

## **The Vale of Glamorgan Council**

### **Cabinet Meeting: 5th October 2015**

### **Report of the Leader of the Council**

### **A4226 Five Mile Lane Road Improvements**

#### **Purpose of the Report**

1. To bring Members up to date with the work undertaken to date in support of the Welsh Government to take forward the A4226 Five Mile Road Improvement scheme and to provide information sufficient to allow decisions to be made regarding the principle of undertaking the scheme, the Business Case in support of the scheme, the design philosophy, the procurement methodology and the method of funding the scheme including the details of the grant offer provided by the Welsh Government.
2. To provide information relating to the risks associated with the scheme and the risks to the Council in taking forward the scheme given the form of the grant offer from the Welsh Government.

#### **Recommendations**

1. That Cabinet accepts the Interim Business Case as set out in Appendix A as the basis for proceeding with the scheme and as the basis for the Welsh Government funding the scheme.
2. That Cabinet accepts the current design and Junction Strategy set in Appendix B as the basis for the submission of a planning application for the scheme and as supporting information to the land acquisition process.
3. That Cabinet acknowledge the need to use of a Compulsory Purchase Order to acquire the land required for the delivery of the scheme and request the Full Council to consider a further report setting out the details of that Compulsory Purchase Order.
4. That Cabinet accept the Land Acquisition Policy to be utilised in respect of this particular road project and as set out in Appendix C.
5. That Cabinet provide delegated authority to the Head of Regeneration and Planning and the Director of Environment and Housing Services in consultation with the Cabinet Member for Regeneration, Innovation, Planning and Transportation and the Cabinet Member for Environment and Visible Services to agree the details and format of an exhibition of the scheme to be provided in an appropriate location as part of the consultation necessary for the planning application for the scheme.
6. That Cabinet provide delegated authority to the Managing Director and Head of Finance in consultation with the Cabinet Member for Regeneration, Innovation, Planning and Transportation and the Cabinet Member for Environment and Visible

Services and the Leader of the Council to accept the grant offer from the Welsh Government attached as Appendix D.

7. That Cabinet provide delegated authority to the Director of Environment and Housing Services in consultation with the Cabinet Member for Regeneration, Innovation, Planning and Transportation and the Cabinet Member for Environment and Visible Services, the Leader of the Council and the Managing Director to commence the tender process in relation to the main works contract through the appropriate Ojeu process in advance of the determination of the planning application for the scheme.
8. That Cabinet agree the inclusion of any Welsh Government grant accepted in the Council's Capital Programme.
9. That Cabinet provide delegated authority to the Head of Legal Services to agree and enter into the appropriate contracts in respect of consultancy services in support of the scheme and as may be agreed by the relevant Project Board or Cabinet.
10. That officers provide regular reports back to Cabinet on the progress of the scheme with updated versions of the associated Risk Register as attached as Appendix E.

## **Reasons for the Recommendations**

1. To enable Cabinet to make a decision as to the principle of the scheme as set in the Interim Business Case.
2. To enable the submission of a planning application for the agreed design to date.
3. To enable a further report to be provided to the Full Council as Cabinet does not hold delegated powers with regard to the use of Compulsory Purchase Orders.
4. To enable land acquired to be acquired via Compulsory Purchase Order in accordance with the Policy Note attached to this report.
5. To enable an appropriate exhibition of the preferred scheme to be provided alongside the standard consultation element of the relevant planning application and the required Compulsory Purchase Order for the acquisition of the land required for the scheme.
6. To ensure that the scheme is fully funded at an acceptable level of risk to the Council.
7. To enable the initial stage of tendering of the main works contract, in line with appropriate procedures, to commence in line with the current programme on the understanding that cabinet will receive a further full report on the initial responses to the tendering exercise including a report providing a short list of preferred contractors for consideration once the scheme has received an approval of planning consent, once the Compulsory Purchase Order for the acquisition of land required for the scheme has been confirmed and once an appropriate level of grant funding is in place to finance the delivery of the scheme.
8. To enable inclusion of the scheme within the Capital Programme.
9. To facilitate the appointment of consultancy support.
10. To ensure appropriate reporting regarding progress on this scheme.

## Background

3. The A4226 (Five Mile Lane) connects Barry at the Weycock Cross roundabout to the Sycamore Cross junction on the A48, and comprises an essential part of the highway network providing access to Barry as well as the St Athan and Cardiff Airport Enterprise Zone. Proposals to improve this stretch of road are contained in the Vale of Glamorgan Deposit Local Development Plan.
4. The Council has previously received a Principal Road Grant from the Welsh Government to advance the Five Mile Lane Highway Improvement Scheme, and to date this work has involved the signalisation of Sycamore Cross junction, as well as initial design and feasibility work together with various environmental assessments relating to the development of a more comprehensive scheme. Significant additional funding is required to complete the development and implementation of this scheme. The Welsh Government announced their commitment to the scheme in July 2013.
5. Since December 2013 Parsons Brinckerhoff (PB) have been employed by the Welsh Government to develop the route design and a partnership approach with the Council is being utilised in taking the work forward. Technical teams have been set up to consider highway design, land acquisition, funding, procurement and environmental issues. Initial environmental survey work and ground investigation work has been undertaken to support the production of an Environmental Impact Assessment report and title searches regarding land ownership have also been undertaken. Initial discussions with landowners regarding preliminary design has been undertaken by Parsons Brinckerhoff acting as consultants to the Welsh Government.

## Relevant Issues and Options

6. **Business Case.** Appendix A contains the Outline Business Case for the scheme. Officers from the Welsh Government and the Council are utilising the Five Case Business Model as the basis for developing an Outline Business Case which provides the details of why the scheme needs to be delivered. The expectation of the Welsh Government is that the Council would procure the works contract and manage the delivery of the scheme. The Five Case Model sets out the Strategic, Economic, Commercial, Financial and Management cases for the project and the guidance is set out at:

<http://wales.gov.uk/docs/caecd/publications/121001wiip5casemodel.pdf>

7. At a strategic level the road scheme seeks to (in outline):

Provide access to the St Athan and Cardiff Airport Enterprise Zone in support of the Welsh Government's policy for job creation and employment;

Provide for improved road infrastructure and network resilience to service traffic needs accessing or commuting through the area of Barry and the areas west of Barry comprising, but not limited to, Rhoose, St Athan, Llantwit Major as well as the St Athan-Cardiff Airport Enterprise Zone;

Reduce the risk faced by users of this route in its current form due to its geometry and limited driver visibility and in recognition of traffic growth;

Provide a safer route for non-motorised road users in support of the provisions of the Active Travel Bill;

Support the on-going regeneration of Barry and to ensure its status as a visitor destination of regional and national significance is promoted and enhanced;

Support the policies for growth contained in the Vale of Glamorgan Local Development Plan with particular emphasis on the status of the St Athan and Cardiff Airport Enterprise.

8. The Business Case that has been developed sets out the reasons for taking forward this scheme and the benefits that will result from it. The Business Case is set out in Appendix A but the summaries of the various elements relating to the Strategic, Economic, Commercial, Financial and Management cases are as follows:

9. **Strategic case summary.**

The strategic case for the project is well established and the improvement to the A4226 is on the Welsh Government and Local Authority agenda;

The improvements support a framework of policy which is aimed economic regeneration;

The importance of the scheme as an enabler to the development of the Enterprise Zone at St Athan and Cardiff Airport is supported through local and national policy.

10. **Economic case summary.**

The scheme has been subject to a rigorous appraisal process in line with UK and Welsh Government guidance;

Taking apart the wider socio-economic impact of the scheme, the scheme offers good value for money. The BCR for the scheme is likely to be positive, although this is currently under development;

The scheme will provide greatly improved access to the St Athan and Cardiff Airport Enterprise Zones and a range of regionally important employment sites, including Cardiff Airport;

The scheme will increase access to employment opportunities for residents of the Vale of Glamorgan, Cardiff and Bridgend areas.

11. **Commercial case summary.**

The Vale of Glamorgan Council will procure an Employer's Agent following a competitive tendering process;

The programme is established to ensure that the procurement of the relevant Employer's Agent team is in place;

A contractor will be procured with the assistance of the Employer's Agent by the Vale of Glamorgan Council, following a competitive tendering process;

A robust and well established risk management system is in place which ensures that project risks will be managed in line with the Vale of Glamorgan Council's processes

**12. Financial case summary.**

The overall capital cost of the scheme (excluding land costs) is forecast to be £25.8m with the majority of the spend occurring 2016-18;

The scheme will be financed through Grant Funding to the Vale of Glamorgan Council from Welsh Government;

No outside sources of European funding are available for this project

**13. Management case summary.**

The scheme is pro-actively seeking to maximise local benefits. In particular, the targeted recruitment and training scheme will have a positive impact on the surrounding area;

Engagement with the local community will be an important aspect of the development of the scheme;

Governance arrangements are in place to ensure good project management practices are in place at all levels of the project to ensure the scheme is delivered on time and to budget and that the scheme delivered provides best value

14. **Design.** The development of the scheme has been taken forward by the Consultancy, Parsons Brinckerhoff, working under a brief provided by the Welsh Government and co-ordinated with officers of the Vale of Glamorgan Council. As part of the Outline Business Case options for a "Do Minimum", an "Intermediate" and "Do Maximum" proposals have been considered in detail. The design philosophy, detailed route proposal and the junction strategy are contained in Appendix B to this report.
15. The Do-Minimum – some minor improvements at discrete locations along the existing network, within the study area. The content of the Do Minimum scheme would be limited to those improvements resultant from LDP commitments and existing/planned highway improvements resultant from funding applications which the local authority are currently working on. These improvements would be located on the A4050 Port Road and surrounding study area network. Nothing is planned for Five Mile Lane due to the extent of improvements that would be required to effect change.
16. The 'Intermediate' position – removing bends on Five Mile Lane and improving junction visibility at side roads. The local authority has already examined what intermediate options can be implemented on Five Mile Lane as part of their Constraints Report in 2013. The Constraints Report produced by the Vale of Glamorgan Council identifies the worst affected areas on the existing alignment, which allows identification of the position and scale of the improvements. The extent of the works required for Intermediate benefit, actually have significant environmental and cost implications (removing bends on Five Mile Lane and improving junction visibility at side roads). It is felt that the intermediate scheme would not deliver significant enough benefit to support the economic argument or for its implementation to be justified.
17. The 'Do Maximum' – providing an offline scheme which ties into the existing A4226 Five Mile Lane at each end, at Weycock Cross and Sycamore Cross and making best use of as much of the existing infrastructure as possible
18. The "Do Maximum" option is the preferred scheme as set in Appendix B - Junction Strategy. This option provides for a new road alignment to the north east of the

existing Five Mile lane from a point just beyond the Hawking Centre. The new road feeds back into the old alignment to the north of the Amelia Trust Farm. The new section has three junctions. The first is a staggered junction arrangement at Grovelands farm/ Northcliff Cottage to cater for the Moulton Village traffic. The second is a junction serving the side road to the north of Whitton Lodge and the third is a junction providing access to the east of the Amelia Trust Farm.

19. **Planning.** The scheme will need a planning approval and currently it is intended to submit an application for the scheme upon completion of the design phase and agreement to the principle of the scheme by Cabinet. The scheme will need to be supported by an Environmental Impact Assessment and the Council as Local Planning Authority has already agreed the Scoping Report for that assessment.
20. **Land Acquisition.** As part of the scheme development a land acquisition working group made up of officers of the Council, officers of the Welsh Government and Consultancy support has been meeting to discuss and take forward the process of land acquisition for the delivery of the scheme. The Guidance as set of in Welsh Government Circular NAFW 14/2004 has been reviewed with the Welsh Government and a policy for dealing with land acquisition and the negotiations associated with such land acquisition is set out in Appendix C. The policy sets out that, in line with Welsh Government advice and best practice, the use of a "twin track " approach of developing a case for land acquisition under compulsory purchase order powers whilst negotiating land values and compensation through normal means will not be utilised in this case given the numbers of parcels of land which need to be acquired. Instead the Council will rely solely on the compulsory purchase order process as a fair means of determining value levels and appropriate compensation.
21. **Funding.** The Welsh Government announced the funding for the A4226 Five Mile Lane Road improvements in July 2013. The Welsh Government are offering grant to the Council to cover the costs of the delivery of the road scheme. The Welsh Government grant offer is attached as Appendix D and sets out the terms of the offer. The offer has been reviewed by officers and the considerations are set out as follows:
22. **Cost estimating.** The scheme has been designed to a stage that will allow the submission of a planning application but the detailed design of the scheme will be completed under the proposed "Design and Build" contract arrangements which are indicated in the Business Case as the preferred delivery route. As a consequence of this the funding offer is based upon a set of cost estimates relating to the construction of the scheme, the costs associated with acquiring the land required and miscellaneous other costs relating to fees and scheme development. Given that the Welsh Government grant offer seeks to quantify the scheme costs at the initial offer stage officers have undertaken a review of the cost estimates relating to the construction works and the land acquisition in order that a judgement can be made as to their robustness.
23. **Construction Costs.** The evaluation of the scheme construction costs has centred on the rates utilised, the assumptions made with regard to quantum of materials and the assumptions utilised where percentages rates against overall scheme cost has been used as the basis for costing. It is apparent that in the main the construction rates estimates used are based upon the current edition of the SPONS price estimating guide for civil engineering works. Where this rate is not utilised the figures are based upon the South Wales Trunk Road Agency framework rates. The quantum figures for materials are based upon design detail known to date and the survey information available. The percentage rates for preliminaries cost, overheads, profit, supervision

and preparation cost are based upon broad industry standards rather than specific models.

24. In reviewing these figures it is apparent that a logical approach has been taken in putting together the cost estimates and in mathematical terms the cost estimates are robust. However, they remain estimates at this stage and given that a large proportion of the cost estimates are based upon so called industry standards the actual tender prices could vary significantly from the current estimates. Variations to outturn costs on such a significant scale of project will depend upon the form of contract and tight project management and at this stage an appropriate percentage of optimism bias needs to be utilised to allow for future variations in delivery costs. The scheme design at this stage seeks to ensure that a complete range of cost items has been fully reviewed and included. The scheme currently assumes a 25% Optimism Bias.
25. **Procurement.** The Commercial case element of the Business case sets out an evaluation of the options available for procurement of the main works. The work undertaken by Parsons Brinckerhoff will take forward the design of the scheme to a point sufficient to submit the planning application but a fully detailed design capable of construction will not be available at that point. The report concludes that, given this position, the preferred option is to utilise a Design and Build form of contract and the preference would be to utilise the NEC suite of contracts for this purpose. Given the value of the scheme it will exceed the European Union threshold as set out for Public Sector Contracting Authorities and , as such, will have to follow the procedures as set out in the European Public Contracts Directive (2004/18/EC). This means that the contract will need to be advertised in the Official Journal.
26. Appendix E contains the current risk register and sets out how each item will be reviewed and appropriate mitigation or other action taken to reduce the scheme risk.

## **Resource Implications (Financial and Employment)**

27. It is envisaged that the funding for the scheme is being provided via a grant from the Welsh Government to the Council. Scheme cost estimates are currently at circa £25.8 million with this figure taking into account optimism bias. This figure is made up of initial cost estimates for construction costs, land costs, preparation costs and supervision costs.
28. No specific provision has been made within the Council's Capital Programme for this scheme and the Welsh Government grant will need to fully cover the costs of delivering the scheme.
29. No contribution or match funding arrangements have been agreed by the Council for this scheme other than staff time. The offer letter makes provision to cover the technical salaries associated with technical sign off of the detailed designs for the new road.
30. Following negotiations the WG Grant offer has been amended and now includes additional clauses to deal with the programme variations which may be encountered along with methods for dealing with cost variation. A clause has been added which allows for a full review of the scheme works cost following the tender process and in

advance of any commitment to the works contract. This will allow either the Council or the Welsh Government to withdraw from the scheme should sufficient funding not be available.

31. A clause has been added which indicates that, subject to compliance with the appropriate regulations and procedures, the level of funding provided by the Welsh Government will be adjusted to match expenditure. This clause deals with the previous concerns raised about certainty of funding associated with any programme delays which affect cost or works cost increases during the delivery stage.
32. An extra clause has been added in to provide funding for any committed or contractual expenditure notwithstanding and withdrawal or cessation of funding. This deals with the concern raised that all committed expenditure would require certainty of funding.
33. Officers have concluded that the financial risks associated with progressing the scheme are now provided for in the WG Offer letter and the Council's Section 151 Officer finds it content acceptable.

### **Sustainability and Climate Change Implications**

34. Sustainability and climate change are to be considered during the design, procurement and delivery phases of the project. The EIA Scoping Report sets out the processes to review projects impacts in terms of air quality, cultural heritage, ecology and nature conservation, landscape and visual effects, noise and vibration, community and private assets, effects on all travellers, road drainage and water environment, geology and soils, materials and cumulative effects.

### **Legal Implications (to Include Human Rights Implications)**

35. As the grant receiving body, the Council would be responsible for the procurement of services as described in this report. The Council will have a duty to ensure that any procurement is undertaken in line with European legislation and the Council's own Standing Orders and Financial Regulations.
36. In relation to Contracts it will be necessary to comply with Public Contracts Regulations 2015. The scheme will need to follow the appropriate guidance and regulations with regard to procurement of the employer's agent role and contract works. Given the significant value of both these contracts the Council will need to procure via the OJEU process. The Procurement Technical Group is assessing how the OJEU processes tie in with the draft programme plan. When prepared the full Business Case will contain details of the Commercial Case for the scheme and the works contract costs. This will inform the Financial and Management Cases. These costs will not be known in detail until the works contract procurement process has been undertaken. At present the preferred contract form is a Design and Build option probably utilising the NEC Engineering and Construction Contract suite. Under this approach the preferred contractor would complete the detailed design as well as constructing the road.
37. In relation to the CPO, by virtue of the provisions of s.3(10) of the Local Authorities (Executive Arrangements) (Functions and Responsibilities) (Wales) Regulations 2007, as amended, which provides: 'Unless otherwise provided by these Regulations, a function of a local authority which, by virtue of any enactment (passed



or made before the making of these Regulations) may be discharged only by an authority is not to be the responsibility of an executive of the authority'. The relevant Act is the Acquisition of Land Act 1981 and the Land Acquisition (Just Terms Compensation) Act 1991 (in relation to the CPO) and predates the amended Regs. The Act refers to 'an authority', within the context of the Act, includes a Local Authority. This means that the full authority has to make any decision regarding the use of compulsory purchase powers. As the scheme will require the use of a Compulsory Purchase Order (CPO) to aid the acquisition of the land required for the scheme a further report will be presented in due course to Full Council regarding this aspect of the delivery process. In relation to Compulsory Purchase a full statement of reasons justifying the use of compulsory purchase will have to be developed in time for the making of the proposed compulsory purchase order.

### **Crime and Disorder Implications**

38. There are no crime and disorder implications.

### **Equal Opportunities Implications (to include Welsh Language issues)**

39. Equal opportunity issues will be considered in the design phase of the road scheme.

### **Corporate/Service Objectives**

40. The proposal would support the Deposit Local Development Plan which seeks the construction of this road scheme.

### **Policy Framework and Budget**

41. This report is a matter for Executive decision by Cabinet.

### **Consultation (including Ward Member Consultation)**

42. Local Ward Members have been consulted.

### **Relevant Scrutiny Committee**

43. Economy and Environment.

### **Background Papers**

None.

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### **Officers Consulted**

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Strategic Estates Manager  
Head of Regeneration and Planning  
Head of Visible Services and Transportation  
Operational Manager, Highways and Engineering  
Operational Manager, Countryside and Economic Projects  
Operational Manager, Finance

Director of Housing and Environmental Services  
Head of Finance/Section 151 Officer

**Responsible Officer:**

Rob Thomas-Managing Director



**Vale of Glamorgan Council**

**A4226 Sycamore Cross to Weycock Cross-Five Mile Lane Road Improvements.**

**Business Case Report to Vale of Glamorgan Council Cabinet Meeting.**

**August 2015.**

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## **1. Introduction - A4226 Five Mile Road Improvements**

This document represents the Interim Business Case for A4226 Sycamore Cross to Weycock Cross-Five Mile Lane Road Improvements

The purpose of this Interim Business Case is to justify the commitment of funding from Welsh Government for the scheme and to set out the strategic, economic, commercial, financial and management cases for the scheme in order that the Vale of Glamorgan Council can authorise proceeding with the scheme.

A Detailed Business Case will be provided later in the programme period once the scheme has developed further and when the scheme's tender prices are known.

## **2. The Issue**

The A4226 (Five Mile Lane) connects Barry at the Weycock Cross roundabout with the Sycamore Cross junction on the A48, and comprises an essential part of the highway network leading to the St Athan and Cardiff Airport Enterprise Zone. The proposed Five Mile Lane Highway Improvements stem from the strategic plans of both the Welsh Government and the Vale of Glamorgan Council as set in this document. The Council has previously received a Principal Road Grant from the Welsh Government to advance the Five Mile Lane Highway Improvement Scheme, and to date this work has involved the signalisation of Sycamore Cross junction, as well as initial design and feasibility work together with various environmental assessments relating to the larger scheme proposal now under consideration. Additional funding is required to complete the development and implementation of this scheme, with Welsh Government having announced their commitment to the scheme in July 2013.

## **3. Background**

Five Mile Lane had historically acquired a reputation for having a poor safety record, particularly in the period between 2005 and 2009. During this period there were a number of serious accidents and 2 fatalities. In response the Vale of Glamorgan Council undertook the introduction of a number of safety measures including a 40 mph speed limit with a static speed camera, resurfacing, improved signage and solar powered road studs.

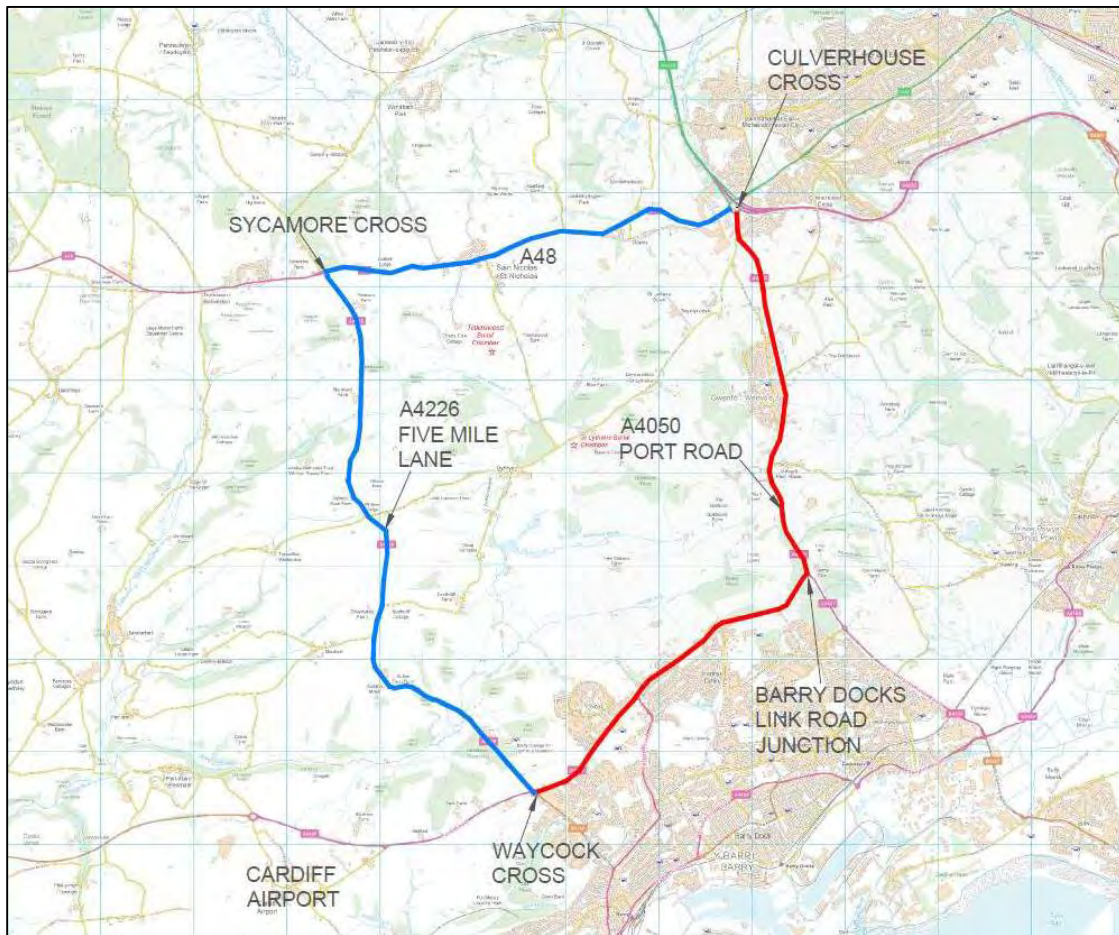


Figure 1. Overview of Five Mile Lane.

In 2006 the Welsh Government made an Order to Trunk the A48 from Culverhouse Cross to Sycamore, Five Mile lane to Waycock Cross and Port Road West to the airport. Following a Public Inquiry this order was rejected by the Inspector in 2007. Following that decision the Welsh Government made funds available to the Vale of Glamorgan Council to undertake studies in possible further safety improvements to Five Mile lane and its principal junctions. Funding was provided from 2009-2011 and the work culminated in the Scheme Assessment report of 2010.

The WelTAG Stage 1 Report recommended a number of options and a scheme to signalise the Sycamore Cross junction was undertaken in 2012/13. The accident record from 2009 to 2013 indicates 13 slight personal injury accidents and only 1 serious personal injury accident. There have been no fatalities since 2006. The WelTAG study also identified preferred options for the improvements to Five Mile Lane, which have been used as a basis for developing the design proposed as part of this, more recent improvement



scheme. The renewed energy for the scheme has stemmed from the development plans for the Enterprise Zones at St Athan and Cardiff Airport, which are currently being developed. This has generated the need to make improvements to the network in the area, improving its quality, reliability and resilience

#### **4. Key Elements of the Scheme/descriptions & plans**

The scheme consists of approximately 4.0km of offline highway improvement to the east of the existing alignment of the A4226 (Five Mile Lane). The new alignment starts in the vicinity on the Amelia Trust Farm and joins the existing Five Mile Lane in the vicinity of the existing River Weycock Bridge and the Welsh Hawking Centre. The extent of the scheme can be seen on Drawing No 1, 2 and 3 as attached at Appendix A.

The carriageway width of the proposed alignment will be 7.3m wide with 1.0m hard strips. This will provide sufficient width for the route to be used regularly by strategic traffic travelling to the Enterprise Zones at St Athan and Cardiff Airport.

The design speed for the road is 100KPH, with an intended speed limit on completion of 60MPH for the majority of the route. A lower road speed will be retained at the southern end of the scheme on the approach to the Weycock Cross junction.

All existing east-west connections will be maintained following completion of the scheme and have been considered in the junction strategy. In addition, there will be at least two junctions serving the settlements to the west of the new alignment and at least one junction serving settlements to the east of the new alignment.

#### **5. Vision and Objectives**

In July 2013 the Welsh Government Transport Minister announced the intention to fund improvement to Five Mile Lane, as a means of improving access to the St Athan and Cardiff Airport Enterprise Zones.

Furthermore, the Welsh Government confirmed the commencement of the scheme preparatory work via the appointment of Parsons Brinckerhoff as design consultancy for the scheme development.

In addition, the Vale of Glamorgan included the commitment to improve the access road within its draft Local Development Plan as published in October 2013.

The overall aim of the scheme is for the complete road to support the future land allocation and growth at both Enterprise Zones as identified in the Vale of Glamorgan's Local Development Plan.

The scheme Transport Planning Objectives are:

- Objective 1     Improve Network Resilience across Study Area
- Objective 2     Reduce Journey Time variability from Culverhouse Cross interchange to Cardiff Airport Enterprise Zone
- Objective 3     Reduce Journey Time variability from Culverhouse Cross interchange to St Athan Enterprise Zone
- Objective 4     Discourage strategic traffic for utilising inappropriate routes to gain access to St Athan and Cardiff Airport Enterprise Zones
- Objective 5     Maintain access to local amenities and reduce community severance
- Objective 6     Improve access to St Athan and Cardiff Airport Enterprise Zones for Public Transport and Non Motorised Users

## 6. Introduction to the 5 case model

The Better Business Case (BBC) approach to planning spending proposals and enabling effective business decisions is formally accredited and accepted international best practice.

This involves:

Establishing a clear need for intervention – a case for change

Setting clear objectives – what we want to achieve from our investments

Considering a wide range of potential solutions – ensuring an optimal balance of benefits, cost and risk

Putting the arrangements in place to successfully deliver the proposal

The Five Case Model, as set out in the Treasury Green Book provides the framework and tools to enable effective decision making when considering the costs and risks associated with investment.

### **Why is the business case important?**

Policies, strategies, programmes and projects will only achieve their spending objectives and deliver benefits if they have been scoped robustly and planned realistically from the outset and the associated risks taken into account.

The business case, both as a product and a process, provides decision makers, stakeholders and the public with a management tool for evidence based and transparent decision making and a framework for the delivery, management and performance monitoring of the resultant scheme.

The business case in support of a new policy, new strategy, new programme or new project must evidence :

That the intervention is supported by a compelling **case for change** that provides holistic fit with other parts of the organisation and public sector– the “strategic case”;

That the intervention represent best **public value** – the “economic case”;

That the proposed Deal is attractive to the market place, can be procured and is **commercially viable** – the “commercial case”;

That the proposed spend is **affordable** – the “financial case”;

That what is required from all parties is **achievable** – “the management case”.

## 7. Further information

This Outline Business Case summarises the outputs of a range of studies and other documents prepared as part of the development of the project and to provide evidence, if required, for any Public Inquiry associated with the required land acquisition. We would encourage appraisers to review the following documents which have been used as background documents in support of this business case and the approach taken:

Full scheme Environmental Statement-Airport Access Road Phase 1.  
C.Blandford ( 1988)  
Cardiff Airport Access Road, Environmental Assessment Scoping Report.Arup (2005)  
Cardiff Airport Access Improvement Study. Arup (2006)  
Cardiff Airport and Culverhouse Cross Improvements Planning Stage Report. Arup (2008)  
Cardiff Airport and Culverhouse Cross Access Improvements Report. Public participation Report. Ove Arup (2008)  
Five Mile Lane Environmental Assessment. Soltys Brewster (2008)  
WelTAG Appraisal report Stage 1. Arup (2009)  
WelTAG Appraisal report Stage 2. Arup (2009)  
Five Mile lane interim scheme Assessment report. Soltys Brewster (2010)  
Five Mile Lane ISAR Vol 1 Report (2010)  
Five Mile Lane ISAR Vol 1 addendums (2010)  
Five Mile Lane ISAR Vol 2 Figures Parts 1-4 (2010)  
Five Mile Lane Weltag Appraisal Report. Planning Stage 1. Arup (2011)  
Vale of Glamorgan Deposit Local Development Plan 2011-2020  
Five Mile Lane Public Consultation Analysis 2010  
LDP supporting document – Highway Impact Assessment  
LDP supporting document – Employment Land and Premises  
Welsh Transport Planning and Appraisal Guidance - WelTAG

## 8. The Strategic Case

### Introduction

The Strategic Case demonstrates that the spending proposal provides business synergy and strategic fit and is predicated upon a robust and evidence based case for change. This includes the rationale of why intervention is required, as well as a clear definition of outcomes and the potential scope for what is to be achieved.

This strategic case requires the spending authority to demonstrate how the spending proposal *fits* in relation to national, regional and local policies, strategies and plans and furthers the required outcomes.

It also requires the spending authority to demonstrate that the spending proposal has clear and concise spending objectives, which are **s**pecific, **m**easurable, **a**chievable, **r**elevant and **t**ime constrained (SMART).

The case for change must be based on a rigorous assessment of the issues (business needs) associated with the status quo (existing arrangements) and the potential scope of the proposed spend in relation to the anticipated benefits and potential risks.

### 9. Investment Objectives.

The rationale for intervention in the form of this scheme is strong in strategic terms and the public sector's commitment to the project is well established, and has been for a number of years. At a national, regional and local level there is a need to improve infrastructure to drive the objectives of both the Welsh Government and the Vale of Glamorgan Council as set out later in this document.

At a strategic level the road scheme seeks to:

- Provide strategic and direct access to the St Athan and Cardiff Airport Enterprise Zone in support of the Welsh Government's policy for job creation and employment.
- Provide for improved road infrastructure to service traffic needs accessing or commuting through the area of Barry and the areas west of Barry comprising, but not limited to, Rhoose, St Athan, Llantwit Major as well as the St Athan-Cardiff Airport Enterprise Zone;
- Reduce the risk faced by users of this route in its current form due to its geometry and limited driver visibility and in recognition that the existing proportion of HGV's is expected to increase as Enterprise Zone activity develops.
- Provide a safer route for non motorised road users in support of the provisions of the Active Travel Bill.

- Support the on-going regeneration of Barry and to ensure its status as a visitor destination of regional and national significance is promoted and enhanced;
- Provide network resilience to cater for additional demand which might result from the development on or in proximity to the Port Road in Barry;
- Provide network resilience to cater for alternative route planning in the light of proposals to develop modal shift options which utilise the Port Road and to allow for segregation of traffic accessing the road infrastructure at the local and more strategic levels;
- Support the proposals for land allocation in this area in the emerging Local Development Plan for the Vale of Glamorgan. In particular the status of the St Athan and Cardiff Airport Enterprise Zone and the significant employment allocation situated there. The residential land allocations that will directly access the Port Road at Culverhouse Cross and Wenvoe will also impact upon this need.

The Scheme proposed is the outcome of a review of historical assessments of the Five Mile lane and will utilise a strategic WelTAG approach as advised by the Welsh Government . The scheme has benefitted from a funding commitment by the Welsh Government which would see investment in the capital works of the scheme delivery in 2016-2018.

The project delivers key benefits that will be detailed in the Full Business Case to be provided later in the delivery process and following the completion of detailed designs and full cost estimating.

## **10. The Case for Change - Existing Situation**

Historical proposals for improvements to the A4226 Five Mile Lane have been both numerous and persistent and notwithstanding the recent investment in the Sycamore Cross junction the case to improve this strategic road link remains valid.

The Wales Transport Strategy sets out long term outcomes to bring forward social, economic and environmental improvements. Transport is seen as supporting the economy by connecting businesses with supplier and customers, and enabling people to travel to work. It is critical for both manufacturing and serviced based industries, although their needs vary. Congestion costs businesses many millions of pounds a year and improved transport, especially its reliability, is cited consistently by Welsh businesses as one of their top priorities.

An efficient and effective transport system helps increase the number of people wanting to live, work and spend leisure time in Wales, which in turn builds strong and vibrant local communities.

Effective movement of freight also makes wales and attractive place to do business. Freight logistics accounts for some six per cent of employment in Wales and the industry contributes approximately £2.5 billion to the Welsh

economy ( Wales Transport Strategy figures), making it a vital part of wealth creation.

The A4226 Five Mile Lane is seen a vital element of the regional road network and the proposal to improve it as based upon the strategic economic need as set out at national and local level.

The Five Mile Lane link has been subject to review of improvements for over fifteen years. Problem identification exercises have been undertaken through many separate studies, relating specifically to schemes involving Five Mile Lane (A4226) including:

- Airport Access Road Phase 1, undertaken by Chris Blandford Associates for Vale of Glamorgan Council, June 1998
- Five Mile Lane Stage 1 Environmental Assessment, undertaken by Soltys Brewster for Vale of Glamorgan Council, 2008
- Cardiff International Airport and Culverhouse Cross Access Improvements Study, undertaken by Arup by Welsh Government 2009
- Five Mile Lane Improvements, undertaken by Arup for Welsh Government, 2010
- A4226 Five Mile Lane, Planning and WelTAG Stage 1, undertaken by Arup for Vale of Glamorgan Council, 2012
- Five Mile Lane Constraints Report, undertaken by Vale of Glamorgan, 2013

The key problems identified from these studies include:

- A perception of poor safety – this is irrespective of the improvement to the accident record since 2011, which included the introduction of improvements including a speed camera and the reduction of the speed limit;
- Safety issues related to the implementation of maintenance and network management on the A4226 itself;
- Poor horizontal and vertical alignment with inadequate visibility at both junctions and on the existing mainline. This has the potential to result in increased incidents. The geometry is sub-standard when compared to its usage (based on DMRB standards);
- Slow moving vehicles use this link which results in driver frustration, as there is no opportunity for overtaking;
- Poor drainage, resulting in accelerated degradation of the surfacing materials (which are subsequently difficult to replace) and cause dangerous driving conditions;
- The need to ensure access for local land use and local attractions;
- An unsafe environment for NMU access;
- Journey times between the trunk road network and Weycock Cross are variable, both this route and its alternative (Port Road A4050) are subject to this variability;
- The route from Culverhouse Cross to Weycock Cross via Five Mile Lane contains 3 traffic signal controlled junctions, 1 signalised pedestrian crossing and no roundabouts along the route; the alternative route via A4050 Port Road contains 4 traffic signal controlled junctions, 3 signalised pedestrian crossings and 7 roundabouts, therefore Port Road has a greater potential for intermittent traffic flow;

A lack of resilience on the local road network, in the event of incidents the A4226 is not a favourable alternative route due to the constraints of its geometry

## **11. What the Scheme will Deliver**

The scheme will improve the present road to modern DMRB highway standards, addressing poor visibility, curves that are too tight and narrow width. This will be done by building a new section of offline highway which ties in at either end of the existing Five Mile Lane between the roundabout at Weycock Cross and the new junction at Sycamore Cross. This will:

- Improve strategic access for HGV and development traffic to the St Athan and Cardiff Airport Enterprise Zones;
- Make cycling and walking safer - a safer environment on the new road and fewer vehicles on the bypassed road (that will have a lower speed restriction);
- Improve access for regional and local businesses – better access to the M4 and markets and more liable journey times for customers and freight;
- Improve conditions for private road users – safer and more reliable journeys;
- Greater resilience on the network by providing a more appropriate alternative route to the Port Road Link;
- Improving the safety aspects for highway maintenance on this strategic route;
- By straightening and widening Five Mile Lane, it will provide a higher standard, more free-flowing alternative to Port Road;
- Improving the perceived safety of this link for motorised and non-motorised users;
- Provide community benefits by providing construction work locally and potential training opportunities.

## **12. Policy review.**

This Interim Business case document will reference policy support as set out at both local and national level and to include:

The Environment Strategy for Wales (2006)  
Programme for Government 2011-2016  
National Transport Plan (2010)  
Wales Infrastructure Investment Plan (WIIP)  
People, Places, Futures-The Wales Spatial Plan (2008)  
Economic Renewal: A New Direction (2010)  
One Wales: Connecting the Nation – The Wales Transport Strategy (2008)  
Creating an Active Wales (2009)  
Regional Transport Plan (2010) Sewta  
The Vale of Glamorgan Community Strategy  
Corporate Plan (2013-2017)

### *Environment Strategy for Wales (2006)*

The Environment Strategy for Wales outlines the Welsh Government's long-term strategy for the environment of Wales, setting out the strategic direction for the next 20 years. The purpose of the Strategy is to provide a framework within which to achieve an environment that is clean, healthy, biologically diverse and valued by the people of Wales. The Welsh Government wish to see the environment thriving and contributing to the economic and social well-being and health of all of the people of Wales

The Welsh Government's Programme for Government 2011-2016 identifies as a key action, the need to deliver the priorities of the National Transport Plan for Wales. The National Transport Plan sets out in detail how the Welsh Government proposes to deliver the Wales Transport Strategy 'One Wales: Connecting the Nation' over the next 5 years. The National Transport Plan builds on previous plans, adding and integrating public and community transport, walking and cycling so that investments help to deliver 'One Wales'. The National Transport Plan sits alongside the Regional Transport Plans in delivering the Wales Transport Strategy to ensure consistency of service provision across the transport network. Together, the national and regional plans seek to strengthen local service delivery and improve access to essential services such as health and education.

The Wales Infrastructure Investment Plan (WIIP) sets out 'improving transport links, particularly East-West transport links' as a high level investment priority and specifically refers to'

The Wales Spatial Plan (WSP) provides a framework for the future spatial development of Wales. The Vale of Glamorgan, along with the neighbouring authorities of Cardiff, Bridgend, Merthyr Tydfil, Caerphilly and Rhondda Cynon Taf, is identified as part of the "South East Wales Capital Network" Region. The Vision for the Capital Region is *"An innovative skilled area offering a high quality of life – international yet distinctively Welsh. It will compete internationally by increasing its global viability through stronger links between the Valleys and the coast and the UK and Europe, helping spread prosperity within the area and benefiting other parts of Wales"*. The WSP proposes distinct approaches for the three areas that make up the Capital Region. The three areas are:

- City/Coast;
- Heads of the Valleys Plus; and
- Connections Corridor

The WSP identifies 14 hub settlements which it sees as vital to the success of the city region including the settlement of Barry. In addition to the strategy areas and hub settlements the document also identifies three Strategic Opportunity Areas (SOA). The SOAs are centred around:



- St Athan, Vale of Glamorgan
- Llantrisant and North West Cardiff
- The Heads of the Valleys Road (A465).

SOAs offer the potential for development to take place in a sustainable way, which will benefit the region as a whole. The identification of a SOA at St Athan and to the north of the Vale of Glamorgan around Llantrisant and North West Cardiff means that the area and the LDP have a crucial role to play in the development and economic growth of the South East Wales region.

### ***Economic Renewal: A New Direction (2010)***

Economic Renewal: A New Direction is the Welsh Government's Strategic Framework for economic development. The Strategy sets out a vision for making Wales 'one of the best places in the world to live and to work', and outlines the Welsh Government's five priorities, which are: Investing in high quality sustainable infrastructure; making Wales a more attractive place to do business; broadening and deepening the skills base; encouraging innovation; and targeting support for business.

### ***Wales: Connecting the Nation – The Wales Transport Strategy (2008)***

One Wales: Connecting the Nation – The Wales Transport Strategy is the Welsh Government's strategy for transport. It sets out how the Welsh Government intends to achieve certain social, economic and environmental outcomes.

Creating an Active Wales (2009) sets out the Welsh Government's plan to get more people engaged in regular physical activity and set targets to increase the average activity in adults and children by 2020. It aims to ensure that those who aren't physically active are encouraged and to further support those who already are. One of its main themes is to encourage the development of a sustainable environment which promotes and encourages physical activity rather than inhibiting it.

The project will be developed consistently with all current European, national and local overarching policies and strategies. The following tables show how the project will deliver against key transport strategies.

***Wales: Connecting the Nation – The Wales Transport Strategy (2008)***

<b>Key area</b>	<b>Benefits</b>
Reducing greenhouse gas emissions and other environmental impacts	More efficient road use – reduced emissions
Improving public transport and better integration between modes	Improved route for bus and coach travel Better access to Cardiff International Airport
Improving links and access between key settlements and sites across Wales and strategically important all-Wales links	Improved sub-regional access
Enhancing international connectivity	Improved link with the motorway network and Ten T routes
Increasing safety and security	Improved road safety

***Regional Transport Plan (2010)***

The project will deliver the following benefits against Regional Transport Plan priorities:

<b>Objectives</b>	<b>Benefits</b>
Improve access to services, facilities and employment, particularly by public transport, walking and cycling	Improved link for bus and coach services Improved conditions for walkers and cyclists
Provide a transport system that increases the use of sustainable modes of travel	Improved link for bus and coach services Improved connection between Cardiff International Airport and Cardiff Central Station Improved conditions for walkers and cyclists
Reduce the demand for travel	Neutral
Develop an efficient and reliable transport system with reduced levels of congestion and improved transport links within the Sewta region and to the rest of Wales, the UK and Europe	Improved transport link
Provide a transport system that encourages healthy and active life	Safer conditions will encourage walking and cycling

styles, is safer and supports local communities	
Reduce significantly the emission of greenhouse gases and air pollution from transportation	Lower emissions from a more efficient section of road
Ensure that land use development in south east Wales is supported by sustainable transport measures	Neutral
Make better use of the transport system	Improved corridor for bus and coach travel

### *Vale of Glamorgan Deposit Local Development Plan*

The Planning and Compulsory Purchase Act 2004 and the Town and Country Planning (Local Development Plan) (Wales) Regulations 2005, require the Vale of Glamorgan Council to prepare a Local Development Plan (LDP) for its administrative area, setting out the Council's strategy for future land use and development. It will become operative on the date it is adopted by the Council for the purposes of Section 38(6) of the Planning and Compulsory Purchase Act 2004, when it will replace the adopted Unitary Development Plan 1996-2011. Once formally adopted, the LDP will be used for consistent and rational decision-making during the Plan period to ensure the most efficient use of land and other limited resources, whilst at the same time promoting the regeneration and stimulation of the local economy for the benefit of the present and future population.

### *Local Development Plan Process*

The Delivery Agreement that has been approved by the Welsh Government contains a Community Involvement Scheme (CIS) which sets out the Council's approach to community and stakeholder involvement and engagement throughout the LDP process. The Delivery Agreement also includes a timetable for the production of the Plan which sets out the timescale for each stage in its preparation as well as the resources allocated to each stage. The LDP process has 8 distinct but interrelated stages. The Deposit LDP represents the completion of stage 4 in the process. In addition to fulfilling each of the stages in the plan making process the Council is also required to undertake a combined Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA) of the LDP. These are progressed as one integral assessment process, given that the SEA forms an integral part of the SA. This ensures that sustainability is at the heart of the plan preparation process and that the social, environmental and economic effects of proposals and policies are appraised to comply with the principles of sustainable development. The European Habitats Directive (92/43/EEC) also requires that a Habitat Regulation Assessment (HRA) is undertaken for the LDP. This

ensures that an appropriate assessment is undertaken of the impact of the Plan on European Designated Habitat Sites.

Further information in respect of the LDP process in the Vale of Glamorgan can be found in the Delivery Agreement and on the Council's web site at [www.valeofglamorgan.gov.uk/ldp](http://www.valeofglamorgan.gov.uk/ldp)

### *Structure of the Local Development Plan*

**Section 2** describes how the Plan takes into account relevant local, regional and national strategies, plans and programmes.

**Section 3** of the Plan identifies the key socio-economic and environmental issues in the Vale of Glamorgan. The issues have been identified through consultation and the analysis of the research contained in the LDP evidence base.

**Section 4** sets out the Council's Vision for the Vale of Glamorgan over the Plan period and provides a detailed framework of land use objectives. The role of the Vision is to clarify the core purpose of the Plan and provide a framework for developing policies. The Vision and Objectives of the Plan have therefore been developed to take into account the characteristics and key issues relevant to the Vale of Glamorgan.

The Strategy of the Plan is set out in **Section 5** and will guide development and use of land throughout the Plan period. This Strategy seeks to promote development in the South East Zone, an area that accommodates the main centres of population and urban settlements with a range of facilities and services accessible by a range of transport modes. Within the South East Zone, Barry is identified as a key settlement, providing opportunities for sustainable growth with a particular focus on the regeneration of Barry Waterfront and Barry Island. The zone also includes St. Athan, which is identified as a Strategic Opportunity Area, and the 'St Athan – Cardiff Airport Enterprise Zone', with a focus on the aerospace sector and investment in and around the land holdings of the Welsh Government and the Ministry of Defence. The Strategy also identifies Cardiff Airport as a focus for transport and employment investment. It also recognises the need for appropriate levels of growth and development in and around other sustainable settlements, which will support and enhance existing facilities and services as well as the wider rural areas of the Vale of Glamorgan.

Under the "Managing" section Policy SP7-transportation indicates:-

**Sustainable transport improvements that serve the economic, social and environmental needs of the Vale of Glamorgan and promote the objectives of the South east wales regional transport plan will be favoured. Key priorities for the delivery of strategic transportation infrastructure will be:**

### **3. Improvements to the A4226 between Waycock Cross, Barry and Sycamore Cross, A48( Five Mile Lane)**

The Welsh Government guide, Community Benefits: Delivering Maximum Value for the Welsh Pound, outlines good practice for ensuring community benefits are realised from public procurement. This document points towards the importance of training and recruitment opportunities benefitting the local community.

#### **Draft Local Transport Plan**

This Local Transport Plan (LTP) seeks to identify the sustainable transport measures required to ensure the Vale of Glamorgan Council adheres to current requirements and good practices to allow for a sustainable transport environment for the period 2015 to 2020 as well as looking forward to 2030... The LTP seeks ways to secure better conditions for pedestrians, cyclists and public transport users and to encourage a change in travel choices away from the single occupancy car. The LTP also seeks to tackle traffic congestion by securing improvements to the strategic highway corridors for commuters who may need to travel by car as well as providing better infrastructure for freight. It also addresses the key road safety priorities for the Vale.

As most journeys by car, particularly for shopping and school travel, are relatively short, better conditions for pedestrians and cyclists can lead to a reduction in car use. A reduction in car use can promote good health and well-being, reduce the negative impacts on the environment that car travel can bring, offer better access to services and facilities, which in turn can offer improved economic opportunities and reduce the potential for traffic accidents.

Sustainable transport infrastructure and services are therefore an important feature of modern day life and are increasingly being recognised by policy makers for the contributions that they can make to both national and policy objectives including reducing the negative impacts that cars have on the environment, reducing congestion, improving health and well-being, offering better access to employment, health, education and all other facilities, and reducing the risk of road accidents. Sustainable transport provision also offers the ability to achieve key local priorities across a range of strategy areas.

The LTP and its recommended policies and schemes have emerged during the preparation of the Deposit Local Development Plan (LDP) which is due to be adopted in 2016 with an expiry date of 2026. The transport policies recommended within this LTP, have been recommended within the Deposit LDP and have been subject to a Strategic Environmental Assessment as well as being assessed against current national, regional and local policies and legislation.

### **13. Fit with Other Strategies and Policies**

‘Planning and Working Together’: The Vale of Glamorgan Community

## Strategy 2011 to 2021

'Planning and Working Together' provides a vision for how the Vale of Glamorgan will look in the future and how that vision can be achieved. It seeks to ensure that organisations active in the Vale of Glamorgan are focussed on providing quality services to residents, visitors and businesses. The Community Strategy represents a coordinated approach to improving the quality of life in the Vale of Glamorgan.

The Strategy includes the Children and Young People's Plan, the Health, Social Care and Wellbeing Strategy, the Community Safety Strategy and the Older People's Strategy. The incorporation of key partnership strategies and plans into one strategy is intended to remove duplication and confusion across partnerships, improve public services and ensure an efficient use of resources.

The Local Development Plan will provide a framework that will play an important role in assisting in the delivery of many of these priority outcomes

## Vale of Glamorgan Council Corporate Plan (2013 – 2017)

The Corporate Plan details how the Council intends to help deliver the overarching Community Strategy vision for 2013 – 2017, provides a framework for Service Plans and underpins the Council's budget. It reflects the Council's aspiration to continually improve the services it delivers to the local community, and is founded on the following Core Values:

- Delivering Good Services: We believe in providing high quality, value-for-money services, and will always strive to do so while abiding by the other values. We will embrace innovative ideas so that services continue to deliver improved outcomes and meet the needs of our customers;
- Transparency: Council decisions will be open and transparent, and we will make changes to the way the Council works to accomplish this;
- Engagement: Before making significant decisions we will engage with the individuals, groups and communities who are affected by them;
- Empowerment: We will strive to enable all sections of the community, including those whose voices have not been heard in the past, to take control over their lives.

## Vale of Glamorgan Local Biodiversity Action Plan

The Vale of Glamorgan Local Biodiversity Action Plan (LBAP) recognises the diversity of plants and animals and the places they live (Habitats), identifying them as local priorities. The overall objective of the Vale of Glamorgan LBAP is to conserve and enhance the biodiversity of the Vale by:

- Protecting all habitats and species important at a local as well as national or international level for nature conservation;
- Promoting optimum management for these sites;

- Where appropriate, improving degraded habitats of creating new habitats; and creating a healthy environment in which the commoner species can thrive; and
- Creating public awareness of local biodiversity through education and information to all sector

#### **14. Economic Drivers.**

St Athan – Cardiff Airport Enterprise Zone focuses on the aerospace and defence sector and offers a number of key development opportunities:

St Athan Aerospace Business Park has been a base for aerospace activity for more than half a century. The site has a newly resurfaced 1,800 metre plus runway with Cat 1 ILS and full airfield support.

Part of the site still retains a major Ministry of Defence (MOD) presence and as such, offers a secure, well-connected location for aerospace companies requiring airside access, conducting high security projects or seeking supply chain contracts directly from the MOD.

Accommodation is fit for a range of business purposes, civilian or military, such as Maintenance, Repair and Overhaul (MRO), manufacture, engine overhaul, Non-destructive Testing (NDT) and Research and Development (R&D). This includes hangars, workshops and other buildings that can be occupied straight away and are ideal for ancillary MRO services such as:

- seat overhaul
- wheel and brake overhaul
- aircraft recycling
- parts storage

Land is also available for new development with airside access.

Cardiff Airport is also part of the Enterprise Zone and offers air travel to a number of short and long haul destinations. The runway can accommodate all generations of aircraft and collaboration with Cardiff Enterprise Zone will ensure the airport has potential for future business travel growth. The Welsh Government are committed to airport infrastructure investment to accommodate the needs of future MRO operators on the site.

Land and facilities close to the airport are available for potential MRO and associated supply chain operators complementary to British Airways Maintenance, Cardiff (BAMC). The proximity of the airport and runway also present the ideal infrastructure for fast movement of aerospace parts, storage and salvage, cargo operations and freight-related businesses.

The Gateway Development zone includes potential development land close to Cardiff airport. Currently at a concept stage, there are plans to create an

‘airport city’, taking the form of a business destination for local and international businesses covering:

- Quality office accommodation
- Specialist education
- Training facilities and
- Leisure developments.

## **15. Summary of the Strategic Case**

The key points of the strategic case are as follows:

- The strategic case for the project is well established and the improvement to the A4226 is on the Welsh Government and Local Authority agenda;
- The improvements support a framework of policy which is aimed economic regeneration;
- The importance of the scheme as an enabler to the development of the Enterprise Zones at St Athan and Cardiff Airport are supported through local and national policy.
- The strategic case for the project is well established and the preferred scheme option will meet the strategic objectives.



## 16. The Economic Case

### Introduction

The economic case outlines the options which were considered for the scheme along with the value for money of the scheme.

### 17. Options Appraisal

Parsons Brinckerhoff has undertaken a WelTAG 1 Appraisal to establish which of the route corridors between Culverhouse Cross and the Enterprise Zones are best suited for improvement.

The outcome from this appraisal, which is a strategy level review of route corridors (namely the A4050 Port Road or the A48 / A4226 Five Mile Lane), is that the A48 / A4226 Five Mile Lane corridor is a more appropriate strategic route between the connecting nodes. This is mainly due to the urbanised nature of Port Road, and the likely increases in vehicle usage resulting from the economic development of the Enterprise Zones, not being compatible.

The report “Five Mile Lane Improvements” undertaken by Arup for Welsh Government (2010) undertook to produce designs in some detail for possible improvements to Five Mile Lane. The design and assessment work that was produced from this report has been used to develop the current proposals. This demonstrates Value for Money by making best use of the technical information which has been competently produced by others in recent years.

### 18. Scheme Objectives

The main over-arching scheme objectives for the Five Mile Lane Improvement, against which the options will be appraised are:

- Objective 1** Improve Network Resilience across Study Area  
–
- Objective 2** Reduce Journey Time variability from Culverhouse Cross interchange to Cardiff Airport Enterprise Zone  
–
- Objective 3** Reduce Journey Time variability from Culverhouse Cross interchange to St Athan Enterprise Zone  
–
- Objective 4** Discourage strategic traffic for utilising inappropriate routes to gain access to St Athan and Cardiff Airport Enterprise Zones  
–
- Objective 5** Maintain access to local amenities and reduce community severance  
–
- Objective 6** Improve access to St Athan and Cardiff Airport Enterprise Zones for Public Transport and Non Motorised Users  
–

## 19. Critical Success Factors

The Critical Success Factors used to assess the validity of options for improvements along the Five Mile Lane Improvements are:

- a) Strategic Fit – Alignment with Welsh Government priorities and strategies
- b) Value for Money – Optimising public value in terms of resultant spend
- c) Deliverability – affordability, achievability, political acceptability & timing of the solution for the key stakeholders
- d) Sustainability – Contribution to the economic, social and environmental needs of the nation to provide a sustainable solution.

## 20. Scope & Solution

In relation to the identified scheme objectives, a number of options were identified as having the potential to address some or all of the stated objectives as follows:

**The Do-Minimum** – some minor improvements at discrete locations along the existing network, within the study area. These are yet to be defined in detail, however, the content of the Do Minimum scheme would be limited to those improvements resultant from LDP commitments and existing/planned highway improvements resultant from funding applications which the local authority are currently working on. These improvements would be located on the A4050 Port Road and surrounding study area network. Nothing is planned for Five Mile Lane due to the extent of improvements that would be required to effect change.

The **‘Intermediate’** position – removing bends on Five Mile Lane and improving junction visibility at side roads. The local authority has already examined what intermediate options can be implemented on Five Mile Lane as part of their Constraints Report in 2013. The Constraints Report produced by the Vale of Glamorgan Council identifies the worst affected areas on the existing alignment, which allows identification of the position and scale of the improvements. The extent of the works required for Intermediate benefit, actually have significant environmental and cost implications (removing bends on Five Mile Lane and improving junction visibility at side roads). It is felt that the intermediate scheme would not deliver significant enough benefit to support the economic argument or for its implementation to be justified.

The **‘Maximum’** – providing an offline scheme which ties into the existing A4226 Five Mile Lane at each end, at Weycock Cross and Sycamore Cross and making best use of as much of the existing infrastructure as possible.

A Do-Nothing scenario has not been considered.

**Table 3.1 – Options**

	<b>Do Minimum</b>	<b>Intermediate</b>	<b>Maximum</b>
<b>Scope Coverage (What)</b>	Safety Improvements LDP improvements to ease flow on Port Road	Visibility and alignment works on Five Mile Lane	New highway
<b>Service Solution (How)</b>	Roundabout improvements Bus lanes Junction upgrades	Improvements at junctions on Five Mile Lane, removing hedgerows and straightening bends	Single carriageway offline scheme between the terminating nodes on Five Mile Lane
<b>Objectives met</b>	<b>Objective 5 Objective 6</b>	<b>Objective 4 Objective 5</b>	<b>All 6 Objectives</b>
<b>Critical Success Factors</b>	<b>c</b>	<b>c</b>	<b>a, b, c &amp; d</b>
<b>Decision</b>	Discount	Discount	Carry Forward - Preferred

***Advantages & Disadvantages***

The **Do Minimum** is the lowest cost option and would provide through flow improvements on the Port Road for a short period of time. The existing Vale of Glamorgan Council's Highway Impact Assessment, produced as part of the LDP identifies that even with only the committed growth, the Port Road junctions are over capacity. The improvements would result in some small relief to traffic congestion at the junctions and potentially improvements to road safety at existing accident locations on Port Road. However this option would contribute very little to improving accessibility in the area or to the regeneration of the Vale of Glamorgan on the whole and would do little to improve the network resilience issues. It would also do nothing to improve Five Mile Lane.

The Do Minimum solution could be delivered relatively quickly, although this is hampered at this time by not knowing the precise form it would take. It does not demonstrate a strategic fit with Welsh Government policies. In addition this solution would not meet the acceptability criteria for local residents in the urbanised areas on the Port Road, who would see an increase in vehicle travellers over the period of development of the Enterprise Zones.

The **Intermediate** option requires a significant increase in cost to deliver when compared to the Do-Minimum scenario. This is primarily due to the costs associated with the purchase of land and the environmental impacts associated with the complete removal of large lengths of hedgebanks adjacent to junctions. This option would provide limited improved visibility at junctions but would not result in the ability to increase the speed limit on the A4226.

This option would make a limited contribution to improving accessibility in the area and an overall minor contribution to the regeneration of the Enterprise Zones.

The **Maximum** intervention is significantly the most expensive option identified and constitutes a large infrastructure scheme. This option would provide the greatest improvements to congestion and road safety, and upgrade that impacts significantly on the resilience of the road network. It will demonstrate Value for Money (see below).

This option would maximise the contribution of the infrastructure works to the regeneration of the Enterprise Zones and demonstrates a robust fit with national and regional policies. The Maximum option would reinforce the status of the A4226 as a strategically important primary road in the Vale of Glamorgan. The maximum option would ensure a consistency of road standards with the rest of the primary road network in the area, although it would not be a trunk road.

## 21. Value for Money

One of the purposes of the Economic Case is to establish the degree to which the scheme (in this case the offline Do Maximum option) offers value for money for the taxpayer. This cost-benefit analysis considers whether the value of the benefits of the scheme justify its cost.

The economic case is currently under development.

## 22. Approach

The assessment which is currently underway considers costs and benefits that can be quantified in monetary terms. Such costs and benefits include the cost to Welsh Government and Vale of Glamorgan Council of constructing and maintaining the scheme, as well as the costs and benefits that accrue, over time, to users of the highway network as a result from the scheme.

There may be other costs and benefits that cannot be quantified in monetary terms. For example, some environmental impacts or social and distributional effects such as impacts on the local and regional economy. Therefore, the economic assessment is only one aspect of the overall case for investment.

The cost-benefit analysis compares the costs and benefits of the scheme – the ‘*do something*’ case – to the situation without the scheme – the ‘*do minimum*’ case.

The benefits are made up of the following:

- Journey time savings;
- Vehicle operating cost savings;
- Accident savings;
- Carbon emission savings;
- Wider economic benefits.

The costs incurred by Welsh Government and Vale of Glamorgan Council as a result of the scheme, include investment costs and operating costs. They are comprised of the following:

- Operating costs;
- Investment costs;
- Developer and other contributions (not applicable to this scheme); and
- Grant/subsidy payments (not applicable to this scheme).

The economic assessment compares the costs and benefits of a transport scheme that are accrued over a 60 year period. In order to ensure consistency, all monetary values are discounted to a common price base to give 'present values'. The current price base year for economic assessments stipulated by the Guidance is 2010.

### **Forecast Model Development**

The forecast traffic model is based upon the housing and employment sites identified within the Vale of Glamorgan's LDP and within the modelled area. These developments include the Enterprise Zones at St Athan and Cardiff Airport and the future passenger growth anticipated at Cardiff Airport.

The additional trips generated by the developments have been combined with additional growth factors, based upon the guidance provided in DMRB, to generate forecast traffic models which are realistic based on the information available at the time of the work.

The following adjustment factors have been used in the forecast traffic model, following agreement with the Welsh Government:

- 2013 TEMPRO trip rates for the Vale of Glamorgan zone to housing and employment planning data for the 2017 and 2032 forecast years;
- TEMPRO trip rates changes for South East Wales have been utilised for traffic travelling through the model;
- Growth rates for Cardiff Airport have been based upon forecasts from publically available studies;
- The Road Traffic Forecast 2013 has been utilised to forecast the growth of the LGVs and HGVs.

Three forecast traffic growth scenarios have been tested – low growth, central and high growth – to assess the impact of the scheme under varying demands. This process has been undertaken in accordance with the guidance provided in DMRB.

The central growth scenario results in overall traffic increases between 2013 and 2032 in the region of 26% in the AM and PM peaks and 27% in the inter peak.

### **23. Scheme Costs**

The total estimated out-turn cost of the scheme is currently c. £25.8m (at 2014 prices). The risk cost includes an element called Optimism Bias at 25% which is an adjustment factor applied to costs used in the economic assessment to reflect a systematic tendency, identified in past engineering schemes, to underestimate costs.

Optimism Bias is included as part of the appraisal of all transport schemes in the UK and is good practice to for inclusion for all public investment appraisals. In line with Green Book appraisal, when calculating the BCR/NPV of an intervention, appraisals should be consistent with the scheme costs plus optimism bias approach so they can be compared like-for-like.

### **24. Wider Economic Benefits**

The term 'Wider Economic Benefits' is used to describe the economic benefits of a transport improvement that are not captured in the Transport Economic Efficiency assessment.

Transport improvements can also affect patterns of economic activity at a local level, for example by influencing patterns of business location and investment. Such effects are dealt with later in this case and are referred to as Local Economic Impacts. In the context of the economic assessment, Wider Economic Benefits refers to the benefits of transport improvements that can result from direct cost savings for users being amplified through the economy. Wider Economic Benefits are net benefits at a UK level which are an adjustment to the main economic assessment and cost benefit analysis.

These economic benefits have yet to be explored in defined terms for this improvement.

### **25. Economic Assessment Results**

An initial economic assessment has been completed following the methodology previously identified to generate trips within the forecast models. Table 3.2 below summarises the outputs from the economic assessment for all three growth scenarios.

**Table 3.2 – Cost-Benefit Assessment**

	<b>Results (2010 prices, discounted to 2010)</b>		
	<b>Low Growth</b>	<b>Central Growth</b>	<b>High Growth</b>
Present Value of Benefits, PVB (£000)	39,910	54,288	88,477
Present Value of Costs, PVC (£000)	27,132	27,132	27,132
Net Present Value, NPV (£000)	12,778	27,156	61,345
<b>Benefit to Cost Ratio</b>	<b>1.47</b>	<b>2.00</b>	<b>3.26</b>

## **26. Economic Activity and Local Impacts**

The BCR is a narrow assessment of the benefits of the scheme and is only one element of a broader range of benefits delivered directly or facilitated by the scheme. In addition to these transport benefits separate consideration needs to be given to the local and regional socio-economic impacts of the scheme.

## **27. Improving Access to Key Sites and Settlements**

The strategy for the regeneration of the area focuses on attracting new jobs to the area, rather than relying solely on the towns and cities to the south and south-east to create employment opportunities. In an area with limited employment opportunities, maximising the value of available employment land is of significant importance.

The quality of the transport network is a major determinant of business investment decisions and affects the attractiveness of employment sites. The scheme would improve access between key employment sites and settlements, reducing transport costs for business and contributing to the quality of the business environment in the area.

There are several local tourist attractions and settlements that would benefit from the improved safety and accessibility to the wider area, from the scheme.

## **28. Enterprise Zones**

The scheme will support the proposals for land allocation in this area in the emerging Local Development Plan for the Vale of Glamorgan Council. In particular the status of the St Athan and Cardiff Airport Enterprise Zone and the significant employment allocation situated there.

## **29. Access to Employment Opportunities**

The scheme will provide access to the local employment areas in and around Barry, Bridgend and Cardiff, including the Enterprise Zones at St Athan and Cardiff Airport.

## **30. Social Impacts – Access to Services**

A contributor to social exclusion is ‘transport poverty’. People with poor accessibility increasingly find themselves cut off from access to work, shops, and health and other services. This isolation often compounds the difficulties of poor communities. Sustainable economic and social advancement in these communities can only be made if the excluded groups secure improved access to employment, training and public services. The scheme would improve access to jobs, employment opportunities and key services for all, through the potential for measures that remove barriers to work associated with access to transport.

Further assessment will be needed to demonstrate that the scheme will deliver against this impact area.

## **31. Economic Case Summary**

The key points from the economic case are:

- The scheme has been subject to a rigorous appraisal process in line with UK and Welsh Government guidance;
- Taking apart the wider socio-economic impact of the scheme, the scheme offers good value for money. The BCR for the scheme is likely to be positive, although this is currently under development;
- The scheme will provide greatly improved access to the St Athan and Cardiff Airport Enterprise Zones and a range of regionally important employment sites, including Cardiff Airport;
- The scheme will increase access to employment opportunities for residents of the Vale of Glamorgan, Cardiff and Bridgend areas.



## 32. The Commercial Case

### Introduction

The first part of this section outlines the procurement options considered to deliver the scheme. The latter sections consider the approach to be utilised to finance the scheme.

### 33. Procurement Strategy: Key Factors Relating to Delivery of a Successful Outcome within Budget

As part of the on-going discussions with the Welsh Government some initial consideration has been given to which contract form for any works to the A4226 Five Mile Lane might be carried out under.

The approach being adopted by the Welsh Government to date has been to appoint consultancy support ( Parsons Brinckerhof) in order to quickly take forward the scheme design with the aim of submitting a planning application in December 2014. This approach overrides the ability to follow any route to early contractor involvement (ECI) in such design notwithstanding that an ECI route is the preferred approach in the Welsh Government guidance.

The successful delivery of the project objectives at an outturn cost within the allocated budget will be determined by a wide range of factors which go beyond the chosen approach to the procurement strategy for the delivery of the project. For example, the form of contract on its own will not determine whether the project is successful.

Factors which will contribute to a successful outcome of delivery within budget include:

- Clarity of objectives and common understanding by all parties
- Robustness of Client's cost estimate
- Adequacy of the Client's risk pot including allowance for inflation
- Effectiveness of project control processes including Gateways
- Quality of the design, specification and contract documents
- Preparation of the supply chain and timing of the procurement processes
- Compliance with Procurement Regulations and avoidance of challenges
- Appropriateness of the selection process and selection criteria
- Robustness of the tender assessment process
- Adequacy of the tender sum to deliver requirements
- Allocation of contractual risks and risk management
- Effectiveness of partnership and team working during construction
- Quality of the project and contract management
- Appropriateness of contractual performance incentives
- Effectiveness of dispute avoidance and resolution procedures
- Availability of the necessary resources

### 34. Policy and Legislative Background

A fundamental requirement of any procurement strategy adopted by public sector clients is that it is compliant with relevant Legislation and policy directives. The relevant requirements applicable to the Five Mile lane scheme are set out below.

### 35. EU Directives and Procurement Regulations

As a Public Authority, Vale of Glamorgan Council is required to comply with The Public Contracts Regulations 2006. The Regulations includes various processes.

**Part 3** covers the use of the open, restricted, negotiated and competitive dialogue procedures. It is anticipated that the selection procedure to be used by the Vale of Glamorgan Council for the procurement of Five Mile Lane Road improvements will be the restricted procedure. **Part 4** covers the criteria for rejection and selection of economic operators for tender lists. **Part 5** covers the criteria for the award of a contract.

In accordance with its Financial Regulations and Contract standing Orders, the Vale of Glamorgan Council may award contracts on the basis of the following criteria:

- the lowest price offer, or
- the most economically advantageous offer from the Vale of Glamorgan Council's point of view.

### 36. OGC Policy

Since April 2000, government policy has been that construction projects should be procured by one of the three recommended procurement routes – Design and Build, Prime Contracting or PFI. Traditional procurement routes should only be used if they demonstrably add value in comparison to the three recommended routes.

### 37. OGC definitions of preferred integrated procurement routes

**Design and Build-** using a single contractor to act as the sole point of responsibility to a public sector client for the design, management and delivery of a construction project on time, within budget (taking account of whole life

costs) and in accordance with a pre-defined output specification using reasonable skill and care.

**Prime Contracting-** Using a single contractor to act as the sole point of responsibility to public sector client for the management and delivery of a construction project on time, within budget (defined over the lifetime of the project) and fit for the purpose for which it was intended, including demonstrating during the initial period of operation that operating cost and performance parameters can be met in agreed with a pre-agreed cost model

**Private Finance Initiative** -here the public sector contracts to purchase quality services, with defined outputs from the private sector on long-term basis, and including maintaining or constructing the necessary infrastructure so as to take advantage of private sector management skills incentivised by having private finance at risk.

### 38. Procurement Strategy Options

#### Introduction. Current position and assumptions

The assessment of options needs to take account of the stage which the scheme has reached and make most effective use of invested knowledge and scheme development work to date. It also needs to take account of the availability of the skills and resources needed to deliver a successful outcome including the capability and capacity within the client organisation.

### 39. Main Options

The options for the overall procurement route are:

- a. Design and Build
  - target price
  - lump sum
- b. Prime Contracting
- c. PFI
- d. Traditional approach

It is not considered that Prime Contracting or PFI would add value or be appropriate for use on the Five Mile Lane Improvement scheme. This is mainly due to the immediacy of the programme and the overall cost of the scheme being less than £30m. This leaves a Design and Build approach or the traditional route.

The Design and Build approach is favoured over the traditional approach for this scheme, due to the immediacy of the programme and the importance that the Welsh Government and Vale of Glamorgan have placed upon the build ability for the scheme

## 40. Contract Options

Contract Options can range from traditional lump sum design and build through to early contractor involvement. The options that would have been identified as most likely to support the project objectives and therefore deliver best value are:

- Option 1 Traditional Employers design
- Option 2 Traditional Design and Build post Planning Consent
- Option 3 Traditional Design & Build pre-Planning Consent
- Option 4 traditional Employers's Design with early contractor involvement (ECI) with Construction only.

(Note: A traditional ECI Contract is not a viable option as the "Employer" is contemplating the preliminary design/statutory consent procedures work)

Option 1 has been ruled out during discussions with the Welsh Government as not supporting their objective of involving the contracting supply chain.

Option 2 is the preferred/optimum as this provides the appropriate level of design needed for planning and land acquisition whilst giving the contractor sufficient opportunity to value engineer the design for construction purposes eg, materials, construction methods etc.

Option 3 is not preferred/sub optimal as whilst it gives the Contractor sufficient opportunity to value engineer the design there is an increased level of uncertainty in the design at tender stage which could result in higher construction risk allowances.

Option 4 has benefits in terms of contractor influencing the final design but the lack of a contractual arrangement between the Designer and the Contractor makes this difficult to deliver.

The Vale of Glamorgan Council has the option to utilise the SEW Construction Framework or the normal OJEU Contract Notice (Restricted Procedure) to appoint the contractor. The SEW Construction Framework was not originally intended to be utilised for schemes of this nature or value and therefore is unlikely to provide the best value for money to the Vale of Glamorgan Council. The latter route is recommended as this is likely to provide the better opportunity to appoint the contractor with the right skills and capacity and giving all locally based contractors the opportunity to bid for this significant contract.

## 41. Form of Contract

Influences on the choice of contract

Key high level drivers which influence the choice of contract include:

- The need to achieve and demonstrate best value for money in the delivery of the scheme and the management of risks.
- The OGC recommendation for the use of NEC3 for the delivery of publicly funded schemes and the need set out by HM Treasury and OGC for public sector clients to align with Achieving Excellence principles.
- Alignment with the aims and objectives, and desired culture.
- The need for procurement methods and forms of contract that will be attractive to the best quality suppliers.

## **42. Assessment of options - Introduction**

The Office of Government Commerce (OGC) advises public sector clients that the form of contract has to be selected according to the objectives of the scheme, aiming to satisfy the Achieving Excellence in Construction (AEC) principles. The OGC considers that the NEC3 complies fully with the AEC principles and they recommend its use by public sector construction procurers on their construction schemes. The NEC3 therefore, is set out as the starting point for the assessment of possible forms of contract and to consider whether it would be suitable for the successful delivery of the Five Mile lane project. Other options are then considered to see if they would offer any significant advantage over the use of the NEC3.

## **43. Contract Options**

The main forms of contract which are available are:

- NEC3
- ICE7
- ICE Target Cost
- JCT

Key factors which contribute to a successful outcome and which need to be considered in the selection of the form(s) of contract are:

- Contractual risk allocation
- Project culture
- Stimulus to good management – communication and problem resolution
- Change control and pricing procedures
- Contractual payment mechanism and performance incentives
- Attractiveness to the supply chain

## **44. Evaluation**

The form of contract recommended by the OGC for the delivery of construction projects is the NEC3. There would be a need therefore, if it were proposed to

use to a different contract, to demonstrate that the NEC3 was not appropriate and that an alternative would be more likely to support a successful project outcome.

The NEC3 contract would support the delivery of the project objectives and in particular would achieve the following:

- A fair allocation of risk with incentives to deliver within budget
- Provides flexibility in the allocation of risk and the payment mechanism
- Provides flexibility for the accommodation of change
- Provides a strong management stimulus for effective risk management
- Supports a partnership approach to the delivery of the project
- It is widely used in the construction industry, has a good reputation in the industry and would help to attract a competitive tender list.

With the NEC3 it is important that the Client makes allowance in the budget for compensation events which would be payable if identified risks occur. It will be important, therefore, for the Vale of Glamorgan Council and Welsh Government as funders to consider risks and contingency allocations.

The ICE7 and ICE Target Cost would both basically require a traditional approach to the delivery of the project with an independent Designer and Engineer under the contract. The Employer would not be able to control the commercial management of the contract and would be exposed to the risk of change. The ICE Target Cost contract was only published in 2006 and so there is not a great deal of evidence to date of its use on major infrastructure projects. That said, the ICE Design and Construct contract form (2001) could be considered as a standard D&B approach but there is little in house capability.

The JCT suite of contracts is generally associated with the building sector. The JCT is another contract with similarities to the ICE conditions and therefore, generally perceived as being prone to adversarial behaviours and, again, there is a lack of in house expertise in managing same.

Generally such contracts would not be in line with current OGC guidance on recommended procurement routes. Overall, there are no benefits identified which would justify departing from the use of the recommended NEC3.

#### **45. Assumptions on the form of contract**

At this stage the assessment of the alternative options has not identified any

significant additional benefits that would justify using a contract other than the NEC3 and therefore NEC3 should be used for this scheme. The assumptions are therefore that;

- NEC ECC form of contract to be used to employ the Employers Agents ( EA) for the scheme.
- NEC ECC form of contract to be used for construction and will follow the WG models where the Target Cost for the works will be a tendered value.
- The Vale of Glamorgan Council to be the Employer for both contracts.
- The Welsh Government to fully fund all parts of the scheme, eg, Environmental Assessment, construction, fees and land acquisition/compensation costs.
- Programme- to be considered following appointment of the main contractor

#### **46. Constraints and Opportunities.**

The elements which are considered to be fixed post Planning Consent are:

- The horizontal and vertical alignments of the road scheme;
- Drainage strategy and outfalls ( unless conditioned);
- Environmental Mitigation ( unless conditioned)
- Land Acquisition
- Structural form (OAIP); and,
- Signing Strategy.

The elements which are considered to be flexible post Planning Consent are:

- Materials;
- Working Methods;
- Road Restraint Systems ( unless land needed)
- Pavement options;
- Fencing and accommodation works;
- Structural Design.

There appears to be sufficient “flexibility” post Planning Consent to make a traditional Design and Build form of contract a viable option. An ECI form of contract is also viable but there is a higher level of design uncertainty which could result in higher risk allowances in the tenderers’ Target Cost.

## **47. Risk Management**

As part of the management of the scheme the Council will review risks associated with the procurement and delivery of the scheme. In conjunction with the Employer's Agent, the Council's Procurement Unit and the Council's Legal advisors a detailed assessment of both contract form and contract content will be undertaken and this will present an assessment of risk factors for consideration by the Project Board prior to the presentation of the results of any procurement exercise to Cabinet.

## **48. Commercial Case Summary**

The key points of the commercial case are:

- The Vale of Glamorgan Council will procure an Employer's Agent following a competitive tendering process;
- The programme is established to ensure that the procurement of the relevant Employer's Agent team is in place;
- A contractor will be procured with the assistance of the Employer's Agent by the Vale of Glamorgan Council, following a competitive tendering process;
- A robust and well established risk management system is in place which ensures that project risks will be managed in line with the Vale of Glamorgan Council's processes.



## **49. The Financial Case**

### **Introduction**

The Financial Case demonstrates that the “preferred option” will result in a fundable and affordable scheme.

This section of the business case requires the spending authority to set out the capital and revenue requirement for the spending proposal over the expected life span of the service, together with an assessment of how the scheme will impact upon the balance sheet, income and expenditure account and pricing (if applicable) of the public sector organisation.

## **50. Capital Costs**

A number of funding options have been considered to ensure delivery of the scheme but given the limited capacity of the Vale of Glamorgan Council’s Capital Programme as set out in the Council’s Medium Term Financial Plan it is unlikely that the Council could bring forward anything other than its staff resources at this time in support of the scheme.

Given the Welsh Government announcement regarding the delivery of the scheme it is currently assumed that the scheme funding will be via Welsh Government grant to the Council. The terms of such an arrangement will follow the submission of a grant bid to the Welsh Government by the Council and so the details of any future funding arrangement are currently unknown.

### **Capital Costs and Funding Arrangements**

The provisional total out-turn cost of the project is £25.8 m including construction, design, as well as non-recoverable VAT and risk and including land costs.

## **51. Phased Approach to delivery**

Given that the actual scheme costs are unlikely to be known until much later on in the scheme programme (because the procurement strategy currently assumes a design and build approach) the Council has assumed that the scheme will be delivered on a phased basis and that through a process of interim reporting to the Welsh Government the funding arrangements will be regularly reviewed and agreed.

## **52. Capital Costs and Funding Arrangements**

Due to the location of the scheme – in close proximity to, but not contiguous with the existing Trunk Road network – the options available to improve Five Mile Lane are limited. The only feasible option is for Welsh Government to provide a grant to the Vale of Glamorgan Council to fund the improvements. The total out-turn cost of the scheme is likely to be in the region of £25.8m (2014 prices) including construction, design, risk and land costs.

## **53. Summary of the Financial Case**

The key points from the financial case are:-

- The overall capital cost of the scheme (including land costs) is forecast to be £25.8m (2014 prices) with the majority of the spend occurring 2016-17;
- The scheme will be financed through Grant Funding to the Vale of Glamorgan Council from Welsh Government;

No outside sources of European funding are available for this scheme.

## 54. The Management Case

### Introduction

The Management Case demonstrates that the “preferred option” is capable of being delivered successfully, in accordance with recognised best practice. This section of the business case requires the spending authority to demonstrate that the spending proposal is being implemented in accordance with a recognised Programme and Project Management (PPM) methodology and that there are robust arrangements in place for change management and contract management, the delivery of benefits and the management and mitigation of risk.

It also requires the spending authority to specify the arrangements for monitoring during implementation and for post implementation evaluation, as well as for Gateway reviews (if applicable), and the contingency plans for risk management of the scheme.

## 55. Governance Arrangements

Overall responsibility for the delivery of major projects lies with the Cabinet of the Vale of Glamorgan Council.

The scheme includes a **Project Board** responsible for strategically managing the scheme between key milestones. The Project Board forms a link between the Cabinet of the Council and the Project Delivery Team. It comprises of senior personnel from each of the main parties to the scheme. The role of the Project Board is to manage by exception and only intervening with the work of the Project Team where necessary to:

- Create an environment in which the scheme can thrive;
- Advise and support the Project Team;
- Setting boundaries between key decision points;
- Championing early dispute resolution where possible;
- Consider and approve the on-going Business Case to enable scheme development to continue;
- Agree on a high level project timetable for delivery;
- Review the scheme against Policy objectives at agreed milestones and provide continued commitment and endorsement where appropriate.

The Vale of Glamorgan Council’s Project Manager is responsible for the day-to-day detailed management of the scheme, with the assistance of the NEC Project Manager and NEC Supervisor. The Project Delivery Team is led by the Project Manager and includes representatives of the Employer’s Agent, the Welsh Government’s Project Engineer and members of the contractor’s team procured to deliver the scheme as well as the various technical support teams. The primary activities include:

- Promoting the scheme both internally and to external partners and stakeholders;
- Ensuring the scheme delivered is the optimum solution;

- Ensuring scheme activities comply with Welsh Government and local policy;

## **56. Maximising Local Impacts**

A range of innovative approaches to the design and delivery of the scheme have been identified in order to minimise the risk of the scheme not progressing through the statutory process and maximising the opportunities for success. These are listed below and with further details provided of key points later in the remaining section.

## **57. Targeted recruitment and training.**

The Welsh Government has employed an innovative Targeted Recruitment and Training (TR&T) clause in its recent transport contracts to maximise the impact of public spending on well-being whilst ensuring compliance with the EU Procurement Directive and avoiding disadvantaging non-local contractors. It is the intention of the Vale of Glamorgan Council to consider how such a clause can be utilised in the procurement exercise for the Five Mile Lane highway improvements to support this ongoing initiative for local recruitment and training.

## **58. Engagement with local schools.**

The delivery team will engage with local schools in advance of construction in order to foster long term relationships, encouraging pupils and inspiring them to aim high and achieve their potential is a legacy targeted by the core team.

## **59. Pro-active public engagement.**

Throughout the history of the development of the scheme, an active approach has been taken to public engagement to ensure people's views are heard. This approach will be continued throughout the planning process and beyond into the EA and D&B Contractors appointment.

## **60. Early supply-chain engagement.**

It is recommended that the contractors organise 'meet the buyer' events over one year in advance of construction with the purpose of highlighting potential supplier opportunities to local businesses.

## **61. Innovation in design.**

Innovative design practices will be employed and encouraged as part of the Design and Build approach to the scheme.

## **62. Sustainable construction practices.**

Modern sustainable practices are being employed to minimise resources, waste and carbon emissions. This includes the planned recovery of all old road pavements for recycling into new road pavement, and the development of a solution which allows the majority of aggregates used to be produced on site from 'site won rock' rather than importing from quarries. Further to this, the construction workforce will receive training to ensure that potential negative environmental impacts are avoided.

## **63. A Low energy solution.**

The design on the new road minimises the need for street lighting by taking a more balanced view of the many competing aspects, including safety, light pollution, energy, cost and landscape impacts.

## **64. Maximising community benefits.**

A balanced approach to the competing needs of drivers and non-motorised transport users to ensure that their needs are well catered for, avoiding the new road becoming an obstacle on the landscape. The retention of the existing Five Mile Lane route allows the creation of a 'community route' with cycle ways and footpaths which support healthier lifestyles and foster community integration.

## **65. Targeted Recruitment and Training**

Historically, training and recruitment initiatives have relied on the good will of contractors. For the Five Mile Lane Improvements, this is yet to be agreed. In other contracts, the contract specifies that a minimum of 12.0% of total labour costs are to be used for employment of 'new entrant' trainees'. New entrants are those who are currently unemployed or economically inactive but capable of employment and wishing to find employment and training in the construction sector.

## **66. Engagement --Local Schools**

There are a series of local schools and colleges, including Barry College which could benefit from the opportunity to engage with the scheme. The approach to this is yet to be agreed in detail.

## **67. Public and Community Engagement**

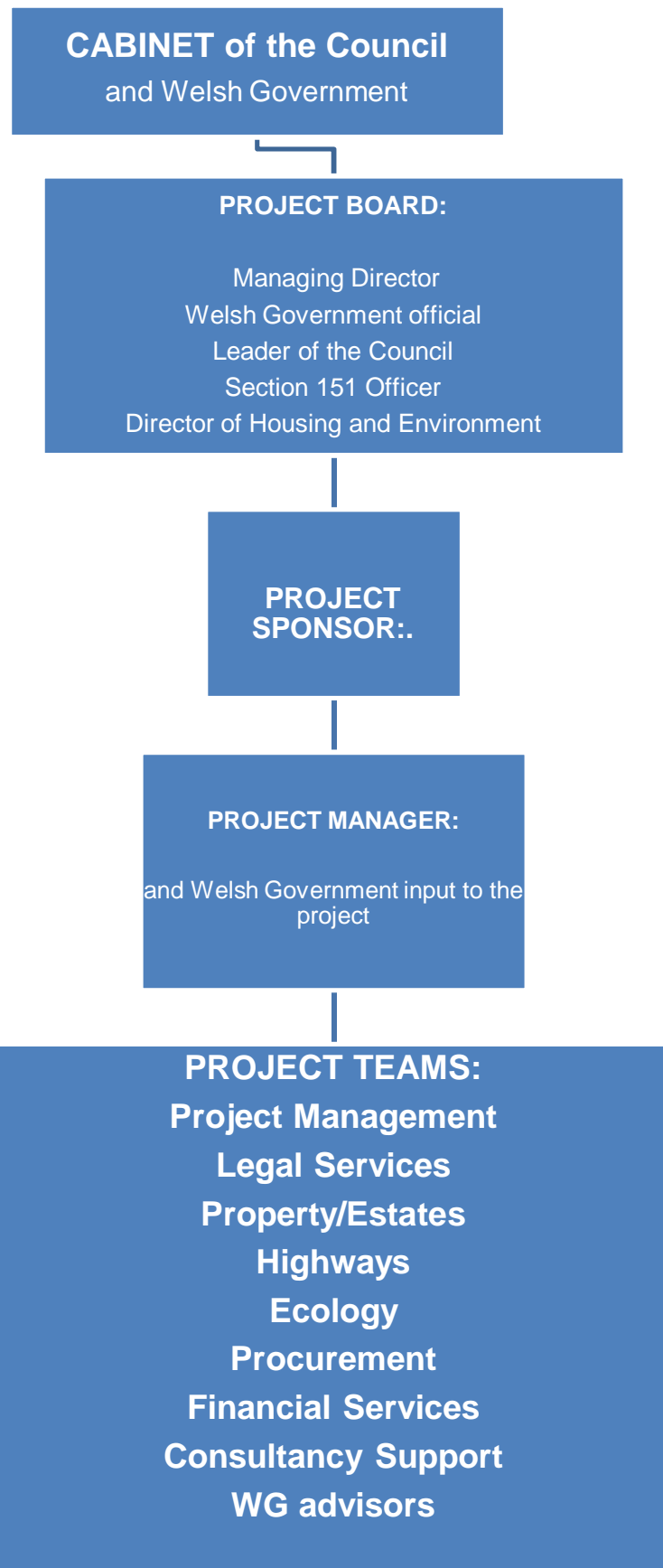
As part of the public engagement there has already been a number of exhibitions and events to explain the scheme to the public. It is proposed that in 2014, there will be consultation directly with landowners relating to their access needs and the potential for accommodation works. This will be undertaken by Parsons Brinckerhoff on behalf of the Welsh Government and in conjunction with the Vale of Glamorgan Council staff.

In advance of the application for planning being submitted in December 2014 and the Orders being published concurrently, there will also be an engineering plans exhibition will be held locally to inform the public on the proposals.

## **68. Summary of the Management Case**

The key points from the management case are:-

- The scheme is pro-actively seeking to maximise local benefits. In particular, the targeted recruitment and training scheme will have a positive impact on the surrounding area;
- Engagement with the local community will be an important aspect of the development of the scheme;
- Governance arrangements are in-place to ensure good project management practices are in place at all levels of the scheme to ensure the scheme is delivered on time and to budget and that the scheme delivered provides best value.



Governance table.

## Conclusions

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The proposed Five Mile Lane Highway Improvements stem from the strategic plans of both the Welsh Government and the Vale of Glamorgan Council as set in this document. The Council has previously received a Principal Road Grant from the Welsh Government to advance the Five Mile Lane Highway Improvement Scheme, and to date this work has involved the signalisation of Sycamore Cross junction, as well as initial design and feasibility work together with various environmental assessments relating to the larger scheme proposal now under consideration.

This Business case sets out a robust case for the implementation of the scheme as indicated by the summaries to each of the five elements of the case.

- The strategic case for the project is well established and the improvement to the A4226 is on the Welsh Government and Local Authority agenda;
- The improvements support a framework of policy which is aimed economic regeneration;
- The importance of the scheme as an enabler to the development of the Enterprise Zones at St Athan and Cardiff Airport are supported through local and national policy.
- The strategic case for the project is well established and the preferred scheme option will meet the strategic objectives.
- The scheme has been subject to a rigorous appraisal process in line with UK and Welsh Government guidance;
- Taking apart the wider socio-economic impact of the scheme, the scheme offers good value for money.
- The scheme will provide greatly improved access to the Enterprise Zone and a range of regionally important employment sites.
- The Vale of Glamorgan Council will procure an Employer's Agent following a competitive tendering process;
- The programme is established to ensure that the procurement of the relevant Employer's Agent team is in place;
- A contractor will be procured with the assistance of the Employer's Agent by the Vale of Glamorgan Council, following a competitive tendering process;
- A robust and well established risk management system is in place which ensures that project risks will be managed in line with the Vale of Glamorgan Council's processes.
- The scheme is to be managed utilised the Vale of Glamorgan Council project Management Toolkit which is based upon the principles of the Prince 2 system;



- The scheme is pro-actively seeking to maximise local benefits. In particular, the targeted recruitment and training scheme will have a positive impact on the surrounding area;
- Engagement with the local community has been an important aspect of the development of the scheme. Engagement has included initiatives in local schools, public information exhibitions and supermarket information days.
- The scheme has a formal risk management approach with a dedicated Risk Manager.
- Governance arrangements are in-place to ensure good project management practices are in place at all levels of the project to ensure the scheme is delivered on time and to budget and that the scheme delivered provides best value for the Welsh Government.

July 2014

**JUNCTION STRATEGY REPORT  
LINKS TO ST ATHAN AND CARDIFF  
AIRPORT ENTERPRISE ZONE**

*Welsh Government*

3512646D-HHC/05

*Draft*



# **JUNCTION STRATEGY REPORT LINKS TO ST ATHAN AND CARDIFF AIRPORT ENTERPRISE ZONE**

**3512646D-HHC / 05**

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**Appendix A Drawings**





**1 INTRODUCTION****1.1 Purpose of this report**

1.1.1 Parsons Brinckerhoff and TACP are currently undertaking a commission on Links to St Athan and Cardiff Airport Enterprise Zones on behalf of the Welsh Government and in partnership with the Vale of Glamorgan Council. The overall objective of the commission is to assess and develop proposals for improving the strategic access to the Enterprise Zones at St Athan and Cardiff Airport. From this assessment, a solution will be put forward to the Local Planning Authority in the form of a Planning Application, for improvements to Five Mile Lane (A4226).

1.1.2 The purpose of this report is to provide details of the junction alternatives which have been considered as part of the proposed improvements to Five Mile Lane.

1.1.3 This report will also provide an overview and assessment of the horizontal alignments, vertical alignments and junction improvements considered as part of the improvements.

## **2 HIGHWAY ALIGNMENT DESIGN**

### **2.1 Design Scenarios**

2.1.1 A number of alternative alignments and junction designs have been considered as part of the design development process for the scheme. This has resulted in two options, Option A and Option B, being considered at this stage.

2.1.2 The Option A alignment consists of the following:

- At grade crossing at Amelia Trust Farm
- Structure at Whitton Lodge Cross Roads
- At grade crossing in the vicinity of Northcliff Cottage
- Rejoin existing carriageway on approach to Weycock Bridge.

2.1.3 The Option B alignment consists of the following:

- At grade crossing at Amelia Trust Farm
- At grade crossing at Whitton Lodge Cross Roads
- At grade crossing in the vicinity of Northcliff Cottage
- Rejoin existing carriageway on approach to Weycock Bridge.

2.1.4 The alignments are very similar throughout, with the junctions coinciding with the locations of side roads off the existing Five Mile Lane. The most significant design difference is the vertical alignment in the vicinity of the property known as *Whitton Lodge*.

2.1.5 The design speed along the main-line alignment for all scenarios is 100KPH, with a speed limit of 60MPH.

2.1.6 The design speed for all side roads has been assumed to be 60KPH, with a speed limit of 30MPH.

### **2.2 Horizontal Alignment**

2.2.1 The minimum horizontal curvature provided for both Option A and Option B is 720m. This is the desirable minimum horizontal curvature for a design speed of 100KPH, as specified within Table 3 of TD 9/93.

2.2.2 The desirable minimum stopping sight distance of 215m is achieved at all points along the mainline of the carriageway, in accordance with the requirement of Table 3 of TD 9/93.

### **2.3 Vertical Alignment**

2.3.1 The vertical alignment for both options has been optimised to reduce any unnecessary gradients and ensure the safety of all road users is maintained.

2.3.2 Due to a high pressure underground gas main crossing both proposed alignments at Chainage 650, there is limited possibility to provide a cutting in this area.

- 2.3.3 In order to achieve a fully compliant vertical alignment, embankments are required for both Option A and Option B, in the vicinity of Whitton Lodge.

Option A

- 2.3.4 The embankment provided as part of Option A has a total height of approximately 6.5m (the highest of the two options), to provide sufficient clearance for the underpass to accommodate the existing unclassified road at Whitton Lodge.

- 2.3.5 The gradient on the approach to the bridge proposed at Whitton Lodge as part of Option A is 5%.

- 2.3.6 The steepest gradient provided as part of Option A is 6% over a length of approximately 500m between the River Weycock Bridge and Northcliff Cottage.

Option B

- 2.3.7 The embankment for Option B is significantly reduced (less height and length) therefore the cost and visual impacts are both reduced.

- 2.3.8 There is no significant gradient in the vertical alignment of Option B on the approach to Whitton Lodge.

- 2.3.9 The steepest gradient provided as part of Option B is also 6% over a length of approximately 500m between the River Weycock Bridge and Northcliff Cottage.

- 2.3.10 Due to the clearance and approach angle required as part of Option A, it is anticipated that more fill will be required as part of the construction process, than for Option B.

## **2.4 Environmental Considerations**

Animal Connectivity

- 2.4.2 Currently both Five Mile Lane and the minor route passing Whitton Lodge offer wildlife corridors through the area.

- 2.4.3 The proposals for Five Mile Lane, including the embankments and a wider carriageway, would present a potential barrier to the wildlife using these corridors.

- 2.4.4 It is extremely important to preserve these corridors to ensure the wildlife and biodiversity of the area is maintained.

- 2.4.5 Option A provides a wildlife corridor, accommodated by an underpass. Due to the expected low traffic flow along this route, this will provide a relatively safe crossing point for wildlife.

- 2.4.6 Opportunities for crossing points in both options are possible through the installation of oversized pipes within the embankment or beneath the live carriageway. Although both Options A & B provide adequate cover for this, Option A would provide more obvious opportunities due to the additional height and extent of the embankment.

Visual Impact

2.4.7 Given the landform around Whitton Lodge and the proposed embankment, the visual impact caused by any raised embankments will be considerable.

2.4.8 Due to the extent of the embankment in Option A, this option has a much greater visual impact than Option B. The maximum embankment height for Option A is 12m. The maximum embankment height for Option B is 6.9m, over a much shorter length and only where it is required to achieve the vertical design parameters.

## **2.5 Statutory Undertakers Equipment**

2.5.1 The high pressure gas main in the vicinity of the Amelia Trust Farm results in limited scope for the reduction of embankments or the provision of earthworks cuttings for either option.

2.5.2 The information provided by the Statutory Undertakers also shows the presence of underground Welsh Water and BT apparatus, in the side road adjacent to Whitton Lodge. Any excavation of the side road, to facilitate the construction of a bridge, would have to ensure that these services have sufficient cover or are diverted in advance of the works.

## **2.6 Cost**

2.6.1 An initial outline cost estimate has been undertaken for Option A and Option B. The costs have considered the construction costs and the following additional percentages to cover other elements:

- Preparation Costs 10%
- Supervision Costs 3%
- Optimism Bias 44%

2.6.2 The summary of the costs is shown in Table 2.1 below.

Option	Estimated Construction Cost	Land Costs	Preparation Costs @ 10%	Supervision Costs @ 3%	Optimism Bias @ 44%	Grand Total
Option A	£ 25,091,990	£ 314,318	£ 2,540,631	£ 762,189	£ 6,068,240	<b>£ 34,777,368</b>
Option B	£ 18,817,924	£ 314,318	£ 1,193,224	£ 473,967	£ 4,547,254	<b>£ 26,166,687</b>

**Table 2.1: Summary of Outline Cost Estimates**

2.6.3 The total costs for Option A are significantly higher than the costs for Option B due to the increased earthworks and the additional structure required in the vicinity of Whitton Lodge. The increase is then compounded when applying the recommended optimism bias to the costs.

2.6.4 An optimism bias of 44% has been applied to the Estimated Construction Cost only as part of the estimate, in line with the Treasury Green Book guidance for a standard civil engineering project at feasibility stage.

### 3 JUNCTION OPTIONS

#### 3.1 Options Considered

3.1.1 In total, six junctions have been considered along the scheme length. These are summarised below:

Junction 1 – Chainage 820

3.1.2 Ghost island junction to Western side of Five Mile Lane, at Amelia Trust Farm

Junction 2 – Chainage 1,300

3.1.3 Ghost island junction to Eastern side of Five Mile Lane, near the property known as *Whitton Lodge*

Junction 3 – Chainage 2,200 to 2,300

3.1.4 Staggered ghost island junction to both sides of Five Mile Lane, near Northcliff Cottage

Junction 4 – Chainage 2,300

3.1.5 Ghost island junction to Eastern side of Five Mile Lane, near Northcliff Cottage

Junction 5 – Chainage 2,300

3.1.6 4-arm roundabout to both sides Five Mile Lane, near Northcliff Cottage

Junction 6 – Chainage 3,700

3.1.7 Ghost island junction to Western side of Five Mile Lane, near Sutton Woods

#### 3.2 Junction Scenarios

3.2.1 A total of six junction scenarios have been considered as part of the design, and are summarised in the Table 3.1 below. Option A includes the embankment at Whitton Lodge, Option B does not have this embankment.

		JUNCTION					
		1	2	3	4	5	6
SCENARIO (A – Option A) (B – Option B)	A 1	✓			✓		✓
	A 2	✓		✓			
	A 3	✓				✓	
	B 1	✓	✓		✓		✓
	B 2	✓	✓	✓			
	B 3	✓	✓			✓	

**Table 3.1: Summary of Junction Scenarios**

- 3.2.2 Scenarios A1, A2 and A3 are associated with Option A, the alignment raised in the vicinity of Whitton Lodge.
- 3.2.3 Scenarios B1, B2 and B3 are associated by Option B, the alignment with an at-grade crossing at Whitton Lodge.
- 3.3 Junction Design**
- 3.3.1 All junctions are fully compliant with the appropriate elements of the Design Manual for Roads and Bridges (DMRB).
- 3.4 Traffic Flows**
- 3.4.1 The current traffic flows on the A4226 Five Mile Lane are approximately 7,500 AADT with the side road flows between 90 AADT and 471 AADT.
- 3.4.2 Accordingly, the most suitable junctions for these flows, as recommended in TD 42/95, would be either a standard ghost island or a staggered ghost island junction.
- 3.5 Journey Times**
- 3.5.1 The provision of a standard ghost island or staggered ghost island junction also reduces the journey times when compared with a roundabout option.
- 3.5.2 Reduced and reliable journey times are part of the scheme objectives, to ensure the new alignment provides a suitable strategic route through the Vale of Glamorgan.
- 3.6 Severance**
- 3.6.1 Scenarios A2 and B2, with the staggered ghost island junction, reduces the severance for residents on either side of the proposed alignment.
- 3.6.2 In addition, the staggered ghost island junction as incorporated into Scenarios A2 and B2 provide additional benefits to NMUs, as NMUs will not be forced to travel additional distance along the improvements to gain access to the existing road.
- 3.7 Strategic Route Impacts**
- 3.7.1 Scenarios A2 and B2 includes fewer junctions than Scenario A1 and B1, and therefore is better suited for inclusion along a strategic route.
- 3.7.2 The differences in journey times between the two scenarios will be minimal, as the origins and destinations and total distances will be similar.

## **4 JUNCTION TYPES**

4.1.1 A number of different junction types have been considered as part of the design. These are:

- Junction Type 1: Standard Ghost Island Junction
- Junction Type 2: Staggered Ghost Island Junction
- Junction Type 3: 4 arm Roundabout

4.1.2 The following sections highlight the different characteristics of the three junctions types.

### **4.2 Junction Type 1 – Ghost island**

#### **Standard Junction Form**

4.2.1 All ghost island junctions within this design have been designed in accordance with the requirements of TD 42/95.

4.2.2 All ghost island junctions in this design, are fully compliant with DMRB and therefore require no departures or relaxations for the design speed of 100KPH.

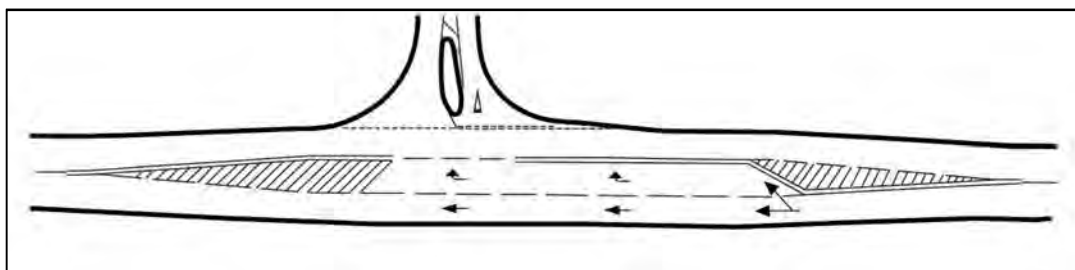
4.2.3 Where possible, a 1.0 metre hard strip is provided on both the northbound and southbound carriageway.

4.2.4 The width of the ghost island turning lane is 3.5m, and chevron hatching is to be provided as part of the ghost island arrangement.

4.2.5 The design speed along the main-line alignment for all scenarios is 100KPH, with a speed limit of 60MPH. The design speed for all side roads has been assumed to be 60KPH, with a speed limit of 30MPH.

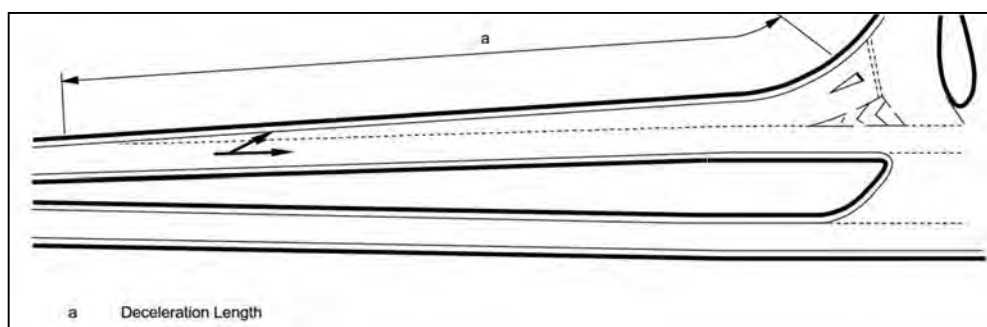
#### **Indicative Layout**

4.2.6 As per TD 42/95, the ghost junctions and diverge lanes have been designed to DMRB standards as shown below in Figure 4.1 and Figure 4.2.



**Figure 4.1: Indicative Ghost Island Junction Layout**





**Figure 4.2: Indicative Diverge Lane Layout**

4.2.7 The ghost island junction will be designed with a central turning lane with sufficient capacity to accommodate turning traffic to ensure no delays are caused by traffic queuing onto the main-line of the new alignment.

4.2.8 Neither the A4226 Five Mile Lane nor the entry side roads are currently lit. As such, as per TD42/95, paragraph 7.79, no road lighting is required.

#### **Traffic Flows**

4.2.9 Ghost island junctions are recommended in TD42/95, Figure 2/2 for traffic flows of between 200- 17,500 AADT on the major road and 200-5,000 AADT on minor roads.

4.2.10 The major road flows along A4226 Five Mile Lane are approximately 7,500 AADT, with a peak hour flow of approximately 900 vehicles.

4.2.11 The minor road flows on all side roads connecting to Five Mile Lane are low. Data gathered in June 2014 shows that the side road to Moulton has the largest flow, of 470 AADT. The side road with the lowest flow, of 90 AADT, was the unclassified road to the east of Five Mile Lane at Whitton Lodge. This information shows that all traffic roads are well under the maximum recommended 5,000 AADT for a ghost island junction as recommended in TD 42/95.

4.2.12 TD42/95 states that with 2-way flows less than 300 AADT a *Simple Junction* should be provided. With the proposed strategic nature of these improvements the lack of dedicated turning lanes could present additional safety concerns, and therefore this option has been discarded.

4.2.13 The percentage of HGVs along Five Mile Lane is approximately 3%, as measured in traffic surveys conducted in March 2014.

4.2.14 The assessment of future years traffic for the proposed improvement is currently under assessment. For the purposes of this analysis, the current traffic volumes are used as a basis for this note.

#### **Journey Time**

4.2.15 Major/minor junctions have the advantage that major road through traffic is not impeded, except at simple junctions. However, the high speed difference between through and turning traffic results in a poorer safety record than for roundabouts.

4.2.16 Provided that the ghost island turning lane has adequate capacity to facilitate turning traffic, no substantial delay would be caused to through traffic by the junction. Should this capacity be inadequate along with high volumes of traffic in both directions, severe delays could be possible for through traffic. This is not likely to be the case on Five Mile Lane.

4.2.17 Due to the high volume of flow along the main route and considerably lower flow along minor side roads, minimal delay to journey time may be encountered. The greater visibility through the new road layout will help to minimise this delay and result in a delay that is less than those experienced with the current layout.

### **4.3 Junction Type 2 – Staggered Ghost Island**

#### **Standard Junction Form**

4.3.1 The staggered ghost island junction has been designed in accordance with the requirements of TD 42/95.

4.3.2 The staggered ghost island junction is fully compliant with DMRB and therefore requires no departures or relaxations.

4.3.3 The stagger distance for 100kph design speed is 100m and is a right/left stagger (as shown in Figure 4.3. This is located adjacent to Northcliff Cottage and Grovelands Farm.

4.3.4 The junction is located on a straight at a slight gradient of 0-4%, with a deceleration length of 80m for both northbound and southbound traffic.

4.3.5 The junction has been located to ensure that full stopping sight distance is achieved on the main-line, prior to the start of the 6% gradient in the vicinity of Grovelands Farm.

4.3.6 A 1.0 metre hard strip is provided on both the northbound and southbound carriageways. The hard strip terminates at the end of the entry/exit radii along both side roads.

4.3.7 The width of the ghost island turning lanes is 3.5m in both directions, with chevron hatching to be provided as part of the staggered junction arrangement.

4.3.8 The side road on the eastern side of the new alignment includes 4.0m wide lanes with a 90m radius, to allow for vehicle over-runs. The 90m radius tapers to the width of the existing carriageway, to ensure a smooth transition for all vehicles utilising the junction.

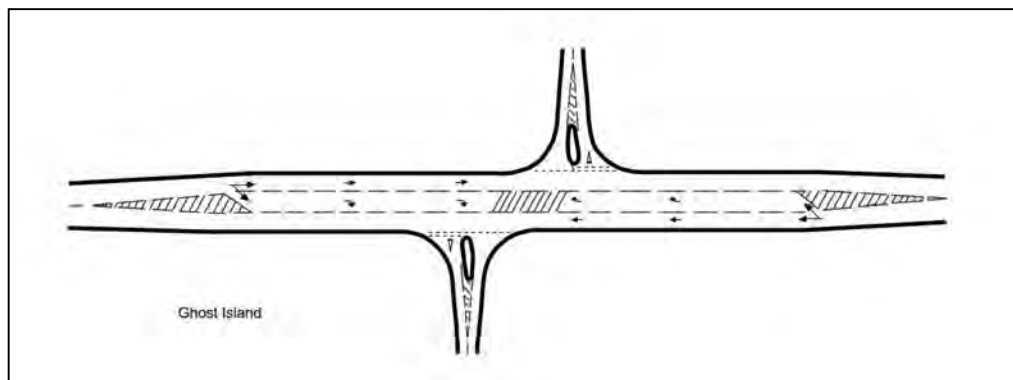
4.3.9 The eastern link also maintains access to Northcliff Cottage with a 30m radius and 3.65m lane widths that tapers to tie into the existing road.

4.3.10 The side road on the western side of the new alignment includes 4.7m wide lanes with a 45m radius, to allow for vehicle over-runs. The radius tapers to the width of the existing carriageway.

4.3.11 The junction has been located on a straight, to maximise safety of all road users. The design includes the provision of 45m radii on both the northbound and southbound carriageways, to minimise the land-take required in adjacent fields.

### Indicative Layout

- 4.3.12 As per TD 42/95, the staggered ghost island junctions and diverge lanes have been designed to DMRB standards as shown below in Figure 4.3.



**Figure 4.3: Indicative Staggered Ghost Island Junction Layout**

- 4.3.13 The staggered ghost island junction has been designed with a central turning lane with capacity to accept all turning traffic at any one point to ensure no delays are caused by turning traffic queuing onto the through lane.
- 4.3.14 Neither Five Mile Lane nor the entry side roads are currently lit. As such, as per TD42/95, paragraph 7.79, no road lighting is required.

### Traffic Flows

- 4.3.15 Ghost Island junctions are recommended in TD42/95, Figure 2/2 for traffic flows of between 200- 17,500 AADT on the major road and 200-5,000 AADT on minor roads.
- 4.3.16 The major road flows along A4226 Five Mile Lane are approximately 7,500 AADT, with a peak hour flow of approximately 900 vehicles.
- 4.3.17 The minor road flows on all side roads connecting to Five Mile Lane are low. Data gathered in June 2014 shows that the side road to Moulton has the largest flow, of 470 AADT. The side road with the lowest flow, of 90 AADT, was the unclassified road to the east of Five Mile Lane at Whitton Lodge. The Northcliff Cottage link has a flow of 150 AADT. This information shows that all traffic roads are well under the maximum recommended 5,000 AADT for a ghost island junction as recommended in TD 42/95.
- 4.3.18 TD42/95 states that with 2-way flows less than 300 AADT a *Simple Junction* should be provided. With the proposed strategic nature of these improvements the lack of dedicated turning lanes could present additional safety concerns, and therefore this option has been discarded.
- 4.3.19 The percentage of HGVs along Five Mile Lane is approximately 3%, as measured in traffic surveys conducted in March 2014.
- 4.3.20 The assessment of future years traffic for the proposed improvement is currently under assessment. For the purposes of this analysis, the current traffic volumes are used as a basis for this note.

**Journey Time**

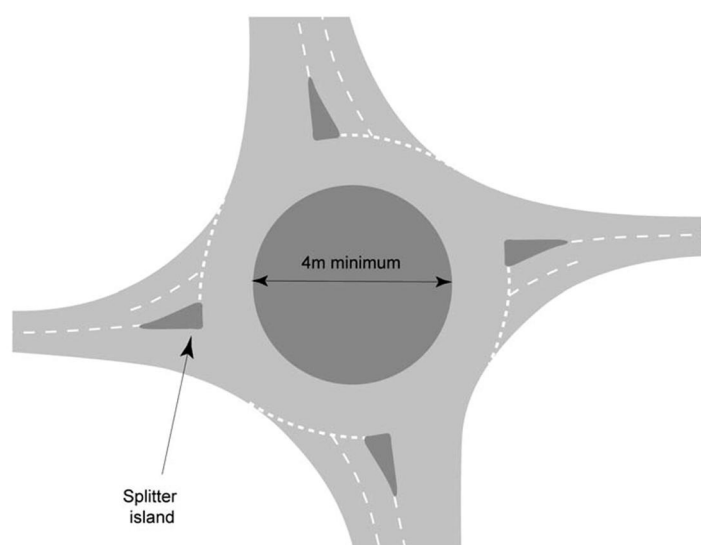
- 4.3.21 The ghost island turning lane has been designed to have adequate capacity to facilitate all turning traffic and it is anticipated that limited delay would be caused to through traffic at the junction.
- 4.3.22 Due to the high volume of flow along the main route and considerably lower flow along minor side roads, minimal delay to journey time may be encountered. The greater visibility through the new road layout will help to minimise this delay and result in a delay that is less than those experienced with the current layout.

**4.4 Junction Type 3 – Four Arm Roundabout****Standard Junction Form**

- 4.4.1 The roundabout has been designed in accordance with the requirements of TD 16/07.
- 4.4.2 The roundabout is fully compliant with DMRB and therefore requires no departures or relaxations.
- 4.4.3 The roundabout has been designed with a provisional Inscribed Circle Diameter (ICD) of 70m. All entries have been designed with 40m entry radius and all exits have been designed with 60m exit radius. No Arcady assessment has been carried out at this stage.
- 4.4.4 4.0m wide lanes are provided on the eastern minor approach road, with 90m radius tapered to the width of the existing carriageway.
- 4.4.5 4.7m wide lanes are provided on the western minor approach road, with a 45m radius tapered back to the width of the existing Five Mile Lane alignment. The 45m radius was used in the design to minimise the land-take required for the roundabout.
- 4.4.6 Access to adjoining fields is also provided off the western approach, with 6.0m entry and exit radii.

**Indicative Layout**

- 4.4.7 As per TD 16/07, the staggered ghost junctions and diverge lanes have been designed to DMRB standards as shown below in Figure 4.4.



**Figure 4.4: Indicative Roundabout Junction Layout**

- 4.4.8 Street lighting would also be provided at the roundabout to ensure the design is in accordance with DMRB. Therefore the lighting will be designed in accordance with the CE-Series of lighting classes given in Table 2 of BS EN 13201-2 and comply with Clause 22 and Annex B of BS 5489-1.
- 4.4.9 The provision of street lighting in a rural area is a significant downside to this option, due to the additional light pollution it would create and the impact it would have on bat ecology in the area.

#### **Traffic Flows**

- 4.4.10 Roundabouts are recommended in TD42/95, Figure 2/2 for traffic flows of 8,000-20,000+ AADT flow on the major road and 0-8,000 AADT flow on minor roads.
- 4.4.11 The major road flows along A4226 Five Mile Lane are approximately 7,500 AADT, with a peak hour flow of approximately 900 vehicles.
- 4.4.12 The minor road flows on all side roads connecting to Five Mile Lane are low. The existing Northcliff link has a flow of 150 (2-way) AADT, which would be maintained. The Llancarfan link has an existing flow of 471 (2-way) AADT which when translated into the proposals, may increase due to the addition of trip from other side roads joining the new mainline at this junction.
- 4.4.13 The percentage of HGVs along Five Mile Lane is approximately 3%, as measured in traffic surveys conducted in March 2014.
- 4.4.14 These traffic flows suggest that the junctions only just meet the minimum requirements, whereby a roundabout could be justified.

**Non Motorized Users (NMU)**

- 4.4.15 Studies have shown (ref TA 57/87) that at roundabouts the circulating cyclists are particularly vulnerable to accidents involving motor vehicles entering/leaving the roundabout. Wide entry widths and small diameter central islands have been shown to increase this kind of accident. A cycle route avoiding this kind of roundabout is preferable and it may be possible to convert parts of surrounding footways to cycle tracks or to increase vehicle deflection on entry so that vehicle speeds are controlled.
- 4.4.16 Cyclists require special consideration at roundabouts to ensure safe passage through the entry, exit and the circulatory carriageway. 10% of all reported accidents involving cyclists occur at roundabouts; of these 11% are serious or fatal, and more than 50% involve the motorist entering the roundabout and colliding with cyclists using the circulatory carriageway.
- 4.4.17 Roundabouts with an inscribed circle diameter of over 50m and/or dual carriageway entries generally have significantly higher speeds on entry, exit and on the circulatory carriageway, and are of greatest risk to cyclists. In these cases it is recommended that cyclists are provided with an alternative route such as an off-carriageway cycle track around the perimeter of the roundabout, with signal controlled crossing of entry and exit arms, or the provision of a grade separated facility.

**Journey Time**

- 4.4.18 Roundabouts are designed to provide an even flow of traffic in all directions to promote continual flow. This means that the flow from the side roads have the same priority as the flow along the primary route.
- 4.4.19 The speed of traffic using the mainline is also likely to decrease with the provision of a roundabout, as traffic would have to yield to traffic on the circulatory carriageway. This would increase the journey time on the mainline, in comparison with a priority junction.
- 4.4.20 Given the low traffic flows on the side roads, it is anticipated that the provision of a roundabout at this location would not be appropriate.

## **5 NON MOTORIZED USERS (NMU) AT JUNCTIONS**

### **5.1 Introduction**

- 5.1.1 One of the aims of the scheme as a whole is to provide enhanced pedestrian, cyclist and other non-motorised user facilities in the study area.

### **5.2 Pedestrians**

- 5.2.1 TD 42/95 states that it is preferable to provide separate pedestrian routes away from the junctions, where road widths are less and traffic movements more predictable.

- 5.2.2 This is rarely practical, in which case the following facilities should be considered:

- a A minor road central refuge at an unmarked crossing place
- b Zebra crossing, with or without a central refuge
- c Displaced controlled pedestrian crossing
- d Subway or footbridge

- 5.2.3 Due to the rural nature of this scheme, and that no formal pedestrian facilities are provided along the route, the junction types considered by TD 42/95 are inappropriate.

- 5.2.4 If necessary, at-grade crossing points can be provided across the new alignment at pre-determined points where all the visibility criteria are met.

- 5.2.5 No public rights of way are severed or crossed by the new alignment and therefore this is not deemed to be an issue as part of the design.

### **5.3 Cyclists**

- 5.3.1 Priority junctions present a hazard for pedal cyclists, and 73% of cyclist accidents at junctions occur at major/minor priority junctions. It is therefore important that a cyclist is provided with a safe passage through the junction, and that the design of any cyclist facilities should take into account both their vehicular rights and their particular vulnerability, as suggested by the accident statistics.

- 5.3.2 Bearing in mind the practicalities and economics, it is important to consider the provision of facilities that take cyclists away from the mouth of the junction. This will minimise the interaction between cyclists and motor vehicles and provide safe crossing points.

- 5.3.3 Such facilities may include the following:

- a Shared use by pedestrians and cyclists of a displaced cycle track/footway with a controlled or uncontrolled crossing
- b A signposted alternative cycle route away from the junction; which the old Five Mile Lane would provide
- c Full grade separation, for example by means of a combined pedestrian/cyclist subway system

5.3.4 If provision of any of these is not possible, then greater emphasis should be placed on the safety aspects of the design of the major/minor priority junction layout, by careful attention to the provision of crossing places.

5.3.5 Roundabouts present additional problems to cyclists, similar to those for motorcyclists as described above.

#### **5.4 Equestrians**

5.4.1 TD 42/95 recommends that consideration should be given to the provision of dedicated crossing places for horses, where 20 crossing a week are likely. These crossings can take the form of displaced routes, at-grade junctions or suitable structures under or over the mainline.

5.4.2 At-grade crossings should include grass verges extended back on each side of the road at the point of the crossing to provide a 'holding area' for horses with at least a 5 metre grassed width of verge for a length not exceeding 10 metres.

5.4.3 Uncontrolled crossing of a new high-speed carriageway should be avoided and tracks and bridleways should be diverted to a suitable bridge or subway if possible.

5.4.4 In the case of Five Mile Lane, it is not anticipate that dedicated crossing points will be required, despite the rural nature of the scheme. However, verges should be wide enough to accommodate waiting areas where equestrians may seek refuge whilst waiting for the opportunity to cross the new mainline.



## **6 ROAD SAFETY REVIEW**

### **6.1 General**

- 6.1.1 The following potential road safety issues have been identified for the indicative layouts of the proposed scenarios.
- 6.1.2 Several at-grade ghost island junctions are proposed across all scenarios. The provision of dedicated right turn lanes and diverge left lanes should help to reduce the possibility of rear shunt collisions involving a vehicle colliding into the rear of another vehicle wanting to turn onto the side roads.
- 6.1.3 The visibility at the junctions is within the requirements specified within TD 42/95. The junctions have been designed to ensure that the visibility provided from the side roads is not excessive. This will help to ensure that drivers do not focus further down the mainline carriageway when entering the main road, potentially overlooking traffic closer to the junction.

### **6.2 Staggered Ghost Island Junctions**

- 6.2.1 The road safety review team have identified that the provision of an at-grade staggered junction at Northcliff Cottage/Grovelands Farm could increase the potential for collisions involving slow moving vehicles (particularly agricultural vehicles) travelling from one side road to the other.
- 6.2.2 This layout provides a right/left staggered junction. Although unlikely to be a significant issue due to the relatively low mainline and side road traffic flows, this option requires that east to west and west to east side road traffic undertakes a right turn when emerging from the side roads. This could increase conflict potential, particularly for slow moving longer vehicles (such as agricultural vehicles).
- 6.2.3 The road safety review team has had some experience with right/left staggered junctions causing road safety problems on single carriageway A-roads. However these issues have been predominantly attributed to high traffic volumes at these junctions.
- 6.2.4 The traffic flows at the proposed staggered junction are likely to be in the region of 7,500 AADT on the major road with a maximum side road AADT of 470 vehicles. The road safety review team are of the opinion that these traffic volumes are considered to be relatively low, therefore conflict potential could be low and appropriate gaps in the mainline traffic flow could be frequent.
- 6.2.5 The road safety review team are aware of problems being experienced with side road traffic choosing to take inappropriate mainline gaps, and turning vehicles simultaneously taking the same gap from both side roads, where mainline flows are twice the level at Five Mile Lane and side road flows are significantly higher than what is likely to be generated at the staggered junction side roads.

### **6.3 Conclusion**

- 6.3.1 The road safety review team are of the opinion that unless traffic flows in the area are likely to notably increase in the future, there is no obvious reason to assume that the proposed staggered junction will have a higher than expected collision rate.

**7 CONCLUSION AND RECOMMENDATION**

- 7.1.1 Safety and traffic flows are not the determining factor in the choice of junction type for this improvement.
- 7.1.2 To maximise the strategic benefit of the proposed improvements, it is imperative that the number of junctions is kept to a minimum, whilst maintaining the existing east-west connectivity across the proposed alignment.
- 7.1.3 To minimise the cost of the improvements, the junction scenarios associated with Option A (large embankment) have been discarded, due to the anticipated additional construction cost associated with the construction of the structure and earthworks embankment.
- 7.1.4 Therefore, the recommendation for this improvement is Scenario B2. This option is summarised as follows:
- Amelia Trust Farm - At-grade standard ghost island junction to the west
  - Whitton Lodge - At-grade standard ghost island junction to the east
  - Northcliff Cottage - At-grade staggered ghost island junction
  - Sutton Woods - No junction



## **APPENDIX A – DRAWINGS**





- NOTES**
1. THIS DRAWING WAS PRODUCED IN AUTOCAD AND SHOULD NOT BE AMENDED BY HAND.
  2. DO NOT SCALE FROM THIS DRAWING, USE FIGURED DIMENSIONS ONLY.
  3. ALL MEASUREMENTS ARE METRES UNLESS OTHERWISE STATED.

Rev	Date	Description	By	Chk
FOR ISSUE				
<div><div><b>PARSONS BRINCKERHOFF</b></div><div>29 Cathedral Road Cardiff CF11 9HA</div></div> <div>Tel: 44-(0)29-2082-7000 Fax: 44-(0)29-2082-7001</div>				
Client: WELSH GOVERNMENT				
Site/Project: LINKS TO ST ATHAN AND CARDIFF AIRPORT ENTERPRISE ZONE				
Title: FIVE MILE LANE ALIGNMENT PLAN				
Drawn: GS		Checked: CN		
Designed: PB		Approved: CN		
Date: 12/01/2015	Scale: NTS	A1	Sheet: 1 OF 1	
Project Number:		Drawing Number:		Revis
3512646D-HHC		102		-



## **Appendix C.**

### **Five Mile Lane Road Improvements.**

#### **Land acquisition process and use of Compulsory Purchase Order.**

The A4226 (Five Mile Lane) connects Barry at the Weycock Cross roundabout to the Sycamore Cross junction on the A48, and comprises an essential part of the highway network providing access to Barry as well as the St Athan and Cardiff Airport Enterprise Zone. Proposals to improve this stretch of road are contained in the Vale of Glamorgan Deposit Local Development Plan.

The Council has previously received a Principal Road Grant from the Welsh Government to advance the Five Mile Lane Highway Improvement Scheme, and to date this work has involved the signalisation of Sycamore Cross junction, as well as initial design and feasibility work together with various environmental assessments relating to the development of a more comprehensive scheme. Significant additional funding is required to complete the development and implementation of this scheme. The Welsh Government announced their commitment to the scheme in July 2013.

Since December 2013 Parsons Brinckerhoff (PB) have been employed by the Welsh Government to develop the route design and a partnership approach with the Council is being utilised in taking the work forward. Technical teams have been set up to consider highway design, land acquisition, funding, procurement and environmental issues. Initial environmental survey work has commenced to support the production of an Environmental Impact Assessment report and title searches regarding land ownership have also been undertaken.

The Land Acquisition Working Group (officers from the Council, Welsh Government and consultancy support) has reviewed the guidance documents relating to the compulsory purchase of land required for transport and development schemes and, in particular, has considered the guidance as set out in Circular NAFWC 14/2004 – Revised Circular on Compulsory Purchase Orders. The Circular sets out guidance to Local Authorities in Wales intending to make compulsory purchase orders to which the Acquisition of Land Act 1981 applies and its aim is to help them to use their compulsory purchase powers to best effect by advising on the application of correct procedures, statutory or administrative requirements to ensure that orders progress quickly and are without defects.

Appendix F of the guidance gives advice on how a statement of purposes of acquisition in an order under the Highways Act is to be utilised. In the case of the Five Mile Lane Road improvements the works will be regarded as the construction of a new highway and the order and supporting case set out accordingly.

Under paragraph 22 of the guidance the Circular advise that before embarking on compulsory purchase, acquiring authorities should seek to acquire land by negotiation wherever practicable. However, although the compulsory purchase of

land is intended as a last resort when attempts to acquire by agreement fail, acquiring authorities should consider when the land they are seeking to acquire will be needed and, as a contingency measure, should plan a compulsory purchase timetable at the same time as conducting negotiations ie in parallel with such negotiations.

In this instance the Vale of Glamorgan Council has sought the advice of Welsh Government as to best practice with regard to the compulsory purchase of land for highways purposes and has been advised that the Welsh Government follows a policy of not negotiating with individual landowners, in advance of the issuing of compulsory purchase orders, where the number of landowners involved in the process is large in number. The Welsh Government has had this approach challenged at compulsory purchase order inquiry and have successfully defended their approach on the basis of the policy framework they have in place.

In this case (The Five Mile Lane scheme) the number of land parcels involved in the likely land take required to deliver the draft preferred scheme design amounts to 41 parcels. The Welsh Government advice has been, therefore, that the Vale of Glamorgan Council should not follow the guidance as set out in NAFWC 14/2004 to follow a “twin track” approach of negotiating the land parcels whilst in the process of developing the compulsory purchase order case. Its advice is that the Council should concentrate on developing the compulsory purchase order case and rely wholly on that process as a fair means of the determination of land values and other compensation.

In support of this approach the Welsh Government has appointed the District Valuer to undertake a review and cost estimating of the parcels of land required for the scheme. The District Valuer’s report is attached as Appendix 1 to this Appendix report.

The report indicates that, in the opinion of the valuer, the gross cost of acquiring the freehold title in the land as shown on the ownership schedule together with the plans submitted and the instructions given will amount £4,048k.

At the Cabinet meeting of the 11<sup>th</sup> August 2014 authority was given to appoint an external valuer to support the Council in the development of its compulsory purchase order case and to aid generally in the negotiations regarding the acquisition of land. As indicated above the intention would normally be for such negotiations to take place in advance of issuing the compulsory purchase order. As the intention is now to move directly to the production of the compulsory purchase order itself and the work of any external valuer appointed will now be set out in that context.

## **Conclusions**

The Guidance to Local Authorities as set out in NAFWC14/2004 will, for the most part be utilised in taking forward the Five Mile Lane land acquisition process. In

following the advice as provided by the Welsh Government and given the large number of land parcels which need to be acquired the Vale of Glamorgan Council intends to move directly to the issuing of the compulsory purchase order and will not be negotiating land values in advance of the relevant Order.

The risk associated with this policy is that the Council might be challenged at the relevant Public Inquiry relating to the Order in respect of not following the Welsh Government guidance fully in this matter. The risk has been considered at the relevant Risk Workshop as part of the development of the scheme. The agreement by Cabinet to follow this line of policy with regard to this particular scheme is being utilised in order that grounds for defending the case at Public Inquiry can be provided should a challenge be submitted. Officers of the Council have been reliant on the advice of Welsh Government in this respect as funders of the Five Mile Lane proposals.





Llywodraeth Cymru  
Welsh Government

Rob Thomas  
Managing Director and Director of Resources  
Vale of Glamorgan Council  
Civic Offices  
Holton Road  
Barry  
CF63 4RU

23<sup>rd</sup> September 2015

Dear Mr Thomas

**Award of Funding in relation to Five Mile Lane Improvement Scheme  
(130302)**

**1. Award of Funding**

- (a) We are pleased to inform you that funding of up to £25.8m (*twenty five million, and eight hundred thousand pounds*) ("the Funding") is awarded to you for the Purposes (as defined in Condition 4(a)).

Subject to compliance with HM Treasury guidance on Managing Public Money 2015, Public Contract Regulations 2015 and the Council's Contract Procedure Rules and Financial Regulations, the level of funding provided will be adjusted to match expenditure.

- (b) If you have any queries in relation to this award of Funding or the Conditions please contact the Welsh Government Official who will be happy to assist you.

**2. Statutory Authority**

This award of Funding is made on and subject to the Conditions and under the authority of the Minister for Economy, Science and Transport, one of the Welsh Ministers, acting pursuant to section 6 of the Transport (Wales) Act 2006 and sections 70 and 71(1) of the *Government of Wales Act 2006*.

**3. Interpreting these Conditions**

Any reference in these Conditions to:

'you', 'your' is to

Vale of Glamorgan Council  
Civic Offices  
Holton Road  
Barry  
CF63 4RU

**'we', 'us', 'our'** is to the Welsh Ministers;

**'Welsh Government Official'** is to

Andy Falley  
Welsh Government  
Cathays Park  
Cardiff  
CF10 3NQ

Tel: 02920 826232

Email: andy.falley@wales.gsi.gov.uk

or such other Welsh Government official as we may notify you.

**'Project Manager'** is to

John Dent  
Major Project Manager - Development Services  
Vale of Glamorgan Council  
Dock Office  
Barry Docks  
Barry  
CF63 4RT

Tel: 01446 704617

Email: jdent@valeofglamorgan.gov.uk

**'Conditions'** is to the terms and conditions set out in this letter;

**'Schedule'** is to the schedules attached to this letter;

**'Costs Incurred'** is to the cost of goods and services you have received regardless of whether you have paid for them by the date of your claim.

**'Notification Event'** is to any of the events listed in Schedule 3;

**'State Aid Rules'** is to the rules set out in Articles 107 to 109 of the Treaty on the Functioning of the European Union (or in those Articles that may succeed Articles 107 to 109), secondary legislation such as frameworks, guidelines and block exemptions produced by the European Commission derived from Articles 107 to



109, case law of the European Courts and decisions of the European Commission regarding the application of Articles 107 to 109; and

**any legislation** will include all amendments to and substitutions and re-enactments of that legislation in force from time to time;

#### **4. What you must use the Funding for**

- (a) You must use the Funding solely for the purposes set out in Schedule 1 (the **"Purposes"**).
- (b) You must achieve the targets and outcomes set out in Schedule 2 (the **"Targets"**).
- (c) Any change to the Purposes or Targets will require our written consent which must be obtained from us in advance of implementing any change. Such consent not to be unreasonably withheld or delayed.
- (d) You must not use any part of the Funding for: (1) party political purposes; (2) the promotion of particular secular, religious or political views; (3) gambling; (4) pornography; (5) offering sexual services; (6) purchasing capital equipment (other than as specified in the Purposes); (7) your legal fees in relation to this letter; (8) Costs Incurred or costs incurred and defrayed by you in the delivery of the Purposes prior to the date upon which the grant terms are agreed; (9) any kind of illegal activities; or (10) any kind of activity which in our opinion could bring us into disrepute.

#### **5. Funding Pre-Conditions**

- (a) We will not pay any of the Funding to you until you have provided us with the following information and documentation:
  - (i) documentary evidence that the signatories who have signed this letter on your behalf are duly authorised to do so;
  - (ii) record of signatories to be completed and returned to Welsh Government using the enclosed Register of Signatories;
- (b) Where you are required to provide information and documentation to us as evidence that you have satisfied a particular pre-condition, Condition or in support of a claim, the information and documentation must be in all respects acceptable to us. We reserve the right to reject any information and documentation which is for any reason not acceptable to us.

#### **6. How to claim the Funding**



- (a) The Funding will be paid to you quarterly in arrears based on Costs Incurred by you in the delivery of the Purposes.
- (b) You must claim the Funding promptly. We reserve the right to withdraw any part of the Funding that you do not claim within a reasonable time.
- (c) You must submit your claims for payment of Funding to the Welsh Government Official.
- (d) You must use our current claim pro-forma (which is available from the Welsh Government Official) and attach the information and documentation to each claim:
  - i) Quarterly progress reports, to include the following information:
    - a) report on progress,
    - b) programme for next reporting period,
    - c) actual start dates of activities commenced since the previous update and reasons for any changes from the approved Project Programme,
    - d) actual completion dates of activities completed since the previous update and reasons for any changes from the approved Project Programme,
    - e) the anticipated time for completion, in working days, for activities in hand,
    - f) any change requested by the Contractor to the programmed completion date and the reasons for any change,
    - g) proposals for retrieving of any slippage to the approved Project Programme,
    - h) design issues,
    - i) environmental issues,
    - j) status of certificates,
    - k) confirmation of scheme costs estimate and budget forecast,
    - l) payment schedule – agreement of compensation events,
    - m) schedule of early warnings,
    - n) updated risk register,
    - o) quality matters,
    - p) safety CDM issues,
    - q) third party claims and complaints register,
- (e) We will aim to pay all valid claims as soon as possible and typically within 28 days.

## **7. Your general obligations to us**

You must:

- (a) Safeguard the Funding against fraud generally and, in particular, fraud on the part of your management, employees and/or suppliers and notify us immediately if you have reason to suspect that any fraud has occurred or is occurring or is likely to occur. You must



also participate in such fraud prevention initiatives as we may require from time to time.

- (b) Comply with all applicable laws or regulations or official directives whether derived from domestic, EU or international law;
- (c) Put in place and maintain adequate insurances to cover against the risks which may arise in connection with any property or any activity undertaken in delivery of the Purposes. We reserve the right to require you to provide proof of your insurance;
- (d) Co-operate fully with the Welsh Government Official and with any other employee of the Welsh Government or consultant appointed by us to monitor your use of the Funding and your compliance with these Conditions.

## **8. Declarations**

You declare that:

- (a) you have the power to enter into and to perform the obligations set out in these Conditions and you have taken all necessary action to authorise the entry into and performance of the obligations under these Conditions;
- (b) no litigation or arbitration is current or pending or, so far as you are aware, threatened, which have or could have an adverse effect on your ability to perform and comply with any of these Conditions;
- (c) you have discussed and agreed the Targets with us and you are confident that they are realistic and achievable.

## **9. Notification Events and their consequences**

- (a) You must notify us immediately if a Notification Event has occurred or is likely to occur but we also reserve the right to notify you where we believe a Notification Event has occurred or is likely to occur.
- (b) We will seek to discuss the Notification Event with you and to agree a course of action to be taken to address the Notification Event and in doing so we will consider both the seriousness of the Notification Event and whether or not it can be remedied.
- (c) We will be entitled to take any of the actions listed in Condition 9(d) if:
  - (i) despite our reasonable efforts including written communications we have been unable to discuss the Notification Event with you within a reasonable time, or
  - (ii) The Notification Event is not capable of remedy, or



- (iii) a course of action is agreed with you but you fail to follow it, or any reasonable conditions attached to it are not met (including without limitation the timescale for such course of action), or
  - (iv) the course of action fails to remedy the Notification Event to our reasonable satisfaction.
- (d) If any of the circumstances set out in Condition 9(c) occurs we may by notice to you:
  - (i) withdraw the award of Funding; and/or
  - (ii) suspend or cease all further payment of Funding; and/or
  - (iii) make all further payments of Funding subject to such conditions as we may specify; and/or
  - (iv) exercise any other rights against you which we may have in respect of the Funding.
- (e) All repayments of Funding must be made to us within 28 days of the date of our demand. You must pay interest on any overdue repayments at a rate of 1.5% per annum above the Bank of England base rate from time to time or at such other rate as may be required by the State Aid Rules. Interest will accrue on a daily basis from the date the repayment is due until actual repayment of the Funding, whether before or after judgment. You must pay the interest together with the overdue repayment.
- (f) In the event that the "Target Cost for Construction + Employers Risk allowance" (agreed before KS6 contract award) exceeds the budget estimate for "Design and Build Contract Direct Costs", a notification event shall be raised as detailed in Clause 9(a). The Welsh Ministers shall decide whether to withdraw or cease funding as set out in Clause 9(d)(i) and 9(d)(ii) and the associated "Purposes" In such circumstances Clause 9(d)(ii) would not be enforced and either party may terminate this agreement .
- (g) In the event that cost of land purchase, land related compensation claims and actual costs claimed by valuers appointed by you or by landowners exceed the Budget estimate as set out in Schedule 1 a notification event shall then be raised as detailed in clause 9(a). The Welsh Ministers shall fund such additional cost provided they are validated by the District Valuer.
- (h) PROVIDED ALWAYS that in the event that expenditure has been committed by contractual or other legal obligations by you that expenditure will be paid to you notwithstanding such withdrawal or cessation of funding.



## **10. Monitoring Requirements**

You must:

- (a) provide us with such documents, information and reports which we may reasonably require from time to time in order for us to monitor your compliance with the Conditions, these shall include:
  - 1. Annual profile of expenditure
  - 2. Monthly progress reports
  - 3. Procurement reports
  - 4. Contractor Monthly application
  - 5. Value for Money reports
- (b) meet with the Welsh Government Official and such other of our representatives as we may from time to time reasonably require; including without limit:
  - i) monthly progress meetings,
  - ii) financial monitoring, budget and grant review meetings,
  - iii) technical working group meetings, and
  - iv) pre-construction public exhibition,
- (c) ensure that the Project Manager (or such other person as we may agree) attends all meetings with the Welsh Government Official.

## **11. Audit Requirements**

(a) You must:

- (i) maintain clear accounting records identifying all income and expenditure in relation to the Purposes;
  - (ii) without charge, permit any officer or officers of the Welsh Government, Wales Audit Office or European Commission at any reasonable time and on reasonable notice being given to you to visit your premises and/or to inspect any of your activities and/or to examine and take copies of your books of account and such other documents or records as in such officer's reasonable view may relate in any way to your use of the Funding. This undertaking is without prejudice and subject to any other statutory rights and powers exercisable by the Welsh Government, Wales Audit Office or the European Commission or any officer, servant or agent of any of the above;
  - (iii) retain this letter and all original documents relating to the Funding until we inform you in writing that it is safe to destroy them.
- (b) Under paragraph 17 of Schedule 8 to the Government of Wales Act 2006 the Auditor General for Wales has extensive rights of access to documents and information relating to monies provided by the



Welsh Government. He and his officials have the power to require relevant persons who control or hold documents to give any assistance, information and explanation that they may require; and to require those persons to attend before them for such a purpose. The Auditor General and his staff may exercise this right at all reasonable times.

## **12. Third Party Obligations**

- (a) Nothing in the Conditions imposes any liability on us in respect of any liability incurred by you to any third party (including, without limit, employees and contractors).
- (b) You must indemnify us against any liabilities, claims, proceedings, demands, losses, costs and expenses suffered or incurred by us directly or indirectly arising as a result of or in connection with any failure by you to perform fully or in part any obligation you may have to a third party.

## **13. Intellectual Property Rights & Publicity**

- (a) Nothing in these Conditions transfers to us any rights in any intellectual property created by you as a result of the Purposes.
- (b) You must acknowledge our support on all publicity, press releases and marketing material produced in relation to the Purposes. Such acknowledgement must be in a form approved by us and must comply with the Welsh Government's branding guidelines.
- (c) You must provide the Welsh Government Official with a copy of all material listed in Condition 13(b) for our approval before any such material is published and you may not publish such material without our prior written approval. We will endeavour to respond to all written requests for approval within 10 working days.
- (d) You agree that from the date of this letter until 5 years from the date of the final payment of Funding we may include details about your organisation and business, the Funding and the Purposes in Welsh Government promotional materials and you further agree to cooperate with our reasonable requests to achieve the production of such materials.

## **14. Access to Information**

- (a) You acknowledge that we are subject to the requirements of the Code of Practice on Access to Information published by the Welsh Government (the "Code"), the Freedom of Information Act 2000 (the "FOIA"), the Environmental Information Regulations 2004 (the "EIR") and the Data Protection Act 1998 (the "DPA").



- (b) You acknowledge that we are responsible for determining in our absolute discretion whether:
  - (i) to disclose any information which we have obtained under or in connection with the Funding to the extent that we are required to disclose such information to a person making a disclosure request under the FOIA or the EIR; and/or
  - (ii) any information is exempt from disclosure under the Code, the FOIA or the EIR.

## 15. Buying Goods and Services

If you decide to buy any goods and/or services to deliver the Purposes, they must be purchased in a competitive and sustainable way so as to demonstrate that you have achieved best value in the use of public funds and compliance with your contract standing orders and financial regulations shall be conclusive evidence of compliance with this requirement.

## 16. Giving Notice

- (a) Where notice is required to be given under these Conditions it must be in writing (this does not include email but may include a letter attached to an email) and must prominently display the following heading:

***“Notice in relation to the Five Mile Lane Improvement Scheme (130302)”.***

- (b) The address and contact details for the purposes of serving notice under these Conditions are as follows

You: the Project Manager at the address stated in Condition 3.

Us: the Welsh Government Official at the address stated in Condition 3.

- (c) A notice will be deemed to have been properly given as follows:-

Prepaid first class post:	on the second working day after the date of posting.
By hand:	upon delivery to the address or the next working day if after 4pm or on a weekend or public holiday.
By email attachment:	upon transmission or the next working day if after 4pm or on a weekend or public holiday.



## **17. Equal Opportunities**

You must apply a policy of equal opportunities as employers, as users of volunteers, and as providers of services, regardless of race, gender/gender identification, sexual orientation, religion and belief, age or any disability.

## **18. Welsh Language**

Where the Purposes include or relate to the provision of services or written materials (including signage and information published online) in Wales, they must be provided in Welsh and English, unless it would be unreasonable or disproportionate to do so. Guidance about providing services and written materials in Welsh can be obtained from the Welsh Language Commissioner on 0845 6033 221 or by visiting [www.comisiynyddygymraeg.org](http://www.comisiynyddygymraeg.org).

## **19. Sustainability**

Your use of the Funding must (where reasonably practicable) meet the Welsh Government's current agenda for sustainable development and the environment.

## **20. Welsh Ministers' Functions**

You acknowledge that the Welsh Ministers have a range of functions which will continue to accrue and be amended and that decisions in relation to each such function are obliged to be taken in the light of all relevant and to the exclusion of all irrelevant considerations. You agree that nothing contained or implied in, or arising under or in connection with, these Conditions will in any way prejudice, fetter or affect the functions of the Welsh Ministers or any of them nor oblige the Welsh Ministers or any of them to exercise, or refrain from exercising, any of their functions in any particular way.

## **21. General**

- (a) If at any time any of these Conditions is deemed to be or becomes invalid, illegal or unenforceable in any respect under any law, the validity, legality and enforceability of the remaining provisions will not in any way be affected or impaired.
- (b) No failure or delay on our part to exercise any power, right or remedy under these Conditions will operate as a waiver of any such power, right or remedy or preclude its further exercise or the exercise of any other power, right or remedy. The powers, rights or remedies hereby provided are cumulative and not exclusive of any powers, rights or remedies provided by law.



- (c) Any amendment or variation to these Conditions must be in writing and signed by us and you in the same manner as this letter.
- (d) You may not assign or otherwise dispose of in any way your rights, benefits, obligations or duties under these Conditions.
- (e) Conditions 7, 9, 11, 13, 14, and 21(e) and such other Conditions which by implication need to continue in force beyond the final payment of Funding will so continue in full force and effect.
- (f) The award of the Funding is to you alone and no one else is entitled to make any claim in respect of the Funding or seek to rely on or enforce any of these Conditions.
- (g) These Conditions are to be governed by and construed in accordance with the laws of Wales and England as applied in Wales and the parties hereto submit to the exclusive jurisdiction of the courts of Wales and England.

## **22. How to accept this offer of Funding**

- (a) To accept this award of Funding you must sign and return a copy of this letter to the Welsh Government Official. None of the Funding will be paid to you until we have received your signed letter.
- (b) We must receive your signed letter within 8 weeks of the date of this letter, or this award of Funding will automatically be withdrawn.

Yours faithfully



Signed by Andy Falley

under authority of the Minister for Economy, Science & Transport,  
one of the Welsh Ministers.

## SCHEDULE 1 The Purposes

The Purpose of the Funding is to undertake highway improvements to the A4226 Five Mile Lane, taking the scheme through the statutory processes, procurement of an Employer's Agent and Design and Build Contractor, and supervision of the construction works.

<b>Cost</b>	<b>Value (£)</b>
Ground investigation compensation	10k
Appointment of Valuer	24k
Planning Process and Exhibition	66k
Orders Public Inquiry	10k
Employer's Agent direct costs and VGC Highways Technical salaries	850k
Archaeological Work	250k
Design and Build Contract direct costs	20,489k
Land purchase and land related compensation claims	4,048k
<b>Total</b>	<b>£25,747k</b>

**NB.** These indicative values have been provided following a cost estimating methodology which relies on current levels of information, industry standards and works cost figures associated with similar schemes but are, in the main, not currently relying on formal procurement exercises and it is intended that these figures will be reviewed throughout the delivery programme to ensure appropriate budget provision.



## SCHEDULE 2 The Targets

Description of the Target	Minimum time period by which it should be achieved	Evidence required
Submit planning application	Four weeks after VGC Cabinet approval to proceed	Confirmation of receipt by Planning Department
Publish Orders	Twelve weeks after agreement by VGC Full Council decision to proceed with CPO	Issue Public Notices
Appoint Valuer	Eight weeks after agreement by VGC Full Council decision to proceed with CPO	Appointment letter
Appoint Employer's Agent	Thirty six weeks after VGC Cabinet decision to proceed with scheme	Appointment letter
Gain planning permission	Twenty weeks after registration of the application by the Planning Department or as agreed as an extension of time with the Planning Department	Planning letter
Appoint Design and Build Contractor ( Stage 1)	Forty two weeks from issuing the relevant Ojeu Notice	Tender report
Confirm that Design and Build tendered prices are within budget	Twenty four weeks after Contractor Stage 1 appointment	
Successful at public inquiry (if applicable)	Sixty weeks after publishing orders	Confirmation Letter from Welsh Government Orders Branch, or confirmation that no public inquiry is required
Complete construction	Provisionally a 72 week programme but subject to the programme agreed under the terms of the works contract and as may be varied/amended within the contract terms	Completion Certificate

Defect date	As may be agreed under the Works Contract	Defects Certificate
Completion of landscaping aftercare period	Dec2022	Defects Certificate
Land related compensation claims	July 2027	DV sign off

### **SCHEDULE 3**

#### **Notification Events**

The Notification Events referred to in Condition 9 are listed below:

1. repayment of any part of the Funding is required under European Law (whether under State Aid Rules or otherwise);
2. you fail to comply with any of the Conditions;
3. you fail to achieve any or all of the Targets;
4. we have made an overpayment of Funding to you;
5. any declaration made in Condition 8 is incorrect in any respect or, if repeated at any time with reference to the facts and circumstances then existing, would be incorrect;
6. any event occurs or circumstances arise which in our reasonable opinion gives reasonable grounds for believing that you or we will be unable to perform or comply with any of your or our obligations under these Conditions.