



Pêches et Océans  
Canada

Fisheries and Oceans  
Canada

SPECIFICATIONS

**Paramount New Building 25**

**Pre-engineered Metal Building**

**Steveston, British Columbia, British Columbia**

Fisheries and Oceans Canada

Small Craft Harbours – Pacific Region

August 2022

**STEVESTON PARAMOUNT BUILDING 25**

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**ARCHITECTURAL**

<b>DRAWINGS</b>	<b>TITLE</b>
<b>A0.00</b>	COVER SHEET, DRAWING LIST, GENERAL NOTES, ASSEMBLIES, SCHEDULES, & ABBREVIATIONS
<b>A1.01</b>	SITE PLAN
<b>A2.01</b>	MAIN FLOOR PLAN
<b>A2.02</b>	SECOND FLOOR PLAN
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<b>A5.01</b>	BUILDING SECTION



## SECTION 01 11 00 – SUMMARY OF WORK

### Part 1 General

#### 1.1 DEFINITIONS

- .1 Contractor: The party accepted by the Owner with whom a formal contract is entered to complete the work of this project.
- .2 Contracting Authority: Contracting and Procurement Services, Procurement Hub, Fisheries and Oceans Canada.
- .3 Contract Document: Includes all Sections herein, as well as, attached drawings and appendices referenced in the Technical Specification Index.
- .4 Engineer/Departmental Representative: Employee(s) that represents the Owner who act as the Engineer and Technical Authority for the project.
- .5 Harbour Authority: Steveston Harbour Authority who manages the day to day operation and maintenance of the Steveston Harbour.
- .6 Owner: Small Craft Harbours (SCH), Program of the Department of Fisheries and Oceans, Vancouver, BC.

#### 1.2 BACKGROUND

- .1 Small Craft Harbours (SCH) requires a new pre-engineered metal building approximate 1,430 square meters supplied and installed in Steveston, Richmond, BC. Site address is 12740 Trites Road, Richmond.

#### 1.3 PHYSICAL CHARACTERISTICS

- .1 Proposed building shall be 42.5 meters in length and 33.6 meters in width with a typical perimeter wall height of 7.8 meters
- .2 It will provide a partial standalone enclosed second floor approximately 6.8m wide and 42.5m long elevated 4.5m from the finished grade with steel staircases on both north and south end of the building.
- .3 Manual overhead roll up doors for forklift access to all bays (shelving aisles) and storage locker rooms and manual swing man doors for occupant convenient access and egress.
- .4 Proposed building will be on a newly backfilled material situated between 6 and 7.6 m from the water front.

#### 1.4 INTENDED USE

- .1 General warehousing in harsh salt environment
- .2 Storage lockers



- .3 Low maintenance and highly durable storage

## **1.5 ARCHITECTURAL DRAWINGS**

- .1 STEVESTON PARAMOUNT BUILDING 25

## **1.6 MANDATORY WORK COVERED BY CONTRACT DOCUMENTS**

- .1 The work of this contract comprises of the fabrication and complete installation of a new pre-engineered metal building complete with exterior metal stairs.
- .2 The complete metal building shall include all structural and non-structural members enclosed in an insulated building envelope (exterior walls, roof, and doors).
- .3 Provision of reaction force diagram and anchor rod layout plan for shallow foundation design.

## **1.7 CONTRACT SCOPE EXCLUSION**

- .1 The provision of shelving or pallet racks
- .2 The provision of exterior windows
- .3 The provision of bathroom fixtures
- .4 The provision of chain link fence
- .5 The provision of interior walls
- .6 The provision utilities (mechanical, fire protection, and electrical)
- .7 Standalone partial second floor design and installation
- .8 Underground utility relocation if required
- .9 The provision spring loaded self-closing gate
- .10 Foundation design and installation
- .11 Slab on grade design and installation
- .12 Sub base and base preparation

## **1.8 PROJECT SCHEDULE**

- .1 All work including clean-up and demobilization must be completed by September 30<sup>th</sup> 2023.
- .2 Shallow concrete foundation and slab on grade which is outside scope of this contract – assume to be completed between 25 to 28 weeks from receipt of finalized building reaction forces and anchor rod plan from the Contractor.
  - .1 Fabricated metal building can be delivered to site for temporary storage from January 1<sup>st</sup> 2023 onwards.

## **1.9 SCHEDULE OF QUANTITIES DESCRIPTION**

- .1 Pre-Engineered Metal Building Fabrication and Delivery



- .1 The provision of pre-engineered Metal Building Fabrication and Delivery includes the following:
  - .1 Stamped sealed structural drawing by Professional Engineer accredited Engineer Geoscientist British Columbia
  - .2 Provision of structural design report, column reaction forces and anchoring layout and details.
  - .3 Fabrication of metal building as per section 13 34 19.
  - .4 Deliver to site (12740 Trites Road, Richmond). Contractor to provide own equipment and labour to off load trucks and organize it on site. Provide weather proof tarp to minimize exposure to weather. Owner will store hardware, insulation, and any other manageable pieces in an enclosed secure storage onsite.
- .2 Mobilization and Demobilization
  - .1 Refer to section 01 50 00.
- .3 Complete installation of Pre-engineered Metal Building
  - .1 Provision of all labour, equipment, consumables, temporary utilities, and tools required to complete the installation of the metal steel building.
  - .2 Section reference 13 34 19.
  - .3 Complete metal steel building consists of the following:
    - .1 All structural framing including all girts, purlins, bracing, columns, rafters and all reinforcing around openings.
    - .2 Double lock standing seam metal roofing with ridge vent
    - .3 PBR wall cladding.
    - .4 Exterior wall and roof insulation
    - .5 Gutters and downspouts (connection of downspouts to underground storm system by others)
    - .6 Anchoring structure to owner supplied concrete foundation.
    - .7 Obtain final inspection from a professional engineer qualified to inspect steel structures.
- .4 Supply and install exterior stairs
  - .1 The supply and install of two complete engineered metal exterior stairs with metal landing platform each as per the Architectural drawing.
- .5 Supply and install roll up door Type F
  - .1 The supply and install of type F uninsulated 3023mm wide by 4242mm high roll up doors. Refer to section 08 33 00.
- .6 Supply and install roll up door Type E
  - .1 The supply and install of type E uninsulated 3023mm wide by 3048mm high roll up doors. Refer to section 08 33 00.



- .7 Supply and install roll up door Type C
  - .1 The supply and install of type C uninsulated 1779mm wide by 2438mm high roll up doors. Refer to section 08 33 00.
- .8 Supply and install Metal Doors - Hollow
  - .1 The supply and install of uninsulated metal doors 914mm wide by 2159mm tall. Refer to section 08 11 00.
- .9 Supply and install Metal Doors - Insulated
  - .1 The supply and install of insulated metal doors 914mm wide by 2159mm tall. Refer to section 08 11 00.

## **Part 2 Product**

NOT USED

## **Part 3 Execution**

NOT USED

**END OF SECTION**



## SECTION 01 13 00 – GENERAL REQUIREMENTS

### Part 1 General

#### 1.1 NOTIFICATION

- .1 The Contractor shall give the Departmental Representative minimum 2 week notice prior to delivery to the Site.
- .2 The Contractor shall give the Departmental Representative minimum 2 week notice prior to start of construction.

#### 1.2 HOURS OF WORK

- .1 Normal work hours are between 0700 hrs to 1700 hrs Monday through Friday not including statutory holidays.
- .2 Contractor may request to work outside the above-mentioned normal work hours. Submit written request to Departmental Representative to work outside of the normal work hours a minimum of forty eight (48) hours in advance.

#### 1.3 CONSTRUCTION WORK SCHEDULE

- .1 The Contractor shall work whatever shifts while abiding to the noise-by-law required in order to ensure the work meets regulatory windows and is completed by the completion date of the contract.
- .2 Time lost by the Contractor due to stoppage on account of adverse weather conditions may be allowed, at the discretion of the Departmental Representative, as an extension of time for the completion of the work over and above the date of completion specified in the contract agreement.
- .3 Contractor shall provide a schedule and sequence for all construction activities associated with this work.

#### 1.4 HEALTH AND SAFETY

- .1 Specified in Section 01 35 29.06

#### 1.5 ENVIRONMENTAL PROCEDURES

- .1 Specified in Section 01 35 43

#### 1.6 REGULATORY REQUIREMENT

- .1 The Contractor must, at his own expense, procure all permits, certificates and licenses required of him by law for the execution of his work under this contract. Building permit is not required.



- .2 The Contractor shall comply with all Federal, Provincial or Municipal laws, ordinances or rules and regulations relating to the performance of his work and in force during the duration of this contract.
- .3 The Contractor is required to give all required notices, comply with all local, municipal, provincial, and federal laws, ordinances, codes, by-laws, rules and regulations relating to the work.
- .4 All work to be done in accordance with Work Safe BC regulations. The Contractor shall comply with Federal and Provincial laws, orders and regulations concerning the control and abatement of water and air pollution.

### **1.7 EXECUTION REQUIREMENTS**

- .1 The Contractor is expected to familiarize themselves with the site, facilities and amenities within.
- .2 The Contractor's representative on site shall be completely familiar with the method of work to be employed. Such personnel shall remain on site for the duration of the work.
- .3 The Contractor shall protect all finished work from injury, defacement, unauthorized entry, or trespass until such time as the work described in the contract documents is substantially complete.
- .4 The site shall be left in a safe condition at the completion of each work day.

### **1.8 INSPECTION**

- .1 Allow Departmental Representative access to the Work. If part of the Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.
- .2 Departmental Representative will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents.

### **1.9 INTERFERENCE WITH OPERATION**

- .1 During the course of construction and clean-up, do not dispose of surplus, waste or demolished materials in navigable waters.
- .2 The Contractor shall upon instruction of the Owner or Engineer, promptly remove any of the Contractor's equipment located outside the specified work area and obstructing any harbour operation.

### **1.10 BARRIERS, LIGHTS AND WATCHING**

- .1 The Contractor shall provide all requisite barriers, fences, warning signs, lights and watching for the protection of persons and property on or adjacent to the site.





### **1.11 SITE ACCESS**

- .1 General site access shall be coordinated with the Owner.
- .2 The Contractor shall maintain routes of travel, with the Owner being the sole judge as to what may be deemed reasonable.

### **1.12 CONSTRUCTION AREA**

- .1 The Contractor shall not enter on nor occupy with men, tools, equipment or material, any ground outside the property of the Harbour Authority without the written consent of the party owning such ground. Other Contractors or employees or representatives of the Department may, for all necessary purposes, enter upon the work and premises used by the Contractor, and the Contractor shall conduct his work so as not to impede unnecessarily any work being done by others nor adjacent to the site.
- .2 The Contractor shall regulate construction traffic on public areas and comply with all local ordinances in connection therewith, including load limitation and removal of debris.
- .3 The Contractor shall confine his operations on the site to those areas actually required for the work including routes and regulations approved by the Owner for haulage of materials.

### **1.13 PROTECTION OF EXISTING STRUCTURES**

- .1 Existing structures, adjacent marine facilities, roads, services, piping or equipment within the work area which are not to be replaced shall be properly protected from any injury or damage, direct or indirect.
- .2 Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractor's expense to the satisfaction of the Engineer.

### **1.14 EXISTING SERVICES**

- .1 Notify Departmental Representative if existing utilities and services are found within the Site and will be treated as extra.

### **1.15 TEMPORARY SERVICES**

- .1 The Contractor shall supply for own use; sanitary, first aid, and all other temporary services such as water and electricity and any other facilities or amenities required for the work.

### **1.16 RECORD DRAWINGS**



- .1 The Contractor shall mark up one set of plans with any changes or amendments implemented during the Contract. These plans shall be submitted to the engineer before the Final Certificate of completion is issued.

#### **1.17 WASTE MANAGEMENT**

- .1 All replaced items, cut-offs and waste material shall be disposed by the contractor in strict accordance with provincial, local, and municipal regulations and Part 8 of the National Building Code and with the Canadian Construction Safety Code.

#### **1.18 PROGRESS CLAIM**

- .1 Payment based on goods or deliverables received tendered in Annex "B" – Basis of Payment.
- .2 Down payment or deposit prior to any work delivered is not allowed.

### **Part 2 Product**

**NOT USED**

### **Part 3 Execution**

**NOT USED**

**END OF SECTION**



## SECTION 01 35 29.06 - HEALTH AND SAFETY REQUIREMENT

### Part 1 General

#### 1.1 DESCRIPTION

- .1 Health and safety considerations are required to ensure that the Contractor shows due diligence towards health and safety on construction sites.

#### 1.2 MEASUREMENT AND PAYMENT

- .1 Health and Safety Requirements are considered incidental to the work and will not be measured separately. No separate payment will be made under this Section.

#### 1.3 REFERENCES

- .1 Government of Canada:
- .2 Canada Labour Code – Part II
- .3 Canada Occupational Health and Safety Regulations.
- .4 National Building Code of Canada (NBC):
- .5 Part 8, Safety Measures at Construction and Demolition Sites.
- .6 The Canadian Electric Code
- .7 Canada Standards Association (CSA):
- .8 CSA S269, Falsework for Construction Purposes.
- .9 CSA S269.2, Access Scaffolding for Construction Purposes.
- .10 CSA-S350, Code of Practice for Safety in Demolition of Structures.
- .11 CSA Z462 – Workplace Electrical Safety Standard.
- .12 American National Standards Institute (ANSI):
- .13 ANSI A10.3, Operations – Safety Requirements for Powder-Actuated Fastening Systems.
- .14 Province of British Columbia:
- .15 Workers Compensation Act. Part 3 Occupational Health and Safety.
- .16 Occupational Health and Safety Regulation
- .17 Health Canada/Workplace Hazardous Materials Information System (WHMIS):
- .18 Material Safety Data Sheets (MSDS).

#### 1.4 WORKERS COMPENSATION BOARD COVERAGE

- .1 Comply fully with the Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the completion of the work.



- .2 Maintain Workers' Compensation Board coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

### **1.5 COMPLIANCE WITH REGULATIONS**

- .1 The Owner may terminate the Contract without liability to the Owner where Contractor, in the opinion of the Owner, refuses to comply with a requirement of the Workers' Compensation Act or the Occupational Health and Safety Regulations.
- .2 It is Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.

### **1.6 SUBMITTALS**

- .1 Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
  - .2 Results of site specific safety hazard assessment.
  - .3 Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
  - .4 Risk Management and Safety Procedure for possible events including but not limited to storm, fire, and fall.
  - .5 WHMIS MSDS - Material Safety Data Sheets if requested.
  - .6 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations
  - .7 The Engineer review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
  - .8 Submit copies of incident and accident reports to Department Representative whenever an unforeseen incident and/or accident occurred.

### **1.7 RESPONSIBILITY**

- .1 Assume responsibility as the Prime Contractor under this Contract.
- .2 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
- .3 Comply with and enforce compliance by employees with safety requirements of contract documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.



- .4 Report all safety and environmental incident to the Department Representative as soon as it happened.

### **1.8 BARRICATION**

- .1 Provide safety barricades around work site as required to provide a safe working environment for workers and protection for pedestrian traffic.
- .2 Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the work site.
- .3 Provide appropriate means by use of barricades, fences, and warning signs as required.
- .4 Secure site at night time as deemed necessary to protect site against entry.

### **1.9 REGULATORY REQUIREMENTS**

- .1 Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at the Contractor's Work Site.
- .2 In event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representatives will advise on the course of action to be followed.

### **1.10 FILING OF NOTICE**

- .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- .2 Provide copies of all notices to Departmental Representative.

### **1.11 SAFETY ASSESSMENT**

- .1 Perform site specific safety hazard assessment related to project.
- .2 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site.
- .3 Schedule and administer Health and Safety meeting prior to commencement of Work.

### **1.12 UNFORSEEN HAZARDS**

- .1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Engineer verbally and in writing.

### **1.13 POSTING OF DOCUMENTS**



- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Engineer.

#### **1.14 CORRECTION OF NON-COMPLIANCE**

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by the Engineer.
- .2 Provide the Engineer with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 The Engineer may stop Work if non-compliance of health and safety regulations is not corrected.
- .4 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule consideration for Work.

#### **Part 2 Product**

**NOT USED**

#### **Part 3 Execution**

**NOT USED**

**END OF SECTION**



## SECTION 01 35 43 - ENVIRONMENTAL PROCEDURES

### Part 1 General

#### 1.1 DESCRIPTION

- .1 This Section describes environmental procedures that are required for the Contract. Contractor shall be responsible for adhering to these special procedures while completing all work under this Contract.
- .2 Contractor is responsible for environmental protection during all construction activities at all locations it performs work.

#### 1.2 MEASUREMENT AND PAYMENT

- .1 Environmental Procedures are considered incidental to the work and will not be measured separately. No separate payment will be made under this Section.

#### 1.3 ENVIRONMENTAL RESPONSIBILITY

- .1 Contractor shall demonstrate in the performance of the work that it is environmentally responsible by complying with environmental legislation, regulations, and authorizations.
- .2 Follow all Departmental Representative instructions and policies, practices, and procedures established by Departmental Representative with respect to the environment that are communicated by Departmental Representative to Contractor from time to time.
- .3 Take all reasonable and necessary measures in the performance of the work to avoid causing negative impacts to the environment. Where negative impacts occur, Contractor shall immediately advise Departmental Representative and shall be solely liable to undertake all reasonable and necessary measures to minimize the effect of such negative impacts and restoring the site to pre-impact conditions.
- .4 Maintain key pollution control systems in working condition throughout the project and undertake all works such that there are no unauthorized discharges of liquids or solids to the marine environment, or of gas to the atmosphere.
- .5 Maintain a neat work area free of unnecessary debris, tools, equipment, or materials; dispose of sewage, refuse, and chemical wastes in compliance with the Best Management Practices and applicable federal, provincial, and municipal or local legislation, regulations, or laws; and remove all tools, equipment, supplies, and wastes from the site upon completion of the work.



#### **1.4 FIRES**

- .1 Fires and burning of rubbish on Site is not permitted.

#### **1.5 SPILL OR RELEASE OF DELETERIOUS SUBSTANCES**

- .1 Contractor shall immediately contain and assess the spill, provide appropriate notifications, and take the necessary steps to prevent further discharge.
- .2 Contractor is responsible for immediate cleanup of the spill and restoration of the area to the satisfaction of Departmental Representative and other regulatory agencies, where involved.
- .3 Departmental Representative shall be immediately informed of all spills that occur at the Work Site.
- .4 Spill kits will be kept at the Work Site at all times.

#### **1.6 EQUIPMENT MAINTENANCE**

- .1 All heavy construction equipment shall be free of leaks and cleaned prior to construction. The Contractor shall have absorbent pads on site in case of any oil leaks or contaminants entering the water.
- .2 Hydraulic machinery shall use environmentally friendly hydraulic fluids (i.e. non toxic to aquatic life and biodegradable).
- .3 Equipment washing, refueling and servicing shall be conducted away from the water (i.e. no closer than 30m from the river).
- .4 Do not refuel any type of equipment within 100m of a waterbody

#### **1.7 WASTE MANAGEMENT**

- .1 Accomplish maximum control of solid construction waste.
- .2 Preserve environment and prevent pollution and environment damage.
- .3 Store materials to be reused, recycled and salvaged in locations as directed by Owner. Unless specified otherwise, materials for removal become Contractor's property.
- .4 Transport and deliver non-salvageable items to licensed disposal facility.
- .5 Do not bury rubbish or waste materials. Do not dispose of waste into waterways, storm, or sanitary sewers.
- .6 Remove materials from deconstruction as deconstruction/disassembly Work progresses.
- .7 Leave work area clean end of each work day.

#### **1.8 NOISE AND LIGHT CONTROL**

- .1 Ensure that noise control devices (i.e. mufflers and silencers) on construction equipment are properly maintained.





- .2 Contractor shall implement use of lighting shrouds for work to be completed during night-time hours to minimize lighting disruptions to local residents.

### **1.9 NOTIFICATION**

- .1 The Departmental Representative will notify Contractor of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 The Contractor shall inform the Engineer of proposed corrective action after receipt of such notice, and take such action for approval by the Engineer.
- .3 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.

### **Part 2 Product**

NOT USED

### **Part 3 Execution**

NOT USED

**END OF SECTION**



## SECTION 01 50 00 – MOBILIZATION AND DEMOBILIZATION

### Part 1 General

#### 1.1 MEASUREMENT AND PAYMENT

- .1 Progress claim upon complete mobilization shall not be more than 60% of this lump sum item. Progress claim for the balance of this lump sum item will be upon complete demobilization.

#### 1.2 MOBILIZATION AND DEMOBILIZATION

- .1 Mobilization shall include but not limited to the following activities:
  - .1 One pre-construction meeting onsite at least one week prior to mobilization.
  - .2 All pre-construction submittals;
  - .3 Workshops and other temporary facilities, including utility connections;
  - .4 Move all crew, equipment and tools required for the work to site;
  - .5 Making ready for work; and,
  - .6 The cost of maintaining bonds and insurance as required.
- .2 Demobilization shall include the following activities:
  - .1 Project closeout and required closeout submittals;
  - .2 Removal of all construction equipment, plant and excess materials from the Site;
  - .3 Clean up of the Site to a condition satisfactory to Departmental Representative at completion of the work.

### Part 2 Product

NOT USED

### Part 3 Execution

NOT USED

**END OF SECTION**



## SECTION 05 12 33 – STRUCTURAL STEEL WORK

### Part 1 General

#### 1.1 MEASUREMENT AND PAYMENT

- .1 All cost in connection with anchor bolts, brackets, railing, gratings and other miscellaneous steel fabrications shall be included in the price tendered for the associated items of work.

#### 1.2 WORKMANSHIP

- .1 All fabrication and erection of structural steel shall comply with CSA Standard CAN3-S16.1, latest revision.

#### 1.3 SHOP DRAWINGS

- .1 The Contractor shall prepare and submit shop drawings.

### Part 2 Product

#### 2.1 MATERIALS

- .1 Hollow structural steel sections shall conform to CSA Standard G40.20/G40.21-M, Class "C", Grade 350W.
- .2 All other rolled sections and miscellaneous plate shall be grade 300W, unless noted otherwise on the drawings, in conformance with CSA Standard G40.20/G40.21-M.
- .3 All structural steel members shall be made of the size and weight shown on the drawings unless written approval for any change is first obtained from the Engineer.
- .4 Bolts, washers and nuts shall conform to ASTM specification A325.

#### 2.2 COATINGS

- .1 Railing, grating, bolts, inserts, washers and nuts shall be hot dip galvanized in accordance with ASTM Specifications A-153 or A-123 or CSA G 164-M (minimum zinc coating 610 g/m<sup>2</sup>).
- .2 Damaged galvanized surfaces shall be coated with Galvacon immediately after the damage has occurred.

### Part 3 Execution

#### 3.1 WELDING



- .1 Welding practice and qualifications of welders and erectors of welded construction shall conform to the requirements of CSA Standards W47, W48, and W59 latest editions. The metallurgy of weld metal shall be similar to the parent material.
- .2 Unless noted otherwise, all welds shall develop the full strength of the connected members, and shall be continuous seal welds with a minimum 6 mm leg length.
- .3 Where on the drawings it is called for double sided welding; the welding details called for on the near side shall be duplicated on the far side if not called up otherwise.

### **3.2 INSPECTION**

- .1 The Contractor shall furnish all facilities for inspecting and testing the weight, dimensions and quality of workmanship at the shop where the material is fabricated.
- .2 The Engineer shall be notified well in advance of the start of work, in order to allow sufficient time for inspection of material and workmanship.

**END OF SECTION**



## SECTION 08 11 00 – METAL DOORS AND FRAME

### Part 1 General

#### 1.1 SCOPE OF WORK FOR METAL DOORS

- .1 Supply and install metal exterior doors (914mm width by 2159mm tall).
  - .1 10 uninsulated doors (door number: 103, 105, 107, 110, 113, 115, 117, 118, 121, 122)
  - .2 4 insulated doors (door number: 124, 125, 203, 202)

#### 1.2 REFERENCES

- .1 CSDFMA (Canadian Steel Door and Frame Manufacturers Association)
- .2 DHI – Door hardware institute: The installation of commercial steel doors and steel frames.
- .3 NFPA 252 – Fire Test for Door Assemblies
- .4 SDI-100 – Standard Steel Doors and Frames
- .5 ASHRAE 90.1 2013 – Energy standard for Buildings Except Low Rise Residential Buildings.

#### 1.3 SUBMITTALS

- .1 Product data: Indicate frame configuration and finishes. Indicate door configurations, list of all hardware, anchors and accessories.
- .2 Warranty certification.

### Part 2 Product

#### 2.1 METAL DOORS AND FRAMES

- .1 Exterior Steel Door: Size as noted on drawings, hollow metal construction of seamless flush face and painted dark grey. No glaze.
- .2 Insulated Core Doors: minimum, 1.2 mm surface sheets, and top and bottom end channels; cores filled with insulation.
- .3 Honeycomb Core Doors (hollow core): minimum, 1.2 mm surface sheets and, top and bottom end channels; cores filled with honeycomb material laminated under pressure to surface sheets.
- .4 Exterior doors are non-fire rated.
- .5 Fabricate hollow metal doors and panels in accordance with requirements of "Canadian Manufacturing Standards for Steel Doors and Frames" produced by the Canadian Steel Door and Frame Manufacturer's Association and as indicated on Drawings. Fabricate doors with hardware reinforcement welded in place.



- .6 Steel door to be flushed with the frame.
- .7 Fully welded metal frames
- .8 Warranty: Minimum 5 years

## 2.2 HARDWARE AND ACCESSORIES

- .1 Provide hardware for all hollow and insulated steel doors.
- .2 Provide weatherstripping, seals, door gaskets, rain drip and bottom sweep.
- .3 Finishes: Stainless steel 630.
- .4 Locks and latches:
  - .1 Mortise locks and latches: to ANSI/BHMA A156.13, series 1000 mortise lock, grade 1, designed for functions scheduled and keyed.
  - .2 Lever handles, Plain design
  - .3 Escutcheons: round.
  - .4 Normal strikes: box type, lip projection not beyond jamb.  
Cylinders: keyed into keying system directed by Departmental Representative.
  - .5 Butts and hinges: to ANSI/BHMA A156.1, 5-knuckle, sizes x finishes scheduled, concealed bearing for scheduled doors, NRP for scheduled doors.
  - .6 Exit devices: to ANSI/BHMA A156.3.
  - .7 Door closers and accessories: Door controls (closers): to ANSI/BHMA A156.4, designated by letter C, sizes as required by NBC and to provide following requirements.
  - .8 Maximum degree of opening required.
  - .9 Architectural door trim: to ANSI/BHMA A156.6, designated by letter J and as scheduled.
  - .10 Door protection plates: Kick plate type 1.27 mm thick stainless steel finish to 630
  - .11 Push plates: 1.27 mm thick finished to 630
  - .12 Pull units: stainless steel finished to 630
  - .13 Thresholds: 127 mm wide x full width of door opening, extruded aluminum mill finish, serrated surface.
- .5 Keying:
  - .1 Obtain final keying from Departmental Representative before ordering.
  - .2 Prepare keying schedule in co-operation with the Departmental Representative.
- .6 Provide exit signs for access/egress doors



### **Part 3 Execution**

#### **3.1 STORAGE AND HANDLING**

- .1 All doors and frame shall be stored vertically under cover and in the dry.
- .2 Hardware and accessories shall be packaged dedicated per door and comes with a complete material list.

#### **3.2 INSTALLATION**

- .1 Install frame in accordance with CSDFMA.
- .2 Coordinate installation of doors and frame with installation of hardware.
- .3 After installation, touch up all scratched or damaged surface and prime.
- .4 Adjust door for smooth and balanced door movement.

**END OF SECTION**



## SECTION 08 33 00 – ROLL UP DOORS

### Part 1 General

#### 1.1 SCOPE OF WORK FOR ROLL UP DOORS

- .1 Supply and install of all roll up doors:
  - .1 7 pieces of type F uninsulated 3023mm wide by 4242mm high (door number: 114, 112, 111, 109, 108, 106, 104)
  - .2 4 pieces of type E uninsulated 3023mm wide by 3048mm high (door number: 123, 120, 119, 116)
  - .3 2 pieces of type C insulated 1779mm wide by 2438mm high (door number: 204, 201)
- .2 Supply and install roll up door for door number 102 (forklift parking) is outside scope of work.

### Part 2 Product

#### 2.1 ROLL UP DOOR

- .1 Dimension manual chain operated commercial non-insulated rolling steel service overhead doors complete with guides, tracks, hoods, bottom bar, brackets and any other hardware required for an operational and safe overhead door with the possibility of future addition of electric operation.
- .2 Contractor is responsible for the any required steel framing to support the overhead doors.
- .3 The exterior and interior skin must be manufactured from structural quality hot-dipped galvanized steel, 0.38 mm (0.015") minimum embossing, factory applied baked on polyester paint finish.
- .4 Minor ribbed panel design.
- .5 No windows
- .6 Perimeter weather strip.
- .7 Rollers to be steel rollers with inner and outer ball races of hardened steel.
- .8 Standard white or gray color.
- .9 Door hardware must be heavy duty galvanized steel.
- .10 Minimum 10,000 cycle springs
- .11 Standard of acceptance: Clopay Model 160C or approved equal.
- .12 Warranty: Minimum 2 years parts and service for industrial operation





### **Part 3 Execution**

#### **3.1 STORAGE AND HANDLING**

- .1 All doors and frame shall be stored under cover and in the dry.
- .2 Hardware and accessories shall be securely packaged dedicated per door and comes with a complete material list.

#### **3.2 INSTALLATION**

- .1 Complete installation as per manufacturer's instruction.
- .2 Must provide demonstration opening and closing of all the installed roll up doors in person with the Departmental Representative or the Harbour Authority.
- .3 Coordinate installation of doors and frame with installation of hardware.
- .4 After installation, touch up all scratched or damaged surface and prime.
- .5 Adjust door for smooth and balanced door movement.

**END OF SECTION**



## SECTION 13 34 19 – METAL BUILDING SYSTEMS

### Part 1 General

#### 1.1 DESCRIPTION

- .1 This section provides the requirements for the design, off site fabrication, delivery and on site installation of the pre-engineered metal building.

#### 1.2 REFERENCE

- .1 The following standards must be applied to the construction of the pre-engineered steel buildings:
  - .1 British Columbia Building Code.
  - .2 National Building Code of Canada – including all applicable supplements.
  - .3 ASTM A307-076, Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
  - .4 ASTM A325M-08, Standard Specification for structural bolts, steel, heat treated 830MPa minimum tensile strength [metric]
  - .5 ASTM A542M-08, Standard Specification for steel sheet, zinc-coated (galvanized) or zinc-iron alloy-coated (galvannealed) by the hot-dip process.
  - .6 ASTM 490M-04AE1, Specification for High-Strength Steel Bolts, Clauses 10.9 and 10.9.3, for Structural Steel Joints (Metric).
  - .7 CSSBI 30M-06, Standard for Steel Building Systems.
  - .8 CSSBI Sheet Steel Facts No. 3 (SSF3), Care and Maintenance of Prefinished Sheet Steel Building Products.
  - .9 CAN/CSA-G164-M, Hot Dip Galvanizing of Irregularly Shaped Articles.
  - .10 CAN/CSA-S16.1, Limit States Design of Steel Structures.
  - .11 CGSB-1.40-97, Anticorrosive structural steel alkyd primer.
  - .12 CGSB-93.3, Prefinished Galvanized and Aluminium-Zinc Alloy Steel Sheet for Residential Use.
  - .13 CSA G40.20, General Requirements for Rolled or Welded Structural Quality Steel.
  - .14 CSA G40.21, Structural Quality Steels.
  - .15 CSA S136-07, Design of Cold Formed Steel Structural Members.
  - .16 CSA W47.1-03, Certification of Companies for Fusion Welding of Steel Structures.
  - .17 CSA W59-03, Welded Steel Construction (Metal Arc Welding).

#### 1.3 ENGINEER DRAWINGS



- .1 Drawings for the steel building system shall bear the seal of a professional engineer registered in British Columbia.

#### **1.4 SYSTEM DESCRIPTION**

- .1 Rigid Steel frame with vertically and horizontally braced bays.
- .2 Roof slope: minimum 2:12, peak with two slopes
- .3 Wall system: PBR single skin
- .4 Roof system: Standing seam metal roofing

#### **1.5 DESIGN INPUT**

- .1 Design loads and deflection limits to meet both National Building Code (NBC) and B.C. Building Code (BCBC)
- .2 Importance Categories for the building - *Normal* , up to two storeys
- .3 Site classified as "Site Class E" according to the 2018 BCBC Table 4.1.8.4.A for structures with a fundamental period of vibration equal to or less than 0.5 seconds.

#### **1.6 INTERIOR COLUMNS**

- .1 All interior columns are to be located between the planned location of the pallet racks. See plans for the pallet rack locations. Columns must be located along numbered grid lines. Lettered grid lines are approximate representations of column locations only and can be relocated as required by structural design spacing.

#### **1.7 CERTIFICATE AND LETTER OF ASSURANCE**

- .1 Submit a letter of assurance in accordance with the requirements of Engineers and Geoscientists of British Columbia (EGBC). This will include but not limited to any and all required field reviews during the fabrication and installation of the steel building and foundation.
- .2 Submit CSA-A660 Certificate of Design and Manufacturing Conformance with the NBCC-2015 stating design criteria used and loads assumed in design. Certificate shall be signed and sealed by a professional engineer registered in British Columbia.

### **Part 2 Product**

#### **2.1 PHYSICAL CHARACTERISTICS**

- .1 Dimensions: 43 meters in length and 34 meters in width with a typical perimeter wall height of 7.8 meters
- .2 Construction: Steel frame, steel cladding
- .3 Exterior steel stairs – two (2) on each end of building



- .4 Openings for roll up doors, exterior man doors and windows

## **2.2 EXTERIOR WALL AND ROOFING**

- .1 The wall system to consist of single skin metal panels
- .2 Exterior wall insulation where noted on drawings. R value as noted. Insulation to be faced with Integral vapor barrier with aperm rating of 0.1 or less.
- .3 Roof system to be standing seam.
- .4 Wall panels to be PBR Rib 26 gauge with White color finish,
- .5 Roof Panels to be 24 gauge factory Galvalume pre-formed standing seam steel sheet, including closures, gaskets, caulking, flashing and concealed fasteners to effect weather tight installation. All ends must be cut square and clean.

## **2.3 GUTTERS AND DOWNSPOUTS**

- .1 Form gutters and downspouts from minimum 24 gauge base steel thickness, material and finish to match wall cladding. Size and profile with outlets as indicated in the architectural drawings.
- .2 Provide support straps and fastenings; fasteners shall be stainless steel.

## **2.4 CORROSION RESISTANCE AND FINISHES**

- .1 Roof cladding must be Galvalume Plus or approved equivalent.
- .2 Exterior wall cladding to be Galvalume Plus or approved equivalent
- .3 All hardware to be hot dipped galvanized with minimum zinc coating of 610g/m2 to CAN/CSA-G164.
- .4 All structural steel including columns, beam, girts and purlins to be shop primed. See painting systems. All welds to be re-primed.

## **2.5 WARRANTY**

- .1 All building components to carry standard 1 year parts and service warranty per supply and construction contract.
- .2 Standard warranty offerings for wall and roof panels.

## **Part 3 Execution**

### **3.1 FABRICATION**

- .1 Structural members shall be fabricated in accordance with the shop drawings and CAN/CSA S16.1 with tolerances not to exceed those specified in CSSB1 30M.
- .2 All welding according to AWS D1.1.
- .3 Component Identification: Mark all fabricated parts, either individually or by group using an identification marking corresponding to the marking shown on the shop drawings.
- .4 Reinforce openings to maintain design strength.



- .5 All structural steel shall be new, unused steel that is free of loose mill scale, rust, dirt, oil and other deleterious matter.
- .6 All framing material shall be shop fabricated for bolted field assembly. Cutting, drilling, or welding in the field shall be minimized and if required, shall be clearly noted on the shop/construction drawings.
- .7 All members and sections shall be closely fitted and finished true to line

### **3.2 BUILDING ASSEMBLY**

- .1 Do work in accordance with Canadian Sheet Steel Building Institute (SSBI) Standard for Steel Building Systems 30M except where specified otherwise.
- .2 Erect structural frame and install roof and wall in accordance with manufacturer's instruction.
- .3 Secure side laps with bolts.
- .4 Assume full responsibility for the integrity of the structures during assembly and installation. Provide adequate temporary bracing system to maintain structural safety, plumb and in true alignment until completion of work.
- .5 Touch up with shop primer bolts, welds and burned or scratched surfaces where exposed with a paint system compatible with and have the same color and durability as the shop-coated paint system.
- .6 Coordinate installation with foundation contractor and owner.

### **3.3 FIELD QUALITY CONTROL**

- .1 Contractor shall include a Structural inspection report – assurance of professional field review and compliance by a Registered Professional of Record upon completion of the building installation.
- .2 Final sealed inspection report by the Registered Professional of Record is required for full payment tendered for "Steel Building Installation".

### **3.4 QUALITY ASSURANCE**

- .3 The fabricator shall be responsible for the quality control of all materials and workmanship.
- .4 Departmental Representative may reject improper, inferior, defective, or unsuitable materials and workmanship.

### **3.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver new, undamaged materials to site, accompanied by certified test reports (stamped and sealed by a BC licensed professional Engineer), with manufacturer's logo and mill identification mark provided on the packing slip.
- .2 Store materials off the ground in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.



- .3 Contact surfaces of supports or dunnage shall be smooth and covered with suitable padding material.
- .4 Fabricated steel shall be handled and stored so as to avoid over stressing or injury.

**END OF SECTION**

