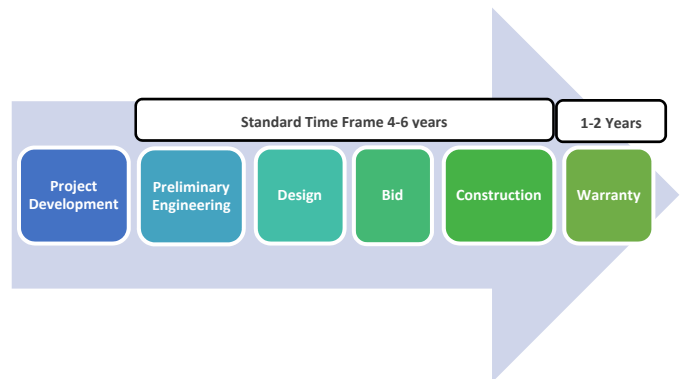


# Project Lifecycle

(Recap from BEATF briefing March 22, 2017)

## Key Points

- Even though project types can be similar, every project is unique in its characteristics, scope, and outcome.
- As a project progresses through each phase, the sponsor and the Capital Delivery team refine the scope, schedule, and budget based on the information gathered.
- Some project outcomes typically only require completion of a phase, preliminary engineering. Reasons for this include feasibility, more detailed scoping, or a more accurate budget estimate.



## Project Development

**Project Development** does not have a standard time frame because during this phase, the project goes from a concept into the initial framework for a project. Project development is done by the sponsoring department. Key elements of this phase are:

- Initial Project Scope, Goals, and Deliverables
- Initial High-Level Budget Estimate
- Initial Milestone Schedule Estimate
- Project Risks
- Initial Project Delivery and Contract Method are decided
- How much will it cost to maintain the asset once built

The **Preliminary Engineering** phase is initiated once a sponsor decides to move forward with a project. This phase is usually between 12 months depending on the project scope. This is where the project scope, budget and schedule baselines are identified. The outcome from this phase is a preliminary engineering report. Key elements of this phase are:

- Consultant Selection
- Project Scope, Goals, and Deliverables
- Revised Budget Estimate
- Revised Schedule Estimate
- Project Risks
- Delivery Method is decided

The **Design** phase is initiated once preliminary phase decisions are made. This phase is usually between 12-36 months depending on the project scope and often has three distinct review points at 30%, 60%, and 90% of design. The outcome from this phase is a final design for the project. Key elements of this phase are:

- Project Scope, Goals, and Deliverables are finalized
- Construction Budget finalized
- Construction Schedule finalized
- Construction Bid Package is developed
- Property Acquisition
- Permitting

The **Construction** Phase. The project actually comes to fruition in this phase. This phase is usually between 12-36 months depending on the project scope. Key elements of this phase are:

- Quality Assurance / Quality Control
- Construction Management
- Construction completion

The **Warranty** Phase begins once the project is completed. This phase can last from 1 – 2 years. During this phase the project is observed to make sure there are not any issues that arise once the completed project deliverable is in use. Key elements of this phase are:

- Close out of contracts
- Corrections to identified deficiencies
- Archival of Project Records

Preliminary Phase		Design Phase	
Class 5		Class 4	Class 3
Concept Screening		Feasibility Report	
L: -20% to -50%	H: +30% to +100%	L: -15% to 30%	H: +20% to +50%
Class 5 estimates are generally prepared based on very limited information and are often based on recent costs of similar type projects. They are often used as place holders for long term budget planning.		Typically, engineering is 5% to 15% complete, and should include the following: at a minimum: preliminary project scope with general quantities estimated (such as LF of pipeline, street reconstruction, streambank stabilization etc. or facility components); preliminary assessment of the need for utility relocations within the ROW; investigation of required local, state and federal permitting; and land acquisition or easement requirements. Conceptual renderings or plans may be included.	
At this stage it is conservative to assume 100% contingency given all the unknowns.		It is conservative to assume 50% contingency given all the unknowns.	
DdCost, RS Means Square Foot Cost, ENR Quarterly Cost Roundup		Assume 5% per year cost increase.	
		Class 2	
		Schematic Design	
		L: -10% to -20%	H: +10% to +30%
		Typically, engineering is about 30% complete with a completed Preliminary Engineering Report. The report should include a schematic layout or plans and engineers cost estimate.	
		At this stage it may be conservative to assume 30% contingency. The design engineer should recommend the percent contingency in his estimate.	
		Assume 5% per year cost increase.	
		Class 1	
		Design Development	
		L: -5% to -15%	H: +5% to +20%
		Typically, engineering design is about 60% complete with a set of plans and specification. An engineers cost estimate should be included as part of the design submittal.	
		At this stage assume a contingency up to 15% based on the design engineer's recommendation. Once the project is bid and awarded, a 5% contingency (sometimes 10% if there are potential utility conflicts) is added to the construction contract cost.	
		Assume 5% per year cost increase.	
		Class 1	
		Site & Building Permit Documents	
		L: -3% to -10%	H: +3% to +15%
		The plans and specifications for the project are 100% complete and the project has been permitted and signed off on by QMD. The construction cost estimate is based on the design engineers cost estimate. This project is ready to bid.	

