

CHAPTER 6: CONSTRUCTION

6.01 APPLICABILITY TO NON-CONSTRUCTION PROJECTS

Processes described herein are applicable to construction projects. However many processes for non-construction projects are similar. Consult with the Owner for applicability to non-construction projects.

6.02 PRE-CONSTRUCTION MEETING

- A. Schedule and administer a Pre-Construction Meeting in cooperation with the Owner and Contractor.
- B. Use the A62 Pre-Construction Meeting Agenda form provided in Appendix 1 to guide preparation and administration of the meeting.
- C. Prior to the meeting, complete as much as possible of the F62 Pre-Construction Data Sheet provided in Appendix 1 and complete the remainder at the meeting.
- D. Arrange for the following 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 the Department of Labor and Workforce Development for projects determined to include "Highway Construction" or that are funded with Federal Funds and subject to the Davis-Bacon Act

6.03 NOTICE TO PROCEED AND CONTRACT TIME

- A. Notice to Proceed should be issued only after the following is achieved. Inform the Owner of achievement by submitting a completed A60 Notice to Proceed Checklist.
 - 1. The contract has been fully executed and awarded.
 - 2. Customary approvals from local regulatory authorities have been requested.
 - 3. Required approvals from state regulatory authorities have been obtained.

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4. A Pre-Construction Meeting has been held or is at its conclusion.
- B. The Notice to Proceed shall be a written order from the Designer to the Contractor, identifying the project and the Contract Time and instructing the Contractor to commence Work. The Notice to Proceed shall not delve into other subjects. For example:

"This is your Notice to Proceed, effective May 7, 2018, which is day 1 of the Contract Time. You may occupy the site and commence Work on that date."
- C. Contract Time is counted "...from and including..." the date of commencement, so the above Notice to Proceed, with 3 days Contract Time, would require that Substantial Completion be achieved on May 9, 2018.
- D. Issue the Notice to Proceed to the Contractor, and email a copy to the Owner with the completed Pre-Construction Data Sheet.

6.04 LOGS, PROGRESS OBSERVATIONS, AND FIELD REPORTS

- A. The Designer shall initiate the following logs at commencement of construction and maintain these through completion:
 1. Action Item Log to track the development and resolution of construction issues.
 2. RFI Log: to track Requests for Information.
 3. Minor Changes Log: to track ASIs, Minor Orders, and the like.
 4. RFP Log: to track the development and resolution of Requests for Proposals, proposals, change orders, and directives.
- B. Project observations by the Designer (and the Designer's consultants, to the extent necessary) shall be done at least twice each month as described below:
 1. Check whether materials, equipment, and systems are installed in a manner that meets building codes, standards, and specs, and are protected from the elements and damage.
 2. Check compliance with design criteria and standards in the Institution Specific Documents provided on the Owner's web page.
 3. If a SWPPP is in effect, check that the Contractor is filing its twice-weekly inspection reports (form in the NPDES guidebook) and keeping copies of the site auditor's monthly checklists. The Owner's MS4 site auditor will use the C62 Stormwater Site Audit Checklist provided in Appendix 1.
 4. Note deficiencies, problems, deviations from specifications, and other concerns, and notify Contractor of the issues and its responsibility to respond and correct in a timely manner.
- C. SWPPP Site Assessment, if a SWPPP applies:
 1. One or more features should have been designated in the Contract Documents as requiring a Site Assessment by the Designer. Once the Contractor notifies that the features are ready, the Assessment can be made as a part of the Designer's twice-monthly field observations.
 2. The person making the Site Assessment must have at least the same qualifications as specified in Section 01 57 23 for making the twice-weekly

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inspections, and must be either a qualified employee of the Consultant that prepared the SWPPP or a contractually named principle of the Designer firm itself.

3. In making the Site Assessment, fill out a report using the same form specified in Section 01 57 23 for making the twice-weekly inspections, noting it as a Site Assessment, and leave a copy of the report in the SWPPP box.
- D. On every site visit, sign in on the Contractor's Visitor Log, and afterward, write a field report, and submit a copy of the report to the Owner in accordance with Terms and Conditions.

6.05 INITIAL SUBMITTALS

When the initial Progress Schedule, initial Schedule of Values, and list of manufacturers, products, and installers are submitted by the Contractor, forward a copy immediately to the Owner.

6.06 RESPONSE EXPECTATIONS:

All responses shall be in writing and according to these timeframes:

- A. RFI: The Designer will respond no later than seven calendar days from receipt of a Request for Information from the Contractor.
- B. Minor Orders: The Designer will issue an Architect's Supplemental Instruction, or will similarly order minor changes in the Work, per Conditions, no later than seven calendar days from receipt of notification of the issue.
- C. RFP: The Designer will respond no later than seven calendar days from receipt of a pricing proposal from the Contractor in response to a Request for Proposal, providing a recommendation as to the fairness of the pricing and the acceptability of the proposal.
- D. Deficiency Observations: The Designer and its consultants will submit deficiencies and issues to the contractor no later than seven calendar days after the date of observation.
- E. Field Reports: The Designer will submit field reports promptly, even in the absence of a non-compliance issue. For field reports documenting non-compliance issues the Designer and its Consultants will expedite the submittal commensurate with the significance of the non-compliance issue.
- F. Meeting minutes: The Designer will prepare and issue meeting minutes no later than seven days after a meeting.
- G. Contractor Pay: The Designer will review the Contractor's applications for payment and issue a Certificate for Payment during the progress meetings.

6.07 ALLOWANCES AND UNIT PRICE BASED ALLOWANCES

Allowances provided in Sections 01 21 15 and 01 22 15 are to be fulfilled under the direct supervision of the Designer, providing daily monitoring of Work under allowances, and taking care to ensure that allowances are not exceeded. If an existing allowance is insufficient to cover work that is to be charged to the allowance, the Designer will issue

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an RFP to increase the allowance through a Change Order prior to Work being performed.

6.08 PLANNING FOR CHANGES IN WORK

- A. The Designer will be given budget information by Owner and will keep track of pending changes, their justification, and their impact on the Owner's budget. Hoarding changes over a long period for a multi-item change order might hinder the Contractor and is strongly discouraged. Issue RFPs for needed or requested changes and act on change proposals as soon as possible, no more than 30 days recommended.
- B. Creating Phases after Work is under Contract
 - 1. If adding work as a phase, and the existing Work was not defined in phases, it is normally necessary to re-define the existing portion as Phase 1. The added portion should be defined as Phase 2. This normally requires re-aligning time and liquidated damages.
 - 2. Assign phases a sequential integer name (e.g., if there are two already, make it Phase 3), a caption, a specific time for completion, and a specific amount for Liquidated Damages (such as "Phase 3, Driveway Paving, to be Substantially Complete 10 days from and including date of a phase-specific Notice to Proceed, subject to \$100 per day Liquidated Damages").
 - 3. When adding a phase, even after substantial completion of the entire existing Work, the overall Contract Time should normally be extended so that all Phases exist within the overall Contract Time.
- C. The Owner has special approval requirements for changes involving the following.
 - 1. Endorsement from the Office of the State Architect (OSA) for changes exceeding thresholds set by the State Building Commission (SBC).
 - 2. Endorsement of the Owner for any elective change to the program.
 - 3. More Owner review time may be required for the following.
 - a. Changes inconsistent with original design intent or scope.
 - b. Critical time extensions.
 - c. Changes requiring endorsements as described above.
 - d. Changes ordered after Substantial Completion.
 - e. Class 1 Time-Related Expenses as defined in the Contract Conditions
 - f. Damage claims.
 - g. Assessments of Liquidated Damages.
 - h. Changes requiring a redistribution or increase in budget.
 - i. Reduction of contingency to a level that may not sustain completion of the project.
 - j. Redistribution of space among occupant organizations.
 - k. Results from Designer errors or omissions in the Contract Documents.

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6.09 SUBCONTRACTOR REPLACEMENT

- A. Subcontractors required by statute to be named on the bid envelope must be used in the capacity listed and changed only in accordance with State requirements. If a change must occur, require Contractor to explain in writing the reason for change and identify new subcontractor name, license number, expiration date, and classification. When possible, obtain separate written statement from the subcontractor being replaced, explaining their reasons for withdrawing and their intent to not protest the change. Forward these to the Owner with a recommendation as to whether the justification is sound, the license is appropriate, and the request should be approved.
- B. In the case of the roofing subcontractor, statute requires that they be licensed, but does not require that they be listed on the envelope. The Owner requires the listing in order to validate license compliance. However, if in the Designer's opinion the justification is sound and the license is appropriate, then the Designer can approve the substitution on behalf of the Owner, acting as the Owner's representative in accordance with Conditions and order this minor change in accordance with Conditions.

6.10 DESIGNER'S ORDER FOR A MINOR CHANGE

Orders for minor changes in work are normally issued by the Designer as Supplemental Instructions. However, the Conditions for general work require the Owner's written authorization for changes in Contract Sum or Contract Time and the Conditions for non-construction work bar the Designer from ordering changes that affect Contract Sum or Contract Time.

6.11 REQUEST FOR PROPOSAL (RFP)

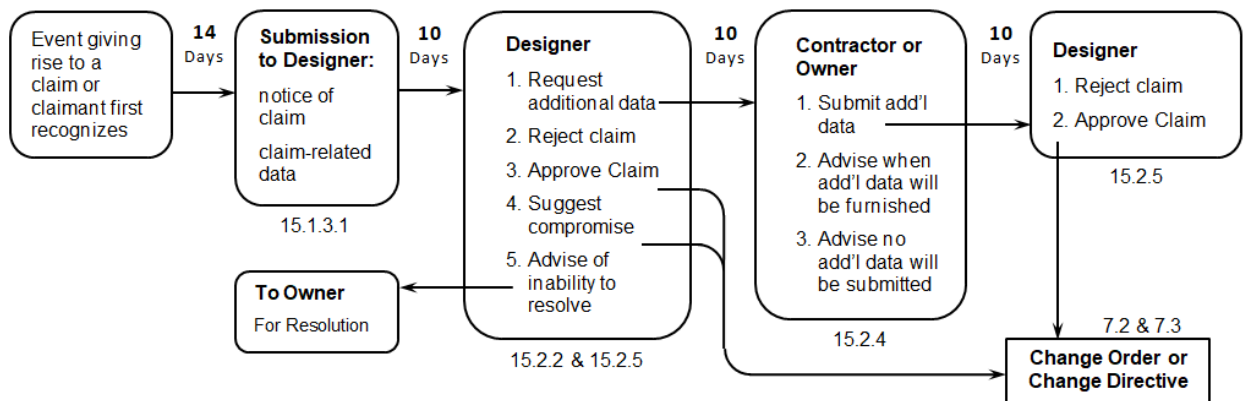
- A. Using the F64 Request for Proposal form provided in Appendix 1, or a comparable industry standard form, the Designer will issue an RFP that fully and clearly details a potential change in Work arising from construction necessity or Owner's request. The Contractor can then reply with a proposal for corresponding change in Contract Sum and Contract Time. The description of the intended change in work should not repeat the form's introductory statements and instructions.
- B. Each RFP should address a single intended change or set of indivisibly related changes. Do not include unrelated changes in a single RFP with intent to process simultaneously.
- C. For ease of reference, RFPs should be sequentially numbered in integers and provide a short name for the change. An RFP may contain an adequate description of the intended change in the one document; however, in many cases, it is necessary to attach supplemental specifications and drawings. Such attachments should be referenced in the RFP and should define work as follows:
 - 1. Work already required in the contract that will remain in the contract.
 - 2. Work already required in the contract that is to be deleted from the contract.
 - 3. Work that is to be added to the contract.
- D. RFPs should be logged and tracked by the Designer.

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- E. Any counter-proposal to an RFP from the Contractor providing cost and time for a change that differs from the RFP should be reviewed by the Designer for appropriateness and adequacy of detail. The Designer may issue a superseding RFP corresponding to the counter-proposal; or, the Designer may describe the differences in a letter recommending the change to the Owner.

6.12 CLAIMS AND PROPOSALS

- A. Claims should be dealt with in accordance with the Conditions and in as timely a fashion as possible to protect the schedule and the Owner's contingency.
- B. Claims that are continuing, such as correction of unsuitable subgrade, discovery of hidden hazardous materials, and other hidden conditions, should be evaluated to establish an anticipated upper maximum. The maximum should include extending quantity allowances for unit price work when the established base quantity is about to be exceeded as described above. Take action to formally include the ongoing corrections as a part of the Work, the Contract Time, and the Contract Sum before they are undertaken.
- C. The procedures for claims are detailed in the Conditions. The following flow chart illustrates the process. Section numbers refer to the Conditions section.



- D. Contractor proposals for change in Contract Time, Contract Sum, or both, based on a requested or ordered change in the Work, should include the following.
1. For change in Contract Time: an explanation of the effect of the change in Work upon the critical path of the construction schedule, correlated to the labor and equipment hours shown in the cost itemization and time required to procure materials.
 2. For change in Contract Sum: separate itemization(s) of cost from the Contractor and each involved subcontractor, using forms specified in Sections 01 26 54, 01 26 55, and 01 26 56, citing units, costs, quantities, and subtotal for each item of materials, equipment, and labor. Lump sums in the itemization are unacceptable. Apply itemization to deducted items as well.
- E. Contractor's proposal or claim for a change in Contract Time based on delays should include the following:
1. Contractor's initial letter making claim for extension of time within 21 days after commencement of delay, and stating nature of delay, immediate impact, and

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whether delay is isolated or continuing; and, if a continuing delay, Contractor's subsequent letter detailing projected or actual full scope of delay.

2. Contractor's supporting data as follows:
 - a. Weather Delay Report and daily work logs as needed to document delay.
 - b. For weather, monthly summary of local climatological data as reported by the National Oceanic and Atmospheric Administration for the reporting station nearest the affected location. This data serves as an impartial basis for evaluating weather conditions.
 - c. If an unusual and not reasonably anticipated shipping delay, a letter from the shipper explaining the delay. If based on weather, climatological data as stated above.
- F. The Designer should respond to proposals and claims, except those that require a response in the form of an RFP, with a letter of evaluation and recommendation with the same content in the F66 Proposal Recommendation form provided in Appendix 1.
 1. In the letter explain the justification for the change as follows.
 - a. For a change driven by a code official's instruction, the justification should provide the official's name, their authority, their instructions, and specific codes being enforced.
 - b. For a change driven by a hidden condition, the justification should describe why the additional work is necessary and how the design failed to detect the condition or anticipated but could not define the condition and make accommodation for it.
 - c. For a change driven by an omission, the justification should describe why the additional work is necessary and how the design failed to include it.
 - d. For a change driven by an error, the justification should describe why the work will not function appropriately as designed and how the mistake came to be.
 - e. For a change driven by a programmatic request by the Owner, the justification should describe how it affects the project aesthetically or functionally and whether it was considered during design and deferred for cost considerations.
 - f. For other miscellaneous changes, such as weather delays, taking liquidated damages, and liquidating unused portions of allowances, the justification should summarize the change and explain pertinent facts or calculations that are not evident in other back-up.
 2. Recommend that the Owner issue a Change Order by sending the Owner an email with an attached PDF containing the recommendation letter, the Contractor's proposal, and the RFP and its attachments formatted for maximum legibility and ease of printing.
- G. Claims that result in the Contractor compensating the Designer or the Designer compensating the Contractor should never be settled with a direct payment between the two. These claims should always be adjusted through the Owner by means of

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construction contract modification and the appropriate modification of the Designer's contract.

H. Time sensitive claims and proposals:

1. If an RFP is in response to a time-sensitive issue, issue the RFP quickly, demand a quick proposal, and quickly respond to the proposal. Instruct the Contractor to take into account a specific time interval that should be expected from proposal to approval.
2. If the Contractor identifies its proposal as time-sensitive, this should be evaluated for whether approval can be reasonably accomplished in the time limit the Contractor has identified.
3. The Contractor may include in its proposal a per-day estimate of the costs of a delay in the approval with documentation on the critical path effect. A generalized statement by the Contractor that it reserves the right to make later claims for time and cost after assessing the full impact of the change will be challenged and not given merit.
4. Once the preview copy of the Modification goes out, the Contractor is authorized to proceed. If it has an additional claim due to a delay in the approval, then the Contractor should not sign the Modification, but let it stand as a Construction Change Directive (CCD). This preserves the right to disagree with the compensation, while proceeding with the change in Work. In the meantime, as soon as the preview copy comes out, the Contractor should make its claim for the additional costs and/or time. A final response to such claim should include acceptance of the CCD as resolution of the claim.

6.13 AMENDMENTS

- A. Amendments will normally only be used in CM/GC contracts that have been already contracted for a portion of the entire planned scope. An amendment will add a major portion of scope that has been produced as a "Bid Package" and released for the CM/GC to solicit Trade bids and develop a proposal for increasing the Guaranteed Maximum Price. Bid packages are therefore RFPs on a scale similar to a traditional bid and amendments are modifications on a scale akin to an initial award.
- B. A CM/GC submits a GMP for amendment directly to both the Designer and Owner. The Owner may evaluate it parallel to the Designer. The Owner will require the Designer to provide a recommendation whether to award the amendment, including the following:
 1. Evaluation of the progression of award and amendment(s) to this point and anticipated to the end of the Contract.
 2. Correctness of the scope of the GMP.
 3. Appropriateness of itemized costs of non-bid trades, self-performance, and general conditions that deviate from baseline.

6.14 CHANGE ORDERS AND DIRECTIVES

- A. Directives may be issued, but are generally reserved for emergency situations and may not reduce processing time. Directives are written on the same form as Change Orders.

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B. Change Order structure:

1. Change Order face sheet, similar to Section 01 26 40, briefly lists changes in Work, Contract Sum, and Contract Time with reference to RFP or other underlying document providing primary detail.
2. Supporting documents include the following:
 - a. Endorsements, recommendations, and proposals.
 - b. The RFP or other initiating document and supplemental specifications and drawings that it references. These are incorporated by reference as a part of the Change Order.
- C. Change Orders are processed in accordance with the flow chart provided in the Institution Specific Documents in Appendix 3.

6.15 CM/GC CONTINGENCY, RESERVE FUNDS, AND PUSHES

A. GMP Contingency:

1. Defined in the CM/GC Master Contract and its associated scope.
2. A distinct part of the Contract Sum and entirely separate from any Owner's contingency.
3. Covers any necessary construction including hidden conditions and errors or omissions by both Designer and Contractor.
4. Does not cover programmatic changes elected by Owner or late emerging code changes as may be issued by the State Fire Marshal Office (SFMO).
5. Normal charges by a CM/GC to its contingency require only reporting those charges to Designer and Owner. The contract requires that reporting is to occur before incurring the charge.
6. Charges get listed in the GMP Contingency Log required by Section 01 29 16. The log can be used for prior reporting.
7. May be used for Push items as described below.

B. Reserve Fund

1. Defined in the CM/GC Master Contract and its associated scope.
2. Accrues when actual Trade bids come in for less than an estimated value used to develop the GMP.
3. If the purpose of an allowance has been fully served and some allowance remains, initiate a Change Order to extract the remainder from the Contract. Do not allow the Contractor to assign the remainder to Reserve. This can be at any time, but should be discussed as part of the Progress Meeting review of allowances.
4. If Reserve plus Contingency rises above 10% of GMP, a Modification should be initiated to reduce the Reserve.
5. Reserve can only be used with Owner consent and normally requires the same approval as a change order.

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C. Push

1. A Push describes a cost “pushed” into GMP Contingency that is not a normal charge, as described in the CM/GC Master Contract and its associated scope.
 2. A Push requires prior approval by the Owner, not just the prior notice required for normal charges.
 3. If the CM/GC pushes abnormal charges into the GMP Contingency, it takes on that risk and that loss of its contingency.
 4. A Push is not a temporary use of GMP Contingency subject to later reimbursement from Owner contingency.
- D. Unused balance of GMP Contingency and Reserve at the end of the job is returned to the Owner.

6.16 CONTRACTOR APPLICATIONS FOR PAYMENT

- A. Applications for payment should be reviewed, and certified or rejected, at progress meetings. Aspects for review are as follows:
1. Contractor identification, with the remittance address as it is provided on the ACH form; this address can also be found on page 1 of the Construction Agreement. If addresses do not match, payment will be delayed.
 2. Project identification with project number prominent and correct.
 3. End-date of application relative to completion deadlines.
 4. Contract Sum must correctly reflect all executed modifications and exclude any that are unapproved or pending.
 5. Total completed and stored to date.
 - a. G703 Schedule of Values with phases, buildings, allowances, change orders, and other line items in accordance with specifications.
 - b. Represents work completed
 - c. On-site stored materials evident
 - d. Off-site stored materials documented with bills of sale and insurance
 - e. Amounts claimed on allowances properly documented and identify any approaching limits with more work to do
 - f. Verify work completed is consistent with the schedule
 6. Retainage is correctly shown: 5% until SC, then 2% until final, then none. Individual retainage on line items of continuation sheet are not needed, but should appear for subtotals of phases.
 7. Prior payments correctly shown according to actual payment, not just previous billing.
 8. Signed and notarized by the Contractor.
 9. Attachments appropriate for the type of payment being approved as required by Section 01 29 76 Progress Payment Procedures.

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- B. If certifying an amount other than the amount for which applied, mark all affected line items in the Application and in the Continuation Sheet. An explanatory cover letter may be necessary.
- C. If in good order, the Designer should: certify all counterparts; retain one; give one to the Contractor; and provide the remaining to the Owner to facilitate timely processing.

6.17 PROGRESS MEETINGS

- A. Progress Meetings are held regularly throughout the job, from commencement until final completion. Progress meetings are intended to be an opportunity for the following:
 - 1. The Contractor to review and submit applications for payment with attachments.
 - 2. A general review of pending change orders, proposals, and progress of Work.
 - 3. Identify and mitigate impediments to timely completion.
- B. The Designer will provide a consistently assigned licensed professional to serve as its qualified employee providing professional services in attendance at Progress Meetings. This person does not have to be a principal named in the Designer's Agreement, but will be expected to have authority to sign Modifications and certify applications for payment on site.
- C. All of the representatives of the Owner, Designer, and Contractor team included in the Pre-Construction Meeting should be kept equally advised of the schedule for Progress Meetings, and made welcome to attend and contribute.
- D. Utilize the A64 Progress Meetings Agenda as provided in Appendix 1.
- E. Promptly prepare and distribute to the Owner and Contractor a written report of the meeting as required by the Agreement.

6.18 PRE-CLOSEOUT SUBMITTALS

- A. For general work, Section 01 77 70 Closeout Procedures requires pre-close-out submittals for spare parts delivery, demonstrations and training, and data binder content. Review these for conformance to Contract, provide timely response, and inform Owner's affected personnel as soon as possible. Use the C72 Project Closeout Checklist provided in Appendix 1 to perform this duty.
- B. If a SWPPP applies, take the preliminary post-construction Stormwater Operation & Maintenance Plan (SWOMP) that was prepared during design and update it for changes that occurred during construction, finalizing it for inclusion in the Operating and Maintenance (O&M) Data Binders.
- C. For new construction or addition, prior to Substantial Completion, provide general project information as requested by the Owner to fulfill State insurance requirements.
- D. Commissioning is a prerequisite to Substantial Completion and should be started well beforehand. Regardless whether the job has Enhanced Commissioning with a third-party commissioning agent, or Basic Commissioning without an agent, the Designer should participate and monitor the progress to ensure it is on pace for Substantial Completion. Under both processes, a functional performance test

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certification report is provided in the O&M data binders and by PDF via email to the Owner.

- E. When High Performance Building Requirements (HPBr) are specified, it is a prerequisite to Substantial Completion that the Contractor sign the form verifying specified HPBr completion.
- F. Ensure completion of O&M Manual and Owner training.

6.19 SUBSTANTIAL COMPLETION

- A. Standard provisions for Substantial Completion inspection procedures and payment are in the Conditions and in specification Sections 01 29 76 and 01 77 70. Verify whether videotaping or other special requirements were specified relative to equipment demonstrations in specifications for demonstration and training.
- B. Schedule an inspection with Contractor and Owner upon receipt of the following from Contractor:
 - 1. Written assertion that Work is Substantially Complete.
 - 2. A written punch list of items to be completed or corrected and dates scheduled for completion or correction of each item.
 - 3. Operating & Maintenance Data Binder(s) or written assertion that they will be complete and available prior to training.
 - 4. Written certification that orientation and training for facility maintenance personnel is complete or written assertion that it will be prior to inspection.
 - 5. When applicable, the SFMOs Certificate of Occupancy or written assertion that it will be obtained and available prior to inspection.
 - 6. Written assertion that an application for payment will be submitted at the inspection.
 - 7. When there is Commissioning, written assertion that Commissioning requirements have been completed or will be prior to inspection.
 - 8. If a SWPPP applies, written statement of the status of final stabilization required under the Stormwater Pollution Prevention Plan (SWPPP) for the TDEC Construction General Permit (CGP) Notice of Termination (NOT).
- C. Use A62 Agenda for Substantial Completion Meeting provided in Appendix 1 to prepare for and conduct the inspection tour and discussion of Substantial Completion.
- D. Recommended format for punch list:
 - 1. Members of the Designer's inspection team should organize lists by both professional discipline and space and choose means of documentation that facilitate prompt, accurate communication of a finite list.
 - 2. The Designer should gather the various lists immediately and share copies, even if they must be labeled as preliminary.
 - 3. The Designer should compile the various lists in a comprehensive final punch list no later than one week after the inspection and certify the punch list when

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attaching it to the Certificate of Substantial Completion. Compilation does not require consolidating into fewer lists.

E. Certifying Substantial Completion:

1. Certify Substantial Completion by completing the F72 Certificate of Substantial Completion form provided in Appendix 1, following the additional guidance below. Produce the certificate not later than a week after the successful inspection, in counterparts as required below. The punch list should not be modified or amended thereafter.
 - a. Indicate whether there is a punch list. If none, then this is by default also a final inspection. If there is a punch list add to the form as follows.
 - 1) Indicate an estimated dollar value of punch list.
 - 2) Stipulate a reasonable and agreeable date by which the contractor shall complete the punch list work. Secondary liquidated damages on general work accrue beginning at 30 days or the end of the period stipulated here, whichever is later.
 - 3) Attach a copy of the punch list to each counterpart of the certificate.
 - b. Indicate whether there are exceptions to the normal commencement of warranties; and, if there are, attach a distinct list of the exceptions.
 - c. Indicate whether there are exceptions to the normal transfer of possession and responsibilities; and, if there are, attach a distinct list of the exceptions.
 - d. Fill in the company name of each of the parties under the line where persons will sign for each. The signatory for the Owner will be one of the persons empowered to sign change orders.
2. Execution:
 - a. Review the draft certificate with the Owner.
 - b. The Designer signs at least four counterparts of the certificate.
 - c. The Designer obtains the Contractor's signature on all counterparts and allows the Contractor to keep one counterpart.
 - d. The Designer sends three counterparts of the certificate to the Owner signature and distribution.
 - e. The Owner will sign, keep one counterpart for its use, and return the other two counterparts, one each to the Designer and the Contractor.

F. Related Documents due at substantial completion:

1. If a SWPPP applies, and the Work is ready for a Notice of Termination (NOT):
 - a. Prepare the NOT for signature by the institution's ranking authority designated by the Owner.
 - b. Write a letter to that ranking authority, transmitting the NOT form, and explaining that you have examined the SWPPP measures and found them sufficiently ready so that the NOT can be signed.
 - c. Obtain the signed NOT from the ranking authority. Send the NOT to TDEC. Email a PDF copy to the Owner.

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- d. Finish up the SWOMP for inclusion in the O&M Data Binders.
- e. Prepare the F74 Stormwater As-Built Certification form provided in Appendix 1 for inclusion in the Project Data Binders.
2. If Commissioning applies, it is prerequisite to Substantial Completion whether performed with a Commissioning Agent (Enhanced Commissioning) or not (Basic Commissioning). A few minor Commissioning follow-up items may be on the punch list. If there is additional documentation to follow due to the punch list process, ensure that it is provided in the O&M Data Binders and a PDF copy sent to the Owner.
3. After checking and verifying the completeness of Operation & Maintenance Data Binders, provide it by written transmittal to the Owner.
4. If new construction or addition, confirm that the State's insurance information spreadsheet has been submitted.

6.20 MODIFICATIONS AFTER SUBSTANTIAL COMPLETION

Modifications after Substantial Completion are to be avoided if at all possible. They are typically limited to final adjustment of allowances, assessment of liquidated damages, and late demands from regulatory authorities. The Certificate of Substantial Completion has an agreed date by which final completion is required, enforced on General Work by a secondary liquidated damages clause. If adding work after Substantial Completion, identify the added work as an addition to the punch list or as a separate Phase. If adding to the punch list, determine whether to extend the deadline for final completion from what was agreed upon in the Certificate of Substantial Completion.

6.21 FINAL INSPECTION

- A. Provisions relative to final inspection procedures and payment are in the Conditions section and, for General Work in Sections 01 29 76 and 01 77 70.
- B. Schedule an inspection with Contractor and Owner upon receipt of the following from Contractor.
 1. Certification that a qualified person authorized by Contractor has reviewed the Contract Documents and inspected the Work.
 2. Written assertion that the Work is complete and in accordance with Contract Documents and ready for final inspection.
 3. Additional materials necessary to augment the Operating & Maintenance Data Binders with instructions for adding these to the Binders, or full replacement Binders, or written assertion that such will be complete and available prior to inspection.
 4. Construction Record Documents and Project Data Binders, or written assertion that these will be complete and approved by the Designer prior to inspection.
 5. An application for final payment.
- C. Prepare paperwork for the final inspection as follows.
 1. If required and not yet signed take the High Performance Building Requirements verification form to the inspection for signing.

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2. Make copies of the Substantial Completion Certificate and punch list to have available at the inspection for reference.
 3. Prepare a F68 Report of Final Inspection provided in Appendix 1, by filling in the project identification, and have available at the inspection.
- D. Review and prepare A68 Final Inspection Meeting Agenda provided in Appendix 1 and provide copies at the inspection.
- E. Failing Final Inspection:
1. Work required for final completion that is incomplete should not be re-classified as corrections to be made after final inspection.
 2. If closeout documents, such as the Record Documents and Data Binders, are incomplete, the Work should not pass final inspection; however, the Designer may report that the construction activity is complete.
 3. If final completion has not been achieved, report the failed final inspection to the Owner and include or attach a list, similar to a punch list at substantial completion. If warranty items were observed, attach a list of these, but distinguish between punch list items and warranty items.
- F. Passing Final Inspection:
1. When final completion has been achieved, including work on site and closeout documents, make a report to the Owner using F76 Report of Final Inspection provided in Appendix 1. If warranty items were observed, attach a list of the items.
 2. If a SWPPP applies, and the job was not ready for Notice of Termination (NOT) at Substantial Completion, it must be now. Follow Chapter 6 procedures to issue the Notice of Termination, finish the SWOMP, and provide the As-Built Certification.
 3. If Commissioning applies, but a (minor) portion was incomplete at substantial completion, it must be complete now. Follow Chapter 6 procedures to report the functional performance test data.
- G. For General Work the Conditions establish 25% secondary liquidated damages for failure to make timely final completion, which includes construction activity and closeout documentation.

6.22 CONTRACTOR'S RECORD DOCUMENTS AND DATA BINDERS

- A. Review the Contractor's Record Documents and Project Data Binders for completeness and accuracy in accordance with Conditions and Section 01 78 21 for General Work.
- B. For Non-Construction contracts, such as large furniture procurements, structured data binders and data binder receipts are not required by Owner standard documents, though a similar form of Record Documents and Product Data specifications may have been added by the Designer.
- C. When these documents have been found complete and correct in accordance with specifications, certify the completeness of the documents in a cover letter, and include a place for the Owner to sign as a receipt for the Binders. Provide the Binders to the Owner prior to certifying final completion. Obtain the signature of the

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Owner on a copy of the certifying cover letter as a receipt, and forward a copy to the Owner. The receipt shall not relieve the Contractor or Designer of obligations with respect to completeness of record documents.

6.23 TEAM EVALUATIONS FOR CONSTRUCTION PHASE

In accordance with State requirements as found on the Office of the State Architect website, the Owner will initiate the process of team evaluations.

END OF CHAPTER