

# Chapter 18

## Construction Contract Administration

### 18.1 Introduction

Many projects allocate more time to procurement than to administering the contract. This often leads to problems in Contractor performance, cost overruns, and delays in receiving goods and services. The real benefits of undertaking the procurement process can be achieved after the contract is awarded, so more attention needs to be placed on ensuring that the contract is implemented as intended and agreed.

In general, the contract administration role begins when design begins and ends when the project has been completed and accepted or it has been terminated and payment has been made after resolving the dispute. The early involvement of the Contract Administrator is valuable because there are many decisions that must be made during the preconstruction phase of the project. These decisions include choices that affect cost, procedures, and constructability. However, the main role of the Contract Administrator starts post award dealing primarily with the management of risks, monitoring performance to ensure that the objectives of the contract are met on time and within budget, and also detecting anything that might go wrong including suspension or termination of the contract.

Contract administration involves making decisions and the timely flow of information to enable completion of the project as required by the Contract Documents including review and observation of the construction project. This is important to all parties not only to determine that the work is proceeding in conformity with the Contract Documents but also because it ensures that their contractual obligations are fulfilled and legal rights protected.

Improving contract administration practices will help to achieve excellence in Contractor performance so that the buyer receives goods and services on time and within budget. Good contract administration assures that the end users are satisfied with the product or service being obtained under the contract.

## 18.2 Contract Administrator

The Contract Administrator is the individual responsible for administering the construction contract (s). Contract administration involves numerous tasks occurring before and after contract execution. All work must be administered in accordance with the contract specifications, terms and conditions, provincial and federal laws and regulations, and department policy.

The Contract Administrator may be the Engineer or Architect, lead Consultant, the cost Consultant, or an Owner or Consultant's representative. This chapter will address the role of the Contract Administrator who acts as a representative of the Consultant.

Any construction project has many phases, and in most of the phases, the Contract Administrator's involvement is essential and valuable. Good contract administration is required to manage design specifications, contractual agreements, geotechnical investigations, product quality assurance, competitive tendering, evaluation, cost control, changes, final accounts, claims, and disputes. The Contract Administrator should possess thorough knowledge and understanding of the standard specifications, building codes and standards, project plans, construction techniques and methods, ability to understand and interpret the Contract Documents, and ability to communicate, negotiate, and resolve disputes and understand the administrative procedures established in the Contract Documents.

In general, the Contract Administrator's role includes:

1. Reviewing bid documents and processing bids
2. Receiving and evaluating and act on change proposals
3. Negotiating cost and schedule impacts related to change orders and other contract modifications
4. Reviewing and certifying payments under the Progress Payments clause
5. Monitoring progress for general conformity to the Contract Documents and prepare field reports of site observations
6. Issuing site or supplementary instructions when required
7. Seeking instructions from the Owner in relation to the contract
8. Processing shop drawings and request for information (RFI), coordinating receipt, tracking, and responses
9. Reviewing, evaluating, and responding to Contractor claims
10. Chairing construction progress meetings and preparing meeting minutes
11. Preparing and issuing construction progress reports
12. Preparing change order, contingency, RFI, and such other logs
13. Ensuring contractor compliance with quality assurance requirements
14. Monitoring commissioning and testing procedures
15. Processing disputes under the disputes clause
16. Ensuring project closing is handled properly and smoothly
17. Coordinating and communicating regularly with all stakeholders (contractors, owners, design team, and authorities having jurisdiction) to help achieve success for each project

These roles are further described under different project phases below.

## 18.3 Project Phases

Broadly, the project phases can be divided into three parts: preconstruction phase, construction phase, and post-construction phase.

### 18.3.1 *Preconstruction Phase*

It will be more convenient to understand the role of Contract Administrator throughout the preconstruction phase based on various stages:

- *Document stage:* Once the Consultant design team completes the project design based on the Owner's requirements and budget, the Consultant starts preparing the bid package which includes the contracting requirements, drawings, and specifications (Contract Documents). Prior to issuing Contract Documents for bidding, the Contract Administrator can add value by reviewing these documents. Many potential conflicts or deficiencies can be avoided by allowing the Contract Administrator, to review the Contract Documents as a final peer review. This will give the Contract Administrator opportunity to become familiar with the overall project and to find and resolve conflicts and deficiencies before they become issues during construction. This initial effort can help speed up construction and reduce construction costs.
- *Bidding stage:* After satisfactory review of Contract Documents by the Contract Administrator, the documents are issued for bidding. During the bidding stage, the Contract Administrator assists with processing Contractor inquiries, issuing of addenda and conducts the pre-bid conference to review the scope of work, contracting requirements, and project site conditions.

The Architect or Consultant is advisory to the Owner who will make the final decision to award a contract based on the bidding requirements. The Contract Administrator in conjunction with the Design Team will evaluate the bid submission, review the requirements listed in the instructions to Bidders, and verify proper bid forms are completed included with bid pricing. Ensure list of subcontractors and bidding Contractor's information is provided. Tabulating the bids and posting the results is also part of the Contract Administrator's responsibilities. After bid evaluation the Contract Administrator issues a recommendation to the Owner to award the contract to the successful bidder based on parameters established in the Contract Documents.

### 18.3.2 *Construction Phase*

The construction phase starts when the Owner issues a "notice to proceed" to the Contractor. This phase begins when the Contractor has entered into a formal agreement with the Owner. Construction is a team effort that includes contractors,

subcontractors, testing agencies, designers, consultants, Owner's own forces, suppliers, and others, all working toward the common goal of completing the project ready for its intended use. The basic responsibilities of those involved in the construction process are stipulated in the Contract Documents. The construction phase involves many stages and is discussed as follows:

1. *Administrative Submittals*: Before commencement of construction activities, certain submittals are required to be provided by the Contractor. These establish a base line for site review efforts, cost analysis, and processes and procedures during construction. Administrative submittals may include the following project information or documents:

- *Submittal schedule*: Frequently, the Contract Documents include a provision that obliges the Contractor to submit a schedule of submittals. Submittals are important communication tools for coordination and timely execution of projects. Submittals usually consist of shop drawings, samples, concrete and asphalt mix designs, construction schedules, quality control and safety plans, traffic control plans, and such other required documents as specified under the contract. Submittals are used to review the progress and material being used ensuring that everything is in agreement with the contract requirements.

The Contractor prepares a submittal schedule reviewing each section of the Contract Documents and considers lead times needed for submittal preparation and reviews. The Contractor should add additional review time into the schedule for subcontractors and suppliers. The Contract Administrator's responsibility is to review time limits and encourage the Contractor to get submittals to the Consultant with sufficient lead time to avoid construction and delivery delays. The Contractor is also encouraged to provide the Contract Administrator with a master submittal list with anticipated time lines for advanced review. The Contractor should not proceed with fabrication or delivery of materials until related submittals are approved.

- *WSIB certificates, bonds, and insurance policies*: Before starting any construction on site, the Contractor has to submit required WSIB certificate, bonds, and insurance policies. The Contract Administrator has to receive these documents from the Contractor, review, and forward to the Owner for his review and record.
- *Subcontractor lists*: If the Contractor has not submitted the subcontractors list for the project at bidding time, then the Contract Administrator must insist upon its submittal prior proceeding with the construction. If the Owner or the Consultant has any objections to any of the proposed subcontractors, the Contractor is notified in writing by the Contract Administrator. An alternative subcontractor must then be proposed, at no additional cost to the Owner. The Contract Administrator shall review and request confirmation of the subcontractor qualifications or certifications prior to acceptance of the final subcontractors list.

- *Schedule of values*: The Contractor is required to submit a schedule of values as the basis of the Contractor's applications for payment. The schedule of values breaks the work down into smaller cost-loaded portions of the work that become the basis for determining the percent of work complete. The schedule of values includes the total contract sum including allowance items and contract modifications. The schedule of values needs to be approved before an invoice is submitted by the Contractor. As construction proceeds, the schedule of values is updated to include amounts authorized by change order. On a regular basis the Contract Administrator shall review submitted payment applications against the approved schedule of values. The payment applications shall be verified for accuracy and for correct amounts reflecting actual percentage of work completed and materials stored at site or in store. The payment application is then forwarded to the Owner with a recommendation for payment as submitted or as adjusted.
- *Construction progress schedule*: Once the project is awarded, the Contractor prepares a proposed work schedule in accordance with the Contract Documents. The schedule is submitted to the Contract Administrator for review and acceptance. The main objective of the construction schedule is to document and communicate the Contractor's intended work plan and provide a baseline for monitoring progression of the work. Schedules should indicate the completion of the project within the allowable contract time. If the schedule does not reflect a reasonable or feasible plan to construct the project in the stipulated time period or the schedule is not prepared according to the specifications, the schedule will be returned to the Contractor for modifications.

The important aspects of a construction schedule is the contract performance periods, milestone events, submittal review/approval dates, product lead times, and activity durations. These activities in the construction schedule provide key information to the Consultant who will be scheduling time for field observations, submittal review, and project closeout activities. The regular project coordination meetings are an opportunity for the Contract Administrator to review construction progress and adherence to the schedule by the Contractor. The importance of maintaining the construction progress is to ensure delivery of the project on time.

The requirements of construction schedule are also emphasized in CCDC-2 [4] and FIDIC [8] forms of contract. CCDC-2 clause 3.5 requires that the Contractor shall submit a construction schedule to the Owner and Consultant before the first application for payment that indicates the timing of the major activities of the work with sufficient detail of the critical events, to demonstrate the work will be performed in conformity with the contract time. The Contractor is also required to update the schedule on a monthly basis or as specified in the Contract Documents informing the Consultant of any revisions required to the schedule as the result of extensions of the contract time.

Whereas FIDIC [8] Sub-clause 14.1 provides that within a set time of the letter of acceptance, the Contractor shall submit his program, for approval, in the form

required by the Engineer. He shall also provide a written method statement as and when required by the Engineer. In continuity, the Sub-clause 14.2 specifies that if the Engineer considers that progress does not match the approved program, he may require the Contractor to produce a revised program showing how the works are to be completed on time.

2. *Preconstruction Meeting:* A preconstruction meeting is a valuable first step toward good communications in contract administration process. It is the first meeting with the project team and must be attended by all the major participants in the construction phase including Owner, Prime Consultant, Sub-consultants, Contractor, and major subcontractors. This meeting would highlight the base elements for the project and other project planning and scheduling activities. Preconstruction meeting introduces the members of the project team and the Owner and provides an opportunity to discuss the role of each team member.

This is a very important meeting and becomes critical to the success of this phase, by establishing the construction phase procedures and by identifying milestones, areas of special requirements, lines of communications and key contacts, submittal processes (shop drawings/samples), changes to the Contract Documents, payment procedures, and goals and objectives of the project. A successful preconstruction meeting will result in better communication and a more successful construction phase. If there are any issues to be raised regarding execution of the Construction Documents or the use of the site, it is during the preconstruction meeting that these issues are reviewed, and any restrictions are established. The Contractor is encouraged to disclose his initial mobilization efforts and any special requirements for set-up and planning construction.

An agenda should be prepared for all preconstruction meetings and sent to all invited parties with the notice of the meeting. The project size and complexity will determine the information to be covered in a preconstruction meeting. Some of the typical items that should be discussed at the preconstruction meeting include the following:

- (a) Compliance with the Workplace Health and Safety Act and Regulations and any other applicable Acts
- (b) Jobsite communication and authority
- (c) Permits and licenses
- (d) Insurance and bonding
- (e) Quality control and assurance
- (f) Work schedule and working hours of the Contractor
- (g) Traffic accommodation
- (h) Environmental requirements and issues
- (i) Site office set-up
- (j) Survey requirements
- (k) Submittals procedures (shop drawings and samples)
- (l) Progress payments
- (m) Progress and other coordination meetings

- (n) Any special requirements of the project
- (o) Substantial completion dates, construction completion inspection and requirements for project completion

Meeting minutes must be documented promptly in order to be successful.

3. *Mobilization*: Mobilization refers to the activities carried out after the Owner has appointed the Contractor but before the Contractor commences work on site. It is a preparatory stage during which the majority of activities are managed by the construction team. Mobilization shall include all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site, establishment of site offices, and other necessary general facilities for the Contractor's operations at the site. The Contractor must do a basic site survey, establish property lines, and layout the site improvements and building locations. All this must be done to begin the site preparation work for the start of construction. It is during this post-bid period and initial project start-up phase that a number of issues are considered and resolved. The current site conditions are defined and overall project intent is reviewed. Subsequent to this, the Contract Administrator will observe the site preparations by the Contractor to determine if the contract limits have been observed as noted in the Contract Documents.

Verification shall be made that the site temporary facilities and offices have been correctly located, that temporary utilities have been extended to the site, that the required access control fences are accurately installed, and that staging areas have been developed in accordance with the Contract Documents. The Contract Administrator has to ensure that the access to and from the site is congruent with the drawings. The Contractor has to ensure that site access, site construction activities, limitations of working hours, and noise and dust control are in conformance with local authorities having jurisdiction.

4. *Monitoring Construction Work*: Consultants have certain responsibilities for making field observations during the construction process, and such duties are spelled out in the Owner-Consultant agreement. Hence, being the Consultant's representative, the Contract Administrator's main purpose of monitoring work on site is to become generally familiar with the progress and quality of the work completed and to ensure that the Contractor abides with the terms and conditions of the construction contract and that it follows the plans and specifications in constructing the project. Field monitoring and reporting to evaluate compliance of the work with the Contract Documents are among the most important responsibilities of the Contract Administrator and may include some or all of the following:

- (a) Observe the progress and quality of work for its conformity with the contract drawings and standard specifications, as well as record the necessary data to establish payment quantities under the schedule of tender quantities and unit prices or to make an assessment of the value of the work completed in the case of a lump sum price contract.

- (b) Maintain complete and accurate records of the activities and events relating to the project, including date-/time-stamped photos.
- (c) Ensure that all necessary safety precautions and protections are maintained by the Contractor throughout for the duration of the work.
- (d) Review applications for payment, certify, and provide recommendations to the Owner.
- (e) Interpret drawings, specifications, and special provisions for the project
- (f) Obtain necessary approvals, and document significant changes to the project and maintain change order log.
- (g) Attend or chair progress meetings at the site or a designated location.
- (h) Review and take appropriate action upon the Contractor's submitted documents.
- (i) Review and respond to requests for information (RFI) and other related Contractor submittals in coordination with other disciplines involved in the project, including structural, mechanical, electrical, and civil engineers, landscape architects, and other special consultants including maintaining RFI log.

Requests for information (RFI) are the vehicle for the Contractor to obtain additional or clarifying information when the Contract Documents are unclear, incomplete, and contradictory, or conditions vary from those depicted in the documents. It is important that the Contractor completely and clearly describe the problem, with a proposed solution when possible. It is also helpful to note the necessary time for response. The RFI becomes a document for the record to establish the issue to be resolved:

- (j) Reject work or material which does not conform to the Contract Documents. The Contract Administrator should develop a process for advising the Contractor of nonconforming work which includes a time limit for implementing corrective measures. Defective work that has been rejected by the Contract Administrator shall be removed promptly from the work by the Contractor and replaced or re-executed according to the Contract Documents at no additional cost to the Owner.
- (k) Resolve disputes which may arise in relation to the contract.
- (l) Prepare and participate in dispute resolution or litigation regarding the project.

The Contract Administrator's site observation should not be confused with the supervision exercised by the contractor's staff. The Contract Administrator's principal duties on the job site are to observe, evaluate, and report, whereas the Contractor is responsible for controlling and directing the work and to arrange for observations by the Contract Administrator during key milestone periods. The frequency of observations may vary depending on the scope, scale, and phase of the project. Often, the general and supplemental conditions of the Construction Contract contain specific Consultant responsibilities during construction outlined in the Owner-Consultant agreement. The essential need for site visits is to document project status and any observed deficiencies.



The Consultant keeps the Owner informed of the progress and any deficiencies in the work. It is beneficial for the Contract Administrator to schedule more frequent site visits during critical milestone activities. These milestones are easily understood by reviewing the progress schedule and maintaining regular communication with the Contractor. It's essential to understand the limits of responsibilities of the Contract Administrator with respect to site visits. Consultant agreements and the general conditions state that the Consultant is not responsible for (1) construction means and methods, (2) project site safety, or (3) Contractor performance. The Contractor is contractually required to meet all these requirements, especially job site safety. The Contractor shall provide for safe access to the job site and the environment within the project limits whenever the Architect or Consultant visits the site.

5. *Record Keeping*: One of the major responsibilities of the Contract Administrator is to keep and maintain record of construction activities. Documentation is very important in a construction project because it provides a "memory" of the project. Clear record keeping plays an important role in communications and conflict avoidance. Documentation is the foundation on which all proposals, disputes, or claims are built. Without documentation, there is essentially no contemporaneous evidence, and, therefore, it is difficult to present a persuasive case. If all events and decisions are clearly recorded, it is easier to talk matters through when issues arise. Proper administration of the contract requires that all communications between the parties be in writing and preserved. Clear communication is vital to the success of a project, and written documentation of the communication process forms the basis for analysis and resolution of disputes whenever they arise. Typically, most of the following records are the standard construction project documents that Contract Administrator needs to maintain on a construction project:

1. Original contract tender documents
2. Issued for construction (IFC) drawings, revised drawings and As-Built drawings
3. Site instructions issued to the Contractor
4. Contemplated change notices issued by the Owner, change estimates, change requests and approved change orders including all relevant backup, computations, and change directives
5. Change order logs and budget logs
6. Shop drawings, shop drawing transmittals, and transmittals log
7. Daily time sheets and diaries, covering weather conditions, time records, daily equipment and manpower used, general progress of the work, and an account of any extreme difficulties encountered by the Contractor accompanied with photographs
8. Preconstruction photographs of existing facilities, site features, existing trees, and adjacent properties and should include the date taken and location and a description of the subject

9. Request for information record and log, dewatering logs, concrete pour log, and testing logs
10. Baseline construction schedule and updated schedule
11. Progress reports: weekly, monthly, or quarterly
12. Designer's inspection reports, testing agencies inspection reports, government inspector's inspection reports, and accident reports
13. Environmental issues, operational issues, and any such issues that may affect the construction completion schedule
14. Monthly payments issued to the Contractor
15. Preconstruction Meeting Minutes, Progress Meeting Minutes, and Coordination Meeting Minutes
16. Interoffice correspondence, Contractor correspondence, and Owner correspondence
17. Notice of substantial completion and notice of final completion including record of deficiency list
18. Notice of any claims and liens

### ***18.3.3 Post-construction Phase and Project Closeout***

As described in Chap. 11, the project closeout procedure passes through two important dates: date of substantial performance of the work and "total performance/Completion" date. On completion of the first stage of substantial performance of the work, the Owner can use the facility as it is considered ready for use as intended instead of waiting for total completion of the project which saves time and money.

The Contract Administrator's role becomes especially important during the construction closeout stage. The periodic field observations help to determine when the project is substantially complete to allow the Owner to use the site. It also identifies incomplete or nonconforming items, project completion dates, and when the Contractor is entitled to final payment. Substantial Completion is the agreed upon date when the project, or any portion thereof, is sufficiently complete that the Owner may use the project, or portion thereof, for its intended purpose. Final/total completion occurs when the Contractor has satisfied all the remaining items on the final deficiency list and the "Occupancy Permit" has been issued by the Authority having the jurisdiction including with final payment made by the Owner.

Primarily, the post-construction phase involves following stages:

**Commissioning** Commissioning is the process by which the completed facility is evaluated to determine that systems or components perform to the expectations of the Owner's requirements and the Contract Documents. Commissioning begins with the facility design concept but activated at the end of construction or at the point of substantial performance to successfully implement the start-up and operation of systems.

Commissioning is an additional service often provided by an independent third party – a commissioning agent. Large or complex projects may require the participation of a commissioning agent to manage and verify the design performance of all the components and systems of the facility’s operation or as a minimum, those identified by the Consultant and Owner and specified to be critical or necessary. In some smaller and simpler projects, typical start-up demonstration and review by the Prime Consultant and Sub-consultant is usually sufficient.

Commissioning includes a range of activities undertaken to transform the design of a facility into a fully integrated and operating system. It is a process of quality assurance which [5]:

1. Begins with the definition of the “design intent” and ends with the delivery of a project
2. Confirms the Contractor’s implementation of the Consultant’s design as defined in the Contract Documents
3. Confirms the ability of the Consultant’s design to satisfy the Owner’s defined requirements
4. Addresses any shortcomings

Commissioning involves testing and recording of operational elements, verification of operations and maintenance requirements, and confirmation of planning required for future expansions or modifications. The Contract Administrator may be involved as the communications link and the records Manager transmitting final reports, deficiency lists, corrections required, and testing information.

**Final Deficiency List Review** As part of establishing substantial performance, it is necessary to place a value on project deficiencies. When the Contractor is of the opinion that the requirements of substantial performance as defined in Chap. 11 have been met, the Contractor shall make arrangements for an inspection of the work to be undertaken at the earliest opportunity and shall create a deficiency list of items to be completed or corrected. The Contract Administrator then attaches additional items if missed by the Contractor. This creates a final list of items to be corrected.

Deficiencies need to be completed as soon as possible to avoid delays in the process. Subcontractors should be involved early in the deficiency process, preparing their own deficiency lists. This will make the final review much easier for all parties. Subcontractors must also take responsibility for the quality of their work. The Consultant and Contractor must work together to judge the value of deficiencies to establish the value of works early. A standardized form shall be used for recording the deficient items which will assure all areas have been reviewed and that all items have been recorded.

When the Contractor has corrected the deficient items per the deficiency list, and has determined that the requirements for substantial performance of the contract have been met, the Contractor shall then make a written application to the Owner through the Contract Administrator for a certificate of substantial performance.

As discussed in Chap. 12, the application should include:

- (i) The proposed date when the contract is considered to be substantially performed
- (ii) The submission of all documentation required under the contract
- (iii) A statement of cost values of work to be completed including correction of any deficient work
- (iv) Any pending items which still need to be completed
- (v) Any work which needs to be delayed to a later date if agreed between the parties
- (vi) An invoice, claiming the basic holdback amount due, for release and payment following the issue of the certificate of substantial performance, including a Statutory Declaration and Workplace Safety and Insurance Board (WSIB) Certificate of Clearance,
- (vii) Statutory Declaration Form [2] CCDC- 9A for subcontractor CCDC-9B is submitted

If the Contract Administrator determines that the contract has been substantially performed, the Contract Administrator shall certify the substantial performance of the contract by preparing and signing a certificate in Form 6 prescribed by the Construction Lien Act [3], specifying the date when the contract was substantially performed.

The Contractor then arranges to publish a copy of the certificate of substantial performance in a Construction Trade Newspaper and provides the Contract Administrator with proof of the date of publication, as required by the Ontario Construction Lien Act. The day following the date of publication shall be the date of commencement of the 45-day period prior to release of the basic statutory hold-back monies.

The Contractor's and Contractor's subcontractors forces then continue to work toward final completion during the 45-day period mentioned. For further details, "OAA/OGCA (Ontario Association of Architects/Ontario General Contractors Association) Takeover Procedures [1]" can be referenced.

**Final Completion** When the Contractor is satisfied that the work is completed as required under contract and after making an inspection, the Contractor shall forward the inspection report and make a written request to the Contract Administrator for a review and assessment of the work. The Contractor's application as explained should include:

- (i) The proposed date when the contract is considered to be finally completed
- (ii) The submission of any balanced documents required under the contract
- (iii) A statement of cost values for the work performed to the date of the completion
- (iv) Any pending items which still need to be completed
- (v) An invoice claiming for the finishing holdback, including a Statutory Declaration and Workplace Safety and Insurance Board (WSIB) Certificate of Clearance

If the Contract Administrator is satisfied that all deficiencies and uncompleted work have been corrected, he will forward the Contractor's invoice for final payment to the Owner for necessary payment. The Contract Administrator then prepares the statement of completion and the certificate for payment of the finishing holdback. This certificate shall be dated 1 day after the expiry of the 45 day period which commences on the day following the date the contract is considered as completed. After certificate for payment of finishing holdback is issued, the Contract Administrator shall advise the Owner to verify that no liens have been preserved as at the end of the 45-day period. After satisfaction that no lien has been preserved, the holdback for finishing work shall be paid 1 day after termination of the 45-day period.

Final completion is the end of all construction related activities, receiving of all submittals and extra stock and Owner final payment to the Contractor. The Contract Administrator is the facilitator of this process and verifies that all Operations and Maintenance Manuals have been received in the format required by the Contract Documents. The Contract Administrator also verifies all warranties and guarantees have been received, all certificates have been issued, all commissioning reports are in and satisfactory, all deficiency list items are complete to Owner and Consultant's satisfaction, and final payments have been made.

The Owner will be relying on the closeout documents submitted by the Contractor such as "As-Built" drawings and manuals for as long as the structure is in use. Generally, closeout submittals include the following:

1. Record documents such as As-Built drawings and specifications, addenda, change orders, and site instructions.
2. Operation and Maintenance Manuals. Operation manuals provide information for the regular maintenance and cleaning instruction of materials, necessary instructions in order to operate systems and equipment. Maintenance manuals provide instructions regarding the cleaning methods and materials or regularly scheduled maintenance of equipment.
3. Spare materials, parts, and tools.
4. Product warranties.
5. Fire alarm certificate.
6. Balancing reports.
7. Testing certificates.
8. Occupancy permit.

## **18.4 Project Warranties**

Warranties are used in construction projects to reduce financial risks associated with equipment and service deficiencies or failures related to construction activities. A warranty protects against costs related to construction deficiencies in materials or services for a specific period of time. Warranties can assist in holding contractors

accountable for replacement or repair of construction deficiencies. For example, when a deficiency occurs during the warranty period for covered equipment such as an air conditioning unit or furnace, the unit is repaired or replaced at the Contractor's expense.

**Guarantee and Warranty** The difference between terms guarantee and warranty is always confusing. A simple difference is that a guarantee is an agreement between three or more parties and also known as collateral agreement. Like, a construction bond is a written agreement under which the surety (the guarantor) guarantees that the Contractor (the principal) will fulfill its obligations to the Owner.

On the other hand, a warranty is an agreement between two parties and is also known as bilateral agreement. Like an insurance policy, it is a contract between the insurer and the insured (known as the policy holder), under which the insurer promises, for a consideration, to assume financial responsibility for a specified loss or liability.

Almost every construction contract includes implied or express warranties. Warranties define and limit the responsibility of contractors for repairs of the construction project, both during and after completion of construction. Quality warranties identify the exact extent of what is covered by the warranty for the Contractor and time required for rectifying defects when reported. Whether the warranty is express or implied, each warranty can lead to liability for a party to the contract if the warranty is breached in some way.

### ***18.4.1 Express Warranties***

Express warranties are created and defined primarily by agreements between parties and the negotiated aspects of such agreements. Most construction warranties are express warranties and are contained in the Contract Documents. This warranty provides the Owner with the opportunity to provide written notice to the Contractor that certain work does not conform to the Contract Documents and, according to the conditions of the contract, the Contractor is required to correct the nonconforming work. A construction warranty usually protects the Owner against defects or failures within the warranty period also known as "maintenance period or defects liability period" and provides a remedy to the Owner for non-conformance with the contract discovered prior to or after substantial performance of the work. The warranty clause defines the responsibilities of all parties regarding the coverage of the warranty.

Most of the standard Contract Documents including CCDC-2 [4] recommends a 1-year warranty period. CCDC-2 [4] provides that the warranty period for the contract shall commence on the date of substantial performance of the work except extended warranties. Within this warranty period, the Contractor is contractually obliged to return to the construction site to repair defects which have appeared in the work. If the Owner finds any defect during this 1-year warranty period, he should

immediately notify the Contractor and the Consultant. The Contractor should correct the defect promptly.

The major benefit to the Owner from the warranty period is that it provides an opportunity for rectifying defects which either do not need to be completed prior to substantial completion or which become apparent after substantial completion without the need for the parties to restore to dispute resolution.

### ***18.4.2 Implied Warranties***

Implied warranties arise by operation of law or imposed by law but are not expressly stated in the Contract Documents. They do not require any particular language or action by the parties to create them. It is an obligation that is implied by courts, arbitration panels, and/or dispute review boards created for equitable purposes.

Breach of an implied warranty is considered a Tort rather than a breach of contract. They are used to avoid injustice and ensure fairness between the contracting parties. The most common implied warranty claims relating to construction are:

1. Implied warranty of plans and specifications: Even though this provision is not spelled out in the contract, it is well established by the courts that the Owner's plans and specifications carry an implied warranty that they are accurate and suitable for the purposes of bidding and performing the contract.
2. Implied duty to provide access to the site: The Owner must have site ready for work, providing sufficient access to the site to allow contractors and subcontractors to accomplish their work and to allow for site investigation and inspection by contractors and subcontractors.
3. Implied duty not to prevent performance: It is the implied provision of most contracts that neither party to the contract should commit any act that will hinder or delay performance. A breach of this duty may result in delay damages and costs incurred because work was hindered, including extra manpower costs.

### ***18.4.3 Extended Warranties***

Extended warranties are usually provided by the warrantor to the benefit of the Owner. Any defect occurring during extended warranty period must be the responsibility of the warrantor or as specified in the Contract Documents. A number of Owners are now specifying 2 years to 20 years of extended warranties in their contracts.

Extended warranties are normally written by the manufacturer, for the manufacturer's benefit and therefore mostly contain the terms that limit the scope of coverage. Extended warranties usually exclude consequential and incidental damage to any building component other than the warranted product itself [7]. Even the most comprehensive extended warranties that cover material and workmanship generally

provide that the warrantor will only repair faults that result from specific causes enumerated in the warranty. Sometimes manufacturer's warranty may restrict repair of the product failure only up to the cost of the original installation, not replacement cost. Warranties should be carefully read to determine exactly what is covered and what is excluded. The exclusions and limitations are very important.

Extended warranties in construction are typically of two types [6]:

- Product warranties and
- System warranties

#### **18.4.3.1 Extended Product Warranties**

Extended product warranties offered by product manufacturers usually cover the replacement of the product only, not the transportation, removal of the failed product, reinstallation of its replacement or any associated labor costs. For example, if you buy a submersible sewage pump, the manufacturer's warranty usually would state that the pumps are warranted to be free of material and workmanship defects for a 3-year period from the date of purchase. To obtain service for this sewage pump, you must return it, freight prepaid, to a service center authorized to repair these pumps. When requesting warranty service, you must present the proof of purchase documentation, which includes the date of purchase. During the term of this limited warranty, the authorized service center will repair any faulty workmanship and either repair or replace any defective part, at no charge to the original Owner.

However, the same warranty would state further that this warranty does not cover normal wear and tear or any malfunction, failure, or defect resulting from accident misuse, abuse, neglect, alteration, improper installation or maintenance, modification, and repair by other than a service center authorized to repair. Thus, the manufacturer's responsibility is usually limited to the supply of replacement product and will not include the removal of the existing product, installation of the new product, or any other incidental costs. CCDC contracts stipulate that the Contractor's responsibility with regard to extended product warranties is limited to obtaining the extended warranty documentation on the Owner's behalf from the manufacturer or supplier (warrantor). The extended product warranty documentation is to be issued by the manufacturer or supplier to the benefit of the Owner.

The other issue is that as time passes after the point of project completion, it becomes more and more difficult to discern between defects in the product and simple wear and tear.

#### **18.4.3.2 Extended System Warranties**

Extended system warranties cover replacement of the product and the entire installation, for example, roofing systems, glazing systems, and mechanical or electrical systems. These extended warranties are normally offered by manufacturers and



cover components typically installed by a subcontractor approved by the manufacturer.

Extended system warranties usually contain restrictive provisions which significantly limit the warrantor's liability and the Owner's recourse in the event of a failure. For example, a manufacturer's inverted roof system warranty may cover the cost of repairing leaks which occur as a result of defects in their roof system components or defects in installation for a period of 5 years from the date of substantial performance. Should a leak develop in the system, the manufacturer's responsibility normally would not include the costs for removal and reinstallation of roof top landscaping materials or the costs associated with repair of interior finishes damaged as a result of the roof leak. The warranty could require the payment of a fee by the Owner and may state that any claims under the terms of the warranty be made within a very restrictive time period. As with extended product warranties, extended system warranties are obtained by the Contractor from the warrantor and issued by the warrantor to the benefit of the Owner.

## Benefits

There are many benefits resulting from an equitable extended warranty that may make it worth the extra cost to the Owner. These benefits include the prequalification of the installer by the manufacturer, the manufacturer's involvement in the construction process, and the extended protection against failure. For the extended warranties to be effective, the warrantor must be financially secure to cover its potential liability.

## Reference and Further Reading

1. Takeover Procedures – Ontario Association of Architects and Ontario General Contractors Association (OAA/OGCA) – Document # 100.
2. CCDC. (2001). *Canadian construction document committee- statutory declaration forms 9A and 9B*.
3. Ontario Construction Lien Act R.S.O, 1990, Chapter C30- Last Amended 2010,c.16,sched 2,s.2- Consolidation Period: From July 1, 2011 to e-Laws currency Date Nov 26, 2013.
4. CCDC-2. (2008). *Canadian construction document committee – Stipulated price contract*.
5. A Guide to Project Closeout Procedures – A joint Publication of Ontario Association of Architects and Ontario General Contractors Association.
6. Construction Warranties – CCDC Bulletin 17, November 1998.
7. Course Notes from Construction Contract Administration attended by Author. Conducted by Construction Specifications Canada (CSC) – March 2014.
8. FIDIC. (1999). *Conditions of contract for construction*, Red Book: Author FIDIC (International Federation of Consulting Engineers).