

GEAUGA COUNTY, OHIO

Bid Specifications

BP-GCE-2019

**The Construction of a Steel Storage Building
12665 Merritt Road**

RE-BID

Bids Received Until – March 20, 2019
1:45 P.M.

Bid Opening – March 20, 2019
2:15 P.M.

Geauga County Board of Commissioners
c/o Christine Blair, Clerk
470 Center Street, Building 4
Chardon, Ohio 44024



Prepared under the supervision of
Shane E. Hajjar, PE
Geauga County Design Engineer

LEGAL NOTICE Geauga County

Notice is hereby given that sealed bids will be received by the Geauga County Board of Commissioners at 470 Center Street, Building 4, Chardon, Ohio 44024 until 1:45 P.M. official local time on Wednesday, March 20, 2019 for **The Construction of a Steel Storage Building – Re-Bid** located at 12665 Merritt Road, Chardon, Ohio, 44024. Bids received will be publicly opened and read aloud the same day at 2:15 P.M. The estimated construction cost for this project is **\$300,000.00**.

Copies of the plans and/or specifications may be obtained digitally online at <https://www.co.geauga.oh.us/Departments/Engineers-Office/Online-Plans> or a hardcopy is available at the Geauga County Engineer's Office, 12665 Merritt Road, Chardon, Ohio 44024.

A copy of this legal notice is posted on the county's internet site on the World Wide Web. Go to <https://www.co.geauga.oh.us/Notices/Bids> and click on the project name to view this legal.

A bid guaranty in the amount of one hundred (100%) percent of the bid amount or a certified check, cashier's check or letter of credit pursuant to Chapter 1305 of the Ohio Revised Code in the amount of ten (10%) percent of the total bid amount shall accompany each bid. The bid shall be let upon a unit price basis.

All contractors and subcontractors involved with the project will, to the extent practicable, use Ohio products, materials, services, and labor in the implementation of their project. Bidders must comply with the prevailing wage rates on Public Improvements as determined by the Ohio Department of Industrial Relations.

Bids may be held by the Geauga County Board of Commissioners for a period not to exceed sixty (60) days from the date of opening, for the purpose of reviewing the bids and investigating the qualifications of bidders, prior to awarding the contract.

The Geauga County Board of Commissioners reserves the right to reject any and all bids, to waive any informalities or irregularities in the bids received, and to accept any bid or bids which are deemed most favorable to the Board at the time and under conditions stipulated, all in accord with the applicable provisions of laws of the State of Ohio governing the conduct of the Geauga County Board of Commissioners.

BY THE ORDER OF THE GEAUGA COUNTY BOARD OF COMMISSIONERS

Christine Blair, Clerk

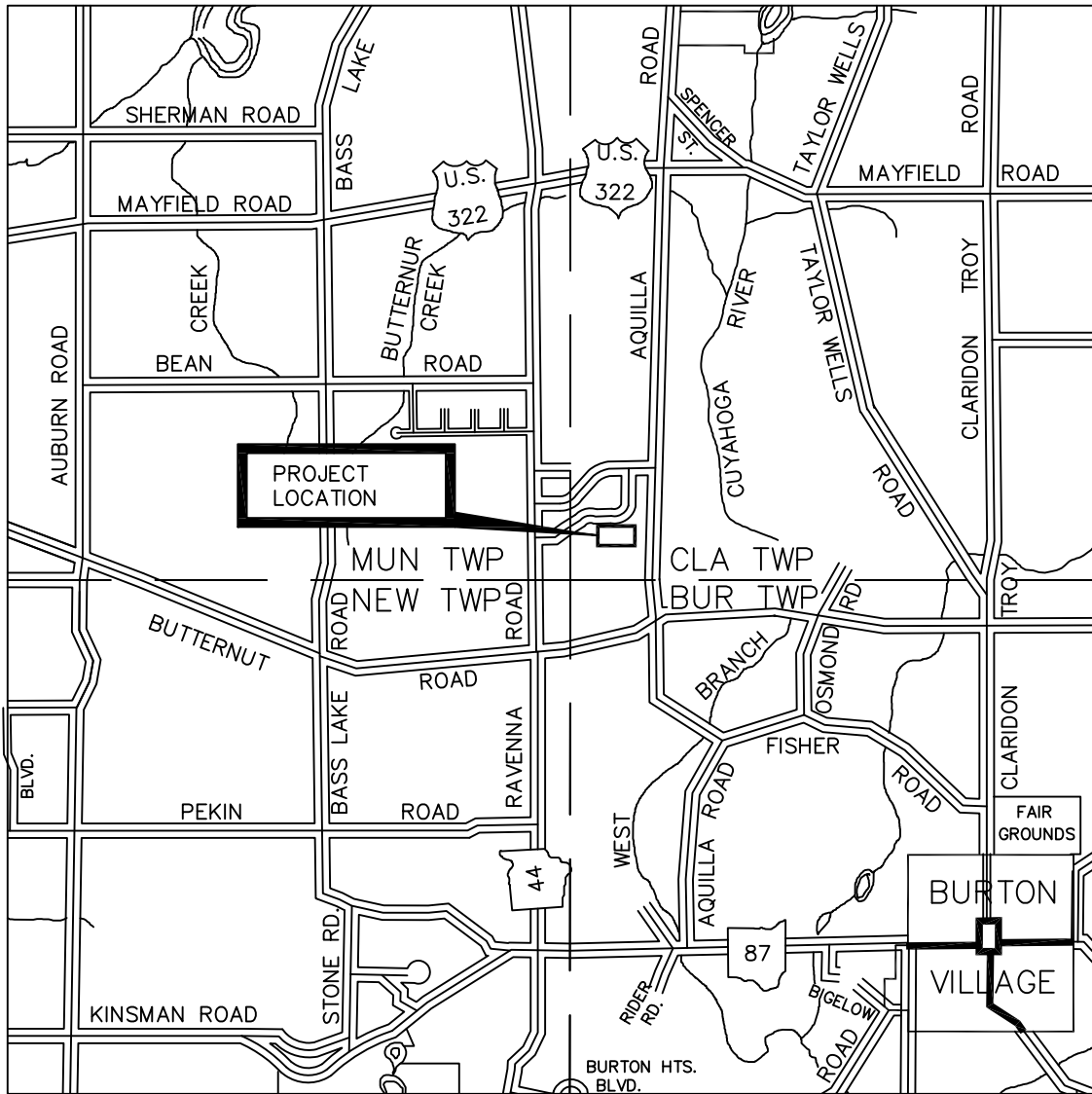
Publish: February 28, 2019

LOCATION MAP

BP-GCE-2019

THE CONSTRUCTION OF A STEEL STORAGE BUILDING 12665 MERRITT ROAD

GEAUGA COUNTY



SITE PLAN BP-GCE-2019

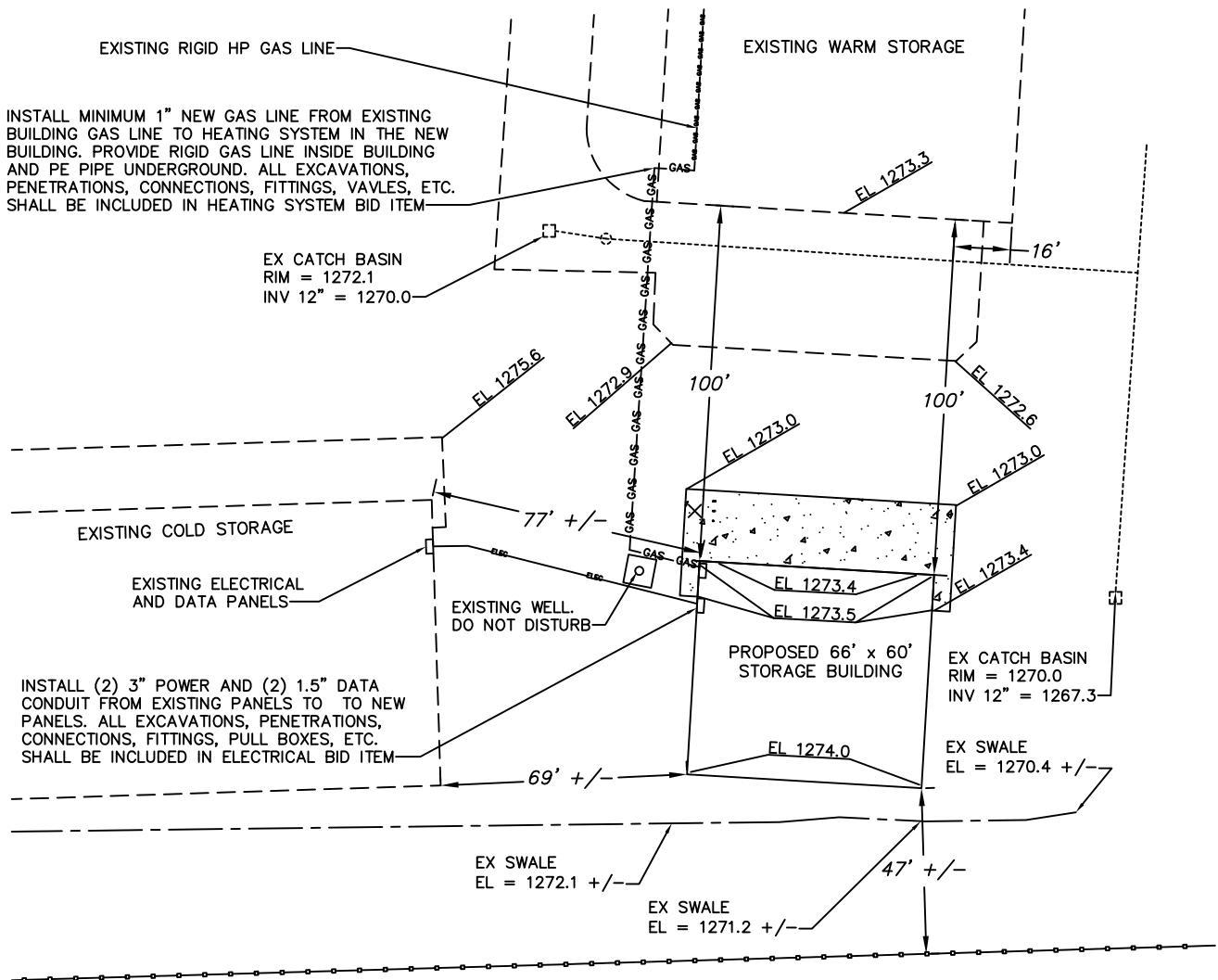
THE CONSTRUCTION OF A STEEL STORAGE BUILDING 12665 MERRITT ROAD GEAUGA COUNTY

NOTES:

1. ALL ELEVATIONS SHOWN ARE "FINISH GRADE" UNLESS NOTED OTHERWISE
2. BUILDING PAD AREA WILL BE PREPARED TO APPROXIMATE SUBGRADE ELEVATION BY OWNER.



SCALE: 1" = 50'



INSTALL MINIMUM 1" NEW GAS LINE FROM EXISTING BUILDING GAS LINE TO HEATING SYSTEM IN THE NEW BUILDING. PROVIDE RIGID GAS LINE INSIDE BUILDING AND PE PIPE UNDERGROUND. ALL EXCAVATIONS, PENETRATIONS, CONNECTIONS, FITTINGS, VAVLES, ETC. SHALL BE INCLUDED IN HEATING SYSTEM BID ITEM

EXISTING COLD STORAGE

INSTALL (2) 3" POWER AND (2) 1.5" DATA CONDUIT FROM EXISTING PANELS TO TO NEW PANELS. ALL EXCAVATIONS, PENETRATIONS, CONNECTIONS, FITTINGS, PULL BOXES, ETC. SHALL BE INCLUDED IN ELECTRICAL BID ITEM

EXISTING WARM STORAGE

EX CATCH BASIN
RIM = 1272.1
INV 12" = 1270.0

EXISTING WELL
DO NOT DISTURB

PROPOSED 66' x 60'
STORAGE BUILDING

EX CATCH BASIN
RIM = 1270.0
INV 12" = 1267.3

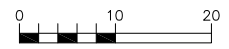
EX SWALE
EL = 1270.4 +/-

EX SWALE
EL = 1272.1 +/-

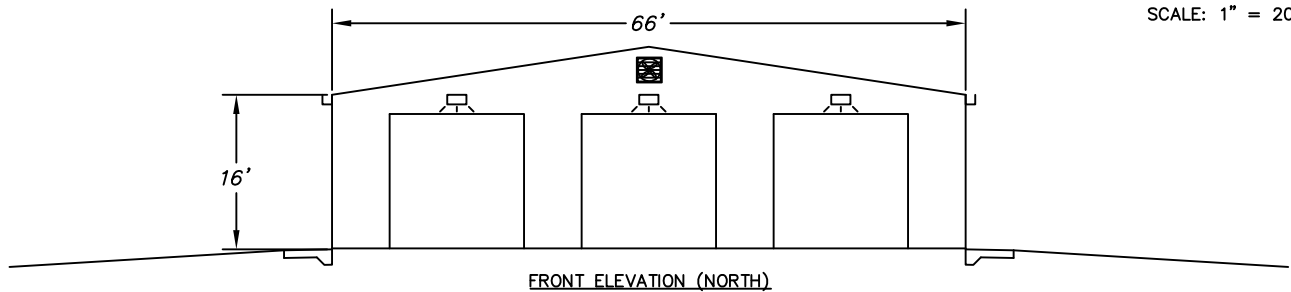
EX SWALE
EL = 1271.2 +/-

ELEVATIONS BP-GCE-2019

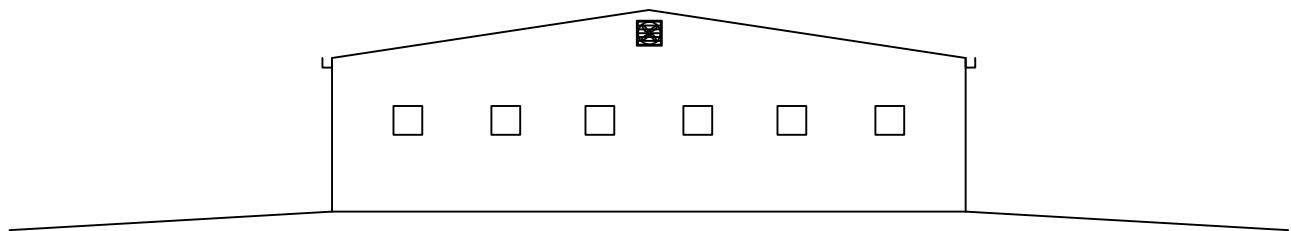
THE CONSTRUCTION OF A STEEL STORAGE BUILDING
12665 MERRITT ROAD
GEAUGA COUNTY



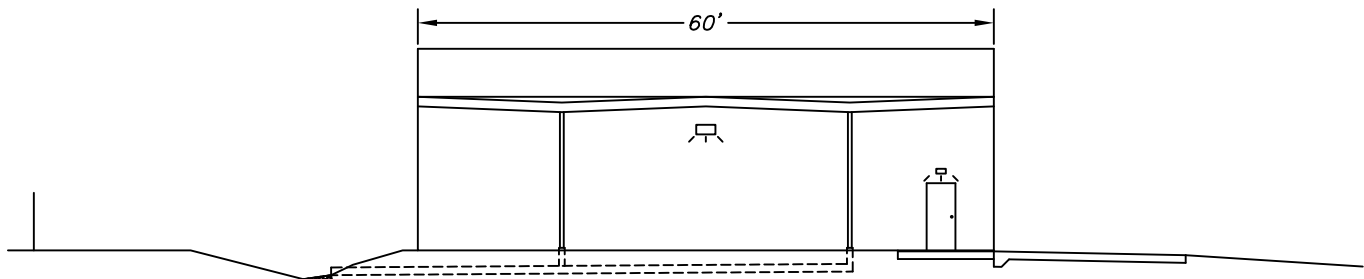
SCALE: 1" = 20'



FRONT ELEVATION (NORTH)



REAR ELEVATION (SOUTH)



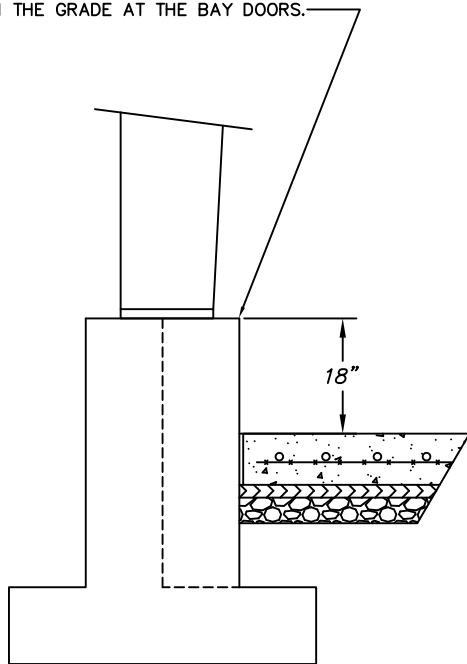
SIDE ELEVATION (EAST)

DETAILS BP-GCE-2019

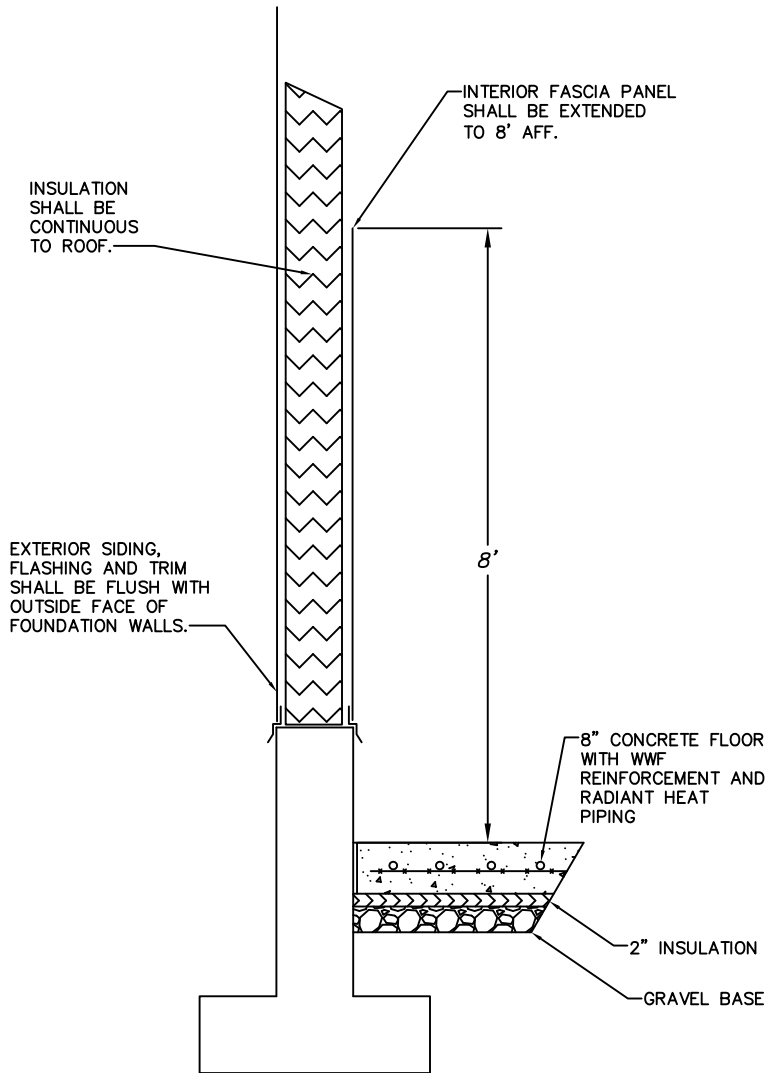
THE CONSTRUCTION OF A STEEL STORAGE BUILDING 12665 MERRITT ROAD GEAUGA COUNTY

SCALE: Not to scale

CONCRETE PIERS AND FONDATION WALLS SHALL BE POURED TO 18" AFF BASED ON THE GRADE AT THE BAY DOORS.



PIER SECTION



WALL SECTION

DESCRIPTION OF WORK

Section 1 General

The Construction and Material Specifications dated 2016 published by the Ohio Department of Transportation (ODOT) and the *Modifications to the Ohio Department of Transportation's 2016 Construction and Material Specifications for Geauga County* dated 2019 shall govern this project except where otherwise noted in this Specification Booklet. The *Standard Contract Provisions for Contracts Prepared by the Geauga County Engineer's Office* dated 2019 shall govern the contractual agreement for this project. These Documents are available on the Geauga County Engineer's Web Site, go to <https://www.co.geauga.oh.us/Departments/Engineers-Office/Online-Plans> to view these documents or they may be picked up at the Engineer's Office. The requirements of Section 4115 of the Ohio Revised Code with regards to prevailing wages shall be followed for this project.

The project shall include the construction of a Steel Storage Building located at 12665 Merritt Road, Chardon, Ohio. The project location is generally shown on the Location Map. The work shall include the design and construction of a complete building including foundation, slab, steel structure, electrical, underfloor heating system and grading and drainage of the finished building.

Section 2 Inspection and Notification

A pre-construction conference will be scheduled by the Engineer with the Contractor prior to the start of construction. The Contractor shall submit a detailed Schedule of Operations for approval 24 hours prior to the pre-construction meeting. The Contractor shall notify the Engineer at least seven (7) days in advance of the beginning of construction, so the Engineer may schedule the inspection.

Section 3

The Contractor shall maintain the work site in a clean and orderly manner. Equipment, materials and vehicles shall be staged so as to not interfere with ongoing facility operations. Provide proper waste receptacles and portable lavatories as necessary for the duration of the project.

Section 4 Construction

◆ ◆ ◆ Steel Storage Building ◆ ◆ ◆

Sequence of Construction:

1. Pre-design meeting/Project kick-off
2. Design-build submittal and approval
3. Pre-Construction Meeting
4. Site prep and underground utilities
5. Foundation
6. Building Erection
7. Concrete/Flatwork
8. Project Completion / De-Mobilization

Unless Approved by the Engineer, the Contractor shall plan and prosecute the work in accordance with the above Sequence of Construction.

General

Building and zoning permit fees, if applicable, will be paid by the Owner. The Contractor shall be responsible to submit final plans for approval and pay all necessary inspection fees.

Foundation

The footers shall be reinforced concrete designed to support all live and dead loads for the proposed building. The depth and reinforcement shall comply with all applicable building codes, but should be a minimum of #5 rebar at 12" spacing top and bottom, and 40" minimum depth.

The foundation walls shall be reinforced concrete designed to support all live and dead loads for the proposed building. The wall height shall be a minimum of 18" above finished floor elevation at the front of the building. The wall width shall be designed based on building requirements, but a minimum of 12" wide and reinforcement shall comply with all applicable building codes, but should be a minimum of #5 rebar at 12" spacing EW/EF. Wall forms shall be constructed using smooth, clean forms or formliners. Wall ties if necessary shall be breakaway, non-corrosive type and all holes patched and exposed surfaces shall have a rubbed finish.

Footer and foundation drawings shall be submitted with the building plans and stamped by a Professional Engineer, licensed in Ohio, to the Geauga County Building Department for approval and permit.

Building and Entrance Slab

The building site will be rough graded to +/- 0.1' of subgrade by Owner. The Contractor shall be required to fine grade the site and restore all areas affected by their work prior to pouring concrete.

The building slab shall be reinforced concrete. The slab shall be a minimum of 8" thick, class C concrete, with air entrainment. The reinforcement shall be a minimum of

welded wire fabric, 6x6 W2.9x2.9. Expansion and contraction joint plan shall be submitted prior to placement and shall include a 1" minimum expansion joint around the entire perimeter. Smooth trowel finish and clear or approved sealer shall be applied. Floor shall have a 1% slope from rear to front and be pitched away from front corners.

Entrance slab shall be 20' wide, extend a minimum of 5' beyond the building on each end and extend along the side of the building to provide egress for each man door. The slab shall be a minimum of 8" thick, class C concrete, with air entrainment. A thickened frost-slab, 16" minimum, shall be provided at each man door. The reinforcement shall be a minimum of welded wire fabric, 6x6 W2.9x2.9. Expansion and contraction joint plan shall be submitted prior to placement and shall include a 1" minimum expansion joint around the entire building perimeter. Broom finish and clear or approved sealer shall be applied. Slab shall have a minimum 2% slope away from the building.

Concrete filled, yellow painted steel bollards shall be provided at each bay door. A total of twelve bollards, two exterior and two interior, at each door shall be installed prior to pouring concrete. Bollards shall be 6" schedule 80 and set at 48" above grade and 36" below grade, minimum.

Electrical and Lighting

Electrical service shall be provided to the building. An existing panel located in the adjacent storage building (less than 100' away) shall be used to extend new service to this building. Provide (2) 3" underground conduit, encased in concrete run from the existing panel to the new panel. A new 100-Amp minimum panel shall be installed in the building to provide service for interior and exterior lighting and power. Panel shall have additional space for future circuits. Provide additional (2) 1.5" conduit adjacent to conduit for power (for low voltage communication. Cables to be run by others).

Exterior wall pack lighting shall be provided above each bay door and at each end. Provide a total of five 250W MH equivalent LED wall packs. Building wall packs shall be Lithonia "TWR1 LED P3 40K MVOLT PE" or equal. For each of two manddoors, provide a 100W equivalent LED wall pack. Door wall packs shall be Lithonia "LIL LED P3 40K MVOLT PE" or equal, with photo-cell control

Interior ceiling mounted or pendant style LED lights shall be provided. A minimum of 2 fixtures per bay is required but actual fixture quantity may vary by type and size provided to meet a minimum 200 lux at floor level. Interior lighting shall be Lithonia "LBL4W" or equal. Switches shall be provided at each man door to control each bay from either end of building. Provide motion controlled switches with manual override.

Duplex power receptacles shall be provided along the interior building perimeter. Spacing shall be per applicable OBC, but not less than two per wall including front wall. Exterior, weatherproof duplex receptacles shall be provided between each bay door and adjacent to each man door. Additional ceiling mounted, retractable power cord reels shall be provided between the bays. Reels shall be a minimum 12AWG, 20A, Duplex/Duplex with 40' cord, with plug and play feeder cord.

Commercial grade ceiling fans shall be provided between each bay. A total of two fans shall be installed at or near the peak between the bays. Fan shall be 72" and minimum air flow capacity of 5000 CFM. Motor shall be a minimum of 3-speed and

reversible with wall mounted controls adjacent to west man door. Fans shall be Dayton "7DX27" or equal.

Heavy duty exhaust fans with automatic shutters shall be provided at each gable end. Fan shall be a minimum of 30" diameter, ½ HP direct drive motor and 5000 CFM with wall mounted controls adjacent to west man door. Exhaust fans shall be MaxxAir 30" Heavy Duty Exhaust Fan with Integrated Shutter IF30 5500 CFM, or equal

Emergency exit sign shall be provided at each egress. Signs shall be LED internally illumination with 2 auxiliary lights and battery backup. Emergency lighting shall be Lithonia "ECR LED M6 Red Combo Unit" or equal.

Building Insulation

The walls and ceiling shall be insulated with a minimum of 6" (R-19 or higher) reinforced fiberglass insulation with a 0.02 permeability rating. The floor shall have a minimum of 2" extruded polystyrene rigid insulation placed under the slab and on top of a vapor barrier. All necessary fasteners, adhesives, ties, etc. shall be included.

Radiant Heating System

A complete radiant floor heating system. The package shall include all components for a single-zone, closed system, including but not limited to, manifold, floor sensors, thermostat, 7/8" PEX and all fittings. System shall be heated by a minimum 95% efficiency, power vent, On-Demand water heater with 3/4" gas line minimum (Takagi T-H3-NG or equal). Contractor shall run new site gas line from existing warm storage building to new building and make connection to the existing gas piping inside existing building and to the water tank inside the new building, including all wall penetrations, rigid piping, fittings and valves as needed. The complete radiant floor heating system by "Radiant Floor Systems" or equal, shall be installed, tested and operational.

Building Package – Complete

Frame, Walls, Roof, Doors, Windows, Drainage

The building shall be a complete package from one supplier. The nominal building size shall be 66' wide x 60' deep x 16' high at the eave. Building frame shall be tapered red-iron steel. All roof and wall panels shall be 24 Ga. or approved equal. The interior of the building shall have a 24 Ga. metal wall skirting, at a minimum of 8' above finished floor at the front of the building. Standard building specifications are provided below. All metal panels and trim shall be coated per manufacturer's minimum paint standards. All minor defects shall be properly touched up in the field. Major defects will be rejected. Submit color chart for approval.

In addition to these requirements, the front of the building shall have three – 14'x14' insulated steel doors, track mounted and manually operated, painted to compliment building color and trim. Two 3070 insulated steel man doors shall be provided, one on each end, painted to match building. The rear of the building shall have six 3030 fixed type windows, 2 per bay.

Continuous gutters shall be provided along both eaves. Connect downspouts to 10" minimum PVC or HDPE underground piping and run to the rear swale. Provide

allowance for approximately 120 feet of pipe and Rock Channel Protection at outlets.

Building shall be bid as a complete package including all trim, weather stripping, and incidentals for a finished structure. Building shall be by Capital Steel Buildings, Inc., Renegade Steel Buildings, Inc., or equal. The building manufacturer and building plans shall be submitted to the Owner for approval. And pending approval, Contractor shall submit building and foundation plans, stamped by a Professional Engineer, licensed in Ohio, to the Geauga County Building Department for the building permit.

Section 5 Quantity Breakdown

The Construction of a Steel Storage Building

ITEM 103	Contract Performance Bond and Premium	1 LUMP
ITEM 451	Reinforced Concrete Pavement	1 LUMP
ITEM 511	Class QC2 Concrete Foundation	1 LUMP
ITEM 624	Mobilization	1 LUMP
ITEM SPEC	Electrical and Lighting	1 LUMP
ITEM SPEC	Building Insulation	1 LUMP
ITEM SPEC	Radiant Heating System	1 LUMP
ITEM SPEC	Building Package - Complete	1 LUMP

Steel Building Specifications

1. GENERAL

1.1 SCOPE

This specification concerns the manufacture of and the construction details for metal buildings designed and constructed to be weather tight and easily erected. This building shall adhere to the policies of MBMA's "Low Rise Building Systems Manual" or equal. The building shall include the structural framing, roof and wall covering, trim and closures, and accessories herein described.

1.2 DESCRIPTION

1.2.3 LR – Tapered Column Rigid Frame Buildings with a roof slope of 1:12.

1.3 BUILDING NOMENCLATURE

1.3.1 The building "Width and Length" shall be measured from inside to inside face of the wall covering.

1.3.2 The building "Eave Height" shall be measured from the bottom of the base plate of the rigid frame columns to the intersection of lines representing the inside of the wall covering and the inside of the roof covering.

1.3.3 The "Roof Slope" shall be the angle that the roof surface makes with the horizontal, expressed in the units of vertical rise to 12 units of horizontal run.

1.3.4 The "Bay Spacing" between frame center lines shall be 22'

1.4 DRAWINGS

The building manufacturer shall furnish complete construction details showing anchor bolt settings; sidewall, endwall, and roof framing; transverse cross-sections; covering and flashing details; and accessory installation details to clearly indicate the proper assembly of all building parts. The plans shall meet all applicable building codes and stamped by a professional engineer licensed to work in the state of Ohio.

1.5 U.L. UPLIFT RATINGS

The building manufacturer shall furnish, when required, a roof deck system having the Underwriters Laboratories wind uplift rating. as shown in the U.L. publications "Building Materials Directory," and are listed as:

1.5.1 Rib 6: Construction No 12 & 39

1.5.2 Rib 12: Construction No 65

1.5.3 ProSeam: Construction No 205

1.5.4 ProLok: Construction No 552, 552A & 552B

2. DESIGN

2.1 GENERAL

All structural steel sections and welded plate members shall be designed in accordance with AISC Specification for Structural Steel Buildings ANSI/AISC 360-10.

All cold-formed structural members and exterior covering shall be designed in accordance with the latest edition of the AISI, "Specifications for the Design of Cold-Formed Steel Structural Members."

2.2 DESIGN LOADS

2.2.1 The following criteria for live loads and wind loads shall be followed in the design of standard building components permitted under the Ohio Building Code 2017 and International Building Code 2018.

2.2.1.1 The roof live load shall be applied to the horizontal roof projection according to OBC 17, and shall be 20 PSF (no reduction).

2.2.1.2 Wind loads shall be assumed to act horizontally and shall be applied as pressure and suction in accordance with ASCE 7-10, sections 26 – 31 inclusive. Wind loads are given in terms of 3-second gust at 115 mph minimum.

2.2.1.3 The roof snow load shall be according to OBC 17, or local snow load requirements, but not less than 30 PSF (no reduction)

2.2.1.4 The Seismic class shall be Class D, Risk II with $SS = 0.215$ and $S1 = 0.061$

2.2.1.5 Collateral load shall include all necessary conduit and fixtures as specified in the plans.

2.2.3 The building shall be designed to the load combinations specified in the applicable building code or the MBMA "Low Rise Building Systems Manual", 2018 edition.

2.2.4 Designs shall include the building dead load, roof live load, wind, snow and seismic load in accordance with the building code.

3. STRUCTURAL FRAMING

3.1 GENERAL

3.1.1 All framing members shall be shop-fabricated for bolted field assembly.

3.1.2 Primary structural framing shall include the transverse rigid frame, wing unit rafter beams and columns, canopy beams, intermediate columns, bearing end frames, endwall columns, and wind bracing.

3.1.3 Secondary structural framing shall include the purlins, girts, eave struts, jambs, headers, flange bracing, sill support, clips, and other miscellaneous structural parts.

3.1.4 All hot rolled steel sheet, plate, and strip for built-up sections shall have a minimum yield point of 55,000 psi. Web sheet is purchased in accordance with ASTM A1011 Grade 55. Flange bar is purchased in accordance with A529 Grade 55.

3.1.5 Hot rolled structural sections shall conform to the requirements of ASTM Specification A36 yield 50, A572 G55 or ASTM A992 G55.

3.1.6 Twelve, fourteen, fifteen, and sixteen gauge cold formed sections shall have a minimum yield point of 55,000 psi in accordance with ASTM A1011 G55. Galvanized sheet and strip for structural framing members shall conform to ASTM Specifications A653, Grade 90.

3.1.7 Pipe for columns and other structural uses shall have 42,000 psi yield. Square tubes conform to ASTM A500 Grade B.

3.1.8 Galvalume and pre-painted hot roll coils conform to ASTM A792 AZ55 and may be either 50,000 psi or 80,000 psi yield. See Section 4.

3.1.9 Unless otherwise specified, the minimum thickness of framing members shall be as follows:

- Cold formed primary framing members..... 14 gauge
- Cold formed secondary framing members..... 16 gauge
- Intermediate pipe columns..... 3/16"
- Webs of welded built-up members..... 12 gauge
- Flanges of welded built-up members 3/16"
- Bracing (Cable standard 1/4" &
- Bracing (Rod optional) 1/2" &

3.1.10 Cold-formed sections shall be manufactured by precision roll or brake forming. All dimensions shall be true.

3.1.11 All shop connections shall be by welding in accordance with the AWS "Structural Welding Code" latest edition. Welding shall be by submerged arc or gas shielded arc process.

3.1.12 All field connections shall be field bolted with ASTM Specification A-307 or A-325 bolts as shown on drawings. A-325 bolts shall be tightened by the turn of the nut method. Connections in secondary members shall be made with special 1/2" Truss Head Fin Neck bolts and hex nuts when

required. ASTM A-325 bolts are designed in accordance with RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) 2009 edition.

3.1.13 All framing members shall carry an easily visible identifying mark.

3.2 RIGID FRAMES, WING UNIT FRAMES, AND CANOPY BEAMS

All members shall be welded, built-up, "I" shapes, either constant depth or tapered.

3.3 BEARING END FRAMES

Bearing end frames shall be hot rolled sections and consist of columns at the building corners and a continuous rafter beam supported by the endwall columns. An optional bearing frame system will consist of cold formed "C" sections and "Z" sections.

3.4 ENDWALL COLUMNS

3.4.1 Endwall columns shall be hot rolled sections or welded built-up "I" shapes. Optional endwall columns will consist of cold formed "C" sections.

3.4.2 Endwall assemblies shall consist of hot rolled columns and bypass girts. Optional hot rolled columns or cold formed columns with insert girts are available upon request.

3.5 PURLINS AND GIRTS

Purlins and girts shall be cold formed "Z" sections with stiffened flanges. They shall be simple or continuous span as required by design.

3.6 EAVE STRUTS

Eave struts shall be 8" deep cold formed sections sufficient to provide adequate backup for both roof and wall panels at the building eaves.

3.7 WIND BRACING

3.7.1 Wind bracing in the roof and/or sidewall is not required where the diaphragm strength of the roof and/or wall covering is adequate to resist the longitudinal wind forces. If required, wind bracing shall be provided by diagonal cables.

3.7.2 OPTIONAL BRACING shall consist of wind bents (portal frames), fixed base wind columns, diagonal rod bracing, or diagonal angle bracing.

3.7.3 Buildings over 200' wide may require cable bracing at interior column lines.

3.8 FLANGE BRACING

The inside flange of all rafters and columns shall be braced laterally by angles connected to the flange of the frame and to the web of the purlin or girt so that the allowable compressive stress is adequate for any combination of loading.

3.9 BASE SUPPORT

A continuous member shall be provided to which the base of the wall covering may be attached. This member shall be galvanized or pre-painted red angle used in conjunction with a 1-1/2" sheet ledge formed in the concrete or optional 18 gauge galvanized painted Bronze base trim secured to the concrete floor with power driven fasteners or equivalent anchors.

3.10 FRAMED OPENINGS

Structural framing members for all openings shall be cold formed "C" sections and adequate for the specified design wind loads. As roll-up overhead doors transfer a large torsion load to the jamb, structural tube sections may be used.

3.11 EXPANSION JOINTS

3.11.1 Longitudinal expansion joints may be required when the building length exceeds 500'. These joints shall allow adequate expansion and contraction of the longitudinal members and roof and wall panels.

3.11.2 Transverse expansion joints may be required when the building width (span) exceeds 200' on gabled buildings or 100' single slope (these dimensions can be doubled when using Pro Seam panels with floating clips). These joints shall allow adequate expansion and contraction of the roof panels and shall be flashed to ensure weather tightness.

3.12 PAINTING

All structural framing members which are not galvanized shall be cleaned to remove dirt, grease, oil, and loose mill scale, and given one shop coat of iron oxide primer formulated to meet or exceed the performance requirements of Federal Specifications TT-P-636 and TT-P-664. Primer is for protection of steel building during transit and is not intended as an exterior finish.

4. ROOF & WALLS

4.1 STANDARD PANEL PROFILES

4.1.1 Rib-12 (RT) – 1-1/4” deep ribs 12” on center with two 1/4” deep intermediate stiffeners; 36” net coverage.

4.1.2 Shadow Panel (SP) – 1-1/4” deep recesses 12” on center with intermediate accent lines; 36” net coverage wall panel.

4.1.3 Rib-6 (RS) 3/4” deep ribs 6” on center; 36” net coverage.

4.2 STANDARD PANEL PROPERTIES (36”)

4.2.1 Standard roof, wall, liner, and partition panels shall be unpainted Aluminum Zinc Alloy-Coated or 24 gauge color coated cold formed panels.

4.2.2 Material for 24 gauge color coated panels shall be Aluminum Zinc Alloy-Coated steel conforming to ASTM Specification A-792, Grade E, 80,000 psi, or galvanized (G-90) steel conforming to ASTM Specification A-653, Grade E, 80,000 psi.

4.2.3 Material for optional 24 gauge panels shall be unpainted or color coated Aluminum Zinc Alloy-Coated conforming to ASTM A-792, Grade E, 80,000 psi, or 24 gauge color coated cold formed panels on galvanized steel conforming to ASTM A-653 in Grade E, 80,000 psi.

4.3 STANDING SEAM PANEL PROFILE

4.3.1 Pro Seam – 3” self-locking trapezoidal rib roof panel, concealed fixed or floating clips, 24” net coverage.

4.3.2 Pro-Lok – 3” seamed trapezoidal rib roof panel, concealed fixed or floating clips, 24” net coverage.

4.4 STANDING SEAM PANEL PROPERTIES

Pro Seam and Pro-Lok panels shall be 24 gauge Aluminum Zinc Alloy-Coated steel ASTM A-792, Grade D, 50,000 psi.

4.5 FASTENERS

4.5.1 All self-tapping fasteners shall conform to USASB 18.6.4 and shall have type A or type AB threads. All self-drilling fasteners shall conform to IF 1113. Where required for weather tightness, fasteners shall be assembled with neoprene sealing washers.

4.5.2 Plating

- All fasteners shall be plated to minimum thickness of .0005”.
- Optional extended corrosion resistant fasteners shall be Zac° (zinc-aluminum cast head) with aluminum and neoprene sealing washers.

4.6 SEALER

Sealer for side laps, end laps, and flashing shall be a butyl based polymer sealant in extruded tape form. The sealer shall be non-shrinking, non-drying, and non-toxic and shall have superior adhesion to metals, plastics, and painted surfaces. Service temperatures range from -30° to + 300°F. The material shall not flow at 120°F, and shall meet or exceed the requirements of Gov. Spec. No. MIL-C 18969 Type II, Class B and TT-C-1796A.

4.7 INSTALLATION OF ROOF AND WALL PANELS

4.7.1 Roof panels shall be continuous from ridge to eave for buildings 60' wide or less. Where end laps are required they shall be a minimum of 6" long and shall occur at a roof purlin.

4.7.2 Sidewall and endwall panels shall be continuous from sill to roof line except where length becomes prohibitive for handling purposes. Endwall panels for buildings with 4:12 roof slope may have a splice at the eave line.

4.7.3 Endwall panels shall be square cut for buildings with a 1:12 roof slope and bevel cut for buildings with a 2:12 roof slope when the panel is longer than 5'-0".

4.7.4 Before securing, all laps of roof panels shall be sealed with a continuous ribbon of tape sealer.

4.7.5 Standard Roof Panels

The information below is general; please refer to your construction drawings for specific screw spacing information.

4.7.5.1 Roof panels shall be secured to purlins with #14 sheet metal screws at a maximum spacing of 12".

4.7.5.2 At end laps of rib sheets the maximum spacing shall be on each side of the major rib for Rib-12 panels and 6" on center for Rib-6.

4.7.5.3 Side laps to roof panels shall be stitched through the high flat of the rib with #14 sheet metal screws at a maximum spacing of 20" or 12" on center for wind loads 120 mph (fastest mile) or greater and 140 mph (peak gust) or greater.

4.7.6 Standing Seam Roof Panels

The information below is general; please refer to the approved shop drawings.

4.7.6.1 Pro Seam and Pro-Lok panels shall be secured by a fixed or floating clip with a 1/4-14 x 1-1/4" self drilling fastener at 24" on center and fastened to each purlin. Peak and panel laps shall be secured with compression joints consisting of rigid metal plates on the top and bottom of the panels.

4.7.7 Standard Wall Panels

The information below is general; please refer to the approved shop drawings.

4.7.7.1 Wall panels shall be secured to girts with #14 sheet metal screws at a maximum spacing of 12".

4.7.7.2 At the end laps of rib sheets the maximum spacing shall be on each side of the major rib for Rib-12 panels and 6" on center for Rib-6.

4.7.7.3 At the side laps of sheets, #10 sheet metal screws shall be placed a maximum of 30" or 12" on center for wind loads 120 mph (fastest mile) or greater and 140 mph (peak gust) or greater.

4.8 FLASHING, CLOSURES, AND TRIM

4.8.1 Flashing and/or trim shall be furnished at the rake, corners, eaves, framed openings, and wherever necessary to provide weather tightness and a finished appearance.

4.8.2 Sculptured rake trim shall be roll formed 26, or optional 24, gauge material 20' long to minimize joints. Other trim shall be 24 gauge.

4.8.3 Sculptured rake trim material shall be Aluminum Zinc Alloy-Coated steel (50,000 psi yield) or optional color coated galvanized steel conforming to ASTM Specification A-653 Grade D (50,000 psi yield).

4.8.4 A formed panel matching the slope and profile of adjoining panels shall be provided along the building ridge for Rib-12 panels. A preformed metal outside closure and ridge flashing shall be used with standing seam panels.

4.8.5 Closure strips matching the profile of the panel shall be installed along the rake and/or eave where required for weather tightness. Closure strips shall be closed cell, semi-rigid, crosslinked polyethylene foam laminated for strength and uniform compressibility. Metal inside closure strips shall be used at the eave for standing seam panels.

4.9 COLOR FINISH

Manufacturer's color charts shall be submitted for approval prior to shipment.

4.9.1 Exterior steel surfaces shall be Aluminum Zinc Alloy-Coated or optional color coated Aluminum Zinc Alloy-Coated or galvanized (G90) steel.

4.9.1.1 Color of roof panels, wall panels, and corner trim shall be selected from manufacturer's standard colors to closely match adjacent buildings.

4.9.1.2 The roof ventilators shall be Aluminum Zinc Alloy-Coated or Oyster white.

4.9.1.3 Gutter, rake trim, downspouts, eave trim, and door flashing shall be Aluminum Zinc Alloy-Coated or prepainted galvanized in 26 ga. in standard colors shown on Dean's color card. Optional 24 ga. available in Aluminum Zinc coated or prepainted galvanized White or Bronze.

4.9.2 The color surface shall be a silicon-polyester co-polymer resin type to give superior adhesion and durability. The coating shall be a D.F.T. of 1.0 mil thick (+ .1 mil). The reverse or backer coat shall be a straight polyester with a D.F.T. of 0.5 mil thickness.

4.9.3 The coated panels shall have a 25-year written warranty against corrosion, fading and rust for all roof and wall panels.

5. ACCESSORIES

5.1 HOLLOW METAL SWING DOORS

5.1.1 3070 door leafs shall be 1-3/4" thick, full flush, 20 gauge hot dipped galvanized (G60). The leafs shall have an expanded polystyrene core, a closed cell, rigid thermoplastic material used for insulation against heat or cold. "U" factor of .16 and "R" factor of 6.5, sound transmission of .32. Meets or exceeds Federal Specification HH-1-524-C Types I, II, III.

5.1.2 Door frames shall be non-handed universal type frame, 16 gauge galvanized steel with reinforced recessed hinge plates.

5.1.3 Doors shall be furnished with a satin stainless steel lockset, 2-3/4" backset, and A.S.A. strike plate.

5.1.4 Optional panic hardware shall be a horizontal push bar of wrought steel channels and available either exit only or entrance/exit. Slight pressure on the push bar shall release the door latch for immediate exit. A removable mullion shall be required for double door openings.

5.1.5 Each door leaf shall swing from (3) 4-1/4" x 4-1/2" steel full mortise, plain bearing hinges.

5.1.6 Door leafs and frames are manufactured with one coat of tinted white primer (Ceco).

5.1.7 The threshold shall be an extruded aluminum shape to provide positive weather seal.

5.2 EAVE GUTTERS AND DOWNSPOUTS

5.4.1 Sculptured eave gutter 4-1/2" x 5" shall be roll formed 24 gauge, or optional 24 gauge, 20' long for ease of erection. Gutter shall be fastened with gutter brackets at 3' spacing after roof and wall sheets are in place. Contour of the gutter shall match the rake flashing and allow for easy field miter of the corner without an auxiliary corner box.

5.4.2 Downspouts shall be 24 gauge steel, 4" x 5". Downspouts shall have a 45° elbow at the bottom and shall be supported by attachment to the wall covering at 6' maximum spacing.

5.3 WINDOWS

5.5.1 Horizontal slider windows shall be self-flashing, furnished with a sash lock, weather-stripping, and a half screen. The exposed surfaces shall be finished in Bronze enamel paint. The windows shall be factory glazed with double strength glass.

5.5.2 Accent windows shall be self-flashing fixed glass. The exposed surfaces shall be finished in Bronze enamel paint. The windows shall be factory glazed with tinted tempered glass.

5.4 VENTILATORS

Ridge ventilators shall be gravity type, fabricated from Aluminum Zinc Alloy-Coated steel or galvanized steel painted oyster white.

5.6.1 Monovents shall have a 9" or 12" throat and are furnished in 10' lengths. Splice plates and end caps, where required, shall be provided to make up the specified length. All monovents shall be furnished with

bird screen. Optional damper shall provide an adjustable opening at the throat and shall be of the manually-operated pull chain type.

5.6.2 Lo-profile vents are designed for ProSeam, Pro-Lok and Rib-12 roof systems and offer pleasing, efficient ventilation. Vents come in 10' lengths, single or continuous, 6-1/2" throat @ 1:12 pitch, 450 CFM Base Rating.

5.5 LOUVERS

Louvers shall be fabricated from 24 gauge galvanized steel and shall have overlapping blades for maximum weather tightness. Blade shall be fixed with integral bird screen. Color shall be oyster white unless otherwise specified.

6. BUILDING ANCHORAGE AND FOUNDATION

6.1 ANCHOR BOLTS

Anchor bolts shall resist 100% of the critical column reactions (shear and/or tension) determined from the load combinations. The manufacturer is responsible for design of anchor bolt diameter and projection above the concrete foundation, but is not responsible for the transfer of anchor bolt forces to the concrete nor the adequacy of the anchor bolts in relation to the concrete; this is the responsibility of the buyer.

Anchor bolts supplied shall be 36 KSI yield.

6.2 FOUNDATION

The building foundation shall be designed by a qualified engineer to support the building reactions in addition to other loads imposed by the building use or occupancy. The design shall be based on actual jobsite conditions. Foundation design shall include provisions for bolt embedment, length, hook, bearing angles, kick-out bars, tie rods, and any other associated items embedded in the concrete.