1.4 CONTRACTOR'S RESPONSIBILITIES:

1.1 Execute all work to minimize environmental effects.
2.2 Instruct personnel and comply with environmental requirements.
3.3 Fires and burning of rubbish on site not permitted.
4.4 Do not dispose of waste or volatile materials such as mineral spirits, oil or paint thinner into storm or sanitary sewers. Employ proper disposal methods.
5. Dispose of all organic material, including any plant material as required by the local authorities having jurisdiction.
6. Provide temporary drainage and pumping as necessary to keep excavations and site free from water.
7. Do not pump water containing suspended materials into sewer or drainage systems.
8. Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.
9. Prevent sandblasting and other extraneous materials from contaminating air beyond application area by providing temporary enclosures.
10. Maintain temporary erosion and pollution control measures. 1.3 CONTRACTOR'S RESPONSIBILITIES:

1.1 Furnish labour and facilities to:
1.2 Facilitate access to work to be tested and inspected.
2.2 Facilitate inspections and tests.
3.3 Make good work disturbed by inspection and testing.
4.4 Provide storage on site for laboratory's exclusive use to store equipment and curing test samples.
2.2 Notify CONTRACT ADMINISTRATOR and Testing Laboratory sufficiently in advance of operation to allow for assignment of laboratory personnel and scheduling of test.
3.3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
4.4 Pay costs for uncovering and making good work that is covered before required inspection or testing is complete and approved by CONTRACT ADMINISTRATOR. 3.1 PREPARATION:

1. Erect and maintain weatherproof and secure closures for exterior openings.
2. Erect and maintain temporary partitions if indicated on the drawings to prevent spread of dust, fumes, noise, and smoke to provide for Owner occupancy.
3. Erect and maintain temporary partitions, doors and facilities as required for the continuing operation of business, and the integrity of the building security and weather envelope.
4. Maintain protected egress and access paths at all times. Provide covered walkways adjacent to any overhead work.
5. Protect existing items which are not indicated to be altered.
6. Disconnect, remove, and cap designated utility services within demolition areas.
7. Mark location of disconnected utilities. Identify and indicate locations on a marked—up copy of the Demolition Drawings and submit to the CONTRACT ADMINISTRATORS. 1.2 APPOINTMENT AND PAYMENT:

1 CONTRACT ADMINISTRATOR will appoint or approve of appointment and the owner value pay for services of inspections and testing by way of direct payment or through catellowance (See instructions to bidders), except as follows:

1 Inspection and testing required by laws, ordinances, rules, regulations or order of public authorities.

2 Inspections and testing performed exclusively for Contractors convenience.

3 Testing, adjustments and balancing of conveying equipment, mechanical and electrical equipment and systems.

4 Tests required to be carried out under the terms of the contract.

2 Where tests or inspections by designated testing laboratories reveal work not in accordance with the Contract requirements, the Contractor shall pay costs for additional tests or inspections as the CONTRACT ADMINISTRATOR may require to verify acceptability of corrected work. 1.3 FIRE SAFETY REQUIREMENTS:
1 Comply with requirements of FCC N issued by the Fire Commissioner for C.2 This standard may be viewed at Re obtained from:
Fire Commissioner for Canada Sir Charles Tupper Building Riverside Drive Ottawa, Ontario K1A 0M2 PART 1-GENERAL

1.1 CONSTRUCTION SAFETY MEASURES:
.1 Observe and enforce construction so Code (1995) Part 8, Provincial Governr Municipal Authorities.
.2 In the event of conflict between any stringent provision shall govern. their use.

2 If there is any doubt of the piece of equipment, it shall be owner's representatives to get PART 1 - GENERAL
1.1 WORK INCLUDED: 1
.1 The salvage of a
.2 The disposal of a 1.2 EXISTING CONDITIONS:

1 Conduct demolition to minimize interference with adjacent bu protected egress and access at all times within the floor area .2 Provide, erect and maintain temporary barriers and security by the Authorities having jurisdiction. PART 1 - GENERAL
1.1 RELATED SERVICES:
.1 The specific require
ADMINISTRATOR are sp 1.3 OWNER'S USE OF EXISTING BUILDING:

1.1 The existing building will remain in full use and occupancy throughout the duration of the demolition.

2. Carry out construction operations with the least amount of disturbance and inconvenience possible to the other Tenants. Consult, as often as necessary, with designated Owner's representative when planning demolition activities that may affect the other Tenants use of the existing building. If requested by Owner, carry out disruptive activities, including noisy or dusty work, outside the Tenants regular busines hours at no extra cost to Contract. 1.4 STANDARDS AND PERMITS:

.1 Do all demolition work in accordance with all applicable regulations of Department of Labour, Department of Workplace Health and Safety, and codes and By-laws.

.2 Obtain and pay for any permits necessary for demolition and/or remodumping of waste materials at an authorized disposal site. maintain hoarding enclosures where indicated on and as required to protect the public, workers, property injury or damage. Consult with local authorities D: The work included all reusable items. the libe e Owr the clear vner's intentions responsibility or directions. C No. 301 or Canada Regional I any safety rnment, provisions and s and testing sections. 01 Standard for Construction Operatio la (FC). al Engineers' office and copies may b measures Worker's this shall be turned of above authorities, the most ä required by National Building Compensation Board and designated shall and/or removal and over to ≘. building areas. Maintain a and the building. / devices as are required φ of any item o contact the the the Owners CONTRACT 9 3.1 ERECTION

1 Erect metal work square, plumb, s joints and intersections.
2 Provide suitable and acceptable metal bar anchors, expansion bolts and shience to be cast into concretable trades together with setting templates. Touch—up rivets, field welds, bolts completion of erection.
6 Touch—up galvanized surfaces with 2.2 FABRICATION

1 Build work square, true, straig fitted and properly secured.
2 Fabricate items from steel unl
3 Use self-tapping shake-proof be assembled by screws or as in
4 Where possible, work to be fit
5 Exposed welds to be continuous welds smooth and flush. 3.3 INSTALLATION

1. Reinforce joints and cracks. span 3 mm wide cracks.
2. Apply waterstops in grid patter
3. Apply adhesive to vertical surf
4. Place membrane in position w
5. Lap and splice membrane, min
6. Flash pipes, conduits and othe 2.1 MATERIALS
2.1 MATERIALS
1.1 Bituthene 3000 sheet membran
2.2 Splicing tape: as recommende
3.3 Splicing cement: as recommende
4.4 Primer: as recommended by 1
5.5 Bonding adhesive: as recommended
6.7 Waterstop tape: as recommended
7.8 Protection board: Fibreboard t
9.9 Separation sheet: as recommend 2.1 MATERIALS

1.1 Steel sections and plates: to 0.260W for steel plate, type 350W for 260W for steel plate, type 350W for 260W for steel pipe: to ASTM A53-82 st .3 Chromium plating: Chrome on thickness of copper, 10 micromete thickness of chromium.

4.4 Welding materials: to CSA W59.5 Bolts and anchor bolts: to AST .6 Galvanizing: hot dipped galvani.7 Shop coat primer: to CGSB 1-8 Galvanized primer: zinc rich, research control of the co 3.3 Execution:

1 Demolish in an orderly and ca supporting structural members an the building.
2 Execute all work to minimize with environmental requirements.
3 Remove and promptly dispose dangerous/hazardous materials er accumulate within the building, or as required by the local authoritis.
4 Remove demolished materials to All waste and abandoned materesponsibility.
6 Repair all demolition performed approval of the CONTRACT ADMINIST.
7 Prevent extraneous materials for Provide temporary enclosures as 2.3 SHOP PAINTING

1 Apply one shop coat of prime aluminum and those to be galvanted.
2 Use primer unadulterated, as free from rust, scale and grease.
3 Clean surfaces to be field well 1.2 SHOP DRAWINGS.1 Submit shop drawings in accorded.2 Clearly indicate materials, core to anchorage, number of anchors, supports 3.5 PROTECTION BOARD
1 Apply protection board to 2 Ensure that surface of a board, and that no loose p 3.4 Clean-up:

1 Provide containers in which to material in Owner's waste bin. A waste bin by any trades will be **PART 3 - EXECUTION**3.1 INSPECTION
1.1 Ensure surfaces to 1 from conditions that wind support of the support o PART 1 - GENERAL
1.1 JOB MOCK-UP
.1 Complete one da
Locate on site as p
.2 Do not proceed 1 3.2 PREPARATION
.1 Clean surfaces
.2 Remove loose p
.3 Prime surfaces 1.3 WARRANTY
.1 Contractor F
two years. 1.2 ENVIRONMENTAL REQUIREMEN
 .1 For enclosed applications en period. PART 3 - EXECUTION PART 2 - PRODUCTS 1.1 REFERENCE STANDARDS
.1 Do welding work to CSA PART 1 - GENERAL e day's work of is part of final ed until work ho s to receive m particles, oil s to receive r to receive n t will advers to co mem partic W5 attern indicated.
surfaces and allow to dry before a surfaces and surfaces to mithout stretching, taking care to minimum lap as recommended by other penetrations to manufacturer mended mended by moded by to CSA shields, to shields, to the tensile I brane to grease. brane to and s manufactured by Grace Construct y membrane manufacturer. I by membrane manufacturer. Ibrane manufacturer. Section 01300. finishes, connections inforcement, details of that indicated or required, to no additional cost to the owner. ninating the air beyond application scratched permanence or o which penetrates weld to CSA S16.1. o masonry over to a CONTRACT e applying membran e to avoid trapped c by manufacturer. urer's standards. SD Ьy 9n on of Contractor' ooth, dry, quality of s membran required 2.1 MATERIALS
2.1 MATERIALS
1. Prefinished metal wall, roof, soffit panels and flashing shall be pre-finished to match existing.
2. Z-bars and/or subgirts shall be fabricated from zinc coating of ZF075 and a minimum base steel nominal thickness of 1.22 mm (0.048 inches).
3. Trim shall be fabricated from the same material, thickness, and finish as the respective interior and exterior sheets to the extent indicated on the drawings.
4. Notched metal closures shall be provided, when indicated on the tender documents, to close off the flutes of the exterior sheet at head, sill and base.
5. Fasteners shall be supplied in accordance with the manufacturer's recommendation to meet the load requirements outlined, and to maintain a weather-resistant installation.
6. Caulking TS763 for all exposed joints. Engineer.

2 A ribbon of sealant shall be laid on the face of the supports at the top bottom of the panel and around perimeter of openings, doors, sash, vents, in liner sheet shall be pressed tightly against the sealant and fastened to form adequate seal between the liner and the steel supports.

3 Z-bars and/or subgirts, and liner sheet shall be fastened to the structuras per manufacturer's standards.

4 Insulation shall be installed, and the exterior sheet fastened to the Z-bardy subgirts as per manufacturer's standards.

5 Side and end joints to be caulked on roof panels.

6 Touch up with matching paint any minor paint abrasions at screw fastener pionts to the satisfaction of the Engineer.

7 At the completion of the work of this division from the site.

8 This contractor shall remove undue grime and dirt from panels by dry we panels as the material is erected. 1.2 REFERENCES

1.1 CSA-A247-M86 Insulating Fibreboard.
2 CSA B35.3 Tapping and Drive Screws (Slotted and Thread Cutting Screws, and Metalic Drive Sc. 3 CSA B111-1974 Wire Nails, Spikes and Stapl. 4 CAN/CGSB-51.32-M77 Sheathing, Membrane, 5 CGSB 93-GP-2Ma-83 Siding, Soffits and Fas. 6 CGSB 93-GP-5M-78 Installation of Metal, Si 3.3 SNOW AND ICE GAURDS

1.1 Snow and ice gaurds to be installed in striumitten recommendations and approved shop drastic supplier, that fastener used to fasten gaurds to strength recommended by the supplier.

2.2 Submit shop drawings for approval prior to 1 3.1 MATERIAL HANDLING
3.1 MATERIAL HANDLING
1 Exercise care in packaging, shipping, sprevent damage likely to impair the adeq finished structure.
2 Damaged material shall be replaced or and any costs incurred shall be borne by 3.2 ERECTION

1 Erection of the panels shall be performed by erection work. Upon request, submit proof of such competence to PART 3 - EXECUTION Metal Roof and Wall Cladding Systems 1 Install batt insulation and 2 Trim insulation to fit span 3 Fit insulation tight in span services within the plane of 4 Extend vapour barrier tightlane of membrane. Tape section 07111. 3 FASTENERS
Screws to CSA DESIGN

Design all prediction of Canada. ф on and vapour barrier without gaps or voids. fit spaces. Use batts free of damage. in spaces and tight to exterior side of mechanine of insulation. Leave no gaps or voids. ier tight to full perimeter of adjacent items into Tape seal in place. Co—ordinate vapour and a b લ corrected to the approval the parties responsible for Stapies.
Tane, Breather Type.
Fascia, Aluminum, P
Siding, Soffits and strict accord drawings. ξ e top and ents, etc. The form an defects.

2 Fabricate cleats, clips and starce.

with sheet.

3 Form pieces in longest practical lengths.

4 Hem exposed edges on underside 13mm; mitre and seam corners.

5 Form material with flat lock seam.

6 Seal all joints with silicone.

7 Fabricate corners from one piece with minimum 450mm long legs; soligidity, seal with silicone sealant.

8 Fabricate vertical faces with bottom edge formed outward 6mm and horder form drip.

9 On exposed faces, return drip edge hem back to form interlock with clip. Provide continuous clips at all exposed faces.

10 Fabricate flashings to allow toe to extend 50mm over roofing. Retuedges. 2.1 MATERIALS

1 Colours of sealant to match existing and to the approval of the CONTRACT ADMINISTRATOR, and matching the predominant material to which sealant is applied.
2 Primers are to be type recommended by sealant manufacturer, for the appropriate sealant and corresponding substrate.
3 Joint backing material shall be compatible with primers, sealants, outsized 30%, polyethylene, extruded closed cell foam, Shore "A" hardness 20, tensile strength 20 – 30 psi.
4 Bond breaker, where joint configuration does not allow for proper depth/width ratio with the use of backer rod shall be a pressure sensitive plastic tape such as 3M #226 or #481 placed at the back of the joint which shall not bond to the sealant.
5 Sealant: Multi-component, polyepoxide urethane sealant. To meet specified requirements of CGSB Specification CAN2-19.24-M80 such as Dymeric, as manufactured by Tremco (Canada) Ltd., Sternson Duoflex. Use at all locations, except where another type is specified.
6 Cleaning material for surfaces to receive sealant - Xylol, methylethylketone, toluol, or as recommended by the manufacturer of sealant. 1.6 GUARANTEE
.1 Submit a written guarantee of the work of this section, covering the period for five (5) years from date of Substantial Performance of the Contract.
.2 Defective work shall include, but not be restricted to, joint leakage, cracking, crumbling, melting, running, loss of adhesion, loss of cohesion, or staining of adjoining or adjacent work or surfaces.
.3 Any evidence in the completed job that the proper preparatory work for any portion has not been done will render the Contractor responsible for the complete removal of all caulking and redoing the entire job. 1.1 QUALIFICATIONS

1.1 Installation of sealant and caulking work shall be carried out by a recognized specialized applicator having skilled mechanics, thoroughly trained and competent in phases of caulking work, for at least five (5) years.

2. Reference Standard:
Reference standards quoted in this section shall refer to:
CGSB Specification 19—GP—5M, sealing compound, one component, acrylic base, solvent curing.
CGSB Specification 19—GP—9Ma, sealing compound, one component, silicone base, chemical curing.
CGSB Specification 19—GP—24M, sealing compound, multi component, chemical curir 3.1 INSTALLATION
3.1 INSTALLATION

1. Install in accordance with CGSB 93-GF Install accessories as indicated.
2. Attach components in a manner not re.3. Caulk junctions with adjoining work with Section 07900 — Sealants.

Sheet Metal Flashings PART 2 - PRODUCTS
2.1 SHEET MATERIALS:
1 Pre-coated Galvanized Steel, shop pre-coated with existing. Supply samples.
2 Galvanized Steel: ASTM / 2.3 FABRICATION:
1 Form sections true 3.1 INSPECTION:
3.1 INSPECTION:
1 Verify roof opening set, cant strips and 2 Verify membrane to 3 Beginning of installing set. 3.3 INSTALLATION:

1 Secure flashings in place using concealed continuous clip fasteners at all visible flashings. Use exposed fasteners only in locations not ordinarily visible (eg. — inside parapet walls). All exposed fasteners must be on vertical surfaces.

2 Apply plastic cement compound between metal flashings and felt flashings.

3 Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

4 Seal metal joints watertight. 1.5 SUBMITTALS
.1 Submit samples of sealant and backing, if requested, for approval.
.2 A representative of caulking material manufacturer shall be present when the sample is applied, and visit the site during application to ensure that all work is carried out according to the manufacturer's printed instructions. 2 ACCESSORIES:
Fasteners: Galvani:
asher, at exposed I
Sealant: silicone. **CONDITIONS**only to completely dry surfaces, and at air tablished by manufacturer's specifications. nized steel locations. ngs, curbs, pipes, sleeves, ducts, or vents through reglets in place, and nailing strips located. termination and base flashings are in place, sealed allation means acceptance of existing conditions. 19—GP—24M, sealing compound, multi component, chemical curing. ф ≥. caulking scope of accurate in size, existing.
match existing.
s, outlets, elbows, with minimum 450mm long legs; solder for strips of same material as sheet, inter-lockable work shall be carried out by a recognized nechanics, thoroughly trained and competent in five (5) years. A525, Z275 zinc coating; 0.6mm (24 ga.) core ies coating, to match existing. Colour: to match reglass reinforced nylon head and soft neop exposed fasteners same as flashing metal. to fabricating work. cleats before starting installation ed to ensure proper as follows: hem back to form interlock with concealed sposed faces.
extend 50mm over roofing. Return and bro edge formed outward 6mm and hemmed to in their original unopened contain GP-5M, and with manufacturer's recommendations inc coating; 0.6 (24 ga.) core steel. restricting thermal ith sealant. Do w metal nsure a tight seal. neral conditions. flashing, square and free from downspout straps, al movement. work in accordance with adhesi trim material temperatures Return and brake and secure strainers, distortion or Section 07465 Section 07620 PART 3 - EXECUTION

Section 07900

3.1 EXAMINATION

1.1 Verify at the site that joints and surfaces have been provided as specified under the work of other sections; and that joint conditions will not adversely affect execution, performance or quality of completed work; and that they can put into acceptable condition by means of preparation specified in this section.

2. Ascertain that sealers and coatings applied to sealant substrates are compatible with sealant used and full bond between the sealant and substrate is attained. Request samples of sealed or coated substrate from their fabricators for testing of compatibility and bond.

3. Verify that specified environmental conditions are ensured before commencing work.

4. Ensure that releasing agents, coatings or other treatments have either not been applied to joint surfaces or that they are entirely removed.

5. Defective work resulting from application to unsatisfactory joint conditions will be considered the responsibility of those performing the Work of this Section.

3.2 PREPARATION

1.1 Remove dust, paint, loose mortar, and other foreign matter and dry joint surfaces.
2.2 Remove dust, silt, scale and coatings from ferrous metals by wire brush, grinding, or sandblasting.
3.3 Remove oil, grease, and other coating from non-ferrous metal with zylol or methylethylketone, (MEK).
4.4 Prepare concrete, glazed, and vitreous surfaces as recommended by sealant manufacturer.
5.5 Examine joint sizes and correct to achieve proper width/depth ratio:

.5 Examine joint sizes and correct to achieve proper width/depth ratio:
6.3mm x 6.3mm minimum joint size.
6.3mm x 12.7mm, depth shall equal width.
12.7mm to 25mm, depth shall equal half of width.
75 to 50 mm, maximum sealant depth to be 12.7mm.
For joints wider than 50mm, the sealant manufacturer's representative shall be contacted.
6. Install joint filler or apply bond breaker tape to achieve correct joint depth.
7.7 When necessary to prevent staining, mask adjacent surfaces with tape prior to priming and/or caulking.
8.8 Prime sides of joint in accordance with manufacturer's directions, immediately prior to caulking.
9.9 Before any caulking or sealing is commenced, a test of the material shall be made for indications of staining or poor adhesion.

3.3 APPLICATION

1. Apply sealants in accordance with manufacturer's directions, using a gun with proper size nozzle. Use sufficient pressure to fill voids and joints solid.

2. Form surface of the sealant with full bead, smooth, free from ridges, wrinkles, sags, and embedded impurities. Neatly tool surface to a slight concave joint.

3. Clean adjacent surfaces immediately and leave work neat and clean. Remove excess and droppings using recommended cleaners as work progresses. Remove masking tape immediately after tooling of joints.

4. Superficial pointing with the skin bead is not acceptable.

5. All interior and exterior openings that may allow transfer of heat, cold, and moisture that are not sealed by other trades shall be caulked.

6. Joint in flush surfaces shall be made flush with adjoining materials. Joints in internal angles shall be cove finished. Tool all joints to a smooth even finish.

CONSULTING STRI
102 - 611 CORYDON AVENUE
R3L OP3 fax (204) 943 -ENGINEERING Structural AING LTD.

ENGINEERS

MANITOBA CANADA

Ph. (204) 942 - 2221

OXFORD HEIGHTS COMMUNITY CLUBGYMNASIUM ROOF REPLACEMENT SPECIFICATIONS 359 DOWLING AVENUE, WINNIPEG, MANITOBA

MARCH tjc/gef

2003-