

Replace section 8-1.02 with:

8-1.02 SCHEDULE

8-1.02A General

Submit critical path method schedules that are consistent in all respects with time, staging, and work sequencing of the Contract.

Submit your baseline schedule within 15 days of contract approval. Within 5 business days of baseline schedule submittal meet with the Engineer to discuss the baseline schedule.

By the 24th of each month submit an update schedule with required support data that includes the status of work completed to date and the work yet to be performed as planned. The update schedule must have a data date of the 21st day of the month or other date established by the Engineer. The review period does not start until the previous month's required schedule is accepted. The update schedule must show changes from prior accepted schedules. Update schedules not accepted or rejected within the review period will be accepted. Update schedules may be accepted with exceptions noted.

Correct rejected schedules and resubmit them within 7 days upon notification. Allow 7 days for the review of the resubmittal.

Ensure that all activity sequences are logical and that each schedule shows a coordinated plan for completion of the work. If the Contract includes construction staging and you propose changes to the described staging, do not perform work affected by the proposed changes until the Engineer accepts your schedule and the Department approves a Change Order.

Perform critical path work activities in the sequence indicated on the current accepted schedule.

Notify the Engineer in advance of performance of non-critical work activities that comply with Contract requirements but are out-of-sequence with the current accepted schedule. Performance of such work shall not impact the critical path work activities.

The Engineer's review and acceptance of schedules neither voids any Contract part nor your responsibility for submitting complete and accurate information. Errors or omissions on schedules do not void your responsibility for completing all work within the time specified for completion of the work. If any aspect of the schedule has an error or omission after a schedule has been accepted, correct it on the next update schedule.

Upon completion of the work, the Department returns withholds associated with section 8-1.02 and makes a payment adjustment for work not performed in the same manner as work-character changes.

8-1.02B Level 1 Critical Path Method Schedule

8-1.02B(1) General

Section 8-1.02B applies to a contract without a critical path method schedule bid item shown in the Bid Item list.

Use software to prepare each schedule.

For each schedule submittal, submit:

1. Plotted original, time-scaled network diagram on a sheet at least 8-1/2 by 11 inches with a title block and timeline in PDF file format
2. Schedule data in an authorized electronic file format. File name must include:
 - 2.1. Contract number
 - 2.2. Schedule number and date produced
3. Narrative report that includes:
 - 3.1. Transmittal letter
 - 3.2. Work completed during the period
 - 3.3. Identification of unusual conditions or restrictions regarding labor, equipment, or material
 - 3.4. Description of the current critical path
 - 3.5. Current and anticipated delays, including:
 - 3.5.1. Cause of delay

- 3.5.2. Impact of delay on other activities, milestones, and completion dates
- 3.5.3. Corrective action, mitigation, and schedule adjustments to correct the delay
- 3.6. Reasons for any changes you propose to the planned work
- 3.7. Pending items and status of:
 - 3.7.1. Permits
 - 3.7.2. Change orders
 - 3.7.3. Time adjustments
 - 3.7.4. Noncompliance notices
- 3.8. Changes to the critical path and scheduled completion date since the last schedule submittal
- 3.9. Reasons for an early or late scheduled completion date in comparison to the work completion date
- 3.10. Written response to Engineer's comments on the previous month's schedule submittal

8-1.02B(2) Schedule Format

On each schedule, show:

1. Planned and actual start and completion dates of each work activity, including applicable:
 - 1.1. Submittal development.
 - 1.2. Submittal review and acceptance.
 - 1.3. Material procurement.
 - 1.4. Contract milestones and each required constraint. Constraints other than those required by the specifications may be included if authorized.
 - 1.5. Equipment and plant setup.
 - 1.6. Interfaces with outside entities.
 - 1.7. Erection and removal of falsework and shoring.
 - 1.8. Test periods.
 - 1.9. Major traffic stage change.
 - 1.10. Final cleanup.
2. Order that you propose to prosecute the work.
3. Logical links between the time-scaled work activities.
4. All controlling activities.
5. Clear description of each activity.
6. At least 1 predecessor and 1 successor to each activity except for project start and project end milestones.
7. Duration of at least 1 working day for each activity.
8. Start milestone date as the Contract approval date.

8-1.02B(3) Update Schedule

You may include changes to update schedules that do not alter a critical path or extend the scheduled completion date of the current schedule. Changes may include:

1. Adding or deleting activities
2. Changing activity constraints
3. Changing remaining durations
4. Changing logic
5. Your forecasted date of completion

In advance, discuss with the Engineer, changes that propose an adjustment of the scheduled completion date or alterations in the critical path. If agreement cannot be achieved, submit an RFI.

Meet with the Engineer to review work progress on or before the 1st day of each month, starting 30 days after the baseline schedule is accepted. Discuss, narrative report, progress to date, changes in schedule, unresolved time issues, and additional schedule changes needed.

The update schedule must:

1. Show actual activity start dates, percent complete, remaining duration, and finish dates
2. Show actual durations for work that has been completed, including the Engineer's review and your resubmittal times

If a previous update schedule was not approved, the Engineer may allow you to submit an update schedule that reflects current progress. Submittal of this update schedule does not result in acceptance of prior unaccepted schedules. Prior unaccepted schedules must be corrected and resubmitted upon request.

8-1.02C Level 2 Critical Path Method Schedule

8-1.02C(1) General

Section 8-1.02C applies to a contract if a bid item for a level 2 critical path method schedule is shown in the Bid Item List.

8-1.02C(2) Schedule Format

On each schedule, show:

1. Planned and actual start and completion dates of each work activity, including applicable:
 - 1.1. Submittal development.
 - 1.2. Submittal review and acceptance.
 - 1.3. Material procurement.
 - 1.4. Contract milestones and each required constraint. Constraints other than those required by the specifications may be included if authorized.
 - 1.5. Equipment and plant setup.
 - 1.6. Interfaces with outside entities.
 - 1.7. Erection and removal of falsework and shoring.
 - 1.8. Test periods.
 - 1.9. Major traffic stage change.
 - 1.10. Final cleanup.
2. Order that you propose to prosecute the work.
3. Logical links between the time-scaled work activities.
4. All controlling activities.
5. At least 50 but not more than 500 activities unless authorized. The number of activities must be sufficient to:
 - 5.1. Assure adequate planning of the project
 - 5.2. Permit monitoring and evaluation of progress
 - 5.3. Perform an analysis of time impacts
6. Clear description of each activity.
7. Alphanumeric activity identification and activity description system for labeling work activities.
8. Identification code for each activity for responsibility, stage, work shifts, location, and bid items.
9. At least 1 predecessor and 1 successor to each activity except for activities that begin at the project start milestone and activities that end at the project end milestone.
10. Activities durations of at least 1 working day and no more than 20 working days for each activity, unless otherwise authorized.
11. Start milestone date as the Contract approval date.
12. Department-owned float as the predecessor activity to the scheduled completion date.

Each activity description must indicate its associated scope or location of work by including such terms as quantity of material, type of work, bridge number, station to station location, side or direction of highway, stage, lane number, shoulder, ramp name, ramp line descriptor, or mainline.

You may show early completion time on any schedule if you comply with the Contract. Early completion time is a resource for your exclusive use. You may increase early completion time by improving production, reallocating resources to be more efficient, performing sequential activities concurrently, or by completing activities earlier than planned.

You may show a scheduled completion date that is later than the work completion date on an update schedule after the baseline schedule is accepted. Provide an explanation for a late scheduled completion date in the narrative report included with the schedule submittal.

8-1.02C(3) Computer Software

Submit a description of your proposed schedule software for authorization.

Software must be compatible with the current version of the Microsoft Windows operating system in use by the Engineer.

The schedule software must be the latest version of Primavera P6 for Windows or equal.

Any proposed schedule software equal to Primavera P6 must be capable of:

1. Generating files that can be imported into Primavera P6
2. Comparing 2 schedules and providing reports of changes in activity ID, activity description, constraints, calendar assignments, start and finish dates, durations, and logic ties

8-1.02C(4) Data, Network Diagrams, Histograms, and Reports

For each schedule submittal, submit:

1. Schedule data in compatible Primavera P6 electronic file format. File name must include:
 - 1.1. Contract number
 - 1.2. Schedule number and date produced
2. 1 set of originally plotted, time-scaled network diagrams and a copy in PDF file format.
3. 1 copy of a narrative report in PDF file format.

The time-scaled network diagrams must:

1. Show a continuous flow of information from left to right
2. Be based on early start and early finish dates of activities
3. Clearly show the critical path using graphical presentation
4. Be on 11 by 17 inches or larger sheets, unless otherwise authorized
5. Include a title block and a timeline on each page
6. Be in color

For resource allocated schedules, the time-scaled resource histograms must show materials, labor crafts and equipment classes anticipated to be used. For baseline schedule requiring resource allocation, use average composite crews to display the labor loading of job site construction activities. Optimize and level labor to reflect a reasonable plan for accomplishing the work and to assure that resources are not duplicated in concurrent activities.

The narrative report must be organized in the following sequence with all applicable documents included:

1. Transmittal letter
2. Work completed during the period
3. Identification of unusual conditions or restrictions regarding labor, equipment, or material; including multiple shifts, 7-day work weeks, overtime, or work at times other than regular days or hours
4. Description of the current critical path
5. Current and anticipated delays, including:
 - 5.1. Cause of delay
 - 5.2. Impact of delay on other activities, milestones, and completion dates
 - 5.3. Corrective action, mitigation, and schedule adjustments to correct the delay
6. Reasons for any changes you propose to the planned work
7. Pending items and status of:
 - 7.1. Permits
 - 7.2. Change orders
 - 7.3. Time adjustments
 - 7.4. Noncompliance notices
8. Changes to the critical path and scheduled completion date since the last schedule submittal
9. Reasons for an early or late scheduled completion date in comparison to the work completion date
10. Status of early completion time and Department-owned float, if applicable
11. Written response to Engineer's comments on the previous month's schedule submittal
12. For schedules requiring resource allocations, describe differences between actual resource allocations on activities and those anticipated in the baseline schedule.

8-1.02C(5) Preconstruction Scheduling Conference

Within 5 business days after Contract approval, submit a general time-scaled logic diagram showing the major activities and sequence of planned operations. If the Contract includes construction staging and you propose changes to the described staging, the general time scaled-logic diagram must show the changes and resulting time impacts. You may not perform work affected by the proposed changes to the described staging until the Engineer accepts your schedule and the Department approves a Change Order or provides an authorization to proceed ahead of the issuance of a change order.

Hold a preconstruction scheduling conference with your project manager and the Engineer within 10 days after Contract approval to discuss:

1. Your general time-scaled logic diagram
2. Any proposed changes to described staging
3. Proposed work plan and schedule methodology

At this conference, submit the alphanumeric coding structure and activity identification system for labeling work activities.

The Engineer conducts the preconstruction scheduling conference and reviews the schedule specification with you.

The Engineer provides any required baseline schedule changes to you for implementation within 2 business days of the preconstruction scheduling conference.

If you plan on submitting an early completion baseline schedule that shows work completion in less than 85 percent of the original working days, discuss planned resource allocations, number of crews, and equipment to achieve the early completion.

8-1.02C(6) Baseline Schedule

Starting the week after the preconstruction scheduling conference, meet with the Engineer weekly to discuss and resolve schedule issues until the baseline schedule is accepted. If you and the Engineer agree on the need for a third-party facilitated meeting to assist in resolving baseline schedule issues, the Department pays for 1/2 the cost of the facilitator; the Contractor pays for the other 1/2. The cost is determined under section 9-1.05 except no markup is allowed. If you and the Engineer cannot resolve baseline schedule issues, submit an RFI before starting work.

The baseline schedule must include the entire scope of work and how you plan to complete all work contemplated.

The baseline schedule must show the activities that define the critical path. Multiple critical paths and near-critical paths must be kept to a minimum. A total of not more than 50 percent of the baseline schedule activities must be critical or near critical unless otherwise authorized.

The baseline schedule must not extend beyond the number of original working days.

The baseline schedule must have a data date of Contract approval.

If you submit an early completion baseline schedule that shows work completion in less than 85 percent of the original working days, the baseline schedule must be supplemented with resource allocations for every task activity and include time-scaled resource histograms. Resource allocations must be shown to a level of detail that facilitates report generation based on labor crafts and equipment classes for you and your subcontractors.

8-1.02C(7) Update Schedule

You may include changes to update schedules that do not alter a critical path, add a near critical path, or extend the scheduled completion date compared to the current schedule. Changes may include:

1. Adding or deleting activities
2. Changing activity constraints
3. Changing remaining durations
4. Changing logic
5. Your forecasted date of completion

If any proposed change in planned work would alter the critical path or near critical path or extend the scheduled completion date, submit a TIA within 5 days of the proposed change.

Meet with the Engineer to review work progress on or before the 1st day of each month, starting 30 days after the baseline schedule is accepted. Discuss, narrative report, progress to date, changes in schedule, unresolved time issues, and additional schedule changes needed.

The update schedule must:

1. Show actual activity start dates, percent complete, and finish dates
2. Show durations for work that has been completed as the work occurred, including the Engineer's review and your resubmittal times
3. For instances where a baseline schedule requires resource allocations, describe actual resources allocated to activities for work that has been completed and those anticipated for remaining work.

If a previous update schedule was not approved, the Engineer may allow you to submit an update schedule that reflects current progress. Submittal of this update schedule does not result in acceptance of prior unaccepted schedules. Prior unaccepted schedules must be corrected and resubmitted upon request.

8-1.02C(8) Time Impacts

8-1.02C(8)(a) General

Reserved

8-1.02C(8)(b) Time Impact Analysis Submittal

Submit a TIA with each request for adjustment of Contract time or whenever you or the Engineer considers that an authorized or anticipated change may impact the critical path or work progress.

For a Change Order with deferred time, submit TIA updates monthly and within 15 days of completion of the change order work.

The TIA must:

1. Illustrate the impacts of each change or delay on the current scheduled completion date or internal milestone such as those associated with incentives or disincentives for completion of work parts.
2. Use the accepted schedule that has a data date closest to and before the event. If the Engineer determines that the accepted schedule used does not appropriately represent the conditions before the event, the accepted schedule must be updated to the day before the event being analyzed.
3. Include an impact schedule developed from incorporating the event into the accepted schedule by adding or deleting activities or by changing durations or logic of existing activities. If the impact schedule shows that incorporating the event modifies the critical path and scheduled completion date of the accepted schedule, the difference between scheduled completion dates of the 2 schedules may be equal to the adjustment of Contract time. Mitigation measures must be considered before determining the final adjustment of Contract time.

The Engineer may construct and use an appropriate project schedule to determine adjustments in Contract time until you submit the TIA.

Submit 2 copies of the TIA within 10 days of receiving a written request for a TIA or within 5 business days of recognition of an authorized or anticipated change that may impact the critical path or work progress. Authorized TIA schedule changes must be shown on the next update schedule.

If a TIA you submit is rejected, meet with the Engineer within 5 business days of the rejection to discuss and resolve issues related to the TIA. If you are unable to resolve the issues, submit an RFI within 5 business days.

Show only actual as-built work in subsequent update schedules. Do not show unauthorized changes related to the TIA.

Upon completion of an unresolved time impact issue, submit a final time impact analysis for the Engineer to consider.

Once agreement is reached, the authorized TIA schedule changes must be shown on the next update schedule.

An ordered change that affects the critical path is a basis for a time adjustment.

The Department grants a time extension only if the total float is absorbed and the scheduled completion date is delayed 1 or more working days due to the ordered change. The Department may use Department-owned float to mitigate impacts of a Department ordered change.

8-1.02C(8)(c) Department-Owned Float

The Engineer may accrue Department-owned float. The Engineer documents Department-owned float by ordering you to update the Department-owned float activity on the next update schedule.

Include a log of the action on the Department-owned float activity and include a discussion of the action in the narrative report.

The Engineer may use Department-owned float to mitigate past, present, or future Department delays by offsetting a potential time extension for a Change Order.

Prepare a TIA upon request to determine the effect of Department-owned float. Department-owned float is a resource for the exclusive use of the Department.

8-1.02C(9) Final As-Built Schedule

Within 30 days after work completion, submit a final as-built schedule with actual start and finish dates for the activities.

Submit a written certificate with this submittal signed by your project manager or an officer of the company stating:

"To my knowledge and belief, the enclosed final as-built schedule reflects the actual start and finish dates of the actual activities for the project contained herein."

An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager. In such an instance, include the written delegation with your submittals.

8-1.02C(10) Payment

The Department pays you for level 2 critical path method schedule as follows:

1. A total of 25 percent of the item total is paid upon:
 - 1.1. Completion of 5 percent of all work
 - 1.2. Acceptance of schedules and authorization of TIAs and deferred time analyses required when 5 percent of all work is complete
2. A total of 50 percent of the item total is paid upon:
 - 2.1. Completion of 25 percent of all work
 - 2.2. Acceptance of schedules and authorization of TIAs and deferred time analyses required when 25 percent of all work is complete
3. A total of 75 percent of the item total is paid upon:
 - 3.1. Completion of 50 percent of all work
 - 3.2. Acceptance of schedules and authorization of TIAs and deferred time analyses required when 50 percent of all work is complete
4. A total of 100 percent of the item total is paid upon:
 - 4.1. Completion of all work
 - 4.2. Acceptance of schedules and authorization of TIAs and deferred time analyses required when all work is complete
 - 4.3. Submittal of the certified final as-built schedule

The Department does not adjust payment for any increased or decreased work in submitting schedules.

The Department makes a deduction of \$25,000 for failure to submit the certified final as-built schedule.

8-1.02D–8-1.02F Reserved