

ATTACHMENT

E

SECTION 01355

CONSTRUCTION ANALYSIS - SCHEDULES AND REPORTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings, Contract Provisions, Special Provisions, Supplementary Provisions, and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for schedules and reports required for proper performance of the Work. Section requirements include preparation of a construction schedule in Critical Path Method, cash flow projection curves, progress payment requisitions and related narratives and monthly progress reports.
- B. All costs incurred by the Contractor to correctly implement and update the schedule shall be borne by the Contractor and are part of this Contract.
- C. Schedules required include:
 - 1. Preliminary Construction Schedule
 - 2. Contract Construction Network Schedule/Analysis
 - 3. Schedule of Inspections and Tests
 - 4. Submittal Log
 - 5. As-Built Construction Schedule
- D. Reports required include:
 - 1. Monthly Network Schedule Update
 - 2. Weekly Construction Reports
 - 3. Stored Material Location Reports
 - 4. Non-Compliance Reports
 - 5. Special reports

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. The schedule of values is included in Section 01027 "Applications for Payment."
- B. Project meeting minutes are included in Section 01200 "Project Meetings."
- C. Project submittal requirements are included in Section 01300 "Submittals."
- D. Schedule of Inspections and Tests is included in Section 01400 "Contractor Quality Control Program."

1.4 DEFINITIONS

- A. Owner and Architect-Engineer Approval of Schedules: The purpose of the Owner and Architect-Engineer review and approval of schedules is to review format, logic and proposed key milestones and to assist the Owner, the Architect, and their agents in tracking the process of the various construction activities. Furthermore, the Owner and Architect-Engineer review and approval process may result in rejection of the proposed schedule due to plans for performance that appear to the Owner and/or Architect-Engineer to be unreasonable. However, the review and approval of the Contractor's submitted schedules by both the Owner and Architect is not a "warrant" by the Owner or their agents of the schedules. Specifically, the Owner's and/or Architect-Engineer's approval of submitted schedules in no way establishes an obligation on the Owner for Claims for Delay by the Contractor based on an approved Early Completion Date (ECD). Any Claims for Delay by the Contractor will be based on the provisions of Article 3.9 of this specification which only contemplates impact to the Predicted Completion Date (PCD) rather than an approved Early Completion Date (ECD).
- B. Early Completion: Early completion of the project is permitted, however, neither the Contractor nor the Owner are bound to an Early Completion Date (ECD), even if projected by and approved in the final version of the Contract Construction Network Schedule/Analysis. The Contractor's completion date obligations and the Owner's Claims for Delay obligations under this agreement are associated with the Predicted Completion Date (PCD), as defined in Article 1.4C, not an approved Early Completion Date (ECD). Notwithstanding the preceding, the Owner reserves the right to reject the proposed Contract Construction Network Schedule showing an early completion date if the schedule appears to the Owner and/or Architect-Engineer to be unreasonable or unrealistic.
- C. Predicted Completion Date: The Predicted Completion Date (PCD), also referred to as the Contract Completion Date, is the projected completion date based on the contract construction duration as specified in the Contract and as referenced to the Owner's published Notice to Proceed (NTP) date. The Contractor's completion date obligations and the Owner's Claims for Delay obligations are based on the Predicted Completion Date (PCD). Under the terms of this provision, the Contract Completion Date is intended to be the same date as the Predicted Completion Date.
- D. Claims for Delay: The Owner and/or Architect-Engineer will only consider Claims for Delay from the Contractor where the Contractor can demonstrate that an actual delay has affected the Predicted Completion Date and that all Contract Float, as defined in Article 1.4E, has been utilized. The Owner and/or Architect-Engineer will not consider nor be liable, in any way, for Claims for Delay that are based on a projected or actual impact to an approved Early Completion Date (ECD). Any Claims for Delay, along with supporting evidence and justification, must be submitted to the Administrative Contracting Officer. The Administrative Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer-produced calendar-dated schedule for the time period in question and all other relevant information. Actual delays in activities/events which, according to the computer-produced calendar-dated schedule, do not affect the Predicted Completion Date as shown by the critical path in the network, will not be the basis for a change to the Contract Completion Date. The Administrative Contracting Officer will, within a reasonable time after receipt of a Claim for Delay that includes supporting evidence and justification, review the facts and advise the Contractor in writing of the Administrative Contracting Officer's decision regarding potential revision to the Contract Completion Date/Predicted Completion Date.

- E. Contract Float: Contract Float is defined as the number of days, if any, between an approved Early Completion Date (ECD) and the Predicted Completion Date (PCD). Contract Float is an expiring resource available to all parties to the Project, including the Owner and its agents, the Architect-Engineer and the Contractor. Regardless of the parties responsible or the reasons for delays, all Contract Float must be utilized before any Claims for Delay may be submitted by the Contractor or considered by the Owner.

1.5 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300, "Submittals".
1. Required Schedule Submittals:
 2. Preliminary Construction Schedule
 3. Contract Construction Network Schedule/Analysis
 4. Schedule of Inspections and Tests
 5. Submittal Log
 6. As-Built Construction Schedule
- B. Reports
1. Monthly Network Schedule Update
 2. Weekly Construction Reports
 3. Stored Material Location Reports
 4. Non-Compliance Reports
- C. Timelines for Submissions:
1. Preliminary Construction Network Schedule: Within fifteen (15) working days after receipt of Notice-to-Proceed (NTP) as generated by the Construction and Facilities Management Office, submit six copies of a preliminary construction network analysis prepared in accordance with Article 2.1. There will not be a formal review process, however, the Contractor may be required to revise if initial submission doesn't adhere to the terms and conditions of the Contract.
 2. Contract Construction Network Schedule/Analysis: Within thirty (30) working days after receipt of Notice-to-Proceed, submit six prints to the Architect-Engineer along with one copy to Owner, of the construction network analysis prepared in accordance with Article 2.2. Also submit one electronic copy using Primavera or Microsoft Project. Allow twenty (20) working days for review by the Architect and/or Owner. The review will address adherence to specification requirements, but not the means or methods of work to be employed by the Contractor. Within fifteen (15) working days after receipt of Architect-Engineer and Owner comments, submit on reproducible copy and four prints of the network analysis addressing the comments. Once approved, the submittal shall be the baseline schedule from which to evaluate progress, project problems, and/or delays.
- D. Schedule of Inspections and Tests: Within fifteen (15) working days after NTP, submit six (6) copies of inspection and tests schedule prepared in accordance with this Section.
- E. Submittal Log: Within fifteen (15) working days after NTP, submit six (6) copies of submittal schedule prepared in accordance with this Section.

- F. "As-Built" Contract Schedule: Within twenty (20) working days after publication of AIA G704, "Substantial Completion Certificate", submit an as-built Contract Schedule, accurately reflecting actual progress of Work prepared in accordance with this Section.
- G. Reports: As specified within the Contract Documents or as directed by the Administrative Contracting Officer.

1.6 QUALITY ASSURANCE REQUIREMENTS

- A. Employ a construction network analyst who is trained and experienced in compiling and analyzing construction schedules by use of the Critical Path Method.
- B. Perform data preparation, analysis, charting, and updating in accordance with pertinent recommendations contained in the current edition of "CPM In Construction" manual of the Associated General Contractors.

PART 2 - PRODUCTS

2.1 PRELIMINARY CONSTRUCTION NETWORK SCHEDULE

- A. Bar-Chart Schedule: Prepare a comprehensive, fully developed, horizontal bar-chart type Preliminary Construction Schedule. The schedule shall include, but not limited to, planning, mobilization, procurement, fabrication, submittals and construction activities for the first ninety (90) calendar days of the planned work.
- B. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week.
- C. For scheduling purposes, no construction or related activity will be longer than 7 calendar days.
- D. Prepare the Schedule on a sheet or series of sheets of sufficient width to show data clearly for the preliminary construction period.
- E. Secure time commitments for performing critical elements of the Work for parties involved. Coordinate each element on the schedule with other portions of the Work. Show each construction activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
- F. Cost Correlation: Immediately below the date line at the head of the bar-chart, provide a cost correlation line, indicating "pre-calculated" costs. On the cost correlation line show dollar-volume of Work for cash flow projects requirements for the first 90 calendar days of construction.
 - 1. Refer to Section "Application for Payment" for cost reporting and payment procedures.
- G. Distribution: Following the Architect-Engineer's response to initial submittal of the Preliminary Contract Construction Schedule, print and distribute copies to Owner, Architect, and parties required to comply with scheduled dates.

1. Post copies of the Schedule in the Project meeting room and temporary field office.
2. When revisions are made, distribute the update Schedule to the same parties and post in the same locations.

2.2 CONTRACT CONSTRUCTION NETWORK SCHEDULE/ANALYSIS

A. Diagram:

1. Graphically show the order and interdependence of all activities necessary to complete the Work, and the sequence in which each such activity is planned to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors and materials suppliers whose work is shown on the diagram.
2. Include, but do not necessarily limit indicated activities to:
 - a. Project mobilization;
 - b. Submittal and approval of Shop Drawings;
 - c. Procurement of equipment and critical materials;
 - d. Weather;
 - e. Fabrication of special equipment and material, and its installation and testing;
 - f. Final cleanup;
 - g. Final inspection and testing and all required activities of the Owner and Architect-Engineer which affect progress and/or affect required dates for completion of all or part of the Work.
 - h. Show information in such detail that duration times of activities will range normally from one to fifteen (15) calendar days. The section and number of activities shall be subject to the approval of the Owner and Architect.
3. Show on the diagram, as a minimum for each activity, preceding and following event numbers, description of each activity, cost, and activity duration in calendar days.
 - a. Mathematical Analysis:
 - b. Furnish the mathematical analysis of the construction network diagram by the computer printout, including a tabulation of each activity. Show the following information as a minimum:
 - c. Preceding and following event numbers;
 - d. Activity description;
 - e. Estimated duration of activities;
 - f. Earliest start date (by calendar date);
 - g. Earliest finish date (by calendar date);
 - h. Latest start date (by calendar date);
 - i. Latest finish date (by calendar date);
 - j. Slack or float (in calendar days);
 - k. Monetary value of each activity;
 - l. Percentage of activity completed;
 - m. Contractor's earnings based on portion of activity completed.

- n. Means used in making mathematical computation shall be capable of compiling total value of completed and partially completed activities, and capable of accepting modifications approved for time and logic adjustment.
- o. As requested by the Owner, the Contractor shall be prepared to list in computer printout, the activities in sorts as follows:
- p. By the preceding event number from lowest to highest and then in order of the following event number;
- q. By the amount of float, then in order of preceding events numbers, and then in order of succeeding event numbers;
- r. In order of preceding event numbers, and then in order of succeeding event numbers.
- s. Show the total dollar amount and dollars spent.
- t. This sort may be used to supplement payment purposes.
- u. Other sorts not specified may be requested by the Architect-Engineer or Owner.

2.3 SCHEDULE OF INSPECTIONS AND TESTS

- A. Table Schedule: Prepare a comprehensive, fully developed schedule of inspections and tests organized by specification section in tabular format. The schedule shall include, but not limited to, description of inspection – test, frequency of testing, criteria for pass/fail, and who is responsible for action (identify both individual and responsible contractor/subcontractor).
- B. Inspection and Test Schedule shall become the foundation of the "Contractor Quality Control Program", Specification Section 01400.

2.4 SUBMITTAL LOG

- A. Table Schedule: Prepare a comprehensive, fully developed schedule of submittals organized by specification section in tabular format. The schedule shall identify all required submittals to include, but not limited to, product data, samples, engineer calculations, and/or shop drawings.
- B. Submittal Log Schedule shall adhere to "Submittals", Specification Section 01300.

2.5 AS-BUILT CONSTRUCTION SCHEDULE

- A. Submit "As-Built Contract Schedule" (DRAFT). Provide six (6) copies showing actual start and finish dates for all work activities and milestones up to substantial completion. The schedule submittal shall be in same format as Construction Network Schedule.
- B. At the conclusion of the Contract Work or within ninety (90) calendar days of beneficial occupancy by the Owner, provide final "As-Built Contract Schedule." The Contractor shall submit six (6) copies of an "As-built Contract Schedule" showing actual start and finish dates for all work activities and milestones. This schedule submittal shall be in same format as Construction Network Schedule.
- C. The "As Built Contract Schedule" shall become a condition of final payment if the Contractor has not submitted the "As-Built" within the ninety (90) calendar days of beneficial occupancy time limit.

2.6 REPORTS

- A. Various reporting requirements are specified within this specification and throughout the Contract.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prior to all work of this Section, thoroughly study the referenced standard as well as pertinent portions of the Contract Documents.

3.2 PRELIMINARY CONSTRUCTION NETWORK SCHEDULE

- A. Show the following minimum information:
 - 1. Contractor's planned operations for the first ninety (90) calendar days after receipt of the Notice to Proceed (NTP);
 - 2. Contractor's general approach to the remainder of the Work;
 - 3. Cost of the activities expected to be completed or partially completed before submittal and approval of the completed construction network analysis.
 - 4. Submit in accordance with Article 1.5.
 - 5. CONTRACT Construction Network Schedule/Analysis
- B. In addition to data shown in the preliminary construction network schedule, show all data required by Part 2 of this Section.
 - 1. Submit in accordance with Article 1.5.
- C. Comment Review: Within twenty 20 working days after receipt by the Owner of the complete project network diagram, the Administrative Contracting Officer or his representative will do one or both of the following:
 - 1. Notify the Contractor concerning his actions, opinions, and objections.
 - 2. If requested, be prepared to participate in a review and evaluation of the proposed network diagrams and analysis, at a time and location established by the Owner and Architect-Engineer. Within 15 working days after the joint review, the Contractor shall revise and shall submit six copies of the revised network diagram, six copies of the revised computer-produced activity/event ID schedule and one revised electronic file as specified by the Administrative Contracting Officer. The revised submission will be reviewed by the Administrative Contracting Officer and, if found to be as previously agreed upon, will be approved.
 - 3. The approved baseline network diagram schedule and the corresponding computer-produced schedule(s) shall constitute the approved baseline schedule to be used by the Contractor for planning, organizing, and directing the Work and for reporting progress until subsequently revised in accordance with the requirements of this section.

3.3 SCHEDULE OF INSPECTIONS AND TESTS

- A. Show Contractor's planned inspection and testing operations during the duration of the contract after receipt of the Notice to Proceed (NTP);
 - 1. Submit in accordance with Article 1.5.
- B. Comment Review: Within twenty (20) working days after receipt of the schedule, the Administrative Contracting Officer or his representative will review and either accept or reject.

3.4 SUBMITTAL LOG

- A. Show Contractor's planned submission of required submittals during the duration of the contract after receipt of the Notice to Proceed (NTP);
 - 1. Submit in accordance with Article 1.5.
- B. Comment Review: Within twenty- (20) working days after receipt of the schedule, the Administrative Contracting Officer or his representative will review and either accept or reject.

3.5 AS-BUILT CONSTRUCTION SCHEDULE

- A. Show Contractor's planned submission of required submittals during the duration of the contract after receipt of the Notice to Proceed (NTP);
 - 1. Submit in accordance with Article 1.5.
- B. Comment Review: Within twenty- (20) calendar days after receipt of the schedule, the Administrative Contracting Officer or his representative will review and either accept or reject.

3.6 PERIODIC REPORTS

- A. Monthly Network Schedule/Analysis update:
 - 1. General: Approval of the Contractor's monthly Application for Payment shall be contingent, among other factors, on the submittal of a satisfactory monthly schedule update.
- B. Monthly schedule update meetings: Monthly schedule update shall be the product of joint review meetings between the Contractor, Owner and the Architect-Engineer. The joint review shall focus on planned and actual progress for the preceding month, planned progress for the upcoming month supported by a Contractor prepared 2-Week Look-ahead Schedule, and impact to schedule due to change orders and adverse weather, and encountered problems and proposed recovery measures. The agreed upon progress, and changes, if any, shall be incorporated in the schedule update to be submitted. The update shall always represent the actual history of work completed and shall supplement the Contractor's application for payment.
- C. Required Submittals: On a monthly basis the Contractor shall submit necessary copies of each of the following components of the Monthly Schedule Report:
 - 1. Schedule reports listing completed activities, activities in progress, problems encountered and proposed recovery solutions.

2. Monthly and cumulative cash flow curves that show actual vs. planned cash flow status.
 3. Report actual progress by updating the mathematical analysis.
 4. Note on the summary network, or clearly show on a revised issue of affected portions of the detailed network, all revisions causing changes in the detailed network.
 5. Revise the summary network as necessary for clarity.
 6. Activities or portions of activities completed during the reporting period, and their total value as basis for Contractor's periodic request for payment. Payment made pursuant to the Agreement may, when the Architect or Owner directs, be based on the total value of such activities completed or partially completed after verification by the Architect and the Owner. This shall supplement the Application for Payment process.
 7. State the percentage of the Work actually completed and scheduled as of the report date, and the progress along the critical path in terms of days ahead of or behind the allowable dates.
 8. If the Work is behind schedule, also report progress along other paths with negative slack.
 9. Include a narrative report which shows, but is not necessarily limited to:
 - a. A description of problem areas, anticipated and current;
 - b. Delaying factors and their impact;
 - c. An explanation of corrective actions taken or proposed.
 - d. Show the date of latest revision.
- D. Distribution: Following the Architect-Engineer's response to initial submittal of the Contract Construction Schedule, print and distribute copies to Owner, Architect, and parties required to comply with scheduled dates.
1. Post copies of the Schedule in the Project meeting room and temporary field office.
 2. When revisions are made, distribute the updated Schedule to the same parties and post in the same locations.
- E. The monthly schedule update may form the basis for the Contractor's Application for Payment. The progress payment for an activity shall be based on its agreed upon percentage of completion. On unit priced Contracts, the approval of the Contractor's monthly requisition is contingent on the submittal of a satisfactory monthly schedule update, however, the basis of payment will be the actual measurement of Architect-Engineer accepted in-place units of work.
- F. When the Contractor fails or refuses to furnish to the Administrative Contracting Officer or his representative the information and the associated updated schedule in electronic format, which, in the sole judgment of the Administrative 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.
- G. WEEKLY CONSTRUCTION REPORTS: Prepare a weekly construction report, recording important information concerning events at the site; and submit duplicate copies to the Owner and Architect-Engineer at weekly intervals. Review "Contractor Quality Control Program", Specification Section 01400, for additional guidance regarding content and submission requirements.
- H. Material Location Reports:

1. At Monthly intervals prepare a comprehensive list of stored materials (for payment). The list shall identify materials that are stored on-site and off-site which the Contractor is requesting payment. Include with the list a statement of progress on and delivery dates for all materials or items of equipment being fabricated or stored away from the building site.

I. Non-Compliance Reports:

1. When the need to take corrective action to address a notice of non-compliance work, prepare a detailed report including a statement describing the problem and recommended corrective actions. Indicate the corrective action or reasons why the Contract Documents cannot be followed.
2. Be prepared to discuss status of non-compliance issues monthly during the initial review of the Progress Payment (DRAFT). Submit a copy as an attachment to the Monthly Progress Payment to the Owner and Architect-Engineer.
3. Review "Contractor Quality Control Program", Specification Section 01400, for additional guidance regarding content and submission requirements.

3.7 SPECIAL REPORTS

- A. When an event of unusual or significant nature occurs at the site, prepare and submit a special report. Advise the Administrative Contracting Officer's Technical Representative (COTR) in advance when such events are known or predictable.

3.8 DELAYS AND REQUESTS FOR EXTENSION OF TIME

- A. The determination for an extension of Contract time will be made by the Administrative Contracting Officer in accordance with the Contract Provision "Termination for Default-Damages or Delay-Time Extensions".
- B. The Contractor acknowledges and agrees that delays in activities, irrespective of the party causing the delay, which according to mathematical analysis does not affect the Predicted Completion Date (PCD)/Contract Completion Date (CCD) will not provide a basis for the Owner granting an extension of time to the Predicted Completion Date (PCD)/ Contract Completion Date (CCD). However, if analysis concludes that an activity was delayed and such delay impacted the Predicted Completion Date, this delay can provide a basis for an extension to the Predicted Completion Date (PCD). In order for the Contractor to be eligible to receive an extension of the Predicted Completion Date (PCD) /Contract Completion Date (CCD), the Contractor must prove that:
 1. An event occurred.
 2. The Contractor was not responsible for the event in that the event was beyond the control of the Contractor; and was without fault or negligence of the Contractor, subcontractor, or supplier; and the event was unforeseeable.
 3. The event was the type for which an excuse is granted in accordance with the "Default" provision of this contract.
 4. Major activities indicated on the Progress Schedule were delayed which impacted the critical path or made such activities critical.
 5. The event in fact caused the delay of the Work.
 6. Such event extended the Predicted Completion Date (PCD).
 7. The requested additional time is an appropriate and reasonable extension of Contract time.

C. If the Contractor is found eligible for an extension of the contract time, the Administrative Contracting Officer will recommend contract modification extending the time establishing new Predicted Completion Date (PCD) / Contract Completion Date (CCD). The extension of time will be made on a calendar day basis. As a result of the revised PCD/CCD, the Contractor may seek additional funding for General Overhead associated for the Project, however, all other costs including, but not limited to, home office costs and other expenses, either direct or indirect, will not be authorized or paid under this contract provision.

D. If the Contractor is **NOT** found eligible for time extension or agreement cannot be reached, the Contractor may extend the Contract by paying Liquidated Damages as defined in the Contract. Language for such an extension could read as follows:

1. **"In consideration of XYZ's payment of Liquidated Damages in the amount of \$xxx,xxx.xx, which check will be made payable to The West Virginia Adjutant General's Department, the Contract time will be increased by this Modification Agreement in the amount of xx calendar days.**

The Contract Sum will not be changed by this Modification Agreement; however, Owner specifically agrees and acknowledges that XYZ's rights to dispute any assessment of liquidated damages against it, and to submit a claim to recoup the payment of \$xxx,xxx.xx, for liquidated damages, and claim(s) for additional costs and/or damages related to the increased Contract Time and/or this Modification Agreement are not waived or released by XYZ's execution of this Modification Agreement.

E. Time extensions for unusually severe weather:

1. If unusually severe weather conditions are the basis for a request for an extension of Contract Time, such request shall be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the critical activities of the scheduled construction.

F. The schedule of anticipated adverse weather below will constitute the base line for monthly weather/time evaluation by the Administrative Contracting Officer's Technical Representative (COTR). Throughout the duration of the Contract on a monthly basis, actual adverse weather days will be recorded by the Contractor on a calendar day basis (include weekends and holidays) and compared to the monthly anticipated adverse weather days set forth below.

1. Monthly Anticipated Adverse Weather Calendar Days

Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
15	12	7	6	6	6	6	6	6	6	6	10

2. The number of actual adverse weather days shall be calculated chronologically from the first to the last day in each month. The Contractor shall not be entitled to any claim for time extension based upon adverse weather unless the number of actual adverse weather days exceeds the number of anticipated adverse weather days, and unless such adverse weather days prevent work for 50 percent or more of the Contractor's work day. In preparing the Contract schedule, the Contractor must reflect the above anticipated adverse weather

days on all weather dependent activities. Weather-caused delays shall not result in any additional compensation to the Contractor.

- G. On days where adverse weather is encountered, the Contractor shall list all critical activities under progress and shall indicate the impact adverse weather had, if any, on the progress of such activities. This information must be presented at the end of the adverse weather day to the COTR or their authorized representative for their review and approval.
- H. If the Contractor is found eligible for an extension of Contract time, the Administrative Contracting Officer will issue a modification extending the time for Contract completion. The extension of time will be made on a calendar day basis.

3.9 REVISIONS TO APPROVED SCHEDULES

- A. Method:
 - 1. Following comment review of the schedule, if the Contractor desires to make changes in this method of operating and scheduling, he shall so notify the Owner and Architect-Engineer in writing stating his reasons and impacts on the schedule.
 - 2. If the Owner and Architect-Engineer consider these changes to be of a major nature, they may require the Contractor to revise and submit for approval, without additional cost to the Owner, all the affected portions of the detailed diagrams, mathematical analysis, and summary diagram to show the impact on the entire Work.
- B. Major Change:
 - 1. A change may be considered of a major nature if the time estimated to be required or actually used for an activity, or the logic of sequence of activities, is varied from the original plan to a degree that the Architect-Engineer or the Owner has reasonable doubt as to the completion of the Work within the Contract Time.
 - 2. Changes which affect activities with adequate slack (float) time shall be considered a major change when their cumulative effect may affect the Contract completion date.
 - 3. If the major change impacts the Contract completion date through no fault of the Owner, the Contractor shall outline what corrective actions that the Contractor will undertake to meet the original Contractor completion date. These prepared corrective actions shall be submitted in a timely matter to the Architect and Owner for review and comment.

END OF SECTION