



**SPECIAL PROVISIONS
FOR
CONSTRUCTION PROGRESS SCHEDULE**

**Scott County
IM-NHS-074-1(205)5--03-82**

**Effective Date
February 20, 2018**

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

150350.01 GENERAL.

- A.** Time is of the essence in this Contract. It may be necessary to work longer hours, use additional crews, and work during weekends in order to complete the work within the required time limit. Submit a Critical Path Method (CPM) Progress Schedule as described below for the Engineer's approval before the work can be started.
- B.** No compensation will be allowed for working longer hours or using extra shifts; and working on weekends or during Holidays; working during winter months, etc. to meet the specified Completion Date, except in cases of extra work approved by the Engineer that effects the controlling operation. In such cases where extra work is associated with a controlling operation, the contractor shall separate out the added costs of the extra work that keep the project on the Target Schedule when submitting extra work prices. If the contractor does not meet the specified Completion Date after this extra work is approved, the Contractor will reimburse the Contract Authority for the added costs paid on the extra work associated with keeping the project on schedule.
- C.** This work shall consist of preparing, revising and updating a detailed progress schedule based upon the Critical Path Method (CPM). This work shall also consist of performing time impact analysis of the progress schedule based upon the various revisions and updates as they occur.
- D.** The CPM progress schedule shall be used for coordination and monitoring of all work under the contract including all activities of subcontractors, vendors and suppliers. The CPM progress schedule shall include provisions for traffic control, staging, and other events to complete the contract work. This schedule shall be the intended working schedule and shall be used to plan, organize and execute the work; record and report actual performance and progress; and forecast remaining work.

150350.02 SUBMITTAL OF A CPM PROGRESS SCHEDULE.

A. Submitting the Baseline CPM Progress Schedule.

Submit a baseline CPM progress schedule to the Engineer within 30 calendar days from the date of award of the contract.

B. Submittal Format

Any CPM progress schedule (baseline, revision, update or recovery) shall be submitted for review via Doc Express, in accordance with Article 1105.03, E, 2, of the Standard Specifications. In addition to the PDF submittal file specified, an electronic copy of the CPM progress schedule in the original software format shall be submitted for the Engineer's use in reviewing electronically.

C. Compliance with Intended Work.

Upon receipt of the CPM progress schedule, the schedule will be reviewed for compliance with the intended work and other requirements specified in the contract documents.

D. Review and Approval Process.

1. The Engineer will notify the Contractor in writing, within 14 calendar days after receiving any CPM progress schedule submittal (baseline, revision, update or recovery) or resubmittal, if the schedule is approved or if any corrections or revisions are required. If corrections or revisions are required to the submitted CPM progress schedule, submit the revised CPM progress schedule to the Engineer within 7 calendar days after receiving the Engineer's request for corrections or revisions.
2. Submittals that are required to be revised and resubmitted shall have the revisions clouded or annotated to designate revisions. Resubmittals made in accordance with this provision will have a review time as stated above. Resubmittals that are not in accordance with this provision will be allowed a review time of 30 calendar days.
3. In the case of the baseline CPM progress schedule, the resubmittal in response to the Engineer's initial review shall be 7 or more calendar days before the preconstruction conference. When the baseline CPM progress schedule is approved it will be designated as the "Target Schedule" and shall only be changed as specified below.

150350.03 REQUIREMENTS FOR THE CPM PROGRESS SCHEDULE.

The CPM progress schedule shall be developed using the latest edition of Primavera project management software, published by Primavera Systems, Inc. or similar software that is 100% compatible with the latest edition of Primavera project management software and approved by the Engineer. The CPM progress schedule submitted shall be a Gantt chart with a tabular data report for each activity and accompanied by a narrative report.

A. Format.

The electronic schedule format shall contain the following on each page printed:

- Project Name.
- Template: Construction.
- Type and edition of software.
- Planning Unit: Days (calendar or working).
- Number/Version: Original or update number.
- Start Date of contract work.
- Milestone Completion Date(s) as specified in contract documents.
- Project Title: Contract number.
- Company Name: Contractor's name.
- Submittal date.

- Data date.
- Page number.

B. Calendars for Completion Date Contracts.

The base calendar shall show the proposed working days of the week and the proposed number of work hours per day.

C. Schedule Development.

1. The detailed schedule shall incorporate the entire contract time. The construction time, as determined by the CPM progress schedule, for the entire contract or any milestone shall not exceed the specified contract period. The minimum number of activities shown on the schedule shall represent the work incorporating the bid items whose aggregate contract value constitutes 80% of the total contract value. These bid items shall be determined by starting with the bid item with the largest individual contract value and adding subsequent bid item contract values in descending order until 80% of the contract value has been attained. Any additional activities required to complete the contract beyond 95% and any additional activities required to maintain the continuity of the schedule logic shall also be shown.
2. The schedule shall be limited exclusively to Finish-to-Start (FS) relationships. Start-to-Start (SS), Start-to-Finish (SF) or Finish-to-Finish (FF) relationships will not be allowed. Activity constraints shall not be used without the approval of the Engineer. Lead or lag duration between schedule activities should generally be avoided and any employed shall be brought to the attention of the Engineer in the narrative.
3. The Contractor shall take account in the schedule for any critical closure periods and limitations of operations specified in Article 1108.03 of the Standard Specifications, the contract proposal, or the contract documents.
4. Any work item that depends on work in another contract that is included in the I-74 over the Mississippi River Corridor Project (I-74 Project) shall be scheduled in cooperation with the other Contractor. Likewise, any work item upon which work in another I-74 Project contract depends shall be scheduled in cooperation with the other Contractor. All such interdependent work items shall be identified on the CPM progress schedule. Approval of any submittal of the CPM progress schedule will be contingent upon interdependent work items being appropriately coordinated.
5. In cases where interdependent contracts are awarded at different times, parts of the CPM progress schedule of the first contract that include work that is interdependent with an adjacent project or contract that will be awarded later, will be given conditional approval based on the Engineer's judgment. The CPM progress schedule of the first contract shall be reviewed in conjunction with the CPM progress schedule of the second contract, at the time when the CPM Schedule of the second contract is being developed, and revised as necessary, based on cooperative effort between the Contractors. The revised CPM progress schedule shall be submitted to the Engineer for approval. CPM progress schedule updates and revisions throughout the duration of the contract shall be coordinated with the CPM progress schedules of all adjacent contracts with interdependent work.
6. The tables in Appendix A of these Special Provisions show interdependent work that must be coordinated between I-74 Projects and Contracts. Items may be added to these tables, subject to agreement of the other affected Contractor and subject to the approval of the Engineer, if such additions contribute to the efficient progress of the I-74 Project. If any interdependent work has been omitted from the tables in Appendix A, such omission does not release the Contractors from the responsibility of coordinating such work.

D. Schedule Presentation - Gantt Chart.

1. The following shall be included for each activity in the graphic part of the schedule in Gantt chart format:
 - a. Activity Identification (ID) Numbers. Utilize numerical designations to identify each activity. Numbering of activities shall be in increments of not less than ten digits.
 - b. A description of the work represented by the activity (maximum 45 characters). The use of descriptions referring to a percentage of a multi-element item (i.e., construct deck 50%) shall not be used. Separate activities shall be included to represent different elements of multi-element items (i.e., forms, reinforcing, concrete, etc.). Multiple activities with the same work description shall include a location as part of the description.
 - c. Show proposed activity duration in whole days. Provide production rates to justify the activity duration. Schedule duration shall be contiguous and not interruptible.
 - d. The sequence and interdependence of activities required for the prosecution of the work. The schedule logic shall not be violated.
 - e. The critical path to milestone and contract completion. Only one controlling item shall be designated at any point in time on the schedule.
2. Break activities down such that each activity encompasses a single operation or tightly-integrated operations in a single, contiguous and continuous area of the project. Each activity shall have a duration of not more than 20 working days, except for non-work type activities such as mobilization, settlement durations, or submittal preparation, unless otherwise approved by the Engineer.
3. Include dates for the following:
 - a. Starting and completing the various stages of the work, including milestones identified in the contract document.
 - b. Placing material orders, delivery of materials and equipment.
 - c. Preparation, submittal and approval of all required submittals to the Contracting Authority
 - d. Procuring material and equipment furnished by I-74 Project supply contracts.
 - e. Interdependent activities performed by other contractors.
 - f. All work activities and field construction operations.
 - g. Equipment installation, testing and balancing.
4. Calculate total Float as finish float. Calculate the schedule using retained logic. Do not sequester float by calendar manipulations or extended duration. Float is not for the exclusive use or benefit of either the Department or the Contractor.
5. There shall be a legend with the CPM progress schedule defining all abbreviations, terms, or symbols used.

E. Schedule Presentation - Tabular Data Reports.

1. A tabular data report is required with each progress schedule submittal and may be printed on the same pages as the Gantt chart.
2. The heading of each tabular data report, if not printed on the same pages as the Gantt chart, shall include, but not be limited to, the project name, contract number, Contractor name, report (submittal) date, data date, report title and page number.
3. Each of the tabular reports shall contain the following minimum information for each activity.
 - Activity ID.
 - Activity Description.
 - Original Duration (calendar day/working day).
 - Remaining Duration (calendar day/working day).
 - Intended production rate.
 - Early Start Date.

- Late Start Date.
- Early Finish Date.
- Late Finish Date.
- Percent Complete.
- Total Float.
- Calendar ID.
- Subcontractor identity if activity is performed by a subcontractor.

F. Narrative Report.

Prepare a written narrative report to be included in each CPM progress schedule submittal.

1. Baseline Narrative.

The narrative report submitted with the baseline CPM progress schedule shall include the following information:

- a. Description of the critical path.
- b. Identification of potential problem areas.
- c. Proposed solutions to potential problems.
- d. Detailed description of the approach to weather days, including an estimated number of weather days for each month of the contract, and an explanation of how they are incorporated in the CPM Progress Schedule. A weather day is defined as a day when adverse weather including rain, snow, wind, flood, extreme heat, and the results thereof, such as inaccessibility or non-workability of materials, do not allow productive work on the critical path, if that work would otherwise be performed on that day. Adverse weather days will not be considered justification for an extension of the contract time and thus must be planned for.

2. Update Narrative.

The narrative report submitted with each updated CPM progress schedule shall highlight the progress during the past update period. This written report must include the following information:

- a. Summary of work accomplished during the past update period.
- b. Contract milestone comparison chart, if applicable.
- c. Analysis of critical path.
- d. Analysis of time lost/gained during the update period.
- e. Identification of problem areas.
- f. Recommended solutions to current problems.
- g. Actual number of weather days during the update period compared to the baseline estimate. Documentation of weather days is for information only, and shall not be considered as justification for an extension of the contract time.

3. Recovery or Revision Narrative.

The narrative report submitted with any Recovery or Revised CPM progress schedule shall explain the reason(s) for the changes and how the submitted changes address the reason(s). This written report must include the following information:

- a. Summary reason(s) for the Recovery or Revised CPM progress schedule.
- b. Contract milestone comparison chart, if applicable.
- c. Analysis of critical path.
- d. Summary of how the Recovery or Revised CPM progress schedule resolves the issues/reasons requiring the submittal.

150350.04 USE OF CPM PROGRESS SCHEDULE IN CONSTRUCTION OPERATIONS.

- A. Do not perform any contract work without a CPM progress schedule approved by the Engineer. If the CPM progress schedule is approved, with parts of the CPM Progress Schedule conditionally approved, in accordance with Article 150350.04, C of these Special Provisions, contract work

may proceed.

- B.** If the current approved CPM progress schedule is deviated from by not following the logical sequence of the critical path, payment will be withheld for the bid items for the affected activities until a revised CPM progress schedule is submitted and this schedule is approved by the Engineer.

C. Updates.

During the life of the project, submit an updated CPM progress schedule monthly.

1. All updates will be plotted against the Target Schedule. Do not make any changes to the original duration, activity relationships, constraints or costs, and do not add or delete activities, or alter the Target Schedule's logic when updating the schedule.
2. The updated information will include the original schedule detail and the following additional information:
 - a. Actual start dates
 - b. Actual finish dates
 - c. Activity percent completion
 - d. Remaining duration of activities in progress
 - e. Identified or highlighted critical activities
3. The Engineer will withhold progress payments if scheduled updates are not submitted as required.
4. Upon receipt of the updated CPM progress schedule, the Engineer will review the schedule for conformance with the contract documents and degree of detail. The Engineer, within 14 calendar days after receipt of the updated CPM progress schedule and supporting documents, will approve or reject it with written comments. If the updated CPM progress schedule is rejected, submit a revised updated CPM progress schedule within 7 calendar days after the date of rejection.
5. The updated progress schedule must accurately represent the project's current status.

D. Revisions.

Revisions to the Target Schedule may be initiated by a proposal by the Contractor or by direction from the Engineer.

1. Contractor Changes to the Target Schedule.

Comply with the following requirements regarding proposed changes to the Target Schedule:

- a. If the Contractor proposes any changes in the Target Schedule, notify the Engineer in writing, stating the reasons for the change, identifying each changed activity (including duration and interrelationships between activities) and providing a submittal including compact discs and printed copies of the proposed revised schedule. Every effort must be made to retain the original Activity ID numbers.
- b. The Engineer has the authority to approve or reject the proposed change(s) in the Target Schedule and shall do so in writing within 14 calendar days after receipt of the submittal. If the Engineer approves the change in the Target Schedule, all future monthly updates will be plotted against the new Target Schedule.
- c. If the Engineer approves a portion of the change to the Target Schedule, submit a revised schedule incorporating such change(s) within seven calendar days after the partial approval along with a written description of the change(s) to the schedule.

2. Engineer Changes to the Target Schedule.

- a. The Engineer may direct that the approved baseline CPM progress schedule be revised. Reasons for such direction are limited to the following: (1) changes in the work,

(2) re-phasing of the project or any phase, (3) a change in the duration of the project or phase, and (4) acceleration of the project or phase.

- b. The Engineer will direct the Contractor to provide a revised CPM schedule in writing.
- c. Submit the revised CPM progress schedule within 10 calendar days of receipt of the Engineer's written direction.
- d. The Engineer has the authority, in its sole discretion, to approve or reject the revised CPM progress schedule and will do so in writing within 14 calendar days after receipt of the submittal. If the Engineer approves the revised CPM progress schedule, such schedule will be designated the new "Target Schedule".
- e. If the Engineer approves a portion of the change to the Target Schedule, submit a revised schedule incorporating such change(s) within 7 calendar days after the partial approval along with a written description of the change(s) to the schedule.

E. Recovery.

- 1. Maintain an adequate work force and the necessary materials, supplies and equipment to meet the Target Schedule. In the event that the Contractor, in the judgment of the Engineer, is failing to meet the Target Schedule including any Contract milestones, the Engineer will direct the Contractor, in writing, to submit a recovery schedule.
- 2. Submit the recovery schedule within 10 calendar days of receipt of the Engineer's written direction.
- 3. The recovery schedule shall set forth a plan to eliminate the schedule slippage (negative float). The plan must be specific to show the methods to achieve the recovery of time, i.e. increasing staffing, working overtime, weekend work, employing multiple shifts. All costs associated with implementing the recovery schedule shall be borne by the Contractor.
- 4. Upon receipt of the CPM recovery schedule, the Engineer will review the schedule for conformance with the contract documents and degree of detail. The Engineer will approve the schedule or reject it with written comments within 14 calendar days of receipt of the recovery schedule. If the Engineer approves the CPM recovery schedule, such schedule will be designated the new Target Schedule.

F. If the CPM recovery schedule is rejected, submit a revised CPM recovery schedule within seven calendar days of the date of rejection.

G. Acceptance or approval of any progress schedule by the Engineer shall not be construed to imply approval of any particular method of construction, sequence of construction, or any implied or stated rate of production. Acceptance will not act as a waiver of the obligation to complete the work in accordance with the contract proposal, plans and specifications, modify any rights or obligations of the Contracting Authority as set forth in the contract, nor imply any obligation of a third party. Acceptance shall not be construed to modify or amend the contract or the time limit(s) therein. Acceptance shall not relieve the Contractor of the responsibility for the accuracy of any of the information included on the schedule. Failure to include in the schedule any element of work required for the performance of the contract, any sequence of work required by the contract, or any known or anticipated condition affecting the work shall not excuse the Contractor from completing all work required within the time limit(s) specified in the contract notwithstanding acceptance of the schedule by the Engineer.

150350.05 METHOD OF MEASUREMENT AND BASIS OF PAYMENT.

The cost of preparing, updating and revising the CPM Progress Schedule shall be included in the bid item for Mobilization.

APPENDIX A – KEY CONTRACT INTERDEPENDENCIES

Projects and Contracts in the I-74 over the Mississippi River Corridor Project Active in Stage 1

- Iowa Project (197): IM-NHS-074-1(197)5--03-82, River Bridge Approach Spans
- Iowa Project (198): IM-NHS-074-1(198)5--03-82, River Bridge Arch Spans
- Iowa Project (199): IM-NHS-074-1(199)5--03-82, Westbound Iowa Viaduct and Ramps
- Iowa Project (260): IM-NHS-074-1(260)1--03-82, Grading and Sanitary Sewer
- Iowa Project (205): IM-NHS-074-1(205)5--03-82, US 67 Ramp D Grading and Paving and I-74 Median Drainage
- Iowa Project (208): IMN-074-1(208)5--0E-82, Light Pole Supply
- Iowa Project (209): IMN-074-1(209)5--0E-82, Luminaire Supply
- Illinois Contract 64C08: Work in Moline from the Mississippi River to 7th Avenue
- Illinois Contract 64E26: Work in Moline from 7th Avenue to south of Avenue of the Cities

Summary of Milestone Completion Dates

Stage 1B

Contract Start Through Stage 1B

Project (205) Work to be Completed	Adjacent Contract / Project	Adjacent Successor Work Dependent on Completed Project (205) Work
Complete MSE retaining wall, grading and pavement US 67 Ramp D between US 67 (Grant St) and Ramp D bridge	(199)	Construct bridge approach pavement, south of US 67 Ramp D bridge
Complete I-74 median storm sewer	(206)	Construct I-74 pavement (early Stage 2)

Stage 1B Milestone Completion Date: November 20, 2018