

Section 2.1

PROJECT SCHEDULING

2.1.1 Purpose

To provide a uniform procedure for monitoring construction contract time and schedules.

2.1.2 Authority

Sections 20.23(4) and 334.048(3), Florida Statutes(F.S.),

2.1.3 Definitions

Baseline Schedule: The required schedule of work activities that is initiated by the Contractor. This schedule defines the Contractor's plan to complete the construction project within the allotted time consistent with the contract documents.

Controlling Work Items: Refer to **Section 1** of the **Standard Specifications**. In a Critical Path Method Schedule, these work items or activities are on the critical path. A delay to a critical work item will cause an increase in the project duration.

District Scheduling Engineer: The Florida Department of Transportation (Department) employee or Department representative identified by the District Construction Engineer to be responsible for coordination of all scheduling activities related to construction projects in their District. This person establishes the contract time used for scheduling construction projects.

Updated Schedule: A schedule is updated by the addition of actual start dates, actual finish dates, percent complete to activity data, added activities, changes in sequence, and project duration.

2.1.4 General

The project schedules required on each project should be working documents used by the Contractor to plan and direct the construction project. If the project schedule is not updated by the contractor in a timely manner, this could reflect on the CPPR (Contractor Past Performance Rating) grading as outlined in **Chapter 13** of the **CPAM (Construction**

Project Administration Manual). This would be considered a category 3 (Timely and Complete Submittal of Documents). The Contractor must coordinate their own work with that of the subcontractors and utilities. If used properly, the schedule is a management and communications tool that can be used to anticipate and prevent problems from occurring. It is very beneficial that these issues be discussed during monthly progress meetings.

2.1.5 Contractor's Schedule

(A) Resident Level Responsibilities

Once the project is awarded, the Contractor prepares a proposed work schedule in accordance with contract documents. The Contractor's schedule is submitted to the Project Engineer. The Project Engineer, with the involvement of the District Scheduling Engineer, reviews the schedule, and if it meets contract requirements, submits it to the Resident Engineer for acceptance. If the district doesn't have a designated Scheduling Engineer then the Resident Engineer would review the schedule. If the schedule does not reflect a reasonable or feasible plan to construct the project in the authorized contract time or the schedule is not prepared according to the specifications, the schedule will be returned to the Contractor for modification. Schedules should indicate the completion of the project within the allowable contract time.

The following items should be checked:

- (1) The schedule reflects the phases in the MOT plan.
- (2) Activities are broken-out by phase.
- (3) Phases are in correct sequence.
- (4) Order of the activities is logical.
- (5) The schedule contains all milestones specified.
- (6) Utility work is shown.
- (7) Activity durations appear reasonable.
- (8) Level of detail reflects the complexity of the project.
- (9) Complete and concise description of the Contractor's Construction Plan.

- (10) The submittal is complete as per the contract documents and contains preparation (Contractor's time) review and approval (Department's time), and fabrication and delivery (manufacturer's/supplier's time) activities for each category of submittal required.
- (11) Activities include procurement time for material including shop drawing submittal and approval process.
- (12) All non-workdays are shown.
- (13) Check constrained activities.
- (14) Any activity that applies cost loading (has a budgeted cost) should conform reasonably well within the amount bid for same type work.

If the schedule submitted by the Contractor shows an early completion date, the schedule should be reviewed thoroughly. The early completion date shown on the schedule could be attributable, in whole or in part, to errors in logic, unrealistic production rates, or the absence of critical activities. A schedule may not be rejected solely on the basis of having a completion date earlier than that shown on the contract.

All schedule rejections should be in writing detailing the reasons for rejection. Schedule acceptance must be in writing.

2.1.6 Schedule Distribution

(A) Resident Level Responsibilities

After acceptance, this schedule becomes the baseline schedule. This baseline schedule is the progress schedule by which progress of the project is gauged. Copies of the baseline schedule will be kept in the District Office job file or the Resident Engineer's Office.

2.1.7 Schedule Revision

(A) Resident Level Responsibilities

When the contract time is significantly altered by time extensions or supplemental agreements, the Department may request the Contractor to submit a revised **Bar Chart** or

Critical Path Method (CPM) Schedule. Requests for revised schedules should be in writing and their subsequent acceptance must be in writing.

When the contract specifies a **CPM Schedule**, the schedule should be updated on a monthly basis to coincide with the progress payment period. These updates should include all approved time extensions, and supplemental agreements. The updates should be reviewed for accuracy and any significant revisions in logic or duration from the baseline schedule must be addressed in writing when found to be in conflict with the contract. Copies of updates will be kept at the Resident Engineer's Office.

The following items should be considered when reviewing updated schedules:

- (1) Check to make sure that the actual dates (for activities either in-progress or completed) and the percents complete/days remaining are historically accurate.
- (2) Run the scheduling calculation in "view" mode and Primavera will itemize the "open ends" (unfortunately, this will not work with SureTrak). With SureTrak, display the predecessors and successors as columns on the left side of the bar chart. Check to make sure that all "open ends" are closed, so that all calculated float values are accurate and not inflated. All activities except the first one should have predecessors, and all activities except the last one should have successors.
- (3) Similarly, run the scheduling calculation in "view" mode and Primavera will itemize the "out-of-sequence progress" (unfortunately, this will not work with SureTrak). Remedy the out-of-sequence progress by making logic changes that are agreed to between the Engineer and the contractor.
- (4) Ensure on a continuous basis that the Contractor is pursuing the critical path work activities. The "two-week look ahead schedules" and "controlling items of work" that the Contractor submits should indicate that he is primarily working on the critical or near critical activities, as a minimum.
- (5) Run a comparison using "Claim Digger" between the current monthly update and the previous update and the baseline to see if the Contractor made any unauthorized changes to either the original durations or logic or, if he added any unauthorized constraints. If he did, bring it to his attention and resolve it with the Contractor.
- (6) In addition, the "Claim Digger" comparison will itemize the "activities that should have started this update, but did not" and the "activities that should have finished

this update, but did not". Bring these to the Contractor's attention, particularly the critical or near critical activities, in order to help get him back on track.

- (7) Lastly, check to make sure that all holidays and weather days granted through the update are put into the schedule's calendar as "non-work" days, so that they are considered when the schedule is calculated."

2.1.8 Withholding Progress Payments

(A) Resident Level Responsibilities

Specifications for project schedules allow the withholding of progress payments to the Contractor if the Contractor fails to finalize either the initial or a revised schedule in the time specified in the specifications. If a Contractor is making a good faith effort at developing a schedule, withholding payments may not be appropriate. If a Contractor is not making a good faith effort, the project personnel can use withholding payment to convince a Contractor that the Department is sincere in its desire to have an acceptable schedule. An acceptable schedule implies good coordination and good communication.

If the Contractor submits a ***Schedule Revision*** which indicates completion of the project after the expiration of allowable contract time, Resident staff shall consult with the District Construction Office, State Construction Office and the Office of General Counsel prior to notifying the Contractor of ***Schedule Revision*** acceptance.