

SECTION 01 3200

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 SUMMARY

- A. Work Included Provide construction progress documentation including but not limited to following:
 - 1. Coordination.
 - 2. Contractor's Construction Schedule.
 - 3. Submittals Log.
 - 4. Schedule Submittals.
 - 5. Schedule Distribution.
 - 6. Reports.
 - 7. Special Reports.
 - 8. Contractor's Construction Schedule.
- B. Related Sections: Following description of work is included for reference only and shall not be presumed to be complete:
 - 1. Submitting and distributing meeting and conference minutes: Section 01 3100 - PROJECT MANAGEMENT AND COORDINATION.
 - 2. Submitting schedules and reports: Section 01 3300 - SUBMITTAL PROCEDURES.
 - 3. Submitting a schedule of tests and inspections: Section 01 4000 - QUALITY REQUIREMENTS.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
 - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
 - 2. Predecessor activity is an activity that must be completed before a given activity can be started.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum Overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is jointly owned. Use of float time requires the consent of both parties.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely

affecting the planned Project completion date.

- F. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
- G. Major Area: A story of construction, a separate building, or a similar significant construction element.
- H. Milestone: A key or critical point in time for reference or measurement.
- I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

1.3 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Requirements" Article and in-house scheduling personnel to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Submittals Log: Submit an electronic copy of log to Contractor.
- C. Contractor's Construction Schedule.
 - 1. Submit an electronic copy of schedule, using software indicated to Contractor. Include type of schedule (Initial or Updated) and date on heading.
- D. CPM Reports: Concurrent with CPM schedule, submit each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float.
 - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Total Float Report: List of all activities sorted in ascending order of total float.
- E. Daily Construction Reports: Submit with monthly report.
- F. Material Location Reports: Submit with monthly report.
- G. Field Condition Reports: Submit at time of discovery of differing conditions.
- H. Contractor's Plan for Solid Waste Management and Recycling: Submit prior to the start of Work, per the requirements of Section 01 7419.
- I. Contractor's Report of Solid Waste Management and Recycling: Submit with each Application for Payment per the requirements of Section 01 7419.
- J. Contractor's Plan for Construction Indoor Air Quality: Submit prior to start of Work, per requirements of Section 01 8119.
- K. Contractor's Report for Construction Indoor Air Quality: Submit with each Application for Payment per requirements of Section 01 8119.
- L. Special Reports: Submit 4 copies at time of reported event.

1.4 QUALITY ASSURANCE

- A. CPM Scheduling Personnel: Retain in-house scheduling personnel to be responsible for all scheduling requirements outlined in this specification. The Contractors scheduling representative must be trained and well versed in CPM scheduling. The scheduling representative will be reviewed for approval by the Owner's Representative. Should the Owner's Representative not approve the in-house personnel, the Contractor shall retain the services of a CPM scheduling consultant that is acceptable to the Owner's Representative.

1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Detailed Construction Schedule with list of subcontracts, Submittals Log, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from parties involved including authorities having jurisdiction.
 - 2. Coordinate each construction activity with other activities and schedule them in proper sequence.
- C. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 01 3100. Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including work stages, area separations, and interim milestones.
 - 4. Review delivery dates for Owner-furnished products.
 - 5. Review schedule for work of Owner's Representative's separate contracts.
 - 6. Review time required for review of submittals and resubmittals.
 - 7. Review requirements for tests and inspections by independent testing and inspecting agencies.
 - 8. Review time required for completion and startup procedures.
 - 9. Review and finalize list of construction activities to be included in schedule.
 - 10. Review submittal requirements and procedures.
 - 11. Review procedures for updating schedule.
 - 12. If applicable, the conference shall include a representative from the manufacturer for each system and/or product affected, e.g. roofing, emergency generator, and the like.
- D. Coordinate Contractor's Construction Schedule with the schedule of values, any subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

1.6 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply with procedures contained in the Agreement Between Owner and Contractor.
- B. Time Frame: Extend schedule from date established for the Commencement Date to date of Final Completion, including interim milestones and substantial completion dates.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Owner's Representative.
 2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule, unless specifically allowed by Owner's Representative. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Section 01 3300 in Submittals Log. Include selection process activities for finishes and products specified by allowances or specified to be selected during the sample review process. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Log.
 4. Startup and Testing Time: Include not less than 15 days for startup and testing.
 5. Substantial Completion: Indicate completion in advance of date established as per schedule for Substantial Completion, and allow time for Architect of Record's and Owner's Representative's administrative procedures necessary for certification of Substantial Completion.
 6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.
 7. Demonstration and Training: Training of Owner's personnel as indicated in Section 01 7900.
- D. In addition to the foregoing, the General Contractor shall submit a narrative report every other week (bi-weekly) and at the same time as the updated schedule required by the preceding paragraphs in a form agreed upon by the Owner. The narrative report shall include a description of problem areas, current and anticipated delaying factors and their estimated impact on performance of other activities and completion dates, and an explanation of corrective action taken or proposed.
- E. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Work by Owner's Representative: Include a separate activity for each portion of the Work performed by Owner's Representative.
 2. Products Ordered in Advance: Include a separate log line item for each product. Include delivery date indicated in Section 01 1000. Delivery dates indicated stipulate the earliest possible delivery date.
 3. Owner-Furnished Products: Delivery dates indicated stipulate the earliest possible delivery date.
 4. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with construction of adjacent Blocks.
 - b. Uninterruptible services.
 - c. Partial occupancy before Substantial Completion.
 - d. Provisions for future construction.
 - e. Seasonal variations.
 - f. Environmental control.
 5. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards (schedule and log).
 - b. Submittals (log).
 - c. Purchases (log).

- d. Mockups (schedule).
 - e. Fabrication (schedule and log).
 - f. Deliveries (log).
 - g. Installation (schedule).
 - h. Tests and inspections (schedule).
 - i. Startup and placement into final use and operation (schedule).
6. Area Separations: Identify each major Component of construction for each major portion of the Work. Indicate where each construction activity within a major Block must be sequenced or integrated with other construction activities to provide for the following:
- a. Structural completion.
 - b. Permanent space enclosure.
 - c. Completion of mechanical installation.
 - d. Completion of electrical installation.
 - e. Substantial Completion.
- F. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Commencement Date, Substantial Completion, and Final Completion.
- G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.
- H. Recovery Schedule: When periodic update indicates the Work is 10 or more days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- I. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules and that is compatible with Primavera.

1.7 SUBMITTALS LOG

- A. General: Submittals Log is an important tool for coordination between the design team and the construction team during the conduct of construction, and preparation and regular updating of the Submittals Log is an absolute requirement of this Contract.
- B. Preparation: Submit a log of submittals, arranged in chronological order by dates required by construction schedule. Log shall be submitted with Contractor's Construction Schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates. All Submittals Logs are subject to review by Architect and Contractor, and review and acceptance by Owner's Representative. Each Submittals Log shall include:
- 1. Anticipated date of Architect of Record's receipt of submittal.
 - 2. Specification Section to which submittal relates.
 - 3. Subcontractor, fabricator or supplier responsible for preparing the submittal.
 - 4. Blank columns for actual date of submittal, re-submittal, and final-review status.
 - 5. Systems Submittals: Identify submittals for systems, such as fire alarms, exterior walls, and curtain walls, on the schedule and act upon the system singularly as a combined submittal.
- C. Coordinate Submittals Log with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
- D. Updated Submittals Logs: Submit concurrently with the monthly updates to the Contractor's Construction Schedule.

1.8 SCHEDULE SUBMITTALS

A. Format:

1. Every schedule submittal shall consist an electronic file of the schedule in scheduling program format used to produce the schedule.
2. A detailed work breakdown/activity/project code structure will be required by the Owner's Representative for the implementation of all schedules. This structure will be furnished by the Owner's Representative and will correlate to the approved project cost schedule of values.

B. Submittal Log: Arrange the following information in a tabular format:

1. Scheduled date for first submittal. Include review and approval durations allowing sufficient time for revisions.
2. Specification Section number and title.
3. Submittal category (action or informational).
4. Name of Subcontractor.
5. Description of the Work covered.
6. Scheduled date for Architect of Record's final release or approval.
7. Fabrication and delivery timeframe.

C. Schedule Updates: Subsequent to the acceptance of the Baseline Construction Schedule there will be no less than monthly schedule updates required to status progress of the project. These schedule updates are required to coincide with the monthly application for payment. A detailed written schedule narrative and exception report must be submitted as a part of the schedule update submission. Any and all changes to the schedule must be noted in the narrative/ exception report.

D. Weekly Schedule Meetings: For the duration of the project there will be weekly schedule meetings to status the progress of the project. These meetings must be attended by the Contractor's designated scheduler, Contractor's project manager and the Owner's Representative's designated schedule representatives. These meetings will be used to review potential schedule sensitive areas of the project and maintain a high level of project coordination.

E. CPM Reports: Concurrent with CPM schedule update, submit 3 printed copies of each of the following computer-generated tabular reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, total float and activity/project codes.

1.9 SCHEDULE DISTRIBUTION

- A. Distribute copies of approved schedule to Owner's Representative and other parties identified by Owner's Representative with a need-to-know schedule responsibility.
- B. Post copies in Project meeting rooms and temporary field offices.
- C. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.10 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 1. List of Subcontractors at Project site.

2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. High and low temperatures and general weather conditions.
5. Accidents.
6. Meetings and significant decisions.
7. Unusual events (refer to special reports).
8. Stoppages, delays, shortages, and losses.
9. Meter readings and similar recordings.
10. Emergency procedures.
11. Orders and requests of authorities having jurisdiction.
12. Change Orders received and implemented.
13. Services connected and disconnected.
14. Equipment or system tests and startups.
15. Partial Completions and occupancies.
16. Substantial Completions authorized.

- B. Material Location Reports: At weekly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

1.11 SPECIAL REPORTS

- A. Submit special reports directly to Owner's Representative within 1 day of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner's Representative in advance when these events are known or predictable.

1.12 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.
 4. Give Owner's Representative and Architect of Record a minimum of one week's notice of all anticipated significant revisions to the project schedule.
- B. Distribution: Distribute copies of approved schedule to Owner's Representative and other parties identified by Owner's Representative with a need-to-know schedule responsibility.
1. Provide Owner's Representative, Executive Architect, and Architect of Record with an updated electronic version of the project schedule each month in electronic format.
 2. Post copies in Project meeting rooms and temporary field offices.
 3. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION