Strategic Estimating Model - Estimate Release Form

CP056 Version 1.4.0

Capital Expenditure

Scheme Details

Project Name	M6 A (M) Pack I, Segment End of M65 Colne to New Jcn with A629 Sk pton
Type of Estimate Requested	Strategic Estimate
Estimate Ident fica ion Number	1125
Type of Project	New Construction
Primary C assification of Scheme	Bypass
Date of This Estimate Release	31/03/2020
Scheme length	19 6 Km

Category	Scope of Works
New Link Roads	New Link w th a D2M cross section for 19.6km; No.of structures: 2 viaducts,1 riverunderbridge, 5 roadbridges, 13 other structures such as minor road structures priva e access structures,accomodation bridges and underpasses; Length of Re aining Walls in Cut and Fi l: 08 m; No.of culverts:20; Demol tion of commerc ai/residential bui dings:18 no. Cut volumes:1,381,275 m3 and Fill volumes: 973,287 m3.The earthworks quantities provided by the Project Team are including for topso l but excluding of capping and the new pavement box.The capping thickness assumed within es imates is 0.3m (0% proportion of capping).Earthworks Stra egy Most Likely Scenar o includes for 80%Acceptable Material other than 5A,19%Un-Acceptable Material U1A and 1% Un-Acceptable Mater al U2.Percentage of Re-use the Acceptab e Material:100% Percentage Processed for re-use Un-Acceptable Ma erial:80%.Minimum Scenario includes for 90% Acceptab e Material other than 5A,9%Un-Acceptable Material U1A and 1% Un-Acceptable Material U2.Percentage of Re-use the Acceptable Material:100%.Percentage Processed for re-use Un-Acceptable Material:100%.Maximum Scenario includes for 70% Acceptab e Material other than 5A,29%Un-Acceptab e Material U1A and 1% Un-Acceptab e Ma erial U2.Percentage of Re-use the Acceptable Mater al:100%.Percentage Processed for re-use Un-Acceptab e Material:75%.
Widening	
New Junctions	1 no Diamond has been included w thin this scheme. 1 no Half Cloverleaf has been included within this scheme.
Junct on Improvement	
Techno ogy	

Base Cost Estimate & Risk (Q1 2016)

	Minimum	nterim Scheme (Mode) ML	Maximum
Base Estimate	£5 6,799,377.58	£1,056 71 ,593.63	£2,02 ,578,815 83
Risk Adjustment	£27,339,968.88	£26 ,178,6 8. 1	£769 339,950.01
Subtotal	**£574 139 346 46**	**£1 320 893 242 03**	**£2 793 918 765 84**

Inflation and Portfolio Risk

	Minimum	nterim Scheme (Mode) ML	Maximum
Inf ation Adjustment	£173,1 2,01 .00	£813, 06,797.00	£3,070,223,378 00
Portfo io Risk Adjustment	£91,50 ,278.00	£211,050,59 .00	£312 619,630.00
RET Adjustment Subtotal	£26 ,6 6,292.00	£1,02 , 59,391.00	£3,382,8 3,008 00
Estimate Out urn	**£838 785 638 46**	**£2 345 352 633 03**	**£6 176 761 773 84**

Summary of Proposed Scope of Works

PACK I Scope of Works Includes Segment 1 as follows:
Construction Durat on;
Minimum 52 months
Most Likely:66 months
Maximum:102 months

Bespoke Items and allowances Included such as:
Ground Improvement considered for 1000m across Barrowford Reservoir Area.
00 000m2 of Additional eco ogical and landscaping measures;
2.82 ha Relocation of wood and;
1 Coal mining hole to be grouted in proxim ty of Skipton area,NewClose Hill.
Pumping Station and hydrobrakes included as advised by Project Team.
Archaeology and aftercare allowances have been added within the estimate.

Stage Dates

	Normal Start	Normal Finish
Pre PCF	05/06/2019	30/05/2020
Stage 1	01/01/2021	31/05/2022
Stage 2	01/06/2022	31/05/2023
Stage 3	01/06/2023	30/11/2025
Stage 4	01/12/2025	31/12/2026
Stage 5	01/01/2027	30/0 /2028
Stage 6	01/05/2028	31/10/2033
O (Open to raffic)		01/11/2033

Comments

Th s range estima e has been produced using an estimating approach (Strategic Estimating Mode) that is suitab e for schemes before they enter the Project Control Framework (PCF Stage 0, prior to entry to the Major Projects portfol o). The maturity level of project definit on is low, limited to an outline concept. Guidance from AACE recommends that for schemes of a simi ar stage of des gn and matur ty an expected range of accuracy around the most likely value wou d be -30% to 50%. Whi st this estimate does not consider these gener o percentage ranges, the guidance provides a level of assurance around the range.
Use of SEM o produce an estimate for this scheme has been agreed with the Project Manager In order to provide a high level order of magnitude range estima e of the scheme cos s based on the SGARs provided by the Project Team. Highways Eng and Cost Planning has reviewed the SEM model outputs against the proposed design and made top-down adjustments to better reflect the scope. However, due to the time constraints and evel of detail , this approach does not cons der the specific design, project and site character stics that may be ava lable. It is likely that mode (most likely) of the estimate could be subject to s gnif cant change once the scheme scope, des gn, schedule and risk basis are specifically considered.
The estimate assumes that all works shown on the suppl ed design drawings, will be delivered through a H ghways England Major Projects to a delivery programme in accordance with the SGAR dates in th s form 300. These SGAR dates have been used to budget time-related costs and inflat on. The es imate assumes that the scheme will need to complete all of the PCF Stages including Stage 0 (Pre-Options), Options and Deve opment.
- Estimated costs for the MMHW Series 100 project overheads and method-related costs have been based on a percentage of es imated direct works costs, in line with schemes of a sim lar value and scope from cost intell gence data on historic Highways England schemes.
- The range applied to the direct works represents the expected variation of scope and de ivery from the most likely position. It does not consider the construction and delivery of an alternative solution to that proposed by the project team.
- Historical costs are included with the estimate as spend to date 19/02/2020 and it has been provided by the Project Manager.
- Lands and Statutory Undertakers costs are derived from top-down metrics w thin the SEM and Distr ct Valuer / Third-party ands cost estimates have not been considered. Estimated lands and SU costs are therefore based on historical norms from his oric Highways England schemes.
- Unscheduled Item Allowance, Project specific risks, Uncertaint es and Portfo io Risk a lowances are estimated based on a proportion of the base estimate. This s a lgned to HM Treasury Green Book supplementary guidance.
Inflation a lowance included in the estimate is based on the latest agreed inf ation profile .
Where the proposed scheme includes works where the SEM approach is not considered su table, other estimating methods have been used, including: i) specific quantity take-o f and pricing of items using Cost Planning's rate libraries; ii) duplicating quanities and rates from previous es imates for simi ar works produced by Cost Planning.
The direct works costs are bu lt-up using the following drawings and design assumptions provided by
the project eam:
- General arrangement plans for each corridor;
- Long tudinal prof les;
- Bulk cut and fill earthworks volumes;
-Schedule of structures (bridges), junctions, retaining walls and culverts;
-Minimum,Most likely and Maximum Construction durations;
-Start and end of works dates.
Using the information availab e, the es imating team also identif ed and estimated the costs for any local access structures and demo ition of any conflicted commercial/ resident al buildings.This estimate assumes that there is asbestos within the commercial/residen ial buildings being demolished. Therefore allowances for the disposal of hazardous materials are included within the cost estimate.
In assuring the cost estimates are suitab e for use by the project team, the costs have been benchmarked against sim lar schemes in scope and complexity. When compared against the estimated costs for the Oxford to Cambridge study, the A66 Northern Trans Pennine Project and the Manchester
North West Quadrant schemes the costs for this study converged well.
Additional Risk has been added at this stage due to the scheme comp exty.

Approval

Cost Engineer
Signed [redacted] Name [redacted] Date: 18.03.2020

Confirmat on that the estimate has been produced in accordance with the MP Cost Estimat on Manual and any other re evant gu dance.
Est mating Manager
Signed [redacted] Name [redacted] Date: 25/03/2020

Confirmat on estima e reflects information provided and will be reported [redacted]
Project Manager
Signed [redacted] Name 25/03/2020

Confirmat on for estimate re ease.
Head of Cost P anning
Signed [redacted] Name [redacted] Date: 26/03/2020