

San Antonio Water System Standard Specifications for Construction

ITEM NO. 1110 Progress Schedule

1110.1 DESCRIPTION: This item shall govern the Contractor's responsibility to provide monthly construction schedules as specified herein for the work under this Contract. These schedules shall be developed as time-scaled network diagrams. Schedules include bar graphs, phasing plans, network diagrams, and narrative reports.

1110.2 REFERENCE STANDARDS: Reference standards cited in this Specification Item No. 1110 refer to the current reference standard published at the time of the latest revision date logged at the end of this Specification Item No. 1110, unless a date is specifically cited.

1. San Antonio Water System (SAWS):
 - a. Specifications for Water and Sanitary Sewer Construction
 - b. SAWS Materials Specifications
2. City Of San Antonio (COSA) Standard Specifications for Construction

1110.3 SUBMITTALS:

1. Contractor's Submittals:
 - a. A preliminary schedule shall be submitted to the Inspector prior to, or immediately after, the Pre-Construction Conference, in bar graph form, based on the date of the Authorization to Proceed.
 - b. The Contractor may submit to the Inspector a revised contractor phasing plan prior to the start of construction for review and approval. If the Inspector determines that the revised Contractor's Phasing Plan is not acceptable with respect to the best interest of SAWS, then the Contractor shall proceed with the work in accordance with the SAWS's Phasing Plan at no additional cost to the SAWS.
 - c. Within 10 days after receipt of Authorization to Proceed, Contractor shall submit for SAWS's review, a detailed construction schedule, reflecting sequence of operations, milestones and commencing and completion dates of each item of work.
 - d. Other work may be added to the progress schedule as requested or approved by the Inspector.
 - e. At a minimum, the chart shall be maintained current by coloring or cross-hatching a length of bar to indicate the weekly progress towards completion.
 - f. Three copies of the progress schedule shall be submitted each month with the monthly "scratch copy," until completion of the project. If updated progress schedules are not provided, monthly payments will be withheld.
 - g. Updated copies of the progress schedule shall be available at the established progress meetings for review.
 - h. Contractor shall submit a projection of estimated monthly payments through the life of the Contract. Initial projections shall be correlated

San Antonio Water System Standard Specifications for Construction

with and provided at the same time as the Schedule of Values (if required). Projections shall be updated when requested by the Inspector.

2. Owner's Review:

- a. Within 10 days of submission of the schedule by Contractor, Contractor shall meet with the Inspector to participate in reviewing and revising the schedule as necessary. If revision of either form or content is necessary, Contractor shall revise and resubmit the progress schedule within five calendar days.
- b. The progress schedule shall be used by the Contractor for planning, organizing, directing, and executing all completion of work and for reporting progress of all remaining work.

3. Revisions and Updates:

- a. After the Owner's review of the progress schedule, if the Contractor desires to make changes in his method of executing the work, he shall notify the Inspector in writing, stating the reasons for the changes. If SAWS considers these changes to be of a major nature, the Contractor may be required to revise and resubmit all the affected portions of the progress schedule.
- b. Updated progress schedules shall show all changes in activities and milestones including future changes that can be reasonably anticipated by the Contractor.
- c. At the established progress meetings, the most recently updated progress schedule will be reviewed by the Contractor and Inspector. The schedule and work will be reviewed:
 - 1) To identify those activities started and completed during the previous period;
 - 2) For a review of remaining durations for selected activities not yet started;
 - 3) For the addition of change orders and proposed sequencing changes to the network diagram;
 - 4) For the interfacing of the work under this Contract with the work of other Contractors' or the connection to in-place work.
- d. Following review of the progress schedule at the established meetings, the Contractor shall revise and resubmit the schedule, if any of the following conditions have developed:
 - 1) When a delay in completion of any work item or sequence of work items results in an indicated extension of the project completion;
 - 2) When delays in submittals or deliveries or work stoppages are encountered which make re-planning or rescheduling of the work necessary;
 - 3) When the schedule does not reasonably represent the actual prosecution and progress of the project.

San Antonio Water System Standard Specifications for Construction

- e. The revised schedule shall be submitted to the Inspector within five calendar days and shall be accompanied by a written narrative report. The narrative report shall include a description of problem areas, current and anticipated delay factors and their estimated impact on performance of other activities and completion dates, and an explanation of corrective action taken or proposed.
 - f. All updated or revised schedules submitted after the original schedule shall be in the same detail as the original submittal.
4. **Monthly Report:** Contractor shall submit a copy of the current adjusted construction Progress Schedule showing the progress to the Work to date and a narrative report with every monthly "scratch copy." Failure to submit the progress schedule shall be considered cause for withholding any progress payments otherwise due under the Contract. See Section 7.2 of the GENERAL CONDITIONS for more information. The report shall list any construction activities that are behind schedule and discuss measures being taken to bring these activities back on schedule.

1110.4 EXECUTION:

- 1. **Network Diagram:**
 - a. The network diagram shall show the order and interdependence of activities and sequence in which work is to be accomplished as planned by the Contractor. The diagram shall show how the start of a given activity is dependent upon completion of preceding activities and how its completion restricts the start of following activities.
 - b. The diagram shall be constructed in such a manner that sub- networks (relating to particular phases or portions of work) can be readily extracted or revised as required by the Owner. Sub- networks shall include, but are not limited to, the following portions of work:
 - 1) Shop drawings, received from Contractor, submitted to the Inspector, reviewed, and returned to the Contractor;
 - 2) Material and equipment order, manufacturer, delivery, installation, and check-out;
 - 3) Connection to the work of other Contractors' and to in- place work;
 - 4) Work requiring coordination with the work of other contractors;
 - 5) Performance tests and supervisory service activities;
 - 6) Piping activities;
 - 7) Construction of various facilities;
 - 8) Concrete placement sequence;
 - 9) Backfilling, grading, seeding, paving, etc;
 - 10) Plumbing activities;
 - (1) Subcontractor's items of work;

San Antonio Water System Standard Specifications for Construction

- (2) Final cleaning.
 - c. The network diagram shall show the following information related to activities:
 - (1) Activity number or label;
 - (2) Brief description of activity;
 - (3) Estimated duration, in working days, of each activity.
 - d. In addition to showing all construction and coordination activities, the diagram shall show following events and milestones:
 - (1) Notice to Proceed;
 - (2) Connections to the work of other contractors and to in- place work;
 - (3) Ready for operation and Contract completion dates;
 - (4) Shutdowns;
 - (5) Intermediate milestones.
 - e. Detail of information shall be such that duration times of activities will generally range from 1 to 30 days with not over 2% of activities exceeding these limits. Activities which comprise separate portions of work shall be identified separately by coding.
 - f. Network diagram shall be drawn on 22 inch by 34 inch size sheets with flow of activities generally from left to right. Printing shall be suitable for half size (11" x 17").
 - g. The network diagram shall be time-scaled.
2. Mathematical Analysis:
- a. Contractor shall provide Owner with the following:
 - 1) The calendar used for the computation of dates specified showing the calendar dates of each working day. The calendar shall incorporate the Contractor's assumptions of working days with due consideration being given to legal statutory holidays, Saturdays and Sundays, and weather shutdowns;
 - 2) A listing of each submittal and update of Contractor's detailed construction schedule;
 - 3) List of representative symbols and codes used in preparation of the network diagram.
 - b. Analysis shall include:
 - 1) Calendar date and lists of activities in order of earliest start date;
 - 2) Separate lists of activities within a given sub-network grouped together and listed in order of their earliest start dates.
3. Narrative Report: The narrative report shall include:
- a. Contractor's transmittal letter;
 - b. Schedule narrative concerning completion and progress of all work according to the activity in the Contractor's construction schedule;
 - c. Description of any problem areas;

San Antonio Water System Standard Specifications for Construction

- d. Current and anticipated delays, cause, corrective action to be taken, and impact of the delay on other activities, on milestones, and on completion dates;
 - e. Status of pending items such as permits, Contract modifications, and time extensions;
 - f. Progress relative to schedule and other project or scheduling concerns;
 - g. A discussion of coordination efforts and problems.
4. Log of Shop Drawing Submittals:
- a. The log of shop drawing submittals shall consist of a complete listing of all shop drawings required by the Specifications with anticipated submission dates. Scheduled submission dates shall be consistent with the construction schedule.
 - b. The Contractor shall update the log monthly indicating submittal status. Status shall include all dates submitted and whether the submittal was acceptable or if re-submittal is necessary. Anticipated re-submittal dates shall be indicated.

1110.4 DELAYS AND RECOVERY:

1. If it is determined by the Inspector that the Contractor is not maintaining anticipated progress, then the Owner may withhold approval of the monthly progress payment as outlined in Section 7.2 of the GENERAL CONDITIONS.
2. Wherever it becomes apparent from the current monthly progress evaluation and updated schedule data that any milestone interface completion dates and/or Contract completion dates will not be met, the Contractor shall take some or all of the following actions:
 - a. Increase construction manpower in such quantities and crafts as shall eliminate the backlog of work;
Increase the number of working hours per shift, shifts per day, work days per work week, or the amount of construction equipment, or any combination of the foregoing sufficient to eliminate the backlog of work;
 - b. Reschedule work items to achieve concurrency of accomplishment.
3. Under no circumstances will the addition of equipment or construction forces, increasing the working hours, or any other method, manner, or procedure to return to the current Contractor's construction schedule be considered jurisdiction for Contract modification, increased cost, or treated as an acceleration.

1110.5 MEASUREMENT: There will be no measurement for payment of the Progress Schedule, as specified herein.

San Antonio Water System Standard Specifications for Construction

1110.6 PAYMENT: No direct payment shall be made of any incidental costs associated with preparing and submitting the Progress Schedule, as specified herein.

End of Specification