

**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS A: Bid Receiving/Réception  
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RCMP-GRC

Bid Receiving/Réception des sousmissions

Attention: Jordan McKenna

Mail Stop/Arrêt postal 15

73 chemin Leikin Drive,

Ottawa, ON K1A 0R2

**AMENDMENT - INVITATION TO TENDER**

**MODIFICATION - APPEL D'OFFRES**

**Tender to: Royal Canadian Mounted Police**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services and construction listed herein and on any attached sheets at the price(s) set out therefore.

**Soumission aux: Gendarmerie royale du Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaries**

**Vendor/Firm Name and Address**

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

**Facsimile No. - No de télécopieur:**

**Telephone No. - no de telephone:**

<b>Title-Sujet:</b> Construction – Wabasca-Desmarais Detachment	
<b>Solicitation No. - No. de l'invitation</b> 201804138	<b>Date</b> 11 janvier, 2018
<b>Client Reference No. - No. De Référence du Client</b> 201804138	<b>Amend No.- No. du modif.</b> 001
<b>GETS Reference No. - No. de Référence de SEAG</b> 201804138	
<b>Solicitation Closes –L'invitation prend fin</b>  <b>at - à</b> 14 :00 HE <b>on - le</b> 1 fevrier, 2018	
<b>F.O.B. - F.A.B.</b> Destination	
<b>Address Enquiries to: - Adresser toutes questions à:</b>  <a href="mailto:jordan.mckenna@rcmp-grc.gc.ca">jordan.mckenna@rcmp-grc.gc.ca</a>	
<b>Telephone No. - No de telephone</b> 613-843-5518	<b>Fax No. - N° de FAX:</b>
<b>Destination of Goods, Services, and Construction:</b> <b>Destinations des biens, services et construction:</b>	
<b>Delivery Required - Livraison exigée:</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/de l'entrepreneur</b>	

Amendement n ° 1 de l'appel d'offres 201804138 a été délivré pour distribuer **Addenda N°.1 et N°.2, et de les questions et reponse partie n°.1 comme suit:**

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**1. Addenda N°.1 et N°.2 sont annexés à cet amendement**

Veillez consulter les addenda ci-dessous

**2. Questions Partie 1**

**Q.1** Les spécifications se réfèrent à quelques formulaires d'approvisionnement, mais ils ne peuvent pas être trouvés en utilisant les liens fournis. Pourriez-vous s'il vous plaît nous aider à obtenir ces documents?  
TPSGC, Formulaires relatifs à l'administration des contrats de construction et de services d'experts-conseils

<http://www.tpsgc-pwgsc.gc.ca/app-acq/forms/formulaires-forms-fra.html>

Formulaire de déclaration

<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-fra.html>

**RI.** S'il vous plaît ignorer ces formulaires/Liens pour le moment.

**TOUTES LES AUTRES CONDITIONS RESTENT LES MEMES**



17225 – 102 Avenue  
Edmonton, Alberta, T5S 1J8, Canada  
Ph: 780-486-6400, Fax: 780-486-6401

**ADDENDUM No. 01**

Date: January 8, 2018

Number of Pages: 60

This Addendum varies the Contract Documents entitled:

**GOVERNEMENT OF CANADA  
WABASCA-DESMARAIS GOVERNMENT BUILDING**

Project No.: 9031

This Addendum forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts. The cost of all work contained herein is to be included in the Contract sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number and date on the Tender form. Failure to do so may subject bidder to disqualification.

**ADDENDUM NO. 01**

Architectural Addendum Includes: Architectural Addendum No. 01 (3 pages), Specification Sections 07 52 00 (12 pages), 08 71 00 (33 Pages), 09 96 59 (8 Pages), 32 31 19 (3 pages), Structural Addendum No. 1 (1 page)

**CLARIFICATIONS**

- .1 Section 09 21 16 – Gypsum Board Assemblies is to precede 09 22 16 – Non-Structure Metal Framing.
- .2 Section 22 13 19 - Sanitary Waste Piping Specialties and Section 22 14 23 – Storm Drainage Piping Specialties are to precede Section 22 40 00 – Commercial Plumbing Fixtures.

**SPECIFICATIONS**

- .1 Section 00 01 10 – Table of Contents
  - .1 Add: “Section 01 22 00 – UNIT PRICE”
- .2 Section 01 31 19 – Project Meetings
  - .1 Change 1.2.9 to read:

- “9 Record Drawings in accordance with Section 01 78 00 – Closeout Submittals.”
- .2 Change 1.2.10 to read:
  - “10 Maintenance Manuals in accordance with Section 01 78 00 – Closeout Submittals.”
- .3 Section 02 41 13 – Selective site Demolition
  - .1 Change 3.7.3 to read:
    - “Waste Management: remove waste materials in accordance with Section 01 74 21 – Construction /Demolition Waste Management and Disposal.”
- .4 Section 07 52 00 – Modified Bituminous Membrane Roofing
  - .1 Replace Section in its entirety with attached Section 07 52 00R – Modified Bituminous Membrane Roofing.
- .5 Section 07 61 00 – Sheet Metal Roofing
  - .1 Revise Article 1.7.1 to Read:
    - “1 Roof Type R2 – Insulated:
      - .1 Standing seam metal panels
      - .2 Purpose made clips for standing seam panels to allow for 25 mm air space.
      - .3 150 mm of semi-rigid insulation: Mineral wool batts without a membrane.
      - .4 Roof vapour barrier membrane: Sopraseal 130, 2mm thick or Bakor 600, 2mm thick or accepted substitution.
      - .5 Gypsum board sheathing
      - .6 Metal deck
  - .2 Revise Article 1.7.2.3 to Read:
    - .3 Roof vapour barrier membrane: Sopraseal 130, 2mm thick or Bakor 600, 2mm thick or accepted substitution.
- .6 Section 08 71 00 - Door Hardware
  - .1 Replace Section in its entirety with attached Section 08 71 00R – Door Hardware
- .7 Section 09 51 13 – Acoustical Panel Ceilings
  - .1 Revise Article 2.1.1 to Read:
    - .1 Type AP-1. Armstrong, Ultima, 1941 or CGC, USG, Mars Climaphis, High-NRC/High-CAC:
      - .1 Class: A Fire Rating
      - .2 Ecolabel: Certified mineral fibre with minimum 68%+ recycled content
      - .3 Textures: Smooth, fine.
      - .4 Flame spread rating: 25 or less in accordance with CAN/ULC-S102.
      - .5 Smoke developed 50 or less in accordance with CAN/ULC-S102.
      - .6 Noise Reduction Coefficient (NRC): 0.80.
      - .7 Ceiling Attenuation Class (CAC) rating: 35, in accordance with ASTM

- E1264.
  - .8 Light Reflectance (LR) range:0.87 to ASTM E1477.
  - .9 Edge type: tegular.
  - .10 Colour: White.
  - .11 Size: 610 x 610 x 24 mm thick.
  - .12 Surface coverings: Ecolabel certified paint low VOC paint.
- .2 Add Article 2.1.4:  
2.1.4 Suspension Ceiling System by acoustic unit manufacturer.
- .8 Section 09 96 59 – High-Build Glazed Coatings
- .1 Add Section in its entirety.
- .8 Section 32 31 19 – Ornamental Fencing and Gates
- .1 Replace Section in its entirety with attached Section 32 31 19R – Ornamental Fencing and Gates.

#### DRAWINGS

- .2 Drawing A2.3 – ROOF PLAN
- .1 Roof Legend R1 and R3:
- .1 Revise “Positive slope rigid insulation”  
To Read “Postive slope polyisocyanurate insulation”

#### Attachments:

- 1) Section 07 52 00R – Modified Bituminous Membrane Roofing
- 2) Section 08 71 00R – Door Hardware
- 3) Section 09 96 59 – High-Build Glazed Coatings
- 4) Section 32 31 18R – Ornamental Fencing and Gates
- 5) Structural Addendum No. 1

END OF ADDENDUM NO. 01

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 07 61 00 – Sheet Metal Roofing
- .2 Section 07 62 00 – Sheet Metal Flashing and Trim

**1.2 REFERENCE STANDARDS**

- .1 ASTM International Inc.
  - .1 ASTM 1177/C1177M-17, Standard Specification for Glass Mat Gypsum Substrate for use as sheathing.
  - .2 ASTM D41-05/D41M-11(2016), Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
  - .3 ASTM D6162/D6162M-16, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fibre Reinforcements.
  - .4 ASTM D6163/D6163M-16, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
  - .5 ASTM D6164/D6164M-16, Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- .2 Alberta Roofing Contractors Association (ARCA)
  - .1 ARCA Roofing Specifications Manual-1997.
- .3 Canadian Standards Association (CSA International)
  - .1 CSA A123.21-14, Standard Test Method for the Dynamic Wind Uplift Resistance of Membrane-Roofing Systems
  - .2 CSA A231.1-14/A231.2-14, Precast Concrete Paving Slabs/Precast Concrete Pavers.
  - .3 CSA O121-17, Douglas Fir Plywood.
  - .4 CSA O151-17, Canadian Softwood Plywood.
- .4 Factory Mutual (FM Global)
  - .1 FM Approvals - Roofing Products.
- .5 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .6 Underwriters Laboratories' of Canada (ULC)
  - .1 CAN/ULC-S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.
  - .2 CAN/ULC-S704-11, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

### 1.3 ADMINISTRATIVE REQUIREMENTS

- .1 Convene pre-installation meeting two weeks prior to beginning roofing Work, with roofing contractor's representative and Consultant in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart to:
  - .1 Verify project requirements.
  - .2 Review installation and substrate conditions.
  - .3 Co-ordination with other building subcontractors.
  - .4 Review manufacturer's installation instructions and warranty requirements.

### 1.4 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00- Submittal Procedures.
- .2 Product Data:
  - .1 Provide electronic copy of most recent technical roofing components data sheets describing materials' physical properties and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Provide two copies of WHMIS MSDS in accordance with Section 01 35 43 - Environmental Procedures, and indicate VOC content for:
    - .1 Primers.
    - .2 Sealers.
- .3 Provide shop drawings:
  - .1 Indicate tapered insulation, flashing and control joints, details.
  - .2 Provide layout for tapered insulation.
- .4 Manufacturer's Certificate: certify that products meet or exceed specified requirements.
- .5 Manufacturer's Installation Instructions: indicate special precautions required for seaming the membrane.

### 1.5 QUALITY ASSURANCE

- .1 Installer qualifications: company or person specializing in application of modified bituminous roofing systems approved by manufacturer.

### 1.6 FIRE PROTECTION

- .1 Fire Extinguishers:
  - .1 Maintain one stored pressure rechargeable type with hose and shut-off nozzle,
  - .2 ULC labelled for A, B and C class protection.
  - .3 Size as indicated on roof per torch applicator, within 6m of torch applicator.

### 1.7 DELIVERY, STORAGE, AND HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions, Section 01 61 00- Common Product Requirements.
- .2 Storage and Handling Requirements:

- .1 Safety: comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of asphalt, sealing compounds, primers and caulking materials.
  - .2 Provide and maintain dry, off-ground weatherproof storage.
  - .3 Store rolls of membrane in upright position. Store membrane rolls with salvage edge up.
  - .4 Remove only in quantities required for same day use.
  - .5 Place plywood runways over completed Work to enable movement of material and other traffic.
  - .6 Store sealants at +5 degrees C minimum.
  - .7 Store insulation protected from weather and deleterious materials.
- .3 Packaging Waste Management: remove for reuse and return by manufacturer of packaging materials in accordance with Section 01 74 21- Construction/Demolition Waste Management and Disposal.
- .1 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with Waste Management Plan.
  - .2 Fold up metal banding, flatten and place in designated area for recycling.

## 1.8 SITE CONDITIONS

- .1 Ambient Conditions
  - .1 Do not install roofing when temperature remains below -18 degrees C for torch application.
  - .2 Minimum temperature for solvent-based adhesive is -5 degrees C.
- .2 Install roofing on dry deck, free of snow and ice, use only dry materials and apply only during weather that will not introduce moisture into roofing system.

## 1.9 WARRANTY

- .1 Provide the Owner, through “A.R.C.A” a written five (5) year A.R.C.A. Warranty stating that the roofing system has been constructed in accordance with the plans and specification and that the workmanship has followed the requirements of the membrane manufacturer.
- .2 The certificate must state that the roofing system will remain weather tight and free from imperfections for a minimum of five (5) years from the date of construction completion certificate and that any and all damage resulting from failure to provide above stated performance shall be repaired to the satisfaction of the Owner at no additional cost.
- .3 Provide the Owner, through the “Membrane Manufacturer”, an additional five (5) year material guarantee stating this roofing system shall remain watertight and free from material defects for a total of ten (10) years after the final completion date and that all repairs and/or replacement shall be carried out at no additional cost to the Owner.
- .4 Non A.R.C.A.-Member bidders must include proof of fire-safety training, including successful completion of the roofer certification program for crew members.
- .5 Non A.R.C.A. Member bidders must supply a five (5) year Bond worth 20% or \$500,000, whichever is less, of the value of the project for five (5) years upon completion of



deficiency stage of contract. The bond must come complete with a total of two inspections by ARCA Warranty Ltd. Accredited roofing inspector at two (2) year and four (4) year marks. The costs of the bond and inspections are the responsibility of the contractor and shall be added to the value of the bond. The bond must be responsible for any deficiencies or warranty work immediately following the inspections. The bond must be continuous for five (5) years. Two (2) year bonds with options to renew will not be acceptable.

## **Part 2 Products**

### **2.1 PERFORMANCE CRITERIA**

- .1 Compatibility between components of roofing system is essential. Provide written declaration to Consultant stating that materials and components, as assembled in system, meet this requirement. Roof membranes must be by same manufacturer as air barrier and vapour retarder membranes.
- .2 Roofing System: to CSA A123.21 for wind uplift resistance.

### **2.2 DECK COVERING**

- .1 Glass mat Gypsum board sheathing: to ASTM C1177/C1177M, 12.7 mm thick.

### **2.3 DECK PRIMER**

- .1 Asphalt primer: to CGSB 37-GP-9Ma.

### **2.4 VAPOUR RETARDER**

- .1 SBS Modified Bitumen Membrane, to CGSB 37-GP-56, 2.2mm thickness, reinforced with 95m<sup>2</sup> glass fleece, lightly sanded top surface and thermofusible film on underside.
- .2 Soprema SopraVap R or IKO MVP, fully adhered with primer.

### **2.5 ADHESIVE**

- .1 Adhesive for securing overlay board and insulation: asphalt extended vulcanized adhesive, two-component unit, consisting of two liquids mixed on site to produce pourable adhesive. Soprema Duotack or acceptable substitute.

### **2.6 POLYISOCYANURATE INSULATION**

- .1 To CAN/ULC-S704-03, Type 2, Class 3, thickness 150mm, HCFC-free construction; minimum LTTR of 1.04 RSI (5.6 R) value per 25mm thickness; with inorganic fibre-reinforced facer; minimum 138kPa compression strength. Less than 500 unrated.

### **2.7 EXPANDED POLYSTYRENE INSULATION (BACKSLOPES AND CRICKETS)**

- .1 Expanded polystyrene (EPS) insulation to CAN/ULC-S701, Type 4-2, thickness as indicated, square edges.

### **2.8 TAPERED SUMP INSULATION AT DRAINS**

- .1 Provide the following:

*(Replaced by Addendum 1)*

- .1 Polisoocyanurate: to CAN/ULC S704-03, Type 2, Class 3; HCFC-free construction; minimum LTTR of 0.99 RSI (5.6R) value per 25mm thickness; with inorganic fibre-reinforced facer; minimum 138 kPa compression strength.

## **2.9 LAMINATED PRIMARY MEMBRANE BASE SHEET**

- .1 Soprema Soprasmart Board 180, 4.8 mm thick or IKO Protectobase Board 180, 4.8 mm thick.
- .2 Install over insulation to provide torch safe surface.

## **2.10 CAP SHEET:**

- .1 Soprema Sopralene Stick HR GR or accepted substitution.

## **2.11 FLEXIBLE FLASHING AND AIR SEAL MEMBRANE (*TRANSITION*)**

- .1 Provide minimum 2.5 mm thick, SBS modified bitumen pre-manufactured sheet, with manufacturer's standard internal reinforcement, compatible with substrates. Sopremalene Flam Stick or accepted substitution.

## **2.12 SEALERS**

- .1 Plastic cement: Rubberized asphalt as per ARCA Requirements

## **2.13 WALKWAYS**

- .1 Walkways to consist of one additional ply of cap sheet membrane. Colour to be different from field membrane as selected by Consultant.

## **2.14 CARPENTRY**

- .1 Refer to Section 06 10 00.01- Rough Carpentry.

## **2.15 FASTENERS**

- .1 Covering to steel deck: No. 10 flat head, self tapping, Type A or AB, cadmium plated screws. Recommend FM Approved screw and plate assemblies.

## **Part 3 Execution**

### **3.1 QUALITY OF WORK**

- .1 Do examination, preparation and roofing Work in accordance with Roofing Manufacturer's Specification Manual, ARCA Roofing Specification Manual.
- .2 Do priming in accordance with manufacturers written recommendations.
- .3 The interface of the walls and roof assemblies will be fitted with durable rigid material plywood providing connection point for continuity of air barrier.
- .4 Assembly, component and material connections will be made in consideration of appropriate design loads, with reversible mechanical attachments.

*(Replaced by Addendum 1)*

### 3.2 EXAMINATION OF ROOF DECKS

- .1 Verification of Conditions:
  - .1 Review with Consultant deck conditions including parapets, construction joints, roof drains, plumbing vents and ventilation outlets to determine readiness to proceed.
- .2 Evaluation and Assessment:
  - .1 Prior to beginning of work ensure:
    - .1 Decks are firm, straight, smooth, dry, free of snow, ice or frost, and swept clean of dust and debris. Do not use calcium or salt for ice or snow removal.
    - .2 Curbs have been built with vapour retarder below.
    - .3 Roof drains and overflow drains have been installed at proper elevations relative to finished roof surface.
    - .4 Plywood and lumber nailer plates have been installed to deck, walls and parapets as indicated.
  - .3 Do not install roofing materials during rain or snowfall.

### 3.3 PROTECTION OF IN-PLACE CONDITIONS

- .1 Cover walls, walks and adjacent work where materials hoisted or used.
- .2 Use warning signs and barriers. Maintain in good order until completion of Work.
- .3 Clean off drips and smears of bituminous material immediately.
- .4 Dispose of rain water off roof and away from face of building until roof drains or hoppers installed and connected.
- .5 Protect roof from traffic and damage. Comply with precautions deemed necessary by Consultant.
- .6 At end of each day's work or when stoppage occurs due to inclement weather, provide protection for completed Work and materials out of storage.
- .7 Metal connectors and decking will be treated with rust proofing or galvanization.

### 3.4 DECK SHEATHING

- .1 Mechanically fasten to steel deck Glass Mat Gypsum Board with screws reversible mechanical attachments to steel deck's upper rib surfaces, spaced 400mm on centre each way, in accordance with FM190.
- .2 Place with long axis of each sheet transverse to steel deck ribs, with end joints staggered and fully supported on ribs.

### 3.5 PRIMING AUXILLARY LEVELING SURFACE

- .1 Apply deck primer to gypsum board roofing substrate at the rate recommended by manufacturer.

**3.6 INSTALLATION OF VAPOUR RETARDER ON GYPSUM BOARD SHEATHING- TORCH APPLIED**

- .1 Install fireguard tape to exposed joints in gypsum board sheathing, including joints between it and up-stands.
- .2 Prime existing surfaces prior to installing new vapour retardant. Let the primer flash prior to installing the membrane.
- .3 Torch apply the new membrane to the existing vapour retardant.

**3.7 (EXPOSED) CONVENTIONAL MEMBRANE ROOFING (CMR) APPLICATION**

- .1 Insulation: fully adhered, adhesive application:
  - .1 Adhere insulation to laminated vapour barrier using foam adhesive.
  - .2 Place boards in parallel rows with ends staggered, and in firm contact with one another.
  - .3 Cut end pieces to suit.
  - .4 Apply adhesive in accordance to Manufacturer and ARCA
  - .5 Separate the membrane and insulation with a drainage layer or slipsheet.
- .2 Tapered insulation application:
  - .1 Mop insulation to vapour retarder and top layer of insulation to bottom layer with hot asphalt at rate of 1 kg/m<sup>2</sup>.
  - .2 Install tapered insulation as first insulation layer, accept as detailed otherwise, in accordance with shop drawings. Stagger joints between layers 150 mm minimum.
- .3 Laminated Primary Membrane Base Sheet Overlay Board: adhesive application:
  - .1 Adhere overlay board to insulation with vulcanized adhesive at the rate of 1 litre per m<sup>2</sup>.
  - .2 Place boards in parallel rows with end joints staggered. Cap joints approximately 25 mm.
  - .3 Cut ends to suit and apply adhesive in continuous ribbons at 300 mm on centre.
- .4 Cap sheet application:
  - .1 Starting at low point on roof, perpendicular to slope, unroll cap sheet, align and reroll from both ends.
  - .2 Unroll and torch cap sheet onto base sheet taking care not to burn membrane or its reinforcement.
  - .3 Lap sheets 75 mm minimum for side laps and 150 mm minimum for end laps. Offset joints in cap sheet 300 mm minimum from those in base sheet.
  - .4 Application to be free of blisters, fishmouths and wrinkles.
  - .5 Do membrane application in accordance with manufacturer's recommendations.
- .5 Flashings:
  - .1 Complete installation of flashing base sheet stripping prior to installing membrane cap sheet.

- .2 Install base sheet onto substrate in 1 metre wide strips.
- .3 Lap flashing base sheet to membrane base sheet minimum 150 mm and seal by or torch welding.
- .4 Lap flashing cap sheet to membrane cap sheet 250 mm minimum and torch weld.
- .5 Provide 75 mm minimum side lap and seal.
- .6 Properly secure flashings to their support, without sags, blisters, fishmouths or wrinkles.
- .7 Do work in accordance with manufacturer's recommendations and Section 07 62 00 - Sheet Metal Flashing and Trim.

### 3.8 WALKWAYS

- .1 Install walkway membrane in accordance with manufacturer's instructions as indicated.
  - .1 Apply primer to cap sheet membrane and torch apply, ensuring selvage edge is removed.
- .2 Install pavers on insulation at rainwater leaders, level on insulation pads, and for ice fall protection as indicated on drawings.

### 3.9 FIRE SAFETY

- .1 Inform Owner of unforeseen fire hazards and obtain instructions before proceeding or continuing with torch application.
- .2 An onsite safety person shall be employed by the Contractor and be on site at all times during the roofing process and shall remain on site two (2) hours after torching has stopped. During this period, the safety person shall scan perimeter and roof penetration details with a hand held infrared gun. Localized hot spots to be investigated for potential fire hazards by cut tests.
- .3 The safety person shall ensure and enforce all safety requirements of the site, as required by Workers' Compensation safety department. Before proceeding with the work, advise the local fire authority of the nature of the work to be undertaken and dates of construction.
- .4 There shall be one fire extinguisher per torch system used on the roof. Failure to provide or not having one available will result in immediate job shut-down.
- .5 Keep suitable fire extinguishers within 10 meters of each torch in use.
- .6 Do not use torches near wall cladding
- .7 Take additional precautions against fire as needed to provide adequate fire safety.
- .8 Install fire protection tape over cracks, voids and openings in substrate where a torch applied membrane will be installed.

### 3.10 FIELD QUALITY CONTROL

- .1 Inspections:
  - .1 Inspection and testing of roofing application will be carried out by a third party inspection agency certified to perform ARCA inspections.

- .2 Contractor will pay for seven (7) inspections in different phases of construction from start to finish. Inspection costs to include travel, living allowance, site inspections, testing and reports.
- .3 Contractor to schedule inspections with inspection agency according to construction schedule and so all areas of the roof are inspected.
- .4 If additional inspections and testing are required Contractor to send request in writing to Owner prior to the final two (2) inspections are completed.

### 3.11 CLEANING

- .1 Remove bituminous markings from finished surfaces.
- .2 In areas where finished surfaces are soiled caused by work of this section, consult manufacturer of surfaces for cleaning advice and complying with their documented instructions.
- .3 Repair or replace defaced or disfigured finishes caused by work of this section.
- .4 Waste Management: separate waste materials in accordance with Section 01 74 21- Construction/Demolition Waste Management and Disposal.
  - .1 Place materials defined as hazardous or toxic in designated containers.
  - .2 Clearly label location of salvaged material's storage areas and provide barriers and security devices.
  - .3 Ensure emptied containers are sealed and stored safely.
  - .4 Divert unused aggregate materials from landfill to local facility for reuse as reviewed by Consultant.
  - .5 Unused coating material must be disposed of at official hazardous material collections site.
  - .6 Unused adhesive, sealant and asphalt materials must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.
  - .7 Dispose of unused adhesive material at official hazardous material collections site.
  - .8 Dispose of unused sealant material at official hazardous material collections site.
  - .9 Dispose of unused asphalt material at official hazardous material collections site.
  - .10 Divert unused gypsum materials from landfill to recycling facility.

3.12 FIRE SAFETY PROCEDURE FOR THE PROTECTION OF COMBUSTIBLE  
SUBSTRATE VOIDS

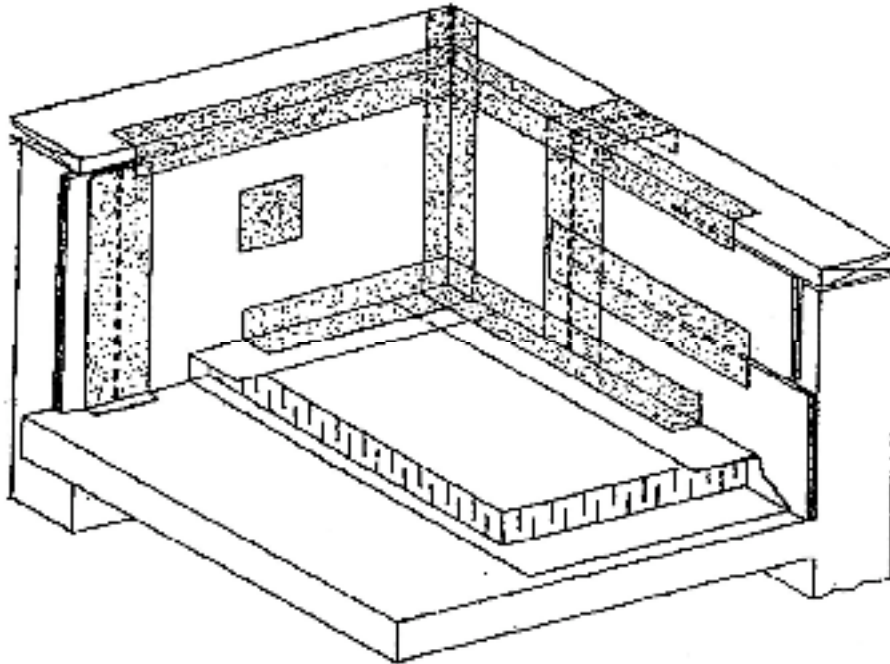


FIG. 1

- .1 Self-adhering S.B.S. modified bitumen fire prevention tape can significantly reduce the risk of flame entering at building elements. Fire safety procedures are to be followed to ARCA Standards.
- .2 Fire prevention tape must be adhered to combustible substrate gaps, cracks, joints and openings prior to the torch application of any modified bitumen membrane. The self adhering tape shall be centered over voids and formed at the angle transitions located at the bases and corners of parapets, curbs, roof/wall junctions and other roof penetrations, see Fig. 1. Leave nothing to chance, always cover all voids prior to lighting the torch. It is recommended that the membrane flashing base sheet be applied the same day as the primary membrane base sheet.
- .3 Self-adhering fire prevention tape be used for every torch adhered modified bitumen project.

3.13 BASE FLASHING INSTALLATION PROCEDURE WITH FIRE PREVENTION  
TAPE

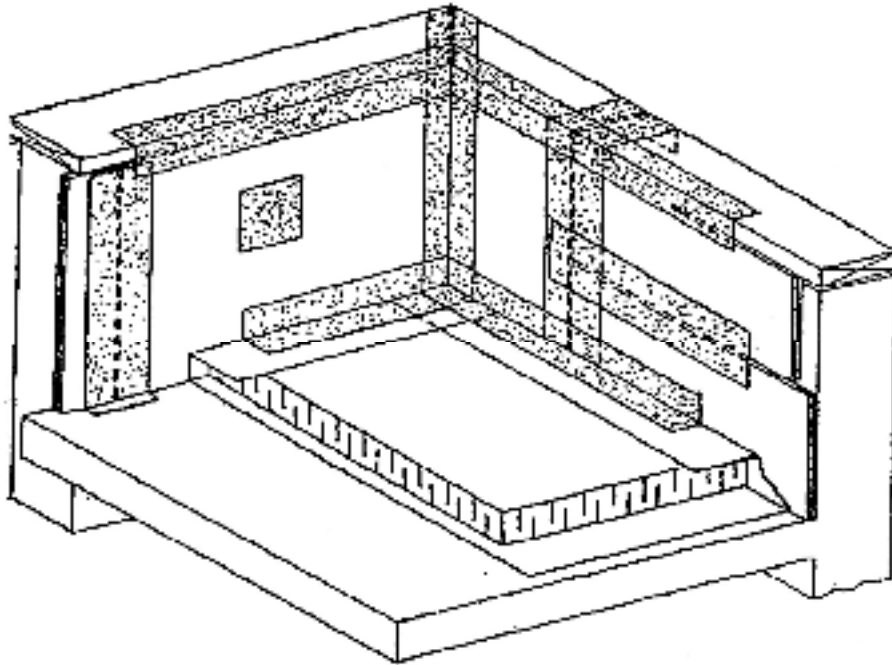


FIG. 2

- .1 The vapour retarder membrane shall wrap the exposed insulation edges at vertical junctions found at parapets, curbs, walls and roof openings. The vapour retarder wrap shall extend a sufficient horizontal distance to permit the primary membrane base sheet to be fully adhered to it. The vapour retarder extension shall be fully adhered to the top surface of the insulation.
- .2 Prior to application of primary membrane base sheet, protect all angle transitions with the vertical substrate by applying a minimum 150mm (6") wide strip of a self adhering fire prevention tape centered over the angle transition.
- .3 Adhere the primary membrane base sheet by overlapping the fire prevention tape at the base of the vertical transition.
- .4 Cover all substrate gaps, cracks, joints or openings at corners and penetrations with self-adhering fire prevention tape prior to torch adhering flashing base sheet.
- .5 Adhere flashing base sheet to vertical substrate and across the top of the wood blocking. Do not torch adhere flashing base sheet to exterior face of the blocking. At the exterior face turn the flashing base sheet down dry to cover the top of the wall finish and mechanically fasten it to the wood blocking.
6. Install cap sheet membranes.



**END OF SECTION**

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 08 11 00 – Metal Doors and Frames
- .2 Section 08 14 16 - Flush Wood Doors
- .3 Section 08 42 29 – Automatic Entrances
- .4 Section 28 00 00: Electrical wiring for magnetic strikes, electric releases and electric locks.

**1.2 REFERENCES**

- .1 American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA)
  - .1 ANSI/BHMA A156.1-2000, American National Standard for Butts and Hinges.
  - .2 ANSI/BHMA A156.2-2003, Bored and Preassembled Locks and Latches.
  - .3 ANSI/BHMA A156.3-2001, Exit Devices.
  - .4 ANSI/BHMA A156.4-2000, Door Controls - Closers.
  - .5 ANSI/BHMA A156.5-2001, Auxiliary Locks and Associated Products.
  - .6 ANSI/BHMA A156.6-2005, Architectural Door Trim.
  - .7 ANSI/BHMA A156.8-2005, Door Controls - Overhead Stops and Holders.
  - .8 ANSI/BHMA A156.10-1999, Power Operated Pedestrian Doors.
  - .9 ANSI/BHMA A156.13-2002, Mortise Locks and Latches Series 1000.
  - .10 ANSI/BHMA A156.15-2006, Release Devices - Closer Holder, Electromagnetic and Electromechanical.
  - .11 ANSI/BHMA A156.16-2002, Auxiliary Hardware.
  - .12 ANSI/BHMA A156.18-2006, Materials and Finishes.
- .2 Canadian Steel Door and Frame Manufacturers' Association (CSDMA)
  - .1 CSDMA Recommended Dimensional Standards for Commercial Steel Doors and Frames - 2009.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for door hardware and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Samples:
  - .1 Submit for review and acceptance of each unit.
  - .2 Samples will be returned for inclusion into work.

*(Replaced in Addendum 1)*

- .3 Identify each sample by label indicating applicable specification paragraph number, brand name and number, finish and hardware package number.
- .4 After approval samples will be returned for incorporation in Work.
- .4 Hardware List:
  - .1 Submit contract hardware list.
  - .2 Indicate specified hardware, including make, model, material, function, size, finish and other pertinent information.
- .5 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .6 Manufacturer's Instructions: submit manufacturer's installation instructions.
- .7 Sustainable Design Submittals:
  - .1 Sustainable Submittals: in accordance with Section 01 35 43 – Environmental Procedures.
  - .2 Construction Waste Management:
    - .1 Submit project Waste Management Plan highlighting recycling and salvage requirements, in accordance with Section 01 74 21 Construction Demolition Waste Management and Disposal.
  - .3 Recycled Content:
    - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer, pre-consumer content, and total cost of materials for project.
  - .4 Regional Materials: submit evidence that project incorporates of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.

#### **1.4 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for door hardware for incorporation into manual.

#### **1.5 MAINTENANCE MATERIALS SUBMITTALS**

- .1 Extra Stock Materials:
  - .1 Supply maintenance materials in accordance with Section 01 78 00 - Closeout Submittals.
  - .2 Tools:
    - .1 Supply 2 sets of wrenches for door closers, locksets, and fire exit hardware.

#### **1.6 QUALITY ASSURANCE**

- .1 Regulatory Requirements:

*(Replaced in Addendum 1)*

- .1 Hardware for doors in fire separations and exit doors certified by a Canadian Certification Organization accredited by Standards Council of Canada.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

## **1.7 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Package items of hardware including fastenings, separately or in like groups of hardware, label each package as to item definition and location.
- .4 Storage and Handling Requirements:
  - .1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect door hardware from nicks, scratches, and blemishes.
  - .3 Protect prefinished surfaces with wrapping.
  - .4 Replace defective or damaged materials with new.
- .5 Develop Construction Waste Management Plan related to Work of this Section and in accordance with Section 01 35 43 – Environmental Procedures.
- .6 Packaging Waste Management: remove for reuse in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

## **Part 2 Products**

### **2.1 HARDWARE ITEMS**

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

### **2.2 DOOR HARDWARE**

- .1 Locks and latches:
  - .1 Mortise locks and latches: to ANSI/BHMA A156.13, series 1000 mortise lock, grade 1, designed for function and keyed as stated in Hardware Schedule.
  - .2 Lever handles keyed as stated in Hardware Schedule. Rooms # 133, 134, 140 to 174 with Knob Trim.
  - .3 Roses, Escutcheons keyed as stated in Hardware Schedule. Normal strikes: box type, lip projection not beyond jamb.
  - .4 Cylinders: key into keying system as noted as directed.
- .2 Butts and hinges:
  - .1 Butts and hinges: to ANSI/BHMA A156.1, designated by letter A and numeral identifiers, followed by size and finish, listed in Hardware Schedule.

*(Replaced in Addendum 1)*

- .3 Exit devices: to ANSI/BHMA A156.3, type & function, grade 1, as stated in Hardware Schedule.
  - .1 Auxiliary item: door co-ordinator, type 21, for pairs of doors with overlapping astragals.
- .4 Door Closers and Accessories:
  - .1 Door controls/closers: to ANSI/BHMA A156.4, designated by letter C and numeral identifiers listed in Hardware Schedule, size
  - .2 Door controls - overhead holders: to ANSI/BHMA A156.8, designated by letter C and numeral identifiers listed in Hardware Schedule.
  - .3 Detention/Security rated door closer to be used in Rooms 140 – 144, 147-174 as noted in the hardware schedule.
- .5 Door Operators:
  - .1 Power-operated pedestrian doors: to ANSI/BHMA A156.10.
  - .2 Power assist and low energy power operated doors: to ANSI/BHMA A156.19.
- .6 Architectural door trim: to ANSI/BHMA A156.6, listed in Hardware Schedule.
  - .1 Door protection plates: kick plate type 1.27 mm stainless steel
  - .2 Push plates: 1.27 mm thick stainless steel.
  - .3 Push/Pull units: stainless steel.
- .7 Door bottom seal: heavy duty, door seal of extruded aluminum frame and solid closed cell neoprene weather seal, recessed in door bottom, closed ends, clear anodized finish.
- .8 Thresholds: full width of door opening, extruded aluminum mill finish,.
- .9 Weatherstripping:
  - .1 Head and jamb seal:
    - .1 Extruded aluminum frame and closed cell neoprene insert, clear anodized finish.
    - .2 Adhesive backed neoprene material.
  - .2 Door bottom seal:
    - .1 Extruded aluminum frame and closed cell neoprene clear anodized finish.
- .10 Door Viewers
  - .1 Where a door viewer is required, install either of the following types, 1.4 m above the floor level, in perimeter pedestrian doors, fire doors (where a larger opening would negate the ULC rating), and doors which are security barriers dividing functions (e.g. cell block to general office).
    - .1 Loxem 190- Manufactured by: VSI Hardware Industries (USA) or Taymour Industries (Canada)
    - .2 Madison No. 20 R35-Manufactured by: Madison Products Company Limited
    - .3 Ives No. U698- Manufactured by: Leigh Metal Products Ltd.

- .4 ASD metallic industrial DS238. Advanced Safety Devices (2 3/8" Viewing Diameter and Door Cut-out). NOTE: This product cannot be used where a Fire rated door required.
- .5 Metallic Industrial Grade Door Viewer - 2 3/8" Viewing Diameter and Door Cutout . NOTE: The plastic Door Viewer is not approved for use.
- .11 Astragal: overlapping extruded aluminum finished to match doors.

### 2.3 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 Where pull is scheduled on one side of door and push plate on other side, supply fastening devices, and install so pull can be secured through door from reverse side. Install push plate to cover fasteners.
- .5 Use fasteners compatible with material through which they pass.

### 2.4 KEYING

- .1 Hardware to match existing type, material and finish, and to be keyed into existing system.
- .2 Provide BLANK keys in duplicate for every lock in this Contract, except for cell locks where a total of six (6) working keys are required. Supply all blank keys, BLANK both sides. ie:(35-131).
- .3 Provide six pin design cylinders keyed 000000. Forward cylinders prepaid to Owner. Cylinders having removable cores must not be used.
- .4 Provide three (3) masterkeys for each MK or GMK group.
- .5 Stamp keying code numbers on keys and cylinders.
- .6 To order and purchase the restricted cylinders/keys in IIFF profile, supplier shall request a "Purchase Authorization" letter from the Alberta Abloy representative.
- .7 Keyway shall be supplied in Secure Abloy CY415T Cylinders. For security reasons, forward all keys (and bitting list) by hand address and contact to be confirmed by Owner
- .8 Hardware supplier will supply a sufficient number of unrestricted keyway cylinders to the Contractor to secure the perimeter of the building and one storage room. The Contractor will return the cylinders to the supplier upon turnover of the building.
- .9 Owner will provide keying and final installation of secure keyways. Contractor to ensure continuous locking / security of building and simultaneous removal of construction cylinders coinciding with Owner installation of secure keyways.

**Part 3 Execution**

**3.1 INSTALLATION**

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.
- .2 Supply metal door and frame manufacturers with complete instructions and templates for preparation of their work to receive hardware.
- .3 Supply manufacturers' instructions for proper installation of each hardware component.
- .4 Install hardware to standard hardware location dimensions in accordance with CSDFMA Canadian Metric Guide for Steel Doors and Frames (Modular Construction).
- .5 Where door stop contacts door pulls, mount stop to strike bottom of pull.
- .6 Install key control cabinet.
- .7 Use only manufacturer's supplied fasteners.
  - .1 Use of "quick" type fasteners, unless specifically supplied by manufacturer, is unacceptable.
  - .2 Tamper proof fasteners to be used in Area 140 to 174 on all hardware devices.

**3.2 ADJUSTING**

- .1 Adjust door hardware, operators, closures and controls for optimum, smooth operating condition, safety and for weather tight closure.
- .2 Lubricate hardware, operating equipment and other moving parts.
- .3 Adjust door hardware to ensure tight fit at contact points with frames.

**3.3 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
  - .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 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: separate waste materials for recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**3.4 SECURITY SYSTEM INSTALLATION INSTRUCTIONS**

- .1 Install electric strikes, consoles, and switches according to manufacturer's instructions.

*(Replaced in Addendum 1)*

- .2 Tag all wires and label each connection in tabular form indicating unit, location, lead, sig name, colour, pin and marker.
- .3 Commission system ensuring all doors function properly and according to approved schematics.

**3.5 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by door hardware installation.



**3.6 SCHEDULE**

**Heading # 1**

1	Sgl	Dr # 101A	Exterior from 101 1/900 x 2150 x 45mm HMD x PSF Type D3/F8		LHR
1	ea.	Continuous Hinges	SL11HD x D.H. w/PT Prep		628
1	ea.	Power Transfer	PT5	CPT	626
1	ea.	Exit Devices	QEL98L-NL RX/LX x 996L-R	LR	630
1	ea.	Abloy Cylinder	Secure Abloy CY415T		626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike		
1	ea.	Operators	Horton 4100LE c/w Header	OP	628
1	ea.	Safety Sensor	Paralax II	SEN	
1	ea.	Network Relay/Sequencer	CX22	SEQ	
2	ea.	Switches	482A1U / 482A1U / 712T	PB	Blue
1	ea.	Power Supply	632RF	PS	PCP
1	set	Gasketing	By Door Supplier		
1	ea.	Door Bottoms	By Door Supplier		
1	ea.	Threshold	DS5000 x D.W.		627
1	ea.	Security Astragal	DS179SP-LPASA ELH Mode - OP/LR-L-EDF13		

**Heading # 2**

1	Sgl	Dr # 101B	101 from 103 1/900 x 2150 x 45mm HMD x PSF Type D3/F5		LHR
1	ea.	Continuous Hinges	SL11HD x D.H. w/PT Prep		628
1	ea.	Power Transfer	PT5	CPT	626
1	ea.	Exit Devices	QEL98L-NL RX/LX x 996L-R	LR	630
1	ea.	Abloy Cylinder	Secure Abloy CY415T		626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike		
1	ea.	Operators	Horton 4100LE c/w Header	OP	628
1	ea.	Safety Sensor	Paralax II	SEN	
1	ea.	Network Relay/Sequencer	CX22	SEQ	
2	ea.	Switches	482A1U / 482A1U / 712T	PB	Blue
1	ea.	Power Supply	632RF	PS	PCP
1	set	Gasketing	By Door Supplier		
1	ea.	Door Bottoms	By Door Supplier		
1	ea.	Threshold	DS5000 x D.W. ELH Mode - OP/LR-L-EDF13		627

*(Replaced in Addendum 1)*

**Heading # 3**

1	Sgl	Dr # 102	103 from 102 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LHR
3	ea.	Hinges	LH1368CB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	EU 626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Overhead Stop	GJ100S	626
1	ea.	Kickplate	GSH80A-254 x D.W. M/F07	630

**Heading # 4**

1	Sgl	Dr # 103	103 from 119 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LHR
3	ea.	Hinges	LH1379BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B	626
1	ea.	Door Viewer	DS238 (Dr # 103 - note: viewing side Room # 119) M/F15	626

**Heading # 5**

1	Sgl	Dr # 104	105 from 104 2/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Classroom Lockset	L9456P-06C - ANSI F13	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W. M/F13	630

*(Replaced in Addendum 1)*

**Heading # 6**

1	Sgl	Dr # 105A	103 to 105 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	LH
2	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W. When STC Rated Door, acoustic seal by door supplier M/F07	630

**Heading # 7**

1	Sgl	Dr # 105B	105 from 138 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	RHR
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

**Heading # 8**

1	Sgl	Dr # 106	138 to 106 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 0 Min Rated	RH
3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Storeroom Lockset	L9080P L/Trim Both Sides - ANSI F07K	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F07K	630

*(Replaced in Addendum 1)*

**Heading # 9**

1	Sgl	Dr # 107	138 to 107 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	RH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

**Heading # 10**

1	Sgl	Dr # 108A	103 to 108 2/900 x 2150 x 45mm HMD x PSF Type D1/F1	LH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W. M/F07	630

**Heading # 11**

1	Sgl	Dr # 108B	108 to 138 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR
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3	ea.	Hinges	LH1379BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

*(Replaced in Addendum 1)*

**Heading # 12**

1	Sgl	Dr 109A	103 to 109 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	LH
3	ea.	Hinges	LH1368BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	EU-L 626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F07	626
		Note:	STC Rated Door, acoustic seal by door supplier	

**Heading # 13**

1	Sgl	Dr # 109B	109 from 119 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	LHR
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

**Heading # 14**

1	Sgl	Dr 110A	103 to 110 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	LH
3	ea.	Hinges	LH1368BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	EU-L 626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B ELH Mode - F07	626
		Note:	STC Rated Door, acoustic seal by door supplier	

**Heading # 15**

1	Sgl	Dr # 110B	110 from 115 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	LHR
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F015	626

**Heading # 16**

1	Sgl	Dr # 111A	103 to 111 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	RH
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg / Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Wall Stop	GSH240B/250B	626

*(Replaced in Addendum 1)*

Note: When STC Rated Door, acoustic seal by door supplier  
M/F13

**Heading # 17**

1	Sgl	Dr # 111B	111 to 115	LH
			1/900 x 2150 x 45mm HMD x PSF Type D1/F1	

3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Classroom Lockset	L9456P-06C - ANSI F13	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg / Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Wall Stop	GSH240B/250B	626
			M/F13	

**Heading # 18**

1	Sgl	Dr # 112	114 to 112	LH
			1/900 x 2150 x 45mm SCWD x PSF Type D1/F1 - 0 Min Rated	

3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Office Lockset	L9050P-06C - ANSI F04	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Stop	GSH233B	626
			M/F04	

**Heading # 19**

1	Sgl	Dr # 116	114 to 116	RH
			1/900 x 2150 x 45mm SCWD x PSF Type D1/F3	

3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Office Lockset	L9050P-06C - ANSI F04	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	OH Stop	GJ100S	626
			M/F04	

*(Replaced in Addendum 1)*

**Heading # 20**

1	Sgl	Dr # 117	114 to 117 1/900 x 2150 x 45mm SCWD x PSF Type D1/F3	RH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Office Lockset	L9050P-06C - ANSI F04	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	OH Stop	GJ100S M/F04	626

**Heading # 21**

1	Sgl	Dr # 121	120 to 121 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RH
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3	ea.	Hinges	LH1368BB 114 x 101mm	652
1	ea.	Door Pull	GSH4612-2	630
1	ea.	Push Plate	GSH81A-5 x 20	630
1	ea.	Door Closer	4041-Cush / Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
		Note:	Add Door Stop, switch Reg Closer Arm on inswing door	

**Heading # 22**

1	Sgl	Dr # 122	120 to 122 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Privacy Lockset	L9044S-06C - ANSI F22	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Wall Stop	GSH233 M/F22	652



**Heading # 23**

1	Sgl	Dr # 123	120 to 123 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LH
3	ea.	Hinges	LH1368BB 114 x 101mm	652
1	ea.	Door Pull	GSH4612-2	630
1	ea.	Push Plate	GSH81A-5 x 20	630
1	ea.	Door Closer	4041-Cush / Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
		Note:	Add Door Stop, switch Reg Closer Arm on inswing door	

**Heading # 24**

1	Sgl	Dr # 124	120 to 124 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LH
3	ea.	Hinges	LH1368BB 114 x 101mm	652
1	ea.	Latchset	L9010-06C - ANSI F01	626
1	ea.	Door Closer	4041-Reg / Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F01	626

**Heading # 25**

1	sgl	Dr # 126A	Exterior from 126 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR
3	ea.	Hinges	LH1368BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	652
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Security Astragal	DS179SP-LPASA	
1	ea.	Security Door Contact	TA4108 M/F15	DPS BLK

*(Replaced in Addendum 1)*

**Heading # 26**

1	sgl	Dr # 126C	Exterior from Courtyard 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR	
3	ea.	Hinges	LH1368BB 114 x 101mm NRP		652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15		652
1	ea.	Abloy Cylinder	Secure Abloy CY415T		626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike		
1	ea.	Door Closer	4041-Reg		689
1	ea.	Kickplate	GSH80A-254 x D.W.		630
1	ea.	Thresholds	DS5000 x D.W.		627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.		627
1	ea.	Door Sweeps	DS138 x D.W.		627
1	ea.	Security Astragal	DS179SP-LPASA		
1	ea.	Security Door Contact	TA4108 M/F15	DPS	BLK

**Heading # 27**

1	Sgl	Dr # 127A	Exterior from 127 1/900 x 2150 x 45mm HMD x PSF Type D1/F6	RHR	
2	ea.	Hinges	LH1399BB 114 x 101mm NRP		630
1	ea.	Hinges	LH1399BB 114 x 101mm ETH (8/28 ga)	ETH	630
1	ea.	Storeroom Lockset	L9492P-06C - ANSI eF15-RX DM LEU	EU	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T		626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike		
1	ea.	Power Supply	PS902-900-FA	PS	PCP
1	ea.	Card Reader	Reader & Components complete by Security Contractor	CR	
1	ea.	Door Closer	4041-Cush		689
1	ea.	Kickplate	GSH80A-254 x D.W.		630
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.		627
1	ea.	Door Sweeps	DS138 x D.W.		627
1	ea.	Door Viewer	DS238		626
1	ea.	Security Astragal	DS179SP-LPASA EL Mode - CR/EU-L		

*(Replaced in Addendum 1)*

**Heading # 28**

1	Sgl	Dr # 127B	127 from 120 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR
2	ea.	Hinges	LH1368BB 114 x 101mm	652
1	ea.	Hinge	LH1368BB 114 x 101mm ETH (8/28 ga)	ETH 630
1	ea.	Storeroom Lockset	L9492P-06C - ANSI eF15-RX DM LEU	EU 626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device – Keyed Alike	
1	ea.	Power Supply	PS902-900-FA	PS PCP
1	ea.	Card Reader	Reader & Components complete by Security Contractor	CR
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Viewer	DS238	626
1	ea.	Security Astragal	DS179SP-LPASA EL Mode – CR/EU-L	

**Heading # 29**

1	Sgl	Dr # 128A	Exterior from 128 1/900 x 2150 x 45mm HMD x PSF Type D1/F6	LHR
3	ea.	Hinges	LH1399BB 114 x 101mm NRP	630
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Door Viewer	DS238	626
1	ea.	Security Astragal	DS179SP-LPASA M/F15	

**Heading # 30**

1	OHD	Dr # 128B	Exterior from 128 1/3600 x 3150 x 45mm Type D30	
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Complete by Door Supplier

*(Replaced in Addendum 1)*

**Heading # 31**

1	Sgl	Dr # 128C	128 from 127 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 60 Min Rated	LHR
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	652

**Heading # 32**

1	Sgl	Dr # 129	127 from 129 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45 Min Rated	RHR
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	652

**Heading # 33**

1	Sgl	Dr # 130	120 to 130 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 0 Min Rated	RH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

*(Replaced in Addendum 1)*

**Heading # 34**

1	Sgl	Dr # 132	120 to 132 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45 Min Fire Rated	LH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	EU-L 626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W. M/F07	630

**Heading # 35**

1	Sgl	Dr # 133	132 to 133 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45Min Rated	RH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Classroom Lockset	L9050P-06C - ANSI F05	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg / Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W. M/F05	630

**Heading # 36**

1	Sgl	Dr # 134	132 to 134 4/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45 Min Rated	LH
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3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

*(Replaced in Addendum 1)*

**Heading # 37**

1	Sgl	Dr # 135	120 to 135 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45Min Rated	LH
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Classroom Lockset	L9456P-06C - ANSI F13	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg / Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Wall Stop	GSH240B/250B M/F13	626

**Heading # 38**

1	Sgl	Dr # 136	120 to 136 2/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45 Min Rated	LH
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

**Heading # 39**

1	Sgl	Dr # 137	120 to 137 2/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45 Min Rated	LH
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B M/F15	626

*(Replaced in Addendum 1)*

**Heading # 40**

1	Sgl	Dr # 139	138 to 139 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 0 Min Rated	LH
3	ea.	Hinges	LH1379BB 114 x 101mm	626
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	652
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W. M/F15	630

**Heading # 41**

1	Sgl	Dr # 140	140 from 138 4/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 45 Min Rated	LHR
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Classroom Lockset	L9466P-06C L/Trim Both Sides - ANSI F14K	626
2	ea.	Abloy Cylinder	Secure Abloy CY415T	626
2	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Door Stop	GSH233B	626
2	ea.	Door Viewers	U698 M/F14	626

**Heading # 42**

1	Sgl	Dr # 141	138 from 141 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51 45 Min Rated	LHR
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630

Note: When STC Rated Door, acoustic seal by door

*(Replaced in Addendum 1)*

supplier  
M/F07

**Heading # 43**

1	Sgl	Dr # 142	143 from 142	LHR
			1/800 x 2150 x 45mm HMD x PSF Type D1/F1 – STC51.	

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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets)	630

Note:

When STC Rated Door, acoustic seal by door  
supplier  
M/F18

**Heading # 44**

1	Sgl	Dr # 143A	Exterior from 143	RHR
			1/900 x 2150 x 45mm IHMD x PSF Type D1/F1	

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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Classroom Lockset	L9466P-06C L/Trim Both Sides - ANSI F14K	626
2	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets)	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Security Astragal	DS179SP-LPASA	600
1	ea.	Security Door Contact	TA4108	DPS BLK
1	ea.	Door Viewer	DS238	626
1	ea.	Security Astragal	DS179SP-LPASA	
			M/F14K	



**Heading # 45**

1	Sgl	Dr # 143B	Exterior from 143 1/900 x 2150 x 45mm IHMD x PSF Type D1/F1	RHR
3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Classroom Lockset	L9466P-06C L/Trim Both Sides - ANSI F14K	626
2	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets)	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Security Astragal	DS179SP-LPASA	600
1	ea.	Security Door Contact	TA4108	DPS BLK
1	ea.	Door Viewer	DS238	626
1	ea.	Security Astragal	DS179SP-LPASA M/F14K	

**Heading # 46**

1	Sgl	Dr # 144	143 from 144 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51	LHR
3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Classroom Lockset	L9466P-06C L/Trim Both Sides - ANSI F14K	626
2	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F14K	630

**Heading # 47**

1	Sgl	Dr # 145	Exterior to 145 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LHR
3	ea.	Hinges	LH1368BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	652
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Security Astragal	DS179SP-LPASA	
1	ea.	Security Door Contact	TA4108 M/F15	DPS BLK

**Heading # 48**

1	Sgl	Dr # 146	145 to 146 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - STC51 45 Min Rated	LH
3	ea.	Hinges	LH1379BB 114 x 101mm	652
1	ea.	Storeroom Lockset	L9080P-06C - ANSI F07	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Door Closer	4041-Cush	689
1	ea.	Kickplate	GSH80A-254 x D.W. M/F07	630

**Heading # 49**

1	Sgl	Dr # 147	143 from 147 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 0 Min Rated	RHR
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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Storeroom Lockset	L9080P L/Trim Both Sides - ANSI F07K	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F07K	630

**Heading # 50**

1	Sgl	Dr # 148	143 from 148 1/900 x 2150 x 45mm HMD x PSF Type D5/F1	RHR
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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Storeroom Lockset	L9080P L/Trim Both Sides - ANSI F07K	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F07K	630

**Heading # 51**

1	Sgl	Dr # 149A	Exterior from 149 1/900 x 2150 x 45mm IHMD x PSF Type D1/F1	RHR
3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Classroom Lockset	L9466P-06C L/Trim Both Sides - ANSI F14K	626
2	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets)	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Door Viewer	DS238	626
1	ea.	Security Astragal	DS179SP-LPASA M/F14K	

**Heading # 52**

1	OHD	Dr # 149B	Exterior from 149	
1	OHD	Dr # 149C	Exterior from 149 5/3600 x 3150 x 45mm Type D30	

Complete by Door Supplier

**Heading # 53**

1	Sgl	Dr # 149D	149 from 143 1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 60 Min Rated	RHR
3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Classroom Lockset	L9466P-06C L/Trim Both Sides - ANSI F14K	626
2	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets)	630
2	ea.	Door Viewers	U698 M/F14K	626

*(Replaced in Addendum 1)*

**Heading # 54**

1	Sldg	Dr # 150	143 to 150
1	Sldg	Dr # 152	143 to 152
1	Sldg	Dr # 153	143 to 153
1	Sldg	Dr # 155	143 to 155
1	Sldg	Dr # 156	143 to 156
1	Sldg	Dr # 158	143 to 158
1	Sldg	Dr # 159	143 to 159
7/900 x 2150 x 45mm IHMD x PSF Type D4/			

Complete by Detention Door Supplier

**Heading # 55**

1	Sgl	Dr # 151	143 from 151	LHR
1/800 x 2150 x 45mm HMD x PSF Type D6/F4				

3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

**Heading # 56**

1	Sgl	Dr # 154	143 from 154	RHR
1/800 x 2150 x 45mm HMD x PSF Type D6/F4				

3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

*(Replaced in Addendum 1)*

**Heading # 57**

1	Sgl	Dr # 157	143 from 157 1/800 x 2150 x 45mm HMD x PSF Type D6/F4	LHR
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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

**Heading # 58**

1	Sgl	Dr # 160	143 from 160 1/800 x 2150 x 45mm HMD x PSF Type D6/F4	LHR
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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

**Heading # 59**

1	Sldg	Dr # 161	143 to 161	
1	Sldg	Dr # 162	143 to 162	
1	Sldg	Dr # 164	143 to 164	
1	Sldg	Dr # 165	143 to 165	
1	Sldg	Dr # 167	143 to 167	
1	Sldg	Dr # 168	143 to 168	
			6/900 x 2150 x 45mm IHMD x PSF Type D4/	

Complete by Detention Door Supplier

**Heading # 60**

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1	Sgl	Dr # 163	143 from 163	LHR
			1/800 x 2150 x 45mm HMD x PSF Type D6/F4	

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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

**Heading # 61**

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1	Sgl	Dr # 166	143 from 166	LHR
			1/800 x 2150 x 45mm HMD x PSF Type D6/F4	

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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

**Heading # 62**

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1	Sgl	Dr # 169	143 from 169	RHR
			1/800 x 2150 x 45mm HMD x PSF Type D6/F4	

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3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Deadlock	L9464P - ANSI F18	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F18	630

*(Replaced in Addendum 1)*

**Heading # 63**

1 Sldg Dr # 170 143 to 170  
14/900 x 2150 x 45mm IHMD x PSF Type D4/

Complete by Detention Door Supplier

**Heading # 65**

1 Sldg Dr # 171 143 to 171  
1/900 x 2150 x 45mm IHMD x PSF Type D5/

1 ea. Deadlock L9464P - ANSI F18 626  
1 ea. Abloy Cylinder Secure Abloy CY415T 626  
Complete by Detention Door Supplier

**Heading # 66**

1 Sgl Dr # 172 140 to 172 LHR  
1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 0  
Min Rated

3 ea. Hinges GSH918-HT 114 x 101mm SYS 630  
1 ea. Storeroom Lockset L9080P L/Trim Both Sides - ANSI F07K 626  
1 ea. Abloy Cylinder Secure Abloy CY415T 626  
1 ea. Flush Pull GSH921 630  
1 ea. Door Closer 4041-Cush (Security Closer) 689  
1 ea. Kickplate GSH80A-254 x D.W. (SS Rivets) 630

**Heading # 67**

1 Sgl Dr # 173 140 to 173 LH  
1/900 x 2150 x 45mm HMD x PSF Type D1/F1 - 0  
Min Rated

3 ea. Hinges GSH918-HT 114 x 101mm SYS 630  
1 ea. Storeroom Lockset L9080P L/Trim Both Sides - ANSI F07K 626  
1 ea. Abloy Cylinder Secure Abloy CY415T 626  
1 ea. Flush Pull GSH921 630  
1 ea. Door Closer 4041-Cush (Security Closer) 689  
1 ea. Kickplate GSH80A-254 x D.W. (SS Rivets) 630  
M/F07K

*(Replaced in Addendum 1)*



**Heading # 68**

1	Sgl	Dr # 174	140 from 174 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	LHR
3	ea.	Hinges	GSH918-HT 114 x 101mm SYS	630
1	ea.	Storeroom Lockset	L9080P L/Trim Both Sides - ANSI F07K	626
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Flush Pull	GSH921	630
1	ea.	Door Closer	4041-Cush (Security Closer)	689
1	ea.	Kickplate	GSH80A-254 x D.W. (SS Rivets) M/F07K	630

**Heading # 69**

1	Sgl	Dr # SS1	Exterior from SS1 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR
3	ea.	Hinges	LH1368BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	652
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Security Astragal	DS179SP-LPASA	
1	ea.	Security Door Contact	TA4108 M/F15	DPS BLK

*(Replaced in Addendum 1)*

**Heading # 70**

1	Sgl	Dr # SS2	Exterior from SS2 1/900 x 2150 x 45mm HMD x PSF Type D1/F1	RHR
3	ea.	Hinges	LH1368BB 114 x 101mm NRP	652
1	ea.	Storeroom Lockset	L9485P-06C L/Occ Indicator - ANSI # F15	652
1	ea.	Abloy Cylinder	Secure Abloy CY415T	626
1	ea.	Construction Cylinder	Mortise/Rim as Per Device - Keyed Alike	
1	ea.	Door Closer	4041-Reg	689
1	ea.	Kickplate	GSH80A-254 x D.W.	630
1	ea.	Thresholds	DS5000 x D.W.	627
1	sets	Weatherstrip	DS130 1/D.W. 2/D.H.	627
1	ea.	Door Sweeps	DS138 x D.W.	627
1	ea.	Security Astragal	DS179SP-LPASA	
1	ea.	Security Door Contact	TA4108 M/F15	DPS BLK

**END OF SECTION**

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 04 22 00 - Concrete Unit Masonry
- .2 Section 09 21 16 – Gypsum Board Assemblies

**1.2 REFERENCE STANDARDS**

- .1 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-1.186-1996, High Performance Glazed Coating System, Interior.
- .2 American Society for Testing and Materials (ASTM)
  - .1 ASTM C413-01(2006), Standard Test Method for Absorption of Chemical Resistant Mortars, Grouts and Monolithic Surfacing
  - .2 ASTM D-2794, Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
  - .3 ASTM D2240, Standard Test Method for Rubber Property - Durometer Hardness
  - .4 ASTM D2369, Standard Test Method for Volatile Content of Coatings
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .4 South Coast Air Quality Management District (SCAQMD), California State
  - .1 SCAQMD Rule 1113-16, Architectural Coatings.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Manufacturer's Instructions: provide to indicate special handling criteria, installation sequence and cleaning procedures. Manufacturer to certify in writing the installer is qualified to apply their wall coating system.
- .3 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.
  - .1 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 02 81 01- Hazardous Materials. WHMIS MSDS acceptable to Labour Canada and Health and Welfare Canada for high build glazed coatings. Indicate VOC content.
- .4 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.
  - .1 Submit duplicate 400 x 200 mm samples of each colour and finish, coatings applied to gypsum dry-wall wallboard and porous concrete block.
- .5 Closeout Submittals:
  - .1 Provide maintenance data for coatings for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

#### 1.4 QUALITY ASSURANCE

- .1 No request for substitution shall be considered that would change the generic type of wall system specified (i.e. two coat solvent based, unmodified epoxy wall coating system). Equivalent materials of other manufacturers may be substituted only on approval of Architect or Engineer. Request for substitution will only be considered only if submitted 10 days prior to bid date. Request will be subject to specification requirements described in this section.
- .2 Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous wall coating systems similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous wall coating manufacturer.
  - .1 Engage an installer who is certified in writing by resinous wall coating manufacturer as qualified to apply resinous wall coating systems indicated.
  - .2 Installer shall have completed at least 10 projects of similar size and complexity.
- .3 Source Limitations: Obtain primary resinous wall coating materials, including primers, resins, hardening agents, and topcoats, through one source from a single manufacturer, with not less than ten (10) years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.
- .4 Manufacturer Field Technical Service Representatives: Resinous wall coating manufacturer shall retain the services of Field Technical Service Representatives who are trained specifically on installing the system to be used on the project.
  - .1 Field Technical Services Representatives shall be employed by the system manufacture to assist, as required, in the quality assurance and quality control process of the installation and shall be available to perform field problem solving issues with the installer.
- .5 Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - .1 Apply full-thickness mockups on 10 m<sup>2</sup> wall area selected by Consultant.
  - .2 Allow 72 hours for inspection of mock-up by Owner's Representative before proceeding with coating work.
  - .3 When accepted, mock-up will demonstrate minimum standard for this work. Accepted mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- .6 Pre-installation Conference:
  - .1 General contractor shall arrange a meeting not less than thirty (30) days prior to starting work. Attendance:
    - .1 General Contractor
    - .2 Architect/Owner's Representative.
    - .3 Manufacturer/Installer's Representative.

## 1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00- Common Product Requirements.
  - .1 Deliver and store materials in manner to prevent damage.
  - .2 Ensure materials remain in original wrapping and containers until used.
- .2 Waste Management and Disposal:
  - .1 Separate waste materials in accordance with Section 01 74 21- Construction/Demolition Waste Management and Disposal.

## 1.6 SITE CONDITIONS

- .1 Safety:
  - .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of materials.
  - .2 Ensure no open flame heating devices are used.
  - .3 Discourage occupancy of treated space until volatile materials are no longer being emitted and there is no odour.
  - .4 Provide adequate respiratory protection to exposed individuals.
- .2 Ventilation:
  - .1 Provide ventilation continuously during and after coating application. Run system 24 hours per day during application; provide continuous ventilation for 7 days after completion of application.
  - .2 Ventilate enclosed spaces in accordance with safety procedures to protect worker health and safety.
- .3 Project Conditions:
  - .1 Environmental Limitations: Comply with resinous wall coating manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous wall coating application.
    - .1 Maintain material and substrate temperature between 65 and 85 degrees F (18 and 30 degrees C) during resinous wall coating application and for not less than 24 hours after application.
  - .2 Concrete or masonry substrates shall be properly cured for a minimum of 28 days and shall be tested to ensure relative humidity or water vapour emission rates are in accordance with Manufacturer's recommendations. A vapour barrier or exterior applied waterproofing membrane must be present for concrete walls below grade.
  - .3 Drywall / gypsum board substrates shall be finished to a Level 3 finish. All joint compound shall be setting type compound and shall be dried for the minimum period as per Manufacturer's recommendations prior to over coating.
  - .4 Utilities, including electric, water, heat (air temperature between 60 and 85°F/16 and 30°C) and finished lighting to be supplied by General Contractor. If permanent lighting is not in place, simulate permanent lighting conditions during resinous wall coating application.

- .5 Job area to be free of other trades during, and for a period of 24 hours, after wall coating installation.
- .6 Protection of finished wall coating from damage by subsequent trades shall be the responsibility of the General Contractor.

## 1.7 WARRANTY

- .1 Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of (1) full year from date of installation, or provide a joint and several warranty signed on a single document by material manufacturer and applicator jointly and severally warranting the materials and workmanship for a period of (1) full year from date of installation. A sample warranty letter must be included with bid package or bid may be disqualified.

## Part 2 Products

### 2.1 MATERIALS

- .1 Available Products: Subject to compliance with requirements, products that may be incorporated into the work include,
  - .1 Must comply with multiple layer, high build epoxy glazed wall coating. Water based, acrylic or urethane modified epoxy wall coatings will not be accepted.
- .2 Acceptable Manufacturers,
  - .1 Stonhard, Basis of Design
- .3 Products: Subject to compliance with requirements:
  - .1 Stonhard; Stonglaze VSR. Basis of Design
- .4 System Characteristics:
  - .1 Color and Pattern: From Manufacturers standard colour pallette.
  - .2 Surface: Orange Peel Finish
  - .3 Overall System Thickness: nominal 12-15 mil
- .5 System Components: Manufacturer's standard components that are compatible with each other and as follows:
  - .1 Primer:
    - .1 Gypsum Substrates:
      - .1 Material Basis of Design: Stonhard HT Primer
      - .2 Resin: Bipshenol F, Moisture Tolerant Epoxy
      - .3 Formulation Description: (2) two component, 100 percent solids.
      - .4 Application Method: Roller.
      - .5 Number of Coats: (1) one.
    - .2 Concrete Substrates:
      - .1 Material Basis of Design: Stonglaze E4
      - .2 Resin: Epoxy

- .3 Formulation Description: (2) two component, 92 percent solids.
- .4 Application Method: Roller.
- .5 Thickness of Coats: nominal
- .6 Number of Coats: (1) one.
- .2 Block Filler:
  - .1 Material Basis of Design: Sanitile 500 by Carboline
  - .2 Resin: Epoxy
  - .3 Formulation Description: (2) component, water-based, 53 percent solids.
  - .4 Application Method: Roller or Airless Spray
    - .1 Thickness of Coats: 5-20 mils Film thickness dependent upon condition/porosity of substrate.
    - .2 Number of Coats: Two
- .3 Wall Coating:
  - .1 Material Basis of Design: Stonglaze E4
  - .2 Resin: Epoxy
  - .3 Formulation Description: (2) two component, 92 percent solids.
  - .4 Application Method: Roller or Airless Spray and Backroll.
    - .1 Thickness of Coats: nominal 5 - 6 mils.
    - .2 Number of Coats: Two.
  - .5 Surface: Orange Peel Finish
- .4 Approvals:
  - .1 Components listed above are the basis of design intent; all bids will be compared to this standard including resin chemistry, color, surface, thickness, and installation procedures, including number of coats. Contractor shall be required to comply with all the requirements of the Specifications and all of the components required by the Specifications, whether or not such products are specifically listed above.
- .6 System Physical Properties: Provide resinous wall coating system with the following minimum physical property requirements when tested according to test methods indicated:
  - .1 Temperature Limitations: 60°C (Continuous) 93°C (Intermittent)
  - .2 Water Absorption: < 0.1% per ASTM C 413.
  - .3 Impact Resistance: > 60 in. lbs. per ASTM D 2794.
  - .4 Flammability: Class A per ASTM E84.
  - .5 Flame Spread: 40 per CAN/ULC S102-10
  - .6 Smoke Developed: 40 per CAN/ULC S102-10
  - .7 Hardness: 80 to 85, Shore D per ASTM D 2240.
  - .8 VOC Content: < 40 g/L per ASTM D 2369

## 2.2 ACCESSORY MATERIALS

- .1 Patching and Fill Material: Resinous product of or approved by resinous wall coating manufacturer and recommended by manufacturer for application indicated.
  - .1 Basis of Design: Stonhard “Stonset PM5”
- .2 Joint Sealant: Type recommended or produced by resinous wall coating manufacturer for type of service and joint condition indicated.
  - .1 Basis of Design: Stonhard “Stonflex MP7”

## 2.3 MIXES

- .1 Mix coatings according to manufacturer's instructions.

## Part 3 Execution

### 3.1 MANUFACTURER'S INSTRUCTIONS

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

### 3.2 PREPARATION

- .1 Prepare surfaces in accordance with CAN/CGSB-1.186 and coating material manufacturer's instructions.
- .2 Mask surrounding surfaces to provide neat, clean juncture lines.
- .3 Protect adjacent surfaces and equipment from damage by overspray.
- .4 Drywall / Gypsum Substrate: Drywall shall be level, true, plumb and finished to a Level 3 standard prior to application of wall coatings. The surface shall be inspected with critical lighting to ensure the substrate is ready for wall coating application. The surface shall be prepared by mechanical means and may include sanding, wiping and / or vacuuming for removal of bond inhibiting materials such as dust or other bond inhibiting material(s). **Level 4 or Level 5 drywall finishes shall not be coated and shall be removed by mechanical means to a Level 3 finish.** General contractor shall approve wall finish to Level 3 and suitability for high gloss finish prior to coating application.
- .5 Concrete Substrate: Concrete preparation shall be by mechanical means and may include use of grinder and / or sander for removal of bond inhibiting materials such as curing compounds, dust, form release agents or laitance. Other contaminants not otherwise removed by means of mechanical surface preparation shall be removed by scrubbing with a heavy duty industrial degreaser as recommended by High Build Coating Manufacturer and rinsing with clean water. General contractor shall approve concrete preparation to ICRI Concrete Surface Profile 1 minimum prior to coating application.
  - .1 Verify that concrete substrates are dry.
    - .1 Perform in situ probe test, ASTM F 2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 85 percent.



- .2 Perform additional moisture tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- .2 Verify that concrete substrates have neutral pH and that resinous wall coating will adhere to them. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- .6 Resinous Materials: Mix components and prepare materials according to resinous wall coating manufacturer's written instructions.
- .7 Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.

### 3.3 APPLICATION

- .1 General: Apply components of resinous wall coating system according to manufacturer's written instructions to produce a smooth surface, uniform in semi-gloss sheen, colour and finish, free from marks dirt, particles, runs, crawls, curling, pinholes, air pockets and other defects to achieve smoothness in accordance with CAN/CGSB-1.186-M89 and a monolithic wearing surface of thickness indicated.
  - .1 Coordinate application of components to provide optimum adhesion of resinous wall coating system to substrate, and optimum intercoat adhesion.
  - .2 Cure resinous wall coating components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
- .2 Apply primer where required by resinous system, over prepared substrate at manufacturer's recommended spreading rate.
- .3 Apply topcoat(s) in number of coats indicated for wall coating system and at spreading rates and methods of application recommended in writing by manufacturer.

### 3.4 FIELD QUALITY CONTROL

- .1 Inspections:
  - .1 Inspections and testing of High Build Coating (HBC) to be carried out by a third party inspection agency, Master Painter's Institute (MPI) Accredited Paint Inspection Agency, (inspector) acceptable to specifying authority and local Painting Contractor's Association.
  - .2 Contractor will pay for three (3) HBC inspections before first application to review moisture levels, after primer application to review specification requirements, and after second HBC application. Inspection costs to include travel, living allowance, site inspections, testing and reports.
  - .3 Contractor to schedule Paint Inspection Agency minimum of one (1) week prior to commencement of work. The scheduled work is not to commence before receiving the report and ensuring all criteria are met.
  - .4 Surfaces requiring re-application: inspected by both Contractor and Paint Inspection Agency who will notify Consultant in writing of defects or problems, prior to commencing repainting work, or after surface preparation if unseen substrate damage is discovered.

- .5 Investigate existing substrates for problems related to proper and complete preparation of surfaces to be painted. Report to Consultant damages, defects, unsatisfactory or unfavourable conditions before proceeding with work.
  - .1 Conduct moisture testing of surfaces to be painted using properly calibrated electronic moisture meter, except test concrete floors for moisture using simple "cover patch test". Do not proceed with work until conditions fall within acceptable range as recommended by manufacturer.
  - .2 Maximum moisture content as follows:
    - .1 Concrete: 12%.
    - .2 Concrete Block: 12%.
- .6 Owner review will determine level of acceptance from a mockup installation which may be used as part of the final application.

### 3.5 CLEANING

- .1 Proceed in accordance with Section 01 74 11- Cleaning.
  - .1 Clean surfaces to coating manufacturer's printed instructions.
- .2 Cure resinous wall coating materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 18 hours.
- .3 Contractor shall protect resinous wall coating materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application. General Contractor is responsible for protection and cleaning of surfaces after final coats.
- .4 Cleaning: Contractor shall remove temporary covering and clean resinous wall coating just prior to final inspection. Use cleaning materials and procedures recommended by resinous wall coating manufacturer.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 03 30 00 – Cast In Place Concrete

**1.2 REFERENCES STANDARDS**

- .1 ASTM International:
  - .1 ASTM A641/A641M-09a(2014), Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
  - .2 ASTM A787/A787M-15a, Standard Specification for Electric-Resistance-Welded Metallic-Coated Carbon Steel Mechanical Tubing.

**1.3 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data: Submit manufacturer's instructions, material descriptions, construction details, dimensions of individual components and profiles, and finishes for each of the fencing components.
- .3 Sustainable Design Submittals:
  - .1 Construction Waste Management:
    - .1 Submit project Waste Management Plan.
    - .2 Submit calculations of construction wastes diverted from the landfill.
  - .2 Recycled Content:
    - .1 Submit listing of recycled content products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and pre-consumer content, and total cost of materials for project.
    - .2 Submit evidence, when Supplementary Cementing Materials (SCMs) are used, to certify reduction in cement from Base Mix to Actual SCMs Mix, as percentage.
  - .3 Regional Materials: submit evidence that project incorporates regional materials for project.
- .4 Shop Drawings:
  - .1 Submittal information indicating locations of fence, post, rails, or other operation, hardware, and accessories. Indicate materials, dimensions, sizes, weights, and finishes of components. Include plans, elevations, sections, and details of post anchorage, attachment and bracing. Installation procedures and instructions by manufacturer describing all details for a typical fence and gates.
  - .2 Field Measurements: verify layout information for fences and gates shown on drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

*(Replaced in Addendum 1)*

**1.4 DELIVERY, STORAGE, AND HANDLING**

- .1 Storage and Handling Requirements: Store materials to permit easy access for review and identification; keep components off ground by using pallets, platforms, or other supports; protect posts, fences and packaged materials from erosion and deterioration, and as follows:
  - .1 Store fasteners in a protected place
  - .2 Do not store materials on structure in manner that might cause distortion or damage to members or supporting structures
  - .3 Repair or replace damaged materials or structures as directed

**Part 2 Products**

**2.1 COATINGS**

- .1 The wire meshes is coated with 150 g/m<sup>2</sup> (0.5 on./ft.<sup>2</sup>) zinc in conformity with ASTM A641.
- .2 Fence posts are zinc coated (galvalume process) – 0.27kg/m<sup>2</sup> ( 0.90 oz/ft.<sup>2</sup>) as per ASTM A787.
- .3 A polyester surface coating shall be a standard color black. Polyester coating to be minimum 4 mils applied by an electrostatic method. Coating shall cover all components and surfaces of the wire fence, post sections, etc.
- .4 Finishes indicated are applicable to both fence material and gate material and gate frame.

**2.2 MATERIALS**

- .1 “OMEGA ARCHITECTURAL” or approved substitution
- .2 Steel Mesh Fence Panels: 2464 mm high x 2356 mm wide c/w 3 folds, welded 6 gauge - 4.9 mm pre-galvanized steel wire, welded at each crossing to form rectangles of 50 mm x 150 mm. The cold rolled wire shall have a tensile strength of at least 515 Mpa and a 985 kg break strength. Applied on wire, 150g/m<sup>2</sup> zinc coating conforming to the ASTM A641, Class 1. One end of the vertical wires of the panel shall exceed 25 mm from the last or first horizontal wire thereby creating a spiked top or bottom depending of its position when installed. The other end is cut flush. A 4-mil polyester powder coating is applied on the mesh panel after fabrication. Panels shall have a number of folds according to the table below depending on the respective height of the panel:
- .3 Profile Posts: 76 mm x 76 mm x 2440 mm high above finished grade, set in concrete pile, “Omega” profile flange post of 16 gauge cold-rolled pre-galvanized steel and powder coated finish. Provide Special Panel Fitting “SPF” kits to connect panels to adjacent materials.
- .4 Provide custom gate posts 152 mm x 152 mm x 2440 mm. Match look of adjacent fence construction as detailed on drawings. Gate posts to be installed in locations and concrete pile construction required for future gate installation as per recommendations of the manufacturer. Three (3) gate posts and piles required for single cantilever slide gate. Four (4) gate posts and piles required for double cantilever slide gate.
- .5 Future gates to be power sliding cantilevered gates with one operator per sliding gate. South gate will be a single cantilever sliding gate. Northwest gate will be double cantilever sliding gates.

*(Replaced in Addendum 1)*

- .6 Conduits to be roughed in below grade for future power requirements for gates. Provide junction box at top of concrete piles for future gate access. Provide wiring rough-in between gate related control stations to junction box on pile.

### **Part 3 Execution**

#### **3.1 INSTALLATION**

- .1 Set in undisturbed or compacted soil.
- .2 Post Setting: Set posts in concrete pile footing - Refer to Details. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during placement and finishing operations until concrete is sufficiently cured.
  - .1 Dimensions and Profile: As indicated on drawings.
  - .2 Space line posts uniformly at centre to centre.
  - .3 Exposed concrete footings: extend concrete 50 mm above grade, smooth and shape to shed water.
- .3 Terminal Posts: Locate terminal end and corner posts at changes in vertical alignment.
- .4 Fasten to concrete standards where indicated using manufacturer standard brackets and concrete anchors.
- .5 Post holes shall be minimum 250 mm diameter and 1850 mm deep. Once concrete is set, install mesh sections with Omega bracket. Space posts in accordance with manufacturer's requirements, coordinate with Drawings.
- .6 Mesh Panels: Vertical wire extensions pointing down for safety. The fence panel shall be installed a distance of a minimum of 30 mm and maximum of 50 mm above the ground surface.
- .7 Upon cutting or trimming, a post or a wire mesh section, apply a zinc rich primer to the exposed ends and finish with the matching touch-up paint supplied by the manufacturer.
- .8 Apply all fence installation instructions equally to installation of fence mesh panels to power operating gates and gate frames.
- .9 Install gate operators and accessories specified in layout configuration indicated on drawings. Complete installation in accordance with manufacturers recommendations and instructions. Provide rough-ins for power and central control rough-in provisions.

#### **3.2 CLEANING**

- .1 Clean in accordance with Section 01 74 11 Cleaning.
  - .1 Remove waste materials and transport packaging from site.
- .2 Waste Management: separate waste material in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

**END OF SECTION**

*(Replaced in Addendum 1)*



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**PROJECT: RCMP WABASCA**  
**CLIENT: ACI ARCHITECTURE INC.**  
**TO: ALL BIDDERS ON RECORD**

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**1. GENERAL**

- .1** The following information shall constitute an Addendum to the drawings for the **RCMP WABASCA – WABASCA, ALBERTA.**
- .2** This Addendum shall be drawn to the attention of all Contractors, Subcontractors, and Bidders concerned with the tendering of the various trade packages of the above noted project.

**2. DRAWING S1.1 – GENERAL NOTES**

- .1** Under the design loads the Internal Pressure Category for Wind is to be revised from Category 2 to Category 3.

**END OF STRUCTURAL ADDENDUM No.1**



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**ADDENDUM No. 02**

Date: January 10, 2018

Number of Pages: 13

This Addendum varies the Contract Documents entitled:

**GOVERNEMENT OF CANADA  
WABASCA-DESMARAIS GOVERNMENT BUILDING**

Project No.: 9031

This Addendum forms part of the Contract Documents and is to be read, interpreted and coordinated with all other parts. The cost of all work contained herein is to be included in the Contract sum. The following revisions supersede the information contained in the original drawings and specifications issued for the above named project to the extent referenced and shall become part thereof. Acknowledge receipt of this Addendum by inserting its number and date on the Tender form. Failure to do so may subject bidder to disqualification.

**ADDENDUM NO. 02**

Architectural Addendum Includes: Architectural Addendum No. 02 (2 pgs), Specification Section 09 67 24R (7 pgs), Section 09 96 00R (4 pgs).

**SPECIFICATIONS**

- .1 Section 08 11 00 - Metal Doors and Frames
  - .1 Add to article 1.1:
    - “.3 Section 09 96 00 – High Build Coating”
  - .2 Revise article 2.4 to read:
    - “.1 Factory prime paint doors and frames after fabrication and cleaning in one uniform coat, free of streaks and sags.
    - .2 Use an epoxy high-build coating primer compatible with final high build epoxy finish coats where noted in door schedule. Doors and frames noted to receive both high-build coating and paint are to have primer compatible with both finish coats or provide an intermediate coating between primer and finish coats to create a compatible system.
    - .3 Provide small quantities of primers and intermediate coating used for door and frame priming at factory for site applied touch-up prior to finished top-coat application.”

- .2 Section 08 32 00 – Steel Detention Doors
  - .1 Revise article 1.1.4 to read:  
“Section 09 96 60 – High Build Coating”
- .3 Section 09 67 23 – Resinous Quartz Flooring
  - .1 Article 2.1.3.2 to read “Wearing Surface: Medium, aggregate size - 355 microns”
  - .2 Article 2.1.4.2.6 to read “Pattern: Custom with minimum 3 aggregate colours”
  - .3 Article 2.1.4.3.7 to read “Texture Level: medium.”
  - .3 Acceptable Substitution: Sikafloor Quartzite Broadcast System with manufacturer’s recommended primer and top coat.
- .4 Section 09 67 24 – Resinous High-Build Epoxy Flooring Coating
  - .1 Replace section in its entirety with attached Section 09 67 24R – Resinous High-Build Epoxy Flooring Coating.
- .3 Section 09 96 00 – High Build Coating
  - .1 Replace section in its entirety with attached Section 09 96 00 – High Build Coating.

#### DRAWINGS

- .4 Drawing A10.1- FINISHES PLAN
  - .1 Revise all reference to “HBC High Build Coating” to read “HBGC High Build Glazed Coating”
  - .2 Add to ABBREVIATIONS “CONS Concrete, Sealed”
  - .3 Revise LEGEND acronym “R-” indicating roller blind extent to “B-”.
  - .4 Revise FINISH LEGEND acronyms “R1” and “R2” to read “B1” and “B2”
  - .5 Revise MAIN FLOOR ROOM FINISH SCHEDULE as follows:
    - .1 Room 128 and 133 – Revise Wall Finish EP to read HBGC
    - .2 Room 145 and 146 – Revise Floor Finish “--” to read “CONS”
    - .3 Room 151, 154, 157, 160, 163, 166, and 169 - Revise Floor Finish “--” to read “CONC”

#### Attachments:

- 1) Section 09 67 24R – Resinous High-Build Epoxy Flooring Coating
- 2) Section 09 96 00R – High Build Coating

END OF ADDENDUM NO. 02



**Part 1 General**

**1.1 SUMMARY**

- .1 Definitions: Resinous epoxy floor coating system includes a 100% solids, Low VOC, two component, moisture-tolerant, pigmented, general service, epoxy primer and a 100% solids, Low VOC, two component, moisture tolerant, pigmented, general service epoxy topcoat.

**1.2 RELATED REQUIREMENTS**

- .1 Section 03 30 00 - Cast-in-place Concrete
- .2 Section 03 35 00 – Concrete Finishing
- .3 Section 07 03 75 - Joint Sealers

**1.3 REFERENCES STANDARDS**

- .1 ASTM International:
  - .1 ASTM C881/C881M-15, Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.
  - .2 ASTM D2240-15, Standard Test Method for Rubber Property-Durometer Hardness.
  - .3 ASTM D2369-10(2015), Standard Test Method for Volatile Content of Coatings
  - .4 ASTM D4060-14, Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
  - .5 ASTM D7234-12, Standard Test Method for Bond Strength of Epoxy Resin Systems used with Concrete Slant Shear
  - .6 ASTM F1869-16a, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
  - .7 ASTM F2170-16b, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .3 Underwriter's Laboratory Canada:
  - .1 CAN/ULC-S102.2-10, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.

**1.4 SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00.
- .2 Manufacturer's Instructions: provide to indicate special handling criteria, installation sequence, cleaning procedures.

*(Replaced in Addendum No. 2)*

- .3 Provide product data in accordance with Section 01 33 00 - Submittal Procedures.
  - .1 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 02 81 01 - Hazardous Materials. WHMIS MSDS acceptable to Labour Canada and Health and Welfare Canada for high build glazed coatings. Indicate VOC content.
- .4 Provide samples in accordance with Section 01 33 00 - Submittal Procedures.
  - .1 Submit duplicate 75 x 75mm samples of each colour and finish coating applied to smooth hardboard.
- .5 Closeout Submittals:
  - .1 Provide maintenance data for coatings for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

## 1.5 QUALITY ASSURANCE

- .1 No request for substitution shall be considered that would change the generic type of floor system specified (i.e. 100% solids, two-component, epoxy coating). Materials of other manufactures may be substituted only on acceptance of Consultant. Request for substitution will only be considered only if submitted ten (10) days prior to bid date. Request will be subject to specification requirements described in this section.
- .2 Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous flooring systems similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous flooring manufacturer.
  - .1 Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
  - .2 Contractor shall have completed at least three (3) projects of similar size and complexity.
- .3 Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, and topcoats, through one source from a single manufacturer, with not less than ten (10) years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.
- .4 Manufacturer Field Technical Service Representatives: Resinous flooring manufacturer shall retain the services of Field Technical Service Representatives who are trained specifically on installing the system to be used on the project.
  - .1 Field Technical Services Representatives shall be employed by the system manufacture to assist, as required, in the quality assurance and quality control process of the installation and shall be available to perform field problem solving issues with the installer.
- .5 Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

- .1 Apply full-thickness mockups on 10 m<sup>2</sup> floor area selected by Consultant.
- .2 Allow 24 hours for inspection of mock-up by Consultant and Owner before proceeding with coating work.
- .3 When accepted, mock-up will demonstrate minimum standard for this work. Accepted mockups may become part of the completed Work if undisturbed at time of Substantial Performance of the Work.
- .6 Pre-installation Conference:
  - .1 General contractor shall arrange a meeting not less than thirty (30) days prior to starting work. Attendance:
    - .1 General Contractor
    - .2 Consultant
    - .3 Owner's Representative.
    - .4 Manufacturer/Installer's Representative.
  - .7 ISO 9001: All materials, including primers, resins, curing agents, finish coats, aggregates and sealants are manufactured and tested under an ISO 9001 registered quality system.

## 1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
  - .1 Deliver and store materials in manner to prevent damage.
  - .2 Ensure materials remain in original wrapping and containers until used.
- .2 Waste Management and Disposal:
  - .1 Dispose of waste materials in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

## 1.7 PROJECT CONDITIONS

- .1 Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.
  - .1 Maintain material and substrate temperature between 65 and 85 degrees F (18 and 30 degrees C) during resinous flooring application and for not less than 24 hours after application.
- .2 Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- .3 Close spaces to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.
- .4 Concrete substrate shall be properly cured for a minimum of thirty (30) days. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring.

- .5 Protection of finished flooring system from damage by subsequent trades shall be the responsibility of the Contractor.

## 1.8 WARRANTY

- .1 Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of one (1) full year from date of installation, or provide a joint and several warranty signed on a single document by material manufacturer and applicator jointly and severally warranting the materials and workmanship for a period of one (1) full year from date of installation.

## Part 2 Products

### 2.1 MATERIALS

- .1 Available Products: Subject to compliance with requirements, products that may be incorporated into the work include,
  - .2 Acceptable Manufacturers,
    - .1 Stonhard, Basis of Design, and Sika
  - .3 Products: Subject to compliance with requirements:
    - .1 Stonhard; Stonkote GS4 c/w slip resistant texture. Basis of Design. Acceptable Substitution is Sikafloor 261 CA c/w slip resistant texture.
  - .4 System Characteristics:
    - .1 Color: Custom colour to match finish legend.
    - .2 Wearing Surface: Texture # 2
    - .3 Base: refer to finish schedule.
    - .4 Overall System Thickness: nominal 12-16mil
  - .5 System Components: Manufacturer's standard components that are compatible with each other and as follows:
    - .1 Primer:
      - .1 Material Basis: Stonhard Standard Primer / Stonkote GS4®
        - .1 Resin: Epoxy
        - .2 Formulation Description: Two (2) component, 100 percent solids.
        - .3 Application Method: Squeegee and roller.
        - .4 Number of Coats: One (1).
    - .2 Wear Course:
      - .1 Stonhard Texture # 2 Aggregate
    - .3 Top Coat:
      - .1 Material Basis: Stonkote GS4®.
      - .2 Resin: Epoxy

*(Replaced in Addendum No. 2)*

- .3 Formulation Description: Two (2) component, 100% solids.
  - .4 Application Method: Squeegee and roller.
  - .5 Finish: Gloss.
  - .6 Number of Coats: one (1).
- .4 Approvals: Components listed above are the basis of design intent; all bids will be compared to this standard including resin chemistry, color, surface, thickness, and installation procedures, including number of coats. Contractor shall be required to comply with all the requirements of the Specifications and all of the components required by the Specifications, whether or not such products are specifically listed above.
- .6 System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:
- .1 Abrasion Resistance: 0.02 gm max. weight loss per ASTM D4060, CS-17
  - .2 Bond Strength: ASTM D7234, > 400psi (100% concrete failure)
  - .3 Hardness: 80 to 85, Shore D per ASTM D2240.
  - .4 VOC Content: 0 g/L per ASTM D2369
  - .5 Flammability: to CAN/ULC-S102.2; Flame Spread 0, Smoke Developed 34

## 2.2 ACCESSORY MATERIALS

- .1 Patching and Fill Material: Resinous product of or accepted by resinous flooring manufacturer and recommended by manufacturer for application indicated.
  - .1 Basis of Design: Stonhard “Stonset PM5”
- .2 Joint Sealant: Type recommended or produced by resinous flooring manufacturer for type of service and joint condition indicated.
  - .1 Basis of Design: Stonhard “Stonflex MP7”

## 2.3 MIXES

- .1 Mix coatings according to manufacturer's instructions.

## Part 3 EXECUTION

### 3.1 MANUFACTURER'S INSTRUCTIONS

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

### 3.2 PREPARATION

- .1 General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry, and neutral pH substrate for resinous flooring application.

*(Replaced in Addendum No. 2)*

- .2 Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.
  - .1 Comply with ASTM C811/C881M requirements, unless manufacturer's written instructions are more stringent.
- .3 Bring damage to the attention of the Consultant. Upon instruction repair damaged and deteriorated concrete according to resinous flooring manufacturer's written recommendations.
- .4 Verify that concrete substrates are dry.
  - .1 Perform in situ probe test, ASTM F2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 85 percent.
  - .2 Perform anhydrous calcium chloride test, ASTM F1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 5 lb of water/1000 sq. ft. of slab in 24 hours.
  - .3 Perform additional moisture tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- .5 Verify that concrete substrates have neutral pH and that resinous flooring will adhere to them. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.
- .6 Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.
- .7 Use patching and fill material to fill minor holes and depressions in substrates according to manufacturer's written instructions.
- .8 Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written recommendations.

### 3.3 APPLICATION

- .1 General: Apply each component of resinous flooring system in compliance with manufacturer's directions to produce a uniform monolithic surface of thickness indicated, uninterrupted except at expansion joints or other types of joints (if any), indicated or required.
- .2 Primer: Mix and apply primer over properly prepared substrate with strict adherence to manufacturer's installation procedures and coverage rates. Primer shall be applied in one coat at 6-8 mils thickness immediately after mixing using high quality medium nap rollers. Coordinate timing of primer application with application of flooring system to ensure optimum inter-coat adhesion.
- .3 Apply by broadcast coat in accordance with Manufacturer's written instructions in thickness indicated for flooring system. Immediately broadcast quartz silica aggregate into the wet coating using manufacturer's specially designed spray caster. Strict adherence to manufacturer's installation procedures and coverage rates is imperative.

- .4 Topcoat: Mix material according to manufacturer's recommended procedures. Topcoat material shall be applied in two coats at 6-8 mils per coat immediately after mixing using high quality medium nap rollers. Strict adherence to manufacturer's coverage rates shall be maintained.

### **3.4 FIELD QUALITY CONTROL**

- .1 Material Sampling: Owner may at any time and any numbers of times during resinous flooring application require material samples for testing for compliance with requirements.
  - .1 Owner will engage an independent testing agency to take samples of materials being used. Material samples will be taken, identified, sealed, and certified in presence of Contractor.
  - .2 Testing agency will test samples for compliance with requirements, using applicable referenced testing procedures or, if not referenced, using testing procedures listed in manufacturer's product data.
  - .3 If test results show applied materials do not comply with specified requirements, pay for testing, remove noncomplying materials, prepare surfaces coated with unacceptable materials, and reapply flooring materials to comply with requirements.
- .2 Final installation will be subject to review and by both the Consultant and Owner. Deficiencies are to be documented for remedial action and sign off. Complete any requested remedial work as required to achieve acceptance.

### **3.5 CLEANING, PROTECTING AND CURING**

- .1 Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 18 hours.
- .2 Contractor shall protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application.
- .3 Cleaning: Contractor shall remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer.

**END OF SECTION**

**1. General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 08 11 00 – Metal Doors and Frames
- .2 Section 08 32 00 Steel Detention Doors

**1.2 REFERENCE STANDARDS**

- .1 ASTM International
  - .1 ASTM D638-14, Standard Test Method for Tensile Properties of Plastics.
  - .2 ASTM D1044-13, Standard Test Method for Resistance of Transmission Plastics to Surface Abrasion.
  - .3 ASTM E84-16, Standard Test Method for Surface Burning Characteristics of Building Materials.
  - .4 ASTM E96/E96M-16, Standard Test Method for Water Vapor Transmission of Materials.
- .2 Underwriters' Laboratory of Canada
  - .1 CAN/ULC-S102-10, Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

**1.3 SUBMITTALS**

- .1 Submit product data in accordance with Division 01 33 00 – Submittal Procedures.
- .2 Product Data:
  - .1 Submit proof that product does not exceed flame spread 25 and smoke developed 50 in conformance with CAN/ULC-S102 and carries ULC or cUL rating.
  - .2 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Division 01. WHMIS MSDS acceptable to Labour Canada and Health and Welfare Canada for high build glazed coatings. Indicate VOC content.
- .4 Manufacturer's Instructions: Provide to indicate special handling criteria, installation sequence, cleaning procedures.
- .5 Provide duplicate 300 x 300 mm samples of each colour and finish, coating applied to plywood.

**1.4 FIELD MOCK-UPS**

- .1 Construct mock-ups in accordance with Division 01.
- .2 Apply coating of each metal door, frame and steel detention door.
- .3 Allow 24 hours for inspection of mock-up by Consultant and Owner before proceeding with coating work.
- .4 Mock-ups are to be repeated as required by Consultant and Owner to establish and act as the level of acceptance for finished work.

*(Replaced in Addendum No. 2)*



- .5 Accepted mock-ups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 1.5 ENVIRONMENTAL REQUIREMENTS

- .1 Ventilation.
  - .1 Provide ventilation continuously during and after coating application. Run system 24 hours per day during application; provide continuous ventilation for 7 days after completion of application.
  - .2 Ventilate enclosed spaces in accordance with safety procedures to protect worker health and safety.

## 2. Products

### 2.1 MATERIALS

- .1 Interior high build coating materials: Sika, Base of Design Sikagard Duroplast 100 N. Acceptable substitution: Carboline Carboguard 890.
  - .1 Colours: Up to three custom colours to be selected by Consultant.
  - .2 Fire Hazard Classification, CAN/ULC S-102:
    - .1 Maximum Flame Spread 25
    - .2 Smoke Density 110
  - .3 Hardness Barcol: 60
  - .5 % solids by weight: 94
  - .7 Scrubbability: Unaffected at 10,000 cycles.
  - .8 Gloss ASTM D523: 16% increase after 10,000 cycles.
  - .9 Permeability: to ASTM E96/E96M, 0.89 perms max.
  - .10 Abrasion Resistance: to ASTM D4060 (using Taber Abrasion Test CS-17), 80mg weight loss.
  - .11 Elongation: to ASTM D638, minimum 3.5% at 350 microns thick (14 mils)
  - .12 Tensile Strength: to ASTM D638, 20.5 MPa minimum (2,975 psi)
  - .13 Chemical Resistance: resistant to sulphuric acid.”
- .2 All material must have been tested in conformance with CAN/ULC-S102 and have ULC certification. UL and ATSM E84 testing alone will not be accepted.
- .3 Primer: Sika, Base of Design, Sikagard Cor-Pro 470 as recommended by high build coating manufacturer and coordinated with door, frame and steel detention door manufacturers. Acceptable substitution: Carboline Rustbond Primer.

### 2.2 MIXES

- .1 Mix coatings according to manufacturer's instructions.

**3. Execution**

**3.1 FIELD QUALITY CONTROL**

.1 Inspections:

- .1 Inspections and testing of High Build Coating (HBC) to be carried out by a third party inspection agency, Master Painter's Institute (MPI) Accredited Paint Inspection Agency, (inspector) acceptable to specifying authority and local Painting Contractor's Association.
- .2 Contractor will pay for three (3) HBC inspections before first application to review moisture levels, after primer application to review specification requirements, and after second HBC application. Inspection costs to include travel, living allowance, site inspections, testing and reports.
- .3 Contractor to schedule Paint Inspection Agency minimum of one (1) week prior to commencement of work. The scheduled work is not to commence before receiving the report and ensuring all criteria are met.
- .4 Surfaces requiring re-application: inspected by both painting contractor and Paint Inspection Agency who will notify Consultant and Owner in writing of defects or problems, prior to commencing repainting work, or after surface preparation if unseen substrate damage is discovered.
- .5 Owner review will determine level of acceptance from a mockup installation which may be used as part of the final application.

**3.2 PREPARATION**

- .1 Prepare surfaces in accordance with coating material manufacturer's instructions.
- .2 Mask surrounding surfaces to provide neat, clean juncture lines.
- .3 Protect adjacent surfaces and equipment from damage by overspray.
- .4 Doors and frames to be cleaned and prepared to provide 0.5 mil anchor profile using SP2 or SP3 method. Approved epoxy primer to be used and warranted by the high build coating manufacturer.
- .5 High build coating manufacturer to coordinate primers used on metal doors, frames and steel detention doors with high build coating finish as noted in the door schedule.

**3.3 WALL APPLICATION**

- .1 Apply coating to produce smooth surface, uniform in semi-gloss sheen, colour and finish, free from marks, dirt, particles, runs, crawls, curling, pinholes, air pockets and other defects and to achieve smoothness index in accordance with CAN/CGSB-1.186.
- .2 Apply two glaze coats to minimum total dry film thickness of 12 (250 microns) mils.
- .3 Verify thickness using appropriate gauges to the satisfaction of the Consultant.

*(Replaced in Addendum No. 2)*

- .4 Doors and frames to be spray finished after all work is complete.

**3.4 CLEANING**

- .1 Clean surfaces to coating manufacturer's printed instructions and following procedures identified in Division 01 and Section 09 91 00.

**END OF SECTION**