

CONTRACT MODIFICATION PROCEDURES (NCCN Process)

Issued For
CONSTRUCTION
07/25/2023
www.ssoe.com

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications in accordance with the General Conditions of the Contract.
- B. Related Requirements:
 - 1. Drawings, General Conditions of the Master Construction Contract, and Division 01 Specification Sections apply to this Section.

1.2 DEFINITIONS

- A. Bulletin: A document utilized to solicit pricing for possible changes to the Contract Documents and requests add or deduct costs from the Contractor.
- B. Change Order: Written instruction addition to the Purchase Order to the Contractor authorizing addition, deletion, or revisions to the Contract Documents in consideration of an adjustment in Contract sum or time, or both. Only the Owner has authority to execute a Change Order.
- C. NCCN: A record utilized to solicit or communicate proposed adjustments in Contract sum or time, or both, for possible changes to the Contract Documents. Execution by the Owner and Contractor of a Project Change Notice serves as immediate authorization to proceed with extra Work or changes in the Work. Formal adjustment in Contract sum or time, or both, shall be authorized in a Change Order to the Purchase Order according to the mutually agreed upon NCCN Notice. A NCCN shall not be used to propose or authorize changes to General Conditions of the Contract.

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests – NCCN Change Notice: Owner or Owner's Consultant will issue a detailed description of proposed changes in the Work in the form of a NCCN Change Notice that may require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Owner-Initiated Proposal Requests issued by the Owner or Owner's Consultant are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in NCCN Request or 5 days, when not otherwise specified, after receipt of NCCN Proposal Request, submit a proposal estimating cost adjustments to the Contract Sum and Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals – Contractor to utilize the RFI process and RFI may generate a formal NCCN upon owner review.
1. Include a statement outlining reasons for the change and effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of Contract Time.

1.4 CHANGE ORDER PROCEDURES

- A. The Owner issues written Change Orders. Owner's Project Manager submits Change Order Request through Owner's PO Contract Change Process per master construction contract terms and conditions.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ATTACHMENTS

- A. NCCN Form

END OF SECTION

NCCN FORM

PHASE V - NON-CONFORMANCE/CHANGE NOTICE

NC/CN NO: _____

PROJECT TITLE:			CIO. NO:
PCAP NO:	SPEC NO:	OWNERS REPR:	
CHANGE TITLE:			LOCATION:
SUBMITTED BY:			DATE:

NON-CONFORMANCE / REASON FOR CHANGE:

'FIX' / CHANGE DESCRIPTION:

DRAWINGS AFFECTED:

COST IMPACT: \$

SCHEDULE IMPACT:

FOLLOW-UP REQUIRED BY (CHECK ALL THAT APPLY)

OWNERS REPR	<input type="radio"/>	CONTRACTOR REPR	<input type="radio"/>	DISCIPLINE LEAD	<input type="radio"/>
PROCUREMENT REPR	<input type="radio"/>	PROJECT COORD	<input type="radio"/>	MANUFACTURING REPR	<input type="radio"/>

ACTIONS TO BE TAKEN

PROCEED WITH WORK (T&M) <input type="radio"/>	REQUEST QUOTE <input type="radio"/>	PROCEED BASED ON QUOTE <input type="radio"/>
NC/CN FOR INFORMAT'N ONLY <input type="radio"/>	OTHER:	
IF NON-CONFORMITY:	ACCEPT 'AS IS' <input type="radio"/> ACCEPT WITH REPAIR/REWORK <input type="radio"/>	IS A C/PA OR QN2 REQ'D? _____ (YES/NO)
SAT/PCR/HAZOP UPDATE REQUIRED: _____ (YES/NO)		

APPROVED (USE N/A BELOW IF APPROVAL IS NOT REQ'D)

OWNERS REPR:	DATE:	CONTRACTOR REPR:	DATE:
DISCIPLINE LEAD:	DATE:	PROCUREMENT REPR:	DATE:
PROJECT COORD:	DATE:	MANUFACTURING REPR:	DATE:

REQUEST FOR INFORMATION (RFI)

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative procedural requirements for Request for Information (RFI).
- B. Related Requirements:
 - 1. Drawings, General Conditions of the Contract, and Division 01 Specification Sections apply to this Section.

1.2 REQUEST FOR INTERPRETATION

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI
 - 1. Owner or Owner's Consultant will return without response those RFIs submitted by other entities controlled by the Contractor.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
 - 3. Contractor shall maintain an RFI Log with status and ball in court status
- B. Content of RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project Name and CWP
 - 2. Name of Owner's Consultant.
 - 3. Date.
 - 4. Name of Contractor.
 - 5. RFI number, numbered sequentially.
 - 6. RFI subject.
 - 7. Specification Section number and title and related paragraphs, as appropriate.
 - 8. Drawing number and detail references, as appropriate.
 - 9. Field dimensions and conditions, as appropriate.
 - 10. Contractor's suggested resolution. If resolution impacts Contract Time or Contract Sum, Contractor shall detail impact in the RFI.
 - 11. Contractor's signature.
 - 12. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- C. Owner or Owner's Consultant Action: Review each RFI, determine action required, and respond. Allow 3 days for response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
 - 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of Contractor's means and methods.
 - b. Requests for coordination information already indicated in the Contract Documents.
 - c. Requests for adjustments in the Contract Time or the Contract Sum.
 - d. Incomplete RFIs or inaccurately prepared RFIs.

2. Owner or Owner's Consultant action may include a request for additional information, in which case time for response will date from time of receipt by Owner or Owner's Consultant of additional information.
 3. Action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or Contract Sum, notify Owner in writing within 5 days of receipt of the response.
- D. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the Construction Work Package and RFI number. Submit log weekly.
- E. On receipt of Owner or Owner's Consultant action, update RFI log and immediately distribute RFI response to affected parties. Review response and notify Owner or Owner's Consultant within 3 days if Contractor disagrees with response.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ATTACHMENTS

A. Example RFI Form:



HSC CONTRACTOR
Request for Informa

END OF SECTIO

PAYMENT PROCEDURES INVOICING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:

1.2 INFORMATIONAL SUBMITTALS

- A. Schedule of Values.
- B. Invoices for Payment.
- C. Monthly Cash Flow Forecast.
- D. Certified Payroll(if required).

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Owner and Owner Consultants at earliest possible date, but no later than 7 days after PO is issued to contractor.
- B. Format and Content: Construction Industry Institute (CII) divisions as a guide to establish line items for the schedule of values. Provide at least one, line item for each Specification Section.
 - 1. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of submitted invoices and progress reports.
 - 2. Provide multiple line items for principal subcontract amounts in excess of 5 percent of the Contract Sum.
 - 3. Provide a separate line item in the schedule of values for each part of the Work where Invoices may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
 - 4. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 - 5. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
 - 6. Overhead Costs: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
 - 7. Closeout Costs. Include separate line items under Contractor and principal subcontracts

- Contract Sum and subcontract amount for Project closeout requirements.
8. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Project Change Notice result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Project Change Notice.

1.4 APPLICATIONS FOR PAYMENT - INVOICING

- A. Each Invoice for Payment following the initial invoice shall be consistent with previous applications and payments as certified by Contractor, Owner or Owner's Consultant, and paid for by Owner.
- B. Payment Invoice Times: Submit Invoices to Owner at the end of each month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 1. Submit draft copy of invoice to the Construction Owners Rep 7 days prior to due date for review and approval signatures prior to submitting to accounts payable.
- C. Invoice Preparation:
 1. Contractor shall submit with Invoice appropriate backup regardless of contract type
 - a. All material shipping and invoices as backup for purchased materials whether T&M or Bid/Fixed Price
 - b. All T&M contracts shall submit time sheets and vendor shipping/invoices as backup with contractors invoice with Construction Owners Representative signature and approval
 - c. Contractor shall also submit a Invoice Cover Sheet referencing which line items are being billed for from the PO
 2. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 3. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 4. Include amounts of Change Orders and Project Change Notice issued before last day of construction period covered by application.
- D. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment, including subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit full unconditional waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- E. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of values.

3. Cash flow forecast.
 4. Sworn Statement.
 5. Contractor's construction schedule.
 6. Sustainable design action plans, including preliminary project materials cost data.
 7. Schedule of unit prices.
 8. Submittal schedule.
 9. Initial progress report.
 10. Certificates of insurance and insurance policies.
- F. Final Invoice: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Updated final statement, accounting for final changes to the Contract Sum.
 3. Final Sworn Statement and Waivers

1.5 MONTHLY CASH FLOW FORECAST

- A. Submit monthly cash flow forecast before construction starts and monthly with Application for Payment that is derived from distributing the schedule of values to detailed construction schedule activities.
- B. Submit monthly cash flow forecast in tabular format the each month utilizing Monthly Cash Flow Forecast Spreadsheet:
- a. Weighted projection values are acceptable.
 - b. Dollar value associated with each scheduled value shall be spread across duration of the activity monthly.
 - c. Total for each month and cumulative total shall be indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ATTACHMENTS

- A. Example waiver forms:
1. Full Conditional Waiver.
 2. Full Unconditional Waiver.
 3. Partial Conditional Waiver.
 4. Partial Unconditional Waiver.
 5. Sworn Statement.



HSC Inv BACK UP
SHEET.xls

END OF SECTION

CONTRACT INVOICE BACK UP SHEET

Date

HSC Pkg. #

P.O.#

PCAP/Network #

Invoice #

Progress

Payment #

P.O. LINE	CCN #	LINE AMOUNT	% COMP	AMOUNT PREV INV'D	PLUS AMT THIS INVOICE	TOTAL EARNED
1	Original Contract	\$	%	\$	+\$	=\$
2		\$	%	\$	+\$	=\$
3		\$	%	\$	+\$	=\$
4		\$	%	\$	+\$	=\$
5		\$	%	\$	+\$	=\$
6		\$	%	\$	+\$	=\$
7		\$	%	\$	+\$	=\$
8		\$	%	\$	+\$	=\$
9		\$	%	\$	+\$	=\$
10		\$	%	\$	+\$	=\$
11		\$	%	\$	+\$	=\$
12		\$	%	\$	+\$	=\$
13		\$	%	\$	+\$	=\$
14		\$	%	\$	+\$	=\$
15		\$	%	\$	+\$	=\$
TOTAL		\$	%	\$	+\$	=\$
TOTAL AMOUNT THIS INVOICE					\$	

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Staffing requirements.
 - 2. General coordination procedures.
 - 3. Coordination drawings.
 - 4. Digital project management procedures.
 - 5. Project meetings.
- B. Related Requirements:
 - 1. Drawings, General Conditions of the Master Construction Contract

1.2 INFORMATIONAL SUBMITTALS

- A. Contractor and Subcontract List: Prepare a written summary identifying Contractor, subcontractor, and supplier firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Sections covered by subcontract.
 - 3. Summary of Work covered by subcontractors and suppliers.

1.3 MINIMUM STAFFING REQUIREMENTS

- A. Project Manager: Provide full-time Project Manager with the following minimum responsibilities:
 - 1. Provide day-to-day leadership and project management.
 - 2. Provide and Manage Contractor schedule, scope, cost, and quality management.
 - 3. Manage submittal procedures and maintain Contractor submittal log.
 - 4. Provide schedule and cost control reports.
 - 5. Manage continuous improvement and create lessons learned.
 - 6. Provide accurate and itemized estimates for NCCN's.
 - 7. Manage closeout requirements and punch list.
 - 8. Participate, Manage and facilitate project meetings.
 - 9. Communication and collaboration with Owner and Owner's Consultants.
 - 10. Administrative procedures.
- B. Superintendent: Provide full-time, onsite, Superintendent with the following minimum responsibilities:
 - 1. Coordination and communication of construction activities and work plan, including with the Owner.
 - 2. Enforcing safety and environmental health and ensuring safety program is implemented.
 - 3. Reading and understanding drawings, specifications, and Contract Documents.
 - 4. Enforce quality assurance and control requirements.
 - 5. Attend project meetings and facilitate meetings when necessary.
 - 6. Track and follow submittals to ensure understanding and knowledge of submittals.

C. Quality Representative

1. Generate, document and coordinate all required activities and quality control programs and associated documentation required to comply with applicable codes and specification quality requirements.

D. Safety Requirements – When a contractor reaches 25 employees on site a full time Site Safety Rep on site is required.

1.4 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Coordinate with other Prime and Subcontractors not directly contracted to this contract

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

1.5 PROJECT MEETINGS

A. General: Participate in Owners weekly Progress meetings, Schedule and conduct required meetings and conferences at to execute project scope.

B. Preconstruction Conference: New Contracts will have Pre-Construction meetings to kickoff the work.

1. Attendees: Authorized representatives of Owner and Owner's Consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including but not limited to the following:
 - a. Safety requirements.
 - b. Responsibilities and personnel assignments.

- c. Tentative construction schedule.
- d. Phasing.
- e. Critical work sequencing and long lead items.
- f. Designation of key personnel and their duties.
- g. Lines of communications.
- h. Procedures for processing field decisions and Change Orders.
- i. Procedures for RFIs.
- j. Procedures for testing and inspecting.
- k. Procedures for processing Applications for Payment.
- l. Distribution of the Contract Documents.
- m. Submittal procedures.
- n. Sustainable design requirements.
- o. Preparation of Record Documents.
- p. Use of the premises and existing building.
- q. Work restrictions.
- r. Working hours.
- s. Owner's occupancy requirements.
- t. Responsibility for temporary facilities and controls.Procedures for disruptions and shutdowns.
- u. Construction waste management
- v. Office, work, and storage areas.
- w. Equipment deliveries and priorities.
- aa. First aid.
- bb. Security.

3. Minutes: Party conducting meeting will record and distribute meeting minutes.

C. Progress Meetings: Conduct progress meetings at weekly, biweekly, and monthly regular intervals as required by the Owner.

- 1. Attendees: In addition to representatives of Owner and Owner's Consultant, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented. Participants shall be familiar with Project and authorized to conclude matters relating to the Work.
- 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Safety requirements.
 - b. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - c. Review present and future needs of each entity present, including but not limited to the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.

- 3) Status of submittals.
 - 4) Status of sustainable design documentation.
 - 5) Deliveries.
 - 6) Off-site fabrication.
 - 7) Access.
 - 8) Site use.
 - 9) Temporary facilities and controls.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of NCCN Change Orders.
3. Minutes: Party responsible for conducting the meeting will record and distribute meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Contractor Shall Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue review revised schedule with Owner for overall schedule coordination.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

CONSTRUCTION PROGRESS REPORTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including but not limited to the following:
 - 1. Contractor's Construction Schedule.
 - 2. Construction schedule updating reports.
 - 3. Site condition reports.
- B. Related requirements:
 - 1. Drawings, General Conditions of the Contract, and Technical Specification Sections apply to this Section.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- D. Event: The starting or ending point of an activity.
- E. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time belongs to Owner.
 - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
 - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. Working electronic copy of schedule file.
 - 2. PDF file.
- B. Startup Network Diagram: Of size required to display entire network for entire construction

period. Show logic ties for activities.

- C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period and complete scope of Work.

- 1. Submit a working digital copy of schedule, using software indicated, and labeled to comply with requirements for submittals.

- D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports:

- 1. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
 - 2. Logic Report: List of preceding and succeeding activities for each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
 - 3. Total Float Report: List of activities sorted in ascending order of total float.
 - 4. Cash Flow Report: Provide forecasted cash flow report for the upcoming month.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination

- 1. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports.
 - 2. Coordinate updates with owner's scheduler and master schedule.
 - 3. Secure time commitments for performing critical elements of the Work from entities involved, including Owner.
 - 4. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.
 - 5. Sequence and co-operate with other prime contractor, sub contractor, startup and owners schedule weekly

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

- 1. Use Primavera software. If approved by the Owner, other schedule software may be used.

- B. Time Frame: Extend schedule from date established for commencement of the Work, Substantial Completion and final completion.

- C.

- 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

- D. Activities: Separate Work and areas as a separate numbered activity for each main element of the Work in accordance with the Schedule of Values. Comply with the following:

- 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Owner.
 - 2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 30 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - 3. Startup and Testing Time: Include startup and testing time as indicated in technical specifications or as required by the manufacturer.
 - 4. Commissioning Time: Include time for commissioning in accordance with the commissioning plan.

- E Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
 2. Owner-Furnished Products: Include a separate activity for each product. Include delivery date.
 3. Work Restrictions: Show the effect of the following items on schedule:
 - a. Coordination with existing construction contractors or facilities.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Use-of-premises restrictions.
 - e. Provisions for future construction.
 - f. Seasonal variations.
 - g. Environmental control.
- F Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to commencement of the Work, Substantial Completion, and final completion, and the following milestones:
1. Mobilization.
 2. Punch list completion.
 3. Interim Acceptance.
 4. Inspections.
 5. Startup and testing.
 6. Demobilization.
 7. Final Acceptance.
- G Resource loaded – Activities in the schedule shall be resource loaded utilizing the skilled craft required to complete the activity
- H Contractor's Construction Schedule Updating: At weekly intervals, update schedule to reflect actual construction progress and activities.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- I Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.
- J Distribution: Distribute copies of approved schedule to Owner and Owner Consultants

1.6 CPM SCHEDULE REQUIREMENTS

- A. Prepare network diagrams using AON (activity-on-node) format.
- B. Startup Network Diagram: Submit diagram within 14 days of date established for the Notice of Award. Outline significant construction activities for the first 30 days of construction. Include

skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

- C. CPM Schedule: Prepare Contractor's Construction Schedule using a time-scaled CPM network analysis diagram for the Work.
 - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 14 days after Notice of Award.
 - a. Failure to include any Work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates.
 - 2. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
 - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
 - a. Mobilization and demobilization.
 - b. Purchase of materials.
 - c. Delivery.
 - d. Fabrication.
 - e. Utility interruptions.
 - f. Installation.
 - g. Work by Owner or coordinated with Owner that may affect or be affected by Contractor's activities.
 - h. Startup, testing and inspection.
 - i. Commissioning.
 - j. Punch list and final completion.
 - 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall Project schedule.
- F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
 - 1. Contractor or subcontractor and the Work or activity.
 - 2. Description of activity.
 - 3. Main events of activity.
 - 4. Immediately preceding and succeeding activities.
 - 5. Early and late start dates.
 - 6. Early and late finish dates.
 - 7. Activity duration in workdays.
 - 8. Total float or slack time.
 - 9. Average size of workforce.
 - 10. Dollar value of activity (coordinated with the schedule of values).

G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

OWNER SAFETY REQUIREMENTS



contractor booklet
inside Dec 2022.pdf

HSC — Site Entry Safety Requirements



Contractor Safety
Training Requirements

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Drawings, General Conditions of the Contract, Safety Requirements, Master Construction Contract.

1.2 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

1.3 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Use of Owner's facilities for construction operations is prohibited.

2.0 TEMPORARY FACILITIES

- A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
 - 1. Provide steps, landings, and railings.
 - 2. Field office shall be securely anchored to the ground or jersey barriers.

2.1 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment:
 - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
 - 2. If Owner authorizes use of permanent HVAC system during construction, when exposed to construction dust, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work. Locate facilities to limit site disturbance; coordinate with Owner on approved location.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel.
 - 1. Use of Owner's existing or new toilet facilities is not permitted.
- B. Existing Electric Power Service: Connection to Owner's existing electric power service may be allowed for general purpose receptacles. Maintain equipment in a condition acceptable to Owner.
- C. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
- D. Telephone Service: Provide temporary telephone service in common-use facilities for use by construction personnel. Mobile phones are acceptable.
 - 1. Post a list of important telephone numbers in field office:
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Contractor's emergency after-hours telephone number.
 - e. Professional of Record.
 - f. Owner's engineer or program manager
 - g. Owner's project manager.

3.3 SUPPORT FACILITIES INSTALLATION

- A. Parking: Use designated areas of Owner's existing parking areas for construction personnel. Coordinate with Owner for parking arrangements.
- B. Storage and Staging: Use designated areas of Project site for storage and staging needs. Coordinate with Owner as necessary to ensure storage and staging does not impact operations.

3.4 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility

END OF SECTION

MOBILIZATION

PART 1 GENERAL

1.1 Section Includes:

- A. CONTRACTOR shall be responsible for all preparatory work and operations required prior to beginning WORK.

1.2 General

- A. Mobilization shall include, but not limited to, the following:
 - 1. Movement of personnel, tools, equipment, materials, supplies, and incidentals to the PROJECT site and all preparatory work, [including installation of PROJECT sign].
 - 2. Establishment of all necessary facilities, including acquisition of easements for the CONTRACTOR's convenience.
 - 3. Utilities: Provide power, telephone, water, storm and sanitary facilities, and all other temporary utilities required.
 - 4. Set up and maintain in a neat and orderly manner temporary roads and paving, dewatering facilities, enclosures, identification signs and bulletin boards, waste disposal.
 - 5. Provide and maintain temporary all-weather pedestrian walk ways and road detours.
 - 6. Obtaining permits necessary for the execution of the WORK.
 - 7. Providing required bonds and proof of insurance.
 - 8. Upon completion of the WORK, CONTRACTOR shall remove tools, equipment, and unused materials and supplies from the PROJECT site and restore all disturbed areas outside the PROJECT area to their pre-construction condition.
- B. OWNER has the right to reject construction tools, equipment, materials, and supplies which are, in OWNER's opinion, unsafe, improper, or inadequate.
 - 1. CONTRACTOR shall bring rejected construction tools, equipment, materials, and supplies to an acceptable condition as approved by OWNER or remove from the PROJECT site.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

CLOSEOUT PROCEDURE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.

1.2 DEFINITIONS

- A. Punch List - List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Design Professional's use prior to Design Professional's inspection, to determine if the Work is substantially complete.

1.3 ACTION SUBMITTALS

- A. Contractor's Punch List - List of Incomplete Items: Initial submittal at Substantial Completion.

1.4 CLOSEOUT SUBMITTALS – assemble test reports as electronic files for turnover according to Masterspecification i

- A. Submit to the Owner's Representative the following documents:

Mechanical

- a. Completed line test reports.
- b. Weld x-ray and Ultrasonic (UT) reports.
- c. Construction drawing markups: The Contractor is to maintain a master markup set of drawings during construction. These are to be submitted at the completion of work noting all changes to the drawings as issued by Hemlock Semiconductor Operations LLC.
- d. Mill test reports for all pipe, fittings and pipe supports directly welded to piping or piping components with the exception of Carbon Steel pipe supports. The contractor must receive all MTR's from the supplier to assure 100% heat number traceability.
- e. Weld maps which locate and identify each weld with the date performed, welder number, visual inspection, audit radiography, and any tracer X-ray requirements. The Owner welding inspector will provide required format for all welding quality data.
- f. Heat number traceability of pipe and fittings and as noted on the isometric drawings..
- g. Paint thickness report per thickness chart under coating section attachments.
- h. Material Test Reports for all piping & piping components.

Instrumentation

- a. Construction drawing markups - At the completion of work return a marked-up legible set of "As Built" Instrument Location Drawings.
- b. Instrument M/I Loop Test Sheet - Return completed test sheet(s) supplied with each Construction Work Package.
Civil/Architectural

Civil

- a. Submit to the Owner's Representative the following information as detailed in the appropriate sections.
- b. Section 05500 - Metal Fabrications: Shop Drawings and Grating Penetration Drawings.
- c. Shop Drawings

- d. Identify each drawing with building number, name of supplier submitting the drawings, clear identity of contents, location of the work, and the date.
- e. Submit drawings by means of two (2) blue-line or black-line prints for each sheet of drawings. Maximum acceptable drawing size is 24"x36".
- f. After review by Hemlock Semiconductor Engineering, one (1) copy will be returned to the Contractor stamped "Proceed", "Proceed As Noted", or "Correct and Resubmit".
- g. When stamped "Correct and Resubmit", revise the original drawing. Resubmit three (3) prints of each revised sheet for approval within one week.
- h. When stamped "Proceed" or "Proceed As Noted", furnish the Owner's Representative one (1) set of
- i. reproducible for record print files.

"As Built" color code:

- Red for additions and all revised work.
- Yellow for deletions.
- Black pencil for notes or comments.

1.5 PUNCH LIST - LIST OF INCOMPLETE ITEMS

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including.
 1. Organize list of spaces in sequential order, proceeding from lowest floor to highest floor, listed by room or space number.
 2. Organize items applying to each space by major element
 3. Submit list of incomplete items in the following format:
 - a. PDF Electronic File: Design Professional will return annotated file.

1.6 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Design Professional for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties in PDF format. Assemble complete warranty submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

END OF SECTION