losses, damages, costs and expenses of whatsoever kind or nature (including but not limiting the generality of the foregoing, in respect of death, injury, loss or damage to any person or property) arising in any way out of or connected with the Goods or the supply, off-loading or delivery of the Goods by the Supply Contractor under this agreement, except to the proportionate extent that such actions, claims, demands, proceedings, suits, losses, damages, costs and expenses were caused by the Indemnified Parties or any of them.
- 4.1.2 Unless otherwise specified in the Contract, the Supply Contractor shall save harmless and indemnify the Indemnified Parties from and against all actions, claims, demands, proceedings, suits, losses, damages, costs and expenses of whatsoever kind or nature arising in any way from liability of any nature or kind for or on account of any copyrighted or uncopyrighted composition, secret or other process, patented or unpatented invention, articles or appliances manufactured, supplied or used in the Goods, and/or used or to be used by the Corporation before or after supply of the Goods as a result of work performed by the Supply Contractor, and if the Supply Contractor shall fail to save harmless and indemnify in manner aforesaid, any money collected from the Indemnified Parties shall be charged to the Supply Contractor.
- 4.1.3 The Supply Contractor shall release and discharge the Corporation and its directors, officers, servants, employees and agents (the “Released Parties”) from and against all actions, claims, demands, proceedings, suits, losses, damages, costs and expenses of whatsoever kind or nature (including but not limiting the generality of the foregoing, in respect of death, injury, loss or damage to any person or property) which the Supply Contractor or its servants or employees might have in any manner arising in any way out of or connected with the Goods or the supply, off-loading or delivery of the Goods by the Supply Contractor under this agreement except to the proportionate extent that such actions, claims, demands, proceedings, suits, losses, damages, costs and expenses were caused by the Released Parties or any of them.

4.1.4 The indemnity provided in this clause by the Supply Contractor to the Indemnified Parties shall not in any way be limited or restricted by any insurance or by limitations on the amount or type of damages, compensation or benefits payable under the Workers' Compensation Act or any other similar statute.

4.2 INSURANCE

4.2.1 General

The Supply Contractor and subcontractors shall provide at their own cost any insurance which they are required by law to provide or which they consider necessary to protect their own interests.

4.2.2 Indemnity Not Restricted by Insurance

The provisions for insurance shown above shall not in any way limit the indemnity granted by the Supply Contractor to the Indemnified Parties elsewhere in this section.

4.3 PATENT, TRADEMARK OR COPYRIGHT

4.3.1 The Supply Contractor represents that it has fully investigated all Specifications, including any furnished by the Corporation, in connection with the Goods and based on such investigation and its past experience and superior knowledge with respect to such Goods has determined that the production and supply thereof will not infringe any patent, trademark or copyright.

PART 5 SHIPMENT OF GOODS/DAMAGE TO GOODS

5.1 SHIPMENT OF GOODS

5.1.1 Delivery of Goods

The Supply Contractor must deliver the Goods to the Delivery Point. Delivery of the Goods to a carrier for transmission to the Delivery Site does not constitute delivery of the Goods to the Corporation. Any such carrier is deemed to be the Supply Contractor's agent and not the Corporation's agent.

5.1.2 Delivery Costs

The Supply Contractor is responsible for all costs and expenses whatsoever in relation to the supply and delivery of the Goods to the Delivery Point, including without limitations, all shipping, carrier, transportation, freight, insurance,

storage, handling and off-loading costs, as well as any customs or excise charges or duties.

5.1.3 Supply Contractor to Bear Risk

The Supply Contractor shall bear all risks and shall assume all responsibility for the Goods, including, without limitation, any loss or damage to the Goods from any cause whatsoever, up to and including the delivery at the Delivery Point.

5.1.4 Loss or Damage

If loss or damage to the Goods occurs for which the Supply Contractor is responsible, the Supply Contractor shall immediately effect repairs or replace any property as necessary to make good any such loss or damage. If the Supply Contractor refuses or neglects to do so, the Corporation may make good any such loss or damage, either by itself or by employing some other person, and the expense of doing so shall be charged to the Supply Contractor. If any repair or replacement of property is performed on the Goods as a result of loss or damage to the Goods for which the Supply Contractor is responsible the Supply Contractor represents and warrants that the warranty provided shall not be affected or changed to any manner or respect whatsoever.

5.1.5 Acceptance of Delivery of Goods by Corporation

Notwithstanding any other provision in the Contract Documents, the Corporation is not deemed to have accepted the Goods until the Goods have been delivered to and off-loaded at the Delivery Point and the Corporation has had a reasonable opportunity of examining them for the purpose of ascertaining whether they are in conformity with the Contract. The Corporation's acceptance or deemed acceptance of the Goods shall not prejudice any rights or remedies the Corporation may have hereunder relating to Goods that are found to be non-conforming, unsatisfactory, defective, of inferior quality or workmanship, or which fail to meet any specifications or requirements of the Contract Documents.

PART 6 PROGRESS AND COMPLETION

6.1 CONTRACT TIME

6.1.1 Prosecution of the Goods

Time shall be strictly of the essence. The Supply Contractor shall supply the Goods in accordance with the Contract Documents. The Supply Contractor acknowledges that the schedule for supply of the Goods as set out in the Contract Documents is reasonable.

6.1.2 Schedule

The Supply Contractor shall provide a schedule and periodic updates coordinating the supply of Goods within the prescribed time. Contract time extensions, if any, shall be incorporated into updated schedules. The failure of the Supply Contractor to comply with this requirement may entitle the Corporation to terminate the Supply Contractor's right to continue with the supply of Goods or to delay progress payments.

6.2 TERMINATION

6.2.1 The Corporation may terminate the Contract if the Supply Contractor at any time becomes bankrupt, makes an assignment of his property for the benefit of his creditors, or if a receiver or liquidator should be appointed. Such termination shall be effective upon the Corporation giving notice thereof.

6.2.2 The Corporation may terminate the Contract if at any time the Corporation forms the opinion that the Supply Contractor is in default under this Contract because the Supply Contractor:

- (1) has breached a fundamental term of the Contract or is in substantial breach of the terms of the Contract;
- (2) has failed to supply the Goods, within the time specified in the Contract Documents or extensions mutually agreed between the parties in writing;
- (3) has failed or is failing to furnish or to maintain a detailed schedule;
- (4) has become in any way unable to supply the Goods or any part thereof;
- (5) has repeatedly failed to make prompt payments to subcontractors, suppliers or others for labour, materials or equipment; then the Corporation may give notice in writing to the Supply Contractor of such opinion and require that such default or defaults be remedied forthwith. If, within five Days of such notice, such default or defaults are not remedied to the satisfaction of the Corporation, the Corporation may terminate the Contract. Such termination shall be effective immediately.

- 6.2.3 The Corporation may terminate the Agreement, without any cost or penalty or consequence whatsoever, if it concludes, acting reasonably on the information available to it, that the Contractor is in material non-compliance with, or has been convicted of a material offence or violation of, health, safety, labour or environmental laws.

6.3 NO CLAIM

Except as herein before provided, the Supply Contractor shall have no claim against the Corporation for any reason whatsoever by reason of the termination of the Contract.

PART 7 PAYMENT

7.1 PAYMENTS TO SUPPLY CONTRACTOR

- 7.1.1 Payments to the Supply Contractor will be made as per the Supply Agreement
- 7.1.2 Notwithstanding Clause 7.1.1 the Corporation may withhold from payment:
- (2) Any deduction the Corporation may be entitled to under the Contract;
 - (3) Such reasonable amount as the Corporation determines appropriate with respect to any part of the goods otherwise not in compliance with the Contract Documents.
- 7.1.3 Payments may be withheld until the relevant operating manuals and all operating and maintenance materials together with all warranties have been delivered to the Corporation.
- 7.1.4 In addition to any other remedy the Corporation may have in the Contract or law, the Corporation may refuse to make payment because of subsequently discovered evidence or test results, and shall be compensated for any payment previously made to the Supply Contractor to such extent as may be necessary to protect the Corporation from loss as a result of:
- (1) Defective or damaged Goods;
 - (2) A deductive change order;
 - (3) Failure of the Supply Contractor to supply the Goods in accordance with the Contract Documents, including failure to maintain the supply of the Goods in accordance with the schedule;

- (4) Disregard by the Supply Contractor of the authority of the laws of any public body having jurisdiction.

The Corporation may refuse to make payment of the full amount because of claims made against the Corporation on account of the Supply Contractor's performance or supply of Goods. In such case, the Corporation shall give the Supply Contractor prompt written notice stating the reasons for each action.

7.1.5 The Corporation may withhold from payment to the Supply Contractor:

- (1) Any set-off the Corporation may be entitled to under the Contract;
- (2) The amount of any bona fide builder's lien claim asserted against the Corporation or which the Corporation acting reasonably anticipates will be made against the Corporation.

7.1.6 Prior to payment to the Supply Contractor, if requested by the Corporation, the Supply Contractor shall deliver to the Corporation a statutory declaration in form satisfactory to the Corporation declaring that all subcontractors, labour and accounts for material and equipment have been paid and that no persons, firms or corporations have any lien against the lands comprising the Delivery Point or the work together with such other documentation as the Corporation, acting reasonably, determines is necessary or desirable.

SCHEDULE 1 – ADDENDA

SCHEDULE 2 – SUPPLY CONTRACTOR TENDER FORM

SCHEDULE 3 – SUPPLY CONTRACTOR SUPPORTING INFORMATION

SCHEDULE 4 - SPECIFICATIONS

Title	Ref.No.	Date	Rev

SCHEDULE 5 - DRAWINGS

Title	Dwg.No.	Date	Rev

SCHEDULE 6 – STANDARDS

Title	Std.No.	Date	Rev