UNIVERSAL WASHROOM MODERNIZATION
MANOTICK PUBLIC LIBRARY
5499 SOUTH RIVER DRIVE
OTTAWA, ONTARIO

ISSUED FOR TENDER

Peter Darwish Architect
10 Castlethorpe Crescent
Ottawa, Ontario K2G 5P5
Tel/Fax: (613)226-6874
Email: peterdarwish@rogers.com
January 20, 2020
PDA Project #19049
City Project #CR013011

- END OF INDEX -

PART 1 - GENERAL

1.1 Section Includes

.1 Shop drawings and product data.

.2 Samples.

1.2 Related Sections

.1 Section 01 78 00 - Closeout Submittals.

1.3 Administrative

.1 Submit to Architect submittals listed for review. Submit with reasonable promptness and in orderly sequence so as to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.2 Work affected by submittal shall not proceed until review is complete.

.3 Present shop drawings, product data, samples and mock-ups in Metric units.

.4 Where items or information is not produced in Metric units converted values are acceptable.

.5 Review submittals prior to submission to Architect. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and shall be considered rejected.

.6 Notify Architect in writing at time of

submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.7 Verify field measurements and that affected adjacent Work are coordinated.

.8 Contractor's responsibility for errors and omissions in submission is not relieved by Architect’s review of submittals.

.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Architect’s review.

.10 Keep one reviewed copy of each submission on site.

1.4 Shop Drawings and Product Data

.1 After Architect’s review, distribute copies.

.2 Submit 5 prints of shop drawings or an electronic submission for each requirement requested in specification Sections and as consultant may reasonably request.

.3 Submit 5 copies of product data sheets or brochures or an electronic submission for requirements requested in specification Sections and as requested by Architect where shop drawings will not be prepared due to standardized manufacture of product.

.4 Delete information that is not applicable to the project. Highlight information that is applicable to the project.

.5 Supplement standard information to provide details applicable to project.

.6 If upon review by Architect, no errors or omissions are discovered or if only minor

corrections are made, copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

1.5 Samples

.1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.

.2 Deliver samples prepaid to Architect's business address.

.3 Notify Architect in writing, at time of submission of deviations in samples from requirements of Contract Documents.

.4 Where colour, pattern or texture is criterion, submit a hard copy of full range of samples.

.5 Adjustments made on samples by Architect are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Architect prior to proceeding with Work.

.6 Make changes in samples which Architect may require, consistent with Contract Documents.

.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.6 Mock-ups

.1 Prepare mock-ups for Work specifically requested in drawings or specifications.

.2 Prepare mock-ups for Architect’s review

with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

.3 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.4 Mock-ups may remain as part of Work.

2.1 Not Used

.1 Not Used.

PART 3 - EXECUTION

3.1 Not Used

.1 Not Used.

- END OF SECTION -

PART 1 - GENERAL

1.1 Section Includes

.1 Inspection and testing, administrative and enforcement requirements.

.2 Tests and mix designs.

.3 Mock-ups.

.4 Mill tests.

.5 Equipment and system adjust and balance.

1.2 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 78 00 - Closeout Submittals.

1.5 Independent Inspection Agencies

.1 Independent Inspection/Testing Agencies will be engaged for the purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the General Contractor.

.2 Provide equipment required for executing inspection and testing by agencies.

.3 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.

.4 If defects are revealed during inspection and/or testing, agency is to perform additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities at no cost to Owner. General Contractor to pay costs for retesting and re-inspection.

1.6 Access to Work

.1 Coordinate inspection/testing agency's access to Work, off site manufacturing and fabrication plants.

.2 Co-operate to provide reasonable facilities for such access.

1.7 Procedures

.1 Notify appropriate agency and Architect in advance of requirement for tests, in order that attendance arrangements can be made.

.2 Submit samples and/or materials required for testing, as specifically requested in the documents. Submit with reasonable promptness and in an orderly sequence so as not to cause delay in Work.

.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.9 Mock-ups

.1 Prepare mock-ups for Work specifically requested in specifications. Include for Work of all Sections required to provide mock-ups.

.2 Construct in all locations as specified in specific Section.

.3 Prepare mock-ups for review with reasonable promptness and in an orderly sequence, so as not to cause any delay in Work.

.4 Failure to prepare mock-ups in ample time is not considered sufficient reason for an extension of Contract Time and no claim for extension by reason of such default will be allowed.

.5 Specification section identifies whether

mock-up may remain as part of Work or if it is to be removed and when.

PART 2 - PRODUCTS

2.1 Not Used .1 Not Used.

PART 3 - EXECUTION

3.1 Not Used .1 Not Used.

- END OF SECTION -

PART 1 - GENERAL

1.1 Section Includes

.1 Temporary barriers.

1.2 Installation and Removal

.1 Provide temporary controls in order to execute Work expeditiously.

.2 Remove from site all such work after use.

1.3 Weather Enclosures

.1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.

.2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.

.3 Design enclosures to withstand wind pressure and snow loading.

1.4 Dust Tight Screens

.1 Provide a dust tight screens with framed support and other protection as required around the work areas where indicated to separate dust generating activities, and for protection of workers, finished areas of Work and the general public.

.2 Maintain the protection until the work is complete.

1.5 Public Traffic Flow

.1 Protect the public from construction work.

1.6 Protection for Off-Site and Public Property

.1 Protect surrounding private and public property from damage during performance of Work.

.2 Be responsible for damage incurred.

1.7 Protection of Building Finishes

.1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.

.2 Provide necessary screens, covers, and hoardings.

.3 Confirm with Architect locations at least 7 days prior to installation.

.4 Be responsible for damage incurred due to lack of or improper protection.

PART 2 - PRODUCTS

2.1 Not Used

.1 Not Used.

PART 3 - EXECUTION

3.1 Not Used

.1 Not Used.

- END OF SECTION -

PART 1 - GENERAL

1.1 Section Includes

.1 Product quality, availability, storage, handling, protection, and transportation.

.2 Manufacturer's instructions.

.3 Quality of Work, coordination and fastenings.

.4 Existing facilities.

1.2 Quality

.1 Products, materials, equipment and articles (referred to as products throughout specifications) incorporated in Work shall be new (unless otherwise specified), not damaged or defective, and of best quality (compatible with specifications) for purpose intended. If requested, furnish evidence as to type, source and quality of products provided.

.2 Defective products, whenever identified prior to completion of Work, will be rejected, regardless of previous inspections. Inspection does not relieve responsibility, but is precaution against oversight or error. Remove and replace defective products at own expense and be responsible for delays and expenses caused by rejection.

.3 Should any dispute arise as to quality or fitness of products, decision rests strictly with Architect based upon requirements of Contract Documents.

.4 Unless otherwise indicated in specifications, maintain uniformity of manufacture for any particular or like item throughout building.

.5 Permanent labels, trademarks and

nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.3 Availability

.1 Immediately review product delivery requirements and anticipate foreseeable supply delays for any items. If delays in supply of products are foreseeable, notify Architect of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

.2 In event of failure to notify Architect at commencement of Work and should it subsequently appear that Work may be delayed for such reason, Architect reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.4 Storage, Handling and Protection

.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

.3 Store products subject to damage from weather in weatherproof enclosures.

.4 Store cementitious products clear of earth or concrete floors, and away from walls.

.5 Keep sand, when used for grout or mortar

materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

.6 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

.7 Touch-up damaged factory finished surfaces to Architect’s satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.5 Transportation

.1 Pay costs of transportation of products required in performance of Work.

1.6 Manufacturer's Instructions

.1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.

.2 Notify Architect in writing, of conflicts between specifications and manufacturer's instructions, so that Architect may establish course of action.

.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Architect to require removal and re-installation at no increase in Contract Price or Contract Time.

1.7 Quality of Work

.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify

Architect if required Work is such as to make it impractical to produce required results.

.2 Do not employ anyone unskilled in their required duties. Architect reserves right to require dismissal from site, workers deemed incompetent or careless.

.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Architect, whose decision is final.

1.8 Co-Ordination

.1 Ensure cooperation of workers in laying out Work. Maintain efficient and continuous supervision.

.2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.9 Concealment

.1 In finished areas, conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.

.2 Before installation, inform Architect if there is interference. Obtain Architect’s permission before installing any unconcealed items.

1.10 Remedial Work

.1 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Coordinate adjacent affected Work as required.

.2 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.11 Location of Fixtures

.1 Consider location of fixtures, outlets and mechanical and electrical items indicated as approximate where dimensions are not provided.

.2 Inform Architect of conflicting installation. Install as directed.

1.12 Fastenings

.1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.

.2 Prevent electrolytic action between dissimilar metals and materials.

.3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing all work, unless stainless steel or other material is specifically noted.

.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.

.5 Keep exposed fastenings to a minimum, space evenly and install neatly.

.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.13 Fastenings - Equipment

.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.

.2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.

.3 Bolts may not project more than one diameter beyond nuts.

.4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.14 Protection of Work in Progress

.1 Prevent overloading of any part of building. Do not cut, drill or sleeve any load bearing structural member, unless specifically indicated without written approval of Architect.

1.15 Existing Utilities

.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants and pedestrian and vehicular traffic.

.2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

PART 2 - PRODUCTS

2.1 Not Used

.1 Not Used.

PART 3 - EXECUTION

3.1 Not Used

.1 Not Used.

- END OF SECTION -

PART 1 - GENERAL

1.1 Section Includes

.1 Requirements and limitations for cutting and patching the Work.

1.2 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 45 00 – Quality Control.

.3 Individual product Sections: cutting and patching incidental to work of section. Advance notification to other sections required.

1.3 Submittals

.1 Submit written request in advance of cutting or alteration which affects:
.1 Structural integrity of any element of Project.
.2 Integrity of weather-exposed or moisture-resistant elements.
.3 Efficiency, maintenance, or safety of any operational element.
.4 Visual qualities of sight-exposed elements.
.5 Work of Owner or separate contractor.

.2 Include in request:
.1 Identification of Project.
.2 Location and description of affected Work.
.3 Statement on necessity for cutting or alteration.
.4 Description of proposed Work, and products to be used.
.5 Alternatives to cutting and patching.
.6 Effect on Work of Owner or separate contractor.
.7 Written permission of affected separate contractor.
.8 Date and time work will be executed.

1.4 Materials

.1 Required for original installation.

.2 Change in Materials: Submit request for approved equivalents or alternates in accordance with Instructions to Bidders.

1.5 Preparation

.1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

.2 After uncovering, inspect conditions affecting performance of Work.

.3 Beginning of cutting or patching means acceptance of existing conditions.

.4 Provide supports to assure structural integrity of surroundings; provide devices and methods to protect other portions of project from damage.

.5 Provide protection from elements for areas which may be exposed.

1.6 Execution

.1 Execute cutting, fitting, and patching to complete Work.

.2 Fit several parts together, to integrate with other Work.

.3 Uncover Work to install ill-timed Work.

.4 Remove and replace defective and non-conforming Work.

.5 Provide openings in elements of Work for penetrations of mechanical and electrical Work.

.6 Execute Work by methods to avoid damage to other Work, and which will provide proper

surfaces to receive patching and finishing.

.7 Employ original installer to perform cutting and patching for weather-exposed and moisture-resistant elements, and sight-exposed surfaces.

.8 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.

.9 Restore work with new products in accordance with requirements of Contract Documents.

.10 Fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

.11 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.

.12 Refinish surfaces to match adjacent finishes: For continuous surfaces refinish to nearest intersection except where indicated otherwise, for an assembly, refinish entire unit.

.13 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

PART 2 - PRODUCTS

2.1 Not Used

.1 Not Used.

PART 3 - EXECUTION

3.1 Not Used .1 Not Used.

- END OF SECTION -

PART 1 - GENERAL

1.1 Section Includes

.1 Progressive cleaning.

.2 Final cleaning.

1.2 Related Section

.1 Section 01 78 00 - Closeout Submittals.

1.3 Project Cleanliness

.1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Owner or other Contractors.

.2 Remove waste materials from site at regularly scheduled times or dispose of. Do not burn waste materials on site.

.3 Clear snow and ice from access to building.

.4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

.5 Provide on-site containers for collection of waste materials and debris.

.6 Provide and use clearly marked separate bins for recycling.

.7 Remove waste material and debris from site and deposit in waste container at end of each working day.

.8 Clean interior areas prior to start of finish work, and maintain areas free of dust and other contaminants during finishing operations.

.9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

.10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

.11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

.12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.4 Final Cleaning

.1 When Work is Substantially Performed, remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

.2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

.3 Prior to final review, remove surplus products, tools, construction machinery and equipment.

.4 Remove waste products and debris including that caused by Owner or other Contractors.

.5 Remove waste materials from site at regularly scheduled times. Do not burn waste materials on site.

.6 Make arrangements with and obtain permits from authorities having jurisdiction for

disposal of waste and debris.

.7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.

.8 Remove stains, spots, marks and dirt from decorative work, electrical and mechanical fixtures, furniture fitments, walls, and floors.

.9 Clean lighting reflectors, lenses, and other lighting surfaces.

.10 Vacuum clean and dust building interiors, behind grilles, louvres and screens.

.11 Wax, seal, shampoo or prepare floor finishes, as recommended by manufacturer.

.12 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

.13 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.

.14 Remove dirt and other disfiguration from exterior surfaces.

.15 Clean and sweep roofs, gutters, areaways, and sunken wells.

.16 Sweep and wash clean paved areas.

.17 Clean equipment and fixtures to a sanitary condition; clean or replace filters of mechanical equipment.

.18 Clean roofs, downspouts, and drainage systems.

.19 Remove debris and surplus materials from

crawl areas and other accessible concealed spaces.

.20 Remove snow and ice from access to building.

PART 2 - PRODUCTS

2.1 Not Used .1 Not Used.

PART 3 - EXECUTION

3.1 Not Used .1 Not Used.

-END OF SECTION-

PART 1 - GENERAL

1.1 Section Includes

.1 As-built, samples, and specifications.

.2 Equipment and systems.

.3 Product data, materials and finishes, and related information.

.4 Operation and maintenance data.

.5 Spare parts, special tools and maintenance materials.

.6 Warranties and bonds.

.7 Final site survey.

1.2 Submission

.1 Prepare instructions and data using personnel experienced in maintenance and operation of described products.

.2 Copy will be returned after final inspection.

.3 Revise content of documents as required prior to final submittal.

.4 Within two weeks after Substantial Performance of the Work, submit to the Architect, three final copies of operating and maintenance manuals in English.

.5 Ensure spare parts, maintenance materials and special tools provided are new, undamaged or defective, and of same quality and manufacture as products provided in Work.

.6 If requested, furnish evidence as to type, source and quality of products provided.

.7 Defective products will be rejected, regardless of previous inspections. Replace products at own expense.

.8 Pay costs of transportation.

1.3 Format

.1 Organize data in the form of an instructional manual.

.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf 219 x 279 mm with spine and face pockets.

.3 When multiple binders are used, correlate data into related consistent groupings. Identify contents of each binder on spine.

.4 Cover: Identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.

.5 Arrange content by Section numbers and sequence of Table of Contents.

.6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.

.7 Text: Manufacturer's printed data, or typewritten data.

.8 Drawings: provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.4 Contents - Each Volume

.1 Table of Contents: provide title of project;

.1 date of submission; names,
.2 addresses, and telephone numbers of Consultant and Contractor with name of responsible parties;

.3 schedule of products and systems, indexed to content of volume.

.2 For each product or system:
.1 list names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.

.3 Product Data: mark each sheet to clearly identify specific products and component parts, and data applicable to installation; delete inapplicable information.

.4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

.5 Typewritten Text: as required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.

1.5 As-builts and Samples

.1 In addition to requirements in General Conditions, maintain at the site one record copy of:
.1 Contract Drawings.
.2 Specifications.
.3 Addenda.
.4 Change Orders and other modifications to the Contract.
.5 Reviewed shop drawings, product data, and samples.
.6 Field test records.
.7 Inspection certificates.
.8 Manufacturer's certificates.

.2 Store record documents and samples in field office apart from documents used for construction. Provide files, racks, and

secure storage.

.3 Label record documents and file in accordance with Section number listings in List of Contents of this Project Manual. Label each document "PROJECT RECORD" in neat, large, printed letters.

.4 Maintain record documents in clean, dry and legible condition. Do not use record documents for construction purposes.

.5 Keep record documents and samples available.

1.6 Recording Actual Site Conditions

.1 Record information on set of opaque drawings.

.2 Provide felt tip marking pens, maintaining separate colours for each major system, for recording information.

.3 Record information concurrently with construction progress. Do not conceal Work until required information is recorded.

.4 Contract Drawings and shop drawings: legibly mark each item to record actual construction, including:
.1 Measured depths of elements of foundation in relation to finish first floor datum.
.2 Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
.3 Measured locations of internal utilities and appurtenances, referenced to visible and accessible features of construction.
.4 Field changes of dimension and detail.
.5 Changes made by change orders.
.6 Details not on original Contract Drawings.

.7 References to related shop drawings and modifications.

.5 Specifications: legibly mark each item to record actual construction, including:
.1 Manufacturer, trade name, and catalogue number of each product actually installed, particularly optional items and substitute items.
.2 Changes made by Addenda and change orders.

1.7 Spare Parts

.1 Provide spare parts, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site; place and store.

.4 Receive and catalogue all items. Submit inventory listing to Architect. Include approved listings in Maintenance Manual.

.5 Obtain receipt for delivered products and submit prior to final payment.

1.8 Maintenance Materials

.1 Provide maintenance and extra materials, in quantities specified in individual specification sections.

.2 Provide items of same manufacture and quality as items in Work.

.3 Deliver to site; place and store.

.4 Receive and catalogue all items. Submit inventory listing to Architect. Include approved listings in Maintenance Manual.

.5 Obtain receipt for delivered products and submit prior to final payment.

1.9 Special Tools

.1 Provide special tools, in quantities specified in individual specification section.

.2 Provide items with tags identifying their associated function and equipment.

.3 Deliver to site; place and store.

.4 Receive and catalogue all items. Submit inventory listing to Architect. Include approved listings in Maintenance Manual.

1.10 Storage, Handling and Protection

.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.

.2 Store in original and undamaged condition with manufacturer's seal and labels intact.

.3 Store components subject to damage from weather in weatherproof enclosures.

.4 Store paints and freezable materials in a heated and ventilated room.

.5 Remove and replace damaged products at own expense and to satisfaction of Architect.

1.11 Warranties and Bonds

.1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.

.2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

.3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item of work.

.4 Except for items put into use with Owner's permission, **indicate date of beginning of time of warranty and attach a copy of the Certificate of Substantial Performance.**

.5 Verify that documents are in proper form, contain full information, and are notarized.

.6 Co-execute submittals when required.

.7 Retain warranties and bonds until time specified for submittal.

PART 2 - PRODUCTS

2.1 Not Used

.1 Not Used.

PART 3 - EXECUTION

3.1 Not Used

.1 Not Used.

- END OF SECTION -

PART 1 - GENERAL

1.1 SECTION INCLUDES

.1 Methods and procedures for demolition of parts of structures.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)
.1 CSA S350-M1980(R2003), Code of Practice for Safety in Demolition of Structures.

1.3 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling.

1.4 SITE CONDITIONS

.1 Take precautions to protect environment.

.2 Should material resembling spray or trowel-applied asbestos or other designated substance listed as hazardous be encountered, stop work, take preventative measures, and notify Architect immediately.
.1 Do not proceed until written instructions have been received from Architect.

.3 Notify Architect before disrupting building access or services.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not used.

PART 3 - EXECUTION

3.1 PROTECTION

.1 Prevent movement, settlement, or damage to adjacent structures, utilities, and parts of building to remain in place. Provide bracing and shoring required.

.2 Keep noise, dust, and inconvenience to occupants to minimum.

.3 Protect building systems, services and equipment.

.4 Provide temporary dust tight screens with framed support and other protection as required to protect building occupants and building systems from demolished materials and dust. Maintain a clean, dust-free access route from work area to building exterior.

3.2 DEMOLITION SALVAGE AND DISPOSAL

.1 Remove parts of existing building to permit new construction.

.2 Refer to drawings and specifications for items to be salvaged for reuse.

.3 Remove items to be reused, store as directed by Architect, and re-install under appropriate section of specification.

.4 Trim edges of partially demolished building elements to tolerances to suit new work and use.

.5 Dispose of removed materials, to appropriate recycling facilities except where specified otherwise, in accordance with authority having jurisdiction.

- END OF SECTION -

PART 1 - GENERAL

1.1 References

.1 American National Standards Institute (ANSI)
  .1 ANSI A208.1-99, Particleboard.

.2 Architectural Woodwork Manufacturers Association of Canada (AWMAC)
  .1 AWMAC Quality Standards for Architectural Woodwork, latest edition.

.3 Canadian General Standards Board (CGSB)
  .1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.

.4 Canadian Standards Association (CSA)
  .1 CSA B111-74(R1998), Wire Nails, Spikes and Staples.
  .2 CSA O112.4-M1977(R1999), Standards for Wood Adhesives.

.5 Environmental Choice Program (EPC)
  .1 ECP-44-92, Adhesives.
  .2 ECP-45-92, Sealants and Caulking Compounds.

.6 National Lumber Grades Authority (NLGA)
  .1 Standard Grading Rules for Canadian Lumber, 2000.

1.2 Shop Drawings

.1 Submit shop drawings in accordance with Section 013300 – Submittal Procedures.

.2 Indicate details of construction, profiles, jointing, fastening and other related details.
  .1 Scales: profiles full size, details ½ full size.

.3 Indicate materials, thicknesses, finishes and hardware.

.4 Indicate typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.

1.3 Samples

.1 Submit samples as requested by Architect.

.2 Submit duplicate colour samples of laminated plastic for colour selection.

1.4 Delivery, Storage, and Handling

.1 Deliver, handle, store and protect materials of this section.

.2 Protect millwork against dampness and damage during and after delivery.

.3 Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.

1.5 Waste Management and Disposal

.1 Separate and recycle waste materials.

.2 Separate corrugated cardboard in accordance with Waste Management Plan and place in designated areas for recycling.

.3 Do not burn scrap at the project site.

.4 Fold up metal banding, flatten, and place in designated area for recycling.

PART 2 - PRODUCTS

2.1 Materials

.1 Softwood lumber: unless specified otherwise, S4S, moisture content 15% or

less in accordance with following standards:
.1 CAN/CSA-O141.
.2 NLGA Standard Grading Rules for Canadian Lumber.
.3 AWMAC custom grade.

.2 Machine stress-rated lumber is acceptable for all purposes.

.3 The manufacturing process must adhere to Lifecycle Assessment (LCA) Standards as per ISO 14040/14041 LCA Standards, CSA Z760 94 Life Cycle Assessment.

.4 Interior mat-formed wood particleboard: to ANSI A208.1.

.5 Douglas fir plywood (DFP): to CSA O121, standard construction.

.6 Canadian softwood plywood (CSP): to CSA O151, standard construction.

.7 Laminated plastic for flatwork and postforming work: choice by architect from full selection of Formica, Nevamar, and Arborite.

.8 Nails and staples: to CSA B111.

.9 Wood screws: type and size to suit application.

.10 Laminated plastic adhesive: as recommended by laminate manufacturer.
.1 Test for acceptable VOC emissions in accordance with ASTM D 2369 and ASTM D 2832.
.2 Acceptable materials: ECP-44.

2.2 Fabrication

.1 Set nails and countersink screws apply plain wood filler to indentations, sand smooth and leave ready to receive finish.

.2 Provide cutouts for plumbing fixtures.

.3 Shop assemble work for delivery to site in size easily handled and to ensure passage through building openings.

.4 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.

.5 Ensure adjacent parts of continuous laminate work match in colour and pattern.

.6 Veneer laminated plastic to core material in accordance with adhesive manufacturer's instructions. Ensure core and laminate profiles coincide to provide continuous support and bond over entire surface. Use continuous lengths without joints.

.7 Form shaped profiles and bends as indicated, using postforming grade laminate to laminate manufacturer's instructions.

.8 Chamfer exposed edges uniformly at approximately 20 degrees. Do not mitre laminate edges.

.9 Apply plastic laminate to all sides of plastic laminate work.

PART 3 - EXECUTION

3.1 Installation

.1 Do architectural woodwork to Quality Standards of the Architectural Woodwork Manufacturers Association of Canada (AWMAC), custom grade, except where specified otherwise.

.2 Install prefinished millwork at locations shown on drawings. Position accurately, level, plumb straight.

.3 Fasten and anchor millwork securely. Provide heavy duty fixture attachments for wall mounted cabinets.

.4 Scribe and cut as required to fit abutting walls and to fit properly into recesses and to accommodate piping, columns, fixtures, outlets or other projecting, intersecting or penetrating objects.

.5 At junction of plastic laminate counter back splash and adjacent wall finish, apply small bead of sealant.

.6 Fit hardware accurately and securely in accordance with manufacturer's written instructions.

3.2 Cleaning

.1 Clean millwork.

.2 Remove excess glue from surfaces.

3.3 Protection

.1 Protect millwork from damage until final inspection.

- END OF SECTION -

PART 1 - GENERAL

1.1 Related Sections

.1 Section 08 71 10 - Door Hardware - General: Supply of finish hardware, including mounting heights.

1.2 References

.1 American Society for Testing and Materials (ASTM International)
.1 ASTM A 653/A653M-01a, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 Canadian Steel Door Manufacturers' Association, (CSDMA).
.1 CSDMA, Specifications for Commercial Steel Doors and Frames, 1990.

1.3 Shop Drawings

.1 Submit shop drawings.

.2 Indicate each type of door, material, steel core thicknesses, mortises, reinforcements, location of exposed fasteners, openings, glazing, arrangement of hardware, fire-rating, and finishes.

.3 Indicate each type frame material, core thickness, reinforcements, stops, location of anchors and exposed fastenings and reinforcing, fire-rating, and finishes.

.4 Include schedule identifying each unit, with door marks and numbers relating to numbering on drawings and door schedule.

PART 2 - PRODUCTS

2.1 Materials

.1 Hot dipped galvanized steel sheet: to ASTM A 653M, ZF75, minimum base steel thickness in accordance with CSDMA Table 1 - Thickness for Component Parts, unless specified thicker.

.2 Reinforcement channel: to CSA G40.20/G40.21, Type 44W, coating designation to ASTM A 653M, ZF75.

2.2 Door and Panel Core Materials

.1 Stiffened: face sheets laminated, insulated core.
.1 Fibreglass: to CAN/ULC-S702, semi-rigid, density 24 kg/m^3.

2.3 Primer

.1 Touch-up prime CAN/CGSB-1.181.

2.4 Paint

.1 Field paint steel doors and frames. Provide final finish shall be free of scratches or other blemishes.

2.5 Accessories

.1 Door silencers: single stud rubber/neoprene type.

.2 Top and bottom caps: rigid polyvinylchloride extrusion conforming to CGSB 41-GP-19Ma.

.3 Metallic paste filler: to manufacturer's standard.

.4 Fire labels: metal riveted.

2.6 Frames Fabrication General

.1 Fabricate frames in accordance with CSDMA specifications.

.2 Fabricate frames to profiles and maximum

face sizes as indicated.

.3 Interior and exterior frames: 1.6 mm welded type construction unless noted otherwise. Immediately inform Architect if there will be installation issues using welded construction.

.4 Blank, reinforce, drill and tap frames for mortised, templated hardware, and electronic hardware using templates provided by finish hardware supplier. Reinforce frames for surface mounted hardware.

.5 Protect mortised cutouts with steel guard boxes.

.6 Prepare frame for door silencers, 3 for single door, 2 at head for double door.

.7 Manufacturer's nameplates on frames and screens are not permitted.

.8 Conceal fastenings except where exposed fastenings are indicated.

.9 Provide factory-applied touch up primer at areas where zinc coating has been removed during fabrication.

2.7 Frame Anchorage

.1 Provide appropriate anchorage to floor and wall construction.

.2 Locate each wall anchor immediately above or below each hinge reinforcement on hinge jamb and directly opposite on strike jamb.

.3 Provide 2 anchors for rebate opening heights up to 1520 mm and 1 additional anchor for each additional 760 mm of height or fraction thereof.

.4 Locate anchors for frames in existing openings not more than 150 mm from top and bottom of each jambs and intermediate at 660 mm o.c. maximum.

2.8 Frames: Welded Type

.1 Welding in accordance with CSA W59.

.2 Accurately mitre or mechanically joint frame product and securely weld on inside of profile.

.3 Cope accurately and securely weld butt joints of mullions, transom bars, centre rails and sills.

.4 Grind welded joints and corners to a flat plane, fill with metallic paste and sand to uniform smooth finish.

.5 Securely attach floor anchors to inside of each jamb profile.

.6 Weld in 2 temporary jamb spreaders per frame to maintain proper alignment during shipment.

2.9 Door Fabrication General

.1 Doors: swing type, flush.

.2 Interior and exterior doors: insulated hollow steel construction.

.3 Fabricate doors with longitudinal edges welded. Seams: grind welded joints to a flat plane, fill with metallic paste filler and sand to a uniform smooth finish.

.4 Blank, reinforce, drill doors and tap for mortised, templated hardware and electronic hardware.

.5 Factory prepare holes 12.7 mm diameter and larger except mounting and through-bolt holes, on site, at time of hardware installation.

.6 Reinforce doors where required, for surface mounted hardware.

.7 Provide factory-applied touch-up primer at areas where zinc coating has been removed during fabrication.

.8 Provide fire labelled doors for those openings requiring fire protection ratings, as scheduled. Test such products in strict conformance with CAN4-S104 and list by nationally recognized agency having factory inspection service and construct as detailed in Follow-Up Service Procedures/Factory Inspection Manuals issued by listing agency to individual manufacturers.

.9 Manufacturer's nameplates on doors are not permitted.

2.10 Hollow Steel Construction

.1 Form each face sheet for doors and panels from 1.6 mm sheet steel.

.2 Reinforce doors and panels with vertical stiffeners, securely laminated to each face sheet at 150 mm on centre maximum.

.3 Fill voids between stiffeners of doors and panels with fibreglass core.

PART 3 - EXECUTION

3.1 Installation General

.1 Install doors and frames to CSDMA Installation Guide.

3.2 Frame Installation

.1 Set frames plumb, square, level and at correct elevation.

.2 Secure anchorages and connections to adjacent construction.

.3 Brace frames rigidly in position while building-in. Install temporary horizontal wood spreader at third points of door opening to maintain frame width. Provide vertical support at centre of head for openings over 1200 mm wide. Remove temporary spreaders after frames are built-in.

.4 Make allowances for deflection of structure to ensure structural loads are not transmitted to frames.

.5 Caulk perimeter of frames between frame and adjacent material if gap exceeds 4 mm.

3.3 Door Installation

.1 Install doors and hardware in accordance with hardware templates and manufacturer's instructions and Section 08 71 10 - Door Hardware - General.

.2 Provide even margins between doors and jambs and doors and finished floor and thresholds as follows.
- .1 Hinge side: 1.0 mm.
- .2 Latchside and head: 1.5 mm.
- .3 Finished floor: 13 mm.

.3 Adjust operable parts for correct function.

3.4 Finish Repairs

.1 Touch up with primer finishes damaged during installation.

.2 Fill exposed frame anchors and surfaces with imperfections with metallic paste filler and sand to a uniform smooth finish.

- END OF SECTION -

PART 1 - GENERAL

1.1 Related Sections

.1 Section 01 33 00 – Submittal Procedures.

.2 Section 01 61 00 – Common Product Requirements.

.3 Section 01 78 00 – Closeout Submittals.

.4 Section 08 11 14 – Metal Doors and Frames.

.5 Section 26 05 01 – Common Work Results - Electrical.

1.2 REFERENCES

.1 Canadian Standards Association (CSA International)
.1 CSA B651-12, Accessible Design for the Built Environment.

.2 Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association.

1.3 QUALITY ASSURANCE

.1 Regulatory Requirements:
.1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.

.2 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

.3 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

.1 Packing, Shipping, Handling and Unloading:
.1 Package each item of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.

.2 Storage and Protection:
.1 Store finishing hardware in locked, clean and dry area.

1.5 WASTE DISPOSAL AND MANAGEMENT

.1 Separate and recycle waste materials.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

1.6 MAINTENANCE

.1 Extra Materials:
.1 Provide maintenance materials.
.2 Supply two sets of wrenches for door closers, locksets, and fire exit hardware.

PART 2 - PRODUCTS

2.1 HARDWARE ITEMS

.1 Use one manufacturer's products only for similar items.

2.2 DOOR HARDWARE

.1 Refer to Schedule:
.1 Washroom operators to be wireless. Acceptable auto operators as follows: HUNTER - HA8, HORTON AUTOMATICS – HD Swing 4100 series, KM System - 3100 Series, STANLEY Magic-Access, or Gyro Tech GT-710. Actuators to be 6” diameter recessed or to have black plastic escutheons.

2.3 TACTILE SIGNAGE

.1 Refer to Sign Schedule:
.1 Acceptable manufacturers: Miller McConnell, Tri-Pro, Signs.ca.
.2 Tactile signs are to be 1/8” thick

non-glare clear acrylic sign panel, back painted custom “City of Ottawa” colours (Pantone PMS 280, PMS 3278), centred on a 3/16” thick white PVC plastic backer painted white to avoid yellowing. PVC backer shall be ½” larger in both height and width than the corresponding non-glare acrylic in order to allow a ¼” wide border.

.3 Acrylic is to be adhered to the PVC backer with 3M Brand VHB- #4910.04 clear double-sided tape, or equivalent.

.4 All tactile lettering and pictograms are to be of 1/16” thick ADA Applique Substrate (modified acrylic, ROMARK, or equivalent). All tactile lettering and pictograms are to be engraved into the non-glare acrylic to a depth of 1/32” and the PVC installed into the corresponding engravings. Lettering to be 68 point minimum size.

.5 All Braille is to be bilingual clear dot industry standard Grade 1.

.6 Alternate approved fabrication method: Brailliant Touch.

2.4 FASTENINGS

.1 Use only fasteners provided by manufacturer. Failure to comply may void warranties and applicable licensed labels.

.2 Supply screws, bolts, expansion shields and other fastening devices required for satisfactory installation and operation of hardware.

.3 Exposed fastening devices to match finish of hardware.

.4 Use fasteners compatible with material through which they pass.

2.5 KEYING

.1 Key to City’s master system.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

.2 Furnish metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.

.3 Furnish manufacturers' instructions for proper installation of each hardware component.

3.2 INSTALLATION

.1 Install hardware to standard hardware location dimensions in accordance with Canadian Metric Guide for Steel Doors and Frames (Modular Construction) prepared by Canadian Steel Door and Frame Manufacturers' Association and to CAN/CSA B-651-12, Accessible Design for the Built Environment. Mount all door operating devices including handles, pulls, latches, and locks between 800 and 1200 mm from the floor. Install power door actuators, washroom occupancy indicators, and push to lock buttons at a centerline height of 1000 mm.

.2 Adjust closer opening force to not exceed 22 Newtons for interior doors and 38 Newtons for exterior doors. Adjust closer sweep period to be 5 seconds minimum.

.3 Use only manufacturer's supplied fasteners. Failure to comply may void manufacturer's warranties and applicable licensed labels. Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.

.4 Install permanent cores and check operation of locks.

.5 All hardware to be installed by an experienced and qualified installer.

.6 Install signs as indicated in sign schedule.
.1 Install signage at doors on the latch side, 150 mm from the edge of the door frame to the edge of the sign, at a centreline height of 1500. Install push to lock sign in both washrooms beside the push to lock button at a centerline height of 1000. Install the push emergency button sign as indicated on the drawings.
.2 Install all signs using 3M brand 1/32” thick very high bond double sided tape, or approved equivalent. Install tape around the back perimeter along all 4 sides.

3.3 ADJUSTING

.1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, and safety.

.2 Lubricate hardware, operating equipment and other moving parts.

.3 Adjust door hardware to provide tight fit at contact points with frames.

3.4 CLEANING

.1 Perform cleaning after installation to remove construction and accumulated environmental dirt.

.2 Clean hardware with damp rag and approved non-abrasive cleaner, and polish hardware in accordance with manufacturer’s instructions.

.3 Remove protective material from hardware items where present.

.4 Upon completion of installation, remove

surplus materials, rubbish, tools and equipment barriers.

3.5 HARDWARE SCHEDULE

Hardware Group No. 01

For use on Door #(s):
101
(MANOTICK)
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	210XY	628	IVE
1	EA	HARDWARE	RE-USE BALANCE OF EXISTING HARDWARE		UNK

Hardware Group No. 02

For use on Door #(s):
102
(MANOTICK)
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 127X114MM	652	IVE
1	EA	MORTISE CYLINDER	BY OWNER	626	UNK
1	EA	STOREROOM LOCK	L9080L 06B	626	SCH
1	EA	EMERG CALL KIT UNIV RESTRMSELECTRONIC ACCESSORY	CX-WEC10		CAM
1	EA	INTERFACE BOX	JB7		VON
1	EA	ELECTRIC STRIKE	6211 FSE 24VDC	630	VON
1	EA	AUTO OPERATOR	BY HARDWARE CONTRACTOR		UNK
2	EA	ACTUATOR WALL KIT MT	8310-3852WS	630	LCN
2	EA	RECEIVER	8310-865	689	LCN
1	EA	OCCUPANCY INDICATOR	CM-AF500 (Bilingual)	630	CAM
1	EA	PUSH TO LOCK/ANNUNCIATOR	CM-AF550R	630	CAM
1	EA	RELAY CONTROLLER	CX-33		CAM
1	EA	KICK PLATE	8400 200MM X LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	626	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902	LGR	SCE

Note: Key cylinders and locksets to owner’s standards.

Hardware Group No. 03

For use on Door #(s):
103
(MANOTICK)
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 127X114MM NRP	652	IVE
1	EA	MORTISE CYLINDER	BY OWNER	626	UNK
1	EA	STOREROOM LOCK	L9080L 06B	626	SCH
1	EA	SURFACE CLOSER	1461 REG H	689	LCN
1	EA	KICK PLATE	8400 200MM X LDW B-CS	630	IVE

Note: Key cylinders and locksets to owner’s standards. Reuse existing electric strike and hold-open device from removed door.

- END OF SECTION -

SIGN SCHEDULE

Sign ID#	Sign Size	Sign Location	Sign Text	Remarks
1	6.5" X 6.5"	DOOR #101	MEETING (match other existing meeting room sign)	PUSH SIDE OF DOOR
2	6.5" X 6.5"	DOOR #102	FEMALE, MALE, MOBILITY, WASHROOM (reuse existing)	PUSH SIDE OF DOOR
3	6.5" X 6.5"	WC1-4	PUSH TO LOCK DOOR	LOCATE AS PER DRAWINGS
4	14" X 23.5"	WC1-4	PUSH EMERGENCY BUTTON	LOCATE AS PER DRAWINGS
5	12" X 18"	WC1-4	CHANGE STATION (NO BRAILLE)	ABOVE CHANGE TABLE
6	6.5" X 6.5"	DOOR #103	MEETING (reuse existing from removed door)	PUSH SIDE OF DOOR

NOTE: SIGNS TO MEET CITY OF OTTAWA SPECIFICATIONS. ALL NEW SIGNS TO HAVE PICTOGRAMS AND BE TACTILE, IN ENGLISH, FRENCH, AND GRADE 1 BRAILLE BILINGUALLY UNLESS NOTED OTHERWISE. SEE ATTACHED SAMPLES. REFER TO DOOR HARDWARE SPECIFICATION. SUBMIT SHOP DRAWINGS FOR REVIEW.

actual sign

braille translation

Change (Station) - *bilingual*
Size: 18" wide x 12" high
(3 copies)
Letters not less than 25millimetres (1 inch) high with a minimum five millimetre stoke

PLEASE DO NOT LEAVE CHILD UNATTENDED ON CHANGE STATIONS.

LES ENFANTS DOIVENT ÊTRE SURVEILLÉS EN TOUT TEMPS SUR LES TABLES À LANGER.

(insert universal icon for Baby change station to the right of text)

Example:

TYPE I 21

IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY BUTTON AND AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE

EN CAS D'URGENCE APPUYER SUR LE BOUTON DE SECOURS, CE QUI DÉCLENCHERA UN SIGNAL SONORE ET VISUEL

IN THE EVENT OF AN EMERGENCY
PUSH EMERGENCY BUTTON AND
AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE
EN CAS D'URGENCE
APPUYER SUR LE BOUTON DE SECOURS,
CE QUI DÉCLENCHERA UN SIGNAL SONORE ET VISUEL

actual sign

braille translation

PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 09 22 16 – Non-Structural Metal Framing.

1.2 REFERENCES

.1 Aluminum Association
  .1 Designation for Aluminum Finishes-1997.

.2 American Society for Testing and Materials International, (ASTM)
  .1 ASTM C 36/C36M-01, Specification for Gypsum Wallboard.
  .2 ASTM C 79/C79M-01, Standard Specification for Treated Core and Non-treated Core Gypsum Sheathing Board.
  .3 ASTM C 442/C442M-01, Specification for Gypsum Backing Board, Gypsum Coreboard, and Gypsum Shaftliner Board.
  .4 ASTM C 475-01, Specification for Joint Compound and Joint Tape for Finishing Gypsum Board.
  .5 ASTM C 840-01, Specification for Application and Finishing of Gypsum Board.
  .6 ASTM C 954-00, Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness.
  .7 ASTM C 1002-01, Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
  .8 ASTM C 1047-99, Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base.
  .9 ASTM C 1280-99, Specification for Application of Gypsum Sheathing Board.

.3 Association of the Wall and Ceilings Industries International (AWEI)

.4 Canadian General Standards Board (CGSB)
.1 CAN/CGSB-51.34-M86(R1988), Vapour Barrier, Polyethylene Sheet for Use in Building Construction.

.5 Underwriters' Laboratories of Canada (ULC)
.1 CAN/ULC-S702-97, Thermal Insulation Mineral Fibre for Buildings.
.2 CAN/ULC-S102-1988(R2000), Surface Burning Characteristics of Building Materials and Assemblies.

1.3 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials in original packages, containers or bundles bearing manufacturers brand name and identification.

.2 Store materials inside, level, under cover. Keep dry. Protect from weather, other elements and damage from construction operations and other causes.

.3 Handle gypsum boards to prevent damage to edges, ends or surfaces. Protect metal accessories and trim from being bent or damaged.

1.4 SITE ENVIRONMENTAL REQUIREMENTS

.1 Maintain temperature minimum 10 degrees C, maximum 21 degrees C for 48 hours prior to and during application of gypsum boards and joint treatment, and for at least 48 hours after completion of joint treatment.

.2 Apply board and joint treatment to dry, frost free surfaces.

.3 Ventilation: Ventilate building spaces as required to remove excess moisture that

would prevent drying of joint treatment material immediately after its application.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Divert all unused materials from landfill to gypsum recycling facility for disposal.

.3 Do not dispose of unused paint and caulking materials into sewer systems, into lakes, streams, onto ground or in other locations where it will pose health or environmental hazard.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Standard board: to ASTM C 36/C36M regular, 15.9 mm thick Type X, 1200 mm wide x maximum practical length, ends square cut, edges rounded.

.2 Metal furring runners, hangers, tie wires, inserts, anchors.

.3 Drywall furring channels: 0.5 mm core thickness galvanized steel channels for screw attachment of gypsum board.

.4 Laminating compound: as recommended by manufacturer, asbestos-free.

.5 Casing beads, corner beads, control joints and edge trim: to ASTM C 1047, zinc-coated by electrolytic process, 0.5 mm base thickness, perforated flanges, one piece length per location.

.6 Mineral fibre insulation: Roxul Safe'n'Sound Steel Stud mineral wool batt, 76 mm thick.

.7 Acoustic sealant.

.8 Insulating strip: rubberized, moisture resistant, 3 mm thick cork closed cell neoprene strip, 12 mm wide, with self-sticking permanent adhesive on one face, lengths as required.

.9 Joint compound: to ASTM C 475, asbestos-free.

PART 3 - EXECUTION

3.1 ERECTION

.1 Do application and finishing of gypsum board in accordance with ASTM C 840 except where specified otherwise.

.2 Do application of gypsum sheathing in accordance with ASTM C 1280.

.3 Erect hangers and runner channels for suspended gypsum board ceilings in accordance with ASTM C 840 except where specified otherwise.

.4 Support light fixtures by providing additional ceiling suspension hangers within 150 mm of each corner and at maximum 600 mm around perimeter of fixture.

.5 Install work level to tolerance of 1:1200.

.6 Frame with furring channels, perimeter of openings for access panels, light fixtures, diffusers, grilles.

.7 Install 19 x 64 mm furring channels parallel to, and at exact locations of steel stud partition header track.

.8 Furr for gypsum board faced vertical bulkheads within and at termination of ceilings.

.9 Furr above suspended ceilings for gypsum board fire and sound stops and to form plenum areas as indicated.

.10 Install wall furring for gypsum board wall finishes in accordance with ASTM C 840, except where specified otherwise.

.11 Furr openings and around built-in equipment, cabinets, access panels, on four sides. Extend furring into reveals. Check clearances with equipment suppliers.

.12 Furr duct shafts, beams, columns, pipes and exposed services where indicated.

3.2 APPLICATION

.1 Do not apply gypsum board until bucks, anchors, blocking, sound attenuation, electrical and mechanical work are approved.

.2 Apply single and double layer gypsum board to metal furring or framing using screw fasteners. Maximum spacing of screws 300 mm on centre.

.1 Single-Layer Application:

.1 Apply gypsum board on ceilings prior to application of walls in accordance with ASTM C 840.

.2 Apply gypsum board vertically or horizontally, providing sheet lengths that will minimize end joints.

.2 Double-Layer Application:

.1 Install gypsum board for base layer and exposed gypsum board for face layer.

.2 Apply base layer to ceilings prior to base layer application on walls; apply face layers in same sequence. Offset joints between layers at least 250 mm.

.3 Apply base layers at right angles to supports unless otherwise indicated.

.4 Apply base layer on walls and face layers vertically with joints of base layer over supports and face layer joints offset at least 250 mm with base layer joints.

.3 Apply water-resistant gypsum board adjacent to sinks. Apply water-resistant sealant to edges, ends, cut-outs which expose gypsum core and to fastener heads.

.4 Apply 12 mm diameter bead of acoustic sealant continuously around periphery of each face of partitioning to seal gypsum board/structure junction where partitions abut fixed building components. Seal full perimeter of cut-outs around electrical boxes, ducts, in partitions where perimeter sealed with acoustic sealant.

.5 Install ceiling boards in direction that will minimize number of end-butt joints. Stagger end joints at least 250 mm.

.6 Install gypsum board on walls vertically to avoid end-butt joints. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs, except where local codes or fire-rated assemblies require vertical application.

.7 Install gypsum board with face side out.

.8 Do not install damaged or damp boards.

.9 Locate edge or end joints over supports. Stagger vertical joints over different studs on opposite sides of wall.

3.3 INSTALLATION

.1 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces where practical. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges. Secure at 150 mm on centre.

.2 Install casing beads around perimeter of suspended ceilings.

.3 Install casing beads where gypsum board butts against surfaces having no trim concealing junction and where indicated. Seal joints with sealant.

.4 Install insulating strips continuously at edges of gypsum board and casing beads abutting metal window and exterior door frames, to provide thermal break.

.5 Install access doors to electrical and mechanical fixtures specified in respective sections.
.1 Rigidly secure frames to furring or framing systems.

.6 Finish face panel joints and internal angles with joint system consisting of joint compound, joint tape and taping compound installed according to manufacturer's directions and feathered out onto panel faces.

.7 Gypsum Board Finish: finish gypsum board walls and ceilings to following levels in accordance with Association of the Wall and Ceiling Industries (AWCI) International Recommended Specification on Levels of Gypsum Board Finish:
.1 Levels of finish:
.1 Level 5: Embed tape for joints and interior angles in joint compound and apply three separate coats of joint compound over joints, angles, fastener heads and accessories; apply

a thin skim coat of joint compound to entire surface; surfaces smooth and free of tool marks and ridges.

.8 Finish corner beads and trim as required with two coats of joint compound and one coat of taping compound, feathered out onto panel faces.

.9 Fill screw head depressions with joint and taping compounds to bring flush with adjacent surface of gypsum board so as to be invisible after surface finish is completed.

.10 Sand lightly to remove burred edges and other imperfections. Avoid sanding adjacent surface of board.

.11 Completed installation to be smooth, level or plumb, free from waves and other defects and ready for surface finish.

.12 Apply one coat of white primer sealer over surface to be textured. When dry apply textured finish in accordance with manufacturer's instructions.

.13 For skim coat mix joint compound slightly thinner than for joint taping.

.14 Apply thin coat to entire surface using trowel or drywall broadknife to fill surface texture differences, variations or tool marks.

.15 Allow skim coat to dry completely.

.16 Remove ridges by light sanding or wiping with damp cloth.

.17 Provide protection that ensures gypsum drywall work will remain without damage or deterioration at time of substantial completion.

-END OF SECTION-

PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 09 21 16 - Gypsum Board Assemblies.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM).
.1 ASTM C 645-00, Specification for Nonstructural Steel Framing Members.
.2 ASTM C 754-00, Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.

1.3 QUALITY ASSURANCE

.1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.

.2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.2 Divert unused metal materials from landfill to metal recycling facility.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Non-load bearing channel stud framing: to ASTM C 645, stud size as indicated, roll formed from 0.91 mm thickness hot dipped galvanized steel sheet, for screw attachment of gypsum board. Knock-out service holes at 460 mm centres.

.2 Floor and ceiling tracks: to ASTM C 645, in widths to suit stud sizes, 32 & 50 mm flange height.

.3 Insulating strip: rubberized, moisture resistant 3 mm thick foam strip, 12 mm wide, with self-sticking adhesive on one face, lengths as required.

PART 3 - EXECUTION

3.1 ERECTION

.1 Align partition tracks at floor and ceiling and secure at 600 mm on centre maximum.

.2 Install damp proof course under stud shoe tracks of partitions on slabs on grade. Install insulating strip along full length of studs in contact with exterior wall masonry.

.3 Place studs vertically on centre as noted on drawings and not more than 50 mm from abutting walls, and at each side of openings and corners. Position studs in tracks at floor and ceiling. Cross brace steel studs as required to provide rigid installation to manufacturer's instructions.

.4 Erect metal studding to tolerance of 1:1000.

.5 Attach studs to bottom track.

.6 Co-ordinate simultaneous erection of studs with installation of service lines. When erecting studs ensure web openings are aligned.

.7 Co-ordinate erection of studs with installation of door/window frames and special supports or anchorage for work specified in other Sections.

.8 Provide two studs extending from floor to ceiling at each side of openings wider than stud centres specified. Secure studs together, using column clips or other approved means of fastening placed alongside frame anchor clips.

.9 Install double jamb studs at openings.

.10 Erect track at head of door/window openings and sills of sidelight/window openings to accommodate intermediate studs. Secure track to studs at each end, in accordance with manufacturer's instructions. Install intermediate studs above and below openings in same manner and spacing as wall studs.

.11 Frame openings and around built-in equipment, cabinets, access panels, on four sides. Extend framing into reveals. Check clearances with equipment suppliers.

.12 Provide 40 mm stud or furring channel secured between studs for attachment of fixtures behind lavatory basins, toilet and bathroom accessories, and other fixtures including grab bars and towel rails, attached to steel stud partitions.

.13 Install steel studs or furring channel between studs for attaching electrical and other boxes.

.14 Extend partitions to heights as noted on drawings.

.15 Maintain clearance under beams and structural slabs to avoid transmission of structural loads to studs. Use double track slip joint.

.16 Install continuous insulating strips to isolate studs from uninsulated surfaces.

.17 Install two continuous beads of acoustical sealant under studs and tracks around perimeter of all partitions.

3.2 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

-END OF SECTION-

PART 1 - GENERAL

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

1.2 Samples

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit duplicate 300 x 300 mm sample pieces of sheet material, and 300 mm long base.

1.3 Closeout Submittals

.1 Provide maintenance data for resilient flooring for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

1.4 Extra Materials

.1 Provide extra materials of resilient sheet flooring and adhesives in accordance with Section 01 78 00 - Closeout Submittals.

.2 Provide 6 m^2 of each colour, pattern and type flooring material required for project for maintenance use.

.3 Extra materials to be in one piece and from same production run as installed materials.

.4 Clearly identify each roll of sheet flooring and each container of adhesive.

.5 Deliver to Owner, upon completion of the work of this section.

.6 Store where directed by Owner.

1.5 Environmental Requirements

.1 Maintain air temperature and structural base temperature at flooring installation area above 20° for 48 hours before, during and 48 hours after installation.

1.6 Waste Management and Disposal

.1 Separate and recycle waste materials.

.2 Do not dispose of unused sealant and adhesive materials into landfill. Divert materials to municipal hazardous materials depot.

.3 Divert all unused materials and packaging materials to appropriate recycling facility.

1.7 Quality Control

.1 Installer must be certified by the flooring manufacturer. Provide evidence of certification.

Part 2 – Products

2.1 Materials

.1 Resilient sheet flooring:
.1 Pattern: Altro Walkway 20, colour by architect from full range of 44 colours.
.2 Thickness: 2.0 mm.

.2 Resilient sheet flash cove base (Washroom):
.1 Type: Altro Walkway 20.
.2 Thickness: 2.0 mm.
.3 Height: 102 mm.
.4 Colour: Selected by Architect to match floor.

.3 Primers and adhesives: of types recommended by resilient flooring manufacturer for specific material on applicable substrate, above, on or below grade.

.4 Sub-floor filler and leveller: as recommended by flooring manufacturer for use with their product.

.5 Provide Schluter metal edge strips of width shown on the drawings and of required thickness to protect exposed edges of the flooring. Provide units of maximum available length to minimize the number of joints. Use butt-type metal edge strips for concealed anchorage, or overlap-type metal edge strips for exposed anchorage. Unless otherwise shown, provide strips made of extruded aluminum with a mill finish.

PART 3 - EXECUTION

3.1 Site Verification of Conditions

.1 Ensure concrete floors are clean and dry by using test methods recommended by flooring manufacturer.

3.2 Preparation

.1 Old flooring to be removed by trained personnel. Shot blast existing concrete slab to mechanically remove all glue residue. Remove any ridges and bumps. Fill low spots, cracks, joints, holes and other defects with manufacturer recommended filler.

.2 Clean floor and apply filler; trowel and float to leave smooth, flat hard surface. Prohibit traffic until filler cured and dry.

3.3 Application: Flooring

.1 Provide a high ventilation rate, with maximum outside air, during installation, and for 48 hours after installation. If possible, vent directly to the outside. Do

not let contaminated air recirculate through a district or whole building air distribution system.

.2 To minimize emissions from adhesives, use water-based, solvent-free styrene-butadiene-rubber adhesive for linoleum. Butadiene exposure may cause eye and nose irritation, headaches, dizziness, and vomiting.

.3 Apply low VOC water based adhesive uniformly using recommended trowel. Do not spread more adhesive than can be covered by flooring before initial set takes place.

.4 Lay flooring with seams parallel to building lines to produce a minimum number of seams. Border widths minimum 1/3 width of full material.

.5 Run sheets in direction of traffic. Double cut sheet joints and heat weld according to manufacturer's printed instructions.

.6 As installation progresses, and after installation roll flooring with 45 kg minimum roller to ensure full adhesion.

.7 Cut flooring neatly around fixed objects.

.8 Continue flooring over areas which will be under built-in furniture.

.9 Terminate flooring at centreline of door in openings where adjacent floor finish or colour is dissimilar.

.10 Install metal edge strips conforming to CAN/CSA-B651-12 at unprotected or exposed edges where flooring terminates.

.11 Install flooring around floor drain to manufacturer’s printed instructions.

3.4 Application: Base

.1 Lay out base to keep number of joints at minimum.

.2 Clean substrate and prime with one coat of adhesive.

.3 Apply adhesive to back of base.

.4 Set base against cove former for flash cove tightly by using 3 kg hand roller.

.5 Install straight and level to variation of 1:1000.

.6 Scribe and fit to door frames and other obstructions.

.7 Install flash base internal and external corners to manufacturer’s printed instructions. Heat weld all flash base joints.

.8 Install stainless steel cap strip at top of flash cove base.

3.5 Cleaning

.1 Remove excess adhesive from floor, base and wall surfaces without damage.

.2 Clean floor and base surfaces to flooring manufacturer's printed instructions.

3.6 Protection

.1 Protect new floors from damage until final inspection.

.2 Prohibit traffic on floor for 48 hours after installation.

- END OF SECTION -

PART 1 - GENERAL

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 01 61 00 - Common Product Requirements.

.3 Section 01 78 00 - Closeout Submittals.

1.2 References

.1 Architectural Painting Specifications Manual, Master Painters Institute (MPI).

.2 Test Method for Measuring Total Volatile Organic Compound Content of Consumer Products, Method 24 (for Surface Coatings) of the Environmental Protection Agency (EPA).

1.3 Quality Assurance

.1 Contractor shall have a minimum of five years proven satisfactory experience. When requested, provide a list of last three comparable jobs including, job name and location, specifying authority, and project manager.

.2 Qualified journeymen who have a "Tradesman Qualification Certificate of Proficiency" shall be engaged in painting work. Apprentices may be employed provided they work under the direct supervision of a qualified journeyman in accordance with trade regulations.

.3 Conform to latest MPI requirements for interior painting work including preparation and priming.

.4 Materials (primers, paints, coatings, varnishes, stains, lacquers, fillers, thinners, solvents, etc.) shall be in accordance with MPI Painting Specification Manual "Approved Product" listing and

shall be from a single manufacturer for each system used.

.5 Retain purchase orders, invoices and other documents to prove conformance with noted MPI requirements when requested by Architect.

.6 Standard of Acceptance:
.1 Walls: No defects visible from a distance of 1000 mm at 90° to surface.
.2 Final coat to exhibit uniformity of colour and uniformity of sheen across full surface area.

1.4 Environmental Performance Requirements

.1 Provide paint products meeting MPI "Environmentally Friendly", E2 ratings based on VOC (EPA Method 24) content levels.

.2 Use only MPI listed materials having a minimum E2 rating.

1.5 Scheduling of Work

.1 Submit work schedule for various stages of painting to Consultant for approval. Submit schedule minimum of 48 hours in advance of proposed operations.

.2 Obtain written authorization from Consultant for any changes in work schedule.

.3 Schedule painting operations to prevent disruption of occupants in and about the building.

1.6 Submittals

.1 Submit product data and manufacturer's installation/application instructions for each paint and coating product to be used in accordance with Section 01 33 00 - Submittal Procedures.

.2 Upon completion, submit records of products used. List products in relation

to finish system and include the following:
.1 Product name, type and use.
.2 Manufacturer's product number.
.3 Colour numbers.
.4 MPI Environmentally Friendly classification system rating.
.5 Manufacturer's Material Safety Data Sheets (MSDS).

1.7 Samples

.1 Submit full range colour sample chips in accordance with Section 01 33 00 - Submittal Procedures.

1.8 Extra Materials

.1 Submit maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.

.2 Submit one - four litre can of each type and colour of finish coating. Identify colour and paint type in relation to established colour schedule and finish system.

.3 Deliver to Owner and store where directed.

1.9 Delivery, Handling and Storage

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Labels shall clearly indicate:
.1 Manufacturer's name and address.
.2 Type of paint or coating.
.3 Compliance with applicable standard.
.4 Colour number in accordance with established colour schedule.

.3 Remove damaged, opened and rejected materials from site.

.4 Provide and maintain dry, temperature controlled, secure storage.

.5 Observe manufacturer's recommendations for storage and handling.

.6 Store materials and supplies away from heat generating devices.

.7 Store materials and equipment in a well ventilated area with temperature range 7° C to 30° C.

.8 Store temperature sensitive products above minimum temperature as recommended by manufacturer.

.9 Keep areas used for storage, cleaning and preparation, clean and orderly to approval of Consultant. After completion of operations, return areas to clean condition to approval of Consultant.

.10 Remove paint materials from storage only in quantities required for same day use.

.11 Fire Safety Requirements:
.1 Provide one 9 kg dry chemical fire extinguisher adjacent to storage area.
.2 Store oily rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
.3 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.10 Site Requirements

.1 Heating, Ventilation and Lighting:
.1 Ventilate enclosed spaces.
.2 Perform no painting work unless adequate and continuous ventilation and sufficient heating facilities are in place to maintain ambient air and substrate temperatures above 10 ° C for 24 hours before, during and after paint application until paint has cured sufficiently.

.3 Where required, provide continuous ventilation for seven days after completion of application of paint.
.4 Provide temporary ventilating and heating equipment where permanent facilities are not available or supplemental ventilating and heating equipment if ventilation and heating from existing system is inadequate to meet minimum requirements.
.5 Perform no painting work unless a minimum lighting level of 323Lux is provided on surfaces to be painted. Adequate lighting facilities shall be provided by General Contractor.

.2 Temperature, Humidity and Substrate Moisture Content Levels:
.1 Unless specifically pre-approved by the specifying body, and the applied product manufacturer, perform no painting work when:
.1 Ambient air and substrate temperatures are below 10 ° C.
.2 Substrate temperature is over 32 ° C unless paint is specifically formulated for application at high temperatures.
.3 Substrate and ambient air temperatures are expected to fall outside MPI or paint manufacturer's prescribed limits.
.4 The relative humidity is above 85% or when the dew point is less than 3 ° C variance between the air/surface temperature.
.5 Rain or snow are forecast to occur before paint has thoroughly cured or when it is foggy, misty, raining or snowing at site.
.2 Perform no painting work when the maximum moisture content of the substrate exceeds:
.1 12% for concrete and masonry (clay and concrete brick/block).
.2 15% for wood.

.3 12% for plaster and gypsum board.

.3 Conduct moisture tests using a properly calibrated electronic Moisture Meter, except test concrete floors for moisture using a simple "cover patch test".

.4 Test concrete, masonry and plaster surfaces for alkalinity as required.

.3 Surface and Environmental Conditions:

.1 Apply paint finish only in areas where dust is no longer being generated by related construction operations or when wind or ventilation conditions are such that airborne particles will not affect quality of finished surface.

.2 Apply paint only to adequately prepared surfaces and to surfaces within moisture limits noted herein.

.3 Apply paint only when previous coat of paint is dry or adequately cured.

.4 Additional Interior Application Requirements:

.1 Apply paint finishes only when temperature at location of installation can be satisfactorily maintained within manufacturer's recommendations.

.2 Apply paint in occupied facilities during silent hours only. Schedule operations to approval of Consultant Owner Architect such that painted surfaces will have dried and cured sufficiently before occupants are affected.

1.11 Waste Management and Disposal

.1 Separate and recycle waste materials.

.2 Paint finishes and related materials (thinners, solvents, etc.,) are regarded as hazardous products and are subject to regulations for disposal. Information on these controls can be obtained from Provincial Ministries of Environment and Regional levels of Government.

.3 Material which cannot be reused must be treated as hazardous waste and disposed of in an appropriate manner.

.4 Place materials defined as hazardous or toxic waste, including used sealant and adhesive tubes and containers, in containers or areas designated for hazardous waste.

.5 To reduce the amount of contaminants entering waterways, sanitary/storm drain systems or into ground the following procedures shall be strictly adhered to:
.1 Retain cleaning water for water-based materials to allow sediments to be filtered out.
.2 Retain cleaners, thinners, solvents and excess paint and place in designated containers and ensure proper disposal.
.3 Return solvent and oil soaked rags used during painting operations for contaminant recovery, proper disposal, or appropriate cleaning and laundering.
.4 Dispose of contaminants in an approved legal manner in accordance with hazardous waste regulations.
.5 Empty paint cans are to be dry prior to disposal or recycling (where available).

.6 Where paint recycling is available, collect waste paint by type and provide for delivery to recycling or collection facility.

.7 Close and seal tightly partly used sealant and adhesive containers and store protected in well ventilated fire-safe area at moderate temperature.

PART 2 - PRODUCTS

2.1 Materials

.1 Paint materials for paint systems shall be products of a single manufacturer.

.2 Only qualified products with E2 "Environmentally Friendly" rating are acceptable for use on this project.

.3 Paints, coatings, adhesives, solvents, cleaners, lubricants, and other fluids, shall:

.1 be water-based.

.2 be non-flammable, biodegradable.

.3 be manufactured without compounds which contribute to ozone depletion in the upper atmosphere.

.4 be manufactured without compounds which contribute to smog in the lower atmosphere.

.5 do not contain methylene chloride, chlorinated hydrocarbons, toxic metal pigments.

.4 Water-borne surface coatings must be manufactured and transported in a manner that steps of process, including disposal of waste products arising there from, will meet requirements of applicable governmental acts, by-laws and regulations including, for facilities located in Canada, Fisheries Act and Canadian Environmental Protection Act (CEPA).

.5 Water-borne surface coatings must not be formulated or manufactured with aromatic solvents, formaldehyde, halogenated solvents, mercury, lead, cadmium, hexavelant chromium or their compounds.

.6 Water-borne surface coatings and recycled water-borne surface coatings must have a flash point of 61.0 ° C or greater.

.7 Both water-borne surface coatings and recycled water-borne surface coatings must be made by a process that does not release:
.1 Matter in undiluted production plant effluent generating a 'Biochemical Oxygen Demand' (BOD) in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.
.2 Total Suspended Solids (TSS) in undiluted production plant effluent in excess of 15 mg/L to a natural watercourse or a sewage treatment facility lacking secondary treatment.

.8 Water-borne paints and stains, recycled water-borne surface coatings and water borne varnishes must meet a minimum "Environmentally Friendly" E2 rating.

.9 Recycled water-borne surface coatings must contain 50 % post-consumer material by volume.

.10 Recycled water-borne surface coatings must not contain:
.1 Lead in excess of 600.0 ppm weight/weight total solids.
.2 Mercury in excess of 50.0 ppm weight/weight total product.
.3 Cadmium in excess of 1.0 ppm weight/weight total product.
.4 Hexavelant chromium in excess of 3.0 ppm weight/weight total product.
.5 Organochlorines or polychlorinated biphenyls (PCBS) in excess of 1.0 ppm weight/weight total product.

.11 The following must be performed on each batch of consolidated post-consumer material before surface coating is reformulated and canned. These tests must be performed at a laboratory or facility which has been accredited by the Standards Council of Canada.
.1 Lead, cadmium and chromium are to be

determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in EPA SW-846.

.2 Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in EPA SW-846.

.3 Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in EPA SW-846.

2.2 Colours

.1 Colours by architect.

.2 Second coat in a three coat system to be tinted slightly lighter colour than top coat to show visible difference between coats.

2.3 Mixing and Tinting

.1 Perform colour tinting operations prior to delivery of paint to site. On-site tinting of painting materials is allowed only with Architect's written permission.

.2 Paste, powder or catalyzed paint mixes shall be mixed in strict accordance with manufacturer's written instructions.

.3 Where thinner is used, addition shall not exceed paint manufacturer's recommendations. Do not use kerosene or any such organic solvents to thin water-based paints.

.4 Thin paint for spraying according in strict accordance with paint manufacturer's instructions. If directions are not on container, obtain instructions in writing from manufacturer and provide copy of instructions to Architect.

.5 Re-mix paint in containers prior to and

during application to ensure break-up of lumps, complete dispersion of settled pigment, and colour and gloss uniformity.

2.4 Gloss/Sheen Ratings

.1 Paint gloss shall be defined as the sheen rating of applied paint, in accordance with the following values:

Gloss Level Category	Units @ 60°	Units @ 85°
G1 - matte finish	0 to 5	max. 10
G2 - velvet finish	0 to 10	10 to 35
G3 - eggshell finish	10 to 25	10 to 35
G4 - satin finish	20 to 35	min. 35
G5 - semi-gloss finish	35 to 70	
G6 - gloss finish	70 to 85	
G7 - high gloss finish	> 85	

.2 Gloss level ratings of painted surfaces shall be as specified herein.

2.5 Interior Painting Systems

.1 Galvanized Metal: doors, frames, misc. steel, etc.
.1 INT 5.3J Latex semi-gloss finish (over waterborne primer).
.2 RIN 5.3A - Latex finish, semi-gloss, for repainting existing doors and frames.

.2 Gypsum Board: gypsum wallboard, drywall, etc.
.1 INT 9.2A - Latex finish, semi-gloss.
.2 RIN 9.2A - Latex finish, gloss to match existing, for repainting existing painted surfaces.

PART 3 - EXECUTION

3.1 General

.1 Perform preparation and operations for interior painting in accordance with MPI Painting Specifications Manual except where specified otherwise.

.2 Apply paint materials in accordance with paint manufacturer's written application instructions.

3.2 Existing Conditions

.1 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Architect damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.

.2 Conduct moisture testing of surfaces to be painted using a properly calibrated electronic moisture meter, except test concrete floors for moisture using a simple "cover patch test" and report findings to Architect. Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.

3.3 Protection

.1 Protect existing building surfaces and adjacent structures from paint spatters, markings and other damage by suitable non-staining covers or masking. If damaged, clean and restore such surfaces as directed by Architect.

.2 Protect items that are permanently attached such as Fire Labels on doors and frames.

.3 Protect factory finished products and equipment.

.4 Protect passing pedestrians, building occupants and general public in and about the building.

.5 Removal of electrical cover plates, light fixtures, surface hardware on doors, bath accessories and other surface mounted equipment, fittings and fastenings shall be done prior to undertaking any painting operations by General Contractor. Items shall be securely stored and re-installed after painting is completed by General Contractor.

.6 Move and cover furniture and portable equipment as necessary to carry out painting operations. Replace as painting operations progress.

.7 As painting operations progress, place "WET PAINT" signs in occupied areas to approval of Architect.

3.4 Cleaning and Preparation

.1 Clean and prepare surfaces in accordance with MPI Painting Specification Manual requirements. Refer to MPI Manual in regard to specific requirements and as follows:

.1 Remove dust, dirt, and other surface debris by vacuuming, wiping with dry, clean cloths or compressed air.

.2 Wash surfaces with a biodegradable detergent and bleach where applicable and clean warm water using a stiff bristle brush to remove dirt, oil and other surface contaminants.

.3 Rinse scrubbed surfaces with clean water until foreign matter is flushed from surface.

.4 Allow surfaces to drain completely and allow to dry thoroughly.

.5 Prepare surfaces for water-based painting, water-based cleaners should be used in place of organic solvents.

.6 Use trigger operated spray nozzles for water hoses.

.7 Many water-based paints cannot be removed with water once dried. However, minimize the use of kerosene or any such organic solvents to clean up water-based paints.

.2 Prevent contamination of cleaned surfaces by salts, acids, alkalis, other corrosive chemicals, grease, oil and solvents before prime coat is applied and between applications of remaining coats. Apply primer, paint, or pretreatment as soon as possible after cleaning and before deterioration occurs.

.3 Sand and dust between coats as required to provide adequate adhesion for next coat and to remove defects visible from a distance up to 1000 mm.

.4 Where possible, prime surfaces of new wood surfaces before installation. Use same primers as specified for exposed surfaces.

.1 Apply vinyl sealer to MPI #36 over knots, pitch, sap and resinous areas.

.2 Apply wood filler to nail holes and cracks.

.3 Tint filler to match stains for stained woodwork.

.5 Clean metal surfaces to be painted by removing rust, loose mill scale, welding slag, dirt, oil, grease and other foreign substances in accordance with MPI requirements. Remove traces of blast products from surfaces, pockets and corners to be painted by brushing with clean brushes, blowing with clean dry compressed air, or vacuum cleaning.

.6 Touch up of shop primers with primer as specified in applicable section. Major touch-up including cleaning and painting

of field connections, welds, rivets, nuts, washers, bolts, and damaged or defective paint and rusted areas, shall be by supplier of fabricated material.

.7 Do not apply paint until prepared surfaces have been accepted by Architect.

3.5 Application

.1 Method of application to be as approved by Architect. Apply paint by brush, roller, air sprayer, airless sprayer. A minimum of 2 finish coats plus primer is required on all new unpainted surfaces. Conform to manufacturer's application instructions unless specified otherwise.

.2 Brush and Roller Application:

.1 Apply paint in a uniform layer using brush and/or roller of types suitable for application.

.2 Work paint into cracks, crevices and corners.

.3 Paint surfaces and corners not accessible to brush using spray, daubers and/or sheepskins. Paint surfaces and corners not accessible to roller using brush, daubers or sheepskins.

.4 Brush and/or roll out runs and sags, and over-lap marks. Rolled surfaces shall be free of roller tracking and heavy stipple unless approved by Consultant Architect.

.5 Remove runs, sags and brush marks from finished work and repaint.

.3 Spray application:

.1 Provide and maintain equipment that is suitable for intended purpose, capable of properly atomizing paint to be applied, and equipped with suitable pressure regulators and gauges.

.2 Keep paint ingredients properly mixed in containers during paint application either by continuous mechanical agitation or by intermittent agitation as frequently

as necessary.
.3 Apply paint in a uniform layer, with overlapping at edges of spray pattern.
.4 Brush out immediately all runs and sags.
.5 Use brushes to work paint into cracks, crevices and places which are not adequately painted by spray.

.4 Use dipping, sheepskins or daubers only when no other method is practical in places of difficult access and only when specifically authorized by Architect.

.5 Apply coats of paint as a continuous film of uniform thickness. Repaint thin spots or bare areas before next coat of paint is applied.

.6 Allow surfaces to dry and properly cure after cleaning and between subsequent coats for minimum time period as recommended by manufacturer.

.7 Sand and dust between coats to remove visible defects.

.8 Finish surfaces both above and below sight lines as specified for surrounding surfaces, including such surfaces as tops of interior cupboards and cabinets and projecting ledges.

.9 Finish closets and alcoves as specified for adjoining rooms.

.10 Finish top, bottom, edges and cutouts of doors after fitting as specified for door surfaces.

3.6 Field Quality Control

.1 Advise Architect when surfaces and applied coating is ready for inspection. Do not proceed with subsequent coats until previous coat has been approved.

3.7 Restoration

.1 Clean and re-install all hardware items removed before undertaken painting operations.

.2 Remove protective coverings and warning signs as soon as practical after operations cease.

.3 Remove paint splashings on exposed surfaces that were not painted. Remove smears and spatter immediately as operations progress, using compatible solvent.

.4 Protect freshly completed surfaces from paint droppings and dust to approval of Architect. Avoid scuffing newly applied paint.

.5 Restore areas used for storage, cleaning, mixing and handling of paint to clean condition as approved by Architect.

- END OF SECTION -

PART 1 - GENERAL

1.1 Related Sections

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 26 05 01 – Common Work Results - Electrical.

1.1 References

.1 American Society for Testing and Materials (ASTM)
.1 ASTM A 167-99(2009), Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
.2 ASTM B 456-95, Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
.3 ASTM A 653/A653M-99, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
.4 ASTM A 924/A924M-99, Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.

.2 Canadian General Standards Board (CGSB)
.1 CAN/CGSB-1.81-M90, Air Drying and Baking Alkyd Primer for Vehicles and Equipment.
.2 CAN/CGSB-1.88-92, Gloss Alkyd Enamel, Air Drying and Baking.
.3 CAN/CGSB-12.5-M86, Mirrors, Silvered.
.4 CGSB 31-GP-107Ma-90, Non-inhibited Phosphoric Acid Base Metal Conditioner and Rust Remover.

.3 Canadian Standards Association (CSA)
.1 CSA-B651-12, Accessible Design for the Built Environment.
.2 CAN/CSA-G164-M92, Hot Dip Galvanizing of Irregularly Shaped Articles.

1.2 Shop Drawings

.1 Submit shop drawings complete with schedule.

.2 Indicate size and description of components, base material, surface finish inside and out, hardware and locks, attachment devices, description of rough-in-frame, building-in details of anchors for grab bars.

1.3 Samples

.1 Submit samples if requested by Architect.

.2 Samples to be returned for inclusion into work.

1.4 Extra Materials

.1 Provide special tools required for accessing, assembly/disassembly or removal for toilet and bath accessories.

.2 Deliver special tools to Owner.

PART 2 - PRODUCTS

2.1 Materials

.1 Sheet steel: to ASTM A 653/A653M with ZF001 designation zinc coating.

.2 Stainless steel sheet metal: to ASTM A 167, Type 304, with satin finish.

.3 Stainless steel tubing: Type 304, commercial grade, seamless welded, 1.6 mm wall thickness.

.4 Fasteners: concealed screws and bolts stainless steel, exposed fasteners to match face of unit, tamperproof. Expansion shields fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.

2.2 Components

.1 Toilet tissue dispenser with shelf: Frost 158-10 or Saferail 428-001/422.

.2 Soap dispenser: Reuse existing.

.3 Grab bars: 38 mm dia x 1.6 mm wall tubing of stainless steel, 11 gauge stainless steel wall flanges, concealed screw attachment, flanges welded to tubular bar, provided with steel back plates and all accessories. Peen bar at area of hand grips. Material and anchorage to withstand pull of 2.2 kN.

.4 Mirror: Bobrick B-290 2436, 24″ wide x 36″ high.

.5 Coat hook: stainless steel with 40 mm maximum projection, conforming to CSA-B651-12.
.1 Acceptable material: Bobrick B-233.

.6 Hand Dryer: Dyson Airblade V, HU02 low voltage #307174-01, sprayed nickel finish.

.7 Recessed Waste Receptacle: Bobrick Model B-35633.

.8 Baby Change Table: KB200-11 horizontal wall mounted baby changing station by Koala Kare Products, earth colour.

2.3 Fabrication

.1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.

.2 Wherever possible form exposed surfaces from one sheet of stock, free of joints.

.3 Brake form sheet metal work with 1.5 mm radius bends.

.4 Form surfaces flat without distortion.

Maintain flat surfaces without scratches or dents.

.5 Back paint components where contact is made with building finishes to prevent electrolysis.

.6 Hot dip galvanize concealed ferrous metal anchors and fastening devices to CSA G164.

.7 Shop assemble components and package complete with anchors and fittings.

.8 Deliver inserts and rough-in frames to job site at appropriate time for building-in. Provide templates, details and instructions for building in anchors and inserts.

.9 Provide steel anchor plates and components for installation on studding and building framing.

2.4 Finishes

.1 Manufacturer's or brand names on face of units not acceptable.

PART 3 - EXECUTION

3.1 Installation

.1 Install and secure accessories rigidly in place as follows:
.1 Stud walls: install steel back-plate to stud prior to plaster or drywall finish. Provide plate with threaded studs or plugs.
.2 Hollow masonry units or existing plaster/drywall: use toggle bolts drilled into cell/wall cavity.
.3 Solid masonry, marble, stone or concrete: use bolt with lead expansion sleeve set into drilled hole.
.4 Toilet/shower compartments: use

male/female through bolts.

.2 Install grab bars on built-in anchors provided by bar manufacturer.

.3 Use tamper proof stainless steel screws/bolts for all fasteners.

.4 Install mirror in accordance with manufacturer’s printed instructions.

3.2 Schedule

.1 Locate accessories where indicated.

.2 Toilet tissue dispenser: Locate as indicated, one at toilet.

.3 Soap dispenser: One at lavatory, locate as indicated.

.4 Grab bars: Where indicated.

.5 Mirrors: Locate centred on lavatory, as indicated.

.6 Coat hook: One in washroom where indicated, mounting height 1050 mm.

.7 Hand Dryer: One in washroom, where indicated.

.8 Recessed Waste Receptacle: One in washroom, where indicated.

.9 Baby Change Table: One in washroom where indicated. Install at a height to provide 1200 mm maximum operating control, 730-865 mm to highest part of work surface when opened, and 685 mm minimum knee height clearance when opened.

- END OF SECTION -

PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 10 28 10 – Toilet and Bath Accessories.

.2 Section 08 71 10 – Door Hardware - General.

1.2 Codes and Standards

.1 Do complete installation in accordance with CSA C22.1-15 except where specified otherwise.

1.3 Permits, Fees and Inspection

.1 Submit to Electrical Inspection Department and Supply Authority necessary number of drawings and specifications for examination and approval prior to commencement of work.

.2 Pay associated fees.

.3 Architect will provide drawings and specifications required by Electrical Inspection Department and Supply Authority at no cost.

.4 Notify Architect of changes required by Electrical Inspection Department prior to making changes.

.5 Furnish Certificates of Acceptance from authorities having jurisdiction on completion of work to Architect.

1.4 Materials and Equipment

.1 Provide materials and equipment in accordance with Section 01 61 00 - Common Product Requirements.

.2 Equipment and material to be CSA

certified. Where there is no alternative to supplying equipment which is not CSA certified, obtain special approval from Electrical Inspection Department.

.3 Factory assemble control panels and component assemblies.

1.5 Wiring Identification

.1 Identify wiring with permanent indelible identifying markings, either numbered or coloured plastic tapes, on both ends of phase conductors of feeders and branch circuit wiring.

.2 Maintain phase sequence and colour coding throughout.

.3 Colour code: to CSA C22.1.

.4 Use colour coded wires in communication cables, matched throughout system.

1.6 Conduit and Cable Identification

.1 Colour code conduits, boxes and metallic sheathed cables.

.2 Code with plastic tape or paint at points where conduit or cable enters wall, ceiling, or floor, and at 15 m intervals.

.3 Colours: 25 mm wide prime colour and 20 mm wide auxiliary colour.

	Prime	Auxiliary
up to 250 V	Yellow	
up to 600 V	Yellow	Green
up to 5 kV	Yellow	Blue
up to 15 kV	Yellow	Red
Telephone	Green	
Other Communication Systems	Green	Blue
Fire Alarm	Red	
Emergency	Red	Blue

		Voice Other Security Systems	Red	Yellow
1.7 Wiring Terminations	.1	Lugs, terminals, screws used for termination of wiring to be suitable for either copper or aluminum conductors.		
1.8 Manufacturers and CSA Labels	.1	Visible and legible, after equipment is installed.		
1.9 Warning Signs	.1	As specified and to meet requirements of Electrical Inspection Department.		
1.10 Location of Outlets	.1	Locate light switches on latch side of doors as indicated.		
1.11 Mounting Heights	.1	Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicated otherwise.		
	.2	If mounting height of equipment is not specified or indicated, verify before proceeding with installation.		
	.3	Install electrical equipment at following centerline heights unless indicated otherwise. .1 Local switches: 1000 mm. .2 Security pads: 1000 mm. .3 Thermostat: 1200 mm. .4 Fire Alarm Pull: 1200 mm. .5 Power Door Operator Control: 1000 mm.		

1.12 Field Quality Control

.1 All electrical work to be carried out by qualified, licensed electricians or apprentices as per the conditions of the Provincial Act respecting manpower vocational training and qualification. Employees registered in a provincial apprentices program shall be permitted, under the direct supervision of a qualified licensed electrician, to perform specific tasks - the activities permitted shall be determined based on the level of training attained and the demonstration of ability to perform specific duties.

.2 The work of this division to be carried out by a contractor who holds a valid Master Electrical contractor license as issued by the Province of Ontario.

PART 2 - PRODUCTS

2.1 Not Used

.1 Not Used.

PART 3 - EXECUTION

3.1 Not Used

.1 Not Used.

- END OF SECTION -