OXFORDSHIRE COUNTY COUNCIL

Full Business Case (Stage 2B Commit to Construct – Main Works)

Project/Programme Name:	**Harwell Link Road Section 2 - Hagbourne Hill**
Total Capital Budget:	Total Budget £6,011m (Approval for release of £4,367)
Divisions Affected:	Didcot East & Hagbourne, Hendreds & Harwell
Purpose of this report:	This report requests approval to contractually commit to construction of the main works sections of this project.
Approval No:	H318

Sign-off & Approval

In preparing this report input must be obtained from the following:

Responsible Owner	Name	Date
Service Manager/ Client / Project Sponsor (Contributor)	Pat Mulvihill 	26th June 2015
Delivery Team Representative / Project Lead (Author)	Mark McCappin 	26th June 2015
Service Finance Business Partner or Senior Financial Adviser (Contributor)	Rob Finlayson/Matt Barlow	
The Capital Finance Team (Contributor)	Bill Evershed	3/7/15
Other Contributors as applicable - E&E senior management	Mark Kemp Sue Scane	

Final approval as per the Financial Procedure Rules must be obtained from:

Approval Level Required	Name	Date
£2m to £5m - relevant Director and the Chief Finance Officer in consultation with the relevant Cabinet Member		
Over £5m - Cabinet/ On behalf of Cabinet (Leader of the Council])		

1 Description & Objectives of the Proposal / Desired Outcomes & Business Benefits

The Harwell Link Road Section 2 - Hagbourne Hill scheme is being progressed through Oxfordshire County Council's City Deal as one element of the Access to Enterprise Zone project.

In April 2014 Cabinet considered the paper "City Deal - Overview & Delivery of Transport Schemes" and resolved to the release of £1.5m project development budget for the Access to Enterprise Zone programme under stage 0b of the capital governance procedures. In light of this a Stage 0b scheme specific business case was not produced.

In October 2014 Cabinet approved a Stage 1 Business Case to release £441k of the total budget of £6,151k for detailed design and procurement of the Hagbourne Hill scheme.

In December 2014 Cabinet approved a Stage 2A Business Case to release £779k for early works construction on sections of the scheme that are within current highway boundaries and did not require land acquisition.

Improving Hagbourne Hill is the second element of a route strategy to link Didcot to Harwell Oxford Campus. The first element of this strategy is the proposed Harwell Link Road Section 1 which will build a new road from the B4493 west of Didcot to the A417. The second element comprises improvements to Hagbourne Hill, including the A417 junction. This will aid the expansion of the Harwell Oxford Campus through increasing accessibility to the site and will support the delivery of planned housing growth around Didcot as identified in the Local Transport Plan and emerging Local Plans.

The scheme will provide:

- increased junction capacity at the A417/Hagbourne Hill junction
- reduced journey time delay
- improved journey time reliability
- improved highway safety.

2 Updated Project/Programme Scope

Detailed design has been completed on a preferred scheme. This incorporates the following elements:

- A new roundabout at the Hagbourne Hill northern junction with the A417 in place of the existing priority junction. The Main Street/A417 junction (just west of the new roundabout) will be realigned and will only permit left turn manoeuvre from Main Street to A417. Traffic travelling westbound from Main Street will do this by the new roundabout.
- The route will be realigned from the proposed roundabout junction to approximately 200m south of the A417 junction. The realigned carriageway will be 6.0m wide and will tie-in to the existing Hagbourne Hill alignment near the farm east of the road. The realignment will remove severe bends and improve safety leading up to the junction.
- The sections of realignment on Hagbourne, local widening on A417 and the proposed roundabout junction will comprise of a positive drainage system with attenuation in roadside ditches to deal with run-off from the additional carriageway area. The proposed drainage provisions will also deal with the reported existing drainage problems at the northern junction.
- The carriageway width on the existing Hagbourne Hill route is currently between 5.7m and 6.0m. There is no proposed widening from the southern tie-in (Chilton) to the northern realignment, except at localised pinch-points that were identified during the detail design stage. The narrow public highway corridor, the topography of the land and the proximity of utilities does not easily permit widening of the carriageway.

- The vertical alignment will be lowered locally to reduce the crest curve from approximately 600m north of the western extent of the scheme to approximately 280m north of this point. The horizontal alignment will remain unchanged, and the stopping sight distance will be improved both horizontally and vertically at this location. Land east and west of this section will be required for earthworks resulting from the lowering of the carriageway and for visibility splays. Full depth carriageway construction is required for this section.
- There is no change proposed for drainage provisions along the Hagbourne route (excluding the northern realignment and junction). Surface run-off will continue to fall over the edge of the carriageway. Vegetation clearance is proposed along the route.
- A 40mph speed limit is proposed along the route from the tie-in to Chilton junction, to the proposed northern junction. The reduced speed will substantially reduce the extent of departures from alignment standard TD9/93.
- Road markings and signage will be provided along the route to control the 85th percentile speed and improve user safety.
- Sections along Hagbourne Hill route with sub-standard stopping sight distance (SSD) have been identified. Land adjacent to the road has been acquired to allow vegetation clearance and future maintenance in order to improve the sight lines. No alteration of the horizontal alignment is proposed (excluding realignment at the northern end).

Early improvement works on Hagbourne Hill were completed in March 2015, which included edge strengthening and resurfacing along three lengths of highway and the regrading and resurfacing of the carriageway at the junction with Chilton Road. These works were completed within the original highway boundary.

All remaining works were constrained by the requirement to buy land and can now be undertaken as the main works section that is requested within this Stage 2B Business Case. The works comprise:

- The setting back of highway boundaries along the route at localised positions to improve stopping sight distance (SSD) and therefore road safety
- Lowering of the vertical alignment on Hagbourne Hill at the crest of the hill to achieve required SSD. A full reconstruction of the road will be needed over this length.
- Realignment of Hagbourne Hill at the north end of the scheme and the construction of a new roundabout on the A417.
- Alteration of the junction of Main Street at the A417

A plan of the proposed layout is at Appendix A for information.

Works are programmed to commence in the week commencing 14 September 2015. The programmed works duration is 37 weeks. A detailed project programme is at Appendix B for information.

Revenue Implications:
The project involves the installation of street lighting units at the new roundabout at the A417. The following table indicates the anticipated power and maintenance costs:

Lighting Columns	22	
Luminaires	22	
Total Wattage	2,158	
Total KW	2.16	
Annual burning hours	4,130	From the Elexon web-site for the Midlands area and based upon a

		PECU set at 55 lux on and 28 lux off
Total Consumption in Year - kWh	8,912.54	
Energy Cost per kWh / £	£0.08	Estimated only – The actual figure will depend upon the price OCC pays for energy.
Estimated Cost per year / £	£713.00	
Tonnes of Co2 - at 0.537 Kg/kWh	4.79	
Cost of Carbon at £18/tonne	£86.15	

There is no existing road lighting in this location.

3 Estimated Cost & Proposed Funding Plan

A summary of capital budget requirements through all stages is shown in the table below. Costs have been estimated using recent representative rates.

	Stage 0b £000	Stage 1 £000	Stage 2A £000	Stage 2B £000
A: Cost of feasibility and preliminary design (previously released at Stage 0b)	£600	£424		£424
B: Estimated cost of detailed design, procurement & enabling works (previously released at stage 1)	£340	£441		£441
C: Estimated cost of Early Works construction (previously released at Stage 2A)	N/A	N/A	£779	£779
C: Estimated delivery / construction cost (requested to be committed at stage 2B)	£5,075	£3,872		**Land £160** **SUs £486** **Works £3288**
D: Contingency (requested to be committed at stage 2B)	Built in to above at 45%	£1,278		**£433**
Total	£6,015	£6,015		£6,011

See appendix C for the detailed main works estimate.

Note: the above figures are based on a detailed Gateway 3 cost estimate. Some uncertainty remains over the actual cost of the Thames Water diversion at the hill crest on Hagbourne Hill and with supply chain actual cost which may result in some variation. A contingency of 10% works and SU costs plus the quantified risk allowance of £55,300 has been shown at this stage.

The estimated annual expenditure profile for the project is as follows:

Year	Previous Years	2015/16	2016/17	2017/18	Contingency
£000	1,515	2,084	1,979	0	433

4 Project Delivery Timetable & Procurement Plan

The current programme indicates that main works construction will commence on 14 September 2015 and will continue until 31 May 2016.

Activity	Start Date	Finish Date	Milestone/decision point & scheduled technical gateways
Detailed Design	21-Aug-14	17-Jul-15	Gateway 3B
Consultation	7-Jul-14	4-Aug-14	Public Consultation
Planning Application	4-Sep-14	13-Apr-15	Certificate of Lawful Development
Enabling Works	26-Jan-15	27-Mar-15	
Procurement	27-May-15	Aug-15	Approval of stage 2B Business Case GW4B
Construction	Sep-15	May-16	Works Completion

5 Risks, Constraints, Dependencies and Exclusions

Risks

Description of areas or sources of risk and impact on project	Mitigation	Owner
Cost and disruption of any required diversionary works for statutory undertakers (SU) plant	Detailed discussions have been undertaken to reduce the likely diversionary works required	Project Leader
Clash with other planned works or events leading to potential for delay.	The works have been noticed and road space booked for the construction period. Regular network planning meetings are being held to integrate programmes with other schemes.	Project Leader/ Network Manager
Disruption caused by weather or adverse ground conditions	N/A	OCC
Adverse publicity arises from traffic disruption during work	Dedicated internal resource to manage communication plan.	OCC

See Appendix D for the detailed risk register.

Constraints

The following factors may affect the successful delivery of the project or achievement of business benefits/ desired outcomes:

- Timescales – The design has been completed in as timely a manner as possible to enable the commencement of construction within the stated financial year.

- Engineering issues. Productivity may be affected by adverse weather conditions.

Dependencies

The following factors have the ability to influence the delivery of this project:

- Adjacent works are planned at Chilton Interchange and at Harwell (A417 – Winnaway). We will work to co-ordinate traffic management measures with adjacent works.

6 Communication & Consultation

Formal public consultation on the feasibility and preliminary designs was undertaken in July/August 2014. Public exhibitions were held at three venues in the vicinity of the scheme. A report was published with responses to comments and objections and changes were made for inclusion in the detailed design.

Changes to permanent traffic orders have been identified and formal statutory consultation carried out from 21 May 2015 to 19 June 2015. Objections to the proposals will be reported and considered at Cabinet Members Decision meeting on 23 July 2015.

A Communications Plans is being developed using the format indicated below:

Strategy – overall document covering the communication aims

Stakeholder list – details of all the people and organisations we will keep informed about our work

Channels - the methods we will use (ie. website, social media, letter drops, advertising etc)

Timeline – list of all events during construction that may require communications support (ie, start of work, road closures, change of phase, public holidays etc). This will be updated as necessary.

Communication actions – table of communications actions driven by the events identified in the timeline. Responsibility for delivery of each action is required. This will be done in collaboration with the Communications Officer in the MID Team.

The format described has been developed through work done on previous major schemes such as London Road and the Plain. However the plan for Hagbourne Hill in particular must work in coordination with the plans for Milton and Chilton as the area affected and stakeholders will largely be the same.

We have already established lines of communications with adjacent land owners, residents and businesses as part of the informal consultation on the main works and will keep them informed of works as they progress.

Details of the scheme are reported on the county council's web site and this will be updated as the project progresses.

7 Programme/ Project Governance

The project manager will be supported by the Project Sponsor and the delivery team, comprising OCC, Skanska and Atkins staff.

The governance of the scheme is managed by OCC's Capital and Asset Programme Board (CAPB)

8 Supporting Documents

Appendix A – Plan of Scheme Layout

S-5129022-DET-000-008_DRAFT.pdf

S-5129022-DET-000-011_DRAFT.pdf

Appendix B – Construction Programme

150619 Hagbourne Hill programme 02.pdf

Appendix C – Detailed Main Works Estimate

150626 Works Estimate.xlsx

Appendix D – Detailed risk Register

150626 Hagbourne Hill - Risk Register v5.