

LEAN CONSTRUCTION ADDENDUM

ARTICLE 1 LEAN PROJECT ESSENTIALS

1.1 Lean Project Delivery. Contractor and Subcontractor agree the Project will benefit by implementing "Lean Project Delivery," which includes: (a) collaboration throughout the Project among Contractor, Subcontractor and other subcontractors and service providers on the Project (collectively referred to as the "Project Team"); (b) planning and managing the Project as a network of commitments; (c) optimizing the Project as a whole, rather than any particular piece; and (d) closely aligning learning with action (promoting continuous improvement throughout the life of the Project). Contractor intends to utilize Lean Project Delivery to facilitate construction of the Project. The Project Team members will be expected to reasonably share information and cooperatively collaborate for the benefit of the Project. Except where otherwise defined in this Exhibit, capitalized terms used herein shall have the same definition as set forth in the Subcontract Agreement .

1.2 Cooperation. Subcontractor and Contractor each promise to furnish its skill and judgment and to collaborate and cooperate with the Project Team to further the interests of the Project . Each Project Team member shall furnish its services and work in an expeditious and economical manner. Contractor shall endeavor to promote harmony, collaboration, and cooperation among the Project Team. Project Team members are encouraged to share ideas freely and are expected to collaborate in an atmosphere of mutual respect and tolerance.

1.3 Reliable Commitments. Project Team members will make and secure reliable commitments as the basis for planning and executing the Project. A reliable commitment must include the following elements :

- (a) The conditions necessary for the satisfaction of the commitment are clear to relevant Project Team members ;
- (b) The promisor/performer is competent and able to perform the task or has retained individuals or entities who are competent and able to perform the task;
- (c) The promisor/performer has estimated the time to perform the task, has allocated adequate resources to perform the task, and has properly scheduled time to perform the task;
- (d) The promisor/performer has no current basis for believing the commitment will not be fulfilled; and
- (e) The promisor/performer is prepared to be accountable if the commitment cannot be performed as promised and shall promptly advise the relevant Project Team members if it believes that the task may not be performed as committed .

1.4 No Partnership, Joint Venture or Fiduciary Duty. Subcontractor, Contractor, and other Project Team members are each independent contractors for all purposes, and nothing contained in the Subcontract Documents shall be construed to create a partnership, joint venture, association, principal-agent relationship, or impose a fiduciary duty or joint obligation or liability on or with regard to any of Subcontractor, Contractor, Owner, Architect, other subcontractors, suppliers and service providers or their respective contracting parties. Subcontractor, Contractor, and other Project Team members shall each be individually responsible for its own obligations and liabilities under the Subcontract Documents. Except where otherwise expressly approved by the party to be bound in writing, Subcontractor, Contractor, and other Project Team members shall act only on an individual basis and shall not be authorized to act as agent or representative of any other party nor have the power or authority to bind any other party for any purpose.

ARTICLE 2 PROJECT TEAM LEADERSHIP

2.1 Subcontractor's Representative. Subcontractor shall appoint a representative ("Subcontractor's Representative") approved by Contractor whose duties include, without limitation, directing and coordinating the Subcontract Work, and participating as a member of the Project Team. Subcontractor shall not replace Subcontractor's Representative without Contractor's prior written consent, which shall not be unreasonably withheld. Any replacement Subcontractor's Representative shall have substantially equivalent or better qualifications than Subcontractor's Representative whom he or she replaces. Subcontractor's Representative shall represent Subcontractor, and all communications given to Subcontractor's Representative shall be deemed to have been delivered to Subcontractor.

2.2 Contractor's Representative. Contractor shall appoint a representative ("Contractor's Representative") to manage the Project on Contractor's behalf and participate as a member of the Project Team; provided, however, Contractor's Representative may not be the person authorized by Contractor to sign Change Orders and Construction Change Directives.

Contractor's Representative shall be responsible for coordinating action among the Project participants, including any additional Contractor personnel who must participate in decision making on the Project.

2.3 Project Team.

2.3.1 Team Collaboration. The Project Team shall work together to deliver the Project employing collaborative methods for achieving the best value and most efficient and economical Project delivery . Subcontractor's Representative shall act on behalf of Subcontractor on the Project Team .

2.3.2 Decision-Making. Consistent with lean principles of collaboration and to the greatest extent possible, the Project Team shall act in the best interest of the Project as a whole and consistent with applicable laws . Project Team members shall use their best good faith efforts to resolve disputes by agreement before initiating dispute resolution procedures under the terms of the Subcontract Documents. If the parties are unable to agree on a resolution, Contractor may issue directions that it believes to be in the best interest of the Project, subject to further resolution pursuant to the dispute resolution provisions of the Subcontract Documents. The Project Team shall meet regularly to review Project performance, coordinate efforts, make key decisions, and stimulate excellence among Project Team members. See Guidebook for additional information.

2.3.3 Supervision. The Project Team as a whole shall not have any duties of supervision over or control of any individual Project Team members. All subcontractors, suppliers, consultants, and other parties providing labor, services, materials, or equipment to the Project are independent contractors. Each Project Team member is alone responsible for supervising its employees. However, Contractor is responsible for developing and implementing a program for (a) evaluating the Project Team's utilization and performance of Lean Project Delivery and (b) stimulating continuous improvement in the Project Team's Lean Project Delivery performance. The performance improvement program will include at least the following elements: (a) an established set of no more than ten performance metrics; (b) a regular schedule for periodic evaluations; (c) a focus on behaviors of team members; (d) clear standards and protocols for evaluating performance against the established metrics; and (e) a feedback mechanism on recommendations to improve team member behavior.

ARTICLE 3 PROJECT TEAM RESPONSIBILITIES

3.1 Project Planning & Schedule.

3.1.1 Pull Planning. Consistent with the Project construction schedule, the Project Team shall employ a pull scheduling approach to planning and scheduling, which provides that preceding activities are not started sooner than is needed to assure the continuous performance of subsequent activities. Where the work of one Project Team member is dependent upon the prior performance of another Project Team member or another Project Team member's lower tier contractor, the Project Team member whose work is dependent shall request of, and receive from, the prior performer a commitment as to when the precedent work will be finished. Applicable Project Team members shall agree upon criteria for the hand-off of items of work. Project Team members shall attend and participate in pull planning meetings as required by Contractor.

3.1.2 Project Planning System. Consistent with the Project construction schedule, the Project Team shall employ a system of Project planning that may include the collaborative development of a milestone schedule, phase or progression schedules, "make-ready" look ahead plans, weekly work plans, daily huddles and methods for recording, measuring, and improving the reliability of Project planning.

3.1.3 Phase Planning. Phase planning shall be based on the collaborative efforts of all those performing work during a given period and shall show when work will be done to meet milestone dates. Project Team members shall attend and participate in phase planning meetings as required by Contractor.

3.1.4 Make-Ready Look Ahead Plan. Make-ready look ahead plans shall be developed by the Project Team , identifying (a) each item of work to be performed and completed during the given planning period; (b) whether factors exist that would impede or constrain performance and completion; and (c) the actions to be taken to negate or mitigate any such impediments or constraints.

3.1.5 Weekly Work Plans. Project Team members shall attend and participate in weekly work plan meetings. Consistent with the Project construction schedule, weekly work plans will be developed by the Project Team members on a weekly basis and show the day on which assignments shall be completed. The weekly work plans shall disclose whether or not an assignment has been completed as scheduled and, if not, a reason shall be assigned. Unless otherwise agreed to by Contractor, the Project Team will record the current Plan Percent Complete (PPC) for the Project and display this for review.

3.1.6 Construction Schedule. Contractor shall prepare and maintain the construction schedule consistent with the contract time and overall Project schedule. The construction schedule shall coordinate and integrate the services and activities of Subcontractor, Contractor, Owner, Architect, other subcontractors and service providers. To the extent required by the Prime Contract, Contractor shall update the construction schedule to show: (a) proposed activity sequences and durations; (b) proposed milestone dates for such activities; (c) delivery of materials or equipment requiring long-lead-time procurement; (d) Owner's occupancy requirements; and (e) estimated date of Substantial Completion of the Project. If construction schedule updates show that milestone dates contained in prior construction schedules will not be met, Contractor may notify and make recommendations to the Project Team. Contractor shall monitor the performance of subcontractors as it relates to the construction schedule; update the construction schedule; and if required, recommend corrective alternatives or adjustments to the Project Team.

3.2 Project Team Communications.

3.2.1 Communications Protocol. Contractor shall provide a communications protocol to the Project Team. The communications protocol shall: (a) identify critical Project personnel and their contact information; (b) provide a Project meeting schedule with attendance requirements; (c) allow for direct communication between and among Project Team members, as necessary, and identify when contemporaneous notification of the content of such communication should be made to the other Project Team members; (d) establish the exchange of documents and data in electronic form; (e) determine necessary equipment, software, and services; (f) determine acceptable formats, transmission methods, and verification procedures; (g) establish methods for maintaining version control; (h) set forth privacy and security requirements; and (i) set forth storage and retrieval requirements. Except as otherwise agreed to by Contractor and Subcontractor in writing, each party shall bear its own costs as identified in the communications protocol. Absent a written protocol, use of documents and data in electronic form shall be at the sole risk of the recipient.

3.2.2 Communication Failure. Contractor will notify a Project Team member in writing with any difficulty resulting from the member's failure to comply with the communications protocol. Failure of a Project Team member to timely cure a breach of the communications protocol shall be a material breach of this Agreement.

3.3 Quality Assurance and Quality Planning.

3.3.1 Quality. The Project Team members will work diligently throughout the Project to assure quality in the first instance, avoid defects, and proactively and collaboratively mitigate the impact of any defects that do occur.

3.3.2 Quality Plan. Contractor, in collaboration with the other Project Team members, shall develop a plan that meets or exceeds the standards and requirements in the Subcontract Documents and addresses issues such as the following:

- (a) Training workers on the benefits of standardized work practices, the continuous improvement of work practices, and the negative impact upon the Project of failing to achieve commitments;
- (c) Using mockups, first run studies, early completion of standard work units, and similar efforts to demonstrate and document agreed-upon levels of quality;
- (d) Providing task-based quality checklists for use by trade persons to self-evaluate quality performance, establish benchmarks, and promote continuous improvement;
- (e) Developing methods for onsite managers and others providing quality assurance to review early work product and assure quality performance;
- (f) Integrating quality review and Project planning and scheduling pursuant to §3.1.1;
- (g) Developing protocols for trade persons to discuss and assure quality when Work is being handed off to another;
- (h) Identifying procedures for immediately addressing quality failures by workers originally performing Work to assure minimum cost impact and continuous improvement;

(i) Developing procedures for recognizing outstanding performance and quality by individual trade persons and the Project Team members; and

- (j) Creating standards by which to measure and track quality performance

3.4 5S Plan. Subcontractor shall submit to Contractor for its approval a construction operations quality plan that addresses the following:

- (a) The removal of clutter and all unnecessary items from the work environment;
- (b) Placing items that will be used during construction so as to facilitate their efficient and responsible use ;
- (c) Creating an orderly and clean workspace with continuous inspection and clean-up;
- (d) Standardizing and constantly improving construction operation practices; and
- (e) Creating a culture of discipline and continuous improvement.

3.5 Logistics Plan. Subcontractor shall order material and equipment in accordance with a material logistics plan prepared by Subcontractor and approved by Contractor that is consistent with the current phase plan and look ahead plan. The intent and purpose of the material logistics plan is to promote just-in-time deliveries to the site, avoid delays in material deliveries, minimize handling costs and provide the least obstruction of the premises and any adjoining property.