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11 Laurier St./ 11, rue Laurier

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K1A 0S5

Bid Fax: (819) 997-9776

SOLICITATION AMENDMENT

MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

**Maintenance & Professional Consulting Services
Division (FK)**

11 Laurier St./ 11, rue Laurier

3C2, Place du Portage, Phase III

Gatineau

Québec

K1A 0S5

Title - Sujet HVAC CONTRACT	
Solicitation No. - N° de l'invitation EJ196-150923/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client 20151923	Date 2017-01-26
GETS Reference No. - N° de référence de SEAG PW-\$\$FK-280-72150	
File No. - N° de dossier fk280.EJ196-150923	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2017-01-31	
Time Zone Fuseau horaire Eastern Standard Time EST	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Grogan, Lynn	Buyer Id - Id de l'acheteur fk280
Telephone No. - N° de téléphone (873) 469-4903 ()	FAX No. - N° de FAX (819) 956-3600
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Amendment 001

1) Questions and Answers

Question 1: The 3 chillers (1 at 1200 Montreal Road and 2 at 1745 Alta Vista) could you advise if they operate with Glycol in the water loop?

Answer 1: The fluid circulating through the chillers at NDMC and Building M-23 is chilled water.

Question 2: Can you advise the last time the evaporators were cleaned on the 3 chillers?

Answer 2: The contractor(s) should assume that the chiller evaporators have not been cleaned in the last five (5) years.

Question 3: Can you confirm that quarterly leak testing is required on all refrigeration systems or just those over 5 tons?

Answer 3: The leak testing is to be performed semi-annually on all halocarbon containing systems, regardless of capacity.

2) Delete Annex A, Statement of Work, and Replace with attached Annex A.

3) Delete Annex G, Pricing Schedule, and Replace with attached Annex G (see Attachments section on Buy and Sell)

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

SW 1 General

- .1 The Contractor must furnish all necessary tools, services and labour to execute the work required for the maintenance of the equipment contained herein and must execute such work in a careful and workmanlike manner and in accordance with all related Codes, Standards and Regulations from all levels of Government (Provincial/Territorial, Municipal and Federal).
- .2 To carry out the work on this requirement, Service personnel employed by the Contractor must be in possession of:
 - .1 **HVAC equipment** - Three (3) service personnel with:
 - A valid Ozone Depletion Prevention Card for the Province of Ontario (or approved interprovincial equivalent); and
 - A valid **Journeyman (JP)** Refrigeration and Air Conditioning Certification Licence (or approved interprovincial equivalent); and
 - A valid Fall Protection Certificate; and
 - A valid Confined Space Entry Certificate; and
 - A valid Aerial Manlift Certificate.
 - .2 **Gas fired appliances** - Three (3) service personnel with:
 - A valid permanent Province of Ontario Certificate G1 (Gas Technician 1) (or approved interprovincial equivalent); and
 - A valid Fall Protection Certificate; and
 - A valid Confined Space Entry Certificate; and
 - A valid Aerial Manlift Certificate.

The personnel named in 'HVAC equipment' above may also be named in items 'Gas fired appliances' and provided they hold the required certifications of each category.
- .3 Apprentices employed by the Contractor must be fully registered in a Tradesman Program related to the services in Annex A, Statement of Work. Apprentices must work under the direction of a Journeyman Mechanic. Canada reserves the right to request proof of registration in a Tradesman Program related to the services in Annex A, Statement of Work at any time during the term of the contract.

SW 2.1 Scope of Work - preventive maintenance / inspection

.1 General

The Contractor shall provide all required maintenance as per SW 3 and the manufacturer's recommendations, including but not limited to the items listed below, to maintain the equipment listed in SW 5, Equipment Inventory.

.2 Included in Contract

Labour for all maintenance inspections, leak testing, cleaning, lubrication; all labour and costs associated with the replacement of drive belts, filters and fuses.

.3 Performance

The Contractor shall maintain the equipment at its original performance level to provide conditions within the range required by the equipment being served by this system or as otherwise specified by the Technical Authority.

.4 Exclusions

The Contractor is not required as part of this contract to make renewals or repairs necessitated by reason of the negligent operation or misuse of the equipment by others or by reason of any other cause beyond his control except ordinary wear and tear of the equipment.

1. The contractor shall provide clear and concise rational of the events leading up to the failure.

SW 2.2 Scope of Work (cont'd)

.5 Extra Work

- .1 The Contractor shall immediately inform the Technical Authority in writing *within 24 hours* of necessary repairs not included herein as being part of the work to be performed under the Contract. The Contractor may be called upon to effect these repairs.
- .2 The Contractor shall identify modifications or improvements to the equipment or system(s) that will enhance equipment serviceability, life expectancy and/or efficiency.
- .3 The Contractor will calculate the cost of the repairs (SW2.2.5.1), modifications or improvements (SW2.2.5.2) based on Basis of Pricing "Pricing Schedule 2". The Contractor may be called upon to effect this work.
- .6 Prove to the satisfaction of the Departmental Representative when requested, possession of complete schematic wiring diagrams, detailed adjustment procedures and detailed operational descriptions of all equipment included in this Contract.

Operational Descriptions

Prove to the satisfaction of the Technical Authority when requested, possession of complete schematic wiring diagrams, detailed adjustment procedures and detailed operational descriptions of all equipment included in this Contract.

.7 Environmental Protection

The Contractor shall conform to all applicable environmental laws and regulations in effect including the Federal Halocarbon Regulations.

- .1 During repair or replacements the Contractor shall use closed-loop refrigerant recovery equipment to minimize refrigerant emissions. A complete leak test on all refrigeration systems shall be performed quarterly, and repairs made as required. Units shall then be tagged as **leak free**.
- .2 The Contractor shall ensure against oil spills or damage to surfaces and roofing system by providing protection such as plywood or plastic under the equipment during service operations. In the event of an accidental spill, the Contractor shall notify the Technical Authority immediately so that remedial action can be taken.
- .3 The Contractor shall not leave waste materials on site unless approved by the Technical Authority.
- .4 The Contractor shall not dispose of waste or volatile materials, such as mineral spirits or paints and oil thinner into waterways, storm or sanitary sewers.
- .5 The Contractor shall control the disposal of the runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

SW 3. Service

- .1 Unless otherwise specified, all equipment shall be inspected monthly or more frequently if found necessary, to provide trouble free operation.

.1 Gas fired appliances (Walkley Armouries)

Shall be inspected monthly during the operating season or more frequently if found necessary, to provide trouble free operation of the equipment. Seasonal start-up and shutdown of the equipment shall be coordinated with the Technical Authority. The performance of the work required shall provide for operation of the complete system(s) based on original design or subsequent approved design modifications, and shall be as recommended by the manufacturer(s).

- .1) A thorough inspection and cleaning of the boiler(s) waterside and fireside shall be performed on an annual basis and must be coordinated with the Technical Authority;
- .2) An annual combustion test is to be performed on each appliance during the operating season. A copy of the combustion test report(s) shall be submitted to the Technical Authority upon completion.

SW 3. Service (cont'd)

.2 Chillers (NDMC & M-23):

The chillers must be inspected monthly or more frequently if found necessary during the operation season (May to October), to provide trouble free operation of the equipment. Winterize chiller(s) as applicable to guard against low ambient freeze-up in winter months. The performance of the work required must provide for operation of the complete system(s) based on original design or subsequent approved design modifications, and must be as recommended by the manufacturer(s).

- .1) The contractor shall provide a full oil analysis report for the chiller(s), from a sample taken prior to an oil change or at the end of each cooling season within the last month of chiller operation. The reports shall include recommendations based on analysis data and manufacturer's guidelines. They are to be submitted no later than December 15th of each year, to permit any required corrective work to be performed during this off season. The contractor is responsible for disposing of used oil and oil contaminated materials.
- .2) Evaporator tubes are to be inspected biannually (every second year). The tubes are to be cleaned as often as necessary to maintain proper heat transfer as per chiller's capacity. While the evaporators are open for cleaning and inspection, any leaking tubes are to be identified and repairs made accordingly. The Technical Authority shall be informed whenever tube maintenance is done and allowed to inspect the unit prior to re-closing.
- .3) In the first and third year of the contract, a refrigerant sample from each chiller shall be submitted to a full chemical analysis and a detailed report submitted. A complete report shall be submitted to the Technical Authority.

.2 Scheduling

Unless otherwise directed, preventive maintenance shall be performed during regular working hours, Monday through Friday, 08:00 to 16:00 hours excluding statutory holidays.

.3 Maintenance Plan

Contractor shall produce a detailed comprehensive maintenance service plan specific to the equipment inventory which must outline all tasks, procedures, all maintenance routines and frequencies to meet or exceed manufacturers' recommendations identifying the maintenance that will be performed annually, semiannually, quarterly and monthly. This maintenance plan shall contain and reflect the manufacturer's recommended maintenance and all requirements of this agreement. The proposed maintenance plan shall be reviewed by the Technical Authority and may require revision by the Contractor to meet Technical Authority's requirements. Any such changes shall be considered as part of this agreement. This plan must fully list all operating inspections, maintenance schedules and tests necessary to maximize equipment longevity and ensure the optimum level of performance over the full operating range of the equipment. The comprehensive maintenance service plan shall be submitted to the Technical Authority in the Microsoft Office Suite format (including sample inspections sheets for all routines), within 60 calendar days after award of the Contract.

The Maintenance Plan must be viewed and approved by the Technical Authority prior to acceptance and implementation.

.4 Control Systems:

Conduct periodic tests of the Control Systems where applicable, to ensure all circuits and settings are properly adjusted to suit requirements of the design capabilities of the system as originally furnished by the manufacturer. The frequency of testing controls will be according to manufacturer's specifications.

.5 Air Filter Service

The Contractor shall replace filters as required to fit the filter sections provided by the manufacturer. Filter size and efficiency to match original as supplied by the manufacturer and as indicated in SW5 Equipment Inventory.

SW 3. Service (cont'd)

.6 Service calls

All service calls between regular inspections must be answered by a qualified technician per SW1.2 within two (2) hours of receiving the call on a 24 hour, 7 day basis. All named Service personnel must be able to report on site ready to service the system within two (2) hours of receiving the request for emergency service and such work shall proceed continuously until the system is returned to safe operating condition.

.7 Non-working Service Manager

The non-working Service Manager must be in full charge of the operations of the contractor in the performance of the services and shall be authorized to accept any notice, consent, order, direction, decision or other communication on behalf of the contractor that may be given under the contract. The manager must liaise as required with the Technical Authority and must be capable of communicating in English or French.

In the event that there is an emergency the Contractor's non-working Service Manager must be available to respond on-site within two (2) hours of receiving the call on a 24 hour, 7 day basis.

SW 4. Reporting

- .1** The Contractor shall report to the Technical Authority verbally **and** by FAX, within twenty-four (24) hours, every visit required other than regular maintenance. The report shall detail all work completed, work outstanding and the reasons therefore and an estimated time frame for completion.

The Contractor shall call to the attention of operating staff verbally followed by a written report to the Technical Authority any improper procedures that may be noted by him and provide written instruction to guide the Technical Authority's staff.

The Contractor shall notify the Technical Authority in writing of any malfunction of equipment or systems related to, but not part of, the contract equipment which could adversely affect the reliability or cause damage to the system components under the maintenance contract

.2 Equipment report cards:

A completed service report card outlining any and all service performed on the equipment shall be enclosed in a clear vinyl envelope and affixed safely to the equipment. These report cards are to remain with the equipment for the duration of the contract and are to be turned over to the Technical Authority upon contract completion or termination.

.3 Service Reports:

A signed, written service report shall be completed at each regular maintenance visit, attesting that maintenance was performed as per the Maintenance Plan (SW3.3) and must be left on site in a suitable protective binder.

SW 4. Reporting (cont'd)

.4 Analysis reports:

- Gas fired appliance(s) combustion analysis reports are to be submitted, as stipulated in SW3.1.1.2). They are to be submitted no later than December 15th of each year;
- Chiller oil analysis reports are to be submitted, as stipulated in SW3.1.2.1). They are to be submitted no later than December 15th of each year;
- Chiller refrigerant analysis reports are to be submitted as per SW3.1.2.3). They are to be submitted no later than December 15th of each year.

Attestation of maintenance as per Maintenance Plan (SW3.3) including any recommendations and/or comments shall be submitted with the quarterly invoice to the attention of:

Public Works and Government Services Canada
Maintenance & Operational Assurance
400 Cooper, 6th Floor
Ottawa, Ontario
Mailing address: Ottawa, Ontario, K1A 0S5
Attention of: **DEPARTMENTAL REPRESENTATIVE**

Invoices Must include:

- (a) PWGSC reference (8M3-1584-6) & contract number (EJ196-150923)
- (b) period covered by invoice
- (c) building name & address

NOTE: *Invoices will be returned unpaid if attestation of maintenance has not been received for the invoiced period.*

SW 5 Equipment Inventory (HVAC)

Building: Walkley Armouries, 2100 Walkley Road

No. of Units	Location/Room Number	Make	Model	Serial Number	Details
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSA5E15FCL	N/A	AHU # 4 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X2, 12X24X2X2 Belts: 2XB-68 (SF), 1XB-83 (RF)
1	Main Floor Mechanical Room M.R. #1	Dristeem	VM-12	1039074-02-01	Steam Humidifier for AHU # 4
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSA5E15FCR	N/A	AHU # 7 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X2, 12X24X2X2 Belts: 2XB-70 (SF), 1XB-83 (RF)
1	Main Floor Mechanical Room M.R. #1	Armstrong Humidiclean Series HC-4000	HC-4100	238467-10-1-03	Packaged Electric Steam Humidifier, 15KW c/w Controller for AHU # 7
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH10J30AF	N/A	Firing Range Supply Fan #14 H.W. Heating & Glycol Reclaim Coil Filters: 24X24X2X6, 12X24X2X3 Belts: 3XB-108
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH5C12FCL	N/A	AHU # 3 Hot Water Heating. Includes Return Fan Filters: 24X24X2X2 Belts: 2XB-54 (SF), 1XA-69 (RF)
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH5C12FCR	N/A	AHU # 2 Hot Water Heating. Includes Return Fan Filters: 24X24X2X2 Belts: 2XB-54 (SF), 1XA-69 (RF)
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH5E15FCL	N/A	Firing Point Exhaust #15 c/w Glycol Reclaim Coil Filters: 24X24X2X2, 12X24X2X2 Belts: 2XA-67
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH8E15FCL	N/A	Bullet Catcher Exhaust #16 c/w Glycol Reclaim Coil Filters: 24X24X2X3, 12X24X2X3 Belts: 2XB-71

1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH5E15FCR	N/A	AHU # 1 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X2, 12X24X2X2 Belts: 2XB-72 (SF), 1XB-68 (RF)
1	Main Floor Mechanical Room M.R. #1	Dristeem	VM-12	1039074-02-02	Steam Humidifier for AHU # 1
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH5A10FCL	N/A	AHU # 5 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X1, 24X12X2X1 Belts: 1XB-60 (SF), 1XA-67 (RF)
1	Main Floor Mechanical Room M.R. #1	Armstrong Humidiclean Series HC-4000	HC-4100	238467-50-2-03	Packaged Electric Steam Humidifier, 15KW c/w Controller for AHU # 5
1	Main Floor Mechanical Room M.R. #1	Mark Hot	CSAH3A10FCL	N/A	AHU # 6 Hot Water Heating. Includes Return Fan Filters: 24X24X2X1, 12X24X2X1 Belts: 1XB-71 (SF), 1XA-65 (RF)
1	Main Floor Mechanical Room M.R. #1	Carnes	HCAD	73938-05-9	Steam Humidifier for AHU #6
2	Main Floor Mechanical Room M.R. #1	Bell & Gossett	4X4X9.5	703569A 703569B	Hot Water Heating Circulating Pumps P1 & P2 c/w 7.5 H.P. Motors and Suction Diffusers
2	Main Floor Mechanical Room M.R. #1	Armstrong	4380	100144 100145	Glycol Circulating Pumps P3 & P4 c/w 2 H.P. Motors and Suction Diffusers

1	Main Floor Mechanical Room M.R. #1	Bell & Gossett	3x3x7B	703570	Glycol Reclaim Pump P5 c/w 3 H.P. Motor and Suction Diffuser
1	Main Floor Mechanical Room M.R. #2	Mark Hot	CSAH5E15FCR	N/A	AHU # 8 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X2, 12X24X2X1 Belts: 2XB-72 (SF), 1XB-72 (RF)
1	Main Floor Mechanical Room M.R. #2	Carnes	HCDD	73938-05-6	Steam Humidifier for AHU # 8
1	Main Floor Mechanical Room M.R. #2	Mark Hot	CSAH4C12FCR	N/A	AHU # 9 Hot Water Heating. Includes Return Fan Filters: 24X24X2X1, 12X24X2X1 Belts: 1XB-60 (SF), 1XB-84 (RF)
1	Main Floor Mechanical Room M.R. #2	Armstrong Humidiclean Series HC-4000	HC-4100	238467-30-1-03	Packaged Electric Steam Humidifier, 15KW c/w Controller for AHU # 9

1	Main Floor Mechanical Room M.R. #2	Mark Hot	CSAH3A10FCR	N/A	AHU # 10 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X1, 12X24X2X1 Belts: 1XB-52 (SF), 1XA-65 (RF)
1	Main Floor Mechanical Room M.R. #2	Carnes	HCAD	73938-05-7	Steam Humidifier for AHU # 10
1	Main Floor Mechanical Room M.R. #3	Mark Hot	CSAH4C12FCL	N/A	AHU # 11 Hot Water Heating, Includes Return Fan Filters: 24X24X2X1, 12X24X2X1 Belts: 1XB-64 (SF), 1XA-79 (RF)
1	Main Floor Mechanical Room M.R. #3	Armstrong Humidiclean Series HC-4000	HC-4100	238467-50-1-03	Packaged Electric Steam Humidifier, 15KW c/w Controller for AHU # 11
1	Main Floor Mechanical Room M.R. #3	Mark Hot	CSAH5C12FCR	N/A	AHU # 12 Hot Water Heating. Includes Return Fan Filters: 24X24X2X2 Belts: 1XA-63 (SF), 2XB-54 (RF)
1	Main Floor Mechanical Room M.R. #3	Mark Hot	CSAH5E15FCL	N/A	AHU # 13 DX Cooling, Hot Water Heating. Includes Return Fan Filters: 24X24X2X2, 12X24X2X2 Belts: 2XB-67 (SF), 1XB-99 (RF)
1	Main Floor Mechanical Room M.R. #3	Armstrong Humidiclean Series HC-4000	HC-4100	238467-70-1-03	Packaged Electric Steam Humidifier, 9KW c/w Controller for AHU #13
1	Outside Building Front Entrance (south side)	Kool King	MOC-18CDN1-MN10W	D200045070315307120254	Ductless Split DX AC Unit for Lobby Area (R-410A)
1	Outside East Side of Building Beside Roof Access Ladder	Goodman	HDC18-1AB	9610134705	Ductless Split DX AC Unit for I.T. Room SB18 (R-22)
1	Outside North-West End of Building	Samsung	N/A	N/A	Ductless Split Unit
1	Outside North-East End of Building	Samsung	N/A	N/A	Ductless Split Unit
5	Various Roof Locations	Various	N/A	N/A	Exhaust Fans, EF#1, EF#2, EF#9, EF#11, EF#21

No. of Units	Location/Room Number	Make	Model	Serial Number	Details
1	Outside East Side of Building Near Laneway	Goodman	HDC12-1AT	103400130	Ductless Split Unit for I.T. Room NB5 (R-22)
3	Service Bays	Reznor	REZ-UADP100	N/A	Ceiling Mounted Gas Fired Unit Heaters
1	Stores Area (south side of building)	Reznor	REZ-UADP100	N/A	Ceiling Mounted Gas Fired Unit Heater
2	Storage Area (north side of building)	Reznor	REZ-UADP200	N/A	Ceiling Mounted Gas Fired Unit Heaters
2	Mechanical Room #1	Cleaver Brooks	M5W-2500 Series 700	S-18244M5 (#1) S-18243M5 (#2)	2000MBH (2,000,000 BTUH) Gas Fired, Forced Draft, Water Tube Hot Water Heating Boilers c/w all Associated Controls
2	Centre Basement Electrical Room	Raypak	Raytherm WH1-0182A	1406381362 (#1) 1406381363 (#2)	Gas Fired Domestic Hot Water Heaters (181MBH), c/w Boiler Circulating Pumps and A.O. Smith Storage Tanks (2)
1	Roof Top	Trane	TTA240BW00BC	K445R1AAH	Condensing Unit for AHU # 1, 2 Circuits (R-22)
1	Roof Top	Trane	N/A	N/A	Condensing Unit for AHU # 4, 2 Circuits (R-22)
1	Roof Top	McQuay	C080G6W	B924413587	Condensing Unit for AHU # 5, 1 Circuit (R-22)
1	Roof Top	McQuay	ALP016C	5XK050802	Condensing Unit for AHU # 7, 1 Circuit (R-22)
1	Roof Top	McQuay	ACZ025AC37-ER11	STNU040100190	Condensing Unit for AHU # 8, 2 Circuits (R-22)
1	Roof Top	McQuay	C080G6W	B924413586	Condensing Unit for AHU # 10, 1 Circuit (R-22)
1	Roof Top	McQuay	ALP016C	5XK050902	Condensing Unit for AHU # 13, 1 Circuit (R-22)

Building: M-23, 1200 Montreal Road, Ottawa

No. of Units	Location Room No.	Make	Model	Serial Number	Details
1	Room 101	Climate Master	70214B5A0A0000A	86KU2361	DX Heat/Cool Incremental Unit (R-22)
1	Lower Roof	Fujitsu	AOU18C1	004369	Ductless Split Unit (R-22) c/w Condensate Pump & Remote Stat., Serves Room 101
1	Lower Roof	Fujitsu	AOU18C1	004368	Ductless Split Unit (R-22) c/w Condensate Pump & Remote Stat., Serves Room 100
1	Room 102	Climate Master	70214B5A0A0000A	86K42362	Ductless Split Unit (R-22) c/w Condensate Pump & Remote Stat.
1	Room 103	Energy Knight	EKTC150B	0404741412	Ductless Split Unit (R-22) c/w Condensate Pump & Remote Stat.
1	Upper Roof	York	NC090C00B5AA2A	N1K4091821	DX AHU c/w Condensate Pump and Roof Top Condenser (R-410A), Serves Room 106H
1	Upper Roof	Liebert Challenger	DCSL083LY	106C44564	AC-1 c/w Condensate Pump and Roof Top Condenser (R-22), Serves Room 106F Filters: 2X24X18X2
1	Mid-roof	Liebert Challenger 300	MMC040A-Y00	85427	AC-4, DX A/C Unit 2 Circuits (R-22) c/w Humidifier, Electric Re-heat, Condensate Pump and Roof Top Condenser, Serves Room 108B
1	Mid-roof	Liebert System 3	CDL165-B	0623C87413	AC-10, DX A/C Unit 2 Circuits (R-22) c/w Roof Top Condenser, Serves Printing Room 120
2	Mid-roof	N/A	N/A	N/A	Washroom Exhaust
1	Lower Roof	N/A	N/A	N/A	Exhaust Fan F5 for Printed Circuit Room 117A
1	Outdoors (Speaker's Corner)	Sanyo	KS1812W	92604	Ductless Split Unit (R-22) c/w Condensate Pump & Remote Stat., Serves Telecom Room 112A
1	Mid-roof	Mitsubishi	A36NHA2	71U0031913	Ductless Split Unit c/w Condensate Pump & Remote Stat.
1	Upper Roof	York	YCJD24541S1A	W1G4984279	AH-9, Packaged DX A/C Unit (R-410A) c/w Roof Top Condenser, Serves Room 209A (off gym)
1	Mechanical Penthouse	Trane	17MPHFBU	759251	AH-1 Air Handling Unit With Glycol Heating and Chilled Water Cooling Filters: 10X16X25X2 Belts: 2XB-55
1	Mechanical Penthouse	Trane	240B-9-1HC	L86H40075	F-3 Return Fan for Air Handling System 3 Belts: 1XA-59
1	Mechanical Penthouse	Trane	24B-9-1HF	L86D37564	RF-9B Return Fan for AHU- 1 Belts: 1XA-69
1	Mechanical Penthouse	Trane	10MPHFTH	759253	AH-3 Air Handling Unit With Glycol Heating and Chilled Water Cooling Filters: 6X16X25X2 Belts: 1XB-62
1	Mechanical Penthouse	Trane	10MPHFTH	759252	AH-2 Air Handling Unit With Glycol Heating and Chilled Water Cooling Filters: 6X16X25X2 Belts: 1XB-62

No. of Units	Location Room No.	Make	Model	Serial Number	Details
2	Mechanical Penthouse	Leitch	N/A	N/A	Chilled Water Circulating Pumps P-1 & P-2 (3HP)
1	Mechanical Penthouse	Trane	1H-9-1HC	1861375	RF-2 Return Fan for Air Handling System 2 Belts: 1XA-51
1	Mechanical Penthouse	Armstrong	H51F	8609	Secondary Heating Loop Circulating Pump P5 for AHU-1
1	Mechanical Penthouse	Armstrong	816032-000	0911	Secondary Heating Circulating Pump P6 for AHU-2
1	Mechanical Penthouse	Armstrong	H533F	8902	Secondary Heating Circulating Pump P7 for A/H-3
2	Mechanical Penthouse	Leitch	N/A	167886-1 167886-2	Primary Loop Glycol Heating Pumps 3 & 3A
1	Basement Condensate Room	Delta-T	CU3	N/A	Duplex Condensate Pumping System c/w Alternating and Float Controls
1	Basement Room 013	Trane	CRHR600D-4RAO	N2LLOU2622	CR-4 Air Cooled, R-22 Reciprocating Chiller
1	Basement Room 013	Liebert	UD75A	48566C	AC-8, DX A/C Unit (R-22), 2 Circuits c/w Roof Top Condenser (Lower Roof)
1	Basement Room 014	Liebert	UD114A	48566B	AC-7, DX A/C Unit (R-22), 2 Circuits c/w Roof Top Condenser (Lower Roof)
1	Basement Room 014 A/C Area	Trane	10LPHCTH	718984	AH-8 With Steam Heating
1	Basement Room 011	Barnes	3SE1054L	N/A	Sump Pump
1	Basement Condensate Room	N/A	N/A	N/A	F23 Condensate Room Exhaust Fan
1	Mid-roof	Trane	CAUBC6052A121	J86F81478	Roof Top Air Cooled Condenser for Chiller CR-4
1	Outdoor Mezzanine	York	ZH120C00B2AAA6A	N1L4202489	Packaged DX (R-410A) Air Handling Unit
10	Various Locations	N/A	N/A	N/A	Steam Unit Heaters

Building: National Defence Medical Centre (NDMC), 1745 Alta Vista Dr., Ottawa

No. of Units	Location Room No.	Make	Model	Serial Number	Details
1	B-Wing, M153	Trane	SUW753A	689183	Packaged Water Cooled DX, A/C Unit, R-22, 6 Tons Serving Old Pharmacy Belts: 1XA55 Filters: 4X15X20X1
1	D-Wing, 1 st Floor Hall Closet	Carrier	50BT-008-130	0495V91574	Packaged Water Cooled DX, A/C Unit, R-22, 7.5 Tons Belts: 1XA33 Filters: 4X16X25X1
1	B-Wing Roof	Trane	CGAA-5002-EA-LA	L6A715678	Air Cooled Liquid Chiller, 50 Tons, R-22
1	B-Wing Roof	Trane	CGAA-5002-EA-LA	L6A715677	Air Cooled Liquid Chiller, 50 Tons, R-22
1	A-Wing Ground Floor, G123B	Liebert	CF046WGCOO	206281-002	Packaged Water Cooled DX, A/C Unit, R-22, 4 Tons Belts: 1XA36 Filters: 2X18X25X2
1	A-Wing Ground Floor, G129	Climate Master	QT66-3	D9015417	Packaged Water Cooled DX, A/C Unit, R-22, 3 Tons Serving Pharmacy Belts: Filters: 2X25.5X29.5X2
1	B-Wing Loading Dock Roof	I.C.P.	ACS024A2C1	FBA024GC1	Split DX, A/C for Fan #71 (Mech. Rm #7, Room #134), R-22, 2 Tons Belts: 1X4L440 Filters: 1X20X20X1
1	B-Wing Loading Dock Roof	Friedrich	MR30C3E	AKGT02699	Split DX, A/C for Room #352, R-410A, 2.5 Tons
1	B-Wing Loading Dock Roof	Friedrich	MR30C3E	LCBT00483	Split DX, A/C for Room #352, R-22, 2.5 Tons
1	D-Wing, Ground Floor, G136	York	AHE36C3XH21B	W1D6537918	DX, A/C, R-410A, 3 Tons, Serving Snack Bar Kitchen Filters: 1X20X24X1
1	D-Wing, Ground Floor, Outside	Sanyo	C1211	0150804	Ductless Split Unit, Serving Room G138, R-22, 1 Ton
1	F-Wing, Ground Floor, G102	Liebert MiniMate	MME020WGFHO	3002R22	Water Cooled DX A/C Unit, R-22, 1.5 Tons
1	A-Wing Main Floor, M143	Canair	CP21WH	MTB868227	Water Cooled DX A/C Unit, R-22, 2 Tons
1	A-Wing Beside North Entrance	Mitsubishi	MU224WN	5003314	Ductless Split DX, A/C, R-22, 2 Tons Serving Room M146
1	F-Wing Main Floor, M104	Canair	CU-30	MTC90 9065	Water Cooled DX A/C Unit, R-22, 2.5 Tons, Serving Room M101
1	H-Wing Main Floor, M127	Chillcon	HW12	81-J-TAK-15654	Water Cooled DX, A/C, R-22, 1 Ton, Serving Front Desk Filters: 1X11X20X1
1	K-Wing Outside Main Entrance	Panasonic	CUC12BKP6	0581100841	Ductless Split Unit, R-22, 1 Ton, Serving Room M130
1	K-Wing Outside Main Entrance	Panasonic	CUC12BKP6	0581100883	Ductless Split Unit, R-22, 1 Ton, Serving Room M134
1	A-Wing Roof	Sanyo	SAP361C	0060504	Ductless Split Unit, R-22, 3 Tons, Serving Room 107C
1	A-Wing Roof North Ambulance Entrance	I.C.P.	AG060GB2	L981152181	Split DX, A/C, R-22, 5 Tons, Serving Room 108 Filters: 1X20X25X1
1	A-Wing Roof North Ambulance Entrance	Tadiran	GXL-2040-HDE	51302675168	Ductless Split Unit, R-22, 2.5 Tons, Serving Room 261

No. of Units	Location Room No.	Make	Model	Serial Number	Details
1	B-Wing, 129	Liebert	CF046WGCOO	206281-001	Packaged DX, A/C Unit, R-22, 4 Tons Belts: 1XA36 Filters: 2X18X25X2
1	E-Wing, 130D	Trane	SUW-303A	408126	Packaged Water Cooled DX, A/C Unit, R-22
1	A-Wing Sunroom Roof Over Ambulance Bay	Sanyo	C1211	0151304	Ductless Split Unit, R-22, 1 Ton, Serving Room 214A
1	A-Wing Sunroom Roof West Side	Mitsubishi	MS-A12WA-1	3000370	Ductless Split Unit, R-22, 1 Ton, Serving 2A Sunroom
1	E-Wing, 317	Trane	SUW303A	433400	Packaged Water Cooled DX, A/C Unit, R-22, 2.5 Tons Belts: 1XA38 Filters: 1X20X25X1
1	D-Wing, 629	Liebert Challenger	CU70W	N/A	Packaged Water Cooled DX, A/C Unit, R-22, 4 Tons Filters: 1X20X25X2
1	E-Wing, 701	Keeprite	KSSE30GA2	L981824137	Packaged DX, A/C Unit, R-22, 6 Tons Belts: 1XA46 Filters: 1X15X25X1