

Building it

PHASES OF A PROJECT

DALTON
building on principles

ARTSBUILDONTARIO

Dalton – Wychwood Barns Project



Challenge:

- The realization of Artscape’s vision for the building without exceeding the approved funding.

Solution:

- A tedious and diligent process of design development and cost checking to ensure that the vision was being met and while the budget was kept in check.
- Several design options had to be evaluated to arrive at a best value solution.

Challenge

- A key trade contract declared bankruptcy during the construction phase.

Solution:

- The implementation of bonding and the good fortune to rely on the bonding company avoided what could have been a major setback.

Challenge:

- The structural retrofit of the building.

Solution:

- Investigative and pre-planning work during the preconstruction phase assisted in solving this challenge.

Dalton – Little Trinity Anglican Church



Challenge:

- Obtaining approval from Municipal Heritage Authorities.

Solution:

- Constant dialogue, patience, and past experience with similar situations was key in obtaining the approval.

Challenge:

- Maintaining the historical façade during demolition and re-construction.

Solution:

- Retaining of specialized engineers and contractors to design and implement a support system allowed us to overcome this challenge.

THREE PHASES OF A PROJECT

- Pre-construction
- Construction
- Post-construction

Within each phase, there are sub-phases



PRE-CONSTRUCTION PHASE

- Concept
- Feasibility
- Design

Pre-construction determines the ultimate outcome of a project. At this stage, construction contracting methodology must be determined.

PRE-CONSTRUCTION PHASE

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Will the project be design/bid/build, or will a construction manager be brought on board to assist with the process?

PRE-CONSTRUCTION PHASE

The client's responsibility is to:

- Address why the project is necessary
- Prepare a functional program
- Determine how will it be funded

Typical Questions

In a project you have done/ are doing or were involved in:

- How did you determine need?
- To whom did you speak to gather 'data' about these needs?
- How did you determine how this project would be funded?

PRE-CONSTRUCTION PHASE

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- Design

At the conclusion of the pre-construction phase, the following must be confirmed:

- Scope
- Cost, including contingencies
- Timing

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“What is the purpose?”

Answer the “whys” of your project. The least expensive stage of construction.

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Functional program: list all your needs which will fulfill the purpose.

Translate the functional program into a space plan.

PRE-CONSTRUCTION PHASE

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At this point, the guidance of an architect or project manager could be helpful, as it would expedite the process by providing professional advice and technical expertise.

PRE-CONSTRUCTION PHASE

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- Feasibility
- Design

A technical study is conducted to determine:

- Viability
- Cost
- Options
- Identification of constraints
- Schedule

PRE-CONSTRUCTION PHASE

- Concept
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This phase usually costs around 1% to 2% of the project cost.

PRE-CONSTRUCTION PHASE

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Purpose of the feasibility study:

- Determine what needs to be done to deliver the project (a technical report)
- What will it cost?
- Is fulfilling the purpose viable under the constraints?
- What options are available to make it viable?

PRE-CONSTRUCTION PHASE

- Concept
- Feasibility
- Design

This phase usually costs around 8% to 10% of the project cost.

DESIGN

Schematic Design Design Development Construction Documents

Where the project begins to take shape. Now is the time to make the right decisions.

DESIGN

Schematic Design Design Development Construction Documents

- During this stage, a monitoring of the design against the approved budget is essential.
- Milestone dates must be established and met.
- Logistics and schedule must be worked out.

A qualified project or construction manager has the expertise to undertake these tasks.

DESIGN

Tendering Documents (contract documents)

- Specifications, general conditions
- Drawings
- Instructions to bidders
- Addenda

DESIGN

Tendering:

Design/Bid/Build

- The work is tendered to general contractors

Construction Management

- The construction manager tenders the work, on behalf of the client, to qualified trade contractors

CONSTRUCTION PHASE

During the Construction Phase, focus on material procurement. Labour resources are secondary.

Communication and planning are more important than the technical aspects of the physical construction.

Monitoring of progress is required to ensure:

- The budget is not being exceeded
- The schedule is on track
- The defined scope of work is not being compromised

POST-CONSTRUCTION PHASE

- Completion of deficiencies
- Completion of deferred work
- Issuance of close-out documents for the owner's use
- Commencement of the warranty period
- Release of statutory holdback funds



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