

PART E
SPECIFICATIONS

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available in Adobe Acrobat (.pdf) format on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.

E1.1.2 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing</u>
R1	Roof Plan
D1	Details

MATERIALS

Westdale Community Centre

E2. BUILT UP ROOFING ON AREAS A1 AND B1

E2.1 DIMENSIONAL LUMBER

This shall be construction grade spruce of the dimensions as outlined under the Description of Work.

E2.2 PLYWOOD SHEATHING

This shall be 1/2" fir plywood.

E2.3 VAPOUR BARRIER

This shall be 1 ply Soprema Elastophene Flam 2.2 or approved equal.

E2.4 ROOFING INSULATION

Expanded Polystyrene Type II with a minimum slope of 3/16" per foot and a minimum thickness of 2". This shall be as manufactured by Plastifab Ltd. or Insulation Industries Ltd. Slopes shall be as per the attached Drawings.

1" Soprema Colgrip A polyisocyanurate insulation with acrylic facer or approved equal. Paper facers will not be accepted.

E2.5 INSULATION ADHESIVE

This shall be Insta-Stik as manufactured by Flexible Products Company Roofing Group and distributed by Brock White or Coltack Adhesive as distributed by Soprema.

E2.6 POURABLE SEALER

This shall be Lexcan 2 part Pourable Sealer or approved equal. This shall be used to fill all pitch boxes or as otherwise specified.

E2.7 MODIFIED BITUMEN MEMBRANE

This shall be the following:

Membrane:

Soprema Colvent 810 self adhering base sheet membrane with a Sopraply Cap-560 cap sheet (heavy traffic) or approved equal.

Stripping:

Soprema Sopraflash Flam Stick self adhering base sheet with a Sopralene Flam 250 Gr. cap sheet or approved equal for over top of combustible materials and Soprema Sopralene Flam 180 base sheet with a Sopralene Flam 250 Gr. cap sheet or approved equal for use on non combustible materials.

E2.8 MODIFIED PRIMER

Soprema Elastocol 500 primer for use with the Soprema torch grade membrane and Elastocol 700 for use with the self adhesive membranes.

E2.9 RUBBERIZED MASTIC

This shall be Polyroof as manufactured by Tremco Ltd., or approved equal. All exposed rubberized asphalt shall be coated with aluminum paint.

E2.10 CAULKING

This shall be Tremco Vulkem 931 or approved equal.

E2.11 ALUMINUM PAINT

This shall be Tremco Double Duty or approved equal.

E2.12 VENT STACKS

These shall be Insulated Stack Jack Flashings (with metal cap not neoprene seal) SJ-20 as manufactured by Thaler.

E2.13 METAL FLASHING

The base and cap flashing shall be a minimum of 24 gauge in thickness or as otherwise indicated. Finishes shall be chosen from the standard in stock range of Stelco 8000 series of colors.

E2.14 ACCESSORIES

All nails, bolts, screws and other fasteners etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E2.15 SPLASH PADS

Splash Pads shall be 51" natural # 45-41001 as manufactured by Barkman Concrete LTD.

E3. SLOPED SHINGLE ROOF AREAS A2 AND D1

E3.1 PLYWOOD SHEATHING

This shall be construction D Grade fir plywood of a thickness matching that being replaced.

E3.2 RUBBERIZED MASTIC

This shall be Polyroof as manufactured by Tremco Ltd., or approved equal. All exposed rubberized asphalt shall be coated with aluminum paint.

E3.3 ALUMINUM PAINT

This shall be Tremco Double Duty or approved equal.

E3.4 SEALANT

This shall be Tremco Tremflex 25.

E3.5 ATTIC VENTS

These shall 15" x 15" goose neck vent hoods complete with bug screen and 1 ½" thick lumber curbs. Lumber curbs shall be a minimum of 8" above the top of the roof on the up slope side of the curb. Hoods shall be fabricated from pre finished steel and a minimum of 22 gauge in

thickness. Finishes shall be chosen from the standard in stock range of Stelco 8000 series of colors.

E3.6 VENT STACK SEALS

These shall be Dektite as manufactured by ITW Buildex and distributed by MI Construction Supply Ltd and these shall be mounted on underpans as supplied by the shingle manufacturer.

E3.7 METAL FLASHING

The flashing (including drip flashing) shall be pre finished steel and a minimum of 24 gauge in thickness. Finishes shall closely match the color of the existing eave trough. This shall be from the Stelco 8000 series of colors.

E3.8 EAVE TROUGH

Eave trough and down pipe inserts shall be fabricated from 22 gauge prefinished sheet steel. Finishes shall closely match the color of the existing eave trough. This shall be from the Stelco 8000 series of colors.

E3.9 ACCESSORIES

All nails, bolts, screws and other fasteners etc. shall all be as recommended by the manufacturer of the materials for which they are to be used.

E3.10 SHINGLES

These shall be Decra Shingle as manufactured by Tasman Roofing Products Ltd. and distributed by Tri-Tec Roofing Inc. or approved equal. All flashing and fasteners directly related to the installation of the Decra Shingles shall be as recommended by the manufacturer.

E3.11 EAVE PROTECTION

Valley and eave protection shall be W.R Grace Ice and Watershield or approved equal.

E3.12 FELT

The felt underlay shall be 30# organic asphalt saturated felt.

E3.13 SPLASH PADS

Splash Pads shall be 51" natural # 45-41001 as manufactured by Barkman Concrete LTD.

E4. ROOFING PROCEDURES

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- E4.1 Protect all new Work and the existing building and its contents against inclement weather. Supply and install equipment and enclosures necessary to provide this protection from beginning to completion of the Work.
- E4.2 Do not apply any roofing whatsoever during any inclement weather including when the temperature may fall lower than 5 degrees above Celsius.
- E4.3 Do not expose roofing materials, vulnerable to water or sun damage, in quantities greater than can be weatherproofed in one day. Use only clean and dry materials and apply only during weather that will not introduce moisture into the roof system. This would include days of excessively high relative humidity. Undertake only that amount of roofing that can be completed as specified in the same day or prior to inclement weather forcing a shutdown of the operations.
- E4.4 Apply roofing over clean and dry surfaces and in accordance to C.R.C.A. and /or manufacturers guidelines and as amended herein.
- E4.5 All materials on the roof shall be stored in such a manner as to prevent blow-offs during high winds.
- E4.6 Should the roofing operations be terminated during the day for unforeseen circumstances all exposed vapor barrier, felts or drywall **MUST** be fully glaze coated with bitumen prior to leaving the Site that day.
- E4.7 Protect the surrounding surfaces against damage from the roofing operations. Where hoisting is necessary protect the buildings by hanging tarpaulins. Should equipment be parked on the surrounding lawn, it shall be protected with 3/4" plywood. Materials nor debris shall be stored or stock piled on adjoining roof areas that are not being replaced.
- E4.8 Provide protection for the public using walkways, grounds, entrances, etc., by using proper warning signs, hoarding, shelters, or barricades as agreed to by the Contract Administrator.
- E4.9 Where Work must or will continue over the finished roofing membrane, the Contractor will protect it with plywood sheathing.
- E4.10 Removal of (opening up) existing roof membrane shall be done only after consultation with and agreement by the Contract Administrator. Remove only that portion that can be fully completed as specified within the same day work period.
- E4.11 Employ qualified mechanical tradesmen to disconnect existing roof top units and to move the units to allow complete installation of roofing membrane, insulation and vapor barrier as specified herein. The Contractor shall be responsible for any required alterations, such as extending ducts or electrical, as is required to properly reconnect of the units. The Contractor shall be held responsible for any damage to mechanical units from the roofing operations. Contact Contract Administrator prior to any disconnections.
- E4.12 Notify Contract Administrator and ensure he has proper time to appear on Site during application period. Failure to do so may result in the total rejection of all Work completed prior to notifying the Contract Administrator.
- E4.13 Inspect all roof decking prior to installation of roofing system and report all defects or unsuitable conditions to the Contract Administrator and correct deficiencies as directed.

- E4.14 The Site shall be inspected prior to commencement of Work to ensure no current anomalies are present such as lawn damage, asphalt on walls, broken windows. etc. All anomalies shall be reported to the Contract Administrator. They shall then be recorded and photographed by both parties at that time. Should no anomalies be reported prior to Work commencing it shall be assumed that none existed prior to commencement.
- E4.15 Use only equipment in good working order including all thermometers and gauges. Locate equipment as instructed by the Contract Administrator. Maintain continuous supervision while kettles in operation.
- E4.16 All applicable safety regulations as indicated by Manitoba Health and Safety must be strictly followed at all times.

DESCRIPTION OF WORK
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E5. ROOF AREA A1 & B1

- E5.1 The existing sheet metal flashing shall be removed and discarded from Site to an authorized grounds.
- E5.2 The existing roof assembly shall be removed to the deck and discarded from Site to an authorized nuisance grounds.
- E5.3 **ALL** loose vapor barrier shall be scraped from the deck and also discarded as above. The roof deck shall then be swept clean of all dirt and debris.
- a. **NOTE: ALL LOADS OF DEBRIS REMOVED FROM SITE SHALL BE PROPERLY TARPED**
- E5.4 Temporarily disconnect and remove mechanical units as required to allow roofing operations to continue. Ensure all units are in working condition prior to removal. Should the unit be malfunctioning advise the Contract Administrator prior to removal. If this is not done the Contractor may be held responsible for the repair of the unit. Use only qualified mechanical trades people for these operations.
- E5.5 Structural steel stands shall be fabricated and installed for the 2 large mechanical units on area B1. The stands shall be fabricated from a minimum of 1 ½" x ¼" square steel tubing. All components of the stands shall be hot zinc dipped. The stands shall be such as to ensure that the units have a minimum of 30" clearance underneath for future roof repairs. The existing sleepers shall be replaced with new pressure treated lumber sleepers of minimally the same dimensions as those currently in place. Sleepers can be discarded if the new stands are designed to sit directly on the underlying decking. Ducts shall be kept a minimum of 24" off the roof. Alter ducts as required to accommodate new roofing. Raise ducts as required to ensure they penetrate the wall no less than 8" above the top of the new roofing. Shop drawings shall be submitted complete with engineers stamp. Engineers shall be licensed to practice in the Province of Manitoba. Engineer design shall be for the stand as well as to confirm that the existing structure can handle any increase in snow loading that may occur as a result of raising the unit.
- E5.6 All plumbing vents shall be extended at this time. Existing cast hubs shall be removed (as required) and the appropriate length black ABS extensions securely clamped to the existing plumbing using Fernco couplers.
- E5.7 All parapet blocking shall be raised at this time to maintain a minimum height of 3" above the top of the new membrane. This shall be done with solid blocking of the same width as that which is currently in place.
- E5.8 Any plumbing vent curbs shall be completely removed and the specified plumbing vent flashing installed.
- E5.9 All wood blocking on all curbs shall be raised with solid wood blocking to maintain a minimum height of 8" above the top of the new roof assembly. A minimum of a 2x3 shall be installed on all curbs and ½" plywood installed over the sides of the old portion of the curbs to provide a clean substrate for the new self adhering membrane stripping. The 2x3 shall be set back slightly to accommodate the unit size.
- E5.10 All pitch boxes shall be replaced with wood curbs. These shall be constructed as detailed. All items entering the curbs shall do so through the sides. The curbs shall be designed so as to ensure any entry points are a minimum of 8" off the roof. The curbs shall be fully insulated and a plywood and metal cover installed.

- E5.11 Install 1/2" plywood up the inside face and on top of all parapets on area B1. Install the same up the high low wall between areas A1 and B1. Remove old wall covering before installing plywood. A strip of plywood shall also be installed on all adjoining high walls and is to extend 12" up above the top of the new roofing. Cut off stucco as required to allow installation of plywood on hi-low walls.
- E5.12 Prior to applying the vapor barrier all substrate shall be coated with specified primer. Install the torch adhered vapor barrier in accordance to manufacturers guidelines. Install base sheet membrane stripping to ensure that the roof membrane can tie into the vapour barrier.
- E5.13 A bead of mastic shall be applied around the base of all plumbing stacks so as to ensure a continuous seal to the vapor barrier. This shall be done at both the vapor barrier level and at the membrane.
- E5.14 Adhere the sloped insulation to the vapour barrier using the specified adhesive. The application of the adhesive must be done in strict accordance to the manufacturers guidelines so as to obtain a minimum uplift equal 90 mph.
- E5.15 Adhere the Colgrip "A" insulation to the first using the same adhesion guidelines as for the first layer.
- E5.16 Adhere the modified bitumen base sheet to the insulation. Ensure no wrinkles are present and that all side and end laps are properly sealed. Install screws and plates spaced 12" on centre around the perimeter edge or the roof as well as 12" on centre around all curbed openings, sleepers and other such projections. The membrane stripping shall cover all plates. Fasteners shall be as required by Soprema.
- E5.17 Apply the torch applied modified bitumen base sheet stripping in strict accordance to manufacturers guidelines. All blocking shall first be coated with the appropriate primer. The stripping shall be terminated 1" down the outside face of the parapets on area B1 and 12" up adjoining walls and high parapets on area A1. Torch applied corner gussets shall be installed on all inside and outside corners.
- E5.18 Set the base flanges of the Thaler Stackjacks in a bed of mastic. Seal in with a single ply of torch applied base sheet membrane. The ABS riser shall extend 1/2" above the top of the base and a bead of sealant shall then be applied to the top lip of the riser and the top cap installed.
- E5.19 Install new scuppers in locations indicated on roof plan. Minimum opening size is to be 8" high by 10" wide. Scuppers shall have a 1" high outside lip to allow the scuppers to act as overflows if the pipes ever become clogged.
- E5.20 Install applicable pitch boxes and fill with the specified pourable sealer.
- E5.21 Torch adhere the cap sheet to the base sheet once again ensuring no wrinkles are present and that a minimum of 1\8" asphalt flow is present along the edges of all laps. Excessive seepage is not acceptable.
- E5.22 Torch apply the cap sheet stripping in strict accordance to the manufacturers guidelines. The stripping shall be carried to the outside face of the parapets, onto the top of the east walls of area A1 and B1, onto the top of the south wall of A1, and 12" up the south wall of B1.
- E5.23 Install the new cap flashing on all parapets in a manner as the enclosed details.
- E5.24 Install the fastening bar flashing with gum cup (as detailed) along the high walls. Fasten through the flashing and membrane a maximum of 12" on center with TEK screws. Fill the gum cup with the approved caulking. Alter flashing as required to seal the top edge of any plywood installed along the base of high walls.

- E5.25 All vent curbs shall be filled with spray in place polyurethane foam insulation. The insulation shall be installed to the top of the curb so as to drain moisture out.
- E5.26 Reinstall all roof top units. Extend all duct Work, gas lines, and electrical as required to allow proper installation.
- E5.27 Reconnect and insulate all ducts. Coat with an appropriate fibrated emulsion. Coat all surfaces with aluminum paint.
- E5.28 Discard the old vent hoods on area A1 and replace with new 22 gauge galvanized insulated goose neck vent hoods complete with bug screens.
- E5.29 Alter the base of the access ladders to accommodate the new roofing.
- E5.30 Install new 4" x 4" closed face pre finished metal down pipes and structural steel lower sections from all scuppers on A1. Structural sections are not required for area B1 scuppers. Concrete splash pads shall be installed and sloped away from the building.

E6. ROOF AREA D1 & D2

- E6.1 All shingles shall be removed from the roof in such a manner as not to damage or expose the interior to damage (physical or weather). Protect lawn by placing plywood sheathing down prior to moving any equipment onto grassed areas. Protect existing buildings, flower beds, shrubs and trees with tarpaulins and ground sheets, while stripping off existing shingles.
- E6.2 All shingles shall be removed from the Site and all nails or staples picked up and disposed at a legal dump site. Magnets shall be used to ensure all nails and staples are picked up.
- E6.3 Upon the removal of the shingles, inspect the building structure for dry rot damage or deterioration of existing roof sheathing, fascia boards, trimmers plates and trusses. Report any rot to Contract Administrator immediately prior to the installation of any shingles.
- E6.4 No more shingles shall be removed in one day than can be recovered with new shingles and made weather proof.
- E6.5 Ensure adequate attic ventilation is present so as to meet the building codes in effect at the time of installation. All existing attic venting is to be replaced with new goose neck vents hoods on solid lumber curbs. Curbs shall be constructed so that they are a minimum of 8" above the roof on the back side of the curbs. Curbs shall have an inside opening of 12" x 12". Curbs shall be secured in place with wood screws. Sufficient vent hoods shall be installed to meet all applicable codes. All old no longer used vent openings shall have the openings closed off in a structurally sound manner. A minimum of 8 shall be installed with 4 near the bottom of the slope and 4 at the top of the slope. Vent hoods shall be fabricated from 22 gauge prefinished sheet metal. The intake portion of the hood shall be 12" above the roof surface. Submit a shop drawing indicating actual dimensions of the hoods to the Contract Administrator for approval prior to installation.
- E6.6 Any other miscellaneous vent flashing shall also be replaced with new of a similar style as that being replaced. This shall include the installation of a new skirt and storm collar flashing for any chimneys.
- E6.7 Prefinished drip edge flashing shall be installed on the eaves and gable ends. The new drip edge shall extend approximately 2" down the face of the new siding. New prefinished metal fascia shall also be installed over the existing painted wood fascia.

- E6.8 Sufficient eave protection shall be fully adhered to the wood deck starting at the eave and shall extend to a minimum of 12" inside the inner face of the exterior wall. A minimum width of 1800mm shall be installed. Install in strict accordance to manufacturers guidelines.
- E6.9 Eave protection shall be installed around all roof curbs and shall lap over top of the felt underlay. The membrane shall be carried up onto the top of all curbs. All corners of the membrane application shall be sealed with rubberized mastic.
- E6.10 Replace existing neoprene plumbing vent flashing with new specified flashing. All risers shall be cut off below the deck and appropriate length extensions added to accommodate the specified flashing. New extensions shall be glued to the existing.
- E6.11 Install the Decra Shingles and all related flashing in strict accordance to the manufacturers guidelines.
- E6.12 The manufacturers representative shall be required to provide additional on Site inspections during installation as required to ensure that the manufacturers warranty can be provided to the Contract Administrator. Ensure that the representative is given adequate notice for the inspections.
- E6.13 Install new 6" eave trough and down pipes. Down pipes shall be installed in the same locations as existing. Structural steel bottom sections shall be installed on all new down pipes. Structural steel sections shall be fabricated as detailed. A sample section of trough shall be submitted for approval before being installed.
- E6.14 Trough shall be securely fastened with 14 Ga. aluminum clips as manufactured by Wilton Aluminum or approved equal. Clips shall be placed no further apart than 24". Clips shall be secured with #12 hex head screws.
- E6.15 All remaining installation procedures shall be done in strict accordance to the manufacturers guidelines and applicable codes.
- E6.16 All rusted roof top units including chimneys shall be painted with aluminum paint.