Part 1 General

1.1 RELATED REQUIREMENTS

.1 01 00 10 – General Instructions.

1.2 REFERENCES

.1 Definitions:

.1 HVAC System: complete air duct system including:

.1 Rigid supply and return ductwork as shown on drawings;

.2 Diffusers and registers as shown on drawings;

.2 Reference Standards:

.1 National Air Duct Cleaners Association (NADCA)

.1 ACR Standard, 2006 edition: Assessment, Cleaning and Restoration of HVAC Systems.

.2 North American Insulation Manufacturers Association (NAIMA)

.1 NAIMA 2005, Cleaning Fibrous Glass Insulated Duct Systems - Recommended Practices.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 00 10 – General Instructions.

.2 Product Data:

.1 Submit manufacturer's printed product literature and data sheets for antimicrobial agents and include product characteristics, performance criteria and limitations.

1.4 CLOSEOUT SUBMITTALS

.1 Provide submittals in accordance with Section 01 00 10 – General Instructions.

.2 Post Cleaning Inspection Report: submit 4 copies of Final Inspection Report, including data collected, observations and recommendations as well as following information:

.1 Name and address of facility;

.2 Name and address of HVAC cleaning contractor;

.3 Description of systems cleaned;

.4 Identify systems tested, observations, actions taken and recommendations for future maintenance.

Part 2 Products

2.1 ACCESS DOORS AND PANELS

.1 Equipment Access Doors and Panels: construct from same materials as equipment panelling complete with sealing gasket and positive locking device.

.1 Size access doors and panels in equipment to allow for inspection and cleaning.

.2 Ductwork Access Doors: construct access doors from 1.27 mm minimum galvanized sheet steel with gasketted seal.

2.2 AIR DUCT CLEANING EQUIPMENT

.1 Manually propelled full contact brushes:

.1 Ensure brushes are specifically manufactured and shaped to fit individual ducts, equipment and components of HVAC system.

.1 Ensure brushes are sized to fit various duct sizes in HVAC system.

.2 Ensure brushes make scrubbing motion and full contact with HVAC system interior surfaces to be cleaned.

.3 Dimmer.

2.3 HEPA FILTER EVACUATION FAN

.1 Evacuation Fan: includes fan, HEPA filter, flexible hose and motor capable of maintaining debris and particulates airborne in airstream until they reach evacuation fan and maintaining system under negative pressure.

.1 Ensure HEPA filters are clean and maintain evacuation fan and HEPA filter to run efficiently.

2.4 HEPA VACUUM UNIT

.1 Vacuum Unit: includes vacuum fan, integral HEPA filter, suction hose and vacuum head, capable of maintaining HVAC System debris and particulates airborne in air stream until they reach vacuum unit and maintaining system under negative pressure.

.1 Ensure HEPA filters are clean and maintain vacuum unit and HEPA filter to run efficiently.

Part 3 Execution

.1 Close down HVAC system.

3.2 DUCT CLEANING

.1 Do duct cleaning in accordance with NADCA ACR Standard.

.2 Perform duct cleaning on all ductwork and grilles indicated on drawings.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 01 00 10 – General Instructions.

1.2 REFERENCES

.1 American Society of Mechanical Engineers (ASME)

.1 ASME B31.1-07, Power Piping.

.2 ASTM International

.1 ASTM A125-1996 (2007), Standard Specification for Steel Springs, Helical, Heat-Treated.

.2 ASTM A307-07b, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.3 ASTM A563-07a, Standard Specification for Carbon and Alloy Steel Nuts.

Part 2 Products

2.1 SYSTEM DESCRIPTION

.1 Design Requirements:

.1 Construct pipe hanger and support to manufacturer's recommendations utilizing manufacturer's regular production components, parts and assemblies.

.2 Base maximum load ratings on allowable stresses prescribed by ASME B31.1 or MSS SP58.

.3 Ensure that supports, guides, anchors do not transmit excessive quantities of heat to building structure.

.4 Design hangers and supports to support systems under conditions of operation, allow free expansion and contraction, prevent excessive stresses from being introduced into pipework or connected equipment.

.5 Provide for vertical adjustments after erection and during commissioning. Amount of adjustment in accordance with MSS SP58.

2.2 GENERAL

.1 Fabricate hangers, supports and sway braces in accordance with ANSI B31.1 and MSS SP58.

.2 Use components for intended design purpose only. Do not use for rigging or erection purposes.

2.3 PIPE HANGERS

.1 Upper attachment structural: suspension from lower flange of I-Beam:

.1 Cold piping NPS 2 maximum: malleable iron C-clamp with hardened steel cup point setscrew, locknut and carbon steel retaining clip.

.1 Rod: 9 mm UL listed.

.2 Cold piping NPS 2 1/2 or greater, hot piping: malleable iron beam clamp, eye rod, jaws and extension with carbon steel retaining clip, tie rod, nuts and washers, UL listed FM approved to MSS SP58 and MSS SP69.

.2 Upper attachment structural: suspension from upper flange of I-Beam:

.1 Cold piping NPS 2 maximum: ductile iron top-of-beam C-clamp with hardened steel cup point setscrew, locknut and carbon steel retaining clip, UL listed to MSS SP69.

.2 Cold piping NPS 2 1/2 or greater, hot piping: malleable iron top-of-beam jaw-clamp with hooked rod, spring washer, plain washer and nut UL listed.

.3 Upper attachment to concrete:

.1 Ceiling: carbon steel welded eye rod, clevis plate, clevis pin and cotters with weldless forged steel eye nut. Ensure eye 6 mm minimum greater than rod diameter.

.2 Concrete inserts: wedge shaped body with knockout protector plate UL listed to MSS SP69.

.4 Hanger rods: threaded rod material to MSS SP58:

.1 Ensure that hanger rods are subject to tensile loading only.

.2 Provide linkages where lateral or axial movement of pipework is anticipated.

.5 Pipe attachments: material to MSS SP58:

.1 Attachments for steel piping: carbon steel black.

.2 Attachments for copper piping: copper plated black steel.

.3 Use insulation shields for hot pipework.

.4 Oversize pipe hangers and supports.

.6 Adjustable clevis: material to MSS SP69 UL listed, clevis bolt with nipple spacer and vertical adjustment nuts above and below clevis.

.7 Yoke style pipe roll: carbon steel yoke, rod and nuts with cast iron roll, to MSS SP69.

.8 U-bolts: carbon steel to MSS SP69 with 2 nuts at each end to ASTM A563.

.1 Finishes for steel pipework: black.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

.1 Install in accordance with:

.1 Manufacturer's instructions and recommendations.

3.3 HANGER INSTALLATION

.1 Install hanger so that rod is vertical under operating conditions.

.2 Adjust hangers to equalize load.

.3 Support from structural members. Where structural bearing does not exist or inserts are not in suitable locations, provide supplementary structural steel members.

3.4 HORIZONTAL MOVEMENT

.1 Angularity of rod hanger resulting from horizontal movement of pipework from cold to hot position not to exceed 4 degrees from vertical.

.2 Where horizontal pipe movement is less than 13 mm, offset pipe hanger and support so that rod hanger is vertical in the hot position.

3.5 FINAL ADJUSTMENT

.1 Adjust hangers and supports:

.1 Ensure that rod is vertical under operating conditions.

.2 Equalize loads.

.2 Adjustable clevis:

.1 Tighten hanger load nut securely to ensure proper hanger performance.

.2 Tighten upper nut after adjustment.

.3 C-clamps:

.1 Follow manufacturer's recommended written instructions and torque values when tightening C-clamps to bottom flange of beam.

.4 Beam clamps:

.1 Hammer jaw firmly against underside of beam.

END OF SECTION

Part 1 General

1.1 DEFINITION

.1 SRS: acronym for Seismic Restraint System.

1.2 LIMITATIONS

.1 One only trade to be responsible for all seismic restraint systems for all mechanical systems and equipment.

1.3 GENERAL DESCRIPTION

.1 This section covers design, supply and installation of complete SRS for all systems.

.2 SRS to be fully integrated into, compatible with:

.1 Noise and vibration controls specified elsewhere in this project specification.

.3 Systems, equipment not required to be operational during and after seismic event.

.4 During seismic event, SRS to prevent systems and equipment from causing personal injury and from moving from normal position.

.5 Design to be by Professional Engineer specializing in design of SRS and registered in Province of Ontario.

1.4 REFERENCES

.1 CAN/CSA-G40.21-04, Structural Quality Steels.

.2 ANSI/NFPA 13-1989, Installation of Sprinkler Systems.

1.5 SUBMITTALS

.1 Submit shop drawings and product data.

.2 Submittals to include:

.1 Full details of design criteria.

.2. Working drawings, materials lists, schematics full specifications for all components of each SRS to be provided.

.3 Design calculations (including restraint loads resulting from seismic forces in accordance with National Building Code, detailed work sheets, tables).

.4 Separate shop drawings for each SRS and devices for each system, equipment.

.5 Identification of location of each device.

.6 Schedules of types of SRS equipment and devices.

.7 Details of fasteners and attachments to structure, anchorage loadings, attachment methods.

.8 Installation procedures and instructions.

Part 2 Products

2.1 SRS MANUFACTURER

.1 SRS to be from one manufacturer regularly engaged in production of same.

2.2 GENERAL

.1 SRS to provide gentle and steady cushioning action and avoid high impact loads.

.2 SRS to restrain seismic forces in all directions.

.3 Fasteners and attachment points to resist same load as seismic restraints.

.4 SRS of Piping systems to be compatible with:

.1 Expansion, anchoring and guiding requirements.

.2 Equipment vibration isolation and equipment SRS.

.5 SRS utilizing cast iron, threaded pipe, other brittle materials not permitted.

.6 Attachments to RC structure:

.1 Use high strength mechanical expansion anchors.

.2 Drilled or power driven anchors not permitted.

.7 Wet pipe sprinkler systems: refer to Section 21 13 13.

.8 Seismic control measures not to interfere with integrity of firestopping.

2.3 SRS FOR STATIC EQUIPMENT, SYSTEMS

.1 Floor mounted equipment, systems:

.1 Anchor equipment to equipment supports.

.2 Anchor equipment supports to structure.

.3 Use size of bolts scheduled in approved shop drawings.

.2 Suspended equipment, systems:

.1 Use on or combination of following methods:

.1 Install tight to structure.

.2 Cross-brace in all directions.

.3 Brace back to structure.

.4 Slack cable restraint system.

.2 SCS to prevent sway in horizontal plane, “rocking” in vertical plane, sliding and bucking in axial direction.

.3 Hanger rods to withstand compressive loading and buckling.

2.4 SLACK CABLE RESTRAINT SYSTEM (SCS)

.1 Use elastomer materials or similar to avoid high impact loads and provide gentle and steady cushioning action.

.2 SCS to prevent sway in horizontal plane, “rocking” in vertical plane, sliding and buckling in axial direction.

.3 Hanger rods to withstand compressive loading and buckling.

Part 3 Execution

3.1 INSTALLATION

.1 Attachment point and fasteners:

.1 To withstand same maximum load that seismic restraint is to resist and in all directions.

.2 Slack Cable Systems (SCS):

.1 Connect to suspended equipment so that axial projection of wire passes through center of gravity of equipment.

.2 Use appropriate grommets, shackles, and other hardware to ensure alignment of restraints and to avoid bending of cables at connections points.

.3 Piping systems: provide transverse SCS at 10 m spacing maximum, longitudinal SCS at 20 m maximum or as limited by anchor/slack cable performance.

.4 Small pipes may be rigidly secured to larger pipes for restraint purposes, but not reverse.

.5 Orient restraint wires on ceiling hung equipment at approximately 90 degree to each other (in plan), tie back to structure at maximum of 45 degree to structure.

.6 Adjust restraint cables so that they are not visibly slack but permit vibration isolation system to function normally.

.7 Tighten cable to reduce slack to 40 mm under thumb pressure. Cable not to support weight during normal operation.

.3 Install SRS at least 25 mm from all other equipment, systems, services.

.4 Co-ordinate connections with all disciplines.

.5 Vertical tanks:

.1 Anchor through house-keeping pad to structure.

.2 Provide steel bands above center of gravity.

.6 Horizontal tanks:

.1 Provide at least two (2) straps with anchor bolts fastened to structure.

3.2 SEISMIC

.1 Piping:

.1 Piping in mechanical rooms less than 32 mm in diameter.

.2 All other piping less than 65 mm in diameter.

.3 All piping suspended by individual hangers 300 mm or less as measured from the top of the pipe to the bottom of the support where the hanger is attached. However, if the 300 mm limit is exceeded by any hanger in the run, seismic bracing is required for the run.

END OF SECTION

Part 1 General

1.1 WORK INCLUDED

.1 Conform to Section 01 00 10 – General Instructions.

.2 The following systems shall be tested and balanced:

.1 Air conditioning, ventilation and heating systems

.2 Miscellaneous ventilation or exhaust systems

.3 Air distribution (supply, return and exhaust)

.3 Read, fully understand and comply with all requirements of the Section 01 91 31 – Commissioning Plan.

1.2 QUALITY ASSURANCE

.1 The balancing of the water and air systems shall be performed by the same balancing company.

Part 2 Products

2.1 NOT IN USE

Part 3 Execution

3.1 INSTALLATION

.1 The entire system shall be tested for proper functioning of the system. This Section shall make all necessary alterations and repeat the tests until satisfactory operation is achieved.

.2 Adjust minimum outside air controller and adjust return air and exhaust air damper linkages to approximately design air quantities, for both maximum and minimum conditions where required, to ensure freezing conditions will not occur.

.3 Ensure access is provided to all fire dampers and equipment that requires servicing.

.4 Balance the entire air systems including air volumes and control settings under maximum system pressure drop conditions (filter at replacement condition).

.5 Measure, make final adjustments and report upon the air volume at each variable volume box, diffusers, register and grille. The static pressure upstream and downstream of the fan, the fan speed and the motor current.

Also to be reported upon are the air flow at outside, return and exhaust air dampers under conditions of minimum outside air, for maximum and minimum volumes and maximum outside air, exhaust air and return air.

.6 Air volumes measured shall be within plus or minus 5% of those shown on Drawings for diffusers, grilles, registers, variable air volume boxes and fans, at both maximum and minimum volumes shown.

Duct traverse readings shall be taken through the access ports provided. Where no access ports have been provided new holes shall be made as required. These holes shall be resealed after final readings with sheet metal cover plates and sealant. Duct tape is not acceptable.

Where insulation is damaged it shall be repaired including the vapour barrier in an approved manner. Duct tape is not acceptable.

.7 Ensure all thermostats and controls are set to give specified conditions and include settings is report.

.8 Fans on all systems shall be set up to give the minimum discharge pressure required to overcome the resistance of the box, discharge ductwork and diffusers.

.9 At the time of final inspection, recheck in the presence of the Departmental Representative random selections of air quantities and fan data recorded in the certified report. Points or areas for recheck shall be selected by the Departmental Representative and be approximately 10% of the report data.

At the time of verification measure space temperature and humidity in a representative number of rooms to verify performance. Tabulate these results and bind into certified report as an appendix.

A measured flow deviation of more than 10% between the verification reading and the reported data shall be considered as failing the verification procedure.

A failure of more than 10% of the selected verification readings shall result in rejection of the report as unacceptable.

In the event the report if rejected, rebalance all systems, submit new certified reports and make a re-inspection, all at no additional cost to the Departmental Representative.

.11 Following final acceptance of the certified reports by the Departmental Representative, permanently mark the settings of all valves, dampers, splitters and other adjustable devices so that balance set position can be restored if disturbed at any time. Do not mark such devices until after final acceptance.

.12 Provide copies of the final testing and balancing reports. Reports shall be complete with index pages and index tabs, and certified by the Independent Company.

END OF SECTION

Part 1 General

1.1 WORK INCLUDED

.1 Conform to Section 01 00 10 – GENERAL INSTRUCTIONS.

1.2 REFERENCES

.1 American Society of Mechanical Engineers (ASME)

.1 ASME B16.22-01, Wrought Copper and Copper Alloy Solder - Joint Pressure Fittings.

.2 ASME B16.24-02, Cast Copper Pipe Flanges and Flanged Fittings: Class 150, 300, 400, 600, 900, 1500 and 2500.

.3 ASME B16.26-88, Cast Copper Alloy Fittings for Flared Copper Tubes.

.4 ASME B31.5-01, Refrigeration Piping and Heat Transfer Components.

.2 American Society for Testing and Materials International (ASTM)

.1 ASTM A307-04, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

.2 ASTM B280-03, Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.

.3 Canadian Standards Association (CSA International)

.1 CSA B52-99, Mechanical Refrigeration Code.

Part 2 Products

2.1 MATERIALS

.1 Refrigerant lines shall be Type L copper tubing. Fittings shall be wrought copper. Brazing shall be done with silver solder.

.2 All suction lines shall be insulated with 12 mm (1/2 in.) thick flexible elastomeric insulation,

Part 3 Execution

3.1 INSTALLATION

.1 After assembly, evacuate each refrigerant system, test and charge using the following procedure. Any further steps required to ensure warranty of the refrigeration equipment shall also be done.

.2 Pressure test at 200 psig for 12 hours. Vacuum test to 250 microns or less for 2 hours or to 500 microns or less for 12 hours.

.3 Test all systems at the specified temperature, set and balance, thermostatic valve adjustments and the like to cause systems to operate at specified conditions.

.4 Testing, charging and adjusting shall be witnessed by the Departmental Representative.

.5 Refrigeration systems shall conform to the capacities shown in the Schedule.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Related Sections:

.1 01 00 10 – General Instructions.

1.2 REFERENCES

.1 American National Standards Institute/National Fire Protection Association (ANSI/NFPA)

.1 ANSI/NFPA 90A-2002, Standard for the Installation of Air Conditioning and Ventilating Systems.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

.3 Underwriters Laboratories of Canada (ULC)

.1 CAN4-S112-M1990, Fire Test of Fire Damper Assemblies.

.2 CAN4-S112.2-M84, Standard Method of Fire Test of Ceiling Firestop Flap Assemblies.

.3 ULC-S505-1974, Fusible Links for Fire Protection Service.

1.3 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section 01 00 10 – General Instructions. Include product characteristics, performance criteria, and limitations.

.2 Quality assurance submittals: submit following in accordance with Section 01 00 10 – General Instructions.

.1 Instructions: submit manufacturer's installation instructions.

Part 2 Products

2.1 FIRE DAMPERS

.1 Fire dampers: arrangement Type B, listed and bear label of ULC, meet requirements of authorities having jurisdiction. Fire damper assembly’s fire tested in accordance with CAN4-S112.

.2 Mild steel, factory fabricated for fire rating requirement to maintain integrity of fire wall and/or fire separation.

.1 Fire dampers: 1-1/2 hour fire rated unless otherwise indicated.

.2 Fire dampers: automatic operating type and have dynamic rating suitable for maximum air velocity and pressure differential to which it will be subjected.

.3 Top hinged: offset multi-blade hinged sized to maintain full duct cross section.

.4 Fusible link actuated, weighted to close and lock in closed position when released or having negator-spring-closing operator for multi-leaf type or roll door type in horizontal position with vertical air flow.

.5 40 x 40 x 3 mm retaining angle iron frame, on full perimeter of fire damper, on both sides of fire separation being pierced.

.6 Equip fire dampers with steel sleeve or frame installed disruption ductwork or impair damper operation.

.7 Equip sleeves or frames with perimeter mounting angles attached on both sides of wall or floor opening. Construct ductwork in fire-rated floor-ceiling or roof-ceiling assembly systems with air ducts that pierce ceiling to conform with ULC.

.8 Design and construct dampers to not reduce duct or air transfer opening cross-sectional area.

.9 Dampers shall be installed so that the centerline of the damper depth or thickness is located in the centerline of the wall, partition of floor slab depth or thickness.

.10 Unless otherwise indicated, the installation details given in SMACNA Install Fire Damp HVAC and in manufacturer's instructions for fire dampers shall be followed.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

.1 Install in accordance with ANSI/NFPA 90A and in accordance with conditions of ULC listing.

.2 Maintain integrity of fire separation.

.3 After completion and prior to concealment obtain approvals of complete installation from authority having jurisdiction.

.4 Install access door adjacent to each damper.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Statutes of Canada 1999 Chapter 33: "Canadian Environmental Protection Act 1999".

.1 SOR/2003-289: "Federal Halocarbon Regulations 2003"

.2 SOR/2009-221: "Regulations Amending the Federal Halocarbon Regulations"

.2 Environmental Code of Practice for Eliminations of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems (the Environment Canada "Refrigeration Code of Practice", and the Report EPS 1 RA/2 dated March 1996).

1.2 GENERAL

.1 Contractors and their personnel shall be familiar with the Section and its requirements.

.2 The Contractor will comply with all Federal, Provincial, and Municipal regulatory requirements and guidelines for environmental protection and natural resources conservation, including the References noted above.

.3 It is the Contractor's responsibility to be aware of environmental requirements, the best management practices, and pollution control measures necessary to meet them.

1.3 HALOCARBONS

.1 All Work relating to halocarbons to comply with referenced standards outlined above in Paragraph 1.1 - References.

.2 All Work related to halocarbon equipment installation, servicing, etc., to be carried out by, or under direct supervision of, a technician licensed by the Province of Ontario as a refrigeration mechanic.

.3 Technician to provide to Departmental Representative:

.1 Copy of Province of Ontario license;

.2 Certificate issued by the Heating, Refrigeration, and Air Conditioning Institute of Canada; and;

.3 Ozone Depletion Prevention Card.

.4 The following are the only halocarbons that are acceptable as refrigerants: (non-halocarbon refrigerants are also acceptable):

.1 HFC 410A (preferred);

.2 HFC 134A;

.3 HFC 404A;

.4 HAC AC9000(R407A);

.5 HCFC 123; and;

.6 HCFC 11

NOTE: HCFC (R-22, Genetron-22, etc.) IS NOT AN ACCEPTABLE REFRIGERANT

.5 All Work related to halocarbon equipment installation, servicing, decommissioning, leak testing to be documented on supplied "Refrigeration and Air Conditioning Service Log". Copy(s) of the "Refrigeration and Air Conditioning Service Log" form will be supplied to Contractor during the pre-commencement meeting.

.6 Immediately report all releases of halocarbons to Departmental Representative. Form will be supplied to Contractor during the pre-commencement meeting.

.7 Factory-charged halocarbon-containing equipment shall be leak-tested by this Contractor in accordance with the "Refrigeration code of Practice" within one working day after delivery to the site.

.1 No payment for delivery of this equipment to the site will be made until it is documented to be leak-free.

.8 Non-factory-sealed halocarbon-containing equipment shall be leak-tested using "triple evacuation": evacuate the system to 400 micron.

END OF SECTION

Part 1 General

1.1. WORK INCLUDED

.1 Conform to Section 01 00 10 – General Instructions.

Part 2 Products

2.1 MATERIALS

.1 Unitary Air Conditioning Units shall be split system type with minimum two speed indoor evaporator section and remote outdoor compressor/condensing unit.

.2 Model arrangements shall be as shown, and specified in the Schedules.

.3 The combination of the evaporator and condensing sections shall be provided with the capacities designated in Schedules.

.4 Compressor condensing unit shall be capable of low temperature operation down to minus 34.4 deg. C. (30 deg. F.).

.5 Provide unit with room thermostat.

.6 Unit shall be provided with filter.

Part 3 Execution

3.1 INSTALLATION

.1 Install complete refrigeration and controls in accordance with the manufacturer's recommendations.

.2 Roof mounted condensers shall be mounted on pressure moulded rubber feet, with 40mm wide x 20mm deep x 600mm long aluminum channels recessed into rubber feet and secured to 750 mm x 750 mm (30 in. x 30 in.) precast concrete paving slabs.

END OF SECTION