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## GUIDELINES FOR COMPLETING TYLER BUILDING SYSTEMS' METAL BUILDING SYSTEM CONTRACT

### Introduction

Purchasing a metal building system is unlike purchasing a product of a similar price such as an automobile. Automobiles are, for the most part, a standard product. On the other hand, a metal building system is a custom manufactured product. Width, length, and eave height are the obvious options associated with a metal building. But there are many other options available that Buyer must be knowledgeable of in order to make a wise purchase. *The purpose of the Guidelines for Completing Tyler Building Systems' Metal Building System Contract ("Guideline") is to provide Buyer with the information necessary to verify that the building described in the Metal Building System Contract ("Contract") will meet Buyer's needs and expectations.*

The Guideline applies specifically to Tyler Building Systems' "Metal Building System Contract." Tyler Building Systems recommends that Buyer use the Guideline as a reference while reviewing the Contract. The Guideline is written in the same order as the Contract.

Additional Reference sources available from Tyler Building Systems are listed below. Buyer may obtain these documents from the website ([www.tylerbuilding.com](http://www.tylerbuilding.com)) or by contacting Tyler Building Systems by phone at 1-800-442-8979.

- **Construction Handbook** – Provides sections and isometrics of Tyler Building Systems standard metal building system details.
- **Metal Building System Specification** – Detailed specifications of Tyler Building Systems' standard building components and raw materials.
- **Standard Practices** – A general description of Buyer's responsibilities in the purchase of a metal building system and Tyler Building Systems' responsibilities in the sell of metal building system.

**Buyer Information**

The “Buyer Name” is the entity that is purchasing the metal building system. All correspondence will be made with the Buyer using the contact information listed here.

**Buyer Action:** Review the Buyer Information section and verify that addresses, phone numbers, etc. are correct. Notify Tyler Building Systems or simply make corrections directly to the Contract if information is shown incorrectly.

**Submittal Requirements**

This section specifies the documents that are to be supplied to Buyer. The number to the left of each submittal signifies the number of documents, or sets of documents, included in the Contract. Submittals without numbers beside them are not included in the Contract. The various documents / drawings are described below:

1. Engineer’s Certification Letter – The Certification Letter certifies that the structural design complies with the design codes, standards, loads and other design information reported in the letter.
2. Anchor Rod Drawings – A set of drawings in plan view showing the diameter, location and projection of all anchor rods needed for attachment of the metal building system to the foundation. The loads the columns impose on the foundation are indicated on the Anchor Rod Drawings.
3. Erection Drawings – A set of roof and wall erection (framing) drawings that identify individual components and accessories furnished by Tyler Building Systems in sufficient detail to permit proper erection of the metal building system.
4. Approval Drawings – A set of drawings that may include framing plans, elevations, anchor rod drawings and sections through the building for approval by Buyer. One set includes three (3) copies of each page of the Approval Drawings. Additional copies are available for a fee.
5. Permit Drawings – A set of drawings issued to Buyer to assist him in obtaining a building permit for the metal building system only (i.e., additional drawings from other trades may be required to obtain a building permit). One set includes three (3) copies of each page of the Permit Drawings. Additional copies are available for a fee.
6. Engineer’s Design Calculations – The structural engineer’s calculations resulting from the design process based on the structural design criteria specified in the Letter of Certification and Contract. One set includes two (2) copies of each page of the Design Calculations. Additional copies are available for a fee.

**Project Information**

The “Project” name is provided primarily for the Buyer’s benefit. It allows Buyer to differentiate among multiple projects that may be on order with Tyler Building Systems at the same time. The “City”, “County / Parish”, and “State” are used to establish the location of the job site.

**Lead Time Information**

This section describes the estimated delivery time for submittals and building material. All lead time dates are in units of weeks. All lead times begin the day Tyler Building Systems receives and accepts Buyer's signed Contract. The lead times reported on the Contract are valid for only five (5) days from the Contract Issue Date. Building Delivery is reported as an estimated date range. For instance, a Building Delivery of "8 to 10 weeks" means that the building is estimated to delivery sometime after 8 but no later than 10 weeks from the date Tyler Building Systems receives and accepts a signed Contract. Building Delivery is not provided for jobs that include Approval Drawings.

**Buyer Action:** Buyer should review and return a signed Contract as soon as possible. Lead times are subject to change five days after a Contract is issued and lead times do not begin until after a signed Contract is received by Tyler Building Systems.

**!! IMPORTANT !!**

Changes to the Contract will typically delay the lead times quoted on the Contract. Tyler Building Systems is not responsible for expediting the delivery of drawings and/or material that have been delayed due to Change Orders.

**Buyer Supplied Information**

This standard paragraph states that the Contract is not based on, nor does it include, any Buyer supplied drawings or specifications. It is extremely important that if drawings and/or specifications exist, Buyer check the Contract against the drawings and/or specifications. The metal building will be engineered, designed, fabricated, and shipped based solely on the information contained in the Contract.

**!! IMPORTANT !!**

The Metal Building System Contract is the sole document to which Tyler Building Systems will refer to design the metal building system. If you have drawings and/or specifications, make certain to check the Contract against the drawings and/or specifications to verify that the building described in the Contract matches the building described in the drawings and/or specifications. Your Tyler Building Systems representative will be happy to assist you in this process.

**Building Information**

**Bldg. Description** – This designation is used to differentiate between multiple buildings within one project. Buildings in a multiple building Contract will usually be assigned sequential letters (e.g., A, B, C, etc.).

**Width** – The dimension of the building measured from sidewall to sidewall. The width dimension excludes the exterior wall material (e.g., metal panel, brick, stucco, etc.).

**Length** – The dimension of the building measured end wall to end wall. The length dimension excludes the exterior wall material (e.g., metal panel, brick, stucco, etc.).

**!! IMPORTANT !!**

The building width and length dimensions shown in the Contract **are not necessarily** the same as the width and length dimensions of the concrete slab. Buyer should obtain out-to-out concrete dimensions from the Anchor Rod Drawings.

**E.H. at FSW (High)** – The Eave Height at the Front (or High) Sidewall – The vertical dimension from finished floor to the top of the eave strut. If the building is a Single Slope, or Lean-To, this is the taller eave height.

**!! IMPORTANT !!**

Width, length, and eave height dimensions **do not** include the depth of the exterior wall or roof panels.

**R.S. at FSW** – Roof Slope at the Front Sidewall – The tangent of the angle that a roof surface makes with the horizontal, usually expressed in units of vertical rise to 12 units of horizontal run.

**E.H. at BSW (Low)** – The Eave Height at the Back (or Low) Sidewall – The vertical dimension from finished floor to the top of the eave strut. If the building is a Single Slope, or Lean-To, this is the lower eave height.

**R.S. at BSW** – Roof Slope at the Back Sidewall – The tangent of the angle that a roof surface makes with the horizontal, usually expressed in units of vertical rise to 12 units of horizontal run.

**Frame Shape** – Describes the geometry of the building. The four (4) types of Frame Shapes are:

1. Gable – A building with a sloping roof in two planes with columns at both sidewalls. All Gable buildings are assumed to be symmetrical gable buildings unless stated otherwise. A symmetrical gable building means that the eave height of both sidewalls is at the same elevation above finished floor and the roof peak is in the centerline of the building’s width. If the gable building is not symmetrical, it will be reported as an “Unsymmetrical Gable.” This means that the roof peak is not in the centerline of the building’s width.
2. Single Slope – A building with a sloping roof in one plane and columns at the high and low sidewalls.
3. Lean-To – A building with a sloping roof in one plane with no columns at the high sidewall. The Lean-To is designed to tie-in structurally and be supported by another building.
4. Gambrel – A building with a sloping roof in four planes with columns at both sidewalls. This frame shape is typically associated with agricultural buildings. Gambrel buildings are assumed symmetrical unless otherwise stated in the Contract.
5. Other – Any other frame shape that does not meet one of the definitions above.

**Interior Column(s)** – Defines the number and spacing of interior columns. The spacing of the interior columns is reported from the Back Sidewall to the Front Sidewall. The material shape and size (i.e., pipe, tube, wide flange, or etc.) of the interior column will be determined by Tyler Building Systems’ Design Department unless noted otherwise in the Special Notes section of the Contract.

**Column Shape** – The shape of the rigid frame columns. The two most common shapes are tapered and constant depth. A constant depth column is a constant depth from the base of the column to the top. The depth of the column is measured from flange to flange. However, the dimension between the flanges of a tapered column varies.

**Max. Depth** – (Maximum Column Depth) Defines the maximum column depth allowed on rigid frame columns. The maximum depth restriction is typically used in conjunction with constant depth columns only. The purpose of the maximum depth restriction is to keep constant depth columns from interfering with the interior wall framing. A column depth restriction will not usually be included unless requested by the Buyer. Limiting the column depth increases the weight of the column and thereby increases the price of the column.

**Buyer Action:** If Max. Depth is “None” or “N/A” and Column Shape is “Constant Depth”, determine whether you want to restrict the depth of the rigid frame columns. Notify your Tyler Building System representative if changes are required.

**Rafter Shape** – The shape of the rigid frame rafters. The two most common shapes are tapered and constant depth.

**Front SW Girt Type** – (Front Sidewall Girt Type) Describes the girt system used at the Front Sidewall. There are two types of girt systems available. The Bypass girt system mounts the girts on the outside of the columns. The Flush girt system mounts the girts inside the column line and flush with the outside flange of the columns.

**Back SW Girt Type** – (Back Sidewall Girt Type) *Same as Front SW Girt Type above except at the Back Sidewall.*

**Left EW Girt Type** – (Left End Wall Girt Type) *Same as Front SW Girt Type above except at the Left End Wall.*

**Right EW Girt Type** – (Right End Wall Girt Type) *Same as Front SW Girt Type above except at the Right End Wall.*

**SW Bay Spacing** – (Sidewall Bay Spacing) The distance between the interior rigid frames measured from centerline-to-centerline of column. End wall bays are measured from the outside of steel of the endwall frame to the centerline of column of the first rigid frame. Rigid frames located at end walls are typically pulled back 1'-2" from the steel line. However, this dimension may be changed by Tyler Building Systems' Engineering Department to accommodate project specific conditions. If Buyer requires a specific rigid frame pull back, notify your Tyler Building Systems representative.

**Buyer Action:** Tyler Building Systems' standard rigid frame pull back at the end wall is usually 1'-2". Tyler Building Systems may vary the pull back dimension to accommodate job specific conditions. If a specific pull back dimension is required, notify your Tyler Building Systems representative.

**Left EW Frame** – (Left End Wall Frame) Describes the type of frame in the Left End Wall. The four most common type of EW frames are:

1. Bearing (a.k.a. Post and Beam, Beam and Column, Light Endwall, Non-Expandable) – A structural system consisting of a series of rafter beams supported by columns. A Bearing frame will be lighter, therefore less expensive, than a Rigid and Rigid (1/2 Load) frame. A Bearing frame is not designed to support a future addition to the building. A Bearing frame requires wind bracing (e.g, Panel Shear or X-Bracing) along its frame line.
2. Rigid – A structural frame consisting of members joined together with moment connections so as to render the frame stable with respect to the design loads, without the need for bracing in its plane. A Rigid frame is designed to support a future addition to the building. A Rigid frame is heavier, and therefore more expensive, than a Bearing and Rigid (1/2 Load) frame. A Rigid frame does not require wind bracing along its frame line. Rigid frames located at an endwall are usually inset 1’-2” from the steel line.
3. Rigid (1/2 Load) – Same as a Rigid frame except that the Rigid (1/2 Load) frame is not designed to support a future building addition. Like the Rigid frame the Rigid (1/2 Load) frame does not require wind bracing along its frame line. Rigid (1/2 Load) frames located at an endwall are usually inset 1’-2” from the steel line.
4. None - No frame is provided in the end wall. This occurs in multiple building projects or when a building ties into an existing Rigid frame end wall.

**Right EW Frame** – (Right End Wall Frame) *Same as Left EW Frame but at the Right End Wall.*

**Base Condition** – The component to which the base of the wall panel fastens. There are four types of Base Condition normally entered.

1. Angle – The horizontal leg of the angle material fastens to the concrete foundation and the wall panel fastens to the vertical leg of the angle material.
2. Channel – The web of the channel member fastens to the concrete foundation and the wall panels fasten to the outside flange of the channel member. A channel base condition is usually provided in conjunction with liner panels (i.e., interior wall panels) because it provides a vertical leg to which the interior panels fasten.
3. Girt – An additional girt usually located 8-3/4” above the finished floor.
4. None – No base support provided. This is the case where there are no wall panels extending to the finished floor.

**Primer** – The color of shop primer that is applied to the steel components before shipment to the jobsite. The shop primer is intended to protect the steel framing for only a short period of exposure to ordinary atmospheric conditions. The shop primer does not provide the uniformity of appearance, or the durability and corrosion resistance of a field applied finish coat of paint over a shop primer.

**!! IMPORTANT !!**

Minor abrasions to the shop coat caused by handling, loading, shipping, unloading and erection after painting are unavoidable. Minor abrasions to the shop coat should be expected and touch-up of these abrasions is the responsibility of the Erector.

## Design Information

**Wind Code** – Describes the code used to design the metal building system. There are several national model building codes used in the United States, along with numerous state and city codes. Generally, the state and city codes are patterned after one of the national codes, possibly with some special local requirements. The Buyer is responsible for determining the correct code for his project.

### **!! IMPORTANT !!**

Buyer is responsible for identifying all applicable building codes, zoning codes, or other regulations applicable to the metal building system.

**Buyer Action:** Buyer is encouraged to contact the local entity whose construction permitting jurisdiction encompasses Buyer’s job site to determine the appropriate building code, building code edition, live load, snow load, and wind speed.

### **!! IMPORTANT !!**

Tyler Building Systems is responsible for the structural design of the metal building system. Tyler Building Systems **is not** the Design Professional or Structural Engineer of Record for the construction project. Tyler Building Systems is not responsible for the design of any components or materials not sold by it or their interface and connection with the metal building unless such design responsibility is specifically required in the Contract.

The national model codes include IBC, BOCA, SBC and UBC. ASCE 7 and the MBMA are not considered building codes because their content is limited to structural design criteria. MBMA is specifically targeted towards metal building systems.

**Edition** – The edition of the Wind Code used to design the metal building system. Permitting bodies will typically accept specific editions of a Wind Code only.

**Live Load** – Loads that are produced (1) during maintenance by workers, equipment, and materials, and (2) during the life of the structure by movable objects and do not include wind, snow, seismic or dead loads. Live Load is reported in units of pounds per square foot. A clear distinction is made between “live” and “snow” loads. It is important that these two loads be treated separately because the probabilities of occurrence for snow loads are very different from those of roof live loads.

**Reducible** – All of the Wind Codes referenced above allow for a reduction in live load based on tributary area supported by a structural member. For instance, if the Live Load is 20 psf and “Yes” is entered after Reducible then the *roof* live load is 20 psf but the *frame* live load may be less than 20 psf. Conversely, if “No” is entered after Reducible, the frame live load is the same as the roof live load.

**Wind Speed** – The wind speed that the metal building system is being designed to withstand. Wind Speed is reported in units of miles per hour. The appropriate Wind Speed is determined by the geographic location of the building and is defined in the building code or design manual.

**Exp.** – (Wind Exposure) The exposure factor is to account for variations in the wind pressure on a building as a result of the surrounding terrain. The following definitions of exposures are taken from International Building Code, 2000 edition. The other codes have similar definitions.

1. *Exposure B* – Urban and suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having single-family dwellings or larger. Exposure B shall be assumed unless the site meets the definition of another type exposure.
2. *Exposure C* – Open terrain with scattered obstructions, including surface undulations or other irregularities, having heights generally less than 30 feet, extending more than 1,500 feet from the building site in any quadrant. This category includes flat open country, grasslands and shorelines in hurricane prone regions.
3. *Exposure D* – Flat, unobstructed areas exposed to wind flowing over open water (excluding shorelines in hurricane prone regions) for a distance of at least one mile. Shorelines in Exposure D include inland waterways, the Great Lakes and coastal areas of California, Oregon, Washington, and Alaska. This exposure shall apply only to those building and other structures exposed to the wind coming from over the water. Exposure D extends inland from the shoreline a distance of 1,500 feet or 10 times the height of the building or structure, whichever is greater.

**Buyer Action:** Wind Exposure is a site-specific design item. Verify that the Wind Exposure rating on the Contract matches your site-specific conditions.

**Collateral Load** – The weight of additional permanent materials required by the Contract, other than the metal building system, such as sprinklers, mechanical and electrical systems, partitions and ceilings. Collateral Load is reported in units of pounds per square foot. The following table gives typical values that may be used to specify collateral loads.

Material	Collateral Load (psf)
<b>Ceilings</b>	
Suspended Acoustical Fiber Tile	1
Suspended Gypsum Board – ½”	2
Suspended Gypsum Board – 5/8”	3
<b>Insulation</b>	
Glass Fiber Blanket	Negligible
Cellular Plastic, per inch of insulation	0.2
<b>Lighting</b>	0.1 to 1
<b>HVAC Ducts, Office / Commercial</b>	1
<b>Sprinkler</b>	
Dry	1.5
Wet	3

**Auxiliary Load** – Dynamic live loads such as those induced by cranes and material handling systems. If Auxiliary Loads exist, “Yes” will be entered here along with a full description of the load elsewhere in the Contract.

**Seismic Coef.** – (Seismic Coefficient or Zone) When an earthquake occurs, vibrations are produced in the ground near the surface that creates inertia forces and movements within the building structure. The magnitude of this force generally increases with the dead load of the structure. Metal building systems, due to their low dead load, do not usually have their design governed by seismic forces. Post disaster investigations following earthquakes reveal that metal building systems perform far better than any other type of construction. The coefficient, or zone, is defined in the building code, or design manual.

**Soil Profile** – Soil Profile is used in conjunction with the Seismic Coef. in some building codes. The Soil Profile entry is dependent upon site-specific information. The table below is taken from the International Building Code and lists the most common soil profiles. For more specific information, refer to section 1615.1.5 of the International Building Code, 2000 edition. It is recommended that Buyer’s geotechnical engineer verify the Soil Profile for the building site.

Site Class	Soil Profile Name
A	Hard Rock
B	Rock
C	Very Dense Soil and Soft Rock
D	Stiff Soil Profile
E	Soft Soil Profile

**Grnd. Snow Load** – (Ground Snow Load) The Grnd. Snow Load specifies the amount of snow the metal building system will be designed to support. The maps in the building codes and design manuals for snow are for ground snow load, based on a 50-year mean recurrence interval.

**Exp.** – (Snow Exposure) The Snow Exposure accounts for variations in the wind blowing the snow off the roof of a building as a result of the surrounding terrain.

**Adj. Structures** – (Adjacent Structures) In areas where the ground snow load is 5 psf or greater, snow drifting caused by roof projection or multi-level roof must be investigated by design. Drifts can also occur on separate, lower structures located within 20 feet (i.e., Adjacent Structures) of the new building. It is important, when applicable, to report all roof obstructions and lower adjacent structures within 20 feet of the new building on the Contract.

**Buyer Action:** Adj. Structures is a site-specific design item. Verify that the Adj. Structures description in your Contract matches job site conditions. If Adj. Structures is listed “None”, and there are lower structures within 20 ft. of the new building, notify your Tyler Building Systems representative.

**UL Rating Required** – A rating provided by Underwriter’s Laboratories associated with wind tests performed on roof systems. Specific ratings require particular detailing and installation methods. If “None” is entered, the roof system is not designed in accordance with any particular UL rating.

**FM Rating Required** – A rating provided by Factory Mutual associated with wind tests performed on roof systems. Specific ratings require particular detailing and installation methods. If “None” is entered, the roof system is not designed in accordance with any particular FM rating.

**Hurricane Coastline** – States whether the building site is within 100 miles of a hurricane coastline.

**Roof Deflections** – Tyler Building Systems has established minimum deflection criteria (based on the International Building Code, 2000 edition) for use when the required building code has not addressed the situation. Deflection criteria is usually given as a ratio, the span over the limit, i.e. L/180 or H/60. The “L” in the first ratio is for Length, as in the length of a purlin or the length of a rafter. The “H” is for Height, as in the height of a column. Whether the ratio uses an L or an H is not important, as long as one understands that the letter is used to designate some distance. The limit is always a number. The larger the number, the smaller the deflection allowed.

The following chart specifies Tyler Building Systems’ standard deflection criteria. Unless more stringent criteria is specified, either by a building code or by the Contract, the deflection values below will be used in the design process. Deflection criteria for special conditions are determined on a case-by-case basis.

	<b>Tyler's Standard</b>	<b>Flexible Ceiling</b>	<b>Flexible Wall</b>	<b>Brittle Ceiling</b>	<b>Brittle Wall</b>
Endwall Column	L/120	*	*	*	L/240
Endwall Rafter	L/180	L/240	*	L/360	*
Wall Girt	L/90	*	L/120	*	L/240
Roof Purlin	L/150	L/240	*	L/360	*
Wall Panel	L/60	*	*	*	L/240
Roof Panel	L/60	*	*	*	*
Rigid Frame (Hor.)	H/90	*	*	*	H/120
Rigid Frame (Vert.)	L/180	L/240	*	L/360	L/180
Wind Framing	H/90	*	*	*	H/120

#### Deflection Chart Notes

1. \* Indicates that no change from “Tyler’s Standard” values.
2. Tyler’s Standard – This deflection schedule is used for buildings that have metal roof and wall panels or no walls.
3. Flexible Ceiling – This deflection schedule is used for buildings that have suspended or gypsum board ceilings.
4. Flexible Walls – This deflection schedule is used for buildings that have gypsum board interior walls or some type of flexible exterior wall (e.g., wood).
5. Brittle Ceiling – This deflection schedule is used for buildings that have plaster ceilings.
6. Brittle Walls – This deflection schedule is used for buildings that have masonry, glass, stucco, EIFS, etc. walls.

**Wall Deflections** – See *Roof Deflections*.

**Use Classification** – Some building codes use a system of building use classifications, based on the nature of occupancy, for purposes of applying wind, snow and earthquake provisions. When buildings or other structures have multiple uses (occupancies), the category selected shall be based on the highest classification. The following table is from the International Building Code, 2000 edition and is provided for general reference only.

Nature of Occupancy	Category
Buildings and other structures except those listed in Categories 2, 3 and 4	1
Buildings and structures that represent a substantial hazard to human life in the event of failure including, but not limited to: <ul style="list-style-type: none"> <li>• Buildings and structures where the primary occupancy is one in which more than 300 people congregate in one area</li> <li>• Buildings for schools through secondary or day-care centers with a capacity greater than 250</li> <li>• Buildings and other structures with a capacity greater than 500 for colleges or adult education facilities</li> <li>• Health care facilities with a capacity of 50 or more resident patients but not having surgery or emergency treatment facilities</li> <li>• Jails and detention facilities</li> <li>• Power generating stations, water treatment for potable water, waste water treatment facilities and other public utility facilities not included in Category 3</li> <li>• Buildings or structures not included in Category 3 containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released</li> </ul>	2
Buildings and structures designated as essential facilities including, but not limited to: <ul style="list-style-type: none"> <li>• Hospital and other medical facilities having surgery or emergency treatment facilities</li> <li>• Fire, rescue and police stations and emergency vehicle garages</li> <li>• Designated earthquake, hurricane, or other emergency shelters</li> <li>• Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response</li> <li>• Power generating stations and other public utility facilities required as emergency back-up facilities for Category 3 structures</li> <li>• Structures containing highly toxic materials</li> <li>• Aviation control towers, air traffic control centers and emergency aircraft hangars</li> <li>• Buildings and other structures having critical national defense functions</li> <li>• Water treatment facilities required to maintain water pressure for fire suppression</li> </ul>	3
Buildings and structures that represent a low hazard to human life in the event of failure, but not limited to: <ul style="list-style-type: none"> <li>• Agricultural buildings</li> <li>• Temporary facilities</li> <li>• Minor storage facilities</li> </ul>	4

## **Wind Bracing**

Wind bracing transfers the wind load on the metal building system to the building foundation. The various methods of accomplishing wind bracing are discussed below.

### **!! IMPORTANT !!**

Tyler Building Systems recommends that Buyer have a Professional Engineer design the concrete foundation.

**Left EW** – (Left End Wall) The wind bracing method used for the Left EW is listed here. Tyler uses one of several options for bracing an end wall.

**Buyer Action:** At the discretion of the Tyler Building Systems Engineering Department, wind bracing methods other than those indicated in the Contract may be used. If a specific wind bracing method is desired, notify your Tyler Building Systems Representative in writing.

### **!! IMPORTANT !!**

Wind bracing plays a critical role in a metal building system. Regardless of the method of bracing, wind bracing components are not optional and should never be removed without written authorization from Tyler Building Systems.

1. **Panel Shear** – Wind bracing provided by wall panels, fasteners, and members to which they are attached. Panel shear bracing depends on having a minimum number linear feet of wall panels that extend, uninterrupted, from the base of the building to the top of the eave or rake line. Uninterrupted means no cuts in the panels for framed openings. Tyler Building Systems calculates whether there is a sufficient amount of wall panels to provide panel shear bracing.

### **!! IMPORTANT !!**

Walls should not be field modified without first consulting with your Tyler Building Systems Representative. Removing wall panels or adding framed openings may affect the wind bracing of the building.

2. **X-Bracing** – Bracing system with members arranged diagonally in both directions to form an “X”. Cable and rod material are the two types of material commonly used for X-Bracing. Cable is used most often due to the ease of transporting and installing.
3. **Bearing Endwall Transfer Bracing** – This bracing system transfers the wind load from a bearing endwall to the building’s interior Rigid Frames via X-bracing in the roof.

4. **Rigid Frame** – A structural frame consisting of members joined together with moment connections so as to render the frame stable with respect to the design loads, without the need for bracing in its plane. A Rigid Frame is designed to support a full sidewall bay.
5. **Rigid Frame (1/2 Load)** – Same as the Rigid Frame above except that the Rigid Frame (1/2 Load) is designed to support only half of a sidewall bay. Rigid Frame (1/2 Load) frames are located at endwalls only and are not designed to support future additions.

**!! IMPORTANT !!**

Rigid Frame (1/2 Load) are not designed to support future additions.

**Right EW** – (Right End Wall) The wind bracing method used for the Right EW is listed here. See the options listed under Left EW above.

**Front SW** – (Front Sidewall) The wind bracing method used for the Front SW is listed here. Tyler uses one of several options for bracing the sidewall.

1. **Panel Shear** – Wind bracing provided by wall panels, fasteners, and members to which they are attached. Panel shear bracing depends on having a minimum number linear feet of wall panels that extend, uninterrupted, from the base of the building to the top of the eave or rake line. Uninterrupted means no cuts in the panels for framed openings. Tyler Building Systems calculates whether there is a sufficient amount of wall panels to provide panel shear bracing.

**!! IMPORTANT !!**

Walls should not be field modified without first consulting with your Tyler Building Systems Representative. Removing wall panels or adding framed openings may affect the wind bracing of the building.

2. **X-Bracing** – Bracing system with members arranged diagonally in both directions to form an “X”. Cable and rod material are the two types of material commonly used for X-Bracing. Cable is used most often due to the ease of transporting and installing.
3. **Fixed Base** – A column base that is designed to resist rotation as well as horizontal or vertical movement.
4. **Wind Bent (a.k.a. Portal Frame)** – A rigid frame so designed that it offers rigidity and stability in its plane. It is generally used to resist longitudinal loads where other bracing methods (e.g., Panel Shear, X-Bracing, and Fixed Base) are not permitted.

5. Wind Column – A vertical member designed to withstand horizontal wind loads.

**!! IMPORTANT !!**  
 Fixed Base and Wind Column bracing methods will impose moment (i.e., twist) into the concrete foundation.

**Back SW** – (Back Sidewall) The wind bracing method used for the Back SW is listed here. See the options listed under Front SW above.

### **Roof, Walls, & Trim**

**Roof Panels, Profile** – Designates the panel profile used for the roof. Metal building systems are a custom manufactured product and there are multiple roof materials and profiles that might be used. The most commonly used metal panel profiles are listed below. Refer to the Color Chart for examples of the profiles.

1. “PBR” – This panel profile represents a through-fastened panel system. Screws are driven *through* the roof panel and *fasten* the panel to the purlin.
2. Ultra-Dek<sup>®</sup>, Double-Lok<sup>®</sup>, Super-Lok<sup>®</sup> – These roof systems are referred to as standing seam systems. The vertical leg of the panel stands above the flat, or pan, of the panel. Clips connect the panels to purlins. Standing seam systems are superior to through-fastened roof systems in that standing seam systems have fewer roof penetrations within the building envelope.

**Roof Panels, Gauge** – Describes the thickness of the steel that comprises the roof panel. The lower the number – the thicker the steel.

**Roof Panels, Finish** – Describes the finish coat of the roof panel. The four standard panel finishes provided by Tyler Building Systems are:

1. Galvalume<sup>®</sup> Plus (or Galvalume<sup>®</sup>) – No paint finish provided on the roof panels. Galvalume<sup>®</sup> Plus is a corrosion-resistant aluminum-zinc alloy coating applied to cold-rolled sheet steel.
2. Series 200 Color – A coating system composed of polyester resin modified by copolymerization with functional silicone resin intermediate.
3. Series 300 Color – A fluorocarbon paint system combining ceramic pigmentation with polyvinylidene (70% of resin solids). Series 300 provides improved performance in critical areas such as color retention, film erosion and chemical resistance.
4. Series 300 Metallic – An enhancement of the Series 300 Color using special metallic pigments.

**Roof Panels, Fasteners** – Describes the insulation condition that the roof screw must accommodate. The length of screw is based on the roof insulation thickness. This description does not state whether Tyler Building Systems is providing insulation or not. To determine whether or not a Contract includes insulation, see the “Accessories & Services” section of the Contract.

**Wall Panels, Profile** - Designates the panel profile used for the walls. The “PBR” profile panel is Tyler Building Systems’ standard wall panel. The “PBR” panel is a through-fastened panel meaning screws are driven *through* the wall panel and *fasten* the panel to the girt underneath. Through-fastened panels are also available in a “PBU” and “PBA” profile. Refer to the Color Chart for examples of the profiles.

**Wall Panels, Gauge** – See *Roof Panels, Gauge* above.

**Wall Panels, Finish** – *See Roof Panels, Finish above.*

**Wall Panels, Fasteners** – *See Roof Panels, Fasteners above.*

**Trim, Eave Type** – Describes the profile of trim used at the building eaves. The three most common eave trim profiles are:

1. Gutter & Downspouts – Gutter is a light gauge metal member at an eave designed to carry water from the roof to downspouts. Downspouts are conduits used to carry water from the gutter of a building to the ground or a drain.
2. Sculptured – Sculptured eave trim looks like Gutter but does not carry water. Sculptured eave trim does conceal the end of the roof panel as does gutter.
3. Simple – Simple eave trim is an angle trim that flashes the top of the wall panel only. Water sheds from the roof panel directly to the ground. Simple eave trim does not conceal the end of the roof panel.

**!! IMPORTANT !!**

Tyler Building Systems' standard trim profiles will be provided unless noted otherwise in the Contract. Refer to Tyler Building Systems' Construction Handbook for examples of the various trim profiles. Alternative trim profiles are available at additional charge.

**Trim, Gauge** – *See Roof Panels, Gauge above.*

**Trim, Finish** – *See Roof Panels, Finish above.*

### **Open Walls & Framed Openings**

**Left EW** – (Left End Wall) Describes the quantity and size of openings in the Left EW. Openings will commonly be one of the following:

1. Framed Opening, Factory Located – Framed opening means framing members and flashing that surround an opening. Factory located means that the exact location of the framed opening on the Left EW is dimensioned on the Floor Plan page of the Contract. Framed opening size is always reported as Width x Opening Height x Sill Height. If the Sill Height = 0, (i.e., the framed opening bears on the finished floor) the Sill Height is omitted from the framed opening size. All framed openings are factory located unless specifically stated otherwise.
2. Framed Opening, Field Located – Similar to Framed Opening, Factory Located except the framed opening is not specifically located. Buyer is requested to specify the general location of the framed opening for design purposes. The exact location of the framed opening will be determined in the field at the time of building erection.
3. Open Wall – Area that is designed without girts and wall panels. Open walls will include wall columns and wind bracing unless noted otherwise in the Contract.

**Front SW** – (Front Sidewall) *Same as Left EW above except for the Front SW.*

**Right EW** – (Right EW) *Same as Left EW above except for the Right EW.*

**Back SW** – (Back SW) *Same as Left EW above except for the Back SW.*

**Accessories & Services**

Accessories (e.g., doors, windows, ventilators, etc.) and services (metal building erection) included in the Contract are listed here. Review the quantity and description of each listed accessory carefully. Items not listed in this section are not included in the Contract and will not be provided by Tyler Building Systems.

**Standard Notes**

This section contains important notes that pertain to all Contracts. Buyer is encouraged to read the section carefully.

**Special Notes**

This section contains important notes that pertain specifically to an individual Contract. Buyer is encouraged to read the section carefully.

**Floor Plan**

The Floor Plan page is used to locate framed openings, wind bracing, and other accessories. The Buyer is encouraged to closely review this page. Several notes are important to keep in mind when reviewing the Floor Plan:

1. The framed opening locations on the Floor Plan are assumed to be correct. Buyer should make modifications directly to the Floor Plan if framed opening locations, sizes, and/or quantities are incorrect.
2. Endwall column locations are determined by the Tyler Building Systems Design Department. The quantity and location of columns may vary from what is shown on the Floor Plan. Buyer is encouraged to make modifications directly to the Floor Plan if specific endwall column spacings are required.
3. The location of X-Bracing is not usually shown on Floor Plan. If X-Bracing is used in the building (see the Wind Bracing section), Tyler Building Systems' Design Dept. will locate the bracing and assumes all bays without factory located framed openings are allowed to receive such bracing. Buyer is encouraged to make modifications directly to the Floor Plan if specific bays may not receive X-Bracing.

**General Conditions of Contract**

The General Conditions of Contract describe the conditions of the agreement between the Buyer and Tyler Building Systems.

**Project Information**

This section must be completed by the Buyer.

1. Buyer Status – Select one of the three options. The Original Contractor is selling material and/or services directly to the Property Owner. A Subcontractor is selling material and/or services to another contractor.
2. Property Owner – Provide the Property Owner's contact information here. This is not the address of the job site unless the Property Owner lives at the job site.
3. Property Description – Enter the address of the job site here.
4. Original Contractor – If the Buyer is a Subcontractor, enter the Original Contractor's contact information here.

**Request for Information**

This section requests information from Buyer. It is important that the information be either provided at the time of order or soon thereafter. Building colors and delivery directions are required before the project will be scheduled for delivery.

**Building Colors, Series** – Series designates the finish condition on the metal panel and trim material. Refer to the Color Chart for examples of the various colors.

1. Galvalume<sup>®</sup> Plus (or Galvalume<sup>®</sup>) – No paint finish provided on the roof panels. Galvalume<sup>®</sup> Plus is a corrosion-resistant aluminum-zinc alloy coating applied to cold-rolled sheet steel.
2. Series 200 Color – A coating system composed of polyester resin modified by copolymerization with functional silicone resin intermediate.
3. Series 300 Color – A fluorocarbon paint system combining ceramic pigmentation with polyvinylidene (70% of resin solids). Series 300 provides improved performance in critical areas such as color retention, film erosion and chemical resistance.

**Building Colors, Color** – Buyer enters the color choice for each component here. Buyer should select colors from the appropriate color group (i.e., Series 200 or Series 300). If a color is already entered, verify that the color is correct.

**!! IMPORTANT !!**

Panels and trim are custom manufactured material. Be certain to enter the correct color and color Series. Neither panels nor trim may be returned for refunds.

**Contract Agreement**

**Price** – The price of the metal building system described in the Contract excluding any Alternates.

**Price Includes** – Describes what is, and what is not, included in the Price.

**Payment Terms** – Describes the payment terms for Contract. Some of the more common payment terms are:

- 20% Down Payment, Balance Due C.O.D. – An initial down payment in the amount of 20% of the Price is required at the time of order. The balance of the Contract amount (i.e., Price plus Change Orders) is due at the job site the morning the building is delivered.
- C.O.D. – The invoiced amount (usually the full amount of the Price) is due at the job site the morning the building is delivered.
- Net Due on Delivery – The invoiced amount (usually the full amount of the Price) is due the morning the building is delivered but payment is not required at the job site.
- Net “X” Days – The invoiced amount is due within a specific number days from the date shown on the invoice. The “X” represents the number days.

**Alternates** – Alternate, or alternative, prices offered with the Contract. Buyer should indicate with a mark whether the alternate is or is not accepted if there are alternates listed. If accepted, the price of the alternate will be added to, or deducted from, the Price.

**Buyer** – Buyer completes this section to order the Contract. Buyer should return the Contract to Tyler Building Systems for acceptance. A copy of the fully executed Contract must be returned to Buyer via mail or fax.

**Tyler Building Systems, L.P.** – A representative of TBS Holding, Inc. signs here to accept the Contract.