

STANDARD SPECIFICATIONS  
SECTION 01330  
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 DESCRIPTION

- A. Section includes general requirements and procedures related to preparation and transmittal of Submittals to include Schedules, Contractor's Drawings, Samples, Manuals, Methods of Construction, and Record Drawings to Engineer demonstrating performance of Work.
  - 1. Other requirements for submittals are specified under applicable sections of Standard Specifications and Special Provisions.

1.2 SUBMITTAL REQUIREMENTS

- A. General.
  - 1. Submit each under separate cover or transmittal.
  - 2. Furnish neat, legible, and sufficiently explicit detail to enable proper review for Contract compliance.
  - 3. Show complete and detailed fabrication; assembly and installation details; wiring and control diagrams; catalog data; pamphlets; descriptive literature; and performance and test data.
  - 4. Include calculations or other information sufficient to show comprehensive description of structure, machine, or system provided and its intended manner of use.
    - a. With each submission, furnish Engineer specific written notation and justification of each variation in Contractor's Submittals from requirements of Contract Documents.
    - b. Fabrication, purchase or delivery of materials to the site, and installation of materials or Work performed before approval, or not conforming to approved submittals, shall be at Contractor's risk.
  - 5. Engineer's review and approval of submittals shall not relieve Contractor from responsibility for fulfillment of terms of Contract, unless Engineer has received specific written notice of each variation and has given specific written approval.
  - 6. Contractor assumes all risks of error and omission.
  - 7. Contract Work, Materials, Fabrication, and Installation: Following approved submittals.
- B. Process and Requirements.
  - 1. Not later than 3 days after preconstruction conference (see Information for Bidders), submit written list of materials and equipment to be purchased, giving name, address, and telephone number of Supplier, Manufacturer, or processor.
    - a. Submit updated material and equipment list when changes are made.

2. Coordinate and schedule submittals with construction schedule and Engineer.
3. With the first submittal, but not later than 30 days after Notice to Proceed, submit a complete submittal schedule, listing as near as practicable and by Specification Section number, submittals required and approximate date submittal will be forwarded.
  - a. Arrange submittals schedule so that related equipment items are submitted concurrently.
  - b. Engineer may require changes to submittal schedule to permit concurrent review of related equipment.
4. To each submittal affix the following signed Certification Statement.
  - a. "Certification Statement: By this submittal, we hereby represent that we have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and pertinent data and we have checked and coordinated each item with other applicable approved drawings and all Contract requirements."
5. Identification.
  - a. Submit identification data, as applicable, contained thereon or permanently adhered thereto:
    - 1) The Commission Contract Number.
    - 2) Project name and location.
    - 3) Submittal Numbers:
      - a) Number sequentially as submitted.
      - b) Resubmittals shall bear original submittal number and be sequentially lettered.
    - 4) Product identification.
    - 5) Drawing title, drawing number, revision number, and date of drawing and revision.
    - 6) Applicable Contract Drawing Numbers and Specification Section and Paragraph Numbers.
    - 7) Subcontractor's, Vendor's and/or Manufacturer's name, address and phone number.
    - 8) Contractor's Certification Statement.
  - b. Identify on exterior, catalog product data or brochures submitted in packages of multiple items. Include page and catalog item numbers for items submitted.
    - 1) Highlight catalog, product data, or brochures containing various products, sizes, and materials to show particular item submitted.
    - 2) Mark items not applicable to Contract "not applicable" or cross out.
    - 3) If one or more items in catalog submittal are not approved, resubmit only unapproved items.
6. Stamp Space: Blank space of approximately 2-1/2 inches high by 4 inches wide adjacent to the identification data to receive Engineer's status stamp.
7. Number of Copies: See requirements in Submittals specified herein.
8. Approval Process.
  - a. Follow submittal schedule provided to Engineer. Engineer will return submittal within 30 days.
  - b. Submittals will be returned, marked with one of following classifications:

- 1) APPROVED: Requires no corrections, no marks.
- 2) APPROVED AS NOTED: Requires minor corrections. Items may be fabricated as marked without further resubmission. Resubmit 2 corrected copies to the Engineer.
- 3) APPROVED AS NOTED - RESUBMIT: Requires corrections. Items not marked may be fabricated. Resubmit entire submittal following original submission with corrections noted. Allow 30 days for checking and Engineer's appropriate action.
- 4) REJECTED: Requires major corrections or is otherwise not following Contract Documents. No items shall be fabricated. Resubmit entire submittal following original submission with corrections noted. Allow 30 days for checking and Engineer's appropriate action.
- 5) INFORMATION ONLY: Items specified by Contract Documents.

C. Electronic Submittals: PDF Format, as approved by Engineer.

### 1.3 SUBMITTALS

A. Schedules. (Excluding Area service connection contracts AC, LC)

1. Construction Schedule – Bar Chart Form.

- a. Within 15 days after construction start date in Notice to Proceed, prepare and submit to Engineer for review, feasible and reasonable schedule showing Order of Work and start and finish dates of salient milestones, referencing work by street name. Submit in Microsoft Project 2003 compatible format by digital delivery (email or CD) and 2 copies of printed format to Contract Manager. Show usage of entire Contract Time and include dates for submittals, approval of samples and submittals, and procurement of materials, plant, and equipment. Using sufficient detail, subdivide Work into activities on Construction Schedule, coordinate with breakdowns for lump sum items herein, to serve as basis for progress payments during construction.
- b. Furnish such additional information and data required by Engineer to justify basis of schedule precedent to mutual acceptance. Engineer's review and mutual acceptance of Contractor's schedule is for conformance to requirements of the Contract Document. Review and mutual acceptance by Engineer of Contractor's schedule does not relieve Contractor of any of its Contract Document responsibilities for accuracy or feasibility of schedule, or of Contractor's responsibility to meet interim project milestone dates and Contract completion date.
- c. Submit with each request for payment, in same format specified above, actual performance against scheduled performance on the mutually accepted construction schedule, including work added by change order. If Contractor fails to submit required updated schedule within time prescribed, Engineer may withhold approval of progress payment estimates until Contractor submits required current updated schedule.
- d. Use mutually accepted schedule for planning, organizing, directing, and executing Work and for reporting progress. Engineer may order and authorize

2. Construction Schedule - Critical Path Method.
  - a. When required and specified in Special Conditions, substitute CPM Construction Schedule that is feasible and reasonable, instead of chart form.
  - b. Within 15 days after construction start date in Notice to Proceed, prepare and submit a preliminary schedule in time-scale format, indicating planned operations during first 60 days. Include cost of activities expected to be completed or partially completed before submission and mutual acceptance of entire schedule.
  - c. Within 45 days after construction start date in Notice to Proceed, submit 5 copies of a complete network analysis system, showing usage of entire Contract Time, consisting of detailed network, mathematical analysis, and network diagram. Present schedule in the form of an Arrow Diagramming Method (ADM) CPM Network Diagram.
    - 1) Show order and interdependence of activities and sequence in which Work will be accomplished. Show how the start of a given activity is dependent on completion of preceding activities and how its completion restricts start of following activities.
    - 2) Show following detailed network activities on network diagram, in addition to construction activities;
      - a) Submittal and approval of samples and submittals.
      - b) Procurement of critical materials and equipment.
      - c) Fabrication of materials and equipment, their installation and testing.
      - d) Specified intermediate milestone or completion dates.
      - e) Show duration of each activity in working days, with minimum of 1 working day and maximum of 20 working days for any on site activity. Material and equipment related delivery activities are exempt from the maximum duration requirement.
    - 3) Group related activities on network and highlight activities on critical path. Time-scale network using units of approximately 1/2 inch equals 1 week or other suitable scale approved by Engineer. Indicate weekends and holidays. Where slack exists, show activities at earliest time they are scheduled to be accomplished. Use sheet size 22 inch by 34 inch minimum, or per Engineer's approval. Place title and revision block in lower right-hand corner. Give dummies duration of zero.
    - 4) Include tabulation of each activity shown on detailed network diagram in the mathematical analysis. Furnish following information as minimum for each activity:
      - a) Activity node numbers (I/J).
      - b) Activity description.
      - c) Duration of activity in units of working days.
      - d) Earliest start date (by calendar date).
      - e) Earliest finish date (by calendar date).
      - f) Scheduled or actual start date (by calendar date).
      - g) Scheduled or actual finish date (by calendar date).

- h) Latest start date (by calendar date).
  - i) Latest finish date (by calendar date).
  - j) Slack or Float (working days).
  - k) Activity percent complete and remaining duration.
  - l) Monetary value of activity.
  - m) Responsibility code for each activity (Prime Contractor, subcontractors, suppliers, the Commission).
  - n) Manpower required by trade and by total.
  - o) Equipment required.
- 5) List activities in sorts or groups in mathematical analysis:
- a) Ascending activity node number (I/J).
  - b) Amount of total float, then in order of activity number.
  - c) Latest start date, then in order of activity number.
  - d) Responsibility in order of earliest start date.
- 6) To facilitate review of payment requests, submit separate sort consisting of activities to which monetary values are assigned. Organize by node number from lowest to highest and then in order of following node number. As minimum for each monetary activity furnish:
- a) Activity node numbers (I/J).
  - b) Activity description.
  - c) Monetary value of activity.
  - d) Previous amount.
  - e) Current amount.
- 7) Furnish initial submittal and revisions in 3 copies.
- d. Review of system:
- 1) Participate in Engineer's review and evaluation of proposed network diagrams and analysis. Resubmit revisions necessary as a result of this review to Engineer within 10 days after conference. Allow 20 days for Engineer's checking and further action.
  - 2) Progress payments will be withheld pending attainment of mutually acceptable schedule. Engineer's review and mutual acceptance of Contractor's schedule is for conformance to requirements of the Contract Document. Review and mutual acceptance by Engineer of Contractor's schedule does not relieve Contractor of any of its Contract Document responsibilities for accuracy or feasibility of schedule, or of Contractor's ability to meet interim project milestone dates and Contract completion date, nor does such review and mutual acceptance expressly or impliedly warrant, acknowledge or admit the reasonableness of the logic, durations, manpower, or equipment loading of Contractor's schedule.
  - 3) Contractor shall use mutually accepted schedule for planning, organizing, directing, and executing Work and for reporting progress.
  - 4) To make subsequent changes to method of operating and scheduling, submit written request separately to Engineer for review, stating reasons for change(s). For major changes, Engineer may require Contractor to revise and submit, without additional cost to the Commission, all affected portions of network diagram and mathematical analysis to show effect on entire

- e. Furnish to Engineer scheduling software approved by and compatible to the current Commission operating system within 15 days after date in Notice to Proceed. Submit to Engineer CPM schedule data on disk, CD, or acceptable product with each schedule submittal and update.
  - f. Submit at 30-day intervals a report of actual construction progress by updating mathematical analysis sorts and graphically generating and reproducing a copy of current network diagram. Include issued change orders in updated schedule. Revise network diagram as described above and as necessary for clarity.
  - g. Show activities or portions of activities completed during reporting period and their total value as basis for Contractor's periodic request for payment. Coordinate these activities or portions of activities with breakdown for lump sum items herein. State percentage of Work actually completed and scheduled as of report date and progress along critical path in terms of days ahead or behind mutually accepted schedule dates.
    - 1) If project is behind schedule, report progress along other paths with negative slack. Engineer will review percentage of work actually completed following procedures set forth in General Conditions Article 22.
    - 2) If Contractor fails to submit required monthly reports and updates within time prescribed, Engineer may withhold approval of progress payment estimates until Contractor submits acceptable required reports and updates. Submit 3 copies of report for each update.
  - h. Simultaneously submit a narrative report with updated analysis, which shall include but not be limited to description of problem areas, current and anticipated delaying factors, their impact, and an explanation of corrective actions taken or proposed.
  - i. Float or slack is defined as difference in working days between earliest start date and latest start date, or difference between earliest finish date and latest finish date of any activity of mathematical analysis of 2., c., 4) herein. Float or slack is not for exclusive use of Contractor or the Commission.
  - j. Requests for Contract Time extension:
    - 1) Accompanied by revised schedule, or portion thereof, and mathematical analysis.
    - 2) Based on affect of controlling delays to the Work as a whole.
3. Schedule of Breakdown for Each or Lump Sum Items:
- a. Before first application for payment, submit to Engineer schedule of breakdown for lump sum items, aggregating total amount bid for each. Include with each breakdown its proper share of overhead, profit, and applied General Conditions. Subdivide Work into activities on Construction Schedule in sufficient detail.

- b. Prepare schedule of breakdown in form acceptable to Engineer and furnish with data to substantiate its correctness as Engineer may require.

B. Shop Drawings.

1. For original submittal and each subsequent resubmittal required, submit 1 each reproducible transparency and 6 legible prints. Engineer will return 3 copies of shop drawing prints.
2. Show types, sizes, accessories, and layouts, including plans, elevations, and sectional views; component, assembly, and installation details; and all other information required to illustrate how applicable portions of Contract requirements will be fabricated and/or installed.
3. In case of fixed mechanical and electrical equipment, submit layout drawings drawn to scale, to show required clearances for operation, maintenance, and replacement of parts. Include manufacturer's certified performance curves, catalog cuts, pamphlets, descriptive literature, installation, and application recommendations, as required. Submit together shop drawings for closely related items such as a pump and its motor. Additional shop drawings and information required for electrical and mechanical equipment are listed in appropriate Specification Sections.
4. Shop drawings for continually furnished items such as pipe, fittings, valves, precast structures and metal work will be waived provided Contractor submits letter naming manufacturer who will furnish these items. Manufacturer shall have on file certified drawing(s) containing above information approved by the Commission, and items furnished shall be as described on certified drawing(s). If Standard Details or Specifications change after certified drawings are approved, new submittals are required.

C. Catalog Data.

1. For original submittal and each subsequent resubmittal required, submit 12 copies of catalog data. Engineer will return 3 copies.
2. Manufacturer's Catalog, Product, and Equipment Data: Certified and include material type, performance characteristics, voltage, phase, capacity, and similar data.
  - a. Furnish wiring diagrams when applicable.
  - b. Indicate catalog, model, and serial numbers representing specified equipment.
  - c. Submit complete component information to verify specified required items.

D. Working Drawings.

1. For original submittal and each subsequent resubmittal required, submit 1 each reproducible transparency and 6 legible prints. Engineer will return 3 copies.
2. Submit working drawings as required for changes, substitutions, Contractor design items, and Contractor designed methods of construction. Requirements for working drawings are listed in appropriate Specification Sections or in Special Provisions.
3. Include with drawings calculations or other information to completely explain structure, machine, or system described and its intended use. Review or approval of drawings by Engineer shall not relieve Contractor from responsibility for fulfillment

4. Submit working drawings and calculations sealed, dated, and signed by Professional Engineer registered in State of Maryland and experienced in the work or discipline involved.

E. Method of Construction.

1. For original submittal and each subsequent resubmittal required, submit 12 copies of data detailing method of construction. Engineer will return 3 copies.
2. When Engineer specifies or directs, submit proposed method of construction for specific portions of Work.
  - a. Include detailed written description of phases of construction operation to fully explain to Engineer proposed method of construction.
  - b. If required by Specifications, submit working drawings to supplement description.
3. Engineer review will follow the process herein and shall not relieve Contractor from responsibility for fulfillment of terms of Contract. Contractor assumes risks associated with proposed method.
4. After review, submit requests for modifications in detail, including justification for them. Do not implement modifications prior to Engineer's review.

F. Manufacturer's Installation Recommendations.

1. For original submittal and each subsequent resubmittal required, submit 12 copies of manufacturer's installation recommendations. Engineer will return 3 copies.
2. Furnish written detail for step by step preparation and installation of the materials and products, including recommended tolerances and space for maintenance and operation.

G. Samples.

1. General: As soon as practicable after Notice to Proceed, submit samples required by Specifications or at Engineer's request. Unless otherwise specified, submit 3 samples of each item as original submittal.
2. Obtain approval before delivery of material to Contract site.
3. Samples: Representative of actual material proposed for use in project and of sufficient size to demonstrate design, color, texture, and finish when these attributes will be exposed to view.
  - a. If samples deviate from Contract Documents, advise Engineer in writing with submittal and state reason.
4. Identification.
  - a. Permanently attach to each sample:
    - 1) The Commission Contract Number.
    - 2) Project Name and Location.
    - 3) Product Identification.
    - 4) Applicable Contract Drawing and Specification Section Number.
    - 5) Subcontractor's, Vendor's and/or Manufacturer's Name, Address and Phone Number.



- b. Mail under separate cover a letter submitting each shipment of samples containing identification information listed herein. Enclose copy of this letter with shipment.
- 5. Approval Process.
  - a. Allow 30 days for Engineer's checking and appropriate action. Certain samples may be tested for specified requirements by the Commission before approval. Failure of sample to pass tests will be sufficient cause for refusal to consider further samples of same brand and make of that material.
  - b. Rejected samples will be returned upon request, and resubmittals required shall consist of 3 new samples and an additional 30 days for review. Only 1 test of each sample proposed for use will be made at expense of the Commission. When originally submitted sample fails, retesting of additional samples will be made by the Commission at expense of Contractor. Upon approval, 1 sample so noted will be returned, and remainder will be retained by Engineer until completion of Work.
  - c. Samples of various material or equipment delivered to site or during placement may be taken by Engineer for testing. Samples failing to meet Contract requirements will automatically void previous approvals, and resubmittal of samples will be required.

#### H. Record Drawings (As-builts).

- 1. Unless otherwise indicated, Engineer will be responsible for preparation and maintenance of record drawings. Coordinate and cooperate with Commission personnel in preparation. Do not permanently seal or bolt manhole covers until after as-built surveys have been made. Assist Commission personnel as required in ascertaining necessary location information.
- 2. When so specified in Special Conditions or as specified in these Contract Documents, maintain 1 record copy of Contract Documents at site in good order and annotated to show revisions made during construction. Keep annotations current for possible monthly inspection.
  - a. Make record drawings available to Engineer at all times during life of Contract. Upon request, the Commission will furnish 1 set of reproducible of original Contract Drawings and sample record drawing, showing required style and quality, for this purpose.
  - b. Drawings: Made part of record drawings and to include:
    - 1) Contract Drawings: Annotate or redraft, as required, to show revisions, substitutions, variations, omissions, and discrepancies made or discovered during construction concerning location and depth of utilities, piping, ductbanks, conduits, manholes, pumps, valves, vaults, and other equipment. Make revisions and show on all drawing views with actual dimensions established to permanent points.
    - 2) Working/Layout Drawings: When required as submittals, record actual layouts of conduit runs between various items of electrical equipment for power, control, and instrumentation; wire sizes, numbers, and functions; configuration of conduits; piping layouts; and duct layouts. Add sections

- c. Before preliminary inspection, furnish reproducible of record drawings. At completion of Contract and before final payment is made, furnish Engineer 1 set of reproducible of finally approved record drawings reflecting revisions herein described. Furnish Engineer record drawing data on disk or CD, in format compatible with the Commission's software.

I. Operation and Maintenance Manuals.

1. Furnish Operation and Maintenance Manuals for various types of equipment and systems, as required by Contract Documents. Unless otherwise indicated, furnish separate manual for each piece of equipment and system. If manual contains other items or equipment, indicate where specified items are located in manual. Include in manual complete information necessary to operate, maintain, and repair specific equipment and system furnished under this Contract, and include the following specific requirements;
  - a. Contents.
    - 1) Table of Contents and Index.
    - 2) Brief description of equipment/system and principal components.
    - 3) Starting and stopping procedures, both normal and emergency.
    - 4) Installation, maintenance, and overhaul instructions including detailed assembly drawings with parts list and numbers, and recommended spare parts list with recommended quantity, manufacturer's price, supplier's address, and telephone number.
    - 5) Recommended schedule for servicing, including technical data sheets that indicate weights and types of oil, grease, or other lubricants recommended for use and their application procedures.
    - 6) One copy of each component wiring diagram and system wiring diagram showing wire size and identification.
    - 7) One approved copy of each submittal with changes made during construction properly noted, including test certificates, characteristic curves, factory and field test results.
    - 8) For electrical systems, include dimensioned installation drawings, single line diagrams, control diagrams, wiring and connection diagrams, list of material for contactors, relays and controls, outline drawings showing relays, meters, controls and indication equipment mounted on equipment or inside cubicles, control and protective schematics, and recommended relay settings.
  - b. Material:
    - 1) Covers: Oil, moisture, and wear resistant 9 inches by 11-1/2 inches size.
    - 2) Pages: 60 pound paper 8-1/2 inches by 11 inches size with minimum of 2 punched holes 8-1/2 inches apart reinforced with plastic, cloth, or metal.
    - 3) Fasteners: Metal screw post or Acco metal strap type.
    - 4) Diagrams and Illustrations: Attach foldouts, as required.
    - 5) Legible Original Quality: Reproduced by dry copy method.
2. Copies:

- a. Submit 6 preliminary copies of manuals for review and approval no later than date of shipment of equipment. Installation shall not begin until manuals are accepted by Engineer. Include in preliminary copies all items required under "Contents" above. Three copies will be marked and returned to Contractor.
- b. Deliver 7 copies of finally approved manuals to Engineer before Engineer's inspections and tests required in Section 01450.

J. Substitutions: See Section 01630.

PART 2 PRODUCTS  
NOT USED

PART 3 EXECUTION  
NOT USED

PART 4 MEASUREMENT AND PAYMENT

4.1 Providing for and complying with requirements in this Section will not be measured for payment, but cost will be considered incidental to Contract.

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