AGENDA
PUBLIC WORKS AND ENGINEERING COMMITTEE MEETING

October 10, 2018, 4:30 PM - 6:30 PM
Board Room, Service and Resource Centre,
411 Dunsmuir Street, Nanaimo, BC

Pages

1. CALL THE MEETING OF THE PUBLIC WORKS AND ENGINEERING COMMITTEE TO ORDER:

2. INTRODUCTION OF LATE ITEMS:

3. ADOPTION OF AGENDA:

4. ADOPTION OF MINUTES:

a. Minutes 3 - 5

Minutes of the Public Works and Engineering Committee Meeting held in the Board Room, Service and Resource Centre, 411 Dunsmuir Street on Wednesday, 2018-JUN-13 at 4:30 p.m.

5. PRESENTATIONS:

a. Garburator Information

To be introduced by Poul Rosen, Senior Manager, Engineering.

6. REPORTS:

a. Project Management Framework and Policy 6 - 77

To be introduced by Bill Sims, Director, Engineering and Public Works and Poul Rosen, Senior Manager, Engineering.

Purpose: To inform the Public Works and Engineering (PWE) Committee about the Project Management Framework and Capital Project Management Policy and to seek endorsement.

Recommendation: That the Public Works and Engineering Committee endorse the Project Management Framework and Capital Project Management Policy and recommend that Council adopt the Policy.

b. **2019 Pedestrian Unallocated Budget** 78 - 79

To be introduced by Jamie Rose, Manager, Transportation.

Purpose: To provide the Public Works and Engineering Committee with an update on plans for the 2019 Pedestrian Unallocated Budget.

Recommendation: That the report titled “2019 Pedestrian Unallocated Budget”, dated 2018-OCT-10, be received for information.

7. OTHER BUSINESS:

a. **Discussion re: Boulevards**

From previous Public Works and Engineering Committee Meeting dated 2018-JUN-18:

"Mike Herold asked Staff who is in charge of clean-up and maintenance of Boulevards in the City of Nanaimo.

By unanimous consent the Public Works and Engineering Committee agreed to add "Boulevards" to the Agenda for the next Public Works and Engineering Committee Meeting to be held 2018-OCT-10."

8. QUESTION PERIOD:

9. ADJOURNMENT:

MINUTES
PUBLIC WORKS AND ENGINEERING COMMITTEE MEETING
BOARD ROOM, SERVICE AND RESOURCE CENTRE
411 DUNSMUIR STREET, NANAIMO, BC
WEDNESDAY, 2018-JUN-13, AT 4:30 P.M.

PRESENT:	Members:	Councillor S. D. Armstrong, Chair Mike Donnelly Mike Herold Will Milligan Wally Wells
	Absent:	Councillor M. D. Brennan Leon Cake Russ Irish Mike Leach
	Staff:	B. Sims, Director of Public Works and Engineering P. Rosen, Senior Manager Engineering J. Rose, Manager of Transportation K. Gerard, Recording Secretary

1. CALL THE PUBLIC WORKS AND ENGINEERING COMMITTEE MEETING TO ORDER:

The Public Works and Engineering Meeting was called to order at 4:35 p.m.

2. INTRODUCTION OF LATE ITEMS:

(a) Wally Wells advised that he would be bringing forward and item under Agenda Item 7(a) - Other Business, regarding the Asset Management Conference.

(b) Will Milligan advised he would be bringing forward an item under Agenda Item 7(b) – Other Business, regarding traffic accident scene clean-up.

3. ADOPTION OF AGENDA:

It was moved and seconded that the Agenda, as amended, be adopted. The motion carried unanimously.

4. ADOPTION OF MINUTES:

It was moved and seconded that the Minutes of the Public Works and Engineering Committee Meeting held in the Boardroom, Service and Resource Centre, 411 Dunsmuir Street on Wednesday, 2018-APR-11 at 4:30 p.m. as circulated. The motion carried unanimously.

5. REPORTS:

(a) Boxwood Road Traffic Calming

Jamie Rose, Manager of Transportation, provided the Public Works and Engineering Committee with a presentation regarding the Boxwood Road Traffic Calming Plan which included:

- neither side of the road allows for addition of another lane;
- most businesses do not have staff parking on site and most staff park on the side of the road;
- Boxwood Road was not originally envisioned to need sidewalks or bike paths but has now proven to be a busy pedestrian and cycling roadway;
- Boxwood Road will connect to East Wellington, Pryde Vista Golf Course and Bowen Road in the future;
- all major roads now require sidewalks and re-organizing of landscaping, fire hydrants, catch basins and hydro poles on Boxwood Road would be required; and,
- four options were presented each including sidewalks and bike lanes.

Committee discussion took place regarding:

- normal width of roads is 4.3 metres wide, 3.4 metres is too narrow for the large trucks that use the road daily;
- concerns regarding bike lanes in an industrial area and safety of cyclists and drivers;
- options for moving bike lanes away from Boxwood Road including: building a trail down both sides of the parkway or bike lanes added to Bowen Road;
- businesses being required to ensure staff park on-site;
- speaking with the trucking industry regarding adding cycle lanes to Boxwood Road;
- lowering the speed limit to 40 km/h;
- future plans for parking if one side of Boxwood Road is designated a bike lane;
- should the City of Nanaimo be looking at a long term solution now instead of an interim solution; and,
- the cost of re-organizing fire hydrants, utility poles, catch basins and landscaping to accommodate bike lanes and sidewalks, and if an alternative solution could be looked at.

It was moved and seconded that the Public Works and Engineering Committee receive the presentation from Jamie Rose, Manager of Transportation, for information. The motion carried unanimously.

6. OTHER BUSINESS:

(b) Asset Management Conference

Wally Wells spoke regarding the Asset Management BC Annual Conference, to be held on September 26 and 27, 2018, at the Radisson Hotel – Vancouver Airport.

(a) Traffic Accident Scene Clean-up

Willy Milligan spoke regarding the left over glass, car parts, oil and other hazardous liquids left behind after traffic accident clean up.

Mike Herold asked Staff who is in charge of clean-up and maintenance of Boulevards in the City of Nanaimo.

By unanimous consent the Public Works and Engineering Committee agreed to add "Boulevards" to the Agenda for the next Public Works and Engineering Committee Meeting to be held 2018-OCT-10.

7. ADJOURNMENT:

It was moved and seconded at 6:20 p.m. that the meeting terminate. The motion carried unanimously.

_____
CHAIR

CERTIFIED CORRECT:

_____
CORPORATE OFFICER

CITY OF NANAIMO
THE HARBOUR CITY

Committee Report

File Number: 0110.01

DATE OF MEETING October 10, 2018

AUTHORED BY POUL ROSEN, SENIOR MANAGER, ENGINEERING

SUBJECT PROJECT MANAGEMENT FRAMEWORK AND POLICY

OVERVIEW

Purpose of Report
To inform the Public Works & Engineering (PWE) Committee about the Project Management Framework and Capital Project Management Policy and to seek endorsement.

Recommendation
That the Public Works and Engineering Committee endorse the Project Management Framework and Capital Project Management Policy and recommend that Council adopt the Policy.

BACKGROUND

As part of the Core Services Review, one of the recommendations was for the City to adopt a Capital Project Management Policy. The purpose of such a policy would be to improve capital construction project outcomes, in particular, on high value and high risk projects.

The City engaged the consulting firm, Capex Project Advisory to develop both a project management framework and assist Staff in the development of a draft policy to establish best practices and ensure a consistent approach to project management.

The Capital Project Management Policy will establish the requirement for projects to be completed in accordance with the Project Management Framework, which is a living document and sets minimum standards for project management. A final draft of both the Project Management Framework and the Capital Project Management Policy is complete.

OPTIONS

1. That the Public Works and Engineering Committee endorse the Project Management Framework and Capital Project Management Policy and recommend that Council adopt the policy.
    - **Budget Implication:** Although following the framework will provide a level of consistency and assurance of appropriate project management standards, it will reduce efficiency and add cost to projects. The greatest impact will be to larger or “special” projects that in most cases should have a higher standard of care. Staff have worked closely with the consultant to develop project classifications that should produce the greatest benefit with the least cost.

2. That the Public Works and Engineering Committee recommend changes to the Capital Projects Policy and or

3. That the Public Works and Engineering Committee decline to endorse the Capital Projects Policy and Project Management Framework.

SUMMARY POINTS

- A Capital Project Management Policy will provide assurance to Council and the Public that projects are being managed in an effective and consistent way.
- The cost of projects is expected to rise as a result of this policy; however, the benefits such as consistency and reliability will improve.

ATTACHMENTS

Attachment A - Project Management Framework, Revision A, October 2019
Attachment B - Capital Project Management Policy 01-0340-XX

Submitted by:	**Concurrence by:**
Poul Rosen Senior Manager Engineering & Public Works	Bill Sims Director Engineering & Public Works

Project Management Framework

City of Nanaimo

REVISION (A)

OCTOBER 2019

Administrative Procedure

Project Management Framework

The City of Nanaimo (the "City") invests significant taxpayer's dollars in capital construction projects each and every year. The opportunity to improve how we deliver those projects was identified in the Core Service Review and the subsequent Capital Project Planning, Design, Delivery and Operation Process Review. The Project Management Framework sets out how the City will take advantage of this opportunity - it establishes a common baseline for project control and governance, which will not only improve how projects are delivered, but in doing so, also aims to improve consistency and transparency of performance, which should ultimately translate into better value for our citizens.

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INTRODUCTION

CITY OF NANAIMO | Project Management Framework

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The City's commitment to improving transparency and consistency of capital project outcomes is manifested in the Capital Project Management Policy No. 01.0340.xx, which makes this Project Management Framework (the "Framework") a mandatory Administrative Procedure to be implemented by all Departments undertaking capital construction projects at the City.

This Framework is a documented set of procedures and templates; procedures which bring consistency in project management in-line with good practices, together with governance arrangements to monitor compliance; and templates which are simply a set of standardized tools available for project managers to manage their projects on a day-to-day basis.

The City's Framework follows the simple structure represented graphically below. In project management, each of these ten components are interconnected with one another. This framework introduces these key components, as well as the requirements from Project Managers, Project Sponsors and other City staff members who support deliver capital projects at the City.

Fig 1.Ten components of the Project Management Framework

CHAPTER 1: PROJECT GOVERNANCE

CITY OF NANAIMO | Project Management Framework

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1.0 Introduction

This section of the Project Management Framework deals with those elements which support and facilitate project governance. Successful development and delivery of any capital project requires both project control and project governance. Project control is the implementation of a set of processes, procedures and tools for the day to day execution of a project, whereas project governance is concerned with exercising oversight over the project, and making key decisions.

Project Classification

The City delivers a wide range of Capital Projects, and so the first step to ensuring appropriate control and governance is to classify our projects. Depending on the classification, the project will be required to follow certain procedures within the Project Management Framework, or may be exempt.

Stage Gate Process

Each Capital Project will progress through a number of stages, which may vary depending on the project classification. Before a Capital Project embarks on a new stage, the Project Manager must submit an application to proceed to the Project Sponsor. This is an opportunity for the Project Sponsor to exert oversight, and to monitor compliance with the Project Management Framework.

RACI Chart

RACI is an acronym for Responsible, Accountable, Consulted, Informed, and is simply a reference document which ensures that all individuals involved in a Capital Project have a consistent understanding of their own role and those of others who may be involved.

Project Execution Plan

Any document which sets out how a particular aspect of a Capital Project will be delivered facilitates project governance. While the Project Management Framework provides for a range of such deliverables, certain classifications of Capital Project will be required to bring together these deliverables into a comprehensive project-specific plan.

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2.0 Project Classification

Classes of Project

There are 4 classes (categories) of Capital Project within the Project Management Framework:

Special Project	Major Project	Standard Project	Routine Project

- Special Projects are defined as those project with a capital budget in excess of $10m – the City doesn't take on many of these projects, but when it does, it's important that a higher level of governance and control are implemented.
- Major Projects are defined as those projects with a capital budget between $1m and $10m and are not part of a routine program - examples being road rehab, water distribution main renewal projects, etc.), or otherwise any project with a lesser budget which is considered a particularly high risk project.
- Standard Projects are defined as those projects with a capital budget between $100k and $1m.
- Routine Projects are defined as those projects with a capital budget of less than $100k.

When to Conduct Project Classification

A project must be classified during the Project Kick Off Stage (refer to Section 3.0 below) before proceeding to the subsequent Concept or Planning & Design Stage.

How to Conduct Project Classification

A Project Classification Form (refer to Appendix [1]) must be completed and signed by the Project Manager and submitted to their Supervisor for approval. The only circumstance when the classification can be over-turned is when the Project Sponsor exercises their authority to do so, and the Project Classification Form provides for this eventuality. It should be noted that this is expected to be a highly unusual event, and the Project Sponsor will assume responsibility for all resulting consequences in terms of project performance.

How to Assess Project Risk

The only subjective element involved in the classification of a Capital Project is whether or not it is considered high risk. For guidance, a Capital Project should be considered "high risk" if there are aspects which are, in the professional opinion of the Project Manager, considered unusual or

particularly challenging. Factors may include ground or environmental conditions, the number of departments involved, the complexity of the design solution, the level of public visibility or stakeholder engagement, challenging property or legal matters, schedule or budget constraints.

3.0 Stage Gate Process

Roles

The applicant for a Stage Gate Review will be the Project Manager and the Stage Gate reviewer will be the Project Sponsor. Directors are responsible for appointing the Project Sponsor, noting that this must be a Department Manager position or above for Major and Standard Projects, and a Director for Special Projects.

A Review Panel shall be convened on Special Projects (otherwise optional at the discretion of the Reviewer) to strengthen governance, and the Review Panel shall be chaired by the Project Sponsor.

Process

All Capital Projects progress naturally through a series of stages. The City has defined these stages as Project Kick Off, Planning & Design, Construction, and Project Closeout, and has further defined a number of stages within each of Planning & Design and Construction for Special & Major Projects, as shown in figure 1 below:

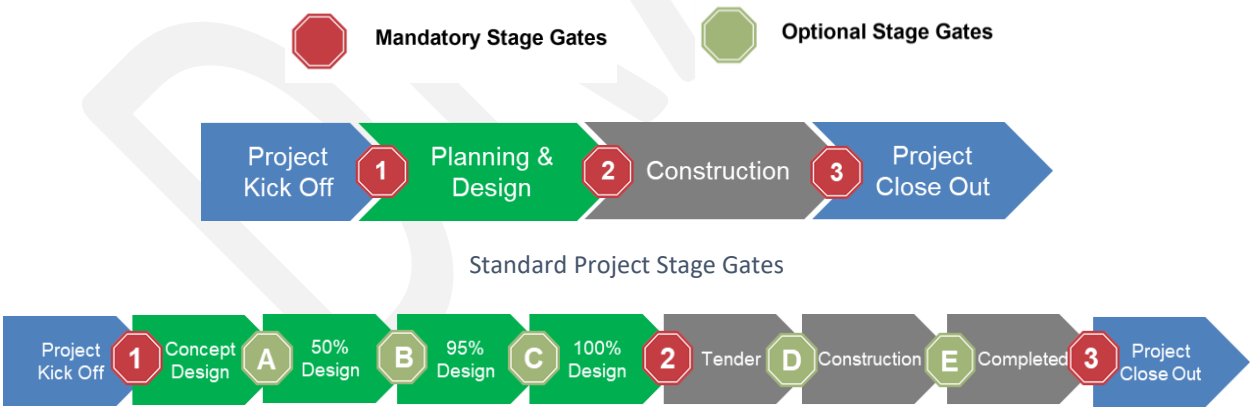

Fig 2. Stage Gate Process

Completion of each stage provides a formal opportunity both to reflect on performance during the previous stage, and to demonstrate preparedness to commence the subsequent stage - this is known as a Stage Gate Review.

Routine projects are not required to undergo Stage Gate Reviews. All other projects must pass through 3 mandatory Stage Gate Reviews (1 to 3) – the first before starting design, the second before starting construction, and the third before the project may be closed out.

With Special and Major Projects, at any of the 3 formal Stage Gate Reviews, the Project Sponsor has the discretion to require that the Project pass through any combination of optional Stage Gate Reviews (A to E), which may be either formal and documented, or informal touch points.

How to Conduct a Stage Gate Review

The Project Manager will submit to the Project Sponsor a completed Stage Gate Checklist (Refer to Appendix [2]), along with the specified Project Management Framework deliverables. There may then follow a discussion between the Project Manager and the Project Sponsor before the Project Sponsor makes one of four possible decisions: **Proceed | Resubmit | Cancel | Defer**

4.0 RACI Chart

RACI is an acronym for the following roles and responsibilities attributed to key stakeholders:

R Responsible

A Accountable

C Consulted

I Informed

A RACI chart is simply a matrix identifying who is responsible, accountable, consulted and informed in respect of each key project activity and decision. This matrix is not a live document – it is developed as a reference document simply to bring clarity to expectations across the organization. A RACI chart has been developed for the various stages of the Project Management Framework (refer to Appendix [3]).

5.0 Project Execution Plan

For Special Projects, Project Managers will be required to document their plan for project delivery within a Project Execution Plan (PEP). The PEP will describe how a Capital Project will be delivered - the procurement strategy; how cost, schedule, scope, quality, risk will be managed; what efforts will go into engaging and managing stakeholders; which resources are dedicated to the project; roles and responsibilities; and project close out requirements. A template PEP is provided (refer to Appendix [4]).

CHAPTER 2: PROCUREMENT & CONTRACT MANAGEMENT

CITY OF NANAIMO | Project Management Framework

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1.0 Introduction

Procurement management is very closely related to contract management, however, it's important to differentiate between the two.

- Procurement management is primarily a purchasing function and deals with how we engage with suppliers of goods, services or construction in an open, fair and transparent manner
- Contract management is a more of a commercial function and refers to the use of terms and conditions to optimize value for money and mitigate risk, both before and after contract execution.

How well we manage procurement and contracts has a very significant impact on the performance of capital construction projects, and it all comes down to knowledge, collaboration and planning.

This section of the Project Management Framework is intended to strengthen these three aspects of procurement and contract management at the City.

Knowledge	of the City's Purchasing Policy and Standard Operating Procedures, as well as your contract strategy options
Collaboration	with the Purchasing Department and legal counsel
Planning	is essential to ensure that you allow adequate time to structure and implement your plan for procurement and contracting

2.0 Procurement Management

Purchasing Policy

The City has a very well developed Purchasing Policy, which is supported by detailed Standard Operating Procedures. Rather than duplicating these well-documented requirements, processes and templates, it is simply a requirement of the Project Management Framework that Project Managers are familiar with all aspects of the City's Purchasing Policy and Standard Operating Procedures, and that they act in full compliance, at all times.

Purchasing Policy exists not only to ensure that the City meets it's legal obligations, but also to provide you with a means of demonstrating that you have acted in accordance with the law – to deviate from this is a risk both to you and the City.

Planning & Collaboration

Project Managers should provide the Purchasing Manager with adequate notice of any competitive procurement process, which may not be less than 3 weeks prior to anticipated issue of solicitation documents (RFx).

For Special and Major Projects, Project Managers should provide the Purchasing Manager with a Procurement Schedule (which may be either a table of dates or a Gannt Chart as shown below) at least 2 months before the first supplier is required to be on board, detailing all appointments, tasks, and task owners, and which will allow for reasonable supplier response times taking on board the advice of the Purchasing Department.

OWNER KEY: PM - Project Manager | P - Purchasing Manager | D - Director

Weeks

	Owner	0	1	2	3	4	5	6	7	8
Notify Purchasing Manager	PM									
Develop Scope for Designer	PM									
Post RFP to BC Bid	P									
RFP Response Period	PM									
RFP Evaluation Period	PM									
Contract Award Approval	D									
Advise Proponents & Execute	P									

Fig 3. Example Procurement Schedule

3.0 Contract Strategy

Categories of Contract Strategy

The Contract Strategy is sometimes also referred to as the Project Delivery Method, and defines the terms and conditions of contract (and, by extension, the risk allocation) that you have adopted to deliver a Capital Project.

Contract Strategies are grouped into categories which summarize the high-level risk allocation, and the most commonly used categories of contract strategy within government in Canada include:

- Design-Bid-Build
- Design-Build
- Contruction Management at Risk

Contract Strategy Evaluation

Special Projects must undergo a contract strategy evaluation – this will consist of a structured discussion in a workshop format, the outcome of which is a documented rationale for selecting one of the categories of contract strategy listed above.

Consideration should be given for Major Projects to undergo a contract strategy evaluation.

The contract strategy evaluation will be led by the Project Manager, and will involve the Project Sponsor and Purchasing Manager. The involvement of internal stakeholders and a consultant with subject matter expertise is also recommended.

The project-specific constraints and priorities (what you are trying to achieve) as well as the risks to be managed should be carefully evaluated to identify the optimal contract strategy. For example:

- Is there a date by which the project needs to be complete, or does it simply need to be completed as soon as possible?
- Does the schedule allow for sequential design and construction, or do you need to fast track the project?
- Is lowest cost an objective, or simply that the cost is no more than the budget?
- Is there a specific design solution that must be implemented, or are you able to allow for competitive proposals to find the most cost effective solution based on functionality?

- Are there unusual or particularly significant risks that need be closed out before the market can be expected to deliver the project within your budget?
- Is delivery on-time more important than delivery within budget?
- Do you have access to the skills and experience to develop and implement your preferred contract strategy?
- Which contract strategies have been implemented on similar projects, and were they successful?

It is noted that not all Capital Projects at the City are delivered by outside contractors, and where this is the case, contract strategy evaluation is not applicable.

Contract Terms & Conditions

It's important to be aware that risk allocation can differ vastly even within the same category of contract strategy, depending on the wording (the terms and conditions) of your construction contract.

Careful selection of a **standard form of contract** and tailoring of the terms and conditions to the specific risks, constraints and priorities of the project offers a prime opportunity to influence risk allocation as well as the performance of the contractor.

The following are mandatory requirements for all construction contracts at the City:

- Design-Bid-Build contracts shall be based on the City's own 'front-end' document, however, the CCDC 2 standard form of contract shall be used on Special Projects and shall be considered for Major Projects;
- Construction Management at Risk contracts shall be based on the CCDC 5B standard form of contract;
- The CCDC 14 (Design-Build) standard form of contract shall not be used at the City;
- Design-Build contracts shall be based upon precendent government contracts, and external legal counsel should be engaged to help develop these;
- Construction Management as Agent (including the version of this contract strategy established under the CCDC 5A standard form of contract) shall not be used at the City;
- Approval to adopt any other category of construction contract shall be approved at Director level and the terms and conditions shall be developed by external legal counsel.

The terms and conditions set out in standard forms of contracts will be tailored to each project and approved by [the CFO]. In the case of CCDC standard forms of contract, the tailoring will take the form of a set of Supplemental Conditions.

Contract Management, Post-Contract

Contracts - whether they be for construction, goods or services - describe the City's rights and obligations, and Project Managers must act in accordance with the contract at all times, noting that provisions will differ from one contract to another.

For Special Projects, to ensure a solid understanding of the contract, the Project Manager must produce a Contract Summary setting out the key provisions of the construction contract, including:

- Payment & Certification
- Contract Changes*
- City Retained Risks
- Dispute Resolution Process
- Contractor's Schedule Obligations
- Contractor Reporting
- Substantial Completion Process
- Warranty & Inspection Requirements

*Special attention should be given to how contract changes are dealt with to ensure that entitlement to additional cost and/or time is in accordance with the contract. Please refer to Chapter 7: Scope Management for further details.

Consideration should be given on Major Projects to the value of producing a summary of the key provisions of the construction contract.

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CHAPTER 3: COST MANAGEMENT

CITY OF NANAIMO | Project Management Framework

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1.0 Introduction

This section of the Project Management Framework deals with how the City develops budgets for its Capital Projects, how commitments and actual costs are controlled, recorded and managed, and how costing data informs future budget development.

2.0 Project Budget

Setting the Project Budget at an inappropriate level is a common error in project management, and one which can set a Capital Project on a course to failure before it has even started.

To tackle the risk of setting an inappropriately high or low budget, it is first necessary to understand and differentiate the three components that are essential to define when developing and communicating a project budget:

Baseline Cost Estimate	This is an estimate of the cost of the project based on the project scope at a point in time and available cost data.
Project Risk Reserve	This is a separate allowance within the Project Budget for the cost impact of risks which may or may not occur, and as such are not included within the baseline cost estimate.
Degree of Confidence	This is range (+ or -) based on the extent to which the project scope has been defined (it will narrow as the project progresses) and communicates how much confidence should be placed in the accuracy of the Project Budget (Baseline Cost Estimate + Project Risk Reserve) at a specific point in time. The degree of confidence does not form part of the Project Budget.

Approved Project Budget

The Approved Project Budget is the sum of the Baseline Cost Estimate and Project Risk Reserve.

The Degree of Confidence associated with the Approved Project Budget does not alter its value, it simply completes the messaging.

Baseline Cost Estimate

An order of magnitude Baseline Cost Estimate will be developed for all projects prior to the project incurring any cost, and this Baseline Cost Estimate will be refined as more detailed information is made available in terms of the project scope, design, schedule and risks.

All Baseline Cost Estimates should take into account the following, where applicable:

- Current Year Rates for Labour & Materials (based on historic analysis)
- Labour & Material Quantities
- Recent Market Pricing Data
- Project Schedule / Duration
- Location Specific Conditions
- Permitting Costs
- Third Party Costs e.g. utilities
- Professional Consulting Fees, including Design, Project Management, Legal, Cost Consulting
- Escalation Costs (for multi-year projects only)

A Cost Consultant (Quantity Surveyor) will be engaged to develop the Baseline Cost Estimate for Special Projects. Consideration should be given to engaging a Cost Consultant to develop the Baseline Cost Estimate for Major Projects.

Once a Capital Project has been completed, cost data (material rates, and also labour rates where works are delivered by City construction crews) should be extracted and fed back into the system to improve the quality of future Baseline Cost Estimates.

Project Risk Reserve

Identifying a cost contingency (Project Risk Reserve) is an often misunderstood aspect of project management – it is not additional funding and does not increase the budget - failure to identify a separate cost contingency simply means that it must be built into the cost estimate, which impedes transparency as well as control over how this element of the budget is spent.

Identifying a Project Risk Reserve within the Approved Project Budget will improve cost accountability, and any savings that are made can then be reallocated to those Capital Projects where it is really needed.

The value of the Project Risk Reserve depends on the project classification:

- Special Projects shall be assigned a Flat Contingency of 10% of the Baseline Cost Estimate, plus up to a further 15% of the Baseline Cost Estimate as a Risk-Based Contingency Reserve (refer to Chapter 5 - Risk Management).
- Major, Standard and Routine Projects shall be assigned only a Flat Contingency of 10% of the Baseline Cost Estimate.

Risk Reserve	= Flat Rate Contingency	+ Risk-Based Contingency
Special	10%	Up to 15% based on risk
Major	10%	None
Standard	10%	None
Routine	10%	None

Fig 4. Project Risk Reserve by Project Classification

Degree of Confidence

One of the problems that the City faces with the perceived performance of Capital Projects is squaring the importance from an accounting and finance perspective of cost certainty with the reality that construction is an inherently uncertain activity.

While it is entirely reasonable to expect that the City will deliver an annual capital construction plan within the Approved Program Budget, it is not reasonable to expect that the cost of any given Capital Project will equal the corresponding Approved Project Budget, especially where it has been prepared at the outset before full details of the scope, design, schedule and risks were known.

The following chart and table details the appropriate degree of confidence which should be communicated along with any Approved Project Budget figure, depending on the stage of project definition, to ensure that expectations are reasonable:

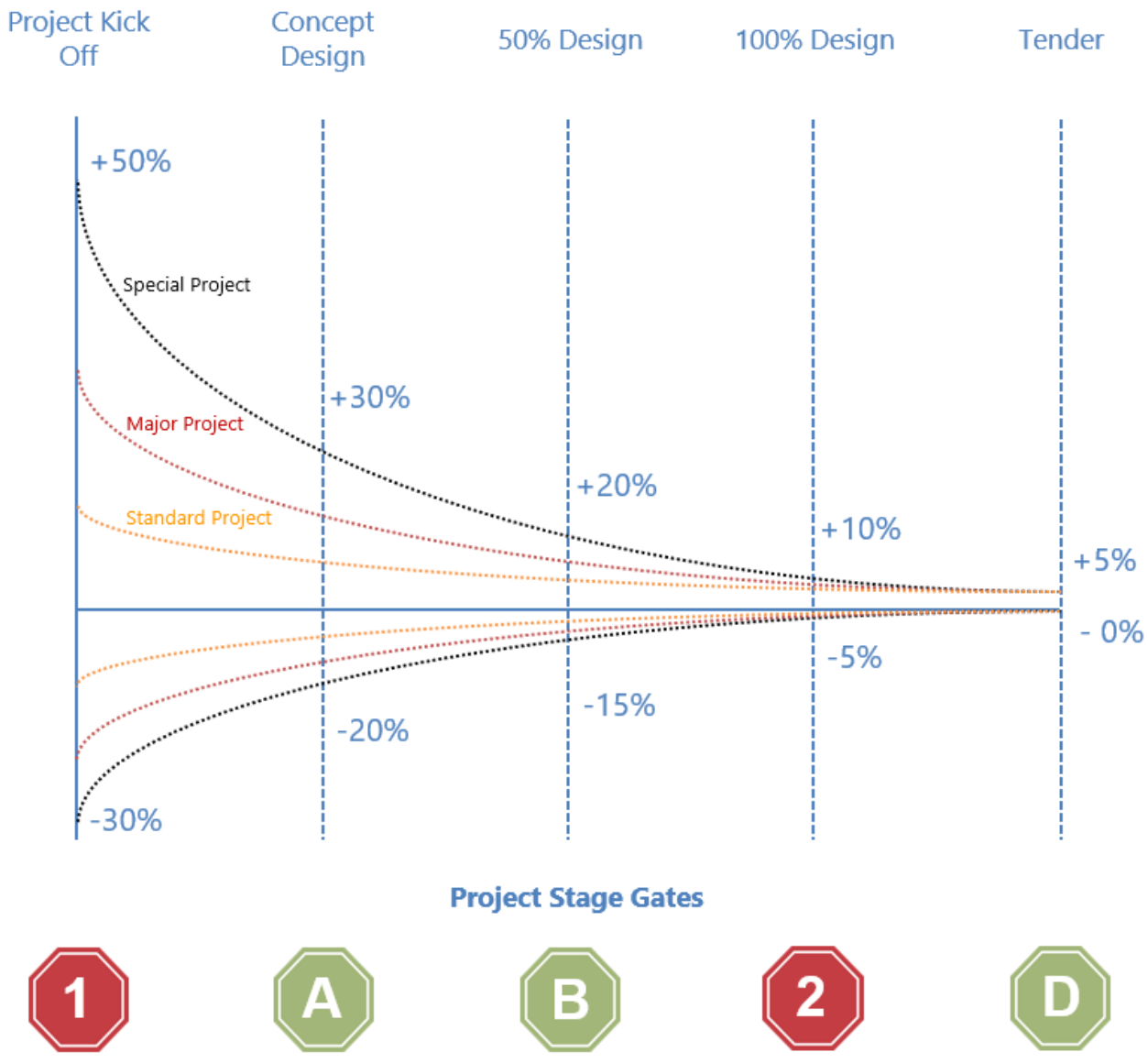

Fig 5. Anticipated Degree of Accuracy by Project Classification Relative to Project Stage Gates

The information in the above chart is also shown in tabluar form overleaf in Fig 4.

	Stage Gate 1 Project Kick-Off	Stage Gate A Concept Design	Stage Gate B 50% Design	Stage Gate 2 100% Design	Stage Gate D Tender
Special	+50/-30	+30/-20	+20/-10	+10/-5	+5/0
Major	+30/-20	+20/-15	+15/-10	+8/-3	+5/0
Standard	+15/-10	+10/-8	+5/0	+5/0	+5/0

Fig 6. Anticipated Degree of Accuracy by Project Classification Relative to Project Stage Gates

Note that Routine Projects are not anticipated to deviate significantly from the initial order of magnitude Baseline Cost Estimate at Stage Gate 1.

Should the forecast cost of a project vary as the project progresses, there are two options:

- Take action to reduce the forecast cost of the project
- Secure an increase in the Approved Project Budget

It is the responsibility of the Project Sponsor to ensure that the latest cost forecast is within the current Approved Project Budget prior to approving the project to proceed at each Stage Gate.

3.0 Cost Control

Once the Approved Project Budget has been established, focus shifts to controlling expenditures and commitments to avoid both over spend and over commitment relative to the Approved Project Budget.

Cost & Commitment Tracking

The key to cost management is information – accurate, complete and up-to-date cost information is the basis upon which informed project decisions can be made.

Project Managers must maintain a Cost Report for all projects – this is a record of all current and forecast costs and commitments against the Approved Project Budget. The format used for tracking this information must show both actual costs and commitments made against the Approved Project Budget by the following cost categories, as well as by vendor / individual line item:

- Land
- Construction
- Private Utilities (Hydro, Telus, Terasen, Shaw)
- Environmental Monitor
- Field Engineering, Testing
- City-Supplied Materials
- Other Professional Fees
- Permits & Insurance
- Other
- Flat Contingency
- Risk-Based Contingency Reserve

A Cost Report templates for Special and Major Projects and another for Standard and Routine Proejcts are provided in Appendix [5], use of which is optional.

Actual cost and commitment data must be recorded and reconciled monthly with the Finance Department.

Vendor Cost Management

Commitments

- Project Mangers must retain a copy of all purchase orders coded to their project, as well as executed contracts for all construction and consultancy services (originals will be held by the Purchasing Department);
- Any change to the value of a vendor contract must be instructed through a formal Change Order (refer to Chapter 7 – Scope Management);
- At no less frequency than once a month, the Project Manager must copy any Change Orders issued to a vendor to the Purchasing Department, to ensure the value of the Purchase Order is accurate.

Costs

- All invoices to be charged to a project cost category must first be reviewed against contractual entitlement and progress before being approved and logged by the Project Manager;
- Rejected invoices should be returned to the vendor with an explanation why it cannot be paid, and resubmission instructions as necessary;
- Approved invoices should be sent to Accounts Payable within 72 hours of receipt by the Project Manager.

Contingency Management

Access to spend or commit any amount of the Project Risk Reserve is subject to the following controls:

- The Project Manager has delegated authority to expend and commit the Flat-Rate Contingency on all Projects;
- The Project Manager must obtain approval from the Project Sponsor to spend or commit any Risk-Based Contingency;
- Risk Reserve may only be spent on risks arising out of the Approved Project Scope – it may not be used to increase Project Scope.

To address the inherent uncertainty involved with capital construction, at Stage Gate Review 3 (Close Out), any remaining funds must be identified and these funds may be reallocated either to a Departmental "Program Management Reserve", or directly to those projects which require additional funding, by use of the appropriate Budget Transfer Forms.

Cash Flow Forecasting

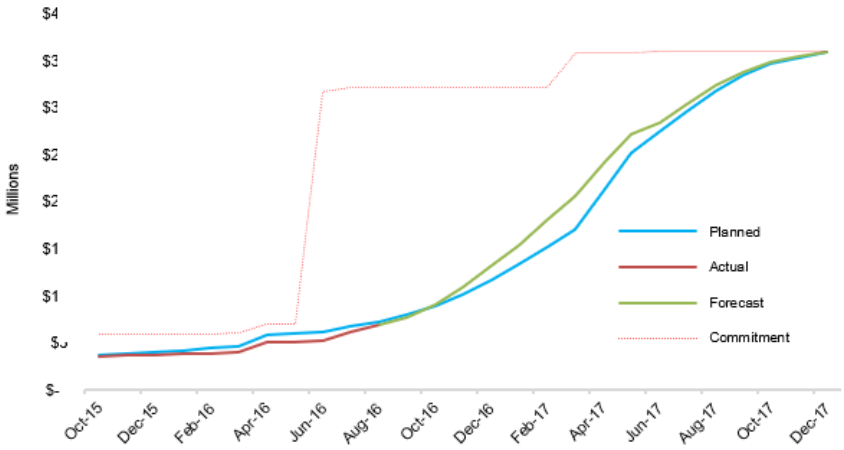

Fig 7. Cashflow Summary Graph / Chart

Project Managers must maintain a cash flow forecast for all Special Projects, breaking down planned, actual and forecast spend monthly over the life of the project for each line of the Cost Report. The Special & Major Project Cost Report template provided in Appendix [5] includes provision for cashflow forcasting.

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CHAPTER 4: SCHEDULE MANAGEMENT

CITY OF NANAIMO | Project Management Framework

DRAFT

1.0 Introduction

This section of the Project Management Framework deals with planning and monitoring project activities – bringing consistency to this area of project management should improve the consistency of project outcomes.

2.0 Baseline Schedules

A fixed baseline is required against which to monitor performance. In this respect, schedule management is no different to cost management - actual progress (whether it be money or time) is monitored against a fixed baseline (budget or schedule) which is established at the outset, and any changes to the baseline are subject to controls.

The nature of Capital Projects is such that the vast majority of individual activities which need to be carefully planned and closely monitored occur during the construction phase, once the Contractor has been appointed. For this reason, there are in fact two baseline schedules to define – the first is owned by the City's Project Manager (the **Baseline Project Schedule**), and the second is owned by the Contractor (the **Baseline Construction Schedule**), with the latter being a contract document and a subset of the former.

Baseline Project Schedule

The Project Manager is responsible for planning the Project, and for providing a Baseline Project Schedule prior to commencing design to cover the life of the Project through design, procurement and construction.

It is not necessary for the Baseline Project Schedule to have a high level of detail – Level 2 is adequate for Special and Major Projects, Level 1 for Standard Projects and Level 0 for Routine Projects (refer to Section 4.0 below for further explanation of the industry standard for schedule levels of detail).

Note that Project Managers are encouraged to used MS Project scheduling software to develop their Baseline Project Schedules.

Baseline Construction Schedule

On Special and Major Projects, the Project Manager is also responsible for ensuring that procurement documents require bidders to provide a Level 4 Baseline Construction Schedule within 20 days of contract award in native file (MS Project or Primavera) format, clearly showing the critical path, and also for reviewing and confirming the reasonableness of the Baseline Construction Schedule.

3.0 Schedule Monitoring

On Special and Major Projects, the Project Manager is responsible for ensuring that procurement documents require bidders to provide a monthly schedule update throughout the contract duration together with a description of any changes.

The Project Manager is required to review all contractor schedule submissions for reasonableness and accuracy. This is important as an exercise in due diligence, but also because these documents may be used by either party as the basis of a contract dispute or claim.

It is also good practice for the contractor to produce a short term "look-ahead" schedule in line with their monthly contract schedule updates – these would be at an even greater level of detail than a L4 schedule.

4.0 Schedule Levels of Detail

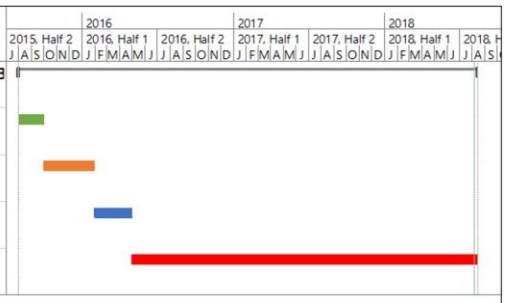
Level 0 Schedule

This is simply the Project start and end dates, and so does not meet the definition of a project planning tool.

Level 1 Schedule

This schedule will indicate key Project activities with their durations:

ID	Task Name	Duration	Start	Finish
0	**Schedule**	**157.2 wks**	**Sat 15-08-01**	**Mon 18-08-13**
1	Assemble Team	8.8 wks	Sat 15-08-01	Wed 15-09-30
2	Design / Specify the Works	17.6 wks	Thu 15-10-01	Sun 16-01-31
3	Procurement	13.2 wks	Mon 16-02-01	Sat 16-04-30
4	Construction	118.4 wks	Sun 16-05-01	Mon 18-08-13



Level 1 Project Schedule

CAPEX PROJECT ADVISORY

Fig 8. Example Level 1 Baseline Project Schedule

Level 2 Schedule

This schedule will provide a further level of detail / sub-division to each of the key project activities than would be included in a Level 1 schedule. Note that the example below is from a Design-Build Project:

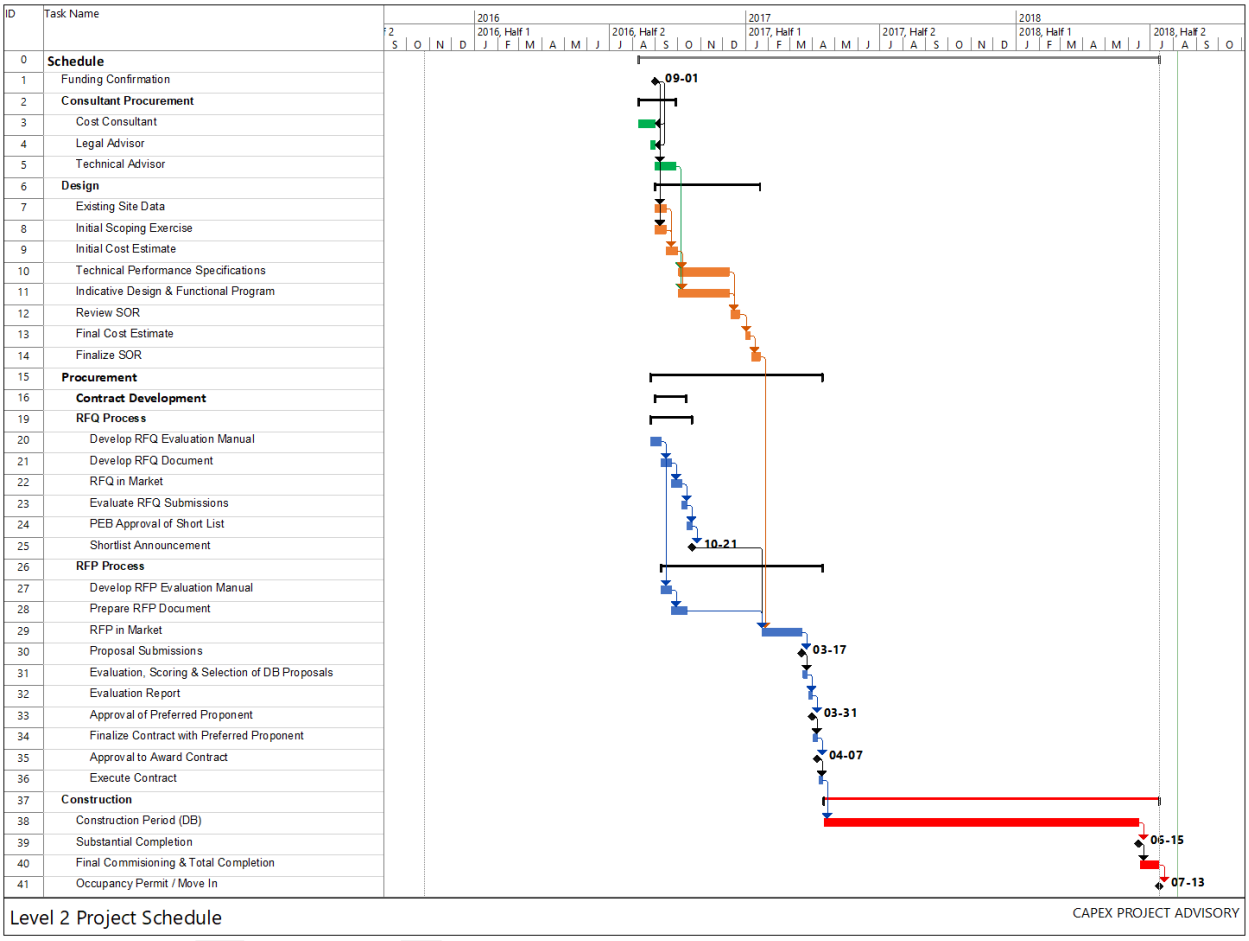


Fig 9. Example Level 2 Baseline Project Schedule

When used for the Baseline Project Schedule, a Level 2 Schedule will typically lack the construction phase detail to be later provided by the Contractor, but will have the following:

Key Activity Groups including: Consultant Procurement, Design, Contractor Procurement, and Construction; **Key Activities within each Group** including: Design Stages, Design Review, Procurement Document Preparation, Bid / Tender Response Period; as well as **Key Milestone Dates** including: Project Start; Project End; Stage Gates; Issue of Procurement Documents; Receipt of Contractor Bids / Proposals; Contract Award.

Level 3 Schedule

This schedule provides a general overview of the construction work breakdown structure with a basic level of detail / sub-division to each of the key construction phase activities, but the details could be insufficient to plan or monitor the work.

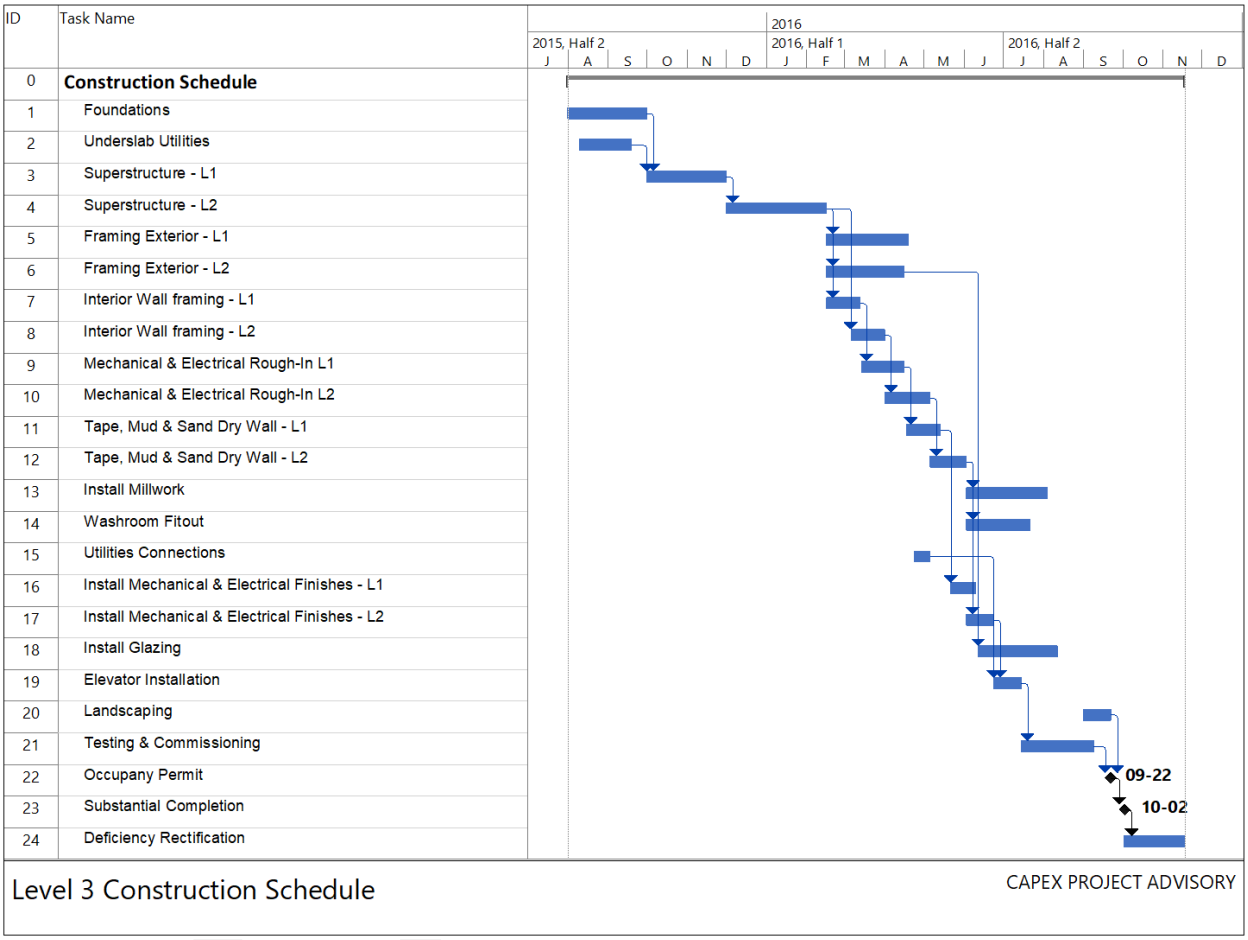


Fig 10. Example Level 3 Baseline Construction Schedule

A Level 3 Schedule may be expected from a contractor during the bid phase of a Major or Special Project as an initial scheduling exercise to validate at a high level the achievability of the construction period.

A Level 3 Schedule would be sufficient for monitoring delivery of significant civil construction projects.

Level 4 Schedule

This schedule provides a very good level of detail / sub-division to each of the key construction phase activities sufficient to plan and monitor the work, and will include a critical path.

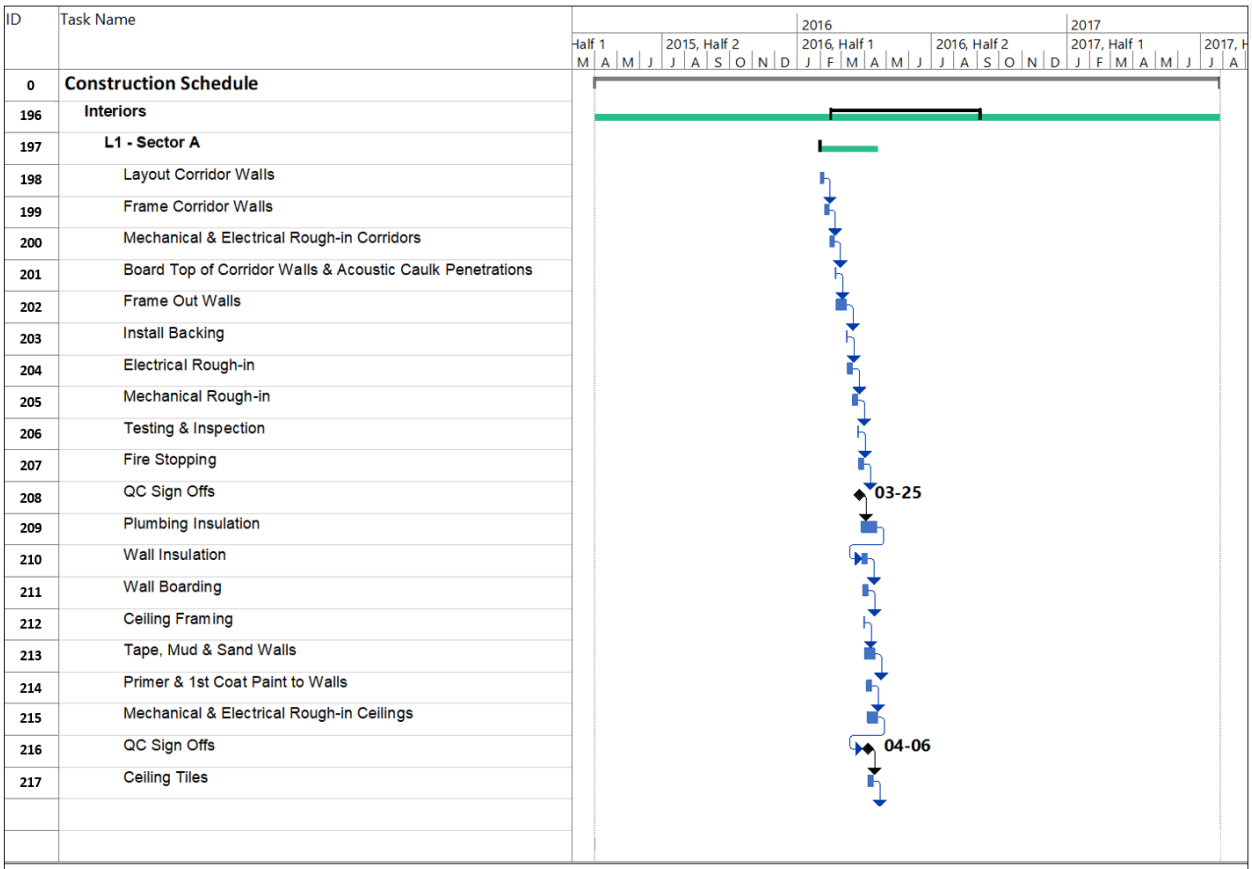


Fig 11. Example Level 4 Baseline Construction Schedule (Extract only)

A Level 4 Schedule is the industry standard for the delivery of significant facility construction projects.

Each construction activity will typically be broken down by area of the project and each individual trade, and it would not be unusual for a Level 4 schedule to run to a dozen pages or more for a Special Project.

CHAPTER 5: RISK MANAGEMENT

CITY OF NANAIMO | Project Management Framework

DRAFT

1.0 Introduction

This section of the Project Management Framework deals with the implementation of a structured and documented approach to the identification, evaluation, treatment, monitoring and reporting of risk to ensure that there is transparency in terms of whether those Project Risks are properly managed.

2.0 Terminology

Project Risk

> An event or condition which may or may not occur, and if it does occur, would impact negatively upon the project objectives.

Project Risk Register

> A log of all identified Project Risks ranked in accordance with an assessment of the likelihood of occurrence and impact of each risk using a numeric risk assessment matrix.

					Pre-Mitigation		
Risk ID	Project Phase	Owner	Category	Risk	Likelihood	Severity	Rating
							0
							0
							0
							0
							0

Fig 12. Example Project Risk Register (refer to Appendix [6])

The Project Manager must produce a Project Risk Register for all Special and Major Projects. Since Standard and Routine Projects are low risk by nature, they do not require a documented approach to risk management.

Project Risk Management Plan

> A record of the actions to be taken to mitigate the likelihood and/or impact of each identified Project Risk, and the owner of those actions.

The Project Manager must produce a Project Risk Management Plan for all Special Projects.

The format of the Project Risk Management Plan can be as simple as simply adding information as additional columns on the Project Risk Register. It is also recommended good practice to re-assess the likelihood of occurrence and impact of each risk after the mitigations proposed have been implemented.

Pre-Mitigation			Action		Post-Mitigation		
Likelihood	Severity	Rating	Mitigation / Response	By (Owner)	Likelihood	Severity	Rating
		0					0
		0					0
		0					0
		0					0
		0					0

Fig 13. Example Project Risk Management Plan as extension of Project Risk Register (refer to Appendix [6])

2.0 Risk and Contingency

Once you have a Project Risk Management Plan, you are in a good position to evaluate the Risk-Based Contingency Reserve (refer to Chapter 3 - Cost Management) – this is required only for Special Projects.

To do this, Project Managers must identify the cost impact of each risk occuring. Note that it would not be appropriate to take a purely determinsitic approach and simply add up each of these costs, as this would ignore the likelihood of each risk occuring as well as the relationship of one risk to another, as well as the likelihood of different severities occurring. Instead, the Project Sponsor will review the Project Risk Management Plan with the Project Manager and use professional judgement to determine an appropriate percentage for the Risk Based Contingency, provided that it is no more than 15% of the Baseline Cost Estimate.

3.0 Risk Identification & Assessment

Project Risk Identification

Risk identification is a subjective matter, however, a degree of consistency is introduced through the requirement for the Project Manager to ensure that consideration is given each of the following Risk Categories, noting that there may be other Risk Categories not listed here:

Health & Safety	Environmental	Cost
Schedule	Scope	Stakeholders
Human Resources	Weather	Geological
Social	Procurement	Contractual

It is further recommended that the Project Risk Register should not populated in isolation by the Project Manager, but rather that input be sought from numerous individuals across a range of disciplines e.g. Project consultants, other Project Managers, the Purchasing Department and the Project Sponsor. A workshop format can work well for Special Projects.

The Project Manager must present the Project Risk Register (Special and Major Projects) at each Stage Gate Review.

Project Risk Assessment

Assessment of Project Risk is also a subjective matter, and one way of introducing a degree of consistency is for Project Managers to use the same approved Project Risk Rating Matrix across all Projects (refer to Fig. 12 below). This is a simple 4x4 matrix of likelihood and severity, where least likely / least severe are ranked as 1, and most likely / most severe are ranked as 4. There are three classifications of Project Risk resulting from multiplication of likelihood and severity ratings, as follows:

- Risks rated 3 or under are defined as **Low Risk**
- Risks rated between 4 and 8 are defined as **Medium Risk**
- Risks rated 9 or above are defined as **Material Risk**

It is a requirement of each Stage Gate Review that all Project Risks identified as Material (rated 9 or above) be mitigated to ensure that there are no identified and unmitigated Material Risks.

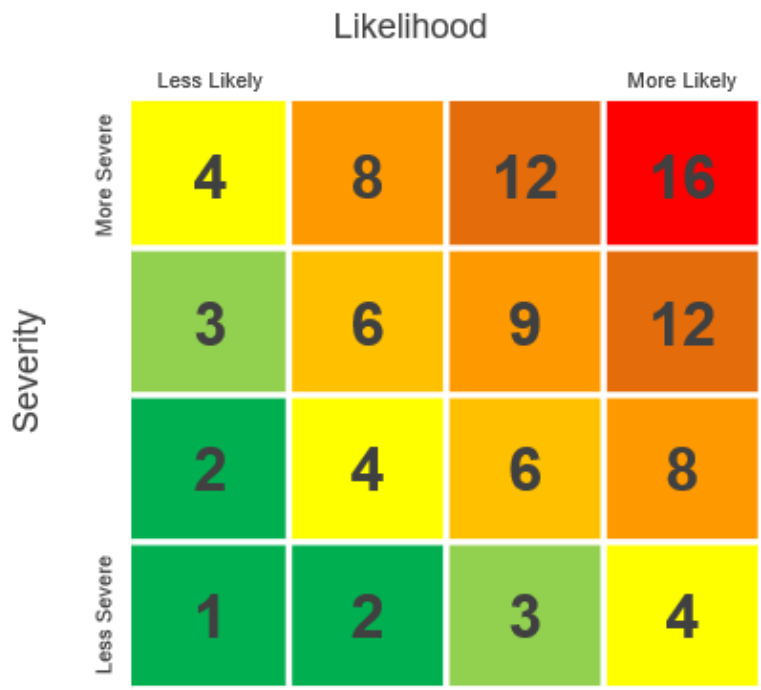


Fig 14. Project Risk Rating Matrix

It is recommended that for Special Projects, the assessment and ranking of each risk is revisited on the basis that the proposed mitigation will be implemented (perfer to the “Post-Mitigation” columns in Fig. 11 and Appendix [6])

CHAPTER 6: STAKEHOLDER MANAGEMENT

CITY OF NANAIMO | Project Management Framework

DRAFT

1.0 Introduction

This section of the Project Management Framework deals with the process of identifying individuals, groups, departments and organizations who may be impacted by the project and who in turn could impact the project; acknowledging their perspectives and expectations, and planning appropriate and effective engagement.

2.0 Stakeholder Identification

The first step in managing stakeholders is to identify who we should engage with. Some stakeholders will be internal within the City, while others will be external, and of those external stakeholders, there will likely be groups of public stakeholders, such as local residents and businesses. There is no right or wrong way to identify stakeholders, which comes down to professional judgement; however, Project Managers must document identified stakeholders, and provide details at Stage Gate Reviews of the status of engagement conducted and planned.

3.0 Levels of Engagement

At the City, we consider there to be three broad **Levels of Engagement**, as shown in the graphic below.

Inform	One-way communication
Consult	Two-way communiction, requesting and capturing input
Involve	Meaningful two-way communication, with feedback

The appropriate Level of Engagement to adopt for public stakeholders depends on the nature of the Project, and each Department is responsible for providing guidance to their Project Managers on which types of project require which Level of Engagement.

The Engineering and Public Works Department has developed the following guidance to help ensure that Project Managers select the most appropriate **Level of Engagement** for public stakeholders, and it also acts as a Stakeholder Management Plan in certain cases:

Stake Holder Class	Level of Public Engagement	**Example Project Description (Department Specific)**	Stakeholder Management Plan*
0	**INFORM**	Little or no impact to traffic / public	None Required
1	**INFORM**	Within road ROW. Local road to neighbourhood collector. Minor delays and impacts to localized neighbourhood.	Notify Residents in advance of construction; Construction Signs & Flyers
2	**INFORM / CONSULT**	Within road ROW. Local road to neighbourhood collector. Minor delays and impacts to localized neighbourhood with impacts to private property.	As 1 + Consult with specific property owners in advance of construction; Personal Discussions
3	**INFORM / CONSULT**	Within road ROW. Commercial or Industrial Areas. Minor delays and impacts to localized neighbourhood with impacts to private property.	As 2 + Notify any business owners and discuss access concerns and impacts to business
4	**INFORM / CONSULT**	Construction work in a major corridor, little to no change after construction.	As 3 + Press Release; Social Media
5	**CONSULT**	Will create minor changes to the project area and how people use it, or has potential to cause disruption over an extended period of time.	As 4 + Optional Project Specific SH Management Plan
6	**CONSULT**	Will create substantial changes to the project area and how people use it, or has potential to cause disruption over an extended period of time.	A Project Specific SH Management Plan Required
7	**INVOLVE**	Substantial impacts to wider community.	A Project Specific SH Management Plan Required
8	**INVOLVE**	Community input required for success.	A Project Specific SH Management Plan Required

Fig.15. Engineering & Public Works Department Guidance on Public Stakeholder Engagement

4.0 Project Specific Stakeholder Management Plan

On those projects where a project-specific Stakeholder Management Plan is required, content should include the following for each Key Stakeholder (template provided in Appendix [7]):

Stakeholder Details	
Stakeholder	
Internal or External	
Level of Engagement	Inform / Consult / Involve (*delete as applicable*)
Purpose of Engagement	

Stakeholder Analysis	
Potential Impact the Project Could Have on the Stakeholder	
Potential Impact the Stakeholder Could Have on the Project	
Likely Expectations & Concerns of the Stakeholder in respect of the Project	
Risks and Lost Opportunity of Not Adequately Engaging the Stakeholder	

Engagement Action Plan			
Action	**Action Owner**	**Action by (Date)**	**Anticipated Outcome**
e.g. Hold a Project Open House			

Fig. 16. Example Stakeholder Management Plan

CHAPTER 7: SCOPE MANAGEMENT

CITY OF NANAIMO | Project Management Framework

DRAFT

1.0 Introduction

This section of the framework deals with the baseline definition and subsequent control of both project scope and contract scope, as well as project close out procedures.

2.0 Project Charter

The Project Charter defines the project – it is the baseline against which project performance is monitored and reported. A Project Charter - duly signed by the Project Sponsor - is required at the outset of all Major and Special Projects as a requirement of Stage Gate 1.

A template Project Charter is provided below, use of which is mandatory on Major & Special Projects (template provided in Appendix [8]):

Project Charter	
Project Name / Department	
Project Objectives (narrative)	
Project Budget ($)	
Project Schedule (Start / End Dates)	(Append Baseline Project Schedule)
Project Scope (narrative)	
Project Manager	
Project Sponsor	
Key Risks	(Append Risk Register / Risk Management Plan where applicable)
Key Stakeholders	
Stakeholder Classification	(Append Stakeholder Management Plan where applicable)

Approved by Project Sponsor (Print Name): _____

Title: _____

Date: _____

Signature: Rev. No. _____

Fig. 17. Project Charter Template

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3.0 Changes to the Project Baseline

While the intent is for the Project Charter to remain unchanged throughout the course of the project, there may be circumstances when it becomes necessary to re-baseline a project in terms of Project Scope, Budget or Schedule. In these circumstances:

- Any change to the Project Scope, Schedule or Budget must be signed off by the Project Sponsor by revision to the Project Charter;
- As the Project Scope, Schedule and Budget are all connected, a change to one should be expected to result in a change to one or both of the other two;
- Project Contingency may not be used to fund change to the Project Scope.

4.0 Changes to Contracts

Contract Change Management

A much more common form of change is contract change, i.e., changes to the scope of a vendor's contract which are within the Approved Scope of the Project, and which the Project Manager is authorized to issue. For clarity, the Project Manager is not authorized to issue contract changes outside of the Approved Scope of the Project.

Contract changes apply to consultant agreements and construction contracts, however, the focus of the Project Management Framework is on change to construction contracts, as this is by far the greatest risk to control. Uncontrolled change to construction contracts is one of the primary causes of disputes and claims, as well as project cost and time overruns.

Changes must not be issued which result in commitments exceeding the Approved Project Budget – in these circumstances, the Project Sponsor must sanction change to either the Approved Project Budget or Scope.

All construction contracts must document the process for contract change ("Change"), including the following provisions:

- The Contractor must not proceed with a Change without an instruction to do so in the form of either a Change Order or a Change Directive;
- The City has the right to make Changes;
- Change will be managed using Change Orders, Change Directives and Contemplated Change Notices ("CCNs"), each of which must be clearly defined in the construction contract;
- Timescales must be specified for Contractor responses to CCNs;

- The basis upon which Changes may be priced must be specified in the contract.

All Project Managers must use the City's change templates, which are included in Appendix [9].

Construction Contract Change Register

On all Capital Projects, the Project Manager must maintain a live register / log of all change documentation issued to date, which must include Contemplated Change Notices, Change Directives and Change Orders. A template Construction Contract Change Register is provided below – use of which is optional (template provided in Appendix [9]):

		Change Directives		CCNs			Change Orders				
Change Ref.	Scope Description	Issue Date	Ref.	Issue Date	Ref.	Date Response Received	Issue Date	Ref.	Cost	Cumulative Contract Change Amount	Comments
									$ -	$ -	

Fig. 18. Change Register Template

5.0 Project Closeout Procedures

Stage Gate 3 requires all Project Managers to obtain approval to close out a Project, which will be granted only upon evidence that the following items have been completed:

- Final inspection completed;
- Deficiency work completed, and log presented;
- Confirmation that any contract disputes and claims have been settled;
- Contractor holdback released;
- Construction phase insurance terminated;

- Contractor fully de-mobilized;
- Record drawing received;
- Specified owner's manuals handed-over by Contractor;
- Specified spares handed-over by Contractor;
- Specified Contractor training delivered;
- Final project schedule available;
- Approvals in place any Risk Based Contingency spend;
- Remaining funds appropriately reallocated using Budget Transfer forms;
- Final project cost data issued to Finance;
- Scope sheet and/or Project Charter complete and accurate;
- Vendor performance forms submitted; and
- Lessons learned workshop date planned (Special, Major Projects).

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CHAPTER 8: PROJECT REPORTING

CITY OF NANAIMO | Project Management Framework

DRAFT

1.0 Introduction

This section of the Project Management Framework deals with ensuring that complete, accurate and up-to-date information flows from the Contractor to the Project Manager and up to the Project Sponsor.

The Project Management Framework defines two forms of reporting:

- **Internal Reporting**, which is issued from the Project Manager to the Project Sponsor and relates to the performance of all phases of the Project relative to the Project Baseline; and
- **Contractor Reporting**, which is issued from the Contractor to the Project Manager and relates to the performance of the construction phase of the Project relative to the contract requirements.

2.0 Internal Reporting

On all Capital Projects, the Project Manager is responsible for providing complete, accurate and up-to-date status information to the Project Sponsor on a monthly basis. This must include an update on the following:

- Narrative on progress in the period;
- Project Baseline substantial completion date and forecast substantial completion date;
- Project Budget, spend to date and forecast cost at completion;
- Top five project risks and mitigations in place;
- New and on-going stakeholder complaints or events/actions;
- Issues, recommendations to mitigate, and approvals required to implement treatments.

Project Managers of Special and Major Projects are required to complete a Project Report based on the template provided in Appendix [10]. Standard and Routine projects are also encouraged to use the Project Report template.

3.0 Contractor Reporting

All construction contracts for Major and Special Projects should set out clear requirements for reporting, which should include as a minimum:

- Update to Baseline Construction Schedule;
- Valuation of work done for payment purposes in the period and to-date;
- List and value of Change Orders issued to date;

- Health, Safety or Environmental Incidents in the reporting period;
- Details of any complaints from the public in the reporting period;
- Progress photographs;
- Cash flow projection (Special Projects only).

Standard and Routine projects are encouraged to require similar reporting requirements from their construction contractors.

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CHAPTER 9: RESOURCE MANAGEMENT

CITY OF NANAIMO | Project Management Framework

DRAFT

1.0 Resource Management

This section of the Project Management Framework deals with how the City ensures that Project Managers understand their role and responsibilities, and have appropriate training and experience.

2.0 Roles and Responsibilities

The RACI charts (refer to Chapter 1 - Project Governance) set out the project roles & responsibilities, including those of the Project Manager, and should be followed on all Capital Projects.

3.0 Technical Knowledge

The City has invested in the development of a Project Management Framework consisting of processes, templates and guidance based on industry practices and tailored to the City's specific requirements.

The Project Management Framework is intended as a project management training resource as much as an Administrative Procedure - support and training on the Project Management Framework will be provided as an on-boarding exercise for new Project Managers, and is also available to all other Project Managers when requested.

While formal project management qualifications are not mandatory, they are valued, and qualifications, experience and past performance of Project Managers will factor into hiring and resource allocation decision making.

4.0 Leadership

The technical aspect of project management is fundamental; however, Capital Projects will not be successful if Project Managers do not have leadership attributes and strong communication skills.

The City acknowledges this, and is committed to investing in developing the leadership potential and communication skills of its Project Managers.

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GLOSSARY OF TERMS

CITY OF NANAIMO | Project Management Framework

DRAFT

CAPITAL PROJECT

PROJECT MANAGEMENT FRAMEWORK

CAPITAL PROJECT MANAGEMENT POLICY

PROJECT MANAGER

PROJECT SPONSOR

APPROVED PROJECT BUDGET

APPROVED PROJECT SCHEDULE

APPROVED PROJECT SCOPE

PROJECT CLASSIFICATION

RACI

STAGE GATE

STAGE GATE REVIEW

CONTRACT STRATEGY

CONTRACT SUMMARY

BASELINE COST ESTIMATE

PROJECT RISK RESERVE

DEGREE OF CONFIDENCE

PROJECT CHARTER

COMMITMENTS

CASHFLOW

PROJECT RISK

PROJECT RISK REGISTER

PROJECT RISK MANAGEMENT PLAN

STAKEHOLDERS

CHANGE ORDER

DRAFT

CHANGE DIRECTIVE

CONTEMPLATED CHANGE NOTICE

PURCHASE ORDER

DRAFT

APPENDICES

CITY OF NANAIMO | Project Management Framework

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APPENDIX 1 – PROJECT CLASSIFCATION FORM

CITY OF NANAIMO | Project Management Framework

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Project Classification Form (DRAFT)

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Project Name			
CPMS #			
Department			
Budget		Start Date	
Project Manager			

1 Is the Project Budget >$10M?	YES	**SPECIAL PROJECT**
	NO	Proceed to 2
2 Is the Project Budget >$1M and not part of routine program?	YES	**MAJOR PROJECT**
	NO	Proceed to 3
3 Is the Project High Risk?	YES	**MAJOR PROJECT**
	NO	Proceed to 4
4 Is the Project Budget >$100k?	YES	**STANDARD PROJECT**
	NO	**ROUTINE PROJECT**

Signature of Project Manager (PM) conducting this assessment _____

Date: _____

Signature of PM Supervisor approving this assessment _____

Date: _____

Complete this section if this classification has been over-turned on the authority of the Director or delegate:

The category has been determined to be Special / Major / Standard / Routine (delete all that are not applicable), for the following reasons:

Signature of Project Sponsor or delegate approving category modification: _____

Date: _____

APPENDIX 2 – STAGE GATE CHECKLISTS

CITY OF NANAIMO | Project Management Framework

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Stage Gate Checklist - Gate 1

CITY OF NANAIMO | Project Management Framework

Project Name	
CPMS #	
Department	
Project Manager	

MANDATORY STAGE GATE 1 - PLANNING & DESIGN (also applicable for CONCEPT DESIGN)

Project Manager approved for Classification of Project?		(Y/N)
Project team identified?		(Y/N)
Internal stakeholders, external stakeholders, parent/child projects identified?		(Y/N)
Levels of Engagement identified?		(Y/N)
Is a Stakeholder Management Plan required?		(Y/N)
Is a Project Risk Register in-place?		(Y/N)
Is a Project Risk Management Plan in-place?		(Y/N)
Have all Material Risks (rated 9 or above) been mitigated?		(Y/N)
Project Budget (Baseline Cost Estimate & Project Risk Reserve) complete?		(Y/N)
Has a Cost Consultant (Quantity Surveyor) been engaged?		(Y/N)
Funding source identified and are sufficient?		(Y/N)
Is a Cost Report template in place for the project, and updated?		(Y/N)
Is the Baseline Project Schedule complete?		(Y/N)
Contract strategy (i.e. Project Delivery Method) evaluation complete?		(Y/N)
Procurement policy requirements met?		(Y/N)
Purchasing Manager notified of competitive procurement process?		(Y/N)
Procurement Schedule developed?		(Y/N)
Any combination of optional Stage Gate Reviews (A to C) required?		(Y/N)
Internal Reporting template finalized?		(Y/N)
Project Execution Plan developed and presented?		(Y/N)
Scope Sheet and/or Project Charter complete?		(Y/N)
PROJECT STAGE GATE DECISION (Proceed, Resubmit, Cancel, Defer)		

Gate decision comments:

Name and Signature of Project Manager submitting this form _____

(Stage Gate Review Applicant) Date: _____

Name and Signature of Individual conducting this review _____

(Stage Gate Reviewer) Date: _____

Stage Gate Checklist - Gate 2

CITY OF NANAIMO | Project Management Framework

Project Name

CPMS #

Department

Project Manager

MANDATORY STAGE GATE 2 - CONSTRUCTION (also applicable for TENDER)

Any updates to internal and external stakeholders, parent/child projects?		(Y/N)
Any issues, concerns engaging with stakeholders?		(Y/N)
Any key updates to Stakeholder Management Plan?		(Y/N)
Is the Project Risk Register and Risk Management Plan updated?		(Y/N)
All Material Risks (rated 9 or above) have been mitigated?		(Y/N)
Approvals received for any Risk Based Contingency spend?		(Y/N)
Any changes to Project Scope, Budget and Schedule?		(Y/N)
Necessary provisions to receive a Level 4 baseline construction schedule in-place?		(Y/N)
Necessary provisions made to receive monthly construction schedule updates?		(Y/N)
Team members identified to review all contractor schedule submissions?		(Y/N)
Contract change processes documented within construction contract?		(Y/N)
Will the Construction Contract Change templates be used?		(Y/N)
Requirements for contractor reporting have been addressed?		(Y/N)
Mandatory requirements for Standard Form of Construction contract followed?		(Y/N)
Tender documents complete?		(Y/N)
Is a Contract Summary, setting out key provisions, in-place?		(Y/N)
Internal Reporting requirements performed?		(Y/N)
Reconciliation with Finance and Purchasing Department complete?		(Y/N)
Land acquisition complete?		(Y/N)
Any combination of optional Stage Gate Reviews (D and/or E) required?		(Y/N)
Project Execution Plan updated?		(Y/N)
Scope Sheet and/or Project Charter updated?		(Y/N)
PROJECT STAGE GATE DECISION (Proceed, Resubmit, Cancel, Defer)		

Gate decision comments:

Name and Signature of Project Manager submitting this form _____

(Stage Gate Review Applicant) Date: _____

Name and Signature of Individual conducting this review _____

(Stage Gate Reviewer) Date: _____

Stage Gate Checklist - Gate 3

CITY OF NANAIMO | Project Management Framework

Project Name	
CPMS #	
Department	
Project Manager	

MANDATORY STAGE GATE 3 - PROJECT CLOSE OUT

Final inspection completed?		(Y/N)
Deficiency work completed and log presented?		(Y/N)
All contract disputes and claims have been settled?		(Y/N)
Contractor holdback released?		(Y/N)
Construction phase insurance is terminated?		(Y/N)
Contractor fully de-mobilized?		(Y/N)
Record drawings received?		(Y/N)
Specified owner's manuals handed-over by Contractor?		(Y/N)
Specified spares handed-over by Contractor?		(Y/N)
Specified Contractor training delivered?		(Y/N)
Final project schedule available?		(Y/N)
Approvals in place any Risk Based Contingency spend?		(Y/N)
Remaining funds appropriately reallocated using Budget Transfer forms?		(Y/N)
Final project cost data issued to Finance?		(Y/N)
Scope sheet and/or Project Charter complete and accurate?		(Y/N)
Vendor performance forms submitted?		(Y/N)
Lessons learned workshop date planned (Special, Major Projects)?		(Y/N)

PROJECT STAGE GATE DECISION
(Proceed, Resubmit)

Gate decision comments:

Name and Signature of Project Manager submitting this form _____

(Stage Gate Review Applicant) Date: _____

Name and Signature of Individual conducting this review _____

(Stage Gate Reviewer) Date: _____

APPENDIX 3 – RACI CHARTS

CITY OF NANAIMO | Project Management Framework

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RACI for Kick-Off

Task	Director	Project Sponsor	Department Manager	Project Manager	Design Lead	Inspector / Construction Manager	Purchasing	Finance
Establish a Stage Gate Review Panel	A	R	C	C	I	I	C	C
Complete project classification form	I	A	C	R	C	C	I	I
Identify project team (Design Lead, Inspector / Construction Manager)	I	A	C	R	I	I		
Pinpoint internal & external stakeholders, parent / child projects across departments	C	A	C	R	C	C	C	C
Determine stakeholder Level of Engagement		A	I	R	C	C		
Develop Stakeholder Management Plans		A	I	R	C	C		
Develop Project Budget (Baseline Cost Estimate & Project Risk Reserve)	A	R	C	R	C	C	I	I
Engage a Cost Consultant (Quantity Surveyor)		A	I	R	C	C	I	
Develop a Cost Report		A	I	R	C	C	I	I
Identify funding source(s)	A	I	R	I				C
Develop Baseline Project Schedule	A	R	C	R	C	C	I	I
Develop Project Risk Register	C	A	C	R	C	C	C	C
Develop Project Risk Management Plan	C	A	C	R	C	C	C	C
Develop mitigations for Material Risks (rated 9 or above)	A	R	C	R	C	C	I	I
Contract strategy (i.e. Project Delivery Method) evaluation	A	R	C	R	C	C	I	I
Develop of Vendor/Contractor Procurement Schedules	I	A	C	R	C	C	C	I
Develop Internal Reporting requirements		A	I	R	C	C	C	C
Develop scope sheet and/or project charter	A	R	C	R	C	C	I	I
Develop the Project Execution Plan (PEP)	A	R	C	R	C	C	I	I

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RACI for Planning & Design Development Stage (the same RACI chart is applicable for Concept, 50% Design, 95% Design, 100% Design stages)

Task	Director	Project Sponsor	Department Manager	Project Manager	Design Lead	Inspector / Construction Manager	Purchasing	Finance
Solicit bids		A	C	R	C	C	R	I
Complete procurement and appoint vendor(s)		A	I	R	I	I	R	I
Preparation of design & specification (schematic, 50%, 95%, 100% design & specification, as applicable)		A	I	R	R	C		
Perform design QA / QC		A	I	R	R	C		
Finalization of permit / approval requirements, land acquisition, etc.		A	I	R	R	C	I	I
Update Project Budget (Baseline Cost Estimate & Project Risk Reserve)	I	A	C	R	C	C	I	I
Provide approvals for Risk-Based Contingency spend	I	A	I	R	C	C		I
Manage Cost Report		A	I	R	C	C	I	I
Manage Baseline Project Schedule	I	A	C	R	C	C	I	I
Track and update Project Risk Register, Project Risk Management Plan	I	A	C	R	C	C	C	C
Develop and implement mitigations for Material Risks (rated 9 or above)	A	R	C	C	C	C	I	I
Manage stakeholder engagements, update plans		A	I	R	C	C		
Develop Vendor/Contractors Procurement Schedules	I	A	C	R	C	C	C	I
Finalize Tender Documents	I	A	I	R	C	C	R	I
Develop Construction Contract Summary sheet		A	I	R	I	I		
Perform Internal Reporting	I	A	I	R	C	C	C	C
Update scope sheet and/or project charter	I	A	C	R	C	C	I	I
Update Project Execution Plan (PEP)	I	A	C	R	C	C	I	I

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RACI for Construction Stage (the same RACI chart is applicable for Tender and Completed Stage)

Task	Director	Project Sponsor	Department Manager	Project Manager	Design Lead	Inspector / Construction Manager	Purchasing	Finance
Solicit bids		A	C	R	C	C	R	I
Complete procurement and appoint contractor (s)		A	I	R	I	I	R	I
Update Project Budget (Baseline Cost Estimate & Project Risk Reserve)	I	A	C	R	C	C	I	I
Provide approvals for Risk-Based Contingency spend	I	A	I	R	C	C		I
Manage Cost Report		A	I	R	C	C	I	I
Review Baseline Construction Schedule	I	A	C	R	C	R		
Review of monthly updates to construction schedules		A	I	R	C	R		
Manage Baseline Project Schedule	I	A	C	R	C	C	I	I
Track and update Project Risk Register, Project Risk Management Plan	I	A	C	R	C	C	C	C
Develop and implement mitigations for Material Risks (rated 9 or above)	A	R	C	C	C	C	I	I
Manage stakeholder engagements, update plans		A	I	R	C	C		
Perform Internal Reporting	I	**A**	**I**	**R**	**C**	**C**	**C**	**C**
Ensure permits/approvals, insurances, bonding, guarantees are in place		A	I	R	R	C	I	I
Commence construction		A	I	R	C	C		
Oversee construction		A	I	R	C	R		
Oversee third party works		A	I	R	C	R		
Oversee QA/QC		A	I	R	R	C		
Oversee health, safety and environment (HSE)		A	I	R	C	R		
Manage Contractor(s) Reporting		A	I	R	C	R		
Initiate & manage change to Project Baseline	A	R	C	C	C	C	C	I
Initiate & manage change to Contracts		A	I	R	C	C	C	I
Review and approve payment requests		A	I	R	C	C	R	I

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RACI for Construction Stage (the same RACI chart is applicable for Tender and Completed Stage)

Task	Director	Project Sponsor	Department Manager	Project Manager	Design Lead	Inspector / Construction Manager	Purchasing	Finance
Update scope sheet and/or project charter	I	A	C	R	C	C	I	I
Update Project Execution Plan (PEP)	I	A	C	R	C	C	I	I

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RACI for Project CloseOut Stage

Task	Director	Project Sponsor	Department Manager	Project Manager	Design Lead	Inspector / Construction Manager	Purchasing	Finance
Perform final inspection		A	I	R	C	C	I	I
Settle contract disputes and claims	A	R	C	C	C	C	R	C
Release contractor holdback	A	R	C	C	C	C	R	C
Terminate construction phase insurance	A	R	C	C	C	C	R	C
De-mobilize contractor		A	I	R	C	C	I	I
Record drawings receipt		A	I	R	C	C	I	
Receive specified owner's manuals from Contractor		A	I	R	C	C	I	
Receive specified spares from Contractor		A	I	R	C	C	I	
Receive specified Contractor training		A	I	R	C	C	I	
Complete final project schedule	I	A	I	R	C	C	I	
Appropriately reallocate remaining funds	I	A	I	R	C	C	I	C
Complete final project cost data, and issue to Finance	I	A	I	R	C	C	I	C
Scope sheet, Project Charter, and PEP updated date and final	I	A	C	R	C	C	I	I
Submit vendor performance forms	I	A	I	R	C	C	C	I
Facilitate lessons learned workshop		A		R				

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CITY OF NANAIMO
THE HARBOUR CITY

COUNCIL POLICY MANUAL

Section:	**Administration**	**01**
Subsection:	**Circulars, Directives, Orders, Manuals, Policies**	**0340**
Title:	**CAPITAL PROJECT MANAGEMENT POLICY**	**XX**

POLICY

The City of Nanaimo (the "City") is committed to improving transparency and consistency of capital construction project outcomes. The Capital Project Management Framework, as amended from time to time, is a mandatory Administrative Procedure which will be implemented pursuant to this Policy by all Departments undertaking capital construction projects at the City.

REASON FOR POLICY

This Policy is designed to improve capital construction project outcomes through the establishment and implementation of a fit-for-purpose, consistent approach to project management and oversight.

AUTHORITY TO ACT

Delegated to Staff.

PROCEDURE

1 Definitions

1.1 Capital Project: For the purposes of this Policy, a Capital Project is defined as all design, construction and related activities involved in delivering a defined scope of work to provide or improve upon the City's infrastructure within a defined budget and timeframe.

1.2 Capital Project Management Framework (the "CPMF"): The CPMF is an Administrative Procedure which describes the standard of project controls and governance arrangements applicable to various classes of Capital Projects.

2 Responsibilities

2.1 To implement this Policy and maintain continual improvement of the City's CPMF, an appropriate level of governance for decision making must be in place throughout the City.

2.1.1 Council is responsible for:

i. adoption, periodic review and updating this Policy;

ii. maintaining the necessary corporate capacity to support the elements and practices within the CPMF; and

iii. setting priorities and articulating community values to City administration.

2.1.2 CAO is responsible for:

i. implementing this Policy;

ii. committing to the implementation and continuous improvement of Capital Project practices and systems to support achievement of the City's organizational objectives.

3 Scope and Applicability

3.1 This Policy applies to all Capital Projects across the organization.

3.2 IT capital projects should follow the intent (but not necessarily the letter) of the CPMF

3.3 The CPMF does not replace any existing corporate strategy, business & capital planning, budget management, asset management, estimating, procurement management systems and processes already in place. The Capital Project Management Framework complements and aligns with these initiatives.

4 Benefits of Compliance

4.1 Implementing this Policy will:

(i) support the goals stated in the Official Community Plan by making best use of available funds for the provision and maintenance of infrastructure;

(ii) support the City's vision, community values and priorities as stated in Council's Strategic Plans;

(iii) establish common expectations across the City in terms of how Capital Projects are delivered based on industry good practices which in turn will improve financial performance, and delivery of services that meet stakeholder expectations.

5 Review Date

This Policy should be reviewed every 3 years from its effective date or from time to time as appropriate.

Date:	201X-XXX-XX	Approved by:	Council / In Camera Council
1. Amendment Date:	201X-XXX-XX	Approved by:	Council / In Camera Council

Committee Information Report

DATE OF MEETING October 10, 2018

AUTHORED BY JAMIE ROSE, MANAGER, TRANSPORTATION

SUBJECT 2019 PEDESTRIAN UNALLOCATED BUDGET

OVERVIEW

Purpose of Report
To provide the Public Works and Engineering Committee with an update on plans for the 2019 Pedestrian Unallocated Budget.

Recommendation
That the report titled "2019 Pedestrian Unallocated Budget", dated 2018-OCT-10, be received for information.

DISCUSSION

As part of the 2018-2023 Capital Financial Plan, City Council added an annual unallocated budget of $300,000 for pedestrian enhancements. These funds were envisioned to be used for planning or capital upgrades to enhance pedestrian safety and mobility. In 2018, this money was used to accelerate the design and construction of sidewalk on Dufferin Crescent between Dufferin Crescent and Boundary Avenue.

Through the Financial Planning process, Transportation Engineering Staff anticipate that the 2019-2024 Capital Financial Plan will continue to include $300,000 of pedestrian unallocated funding for each year of the plan. This report is being presented to the Public Works and Engineering Committee to inform them that, following the adoption of the 2019-2024 Capital Financial Plan, Transportation Engineering Staff intend to bring a report to Council, identifying recommendations on how the Pedestrian Unallocated funding should be spent in 2019.

At this time, it is envisioned that Transportation Engineering Staff will be recommending $265,000 of the $300,000 pedestrian unallocated budget be used to accelerate the projects titled Active Transportation Master Plan, Active Transportation Data Collection Process, and Pedestrian Improvement Review Process, from 2020 to 2019. Transportation Engineering Staff intend to make this recommendation because the Parks and Recreation Department is planning to begin the update to the Parks, Recreation, and Facilities Master Plan in 2019, which will include an update to the Trail Network Plan and Trail Design Guidelines. Aligning all of these projects will ensure that Active Transportation is looked at holistically across the City and will enable Staff to blend both on-street and off-street facilities to provide the community with the highest level of service. As part of the report, Staff also envision recommending all remaining funds from the 2019 Pedestrian Unallocated Budget be used to accelerate the highest priority pedestrian crossing enhancement projects.

SUMMARY POINTS

- Staff anticipate that the annual Pedestrian Unallocated Budget will continue to be included in the 2019-2024 Capital Financial Plan.
- Active Transportation supports Nanaimo's strategic goal of active lifestyles.
- Accelerating Engineering Active Transportation Planning Projects to coincide with Parks Trail Network and Design Projects will support a comprehensive plan for Active Transportation across the City.

Submitted by:

Jamie Rose
Manager, Transportation

Concurrence by:

Poul Rosen
Senior Manager, Engineering