

SECTION 01 32 16.13**NETWORK ANALYSIS SCHEDULE****PART 1 - GENERAL****1.1 DESCRIPTION:**

- A. The Contractor shall develop a Microsoft Project 2003 (or latest version) Bar Chart schedule demonstrating fulfillment of the contract requirements. The Contractor shall keep the network up-to-date in accordance with the requirements of this section. The Contractor shall utilize the plan for scheduling, coordinating and monitoring work under this contract (including all activities of subcontractors, equipment vendors and suppliers). The Bar chart will be utilized to satisfy both time and cost applications.

1.2 CONTRACTOR'S REPRESENTATIVE:

- A. The Contractor shall designate an authorized representative in the firm who will be responsible for the preparation of the schedule, review and report of progress of the project with, and to, the Contracting Officer's Representative.
- B. The Contractor's representative shall have authority to act on behalf of the Contractor in fulfilling the requirements of this specification section. Such authority shall not be interrupted throughout the duration of the project.

1.3 COMPUTER PRODUCED SCHEDULES:

- A. The contractor shall provide to VA monthly computer processing of all computer produced schedules generated from monthly project updates. The Contractor will provide to VA two (2) copies of the updated Bar chart and an electronic copy of this data. These must be submitted with and substantively support the contractor's monthly payment request.
- B. The Contractor is responsible for the correctness and timeliness of the computer-produced reports. The Contractor is also responsible for the accurate and timely submittal of the updated project schedule.
- C. VA shall report errors in computer-produced reports to the Contractor's representative within ten (10) calendar days from receipt of reports. The Contractor will reprocess the Bar chart and associated CD, when requested by the VA, to correct errors that affect the schedule for the project.

1.4 THE COMPLETE PROJECT BAR CHART SUBMITTAL:

- A. The Complete Project Microsoft Project Bar chart will contain approximately 80 work activities/events.
- B. Within thirty (30) calendar days after receipt of the Contract Award, the Contractor shall submit for the Contracting Officer's review; a Microsoft Project Bar chart and a CD. Each activity/event on the Bar chart schedule shall contain as a minimum, but not limited to, activity/event description, duration, start dates, finish dates, budget

amounts, and predecessor and successor relationships. Work activity/event relationships shall be restricted to finish-to-start, only, without lead or lag constraints. Logic events (non-work) will be permitted where necessary to reflect proper sequence among work events, but must have a zero duration.

- C. The complete working Bar chart shall reflect the Contractor's approach to scheduling the complete project. The final Bar chart in its original form shall contain no contract changes or delays that may have been incurred during the final Bar chart development period. It shall reflect the Contractors "AS BID" or "DAY 1" schedule. Changes and /or delays shall be entered at the first monthly update after the final Bar chart has been approved. The Contractor should provide his requests for time and supporting time extension analysis for contract time as a result of contract changes/delays, after this update, and in accordance with Article, ADJUSTMENT OF CONTRACT COMPLETION.
- D. Within ten (10) calendar days after receipt of the complete project Bar chart, the Contracting Officer or his representative will do one or both of the following:
 - 1. Notify the Contractor concerning his actions, opinions, and objections.
 - 2. Schedule a meeting with the Contractor at, or near the job site, for joint review, correction or adjustment of the proposed plan, if required. Within ten (10) calendar days after the joint review, the Contractor shall revise and shall submit two (2) copies of the revised Bar chart as specified to the Contracting Officer. The revised submission will be reviewed by the Contracting Officer and, if found to be as previously agreed upon, will be approved. This approved Bar chart shall constitute the approved baseline schedule until subsequently revised in accordance with the requirements of this section.

1.5 WORK ACTIVITY/EVENT COST DATA:

- A. The Contractor shall not be required to cost load the Bar chart. As part of this submission, the Contractor shall provide a separate Schedule of Costs matrix. This Schedule of Cost shall reflect and contain all the same activities/events identified on the Bar Chart.
- B. The Contractor and the Contracting Officer shall use this Schedule of Costs for monthly payment purposes as referenced in the General Condition of this contract.
- C. The Contractor and Contracting Officer shall agree on percentages for monthly work accomplished. The cumulative total amount of all cost loaded activities/events (including alternates) shall equal the total contract price.
- D. Prorate overhead, profit and general conditions on all work activities/events for the entire project. Negative work activity/event cost data will not be acceptable, except on VA issued contract changes.

1.6 BAR CHART REQUIREMENTS:

- A. Show on the Bar chart the sequence and interdependence of work activities/events required for complete performance of all items of

work. In preparing the Bar chart, the Contractor shall show concise description of the work represented by the activities/events and duration (in work days).

B. Show activities/events as:

1. Contractor's time required for submittal of shop drawings, templates, fabrication, delivery and similar pre-construction work.
2. Contracting Officer Technical Representative's and Architect-Engineer's review and approval of shop drawings, equipment schedules, samples, template, or similar items.
3. Interruption of VA Cemetery utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
4. Test, balance and adjust various systems and pieces of equipment, maintenance and operation manuals, instructions and preventive maintenance tasks.
5. VA inspection and acceptance activity/event with a minimum duration of five (5) work days at the end of each phase and immediately preceding any VA move activity/event required by the contract phasing for that phase.

C. Break up the work into activities/events of a duration no longer than sixty (60) work days each. The duration for VA approval of any required submittal, shop drawing, or other submittals shall be fifteen (15) workdays. The construction time as determined by the Bar chart schedule from start to finish for any sub-phase, phase or the entire project shall not exceed the contract time(s) specified or shown.

D. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled "start," "continue," or "completion," are not specific and will not be allowed.

E. Compact Disk (CD)/USB thumb Drive Format: General Industrial Standards are acceptable.

E. Exterior Label Information. Provide the following information on an external label attached to each CD:

1. VA project name, number, and project location.
2. Name and telephone number of a point of contact, preferably the person who created the CD.
3. The CD number and total number of CD(s) in the set.
4. The project data status date.

1.7 PAYMENT TO THE CONTRACTOR:

- A. Monthly, the contractor may submit the AIA application and certificate for payment documents G702 & G703 reflecting updated schedule activities and cost data in accordance with the provisions of the following Article, PAYMENT AND PROGRESS REPORTING, as the basis upon which progress payments will be made. The Contractor is entitled to a monthly progress payment upon approval of estimates as determined from the currently approved updated Bar chart unless, in special situations,

the Contracting Officer permits an exception to this requirement. Monthly payment requests shall include: three copies of the updated Bar chart, a listing of all project schedule changes, and associated data, made at the update; and CD(s) of the resulting monthly updated schedule. These must be submitted with and substantively support the contractor's monthly application and certificate for payment request documents.

- B. An updated bar chart submitted with the progress payment does not constitute a contract change without the written consent of the Contracting Officer.
- C. When the Contractor fails or refuses to furnish to the Contracting Officer the information and the associated updated Bar chart data formatted on CD-ROM(s), which, in the sole judgment of the Contracting Officer, is necessary for processing the monthly progress payment, the Contractor shall not be deemed to have provided an estimate and supporting schedule data upon which progress payment may be made.

1.8 PAYMENT AND PROGRESS REPORTING:

- A. Timely and regular job site progress meetings shall be held on dates mutually agreed to by the Contracting Officer (or Contracting Officer's Representative) and the Contractor. Presence of subcontractors during the progress meeting is optional unless required by the Contracting Officer (or Contracting Officer's Representative). Job progress will be reviewed to verify:
 - 1. Actual start and/or finish dates for updated/completed activities/events.
 - 2. Remaining duration, required to complete each activity/event started, or scheduled to start, but not completed.
 - 3. Time and cost data for change orders, and supplemental agreements that are to be incorporated into the Bar chart.
 - 4. Percentage for completed and partially completed activities/events.
 - 5. Logic and duration revisions required by this section of the specifications.
 - 6. Activity/event duration and percent complete shall be updated independently.
- B. As part of the job site progress meeting, the General Contractor, specifically requested subcontractors, and the Contracting Officers Representative shall meet to discuss the monthly updated schedule. The main emphasis shall be to address work activities to avoid slippage of project schedule and to identify any necessary actions required to maintain project schedule during the reporting period.

1.9 RESPONSIBILITY FOR COMPLETION:

- A. Whenever it becomes apparent from the progress review meeting or the monthly Bar chart schedule that phasing or contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:

1. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.
 2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog of work.
 3. Reschedule the work in conformance with the specification requirements.
- B. Prior to proceeding with any of the above actions, the Contractor shall notify and obtain approval from the Contracting Officer for the proposed schedule changes. If such actions are approved, the revisions shall be incorporated by the Contractor into the Bar chart before the next update, at no additional cost to the Government.

1.10 CHANGES TO BAR CHART AND SCHEDULE:

- A. Within ten (10) calendar days after VA acceptance and approval of any updated computer-produced schedule, the Contractor will submit a revised Bar chart, the associated CD, and a list of any activity/event changes including predecessors and successors for any of the following reasons:
1. Delay in completion of any activity/event or group of activities/events; indicate an extension of the project completion by twenty (20) working days or 10 percent of the remaining project duration, whichever is less. Such delays which may be involved with contract changes, strikes, unusual weather, and other delays will not relieve the Contractor from the requirements specified unless the conditions are shown on the Bar chart as the direct cause for delaying the project beyond the acceptable limits.
 2. Delays in submittals, or deliveries, or work stoppage are encountered which make rescheduling of the work necessary.
 3. The schedule does not represent the actual prosecution and progress of the project.
 4. When there is, or has been, a substantial revision to the activity/event costs of the network diagram regardless of the cause for these revisions.
- B. Revisions made under this paragraph, which affect the previously approved Bar chart schedule for Government furnished equipment, contract phase(s) and sub phase(s), utilities furnished by the Government to the Contractor, or any other previously contracted item, must be furnished in writing to the Contracting Officer for approval.
- C. Contracting Officer's approval for the revised Bar chart and all relevant data is contingent upon compliance with all other paragraphs of this section and any other previous agreements by the Contracting Officer or the Contracting Officer's Representative.
- D. The cost of revisions to the Bar chart resulting from contract changes will be included in the cost of the change.
- E. The cost of revisions to the Bar chart not resulting from contract changes is the responsibility of the Contractor.

1.11 ADJUSTMENT OF CONTRACT COMPLETION:

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, Bar chart data and supporting evidence as the Contracting Officer may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals.
- B. The Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer produced Bar chart schedule for the time period when the change took place and all other relevant information. The Contracting Officer will, within thirty (30) calendar days after receipt of such justification and supporting evidence, advise the Contractor in writing of his decision on the matter.
- C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the provisions specified under Article, CHANGES, in the Section, GENERAL CONDITIONS. The Contractor shall include, as a part of each change order proposal, a sketch showing all Bar chart revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.
- D. All delays due to non-work activities/events such as RFIs, WEATHER, STRIKES, and similar non-work activities/events shall be analyzed on a month-by-month basis.

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