

Facility Condition Assessment Summary Report

**British Columbia Institute of Technology
NE6 - Plumbing and Pipefit Building**



Submitted by:

VFA Canada Corp.
Burnaby Centre
4211 Kingsway
Burnaby, BC V5H 1Z6
604-685-3757
July, 2011





Asset Detail Report

by Asset Name

NE6 - Plumbing and Pipefit Building

Post BCIT
 Secondary
 Institution:
 Campus: BCIT Burnaby

Asset Name: NE 6 - Plumbing & Pipefit
 Asset Number: NE6

STATISTICS

FCI Cost:	1,819,863	FCI:	0.50
Total Requirements Cost :	1,869,836	RI:	0.52

Current Replacement Value	3,615,858	Address 1	3700 Willingdon Avenue
Size	2,571 SM	Address 2	-
Year Constructed	1961	City	Burnaby
Year Renovated	-	State/Province/Region	British Columbia
Commission Date	-	Zip/Postal Code	V5G 3H2
Decommission Date	-	Architect	-
Ownership	Client Owned	Historical Category	None
Floors	1	Construction Type	IBC - Type 1B
Type	Building	Use	Classroom / Training

PHOTO



NE 6 - Plumbing & Pipefit

NE 6 - Plumbing & Pipefit

ASSET DESCRIPTION

ARCHITECTURAL

General

The NE6 building , is within the British Columbia Ministry of Advanced Education and is part of College of the BCIT (British Columbia Institute of Technology) in Burnaby's campus. It is located at 3700 Willingdon Avenue Burnaby, BC. Originally built on this site in 1961 with 2,571 SM of space. The facility is composed of a one level building with mezzanino used for classroom, office and storage.

Substructure

All costs in CAD.

The substructure construction of the building features concrete perimeter foundation walls on reinforced concrete strip footings. The facility has a concrete slab on grade.

Superstructure

The building has both load bearing CMU's wall and steel frame construction, sloped steel open web joist with concrete filled steel pan for the mezzanine floor framing and steel decking for roof framing.

Exterior Construction

Exterior walls at NE6 building includes metal cladding finishing's construction. Exterior windows are single glazed metal framed assemblies. Entry doors are typically either glazed / unglazed hollow metal assemblies. The roof includes metal roof system covering.

Interior Construction

Floor finishes throughout the facility are vinyl composite tiles, ceramic tiles and concrete floor. Restrooms/change rooms generally have ceramic tiles walls finish. Wall finishes are painted gypsum wallboard and painted block. The ceiling finishes are generally 600 x 1200 ACT or no finish (open to roof structural components). The interior doors are finished solid core wood assemblies, some with glazed panels. Interior door hardware is typically a combination of knob with panic hardware where required at exterior door fire exit locations.

Accessibility

The building is not considered barrier free per the requirements of section 3.8 Building Requirements for Persons with Disabilities of the 2006 British Columbia Building Code.

Occupancy Type

According to the 2006 British Columbia Building Code, Article 3.1.2.1. (1), the NE6 building is classified as an Assembly Group A, Division 2 occupancy.

MECHANICAL

BCIT – Plumbing and Pipe fit NE06

HVAC

Heating for the plumbing shop building is supplied by main hot water line coming from water heating boiler station. Hot water is distributed to the perimeter heat system, staff offices and washrooms.

Ventilation and heating is provided by two 5000 CFM air handing units with two supply fans manufactured by "REZNOR", one of them installed inside the room 110 and another installed on rooftop of gas lab room.

Cooling is provided by five A/C units installed in room M107, M125, 222, 204 and 207.

Heating is provided by 6 gas-fired Infrared tube heaters hung in workshop ceiling manufactured by REVERBE RAY Company.

Heating for some office spaces and some classroom spaces are also provided by perimeter hydronic fin tube heaters.

Exhaust fans are provided for the washrooms and staff rooms.

The building management system includes Direct Digital Control (DDC) installed in 2005.

PLUMBING

A four inches domestic cold water service enters the building. Piping is distributed to all plumbing fixtures and hose bibs.

Domestic hot water is produced by one 75 gallons tank "Lochinvar Corporation" heat exchanger located in the plumbing workshop. The heat exchanger equipped with a temperature, pressure and safety instruments.

Plumbing fixtures includes vitreous china water closets, urinals and lavatories in the washrooms; custodial service sinks in the service room.

The building sanitary waste piping system with gravity discharge flows to the main campus system.

All costs in CAD.

Rainwater is collected in gutters with downspouts which discharge directly to the ground.

Natural gas is distributed to the gas-fired Infrared tube heaters.

FIRE PROTECTION

The fire protection systems include a wet fire sprinkler system serving the building. There is a Siamese fire hose connection for the fire fighters. Numerous handheld fire extinguishers are located throughout the building to supplement the fire suppression system.

ELECTRICAL

Main Electrical Service

The building contains a 12.47kV, single-ended unit substation (SUB J). The system includes incoming feeders, a 15kV disconnect switch, and one 1000kVA 12.47kV-480/277V transformer. A 1600A-480/277V (3-ph 4-wire) switchgear provides the circuit breaking for the building. The switchgear includes metering. All equipment is located along the exterior of NE06.

Electrical Service and Distribution

Downstream electrical distribution is handled by panelboards distributed throughout the building.

Branch Wiring Devices

The branch wiring for this building includes a heavy concentration of interior branch wiring, electrical devices, conduit, wire, safety switches, cable trays, and utilization equipment.

Lighting

The building includes a lighting system with a variety of fixtures. The shop area has 300x1200mm suspended fluorescent lights. There are no lenses with these lights. The office and class areas have recessed 600x1200mm fluorescents.

The exterior perimeter lighting consists of HID mounted in the wall.

Telephone System

The building includes a telephone system which includes conduit, cable, switches, punch panels, and head end equipment.

Fire Alarm System

This building includes a fire alarm system. The fire alarm system includes head end equipment, pull stations at all exit doors, bells, smokes, conduit, wire, and connections. The fire alarm control panel is located in room 110, and the annunciator is located near the main entry door.

LAN System

The building includes a local area network system with head end equipment, conduit, switches, racks, patch panels, fiber optics, as well as Cat5 and Cat5e cable. There is an effort to add Cat6 wiring when upgrades occur.

Exit Signs

The emergency lighting system includes the installation of exit signs. The installation has single and double sided exit signs, conduit, wire, boxes, conduit bends, connections and circuit breakers.

Emergency Lighting

All costs in CAD.

The emergency lighting is handled by battery backup lights.

REQUIREMENTS

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Branch Wiring - Equipment & Devices Renewal	D5021-Branch Wiring Devices	Beyond Useful Life	1- Immediate (within 1 year)	01/31/2011	30,756
Telephone System Renewal	D5033-Telephone Systems	Beyond Useful Life	1- Immediate (within 1 year)	01/31/2012	1,098
Natural Gas Supply for Bldg Renewal	D2090-Other Plumbing Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	28,900
Water Dist Complete - Average Renewal	D2020-Domestic Water Distribution	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	91,341
Sanitary Waste - Gravity Discharge - Average Renewal	D2030-Sanitary Waste	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	99,489
Site Drainage Renewal	G3030-Storm Sewer	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	71,855
Custodial Sink Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	12,560
Drinking Fountains Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	2,752
Compressed Air Piping System Renewal	D2090-Other Plumbing Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	15,416
Wet Sprinkler System - Light Hazard wo/Pump Renewal	D40-Fire Protection	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	78,927
Gutters and Downspouts - Copper Renewal	B30-Roofing	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	35,687
Perimeter Heat System - Hydronic Fin Tube Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	46,481
Ceiling/Wall Fans Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	7,728
Air Handling Unit - w/Supply Fan - 1961 Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	48,135
Restroom Fixtures Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	25,951
Air Handling Units - Distribution Ductwork Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	67,891
Kitchen Sinks Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	2,824

All costs in CAD.

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Fire Alarm System - Notification & Initiating Devices Renewal	D5037-Fire Alarm Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	53,524
Emergency Lighting Renewal	D5092-Emergency Light and Power Systems	Beyond Useful Life	2- Short Term (1-2 years)	01/31/2013	18,768
Lighting - Exterior - Perimeter Renewal	D5022-Lighting Equipment	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	6,165
Panelboards, Feeders, Disconnects - 120/208V Renewal	D5012-Low Tension Service and Dist.	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	123,710
Exit Signs Renewal	D5092-Emergency Light and Power Systems	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	17,689
LAN System Renewal	D5039-Local Area Networks	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2015	4,315
Overhead Rolling Doors Renewal	B2030-Exterior Doors	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	14,337
Windows - Aluminum Renewal	B2020-Exterior Windows	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	62,533
Suspended ACT Renewal	C3030-Ceiling Finishes	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	46,259
Windows - Steel Renewal	B2020-Exterior Windows	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	235,040
Metal Roofing Renewal	B30-Roofing	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	513,607
Vinyl Composite Tile Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	26,272
Rubber Treads - Stairs Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2016	15,072
Painted Plywood on Framing Renewal	B2010-Exterior Walls	Beyond Useful Life	3- Long Term (3-5 years)	01/31/2014	14,781
Branch Wiring Devices - Wiring Not Code Compliant & Corroding Conduit	D5021-Branch Wiring Devices	Building Code	5- Does Not Meet Current Code	-	11,605
Entrance Doors - Not Handicapped Accessible	B2030-Exterior Doors	Accessibility	5- Does Not Meet Current Code	-	18,070
Door Hardware - Not Compliant Knob Type	C1020-Interior Doors	Accessibility	5- Does Not Meet Current Code	-	20,298
				Total	1,869,836

All costs in CAD.