PART 1 – GENERAL

1.1 Related Sections

.1 Section 07 42 93 - Soffit Panels.

.2 Section 07 61 13 - Sheet Metal Flashing and Trim

1.2 Description

.1 Work furnished and included:
- .1 Underlayment
- .2 Roof panel clip system.
- .3 Roof panel.
- .4 Fascia .
- .5 Installation of wall and step metal flashings related to sheet metal roofing.
- .6 Gutter and rain water leaders.
- .7 Accessories including associated flashings, closures, sealants.

1.3 References

.1 American Society for Testing and Materials (ASTM)
- .1 ASTM A 653/A 653M- 95, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 Design of cladding system in accordance to the latest edition of:
- .1 CSA-S136 for the design of Cold Formed Steel Structural Members
- .2 Canadian Sheet Steel Building Institute Standards 10M and 20M.
- .3 Ontario Building Code

1.4 Quality Assurance

.1 Manufacturer of roof system, and installer shall demonstrate at least five years experience in projects similar in scope.

1.5 Design Requirements

.1 Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, overstressing of components, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime sky heat loss.

1.6 Samples

.1 Submit samples of standard coloured metal roof sheet for review by the consultant, prior to fabrication.

1.7 Shop Drawings

.1 Submit shop drawings in accordance with the conditions of the contract.
- .1 Indicate arrangement of pre-finished Roof Sheet, including joints, types and locations of supports, fasteners, flashing, gutters, mitres, and all metal components related to the roof installation.
- .2 Indicate layout of snow retention system including all components and accessories.
- .3 Include for underlayment as part of the roof system.
- .4 Drawings shall be signed and sealed by a Professional Engineer, attesting to the ability of the snow retention system to withstand the snow and ice loads.

1.8 Product Delivery, Handling And Storage

.1 Store components and materials in accordance with panel manufacturer's recommendations and protect from elements.
.2 Protect prefinished steel during fabrication, transportation, site storage and erection, in accordance with CSSBI Standards.

1.9 Guarantee

.1 For work in this section, warranty by installer against defects or deficiencies in materials or workmanship shall be for a period of one year from date of substantial completion.

1.10 Warranty

.1 Provide a manufacturer's written warranty: Furnish panel manufacturer's written warranty covering failure of factory-applied exterior finish within the warranty period. Warranty period for finish: 20 years after the date of Substantial Performance. The values below are based on normal environments and exclude any aggressive atmospheric conditions.

PART 2 – PRODUCTS

2.1 Roof System Components

.1 Roof System: Tradition100-4 on Solid Substrate by Vicwest.

- .1 Underlayment: Membrane shall be Lastobond by Soprema or Ice and Water Shield by W.R. Grace.
- .2 Clip System:
  - .1 Thermally responsive clips to be fabricated from a minimum of 0.91 mm steel, with minimum Z275 galvanized coating designed to accommodate expansion and contraction of the roof sheet.
  - .2 Roof Fasteners: As specified by manufacturer, to resist wind uplift and sliding snow forces.
- .3 Prefinished Roof Sheet, exposed to exterior.
  - .1 Profile: Tradition 100-4, with I-style ribs at 400 mm spacing.

.2 Panel: Z275 galvanized (zinc coated) sheet steel conforming to ASTM A653M structural quality Grade 230 having a nominal core thickness 0.76mm.

.4 Snap Cap

.1 Provide 25 mm high snap caps for full length of the roof panel and retained by panel clips, fabricated from Z275 galvanized (zinc coated) sheet steel conforming to ASTM A653M structural quality Grade 230 having a minimum nominal core thickness 0.61mm . Finish and colour to match roof sheet.

2.2 Finish

.1 Coating: prepainted with metallic series PVDF, colour bright silver #2624.

2.3 Accessories

.1 Fascia, gutters and rainwater leaders: formed from same materials as the roof sheet. Custom fabricated to suit architectural details, as required.

.1 Design gutter to withstand weight of snow and ice and to accommodate expansion and contraction due to temperature variation.

.2 Flashings: in accordance with Section 07 62 00.

.1 Wall flashing and step flashings are to match wall colour.

.3 Closures: Foam and metal closures to suit profiles selected, to manufacturer's recommendations.

.4 Snow Guard: S-5! Colourguard System composed of heavy duty clamps, unpunched cross member, Versaclip Ice Clip and stainless steel hardware, by Sky Products Ltd.

.1 Design system to suit building and prevent damage due to sliding snow and ice. Refer to drawing notes.

.2 Colour strip to match roofing material.

.5 Sealants: In accordance with manufacturer's recommendation and Section 07 92 00.

2.4 Fabrication

.1 Fabricate roof components to comply with dimensions, profiles, gauges and details as shown on the shop drawings, including fascia and soffit panels and all companion flashing.

.2 Fabricate all components of the system in the factory, ready for field installation.

.3 Provide roof sheet and all accessories in longest practicable length to minimize field lapping of joints.

PART 3 — EXECUTION

3.1 Examination

.1 Examine work of other Sections upon which work of this Section depends.
.2 Report all discrepancies to consultant before beginning work on the roof system.

3.2 Installation

.1 Roof Materials

.1 Underlayment: Install underlayment fully adhered to solid substrate according to manufacturer's recommendations. Ensure all joints are properly lapped and sealed. Tie in with barriers on adjacent surfaces to ensure airtight construction. Provide a continuous seal around all openings in the insulated metal roof system.

.2 Clip: Attach Tradition clips using fasteners as recommended by the manufacturer, to suit the substrate.

.2 Roof Panel Installation

.1 Install exterior prefinished roof panels on panel support clips, using manufacturer's proper construction procedure. Ensure metal roofing sheet side-lap is positively retained by clips, and proper sheet coverage is maintained.
.2 Install the snap-cap at all side laps as shown on the approved shop drawings. Mitre snap-cap as required to resist water entry.
.3 Where indicated on approved shop drawings, secure the end-lap of metal roofing sheets in accordance with the manufacturers specifications and details to provide a weather-tight seal. Exposed fasteners to match colour of the roof sheet.
.4 Provide notched and formed closures, sealed against weather penetration, at changes in pitch, and at ridges and eaves, where required.
.5 Install all companion flashing {gutters}, {ventilators} as shown on the shop drawings. Use concealed fasteners when possible. Exposed fasteners to match colour of roof sheet.

3.3 Gutters and Downspouts

.1 Form gutter and rainwater leaders to profile indicated.

.2 Design gutter to accommodate expansion and contraction due to temperature fluctuations by incorporating watertight slip connections.

.4 Secure gutter to substrate with brackets designed and spaced to withstand potential snow and ice loading.

.5 At roof edges extend gutter under metal roofing 150 mm minimum and terminate in 20 mm folded edge secured by cleats. Hook lower end of roofing into lock strip to form 20 mm wide loose-lock seam.

3.4 Snow Guards

.1 Install snow guards in accordance with manufacturer's instructions.

.2 Place Clamps at intervals in accordance with manufacturer's instructions.

.3 Place clamps in straight, aligned rows.

.4 Install splices at cross member end joints and every 15.25m of run.

.5 Do not cantilever cross members more than 75 beyond last clamp ends.

.6 Install Ice Clips where recommended by the manufacturer.

3.5 Clean Up

.1 Clean exposed panel surfaces in accordance with manufacturer’s instructions.

.2 Repair and touch up with colour matching high grade enamel minor surface damage, only where permitted by the Architect and only where appearance after touch-up is acceptable to Architect.

.3 Replace damaged panels and components that, in opinion of the Architect, cannot be satisfactorily repaired.

END OF SECTION 07 61 13