A13 Widening

Management Case

January 2017

Thurrock Council

Mott MacDonald

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description
A	August 2016	A Pedelty	I Johnston	C Walker	First Draft
B	December 2016	A Pedelty	I Johnston	C Walker	Second Draft
C	January 2017	C Walker	A Pedelty	L Burns	Final

Information class: Standard

Mott MacDonald

Contents

1 Management Case

1.1 Introduction

This Management Case for the A13 Widening has been prepared in accordance with the Guidance published by the Department for Transport in January 2013 ("The Transport Business Cases"). The management case is intended to provide evidence of the deliverability of the project.

1.2 Procurement Experience

Although Thurrock Council has limited experience of procuring works of the size and complexity of the A13 Widening, the Council has individuals working for it who have worked for other larger public and private sector organisations who have been involved in the procurement, commissioning and management of such works.

Thurrock Council contracted external consultants, Atkins Ltd who confirmed the initial scheme feasibility. Mott MacDonald Ltd who have provided project management, procurement and commercial input and experience throughout the duration of the scheme and also URS Infrastructure & Environment Ltd (AECOM) as Preliminary Designer and Employers Engineer. AECOM developed the contracts for the procurement of the Detailed Design Consultant and Contractor for the main works.

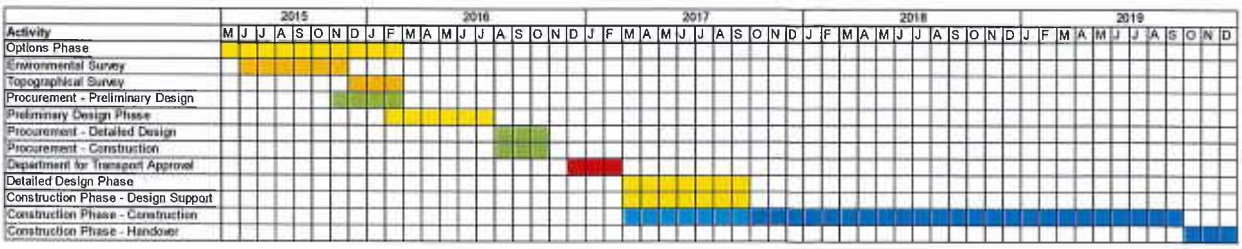
Between them, Thurrock Council, Atkins Ltd, Mott MacDonald Ltd and AECOM bring a considerable amount of experience covering not just the procurement of consultancy and works contracts, but also the on-going management, administration, and supervision of them.

Thurrock Council have utilised the Highways England's Collaborative Delivery Framework to procure the Preliminary Design Consultant, the Detailed Design Consultant and the Contractor. This has allowed the council to ensure that the suppliers who are to deliver the scheme have been subject to a vigorous selection process, are experienced in highway works and are working to competitive rates.

1.3 Programme / project dependencies

The high level Scheme Programme shown in **Figure 1.1** shows the key activities that need to be achieved in order to complete construction by the end of September 2019.

Figure 1.1: Delivery Programme



The project has been separated into distinct phases which are based on the Highways England Stage Gate Assessment and Review (SGAR) process.

The phases are:

1) Development Phase
    a. Preliminary Design Stage (SGAR3);
    b. Detailed Design Stage (SGAR5).

2) Construction Phase
    a. Construction, Commissioning & Handover Stage (SGAR6);
    b. Closeout Stage (SGAR7).

Each phase has programme and project dependencies that are specific to it as well as having dependencies that impact other phases.

1.3.1 Gateway Review (SELEP Gateways 1&2)

An Independent Technical Evaluation of the project was carried out for SELEP by their Independent Technical Evaluator (ITE), Steer Davies Gleave in January 2016 prior to the appointment of the Preliminary Design Consultant

The summary pro-forma is included as Appendix A but the key recommendations were:

1. Careful coordination of the separate detailed design and construction contracts to minimise interface and constructability risks
2. There was a need to demonstrate adequate procurement experience
3. There was a need to identify a risk transfer strategy

The procurement of a separate detailed designer and a contractor accords with the philosophy behind the Highways England Collaborative Delivery Framework. This is how Highways England procure what would have previously have been a contractor led "Design and Build" contract. Appointment of AECOM as advisor to Thurrock Council and close liaison with Highways England's procurement team will ensure that careful coordination is achieved.

The issue of procurement experience is addressed in section 1.2 above.

Risk transfer was considered and agreed during the development of tender documents by AECOM and is described in section 1.7 of The Commercial Case.

There was separate suggestion to invite a representative of Highways England to the Project Board which was acted upon. Janice Burgess represents Highways England and more recently Rhiannan Mort of SELEP has also joined the Project Board.

1.3.2 Preliminary Design Stage

The Preliminary Design stage was dependent on four key project dependencies. These were:

1) Provision of Topographical Survey Data – procured by Thurrock Council;
2) Provision of Traffic Modelling Outputs – procured by Thurrock Council;
3) Completion of Business Case – procured by Thurrock Council;

4) Provision of Traffic Modelling Data – This was provided by the Lower Thames Crossing (LTC) project in agreement with Highways England.

The Preliminary Design Stage included the following key activities:

1) Identification of survey information, particularly environmental information, that was lacking and carrying out any necessary surveys
2) Development of the required Highways England Project Control Framework products
3) Preparation of Tender Documents and evaluation of tenders received

Future project development will be dependent on the following:

1) Approval of Business Case – the Department for Transport (DfT)
2) Approval to Award Construction Contract – Thurrock Council
3) Approval to Award Detailed Design Contract – Thurrock Council

1.3.3 Detailed Design Stage

It is not yet possible to predict the Project Dependencies for the Detailed Design stage but the Programme Dependencies are likely to include:

1) Acceptance of Issued for Construction design products – Thurrock Council advised by AECOM;
2) Acceptance of Value Engineering Ideas proposed by the Consultant or Contractor – Thurrock Council advised by AECOM;
3) Compliance with requirements of the protective provisions contained within the London Gateway Harbour Empowerment Order 2008.

1.3.4 Construction Phase

It is not yet possible to predict the Project Dependencies for the Construction phase but the Programme Dependencies are likely to include:

1) Acceptance of Traffic Management Plans – Thurrock Council advised by AECOM;
2) Acceptance of Method Statements – Thurrock Council advised by AECOM;
3) Access to Site Compounds – Thurrock Council in collaboration with London Gateway Port Ltd;
4) Completion of CPO Land Purchases – Thurrock Council in collaboration with London Gateway Port Ltd;
5) Approval of Public Orders covering rights of way etc. – Thurrock Council;
6) Statutory Undertaker works;
7) Compliance with requirements of the protective provisions contained within the London Gateway Harbour Empowerment Order 2008.

1.4 Governance, organisational structure & roles

The proposed project governance structure, and roles and responsibilities, is set out in **Appendix B** – A13 Widening – A128 Orsett Cock to A1014 The Manorway Quality Assurance Plan.

Additionally, the project will be run in accordance with the Thurrock Council Constitution which can be access via the website address:

https://www.thurrock.gov.uk/constitution-of-council/thurrock-council-constitution

1.5 Programme / project plan

The high level project programme for the A13 works is shown in **Figure 1.1**. This shows the Preliminary Design being completed in July 2016 with approval to award the Detailed Design & Construction contracts by the end February 2017.

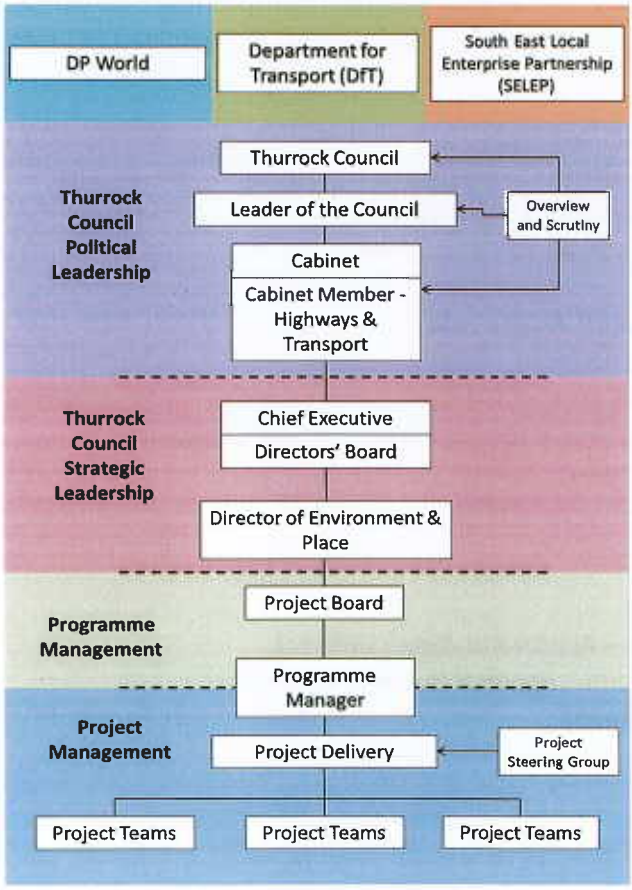
It is anticipated that construction will be completed by the end of September 2019.

1.6 Assurance & approvals plan

The proposed project governance structure, and roles and responsibilities, are as set out in **Appendix B** - A13 Widening – A128 Orsett Cock to A1014 The Manorway Quality Assurance Plan.

The project Governance Structure is shown in Figure 1.2 below.

Figure 1.2: Project Governance Structure



The Key assurance and approvals milestones that are required to be met for the successful delivery of the A13 Widening scheme are included in the project programme and are summarised below.

1.6.1 Leadership

Leadership of the project is critical to the successful delivery of the project to programme, cost, and quality expectations.

Leadership of the project within Thurrock Council will be carried out at three levels:

1) Level 1 - Political Leadership which for this scheme is given by the Leader of the Council and by the Cabinet Member for Highways and Transport.

2) Level 2 – Strategic Leadership which is given by is given by the council's officers.
   a. Chief Executive – Lyn Carpenter
      Head of Transportation & Planning – Ann Osola

3) Level 3 – Project Board which is given by:
   a. Sponsor – Ann Osola (Head of Transportation & Planning)
   b. Senior Supplier – Les Burns (Chief Highways Engineer)
   c. Senior User – Julie Nelder (Highways Infrastructure Manager)

Specific details of the roles being carried out by the above are set out in **Appendix B -** A13 Widening – A128 Orsett Cock to A1014 The Manorway Quality Assurance Plan.

1.6.2 DfT Approvals

The project will be dependent on the Department for Transport (DfT) Governance processes which are outside of the control of the project team. The approvals required from DfT with actual and anticipated dates are:

Business Case (BC)

Draft Submissions completed by - 21/10/16
Submission of Final BC – 16/12/16
Approval – 16/02/17

1.6.3 Thurrock Council Approvals

Thurrock Council will be the accountable body taking responsibility for developing and delivering the Project. The approvals that will be required from Thurrock Council are:

Detailed Design Contract

Approval to Award

ED2 Form – Approval to Award Contract
Stage 2 Form – Approval to Award Contract
Contract Award

Construction Contract

Approval to Award

ED2 Form – Approval to Award Contract
Stage 2 Form – Approval to Award Contract
Contract Award

1.6.4 Highways England Approvals

This section of the A13 is not within the highway network managed by Highways England and Thurrock Council are responsible for approvals. Thurrock Council will be responsible for any approvals and will be advised on technical matters by AECOM.

Thurrock Council has utilised the Highways England Collaborative Delivery Framework to procure the majority of delivery services. The council and Highways England have signed a Collaboration Agreement – See **Appendix G** and are in regular contact with Highways England through the various procurement stages.

1.6.5 Collaboration, Tolerance & Float

This project is to be delivered based on the position that the Employer has zero tolerance for any changes to the cost of the scheme and as such it will be the programme and scope that will be managed through value engineering and management to ensure that the costs do not exceed the agreed cost.

Thurrock Council has utilised the Highways England Collaborative Delivery Framework to procure the majority of delivery services. The philosophy on which the framework is based relies on parties to the contract to adopt behaviours that align with a collaborative approach that focusses on delivering the desired project outcomes. Performance is to be monitored and the performance scores achieved on the A13 Widening will contribute to the score used by Highways England in assessing the suitability for each supplier to win future schemes in the much wider Highways England portfolio of major schemes. This will be a disincentive for suppliers who take an overly commercial approach to their work.

The person named within both the Detailed Design & Construction contracts as the Project Manager is to be confirmed. This person will also fulfil the role of Senior Supplier within the project board. As such he or she will have a high-level of authority over the delivery of the scheme and responsibility for ensuring that the scheme is delivered within the agreed costs.

The Project Manager has fixed authority levels within the Employer's organisation after which approvals for changes will be escalated accordingly.

Due to the Employers zero tolerance for any changes to the cost of the scheme, it is possible that the programme may be impacted to manage cost increases. This will be done with the knowledge that extensions to the programme bring an inherent increase to costs and as such will be managed accordingly.

Throughout the Construction phase reports will be issued to the Project Board covering such things as programme float and remaining risk allowances. At any point where, because of a change, significant use of the programme float and the project risk pot is identified, this will be reported directly to the Project Board.

1.6.6 Design Approvals and Review

General Design Assurance

Throughout the Detailed Design phase it will be the responsibility of the Employer's Engineer (AECOM) to provide assurance to the project that the design is developed in alignment with the Employer's requirements and that the quality of the design upon completion is acceptable and can be issued to the Contractor for construction.

At the completion of the Detailed Design phase a gateway review will be carried out to ensure that all parts of the design are completed and that the construction of the main works can commence.

Design Submissions

Prior to completion of all elements of the design, the Detailed Designer shall submit the design documentation to the Employer' Engineer for review. It will be the responsibility of the Employer's Engineer to review all drawings, specifications and schedules produced by the Detailed Designer; provide comments on them and ultimately confirm that the documents that have been submitted can be accepted by the Employer.

Value Engineering Proposals

Through-out the Detailed Design phase value engineering workshops will be held between the Detailed Designer, Contractor, Employer's Engineer and Employer. It is also envisaged that the Detailed Designer & Contractor may submit value engineering proposals to the Employer for approval at any time during the Detailed Design phase

It will be the responsibility of the Employer's Engineer to review all Value Engineering proposals that are put forward and subsequently recommend to the Employer whether the proposal should be accepted or rejected.

Acceptance or rejection will be at the discretion of the Employer, with the aim to ensure that any proposals that are accepted have no material impact on the delivery of the scheme and future operation and maintenance of this section of the A13.

1.7 Communications and stakeholder management

A Communications Plan is shown in **Appendix C** and will be co-ordinated with the project programme in regard to when and to whom information is distributed covering such activities as Award of Contracts, the carrying out of survey works and construction key date information.

Prior to construction and during construction a number of mechanisms will be utilised to further promote the scheme by providing regular information about progress and benefits to stakeholders and local communities. During the construction period a dedicated team member will be provided, to manage publicity and public liaison, supported by locally employed liaison officers, in order to facilitate excellent community relationships. The public liaison officer's sole function is a central point of contact for stakeholders, businesses, visitors and the general public.

1.8 Programme / project reporting

Due to the funding arrangements for the scheme two different project level reports will be produced by the project team on either a monthly or quarterly basis.

These will satisfy the requirements of the Project Board, the Department for Transport (DfT) and the South East Local Enterprise Partnership (SELEP).

These reports are:

1) A13 Widening Special Projects Management Information – Project Board
2) Quarterly Monitoring Return - A13 Widening – DfT & SELEP

The project will also submit Cabinet Reports as and when required, informing and requesting approvals from Cabinet members in relation to the progression of the project.

In accordance with Highways England reporting requirements the design consultants and contractors involved with the project will also be required to submit reports to the project management team covering such things as Financial Reporting, Earned Value, Programme and Risk and Issues.

These reports are:

1) Monthly Commercial Reporting & Management Systems (CRaMs)
2) Financial Accruals Reporting
3) Monthly Progress Report/Dashboard
4) Quarterly CPF Assessment (performance monitoring)

1.9 Implementation of Work Streams

Each phase of the project has key work streams. These are:

Preliminary Design

- Environmental & Surveys
  - Environmental
    - Bat Surveys
    - Badger Surveys
    - GCN Surveys
    - Reptile Surveys
    - Dormice Surveys
    - Others as required
  - Archaeology
  - Drainage
  - Pavement Condition
- Traffic Modelling
- Design Development
- Preparation and evaluation of tender package for detailed design and works construction
- Procurement & award of contracts

Detailed Design

- Design Development
  - Issue for Construction Documents
  - Value Engineering
  - Public Order Approval – Rights of Way, Easements etc.

Construction

- Works Under Construction
  - Mobilisation
  - Site Clearance
  - Enabling Works
  - Statutory Undertakers Works
  - Structures
- Planning and Approvals
- Hand-over

Implementation of these work streams will be the responsibility of the Project Manager.

1.10 Key Issues for Implementation

The project risk register contains a large number of risks relating to design, construction, funding and others.

A copy of the risk register developed by AECOM and used to produce the Quantified Risk Assessment is included in **Appendix D** - A13 Widening – A128 Orsett Cock to A1014 The Manorway Risk Register.

1.11 Contract management

Four main contracts will be in operation throughout the duration of this scheme with smaller contracts being required for specific tasks. The main four are:

Clients Project Manager Contract – Mott MacDonald Ltd

The Clients Project Manager Contract between the Council (Thurrock Council (TC)) and Mott MacDonald Ltd was developed and put in place by the programme manager - tbc and continues to be managed and monitored by him.

Mott MacDonald will continue to be involved in the scheme until the award of the Detailed Design & Construction Contracts. Mott MacDonald's involvement may be extended further depending on satisfactory performance.

Employer's Engineer Contract – AECOM

The Employer's Engineer Contract between the Council, as a local authority utilising the Highways England Collaborative Delivery Framework (CDF) was developed by Mott MacDonald, with the knowledge and over-sight of the following Thurrock Council officers: programme manager – Les Burns (Chief Highways Engineer), procurement lead – John Harmer and legal representative – Assaf Chaudry.

AECOM will continue to be involved in the scheme until the award of the Detailed Design & Construction Contracts. Following Award AECOM will continue as Employer's Engineer and will oversee the detailed design and construction.

Detailed Design Contract – tbc – Award expected 28/02/17

The Detailed Design Contract will be produced by the Employers Engineer, AECOM; who will be involved in the scheme up to the completion of the construction works and closeout of the construction contract in 2019.

Construction Contract – tbc – Award expected 28/02/17

The Construction Contract will be produced by the Employers Engineer, AECOM; who will be involved in the scheme up to the completion of the construction works and closeout of the construction contract in 2019.

1.12 Risk management strategy

A risk register shown in **Appendix D** has been developed for the project by AECOM and has been submitted to the monthly project board meetings as part of the briefing pack for review. In addition there have been a series of risk workshops to review and update the register as the project has progressed. The production of the Quantified Risk Assessment followed used with the Business Case followed a risk workshop held on the 23rd November 2016.

The risks that have been assessed as being of a 'Critical Threat' level to the successful delivery of the project are:

Risk ID	Risk Cause 'The Risk is caused due to…..'	Risk Event 'There is a Risk that ……. will happen'	Risk Impact 'The impact of the Risk is …..'	Risk Mitigation Plan
R001	Utilities - Unforeseen C4 Costs	Risk that the project costs (and programme) will increase as a result of the extent and complexity of Statutory Undertakers diversions/ protective measures	Additional cost and a delay to the delivery programme.	Preliminary works to assist C4 process which is due to commence in Jan 2017. For example, NGG LHP trial holes to be carried out in Winter 2016 to help assist with the C4 return. Adequate assessment of the clearance requirements at Detailed Design stage. Alternative methods of construction required.
R011	Due to Extensive Environmental constraints/mitigation being required - over & above herptile translocation, there is a risk of project delay and additional costs (Badgers, Bats, Dormice, GCN).	Licenses and missing survey seasons. The presence of badgers in particular, where a suitable artificial location is required for closure of a sett, obtain licenses from Natural England.	Additional cost increase for additional surveys/ investigation works and possible mitigation measures. Significant programme delay to project delivery - possibly up to 12 months.	Surveys have been carried out in 2016 and will recommence in 2017 prior to the start of Construction.
R032	Initial traffic modelling at Orsett Cock junction suggests that there is insufficient capacity to provide traffic benefits over	Insufficient capacity benefits may result in the junction having to be redesigned. Could jeopardise Business Case of project- loss of funding from DFT.	Time delay and increased cost as a result of the need to re-design the junction to accommodate increased capacity. Additional cost of signalisation of junction, additional carriageway area to	Agree basis of design and what has been allowed for with DfT

	design life of project.		accommodate Geometric tweaks. Could delay programme sufficiently to overlap with LTC proposal.	
R132	Assumptions on ground conditions not supported by geotechnical investigations	Assumptions made at preliminary design stage and detailed design stage are not reflected within the geotechnical investigation works.	Increased costs/delay	Until the GI is undertaken the scheme will rely on good desktop studies.
R217	Balancing pond land identified to the north of A13 is not acquired in the appropriate timeframe.	That difficult and protracted land negotiations may lead to a delay in procuring the parcel of land identified for the balancing pond. The balancing pond is not suitable for design/client/landowner/environment.	Delay construction works resulting in programme delay subsequent cost increase. Alternative location for the balancing pond south of the carriageway has been estimated at £3million.	Engage Land Agent and enter in discussions with land owner in a timely manner. Cost for land has been agreed for where preliminary designed pond was location. Redesign balancing pond with new CCTV information on existing drainage network and outfall.
	Departures from standard required for road alignment strategy	There is a risk that departures form standard required for the A13 widening will not be agreed with Thurrock Council (Highway Authority)	Local Highway Authority Departure approval not given for the project	Carry out independent review of the departures identified at the Preliminary Design phase to confirm likelihood of acceptance of departures submitted by the Detailed Design Consultant.

The risks currently contained within the risk register include those identified during the production of the project Feasibility Study, subsequent risks identified up to the release of the Preliminary Design Tender documents and risks identified during the Preliminary Design Phase as well as risks identified during the tender period for the Detailed Design and Construction contracts.

Upon award of the Preliminary Design Contract, responsibility for managing the project risk register, including all qualitative and quantitative analysis became the responsibility of the Preliminary Design Consultants. Following award of the Detailed Design & Construction Contract, responsibility for managing the register will be passed on accordingly.

Due to the project being tendered under the Highways England CDF Framework, management of risk will be in accordance with the Highways England Risk Management Guidelines.

Risk Management will be carried out on an ad-hoc basis through-out the duration of the project, but with formalised risk workshops being carried out at set intervals. The consultants and contractors will be required under the terms of the contracts (NEC3) to raise any risks that could impact the delivery of the project via the use of Early Warning Notices, which will then be added to the risk register.

1.13 Benefits realisation plan

The Benefits Realisation Plan is included as **Appendix E.**

1.14 Monitoring and Evaluation

The Monitoring and Evaluation Plan is included as **Appendix F.**

1.15 Contingency plan

The main risk to delayed service implementation for this scheme is the withdrawal of funding from the Department for Transport (DfT) and subsequently London Gateway Port Ltd.

If such a risk should occur then the scheme cannot be progressed as funding cannot be provided by Thurrock Council alone. There is also a risk that a delay in confirming funding could delay the scheme to such an extent that the powers contained within Harbour Empowerment Order, under which the scheme is being developed and is to be constructed, would expire.

Should the above risks occur the contingency actions would be:

1) Close-out all contracts currently in progress;
2) Consider options for progressing the scheme;
3) Identify and agree on the preferred option;
4) Plan out the works required to deliver the scheme;
5) Re-bid for funding from the Department for Transport as a traditional scheme;
6) Go to tender for a design consultant to finalise the design;
7) Gain planning approval;
8) Go to tender for Contractor;
9) Construct the works.

Appendices

Appendix A. SELEP – Independent Technical Evaluation (Gate 1 & 2)

Appendix B. Quality Assurance Plan

Appendix C. Communications Plan

Appendix D. Risk Register

Appendix E. Benefits Realisation Plan

Appendix F. Monitoring and Evaluation Plan

Appendix G. Highways England Collaboration Agreement