SECTION 01 3399

CONTRACTOR'S DESIGN RESPONSIBILITY

PART 1 GENERAL

1.1 SUMMARY

A. The General Contractor shall take responsibility for the Contractor Design of portions of the Work identified within the Specifications as requiring Contractor Design, including work designated as design-assist, delegated design, bidder designed, or deferred submittal..

1. Drawings and specifications, in these cases, are an outline of criteria and are not an engineered design. Contract Documents will specify performance and design criteria for this scope, including, without limitation, performance requirements, design intent, design criteria, and appearance requirements.
    a. Minimum Requirements: Provide specified minimum requirements even if the Contractor's Design determines that a lower requirement will satisfy indicated performance requirements.
2. Drawings and specifications do not indicate or describe total work required for completion and may not cover some conditions which may be required.
3. The design and visual character of the Project is important and shall be maintained. There shall be no variation in the final surface finish of similar materials, which shall remain visually consistent, including color and texture, within agreed tolerances and agreed samples.
4. No portion of the Work shall commence without acceptance of the required submittals by the Architect.
    a. Where alternative sub-contractors/suppliers/products are proposed, they shall not be included until written acceptance is received from the Architect.
5. The Contractor’s Design shall be reviewed by the Architect. Attend evaluation meetings as required and make adjustments and alterations to the Contractor’s Design to accommodate the major design principles to the satisfaction of the Architect.

B. Related Sections: Includes, without limitation, the following:

1. Section 01 3300 - SUBMITTAL PROCEDURES.
2. Section 01 4000 - QUALITY REQUIREMENTS.
3. Section 01 8316 - ENVELOPE PERFORMANCE REQUIREMENTS.

1.2 DEFINITIONS

A. Design intent: The physical and visual arrangement of elements or components described in the documents, including but not limited to: applicable codes and regulations, performance criteria, quality requirements and standards, materials, finishes, products, sizes and dimensions.

B. Contractor’s Design: Design services by the Contractor specifically required by the Contract Documents for a portion of the Work, per the General Conditions of the Contract for Construction. The Contractor will employ licensed designers who will generate and be responsible for the design and construction of the designated portion of the Work, complying with the design and performance criteria specified in the Contract Documents and serve as the licensed professional of record for the component. The Contractor shall assume full responsibility for meeting the minimum requirements of all applicable codes and standards, whether referenced in the specific section of the specification or not, and shall assume the responsibility for securing all requires approvals and permits for the portion of the work.

C. Design Assist Contractor's Design: The design process will follow a "Design-Assist" process wherein the Architect will work with design professionals separately retained by the Contractor to develop the most appropriate and economical system.

1. The Contractor shall include all labor, materials, tools, equipment, and services required to manufacture, deliver, furnish and install all items necessary for the proper execution as required by job conditions to provide a complete installation.
2. Contractor is responsible for samples, preparation and submittal of shop drawings for review by design team. Contractor's final engineered design shall be based on mutually agreed upon design as submitted by Contractor for review and acceptance by Architect in accordance with Division 01.

D. Permit Authority: All authorities having local jurisdiction.

E. Seal: Certification that drawings, computations and specifications were designed and prepared under direct supervision of a licensed Professional Engineer whose name appears thereon. Each seal shall be signed by the licensed design professional and dated.

F. General Contractor Review Stamp: Certification that the Contractor's, and their Sub-Contractor's, drawings, computations, and specifications have been reviewed for compatibility with design and performance criteria included in the Contract Documents.

1.3 PERFORMANCE REQUIREMENTS

A. The performance criteria included in the Specification sets the minimum standards with which the Contractor's Design solutions shall comply, and the means by which compliance shall be checked and controlled prior to completion. By inference, the Performance Criteria includes all codes adopted, administered, or enforced by the local authority having jurisdiction, whether or not those codes have been specifically referenced in the contract documents.

B. Although the Drawings show considerable detail and dimensions, no warranty or representation is given by the Architect as to the accuracy of such dimensions or the adequacy or buildability of such details. Should the Contractor adopt the details or arrangements indicated on the Drawings it shall be deemed that he has checked their buildability and performance in terms of this Specification, all relevant Regulations and codes of practice, and manufacturers' recommendations for any products referred to in the Contract Documents.

C. Dead Loads

1. The Work shall be capable of accommodating the following dead loads without any reduction in performance:
   a. The component and final assembly dead load, which shall be accommodated locally without causing deflections or movements which adversely affect any component.
   b. The dead loads derived from any permanent items attached to the surfaces of the building.
2. When calculating loads the worst combination shall be considered.

D. Live Loads

1. The Work shall be capable of accommodating the following live loads without a reduction in performance:
   a. All loads resulting from movements of the building structure and support structure.
   b. Impact loads, or transferred impact loads, that occur during the service life of the building, without deterioration in performance and without sustaining non-repairable damage.

c. Loads imposed during replacement of components.

2. When calculating loads the worst combination shall be considered.

E. Deflections

1. The maximum allowable deflection of an element of the Work when carrying full design loads shall not exceed 1/175 of clear span in a direction normal to the plane of that element, whichever is the lesser value, or those limits specified within the relevant Section.
2. The Work shall not deflect under loading in a way that is detrimental to one or more components or to adjacent structural or building elements.
3. Each component, coupling and attachment shall be capable of accommodating deflections without permanent distortion, deformation or failure.
4. The Work shall accommodate differential structural movements arising from loads imposed by adjacent structures.
5. The magnitude of the allowable deflections shall be reduced if they are detrimental to a part of the Work, its support structure or internal finishes.

F. Preceding Work

1. At the appropriate time check all preceding work, including checking line, level and attachment points and report immediately to the Contractor each one considered to be unsuitable and propose remedial action if so requested by the Contractor.
2. Prior to manufacture of components, where possible, inspect the Site and check measurements of preceding work while completing the Shop Drawings and co-ordinate all Site dimensions.
3. Shop Drawings shall include full details of each different interface condition, demonstrating full compatibility with adjoining items of Work and takes into account each such condition.

G. Vibration

1. Ensure that the Work can withstand vibrations caused by traffic, aircraft, equipment effects or other shocks, slamming, strains, stresses and movement imposed, thus avoiding deterioration or fracture of one or more elements, both during construction and after installation.

H. Environmental Conditions

1. Ensure that the Work conforms to each requirement of the Specification, taking into account local environmental conditions prevailing at Site.
2. Obtain additional meteorological and climate data considered necessary in order to fulfill contractual obligations.
3. Allow for the fact that construction will be conducted in extremes of weather conditions throughout the year and that the building may not be climatically controlled during construction.
   a. Damage to materials as a result of Site conditions shall be the Contractor’s responsibility.
4. Each material grade, manufacturing method and standard, corrosion protection, and the like shall be selected so that they are fully suited to the internal and external environmental conditions and as contained in the Specifications and Drawings.

1.4 CONTRACTOR'S DESIGN PROCESS

A. Contractor Design of portions of the work shall be an iterative process, conducted in consultation with the Architect, to achieve the best possible system or assembly that meets the Architect's design intent and the Project performance requirements.

B. Drawings and specifications outline the design and performance criteria for the limited scope of the Contractor's Design. Do not modify the specified design and performance criteria without the Architect's written acceptance.

C. The design intent and visual character of the Project is important and shall be maintained. There shall be no variation in the final surface finish of similar materials, which shall remain visually consistent, including color and texture, within agreed tolerances and agreed samples.

D. Contractor's Design scope does not relieve the Contractor of their responsibility to coordinate the work of multiple Sub-Contractors contributing to an assembly, regardless if the adjoining systems and materials are designed by the Architect, Engineer of Record, any SubContractor, or others. Ensure complete, operational systems that perform their intended use are provided.

E. No portion of the Contractor's Design Work shall commence without review and stamping of the required submittals by the Architect.

1. Where alternative suppliers and/or products are proposed, they shall not be included until written acceptance is received from the Architect.

F. Contractor's Design shall be based on the design and performance requirements of the Contract Documents. The Contractor shall verify the adequacy and constructability of proposed details indicated in the Contract Documents as they relate to specified performance criteria, all relevant regulations and codes of practice, and manufacturers' recommendations.

1. Produce Shop Drawings to represent the Design, supported by calculations for review by the Architect.
2. The Shop Drawings shall finalize all manufacturing, interface and installation details.
3. Ensure that any necessary amendments are made in a timely manner, unless and until the Architect confirms that resubmission is not required. submit amended drawings and calculations, and ensure incorporation of necessary amendments.
4. Select suitable materials, sizes, thicknesses, types and locations of mounting/attachment, all in accordance with specified standards, and ensure that they are used for the purpose intended by the manufacturer.
5. Include descriptions of relevant structural performance principles of the Work, including how and where loads are transmitted to the primary structure and the accommodation of tolerances.
6. Show details of all attachment requirements to interfacing elements of the Work, which shall be agreed with the Architect prior to commencement of the installation.
7. Contractor shall compile the Shop Drawings and Specifications of any chosen Sub-Contractors to ensure that all the contractual obligations are met to the satisfaction of the Architect.

G. Provide the Architect with a method allowing ongoing communications between Architect personnel and the Contractor's designer(s) during the design process.

H. Contractor's Design Requirements:

1. The Contractor's Design as a minimum shall include:
   a. Full details of systems, materials and suppliers as specified in the Contract Documents.
   b. List of SubContractor involvement, if any.
   c. Full details of systems, materials and suppliers where different from those specified.
   d. Comprehensive technical specifications of the Contractor's Design.
   e. Shop Drawings as required by the Specifications or as deemed necessary to explain the Contractor's Design.
   f. Technical statements confirming performance compliance.

g. Details of guarantees and warranties for primary and secondary components.
h. Summary of deviations from the Contract Documents.

2. The design, fabrication and installation shall take into account all tolerances and movements of the building structure.
   a. Movements include the application of dead, live and wind loads plus moisture, shrinkage, creep and thermal effects.
   b. Movements include all structural movement and tolerances, in permanent and temporary conditions, to avoid stress, deformation and material failure.
   c. The Contractor Design shall take into account the ambient temperature at the time of the respective operations of fabrication, assembly and erection, with appropriate allowances being made for any dimensional changes that may result.
3. The shop drawings shall include full details of all interface conditions, demonstrating full compatibility with adjoining items of work and that the Contractor Design takes into account all such conditions.
4. The design, manufacture and installation of the Work shall protect against and not contain or provide harborage for infestation by vermin or insects.
5. The design, manufacture and installation of the Work shall exclude the formation, growth, presence, release or dispersal of any fungi, molds, spores or mycotoxins of any kind.

1.5 CONTRACTOR'S RESPONSIBILITY

A. Undertake the Contractor's Design maintaining the function, visual requirements, performance and intent of the Design, and demonstrating that the systems shall be fully warranted systems in accordance with the Contract conditions.

B. The Contractor’s Design shall include drawings, calculations, methods, and technical specifications detailing the proposed materials and systems such that a technical appraisal can be made by the Architect.

   1. Any alternative solutions proposed by the Contractor shall not alter the performance requirements, appearance or visual intent of the Contract Documents and the Specification.

C. Provide Shop Drawings and technical information to demonstrate compliance with the Contract Documents. The final Contractor’s Design shall be based on the Contract Documents, which indicate generic solutions and may not cover all conditions.

D. Where proprietary products are to be installed, be responsible for providing any modification, additional bracing, reinforcing, suitable fixings, and the like to ensure that the products meet the requirements of the Specification for the installation in which they shall be expected to perform.

   1. Be responsible for conveying any concerns that the manufacturers may have expressed regarding the suitability of products for the purpose intended.

E. Be responsible for the final selection of products and associated components, which shall be used solely for the purpose intended by the manufacturer, and which shall satisfy the requirements of the Specification.

1.6 SUBMITTALS

A. General: All submittals prepared by the SubContractor shall by fully reviewed by the General Contractor for compliance with the requirements herein and the requirements of the overall design, and be stamped with General Contractor Review Stamp acceptable to the Architect prior to submission to the Architect for review.

B. Product Data: May include manufacturer’s catalogue information, product specifications, standard

illustrations, diagrams and standard details. The product data shall describe physical characteristics such as size, weight, finish, material analysis, electrical requirements and other information such as load tables, test results, assessments and industry quality standards.

C. Shop Drawings: Shop drawings shall clearly and legibly show all members, dimensions, connections, materials used, and indicating how the part is attached to the main structure. Confirm with permitting agency for required number of permit review sets required.

1. Drawings shall be prepared, designed, and sealed by an Engineer licensed to practice in the jurisdiction of this project's location.
2. The Shop Drawings shall include full details of all interface conditions, demonstrating full compatibility with adjoining items of work and that the Contractor Design takes into account all such conditions.

D. Contractor's Design Calculations: Provide basis of design, substantiating computations, and such additional data sufficient to show compliance with the design and performance criteria of the Contract Documents, and with the structural provisions of the Building Code.

1. Calculations shall be prepared and sealed by the engineer who prepared and sealed the drawings.

E. Pre-Construction Testing Reports: Provide technical reports recording test results systems, components and materials as required by the Contract Documents, the Architect, or a testing laboratory, prior to commencement of installation.

1. These reports shall state compliance with the technical requirements of the Specification and include, where appropriate, test certificates.

F. Submit all relevant information sufficient to demonstrate compliance with the Specification to Permit Authority. Confirm with Permit Authority their requirements for agency review.

G. Other Submittals: Provide such additional supplemental information in respect of design, materials, systems, methods, installation and procedures as required by the Architect.

1. Additional supplemental information shall comply fully with the design intent, functional and performance requirements of the Design.

H. Submit a Contractor Design Summary Sheet listing Specialty Contractors and their registered designers, including names, e-mail addresses, and telephone numbers.

1.7 ARCHITECT'S REVIEW OF SUBMITTALS

A. The Architect shall review submittals as described in Section 01 3300 - SUBMITTAL PROCEDURES. The Architect's review shall not be exhaustive and shall not relieve the Contractor of the responsibility for any omission or deficiencies or from the responsibility to coordinate the work with that of others, which includes the taking of relevant site dimensions as necessary.

B. Submittals which provide supplementary information to substantiate the technical performance of building systems, components and materials including, but not necessarily limited to, supplementary product literature, certifications, statements of manufacturer's review and pre-construction testing and inspection reports, will be stamped 'Record Document' by the Contractor before submission.

C. Re-submittals shall be made under the procedure for initial submittals; identifying changes made since previous submittals.

1.8 QUALITY ASSURANCE

A. Minimum qualifications for each approved Specialty Contractor selected by the Contractor meet the following as a minimum.

1. Utah Licensed / Registered in the discipline as applicable to scope of Contractor's Design portion allocated to the Specialty Contractor.
2. Minimum five (5) years and five (5) similar projects of experience for firm performing Contractor's Design and for individual designers in responsible charge of design.
3. Minimum Professional Liability insurance: $xxxxxxx per claim and $xxxxxxx annual aggregate.

B. Documentation: Comply with the following:

1. Uniform Drawing System.
2. Minimum Text Size: 1/8 inch.
3. Other requirements of Permit Authority.

C. Permit Authority Requirements: Comply with Permit Authority policies regarding Contractor Design components.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION [NOT USED]

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