

SPECIFICATION SECTION 01200

CONTRACTOR'S DRAWINGS

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SPECIFICATION SECTION 01200 - CONTRACTOR'S DRAWINGS

1. DESCRIPTION

The Specification Section prescribes the requirements for the preparation and submission of the following drawings (herein referred to as Contractor's Drawings), which shall be prepared and submitted to the Engineer by the Contractor except where noted otherwise:

Construction Drawings	<p>Construction drawings are normally issued by (or on behalf of) the Employer for the construction of the Permanent Works. Supplementary drawings issued during the execution of the Works also constitute construction drawings. All such drawings are referred to as the Drawings under subclause 1.1.1.6 of the Conditions of Contract.</p> <p>Tender drawings are the drawings which are issued with the bid documents to enable the Contractor to estimate his rates on the basis of details in these drawings. The Contractor shall not use the tender drawings for the construction of the Permanent Works.</p>
Shop Drawings	<p>These are detailed construction and fabrication drawings that show materials, shape, size and assembly of parts and how the entire unit will be installed; mainly for the Permanent Works to facilitate an adequate control of the work. Shop drawings are prepared by the Contractor, subcontractors, suppliers or manufacturers, and are submitted to the Engineer for his review, comments, or approval. A bar bending schedule is a good example of a shop drawing.</p>
Working Drawings	<p>These are drawings mainly for the Temporary Works, illustrating the construction methods to be applied for the works, such as access ways, cofferdams, falseworks, temporary support systems, formwork. In general, the Engineer's approval is not required</p>
Other Drawings	<p>These are drawings which compliment submitted Shop Drawings or Working Drawings, with supplemental documents.</p>
As Built Drawings	<p>Prepared by the Contractor upon completion of certain part of the Works to show in detail all the Works actually constructed.</p>

2. REQUIREMENTS

2.1 General

- (a) The requirements herein established shall be applied to the requirements and provisions stated in subclause 4.1, Contractor's General Obligation of the Conditions of Contract and to the requirements for the Contractor's submittals stated in Specification Section 01150.
- (b) Based on the Drawings supplied to the Contractor as stated in subclause 1.8, Care and Supply of Documents of the Conditions of Contract, the Contractor shall prepare all Contractor's Drawings required for the execution of the Works as specified herein.
- (c) The Contractor shall be responsible for the following:
 - (i) Confirmation and correlation of all incorporated information;
 - (ii) Accuracy of all dimensions and quantities;
 - (iii) Information pertaining to the fabrication and construction method;
 - (iv) Handling and keeping all the Contractor's Drawings in good condition;
 - (v) Delays in the submittals;
 - (vi) Execution and submission to the Engineer of a construction survey for the preparation of shop drawings and method statements and
 - (vii) Submission to the Engineer by the Contractor of all Contractor's Drawings prepared by subcontractors, manufacturers, suppliers or distributors.
- (d) The Contractor shall provide all the necessary information to substantiate that all materials and/or plant incorporated into the Works; conform to, meet or exceed the requirements of the Specifications and/or the Drawings.
- (e) The Contractor shall provide all necessary and/or required Contractor's Drawings, calculations and certifications for all Temporary Works as required or described in the Specification Sections.
- (f) No more than two submittals per item are required, provided that:
 - (i) If additional submittals are required, due to the actions or inactions of the Contractor, any delays shall be the Contractor's responsibility.
 - (ii) Any additional costs that may be incurred by the Employer or the Engineer due to the review of submittals more than twice shall be to the account of the Contractor.
 - (iii) The Employer may at any time, after advising the Contractor of such additional costs for submittal review, recover such costs from money due or money which will be due to the Contractor.

- (g) Failure by the Contractor to comply with the requirements of this Specification Section shall be considered as a serious default in meeting his contractual obligations under subclause 4.1 of the Conditions of Contract. In this situation, the Engineer will adjust the value of the work in the Interim Payment Certificate(s) as foreseen in subclause 14.6(b) of the Conditions of Contract.
- (h) Unless otherwise specified, all time required for review, submittal and approval for the Contractor's Drawings shall not be the basis for any claim for an extension to the Time for Completion of the Works or additional cost.

2.2 Requirements for the Contractor's Drawing Preparation

- (a) All the Contractor's Drawings shall be prepared using Auto-CAD 2012 in a sheet format previously approved by the Engineer.
- (b) Notes shall be written in English and when required, in Vietnamese.
- (c) All dimensions shall utilize the metric system.
- (d) The format of the Contractor's Drawings shall be as shown in Figures 1 and 2:
- (e) The Contractor's Drawings shall be stamped "Submitted for Approval for Construction" and shall be signed by the Contractor's quality control manager.
- (f) Design notes, calculations, lists, reports, descriptions, catalogue cuts and other submittals other than drawings shall be submitted on A4 size sheets.
- (g) Unless otherwise specified each submittal of the Contractor's Drawings to the Engineer shall consist of five copies, one set of which will be returned to the Contractor with revisions, if needed, noted thereon.
- (h) Editable electronic files in the approved application format of the Contractor's Drawings, which are subject to the Engineer's approval, shall be provided to the Engineer after receipt of the approval status.
- (i) Submittals without the required signatures and stamp will not be accepted by the Engineer and will be returned to the Contractor without action.

Figure 1: Format of the Contractor's Drawings

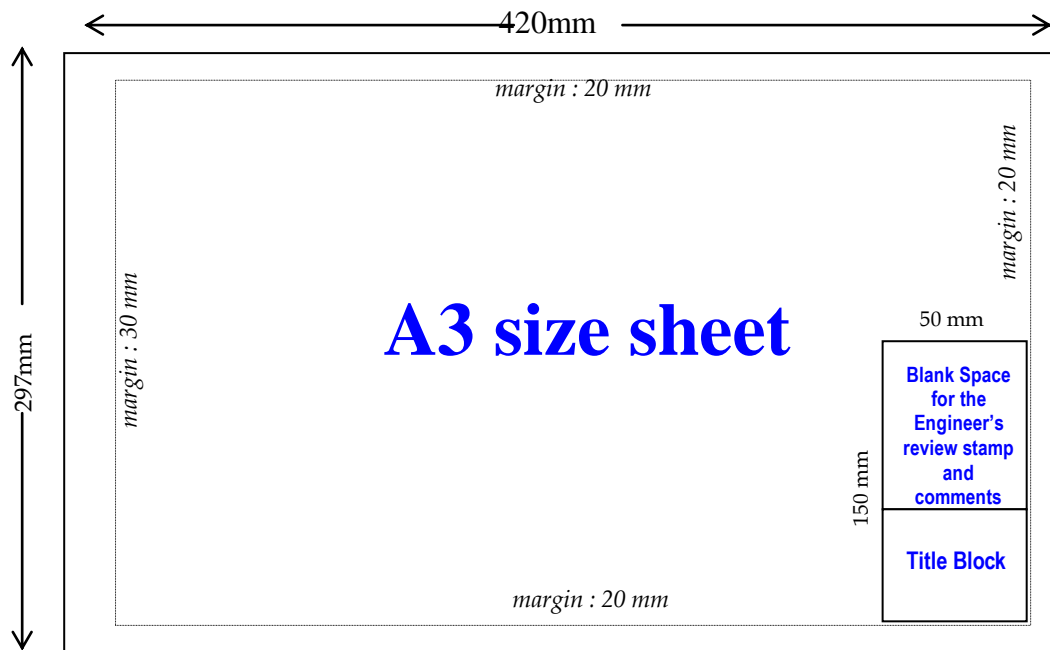
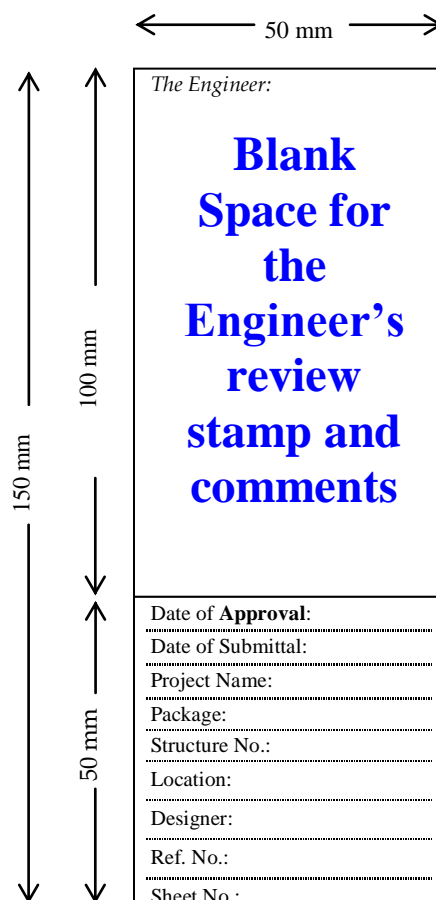


Figure 2: Detail for Blank Space for the Engineer's Review Stamp



2.3 Requirements for Submittal and Approval

2.3.1 Submittal Schedule (the Contractor's Drawing Schedule)

- (a) The Contractor's Drawing Schedule shall be consistent with the activity time frames in the Programme specified in Sub-Clause 8.3 of the Conditions of Contract.
- (b) The Contractor shall prepare and submit to the Engineer a submittal schedule for the Contractor's Drawings, noting all required information and data required for the Contractor's Drawings and incorporate the same in the Program.
- (c) The Contractor's Drawing Schedule shall be used as the document for monitoring the submittals and to register the approvals throughout the Contract.
- (d) The Contractor's Drawing Schedule shall include but not be limited to, the following:
 - (i) A list of the Contractor's Drawings to be submitted in accordance with the main items of the Program. The captioned list shall be classified by type of drawing (i.e. Shop Drawings, Working Drawings, Other Drawings or As Built Drawings);
 - (ii) A bar schedule of the main submittals pertaining to the main work items on the critical path using the dates therein as a milestone for each submittal and
 - (iii) A schedule of the tests and trials pertaining to the materials incorporated in the major work items, which are subject to approval by the Engineer. This list shall include also the submittals of certifications from the suppliers.
- (e) The register of each submittal shall include the following:
 - (i) A description of each submittal and its contents including the identification of the applicable specifications;
 - (ii) Identification of the purpose of the submittal; i.e. information consent, approval, etc.;
 - (iii) The date of the submittal: the date of submittal to the Engineer and the required date for return of the submittal;
 - (iv) A resubmittal shall reflect the submission and return dates and the status of the returned submittal (i.e. approved as noted, the comments, or rejected); and
 - (v) In the event that a deviation from the requirements shown in the Drawings and the Specifications is required, then this shall be clearly identified by the Contractor in the respective submittal.

- (f) The Drawing Schedule shall be updated monthly or when required by the Engineer or the Contractor
- (g) The Contractor shall include in his Monthly Report, a summary describing the existing status and the progress of the Contractor's Drawings.

2.3.2 Requirements and Procedure for the Approval

- (a) Submittals of the Contractor's Drawings shall be made in complete packages according to the approved Contractor's Drawing schedule and Program and shall include all the necessary information to allow verification of conformity with the requirements of the Contract, the Drawings and the Specifications.
- (b) Upon receipt of a submittal package by the Engineer it will be evaluated for completeness and the Contractor will be notified of any deficiencies therein.
- (c) The Engineer will review the submitted Contractor's Drawings to determine; general conformity with the design concept and general compliance with the Drawings and the Specifications.
- (d) Any work done by the Contractor prior to the Engineer's approval of the Contractor's Drawings shall be at the Contractor's sole risk.
- (e) The Engineer may request additional details and require the Contractor to make changes to the submitted Contractor's Drawings, which are necessary to conform to the provisions shown in the Drawings and the Specifications (without additional cost to the Employer).
- (f) After review, the Engineer will return one set of submitted Contractor's Drawings to the Contractor. Returned drawings will be stamped with the Engineer's review stamp to indicate one of the following conditions:

Approved:	The submitted Contractor's Drawings have been reviewed and do not require resubmittal
Approved as Noted:	The submitted Contractor's Drawings have been reviewed and the Contractor shall incorporate the comments as noted in the drawings. The reviewed Contractor's Drawings do not require resubmittal.
Reviewed and Resubmit:	The submitted Contractor's Drawings require correction or redrawing and shall be resubmitted for further review. If the submitted Contractor's Drawings are returned for correction or redrawing the corrections shall be made and the Contractor shall resubmit them in the same manner as the first Submittal. Specific notations shall be made on the resubmitted drawings to record the revisions made.

- (g) The Contractor's Drawings that have been determined by the Engineer either as "Approved" or "Approved as Noted" shall be incorporated in the next update of the Contractor's Drawing Schedule and shall be available at the Site at all times.

2.4 Particular Requirements for the As Built Drawings

- (a) The procedures established in subsection 2.3.2 of this Specification Section for approval of the Contractor's Drawings shall be followed for the as built drawings.
- (b) The Contractor shall prepare, in consultation with the Engineer, the final format to be used for preparation of the as built drawings (including relevant documents such as drawings, completed quantities and backup data)
- (c) The procedure specified in the clause 10 of the Conditions of Contract for the issue of the Taking-Over Certificate shall be suspended if, within 10 days after the submittal of the Contractor's request for the issue of the said Certificate, the Contractor fails to submit the as built drawings prepared as herein specified to the Engineer for his review and approval.
- (d) The Contractor shall initially submit 2 sets of quality prints of the as built drawings to the Engineer for review, comment and approval. As built drawings shall be submitted in turn according to the Contractor's Drawing Schedule. Notwithstanding the schedule submission of the as built drawings shall be made within 28 calendar days of the physical completion of a particular part or section of the Works.
- (g) After all the changes or comments required by the Engineer have been addressed and the as built drawings have been approved the Contractor shall submit to the Engineer the following:
 - One (1) original and six (6) clear photocopies and
 - One (1) DVD copy containing the electronic files of all the as built drawings in an editable version.

2.5 Drawing Copyrights

The rights for; using, copying reproducing, in part or entirely, all of or any part of the Contractor's Drawings shall belong the Employer at any time and in any situation.

3. MEASUREMENT AND PAYMENT

3.1 Method of Measurement

The Contractor's Drawing shall be measured for payment as a lump sum.

The Contractor's Drawings provisions and requirements identified in this Specification Section shall be measured for payment in pay item 01200-01.

Any Works relating to Contractor's Drawings not specifically identified in this Specification Section but which are necessary for the performance of the Works shall be deemed included in pay item 01200-01.

3.2 Basis of Payment

The work under this Specification Section shall be paid for in accordance with the applicable unit prices as indicated in the Bill of Quantities and given below. Payment shall constitute full compensation for performing the requirements of the Contract for the item of work specified including furnishing all necessary labor, materials, equipment, incidentals.

Payments shall be made in the following three installments:

- ◆ **20%** (twenty percent) upon the issuance of (1) the Engineer's approval of the construction survey for shop drawings and method statements and (2) the Engineer's approval of documents or materials prepared for each respective class of Contractor's Drawings (except as built drawings) as required herein and submitted by the Contractor for the first time after commencement of the Works;
- ◆ **50%** (fifty percent) over the duration of the Contract construction period prorated to the progress of the Works expressed in financial terms through the Interim Payment Certificates, upon the Engineer's certification of the Contractor's compliance with the requirements of this Specification Section and no delays in the submittals were reported by the Engineer; and
- ◆ **30%** (thirty percent) upon; the issue of the Engineer's approval of all the Contractor's Drawings submitted and the issue of the Taking-Over Certificate; whichever is later.

<u>Pay Item</u>	<u>Description</u>	<u>Unit</u>
01200	Contractor's Drawings	
01200-01	Survey and Preparation of Contractor's Drawings	LS