Calculating non-construction costs within Estimated Reconstruction Costs for Essential Public Assets

This guidance note outlines the approach for calculating non-construction costs associated with the reconstruction of essential public assets (REPA) under the Disaster Recovery Funding Arrangements 2018 (DRFA). It provides clarity on what constitutes non-construction costs, how they should be calculated, and what proportion of project costs they should reasonably represent.

Developing estimated reconstruction costs under the DRFA

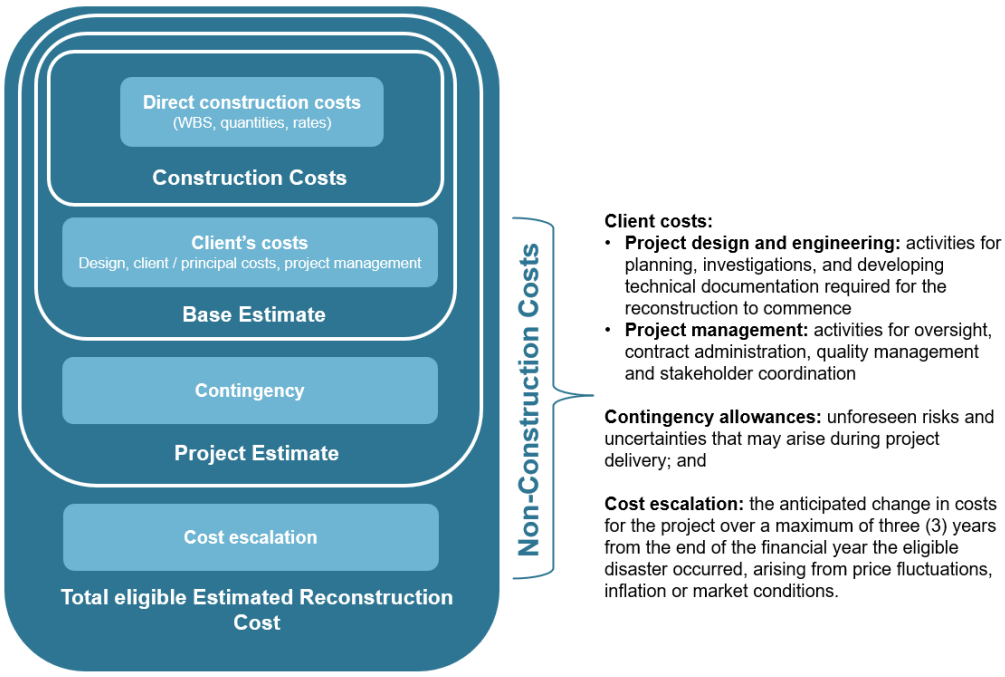
Under clause 6.4.2 of the DRFA, states and territories must establish the estimated reconstruction cost (ERC) for the reconstruction of an essential public asset through market response or cost estimation. Regardless of the method used to establish ERCs, under clause 6.4.3 of the DRFA, the estimate must reflect the total project cost. This includes eligible state expenditure for construction, and non-construction costs including design and project management, contingency and cost escalation.

This guidance note provides advice on methods for developing ERCs for non-construction costs including project design, project management, contingency and cost escalation. Estimation for certain direct costs used to establish ERCs is addressed in Guidance Notes Internal plant and equipment costs and Labour costs.

Eligible non-construction cost components under the DRFA

Non-construction costs in infrastructure reconstruction refer to the expenditure that support the delivery of a project but are not direct physical reconstruction activities. The figure below, adapted from *Guidance Note 2 – Base cost estimation* (published by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Art), provides an overview of the eligible components of essential public asset expenditure.

Figure 1: Eligible essential public asset expenditure



Non-construction costs do not include general administrative expenses unrelated to the specific reconstruction project, such as corporate overheads, learning and development, program management costs, claims and assurance activities, or unrelated staff salaries. These costs are ineligible under the DRFA.

Methodologies for estimating non-construction costs

Under the DRFA, non-construction costs are recognised as a component of the total project cost for reconstruction of an essential public asset. Methodologies for estimating non-construction costs include:

1. **Percentage-based estimation:** Non-construction costs are calculated as a percentage of the total construction costs, with benchmarks developed from historical data.
2. **First principles estimation:** For more tailored assessments, non-construction costs can be estimated using a first principles approach. This involves:
    - identifying specific tasks and roles involved in non-construction activities
    - applying appropriate wage rates and time allocations; and
    - including overheads and allowances where eligible.
3. **Activity-based costing:** This method assigns costs to specific support functions based on their contribution to the project. It is useful for complex projects with multiple layers of oversight and design.

For non-construction costs to be eligible under the DRFA they must be documented with supporting assumptions, sources, and calculation methods and be reasonable and proportionate to the project's scale and complexity. The costs must be auditable, meaning states and territories must be able to justify both their inclusion and how they were calculated for each essential public asset.

Regardless of the method chosen to calculate non-construction costs when developing estimated reconstruction costs, states and territories must assess the eligibility of actual costs incurred on each project in accordance with control objective C5 of the DRFA *Actual costs for each project are recorded against the estimated reconstruction cost*.

This guidance note does not replace the need for states and territories to assure themselves of the eligibility of non-construction costs prior to submitting claims to the Commonwealth under the DRFA.

Percentage-based estimation

To support streamlined development of ERCs states and territories can elect to adopt the percentage-based estimation method for eligible non-construction costs outlined within this Guidance Note. Instead of itemising and calculating every non-construction cost, such as under a first principles estimation or activity-based costing methodology, states and territories may apply a standard percentage to total eligible direct costs to estimate each component of non-construction costs. This must be based on the complexity and risk of proposed treatments for each essential public asset, and not on the value of the proposed treatments.

Where states and territories adopt the rates outlined below, documentation must be maintained to support the reason the complexity rating was selected, and the reason for the percentage selected up to the maximum rate that applies. No additional evidence to support the determination of non-construction costs is required as part of establishing an ERC.

The percentage selected must be consistent across projects of a similar nature and complexity, unless there is evidence for a variation.

Table 1: Maximum percentages for non-construction costs

Non-construction Cost Component	% Calculation Basis	Low Complexity	Medium Complexity	High Complexity
Project design	Applied on Construction Costs	6%	10%	15%
Project management	Applied on Construction Costs	7%	11%	15%
Contingency	Applied on Base Estimate	24%	30%	40%
Cost escalation	Applied on Project Estimate	Per approved indices. Refer below.		

Contingency

Contingency for ERCs less than $25m is generally calculated using deterministic contingencies, as reflected in the table above. For ERCs developed using cost estimation, states and territories should sufficiently progress investigations, design and/or specification to ensure ERCs do not require a contingency greater than 40% for high complexity projects. Strategic estimates, and associated contingencies are not appropriate for the establishment of ERCs.

For ERCs developed using market response it is expected the contingency is no more than 50% of the maximum values outlined in the table above (e.g. a maximum of 20% for a high complexity project), reflecting the increased certainty market response provides. Where tenders to a market response include contingency as a separate item in their response, this must comply with the contingency requirements of the DRFA, or this must be separately adjusted when developing the ERC.

Where an ERC is expected to exceed $25m, contingency is generally calculated using probabilistic contingencies, as this provides a more nuanced approach to risk management by incorporating statistical analysis and probability distributions. Where probabilistic contingency is used calculations must comply with *Supplementary Guidance Note 3A Probabilistic contingency estimation* (published by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Art).

In limited circumstances, particularly for highly complex projects, the application of probabilistic contingency calculations may result in a project contingency exceeding the maximum contingency range listed within this guidance. This higher contingency value must be accompanied by evidence to support the methods, judgements and calculations applied to meet audit and assurance requirements under the DRFA.

Cost escalation

Under clause 6.6.2 and 6.6.3 of the DRFA, the calculation of cost escalation is performed at the time of the preparing the ERC. Cost escalation is eligible for a maximum period of three years from the end of the financial year in which the eligible disaster occurred, regardless of when the project commences, and must be a realistic allowance based on the estimated time required to complete the works.

States and territories must utilise the escalation rates and escalation calculation methodology included in the state or territory specific Road Construction Escalation Forecasts prepared annually by the Commonwealth Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts.

Cost escalation must not be included in ERCs developed using market response, as the market response already includes cost escalation within the contract price. Where tenders to a market response include cost escalation as a separate item in their response, this must comply with the cost escalation requirements of the DRFA.

Detailed scenarios on the application of cost escalation are included at Appendix B.

Appendix A: Complexity ratings

A complexity rating is a qualitative assessment used to evaluate the level of difficulty, risk, and uncertainty associated with a reconstruction treatment. It helps project managers, engineers, and asset owners determine the appropriate level of planning, oversight, and contingency required for each treatment.

The table below provides an outline of treatment types and typical complexity ratings for use when applying percentage-based estimation under the DRFA. Where a state or territory seeks to adopt a standard complexity rating exceeding the typical ratings outlined below, documentation of the justification/reasoning, and the calculation of the contingency percentage must be maintained by the state or territory. This may occur in circumstances such as complex environmental or heritage constraints, or difficulty in accessing the site due to remoteness or terrain

Table 2: Reconstruction treatments and typical complexity rating

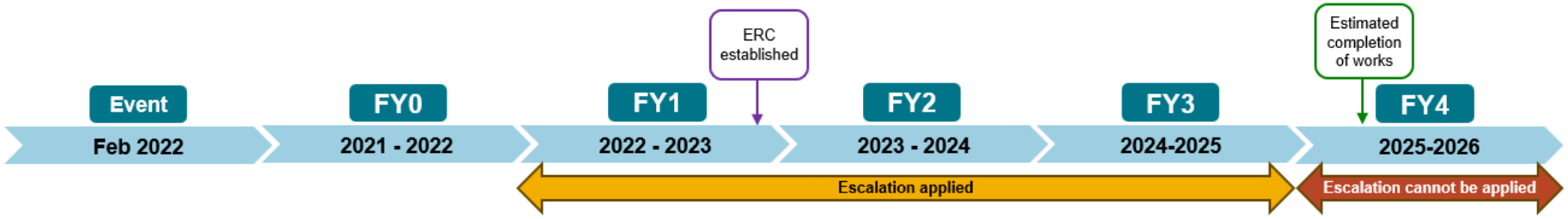
Reconstruction Treatment	Description	Typical Complexity Rating
Unsealed Road Treatment	Grading and re-sheeting of unsealed roads.	Low
Road Furniture and Delineation	Repair or replace road signage, guardrails and markers.	Low
Clearing debris	Clearing of disaster related debris from essential public assets.	Low
Sealed Road Treatment	Localised patching or full-depth repairs of sealed roads.	Medium
Earthworks	Earthworks and excavation activities required to reconstruct an asset.	Medium
Concrete Works	Reconstruct or repair concrete structures such as kerbs.	Medium
Culverts and Drainage Structures	Excavate, repair and reinstate drains and culverts.	Medium
Protection Works	Repair or construct rock protection structures.	Medium
Geotechnical works	Engineering activities that assess, stabilise, and modify the ground conditions to support infrastructure reconstruction.	High
Other	Other structures, including bridges	Variable

Complexity ratings:

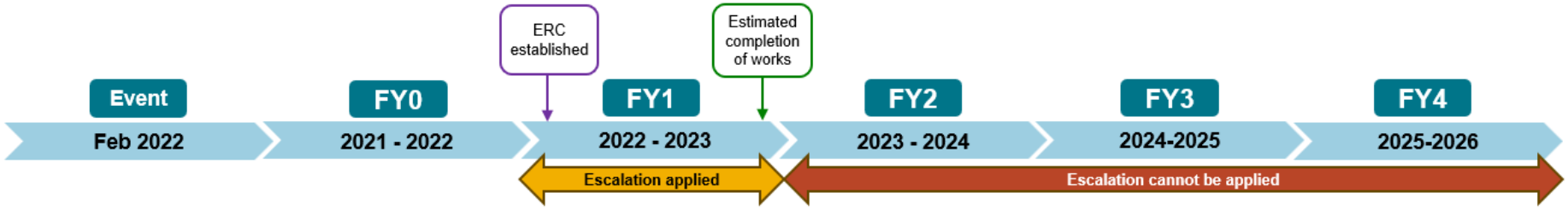
- **Low**: Minimal regulatory oversight, low environmental impact, straightforward execution.
- **Medium**: Moderate planning and coordination, potential for delays due to access or weather.
- **High**: Requires engineering input, permits, environmental assessments, or has high cost/time sensitivity.

Appendix B: Application of cost escalation across eligible financial years

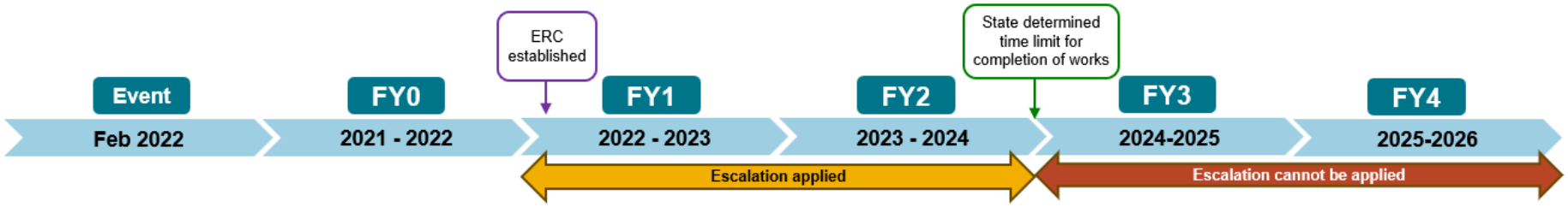
Scenario 1: An eligible event occurs in February 2022. The ERC is established in financial year 1 (FY1), which is within the Allowable Time Limit (ATL). Completion of works is estimated for September 2025, within FY4. States and territories can apply cost escalation between FY1 and the end of FY3 as this is three years from the end of the financial year in which the eligible disaster occurred. Cost escalation cannot be applied beyond the end of FY3, even if works are estimated to continue beyond this timeframe.



Scenario 2: An eligible event occurs in February 2022. The ERC is established at the beginning of financial year 1 (FY1), and the works will be completed by the end of FY1. States and territories can apply cost escalation for FY1. Cost escalation cannot be applied after the estimated completion of works date (i.e for a period of 36 months), as it is known the works will be completed in FY1.



Scenario 3: An eligible event occurs in February 2022. The ERC is established in financial year 1 (FY1), however due to competing priorities for reconstruction works and market demand, it is not confirmed at the time of the estimate when the works will be completed. States and territories set a time limit for completing all essential public asset reconstruction works within two years of the eligible event occurring, unless an exemption has been provided. Cost escalation can be applied from FY1 until FY2, in line with the state determined time limit for completion of works.



Scenario 4: An eligible event occurs in February 2022. The state receives an extension to the Allowable Time Limit (ATL) for establishing ERCs. The ERC is established in financial year 2 (FY2), within the extended ATL. Completion of works is estimated for FY4. States and territories can apply cost escalation from FY2, until the end of FY3, as this is three years from the end of the financial year in which the eligible disaster occurred. Cost escalation cannot be applied beyond the end of FY3, even if works are estimated to continue beyond this timeframe.