

Chapter 6: Construction

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6.1 OWNER-CONTRACTOR AGREEMENT

A. Preparation:

1. Upon Owner written authorization, prepare five copies of the Agreement in the required format with attachments.
2. Establish the Contract Time in the Agreement following the definitions of the contract document, counting days from and including the Notice to Proceed date and the date required for Substantial Completion. For example, a project with a Notice to Proceed date of February 2, 2009, and three days of Contract Time would require achievement of Substantial Completion on February 4, 2009.
3. Obtain from the Contractor the required signatures on all copies, the Contract Bond with associated Power of Attorney, and the Certificate of Insurance.
4. Advise the Contractor that the contract shall not be considered awarded prior to the Contractor's receipt of a fully signed Agreement.
5. Transmit all five copies to the Owner for signature.

B. Owner Signature: After review the Owner will obtain required approval signatures and transmit two signed copies to the Designer.

C. Award:

1. Upon return of the two fully signed copies of the Agreement, forward one such copy of the Agreement to the Contractor and maintain on copy for the Designer's records.
2. Schedule a Pre-Construction Conference.
3. Complete and send the Notice of Pre-Construction Conference Form to the State of Tennessee Department of Labor and Workforce Development five days before the conference date.
4. Prepare a Notice to Proceed for Owner review and planned issuance at the Pre-Construction Conference.

6.2 PRE-CONSTRUCTION CONFERENCE

A. Administration: Schedule and administer a Pre-Construction Conference in cooperation with the Owner and Contractor.

B. Attendees:

1. Contractor representatives
 - a. Superintendent
 - b. Management representative authorized to sign Change Orders

- c. Major Subcontractors' representatives
 - d. Major suppliers' representatives
 - e. Others as desired by Contractor
2. Designer representatives
 - a. Person responsible for the "office" component of Construction Phase services
 - b. Person responsible for the "field" component of Construction Phase services
 - c. Major consultant representatives
 - d. Others as desired by Designer
 3. Owner representatives
 - a. Project manager
 - b. Operations and occupant representatives
 - c. Others as desired by Owner
 4. Representative from Department of Labor and Workforce Development
- C. Pre-Construction Conference Agenda and Discussion Topics: Modify and use the following suggested agenda and discussion topics as appropriate. Reference later sections for additional information.
1. Record attendance and develop contact information list including identification of emergency after-hours contacts for Owner, Designer, Contractor, and major Subcontractors.
 2. Confirm required wording and numbering for project title and SBC Project Number on formal project documents and all correspondence.
 3. Confirm Contractor receipt of Owner-signed contract and attached documents and that the Contractor has a sufficient number of copies of Contract Documents.
 4. Establish times and location for regular Progress Meetings and required attendees.
 5. Establish lines of authority and communication as follows:
 - a. The University of Tennessee (UT) Division of Facilities Planning is the Owner through project completion and transfer to UT operations personnel and occupants. The Owner's project manager is the Owner's representative during this time.
 - b. UT operations and occupant representatives may be designated for coordination of construction with on-going operations and functions on site. Clearly define the limits of direct communication between the Contractor and these representatives.
 - c. The Designer is responsible for directing communications between the Designer's consultants, the Contractor, and the Owner. All official communications and directives must come through the Designer.

- d. The Contractor is responsible for directing communications between the Contractor's Subcontractors and the Designer.
6. Confirm the Contract Time and any stipulated Phases or milestones.
7. Discuss accommodations needed for both construction and on-going operations.
 - a. Impacts and accommodations of construction to on-going operations, car/bus traffic, and delivery methods.
 - b. Locations and arrangements for construction staging/storage, offices, parking, safety/security fences/barriers and any other requirements of Section 01 50 00 Temporary Facilities and Controls.
 - c. Security procedures.
 - d. Temporary utilities and related accommodations and interruptions or changes to normal utility operations.
 - e. Construction personnel courtesy and decorum toward site occupants and the public.
8. Advise the Contractor to follow applicable Department of Labor requirements and statutory requirements for submitting payrolls to the regional office of the Department of Labor and Workforce Development. If the project contains Federal Funds and is subject to the Davis-Bacon Act, the Contractor may be required to submit payrolls to a federal agency for which the Owner will furnish the name and address.
9. Review requirements of Section 01 26 20 Weather Delays.
10. Discuss procedures and forms for changes and Modifications.
 - a. Form 01 26 43 Amendment
 - b. Form 01 26 46 Construction Change Directive
 - c. Form 01 26 63 Change Order and procedures for related Cost Proposals including Section 01 26 50 Forms for Itemization
 - d. Written orders for a minor change in Work issued by the Designer
11. Advise the Contractor that any work performed without proper authorization may result in nonpayment and to direct questions regarding authorization of work to the Designer.
12. Review Section 01 29 76 Payment Procedures.
 - a. Applications for Payment
 - Anticipated schedule for submittal to Designer
 - Format using AIA Document G702 and AIA Document G703.
 - Submit four copies
 - Appropriate attachments including Section 01 29 76.13 Attestation Regarding Personnel Used in Contract Performance.
 - b. Retainage procedures.
 - c. Procedures for payment for stored materials.

13. Review Section 01 30 00 Administrative Requirements.
 - a. Survey data requirements.
 - b. Initial and early submittals as specified in the Contract Documents
 - Before the first Application for Payment, submit written communication to the Owner indicating whether the Contractor “elects” or “does not elect” to make an application to withdraw retained funds for deposit in securities.
 - Before the first Application for Payment, submit a Schedule of Values.
 - Before the second Application for Payment, submit the following information on Section 01 78 88 Report of Subcontractors and Suppliers and include identification of minority-owned businesses.
 - The names of persons or entities including those who are to furnish materials or equipment fabricated to a special design.
 - The names of manufacturers proposed for each specified major product and applicable name of installer, whether Contractor or Subcontractor.
 - Before the second Application for Payment, submit the Contractor's written disclosure of the existence and extent of financial interests, whether direct or indirect, which the Contractor has in proposed subcontractors and material suppliers.
 - Before the second Application for Payment, submit the Contractor's initial Construction Schedule for the Work.
 - With the initial Construction Schedule, submit the Contractor's Schedule of Submittals coordinated with the Contractor's Construction Schedule.
 - c. Required submittals of Shop Drawings, Product Data, Samples or similar submittals required by the Contract Documents and the Submittals Log.
 - d. Visitors Log
14. Review applicable permits and regulatory approvals at local, state, and federal levels.
15. Review procedures for submittal of Laboratory Reports made during construction.
16. Discuss Project Observation Reports prepared by the Designer and advise the Contractor of a ten day maximum response time to any deficiencies noted in the report.
17. Discuss Progress Meetings scheduled and administered by the Designer with participation by Contractor representatives as specified in Section 01 31 19 Project Meetings.
18. Review Section 01 77 00 Closeout Procedures
 - a. Requirements for Substantial Completion
 - b. Final Payment

- c. Operations and Maintenance Binders, format and contents
 - d. Construction Record Documents
19. Advise that Liquidated Damages are contractual and shall be assessed as stipulated.
 20. Review Section 01 91 13 Commissioning, if required.
 21. Discuss additional items as determined by Owner or Designer.
 22. Take questions from the Contractor.
 23. Issue the Notice to Proceed.

6.3 NOTICE TO PROCEED

- A. Format: Use the Notice to Proceed format provided by the Owner.
- B. Notice to Proceed: Issue the Notice to Proceed only after Owner authorization and under the following conditions.
 1. The construction contract Agreement, signed by the Owner, has been transmitted to the Contractor.
 2. Customary approvals from local regulatory authorities have been requested.
 3. Required approvals from state regulatory authorities have been obtained.
 4. A Pre-Construction Conference has been held or is at its conclusion.
- C. Distribution: Issue to the Contractor and provide a copy to the Owner.

6.4 TESTING LABORATORY SERVICES

- A. Selection and Payment: As specified in Section 01 45 00 Quality Control, testing specified to be done by independent laboratories will be at the Owner's expense, unless otherwise indicated, with testing agency selected by Designer. Submit testing agency services as a reimbursable expense.
- B. Selection Process: Prepare and submit to the Owner a written proposal for testing agency services needed for the project. The proposal may recommend preliminary studies and detailed follow-up studies. Discuss service and price for such with several qualified firms. Owner approval of the firm and the cost of services is required before authorizing work. Meet the following requirements in the proposal.
 1. Identify firms that submitted proposals, their prices, and the recommended firm for providing services. Cost shall be one of the factors in determining which firm to recommend, but not necessarily the controlling factor.
 2. Confirm the recommended firm holds all required licenses, certificates, and registrations and is authorized to operate in Tennessee.
 3. Confirm the recommended firm meets the applicable ASTM standards, such as, but not limited to the following.
 - a. ASTM E329 for testing of construction materials.
 - b. ASTM C1077 for testing of concrete and concrete aggregates.
 - c. ASTM D3666 for testing of road and paving materials.

- d. ASTM D3740 for testing of soil and rock.
 - e. ASTM A880 for testing of steel, stainless steel, and related alloys.
 - f. ASTM E543 for nondestructive testing.
 - g. OSHA and EPA requirements for testing of hazardous materials.
4. Identify a timetable for obtaining services that provides adequate time for the Owner to review and approve the proposal.
 5. Attach an itemization of direct costs from the firm.
 6. Identify the projected maximum Owner's cost including applicable Designer multiplier.
- C. Instructions to Testing Agency: Provide testing agency with the information necessary to conduct services including but not limited to the following.
1. Section 00 72 13 General Conditions with attention drawn to appropriate sections and Section 01 45 00 Quality Control.
 2. All applicable technical specifications, addenda, change orders, and shop drawings.
 3. Information regarding project access and Contractor contacts.
 4. Written authorization to conduct services to defined scope, schedule, and budget.
 5. Instructions that reports be provided in both hard copy and electronic .pdf format to the Owner, Contractor, and Designer.
 6. Instructions that the testing agency is not authorized to release, revoke, alter, or enlarge on requirements of the Contract Documents, approve or accept portions of the Work, or perform duties of the Contractor.

6.5 DOCUMENTS FOR CONTRACT ADMINISTRATION

- D. Tracking Logs: Maintain documentation sufficient for effective and efficient administration of the contract including tracking the following.
7. Requests for Information.
 8. Action Items.
 9. Supplemental Instructions.
 10. Modifications
 - a. Amendments
 - b. Construction Change Directives
 - c. Change Orders and related Cost Proposals.
 - e. Written orders for a minor change in Work issued by the Designer
- E. Project Observation Reports: Provide a copy of each Project Observation Report to the Owner's project manager.

6.6 DESIGNER RESPONSES

- A. Format: All responses shall be in writing. Coordinate with the Owner's project manager

to identify appropriate use of digital media (e.g., email) for responses or copies of responses.

- B. Time: Provide responses within the following maximum cycle.
1. Ten calendar days after receipt of a Request for Information from the Contractor.
 2. Five calendar days after a meeting for issuance of minutes.
 3. Five calendar days after receipt of an Application for Payment.

6.7 PROGRESS MEETINGS

- A. Administration: Schedule and administer Progress Meetings in cooperation with the Owner and Contractor. Call additional Special Meetings with select representatives as deemed necessary for specific issues
- B. Meeting Notes: Record and distribute Progress Meeting and Special Meeting notes to the Contractor, the Owner's project manager, and attendees within five calendar days after the meeting.
- C. Purpose: Conduct Progress Meetings as an opportunity for a general review of the progress of the Work, aimed at identifying and mitigating impediments to timely completion and providing an opportunity for the Contractor to submit Applications for Payment along with appropriate attachments and other submittals.
- D. Frequency and Extent: Conduct Progress Meetings every two weeks until final completion unless otherwise necessary and approved by the Owner.
- E. Attendees:
1. Contractor representatives
 - a. Contractor's Project Manager
 - b. Contractor's Superintendent
 - c. Subcontractors' representatives as befits the agenda
 - d. Suppliers' representatives as befits the agenda
 - e. Others as desired by Contractor
 2. Designer representatives
 - a. A consistently assigned licensed professional to serve as the Designer's qualified.
 - b. Consultant representatives as befits the agenda
 - c. Others as desired by Designer
 3. Owner representatives
 - a. Owner's project manager
 - b. Others as desired by Owner
- F. Progress Meeting Discussion Topics: Modify and use the following suggested progress meeting discussion topics as appropriate.
1. Progress since previous meeting

- a. Construction activity
 - b. Project Observations
2. Projected schedule progress until the next meeting
 - a. Review updated progress schedule
 - b. Problems, conflicts, and other impediments to timely completion
 - c. Revisions to the schedule
3. Submittals review
 - a. Status of submittal yet to be made by contractor
 - b. Status of submittal yet to be returned to contractor
4. Project Logs review
 - a. Requests for Information.
 - b. Action Items.
 - c. Supplemental Instructions.
 - d. Modifications
 - Amendments
 - Change Orders and related Cost Proposals.
 - Written orders for a minor change in Work issued by the Designer
5. Other business, as appropriate
6. Confirm time, date, and place for next meeting
7. Check of record documents to ensure currency

6.8 APPLICATIONS FOR PAYMENT

- A. **Administration:** Review Applications for Payment and use as a Certificate for Payment in accordance with the contract documents and forward to Owner. Reference Section 01 29 76 Payment Procedures. Review conformance of the following elements.
 1. Standard forms used in accordance with specifications.
 2. Submission of four copies, each signed and notarized by the Contractor.
 3. Properly identified project title, SBC number, application number, and period of application.
 4. Correct Contract Sum.
 5. Excludes unapproved or pending modifications, e.g. Change Orders.

NOTE: The Contractor's Schedule of Values and Pay Applications shall not include any information or amount derived from a pending Change Order not yet approved in writing by the Owner. The Owner's written approval of a Cost Proposal does not constitute approval of a Change Order.
 6. Appropriate amount for Total Completed and Stored to Date

- a. Schedule of Values, with phases, buildings, allowances, Change Orders, and other line items delineated in accordance with specifications.
 - b. Representative of work completed and materials stored with corresponding required detail information.
 - c. Off-site stored materials amounts claimed on allowances properly documented.
- 7. Comparable percentages of completion and time.
 - 8. Retainage consistent with contract documents.
 - 9. Correct prior payments.
 - 10. Appropriate attachments
 - a. Attestation Regarding Personnel Used in Contract Performance.
 - b. Documentation for allowances and off-site storage.
 - c. Insurance certificate(s) for off-site storage.
 - d. Consent of Surety if retainage reduced.
- B. Certification: Complete the required certification information and notation, sign, and date four copies.
 - C. Distribution: Retain one copy and submit three copies to the Owner.

6.9 CHANGES AND MODIFICATIONS

- A. Prior Communication: Facilitate appropriate and thorough communication of proposed changes with the Contractor and the Owner prior to initiating associated documents to propose or implement a change.
- B. Regulatory Awareness: Track pending changes in terms of impact to required approvals from state regulatory authorities. Process submittals for approvals as required.
- C. Budget Awareness: Track pending changes in terms of impact to the Owner's budget. Process Cost Proposal and Change Order documents with a response time that will enable current and accurate budget status throughout the project.
- D. Construction Change Directives: Discuss application with Owner before initiating a Construction Change Directive. Application is generally reserved for unique situations.
- E. Written Orders for Minor Changes in the Work: Conform to the contract documents in the issuance of such orders by ensuring no adjustment in the Contract Sum and Contract Time is affected.
- F. Designer Review and Transmittal of a Cost Proposal:
 - 1. Review and submit the Contractor's Cost Proposal for change with a cover letter to the Owner with the following contents. Multiple Cost Proposals may be addressed in a single cover letter insofar as clarity can be maintained.
 - a. The Cost Proposal number.
 - b. A succinctly stated description of the change.
 - c. The Designer's clearly stated recommendation for disposition.

- d. A phrase or two on the necessity of the change, e.g., regulatory requirements, hidden conditions, omissions, Owner request, and Designer error.
 - e. Clear identification of the amount of increase or decrease or no change in both the Contract Sum and the Contract Time affected by the Cost Proposal.
 2. Give particular scrutiny to changes with the following characteristics and provide a phrase or two describing such.
 - a. Affects a change inconsistent with original design intent or scope
 - b. Affects a critical time extensions
 - c. Involves a significant amount of money
 - d. Results in individual or cumulative change approaching 10% of the original Contract Sum
 - e. Extends overhead or damage claims
 - f. Proposed after Substantial Completion
 - g. Involves damages for delays (prohibited by the Conditions)
 - h. Assesses Liquidated Damages
 - i. Results from Designer errors or omissions in the Contract Documents
 3. Attach one copy of all pertinent documentation related to the change including any of the following which providing supporting information.
 - a. Requests for Information
 - b. Supplemental Instructions
 - c. Requests for Proposal
 - d. Itemization(s) of Costs (both summary and detail sheets)
 - e. Schedule impact justification with supporting details
- G. Owner Review of a Cost Proposal: The Owner will respond in writing to the Designer. If approved, the Owner will instruct the Designer to include the approved change in a Change Order to be prepared by the Designer and submitted to the Owner. The Owner will particularly scrutinize changes with the following characteristics.
 1. Changes resulting in individual or cumulative change approaching 10% of the original Contract Sum. The Owner must arrange for additional State budget review and approval before authorizing expenditures exceeding 10% of the original Contract Sum.
 2. Extended overhead (typically prohibited).
 3. Damage claims.
 4. Critical time extensions
- H. Designer Preparation of a Change Order:
 1. Include multiple approved Cost Proposals in a single Change Order to reduce administrative efforts. Use judgment in the preparation of Change Orders to be

reasonable in both the response time and the cumulative value of Cost Proposals. Consult with the Owner for process guidance.

2. Reference each approved Cost Proposal included in the Change Order by number and affect on both Contract Sum and Contract Time.
 3. Submit six copies of Change Orders with original signatures to the Owner using Form 01 26 63 Change Order.
 4. Do not submit attachments. The Owner maintains the attachments submitted with the Cost Proposal as documentation for the Change Order.
- I. Owner Review of a Change Order: The Owner will respond in writing to the Designer. If approved, the Owner will return two fully signed copies of the Change Order and instruct the Designer to forward a copy to the Contractor.

6.10 SUBSTANTIAL COMPLETION

- A. Services: Provide services to support the procedures for Substantial Completion described in Section 01 77 70 Closeout Procedures.
- B. Administration of Substantial Completion Inspection: After receipt of appropriate notification and documents from the Contractor, Schedule the Designer's inspection team and representatives of the Owner and Contractor representatives for the Substantial Completion inspection and administer the inspection.
- C. Substantial Completion Inspection Meeting Agenda: Modify and use the following suggested agenda as appropriate. Reference later sections for additional information.
 1. Review status of Contract Time.
 2. Review Contractor's list of items to be completed or corrected, the Punch List.
 3. Review Contractor's submitted Operation & Maintenance Data Binders.
 4. Review Contractor's proposed schedule for demonstration and training for the Owner's operations and maintenance personnel.
 5. Review required occupancy and use permits.
 6. Conduct inspection tour of the Work.
 7. Review results of inspection using the following guidance. If the work is not sufficiently complete to allow issuance of a Certificate of Substantial Completion, discuss the date on which another inspection will be requested by the Contractor.
 - a. Discuss Punch List of incomplete construction work and documentation.
 - b. Discuss Substantial Completion certification.
 - Date to be certified (check against Contract Time requirements)
 - Extent of certification (entire project or a portion)
 - Value of Punch List
 - Time frame for completing Punch List work
 - Warranty exceptions
 - Transfer of possession and responsibilities from Contractor to Owner

- Timeline for documentation
- c. Discuss implications the estimated value of Punch List work on the Contractor's current or next Application for Payment.
- 8. Discuss administration required to complete the Work.
 - a. Schedule Progress Meetings for the period until Work is complete.
 - b. Schedule submittal of Construction Record Documents.
 - c. Schedule the Designer's review of the status of the Work to determine readiness for Final Payment.

D. Punch List:

1. As much as possible organize the Punch List by both discipline/trade and space.
2. Format documents to facilitate prompt, accurate communication of a finite list.
3. Include notations regarding Operations and Maintenance Binders and other documentation so that the punch list addresses the whole Work, and not just construction activity. After determining that the Binders are substantially complete coordinate a review of the Binders with the Owner's designated facility manager for additional comments prior to certifying Substantial Completion.
4. Gather lists from inspection team members immediately and share copies, even if they must be labeled as preliminary.
5. Compile the various lists in a comprehensive final Punch List no later than one week after the inspection, and certify the Punch List when attaching it to the Certificate of Substantial Completion. Compilation does not require consolidation.

E. Certifying Substantial Completion:

1. Not later than fourteen days after the successful inspection, submit to the Owner six copies of the Certificate of Substantial Completion, all with original signatures of the Designer and Contractor. Attach a copy of the Punch List to each. The Punch List should not be modified or amended thereafter.
2. Use AIA Document G704 for the Certificate with the following guidance.
 - a. Show the SBC Number for the project number.
 - b. If the entire project is not being certified clearly identify the portion that is.
 - c. Carefully note the following statement on the Certificate: "The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below." Regarding any warranty that does not commence on the date of issuance, discuss such with the Owner and clearly identify it on the Certificate.
3. The Owner will review and, if approved, sign all copies. The Owner will transmit to the Designer two copies, one for the Designer and one to be transmitted to the Contractor.

END OF CHAPTER