

Part 1 ADDENDUM NO.1

1.1 General

- .1 This Addendum is issued prior to Tender closing and shall become an integral part of the Tender, Specifications, Drawings and Contract Documents for this project.
- .2 In the event of conflicts between the various Contract Documents, the order of precedence shall be as stipulated in the General Conditions of the Contract, except that this Addendum shall take overall precedence.

1.2 Questions

- .1 Do you have a specifications for the cabinets, counter tops and cabinet hardware?

Yes see attached specifications

- .2 Do you have a specification for exterior steel doors. Ie glass style size and door hardware?

The exterior door specifications are located in section 04 14 16 Wood Doors Sections 2.1.1 and 2.3.1.

Door locksets to be Schlage:

1 EA	PASSAGE SET	AL10S SAT	626	SCHLAGE
1 EA	DEADLOCK	B660R	626	SCHLAGE

All other hardware to be by door manufacturer

- .3 Do you have window specifications?

Yes see attached specification section

1.3 Architectural

- .1 Add Specification Section 06 40 50 Cabinet Work - Attached

- .2 Add Specification Section 08 53 13 PVC Windows – Attached

- .3 Sheet A2.3

- .1 In Legend Remove “Wood Laminate Flooring” Insert “Vinyl Plank Flooring”

- .4 Sheet A2.0

- .1 Supply a drywall and wood stud bulkhead above kitchen cabinets to allow range hood ductwork to be installed to exterior wall.

1.4 Mechanical

- .1 RH-1 – Range Hood

- .1 Whirlpool Model YWMH31017AS 1.7 cubic foot microwave hood combination with 2 speed fan. 1000W, 220 cfm. c/w mounting kit. Supply 6" dia insulated exhaust duct above cabinets under fire rated drywall to exterior of unit ductwork to be rigid no flex permitted. Supply bulkhead as required. Supply wall cap. Coordinate with HRV exhaust to ensure that a minimum of 6'-0" separation is maintained.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Shop fabricated casework.
- .2 Wood trim, cabinet trim.
- .3 Hardware and attachment accessories.

1.2 RELATED SECTIONS

- .1 Section 06100 - Rough Carpentry: Wood blocking and curbing.
- .2 Section 06200 - Finish Carpentry.
- .3 Section 09910 - Paints and Coatings: Site finishing of finish carpentry items.

1.3 QUALITY ASSURANCE

- .1 Fabricator: Company specializing in custom carpentry work with three (3) years documented experience.
- .2 Perform work to AWMAC Quality Standards - Custom.

1.4 REGULATORY REQUIREMENTS

- .1 Conform to applicable code for fire retardant requirements.

1.5 SUBMITTALS

- .1 Submit shop drawings to requirements of Section 01330.
- .2 Indicate on shop drawings, materials, component profiles, fastening methods, jointing details, finishes.

Part 2 Products

2.1 MATERIALS

- .1 Softwood Lumber: AWMAC Custom grade; maximum moisture content of 6 percent, White Birch species.
- .2 Softwood Plywood: APA grade; core materials of veneer or lumber; SPF species.
- .3 Plastic Laminate: NEMA LD-3, 0.05 inch General Purpose; color, pattern, and surface finish as selected by RCMP Property Manager.
- .4 Plastic Laminate Backing: NEMA LD-3, high pressure paper base laminate without a decorative finish; 0.02 inch thick, smooth surface finish.

2.2 ACCESSORIES

- .1 Contact Adhesives: Water base type.
- .2 Bolts, Nuts, Washers, Blind fasteners, Lags, and Screws: Size and type to suit application; plain finish.
- .3 Primer: Alkyd primer sealer type.
- .4 Plastic Edge Trim: Extruded convex shaped; smooth finish; self-locking serrated tongue; of width to match plywood thickness; same color as finish.

2.3 HARDWARE

- .1 Shelf Standards, Brackets, and Rests: by manuf.
- .2 Drawer and Door Pulls: Chrome, solid steel type, 1/4 inch diameter rod.
- .3 Drawer Slides: By manufacturer.
- .4 Hinges: as per manuf.

2.4 SHOP FINISHING

- .1 Shop finish work stain and seal factory finishing.

2.5 COUNTER TOPS

- .1 Counter Tops to Be Post Formed with a 180 Underwrap Profile
- .2 Core Materials
 - .1 At counter tops with sinks fabricate from Douglas fir plywood (DFP)
 - .2 At all other counter tops may be fabricated from MDF.
- .3 Shop install Plastic laminate
 - .1 Laminate Manufacturers – Nevarmar and Formica
 - .2 Color to be chosen from manufacturers standard range

2.6 MANUFACTURERS

- .1 Standard of Acceptance is as follows
 - .1 Manufacturer: Kitchen Kraft
 - .1 Collection: Integra Collection
 - .2 Door Style: Berkley
 - .3 Wood: Maple
 - .4 Finish: Natural
 - .5 Pulls: Crescent pull
 - .2 Or Approved Equal

Part 3 Execution

3.1 EXAMINATION

- .1 Verify that site conditions are ready to receive work.
- .2 Beginning of installation means acceptance of site conditions.

3.2 INSTALLATION

- .1 Install work in accordance with AWMAC Custom Premium Quality Standard.
- .2 Set and secure materials and components in place, plumb and level.
- .3 Install components and trim, with screws and bolts with blind fasteners.
- .4 Cover exposed edges of shelving and site made casework with plastic edging. Width of edging to match shelving.
- .5 Apply plastic laminate finishes where indicated. Cap exposed edges with plastic laminate of same finish and pattern. Apply laminate backing sheet on reverse side of plastic laminate finished surfaces.

END OF SECTION

PART 1 – GENERAL

1.1 SCOPE OF WORK

- .1 This specification applies to buildings included in Part 9 of the National Building Code. This includes buildings of 3 stories or less used for residential occupancy.
- .2 Remove and dispose of existing windows.
- .3 Provide labour, material, equipment and services necessary and incidental to the general replacement of the windows. Replace window components as described herein.

1.2 REFERENCES

All reference standards shall be current issue or latest revision at the date of building permit issue. This specification refers to the following standards, specifications or publications:

- .1 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.40-97, Anticorrosive Structural Steel Alkyd Primer.
 - .2 CAN/CGSB-12.8-97, Insulating Glass Units.
 - .3 SMA 1201R-2002 Specification for Insect Screens for Windows, Sliding Doors and Swinging Doors..
 - .4 CAN/CGSB-12.1-M, Tempered or Laminated Safety Glass
 - .5 CAN/CGSB-12.11-M, Wired Safety Glass
 - .6 CAN/CGSB-12.20-M, Structural Design of Glass for Buildings
- .2 Canadian Standards Association (CSA) International
 - .1 AAMA/WDMA/CSA 101/I.S.2/A440-11, NAFS - North American Fenestration Standard for Windows, Doors, and Skylights.
 - .2 CSA A440S1-09, Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS - North American Fenestration Standard for Windows, Doors, and Skylights.
 - .3 CAN/CSA-A440.4-07(R2012), Window, Door, and Skylight Installation
 - .4 CAN/CSA-A440.2/A440.3-09, Fenestration energy performance/User guide to CSA A440.2, Fenestration energy performance.
 - .5 CAN/CSA-Z91-02(R2013), Health and Safety Code for Suspended Equipment Operations.
 - .6 CAN/CSA-Z809-08(R2013), Sustainable Forest Management.

1.3 PERFORMANCE REQUIREMENTS

- .1 Design frames in exterior walls to accommodate expansion and contraction within services temperature range of -40°C to 40°C.
- .2 Window air tightness to meet the rating of A3 when tested in accordance with CAN/CSA-440 windows.
- .3 Window water tightness shall meet the B5 rating when tested in accordance with CAN/CSA-440 windows.
- .4 Structural performance shall incorporate minimum design pressure (DP) of 1440Pa with a

- maximum deflection of 1/175 of the span when tested in accordance with CAN/CSA-440 Windows.
- .5 Wind load resistance for window shall meet the C3 rating or better when tested in accordance with CAN/CSA-A440 Windows.
 - .6 Performance requirement for ease of operation shall be 60 N to initiate movement and 30 N to maintain motion.
 - .7 The window condensation temperature index of the frame (I_f) shall be 77 or better and temperature index of the glass (I_g) shall be 77 or better when tested in accordance with CAN/CSA-A440 Windows.
 - .8 The fixed and operable window thermal transmittance U-Value shall be less than 1.7 W/(m²x°C) when tested in accordance with AAMA 1503.1 and CAN/CSA-A440.2.
 - .9 Windows shall meet or exceed minimum requirements as listed in CAN/CSA-A440 Windows, Table 27.
 - .10 Windows shall satisfy egress requirements as detailed in the National Building Code and shall conform to the local Code Authorities having jurisdiction.
 - .11 Insect screens to be provided for all vent windows; Rating S1 as per Table 4, CSA A440.
 - .12 Resistance to Forced Entry: F20.
 - .13 Windows shall conform to the requirements of CSA A440, latest applicable edition and meet eligibility requirements of the Manitoba Hydro Power Smart Program. Prior to contract award, the low bidder shall provide the Owner with test reports for the proposed new windows completed by an independent technical source, tested to CSA A440.2 or AAMA 1503 or NFRC Certified Products Listing. A CPD or model number shall be provided.
 - .14 The Contractor shall process and submit all requirements for the application of Manitoba Hydro Power Smart Program. The Owner to receive all Power Smart and other applicable rebates.

1.4 SHOP DRAWINGS

- .1 Submit shop drawings in accordance with Section 01 33 00 – Submittal Procedures.
- .2 Indicate materials and details in full scale for head, jamb, mullion, sill and sash details, profiles of components, interior and exterior trim, junction between combination units, elevation of units, installation methods, anchorage details, fasteners, caulking, internal drainage details, description of accessories and related components. Indicate location of manufacturer's nameplates.
- .3 The Contractor shall supply window shop drawings showing window and glass sizes in addition to screen placement and anchorage. Locking mechanisms for windows shall also be shown. Prior to review by the Owner/Consultant, shop drawings shall be firstly reviewed by the General Contractor.
- .4 Provide manufacturer's fabrication dimensions for all window components (cut sheets) for all window types and configurations.
- .5 Provide a list of all window parts, including manufacturers names, extruder name and window series, and current sources of components.
- .6 Indicate on shop drawings, dimensions, relation to construction of adjacent work, air and vapour seal with adjacent construction materials, component anchorage and locations,

anchor methods, shim methods and materials, and hardware installation details. Include also opening dimensions, frames opening tolerances and affected related work and installation requirements. Provide shop drawings for anchor and shim methods and materials, sealed by an engineer registered in the Province of Manitoba.

1.5 QUALITY ASSURANCE

- .1 Laboratory testing of each composite window type by an independent testing laboratory is mandatory. Submit written test results to the Owner and Consultant for all window units, including combination windows, indicating that each window type has met the specifications in accordance with CAN/CSA-A440 and CGSB Standards, must be received prior to the installation of any windows on site. Results will provide full descriptions of the composite windows tested. All windows for installation will be identical to the tested specimens. Any supplier/installer proposed revision to the window make-up may require additional testing. Test results are valid within 48 months period. Standard testing and test reports to be done at no additional cost to the Owner.
- .2 At the discretion of the Owner, there shall be site mock-up tests. The mock-up window, when installed to the requirements outlines in CAN/CSA-A440 as well as the specifications herein, shall be performed under the Cash Allowance indicated in order to determine that the window meets the specification requirements. Both the window and rough opening shall be evaluated.
- .3 Upon commencement of the contract, one typical unit window shall be prepared as a sample of the work, including insulation and interior casing/finishing. Work shall not proceed until the sample unit has been approved by the Owner, including the manufacture of the balance of the windows. The quality of the sample unit installation shall be maintained throughout the balance of the work/project.
- .4 As per Owner's request, additional laboratory testing may be required. Costs for the additional testing of windows will be borne by the Owner with a passing test result. Materials failing to meet specified requirements shall be replaced or repaired and retested as directed by the Owner and Consultant, with all costs involved in retesting borne by the Contractor. Contractor costs for site supervision and coordination including costs for transportation and for the required modifications is deemed to be part of overhead included in the Contract Price.

1.6 QUALIFICATIONS

- .1 Manufacturer and installers are to be specialized in the manufacturing and installation respectively of PVC window system with a minimum of three years each of documented experience.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Protect pre-finished surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather.

1.8 SAMPLES

- .1 Prior to use in this project, upon request by the Owner, a minimum 300 mm x 300 mm (12"x12") corner sample of windows shall be submitted to the Owner and Consultant for approval.
- .2 Include frame, sash, sill, interlock, glazing and weather-proofing method, insect screens, surface finish and all hardware.

1.9 MAINTENANCE DATA

- .1 Provide three (3) copies of operation and maintenance data, including cleaning instructions, for all windows and frames for incorporation into Manitoba Housing operation and maintenance manual.

1.10 MAINTENANCE MATERIALS

- .1 Prior to the completion of the Contract, the Contractor must supply the following maintenance materials to a representative of Manitoba Housing:
 - .1 5% of each size of operable sash complete with hardware and glazing (minimum 1)
 - .2 5% of each size of screen (minimum 1)
 - .3 5% of all locks, crank hardware, rollers, guides, drain caps and other miscellaneous hardware.

1.12 WARRANTY

- .1 Provide written warranty for a period of one year from the date of substantial completion for any defects relating to complete installation and workmanship.
- .2 Provide written warranty against defects and malfunction, against material or manufacturing defects under normal usage for a period of twenty (20) years from the date of substantial performance.
- .3 Provide written warranty for glazing seal against failure of the hermetic seal for a period of ten (10) years from the date of substantial performance. Date of manufacture to be unobtrusively marked on the interior right hand corner of each unit and shall be not more than one month prior to the date of installation.
- .4 Provide written lifetime warranty for all operating hardware.

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 All windows by the same manufacturer, with sash and main frames of a type and size to suit the job conditions. General Contractor to verify site conditions prior to manufacturing of windows. Each window location to be site measured as rough opening dimensions may vary.
- .2 Isolate aluminum from the following components, by means of isolation pad or coating:
 - .2 Dissimilar metals except stainless steel, zinc, or white bronze of small area.
 - .3 Concrete, mortar and masonry.
- .3 Exterior caulking shall be Dow Corning 795 high grade neutral cure silicone, or approved alternate as authorized by the Consultant and approved by window manufacturer. Colour shall match that of the material to which it is applied.
- .4 All frames to be factory fabricated and shall be fully assembled before shipping to site.
- .5 Mounting screws shall be 300 series stainless steel or 400 series stainless steel cadmium plated and of sufficient size and quantity to perform their intended function.
- .6 Anchorage materials: non-corrosive.

- .7 Weathering and glazing gaskets shall be extruded, black, closed cell or dense elastomer of durometer appropriate to the function.
- .8 Glazing tapes shall be macro-polyisobutylene, highly adhesive and elastic with built in shim.
- .9 Provide PVC mullion caps, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and contraction, including building deflections. Where mullion joint requires special condition provide alternate proposals, engineering, and other documentation to ensure integrity of the mullion joint. Provide reinforcing mullion plates at every joint secured to frames by screws.
- .10 Hardware for locking mechanism shall not impact air leakage performance.
- .11 All windows to be supplied with insect screens and all required/specified hardware, friction fit within operable windows.
- .12 Screen frame: baked on enamel finish, extruded aluminum complete with corner keys and retainer spline. Casement and awning screen to include integral perimeter flange. Screens removable to the inside only.
- .13 Screens: aluminum or galvanized or fiberglass mesh.
- .14 Jamb extensions: 18 mm (¾") PVC jamb extensions to suit wall thickness. Jamb extensions to have factory edge adjacent to casings. End caps not permitted.
- .15 Casings or finish trim: solid wood (or approved equal), minimum width to suit site conditions.
- .16 Weather-stripping: compression type seal against sash, single weather seal at exterior.

2.2 SEALANT MATERIALS

- .1 Caulking subcontractor must seal joints between windows and adjacent surfaces with sealant, in accordance with Specification Section 079200.
- .2 Window manufacturer will provide written confirmation to the Consultant that the sealant materials are acceptable for use and will have no adverse affect on the window aesthetics, operation or long-term performance.

2.3 WINDOW TYPES

- .1 All windows to be full frame replacements complete with brick mould and jamb extensions.
- .2 PICTURE WINDOW
 - .1 Dry glazed interior stops, sealed unit to be removable to interior.
- .3 SINGLE OPERATOR HORIZONTAL SLIDING WINDOW (GLIDER)
 - .1 Locking Hardware: Die cast housing cam lock complete with adjustable strike.
 - .2 Rolling Hardware: one pair dual brass, nylon or Lubex rollers.
 - .3 Sash track to include tapered block insert to increase contact pressure at meeting rail.
- .4 SINGLE OPERATOR VERTICAL SLIDING WINDOW (SINGLE HUNG)
 - .1 Locking Hardware: Die cast housing cam lock complete with adjustable strike.

- .2 Sash Balance: Adjustable Spiral Balance or Dual opposing stainless steel coil constant force sash balance.
- .3 Sash pulls to be integral to sash extrusion or designated handle secured through a minimum of two PVC walls. Sash pulls integrated with glazing stops not acceptable.
- .4 Pivot bars to be fastened through two PVC walls or one wall and screw boss, using PVC screws.
- .5 CASEMENT WINDOW
 - .1 Locking Hardware: Die cast multi point lever lock complete with die cast adjustable mushroom head rollers and keepers. Minimum 2 point lock on all sashes.
 - .2 Operating Hardware: Roto gear dual arm operator using sill mounting *or* flange mounting with reinforcing back plate. High-pressure zinc die cast housing and steel base plate, hardened steel drive worm and gear arm.
- .6 AWNING WINDOW
 - .1 Locking Hardware: Die cast lock. Minimum two locks on all sashes.
 - .2 Operating Hardware: Roto gear scissor arm operator *or* roto gear pivot shoe operator. High-pressure zinc die cast housing and steel base plate, hardened steel drive worm and gear arm.

2.4 GLASS AND GLAZING MATERIALS

- .1 Glaze windows in accordance with CAN/CSA-A440. Insulating glass units must carry Insulating Glass Manufacturers Association of Canada (IGMAC) Certification and be identified with IGMAC, the name of the manufacturer, the location where the units were made and the year of manufacture. Units must comply with the latest edition of CAN/CGSB 12.8, Insulating Glass.
- .2 Glazing must have a written ten (10) year warranty against failure of the seal.
- .3 Windows to be tripple glazed, insulate glass (minimum ½" air space incorporating Argon fill) and at the discretion of the Owner, incorporate Solarban 70XL low emissivity coating on surface 3.
- .4 Glazing thickness to be in accordance with Table A-9.6.1.3.(1) A for Hourly Wind Pressure (HWP) less than 0.55 kPa, in Appendix A, National Building Code, 2010.
- .5 All glazing to incorporate Super Spacer Architectural S-Class foam tape glazing spacer or approved equal.
- .6 Common area glazing units for both interior and exterior shall utilize glass conforming to CAN/CGSB-12.1-M, Tempered or Laminated Safety Glass or CAN/CGSB-12.11-M, Wired Safety Glass.

2.5 ACCESSORIES

- .1 Brick mould and brick mould extensions to be manufactured from extruded PVC profiles; matching frame nominal wall thickness. Type as detailed on drawings. Colour to be selected by Owner.
- .2 Jamb, sill and head extensions to be made from cellular PVC. Size, color and configuration

of extensions as shown on drawings and as required on site.

2.6 FABRICATION

- .1 Fabricate in accordance with CSA-A440 supplemented as follows:
- .2 Fabricate units square and true with maximum tolerance of plus or minus 1.5 mm (0.06") for units with a diagonal measurement of 1800 mm (71") or less and plus or minus 3 mm (0.12") for units with a diagonal measurement over 1800 mm. (71").
- .3 Frame face dimensions detailed are maximum permissible sizes.
- .4 Manufacturer's nameplates on windows are not acceptable.
- .5 Brace frames to maintain squareness and rigidity during shipment and installation.
- .6 Finish steel clips and reinforcement to be galvanized with 380 g/m² zinc coating to CSA G164.
- .7 Fabricate framing from extrusions of size and shape shown on shop drawings.
- .8 All framing joints shall be accurately machined, assembled, and sealed to provide neat weather tight connections.
- .9 Coupling mullions shall be designed to provide a functional split to permit modular construction and allow for thermal expansion.
- .10 Glass stops shall be lock-in screwless type.
- .11 Elastomeric seal gasket shall be installed around the full perimeter of glass and sealed at the corners with silicone sealant.
- .12 Air seal gasket must have adhesion with silicone sealant.
- .13 All PVC joints to be "welded corner" construction, frames and sashes.
- .14 Drain hole covers for PVC windows to be rigid or manufacturer to provide one extra hinged cover per window.
- .15 Brick moulds and jamb extension to be installed using arrowhead slots, sealed and mechanically fastened to main frame.
- .16 Provide horizontal and vertical galvanized steel or aluminum reinforcement as required to achieve structural requirements as specified.
- .17 Vertical and Horizontal sliding windows: sash and frame meeting rails to be reinforced with aluminum or galvanized steel channel, as required to meet structural requirements as specified.
- .18 All windows within a tolerance of ± 6 mm ($\pm 1/4$ ") shall be fabricated to one dimension.

2.7 AIR CONDITIONER WINDOW / PANEL / TRAY SYSTEM

- .1 Windows as shown in drawing shall be designed to accommodate additional insert panel and tray complete with sash framing for portable window air conditioning unit. Location and quantity to be determined by Owner.
- .2 There shall be two parts (refer to detailed drawing):
 - .1 Part A: Removable picture glass window c/w sash and two heavy-duty custodial security locks in head.
 - .1 Supplied and installed in specified window location and according to glazing option specified.

- .2 Sash to have exterior water deflecting rail at the sill and the receiving frame to have an aluminum ½" x ½" angle mounted on the sill to act as a water dam.
- .3 Sash unlocks and removes for interior service.
- .4 Interior clear opening of glass to be 24" wide by x 18" high.
- .2 Part B: Insulated Panel c/w sash, support tray and two heavy-duty custodial security locks in head.
 - .1 Supplied as a separate assembled item delivered to jobsite location as directed by Owner.
 - .2 Sash to have exterior water deflecting rail at the sill and the receiving frame to have an aluminum ½" x ½" angle mounted on the sill to act as a water dam.
 - .3 Sash unlocks and removes for interior service.
 - .4 Panel shall be bright white pre-painted 26 gauge mild steel (or aluminum) with 1" SM Styrofoam core sandwich.
 - .5 Tray shall white powder coated 20 gauge galvanized with hemmed edges for strength and safety in handling. Support straps shall be 1" wide, wrapped around and riveted to the tray hem with a structural 3/16" rivet. The top straps shall be trapped inside the sash frame at the head between the sash and panel, riveted to the sash at the head.
 - .6 Interior clear opening of insulated panel to be 24" wide x 18" high.
- .3 The manufacturer is responsible for the structural integrity of the window.
- .4 Contractor is to provide a mock-up sample of the A/C window panel tray system for approval by Owner prior to commencement of work.
- .5 The left or right location of the A/C insert in the window is to be verified and approved by Owner prior to manufacturer of windows so as to determine the most appropriate location and consider the nearest electrical outlet.
- .6 Contractor shall be responsible for removing any existing A/C units back to the tenant and to re-install the tenant-owned A/C unit into the new A/C window panel system if requested.

PART 3 - EXECUTION

3.1 WORKMANSHIP

- .1 Install in accordance with CSA-A440.4 supplemented with installation instructions in this specification and manufacturers recommendations. Conflict between installation instructions in this specification and manufacturers instructions must be brought to the attention of the Owner and Consultant prior to installation.

3.2 PREPARATION

- .1 All window sizes and measurements shall be taken from the jobsite. The Contractor shall check and verify all site dimensions, on an individual basis, prior to fabrication of windows. The Contractor shall not make any claim to the Owner for mis - measured or improperly measured work.
- .2 Remove existing sash, tracks, frames, interior and exterior trims and discard off site.

Relocate when possible on a daily basis.

- .3 Examine openings into which windows are to be installed to ensure that it is satisfactory before commencement of work. Notify Owner of any rot, damage or deterioration that is evident prior to proceeding with the Work.
- .4 Furr out existing openings to achieve ½" maximum shim space. All furring set into the original opening shall be bedded in acoustic sealant.
- .5 Move furniture and appliances 4ft from the window and remove window coverings as required, to gain access to window area. The Owner will make arrangements to move fragile items.

3.3 INSTALLATION

- .1 All Work shall be completed according to applicable CGSB standards and best industry practice.
- .2 Windows shall be installed, glazed and adjusted by experienced personnel in accordance with the manufacturer's instructions and approved shop drawings.
- .3 In addition to the manufacturer's installation instructions, the following installation procedures shall be followed:
 - .1 Fill the space between the window and the rough opening with specified low expansion urethane foam. Note that foam must not be used as a structural load bearing connection meant to resist lateral wind loads.
 - .2 Maintain continuous air and vapour barriers throughout the assembly, primarily in line with the inside pane of glass and heel bead of glazing compound.
 - .3 Ensure that the sheet air barrier membrane is adequately adhered to the indicated surfaces prior to the window installation.
 - .4 Drain water entering joints, condensation occurring in glazing channels or migrating moisture occurring within the system, to the exterior by a weep drainage network.
 - .5 The system is to accommodate without damage to the components or deterioration of the seals, movement between the window and the perimeter framing.
- .4 All items in this section shall be set in their correct location and shall be set level, square, plumb and at proper elevations and in alignment with other work.
- .5 Set window into opening plumb and square. Provide temporary shims at window sides and head to ensure proper alignment of window during fastening. Shim along sill at corners, at all vertical mullions and other locations as required to achieve shims at maximum 600 mm (24 inches) o/c.
- .6 All windows to be mechanically fastened through side jambs and head, adjacent to shims. Do not fasten through sill. Fastening to be 150-300mm (6-12 inches) from each corner and at maximum 600mm (24 inches) o/c. All screw holes through PVC to be predrilled; holes to be 2mm larger than screw diameter. Fasten with minimum #8 stainless steel pan head screws, length sufficient to penetrate framing material a minimum of 35mm (1½"). Screws to be concealed at all possible locations. Exposed screws to be capped.
- .7 Remove shims from side jambs and head of window.
- .8 All existing flashing and drip mouldings to be replaced. Refer to detail drawings.

- .9 Replace, at no extra cost to the Owner, all glass cracked or broken during the Work of this contract, or otherwise damaged prior to substantial performance. Any breakage due to improper setting and installation shall be replaced by the Contractor, at no extra cost to the Owner, for a period of one year following substantial performance.
- .10 Adjust operating sashes and ventilators, screens, hardware and accessories for a tight fit at contact points and weather stripping for smooth operation and weather tight closure. Lubricate hardware and moving parts if necessary. Refer to manufacturer's instruction sheets.
- .11 The Contractor shall ensure that damage done to the interior and exterior finishes, caused by the removal of existing windows, is kept to a minimum. The Contractor will be responsible to repair any damage caused, and to provide and finish any fillers required to fill between surface of new window and the existing surface of the exterior skin of the structure. The cost incurred to do this work will be considered as incidental to the Contract and will not be paid for separately.

3.4 CAULKING

- .1 Seal joints between windows and exterior finish. Use foam backer rod to achieve 2:1 width:depth joint ratio.
- .2 Apply sealant in accordance with Section 07 92 00 Joint Sealants.

3.5 RESTORATION OF INTERIOR AND EXTERIOR FINISHES

- .1 Any and all finishes removed or damaged by the removal of the existing windows or installation of the new windows shall be repaired or replaced to original condition.
- .2 All window casings to be replaced with new solid wood casings, minimum width to satisfy site conditions. Casings to be primed/painted or stained/varnished with as many coats as necessary to provide quality finish. Finish color to be selected by the Owner.
- .3 The Contractor will be responsible for the removal and re-installation of existing window coverings. The cost for doing this will be considered as incidental to the contract. Reinstall all rails, rods, drapery, drapery tracks, blinds or any other window treatments removed to necessitate the installation of the new windows.
- .4 The existing tenant-owned air-conditioners shall be removed, and back to tenant, and re-installed, custom-fitted, to the new window unit.

3.6 FINAL CLEANING

- .1 Every piece of glass shall bear the manufacturer's names, type and thickness of the glass. Leave all labels on the glass until they have been inspected and approved by the owner. Labels shall not be removed until final cleaning; leaving no glue residue that may remain after the removal of the label.
- .2 Protect installed windows from damage during construction. Protect new window units from incidental damages resulting from plaster, cement, stucco or other harmful contaminants. Do not apply masking tape, adhesives or other chemicals directly to window components. Consult with window manufacturer for product compatibility.
- .3 All window components including glazing, shall be thoroughly cleaned, all imperfections corrected and all damaged glass replaced in accordance with manufacturer's instructions at the completion of the project.
- .4 Clean the work area, remove and dispose of construction debris from site in accordance

with all local regulations and bylaws on a daily basis.

END OF SECTION