



GOVERNMENT OF BERMUDA

**Ministry of Public Works  
Department of Public Lands and Buildings**

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**ROOF RETROFIT  
SPECIFICATION**

**Between the Owner:** Department of Public Lands & Buildings  
2 Aeolia Drive Devonshire DV05  
Hamilton  
Bermuda  
441-292-8485

**And the Contractor:** To Be Advised

**For the Project:** Dining Hall  
Warwick Camp  
1 South Road  
Warwick  
WK 01  
  
**Building #: 0248**

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## **DIVISION 01. GENERAL REQUIREMENTS**

### **01500 - Temporary Facilities and Controls**

This work shall consist of the application of temporary measures throughout the life of the project.

### **01510 - Temporary Utilities**

All connections and extensions required to provide temporary utilities shall be made by the Contractor at the Contractor's expense.

### **01511 - Temporary Electricity**

The Contractor is to connect to the existing power service without disrupting local service requirements.

### **01518 - Temporary Water**

The Contractor is to connect to the existing water source for construction operations.

### **01519 – Permits**

Not Applicable.

### **01523 - Sanitary Facilities**

The Contractor will be able to use the existing sanitary facilities, which he shall maintain in a neat and sanitary condition.

### **01530 - Temporary Construction**

The contractor shall provide and maintain for duration of work all required temporary stairs, ladders, ramps, runways and hoists for use of all trades.

### **01540 - Construction Aides**

The contractor to provide all construction aids needed during construction which shall include but not limited to; elevators, hoists, cranes, etc.

### **01542 - Construction Scaffolding and Platforms**

The owner shall provide and maintain for duration of work all required temporary standing scaffolding and 'Independent tied' scaffold.

### **01550 - Vehicular Access and Parking**

Arrange parking areas to accommodate construction personnel.

### **01560 - Temporary Barriers and Enclosures**

The contractor shall provide barriers to prevent unauthorized entry into construction areas and to protect existing facilities and adjacent properties from damage from construction operations and demolition. Install barricades and covered walkways required by governing authorities for public right of ways.

### **01600 - Product Requirements (Scope of Work)**

All materials shall be installed in strict accordance with the manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the

manufacturer shall be responsible for the performance of their product. All Items not specifically mentioned that are required to make the work complete and operational shall be included.

**Installation and Storage** - All materials, supplies and equipment shall be installed per manufacturer's recommendations and per applicable codes and requirements. Material stored on site shall be protected from damage by moisture, wind, sun, abuse or any other harmful affects.

**01630 - Product Substitution Procedures**

If unable to source the specified product on island the Contractor is to investigate alternative proposed products and determine that they are equal or superior in all respects to products specified. Coordinate installation of accepted substitutions into the Work, making such changes as may be required for the Work to be complete in all respects. Meet with clients and get change order request signed.

**01700 - Execution Requirements**

The execution of all work shall be in strict accordance with these specifications and manufacturer's written specifications or Material's Institute Standards. Where the manufacturer's recommended details are used, the manufacturer shall be responsible for the performance of their product. All work not specifically mentioned that is required to make the work complete and operational shall be included.

**Codes** - Construction shall comply with all applicable building codes. It is the responsibility of the Contractor to insure compliance with said codes and modify the specifications as needed to comply with such codes.

**Measurements** - The Contractor shall check and verify all dimensions and conditions before proceeding with construction.

**Workmanship** - Workmanship shall conform to the best and highest standards of quality in each trade and shall include all items of fabrication, construction and installation. All work shall be completed by skilled tradesmen and mechanics. Installation of all equipment and materials shall be in strict accordance with manufacturer's recommendations.

**Insurance** - Builders Risk Insurance shall be maintained by the contractor during the course of construction until final acceptance by the owner. All bonding and insurance requirements shall be coordinated with the Owner prior to beginning construction. All contractors shall provide and be solely responsible for necessary barricades and safety precautions, and strictly adhere to all governing codes on safety, including the OSHA Act.

**01740 - Cleaning**

The construction site is to be in a clean and orderly condition throughout the construction process. Clean interior spaces prior to the application of the finishes. At the conclusion of construction, the project shall be properly cleaned. This should include but not be limited to; cleaning the interior and exterior glass, surfaces exposed to view, remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, and mop all tiled surfaces, etc. Remove all waste and surplus materials.

**01760 - Protecting Installed Construction**

The Contractor is to protect all installed construction. If products or materials come with a protective coating, contractor shall maintain protective coating until construction is complete. Contractor shall replace any items that become defective or damaged.

**01904 - Hazardous Materials Removal and Disposal**

The owner shall arrange for the removal and disposal of all hazardous material before beginning construction.

## **DIVISION 02. ROOFING**

### **02000 - General**

Contractor shall provide labor and materials pertaining to Steel Deck and TPO membrane roof covering installation as specified herein, while complying with all applicable building codes.

**NOTE: The existing asbestos roof sheeting to the Dining Hall roof will be instructed for removal (by the Owner) to an asbestos abatement contractor prior to the commencement of these TPO roof covering works.**

## **DIVISION 04. MASONRY**

### **04000 - General**

Contractor shall provide labor and materials pertaining to masonry work as required and as specified herein, while complying with all applicable building codes.

### **04002 – Masonry Up-Stand**

Allow for raking out all loose pointing and repointing. Allow for making good all defective areas of masonry as necessary.

## **DIVISION 05. STEEL DECK**

Contractor shall provide labor and materials pertaining to Steel Deck work as specified herein, while complying with all applicable building codes.

### **05001 – Steel Deck**

The steel deck shall comprise “Epcore” (or similar approved) galvanized roof metal deck with galvanized mechanical fixings. The steel deck and its fixings shall be all in accordance with ASCE 7 category D, which the contractor will be required to verify prior to installation.

## **DIVISION 06. CARPENTRY**

### **06000 - General**

Contractor shall provide labor and materials pertaining to carpentry work as specified herein, while complying with all applicable building codes.

### **06105 – Plycem Boarding**

The contractor is to allow for installing new ½” (Plycem) fiber reinforced cement board over the newly installed steel deck to the Dining Hall roof.

## **DIVISION 07. WATERPROOFING AND ROOF DRAINAGE**

### **07000 - General**

Contractor shall provide labor and materials pertaining to moisture protection work as specified herein, while complying with all applicable building codes.

**It should be noted that the works will be carried out whilst the buildings are occupied.**

*The contractor is to ensure that roof covering works are carried out during forecasted dry weather conditions. The contractor is to allow for alterations and repositioning the existing temporary tarpaulins etc. necessary to protect the interior areas during the course of the roof covering works.*

The Contractor is to review Drawing 001 – Roof Plan in conjunction with this specification.

### **07110 – Waterproofing,**

Contractor shall provide labor and materials pertaining to moisture protection work as required and as specified herein, while complying with all applicable building codes.

The contractor is to allow for the resurfacing of the existing roofs with a new **Carlisle Sure Weld or Duro-Last Single Ply TPO roof** covering or a similar approved product.

Location: All roofs (as detailed on drawing 001)

### **07500 - Membrane Roofing**

The contractor shall provide and utilize appropriate roof slopes, drainage system(s), cants, flashing, protection devices and materials necessary for an effective roof system. All Roofing techniques, systems and materials utilized should be "time proven" (15 years) and constructed as "composite" systems instead of applications. Roofing shall be performed by professionals who are fully qualified and approved as specified by the manufacturer.

### **Design Requirements**

Slopes to drain should be unobstructed by above-roof building elements, equipment curbs, or similar objects. Where such obstructions are unavoidable, provide cants, saddles or other means to restore positive pitch to drain. No buck laps shall be permitted anywhere in single-ply roofing membranes. All installed Roofing Systems shall meet ASCE 7 category D design standards.

**Warranty Requirements** - Comply with the following requirements for warranties:

New Roofs: Roofing Systems shall include a 15 year, single source warranty covering the full single ply roofing system (including all accessories) for materials and labor.

### **Roofing Materials**

All necessary roofing materials for a given project shall be provided by a single manufacturer. All accessory materials shall be approved by that manufacturer as necessary to obtain the manufacturer's full warranty.

## Roofing System

**Roof Membrane - Carlisle Sure Weld or Duro-Last** fully adhered Single Ply TPO systems are to be used or a similar approved product.

Location: All Roofs

All roofing membrane is to be a minimum of 60mil thick and provided in "White".

**Insulation** – Supply and Install roof insulation board as supplied by Celotex, Kingspan (or similar approved), which shall provide a minimum R20 Insulation value.

Location: Pitched Roofs.

### Special Requirements - Re-roofing Projects.

**Noise and Vibration** - Consult with Project Coordinator to determine whether special requirements for evening or weekend work are necessary.

**Dust Protection** - Contractor shall provide dust protection over occupant's equipment and furnishings (where appropriate). Dust protection shall include top floor areas that are occupied. Where occupant's activities may be particularly sensitive to dust, dust protection shall be provided by contractor regardless of presence of suspended ceiling. Dust protection shall be applied and removed in coordination with occupant's operations.

### 07600 - Flashing

Supply and Install **Carlisle Sure weld or Duro-Last TPO** flashing (or similar approved product) at all joints of walls and other connection points to prevent the infiltration of water.

### 07716 – Caulking

Carefully rake out all existing caulking to the joints of the copings and carryout replacement of this exterior caulking.

All exterior caulking shall be either external quality **Dow Corning** or Marine quality caulk 5200 as supplied by **3M** or similar to the prior approval of the contract administrator. Caulking shall be applied in accordance with the manufacturer's instructions, including surface preparation but excluding weep holes. Closed-cell polyethylene backer-rod must be used in all joints deeper or wider than ¼"; such joints shall be kept to a minimum in any event. Caulk shall be guaranteed non-staining, non sagging type. Caulk color shall match closely the finish of the masonry.

Joints and spaces to be caulked shall be thoroughly clean, dry, free of paint, putty oils, grease, dust and other foreign matters, and shall be primed if necessary. All caulking shall be removed from areas to receive new caulk. All surfaces to accept caulk shall be left broom clean before new application.

Application of caulk to the masonry, plaster, surfaces shall be provided in a manner recommended by the manufacturer. Caulk beads should be smooth and slightly concave, Excess, messy, or convex caulking will not be permitted, nor beads exceeding 3/8" wide.



All caulking shall be done using an approved type of caulking gun and applying the material under pressure, except where the use of a sun is not practical. Caulk joints shall be tooled immediately upon application to assure maximum adhesion and neat joint appearance.

**07720 – Rainwater Goods**

Remove all existing and Install new 6” PVC gutters and 4” PVC downspouts throughout. Attach every 2’-6” on center (OC) with non-ferrous straps and/or fasteners/screws. Include for all gutter/downspout connectors and stop ends

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**APPENDIX 1**  
(PHOTOGRAPHS)



North and East Elevations



Medic, Kitchen and Dining Hall Roofs (West Elevation)



Medic, Kitchen and Dining Hall Roofs (West Elevation)



Up-stand and Gutter to Dining Hall Roof (West Elevation)



Storage Roofs (North Elevation)



West Elevation Roofs





Porch Roof (West Elevation)



Porch Roof (East Elevation)



Roof Void



Steel Purlin Connection within Roof Void



## **APPENDIX 2**

(ROOF PLAN ATTACHED)