Middlewich Eastern Bypass

Cheshire East Council

Preliminary Route Options Report

| Draft 2

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JACOBS

Middlewich Eastern Bypass

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Project manager:	Paul Holder
Author:	Paul Holder
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Jacobs U.K. Limited

5 First Street
Manchester M15 4GU
United Kingdom
T +44 (0)161 235 6000
F +44 (0)161 235 6001
www.jacobs.com

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Draft 1	30/07/15	Initial draft report	Paul Holder	Brian Thompson	
Draft 2	22/10/15	Revised draft following Client comments	Paul Holder		

Contents

Important note about your report

This report has been produced by Jacobs to identify initial potential alternative routes for the Middlewich Eastern Bypass based upon changed extents relating to the Midpoint 18 Development site in the Emerging Local Plan, and broader strategic initiatives identified for potential highway links and High Growth City objectives.

It has been produced as a desk based study with no physical or intrusive investigations on site, and using data sourced from the public domain.

Route options and detailed proposals will be the subject of further studies, investigations, validation, and design and within the context of this report are to be considered as preliminary only.

The report has been produced exclusively for Cheshire East Council and no liability is accepted for any use or reliance on the report by third parties.

1. Introduction

The currently consented Middlewich Eastern Bypass scheme provides a link between the A54 and the A533 and creates access for the continuing development of the Midpoint 18 site.

The scheme has been partially implemented to date with the construction of Pochin Way, but the remaining section forming the link which creates the bypass has not been implemented.

The current planning consent for the link expires in mid – 2016 and cannot be extended further.

A recent enquiry for the potential development of a large logistics type facility on an enlarged Midpoint 18 site, together with broader strategic highways initiatives associated with the High Growth City proposals provides the opportunity to reconsider the route options both for the bypass itself and for the local highway access arrangements for the potential development.

Delivery of a suitable highway access for the potential logistics facility by the end of 2017 is understood to be a key development requirement.

Jacobs have been commissioned by Cheshire East Council (CEC) under the Ringway Jacobs Framework to consider the route options, and to develop preliminary design for the development access together with a high level delivery programme and preliminary environmental scoping and surveys.

This report presents the initial options considered following identification of key constraints from information in the public domain.

Throughout the report the following definition of phases of the scheme is used:

- **Phase 1A** – The initial works to create highway access to the potential logistics development on the Midpoint 18 site, with linkage to Cledford Lane to enable an interim 'relief' route for restricted classes of vehicle.
- **Phase 1B** – The connection of the Phase 1 route to the remaining areas of the Midpoint 18 site and the A533 completing the Middlewich Eastern Bypass as previously conceived for all classes of vehicle.
- **Phase 1C** – The development of a strategic route running from north east to south west between the A533 and A530.
- **Phase 2** – The development of a direct connection between Phase 1A and the A54 (incorporating the Sproston Bypass) enabling a strategic link to be completed between M6 Junction 18 and the A530.

Sources of information used to identify constraints in the development of options were:

1. CEC online interactive mapping
2. Environment Agency online mapping
3. Natural England MAGIC interactive mapping
4. Initial briefing information relating to the High Growth City highway proposals from CEC
5. Records of existing high pressure gas and high voltage electrical services
6. The Health & Safety Executive

In addition to constraints identified from the sources studied, numerous ecological constraints are known to exist in the study area which will require detailed surveys and mitigation works, but which at this stage have not been considered as constraints to potential highway routes.

2. Route Objectives and Standards

The route objectives are effectively defined by the phases anticipated for the implementation with the initial phases linked to further development of the Midpoint 18 Development Site and delivering an improvement to existing traffic congestion experienced in Middlewich by providing an alternative route avoiding the A54 / A533 junction close to the town centre, consistent with the current MEB consented scheme.

Local distributor road standards are currently anticipated for the initial phases (1A & 1B), consistent with previous MEB schemes.

Further objectives associated with economic growth and HS2 are enabled by the development of the new Phase 2 strategic route from M6 Junction 18 to the A530, and an appropriate route standard should be selected consistent with growth objectives. Subsequent development of highways to a higher standard than Phases 1A & 1B may require subsequent widening of the initial phases and provision for this should be made in the initial design.

3. Constraints

3.1 Constraints Identified from Public Sources

The study area has a number of features that present significant physical, environmental, and cost/programme constraints to the development of highway routes.

The following key constraints for each of the Phases have been identified, and where possible have been avoided in the development of potential route corridors.

Constraints plotted on OS background are shown in Figure 1 in Appendix A.

Phase 1A		
Scheme Section	**Constraint**	**Implications**
Junction with Pochin Way	Existing bridge over River Croco	Spatial constraint affecting junction size & location
	Existing pumping station	Spatial constraint affecting junction size & location
	Buried services	Not known yet
Phase 1A Alignment	National Grid high pressure gas main	Spatial constraint on highway alignment – detailed survey required in later design works. HSE MAHP planning constraint though PADHI process
	Overhead HV electrical services (132kv & 33kv)	Spatial constraint on highway alignment – details to be confirmed (pylon positions etc)
	Main River	2 no crossings needed & possible FRA (River Croco & unnamed tributary shown on EA mapping)
Cledford Lane	Physical width within current highway boundary	Limits the scale of improvements achievable to provide interim traffic relief for restricted vehicle types
	Cyclist provision	Cledford Lane shown as cycle route on CEC interactive map – further pressure on available space to create satisfactory highway cross section
	Weak bridge over Sanderson's Brook	7.5T mgv limit – would require assessment and possible updgrade & flood risk assessment (FRA)
	Bridge under railway	Limited headroom (4.3m) and width between abutments (to be confirmed by survey)
	Bridge over canal	Severely restricted visibility on approach to junction with Booth Lane (A533)
	Booth Lane junction	Restricted geometry – may require improvement
	Standard of route	Route will need to be assessed and possibly upgraded to provide suitable geometric standards. No formal drainage of route currently evident Restrictions on available width could constrain what can be

		achieved
Phase 1B		
Scheme Section	**Constraint**	**Implications**
Cledford Lane to Booth Lane (A533)	Overhead HV electrical services (132kv & 33kv)	Spatial constraint on highway alignment – details to be confirmed (pylon positions etc)
	Railway	Bridge over required – location to be determined
	Canal	Canal corridor shown as a conservation area. Bridge over required if existing A553 bridge or location not suitable
	Main River	Crossing of Sanderson's Brook needed and possible FRA
	National Grid high pressure gas main	Partial spatial constraint on highway alignment – detailed survey required in later design stages Possible constraint on junction location
A533 Junction area	National Grid Gas regulator station	Constraint on possible junction location, but sufficiently far south to be unlikely to have an impact
	National Grid high pressure gas main	Possible constraint on junction location though likely to be sufficiently far south to not have a impact
	Electrical substations	Grid and Primary substations in potential area of interest
	Overhead HV electrical services (132kv & 33kv)	Spatial constraint on highway alignment – details to be confirmed (pylon positions etc)
	Main River	Spatial constraint based upon Small Brook flood zone, but sufficiently far south to be limited impact
	Canal	Crossing in close proximity to A533 junction. Note canal level increases through two listed locks in south east direction. Listed structures and mileposts associated with canal restricting potential crossing points.
	Traveller Site	Existing traveller site off Booth Lane
Phase 1C		
Scheme Section	**Constraint**	**Implications**
A533 – A530	Main River	Crossing of River Wheelock required (Cheshire East / Cheshire West & Chester Boundary)
	Overhead HV electrical services (132kv & 33kv)	Spatial constraint on highway alignment – details to be confirmed (pylon positions etc)
	Sandbach Flashes SSSI	Significant SSSI with Impact Risk Zones (IRZ) spreading over wide area – assessment needed for IRZ limit associated with highway

	Listed Buildings	Small number of listed buildings affecting potential routes
Phase 2 – Future Link		
Scheme Section	**Constraint**	**Implications**
M6 J18 – Phase 1A connection	Main River	Crossing needed for River Croco
	Overhead HV electrical services (132kv & 33kv)	Spatial constraint on highway alignment – details to be confirmed (pylon positions etc)
	Listed Buildings and Locally Listed Buildings	Listed and locally listed buildings affecting potential routes. Note, locally listed buildings do not have statutory protection but Council policy favours their retention.
	Planning Consents	Existing planning consents for Kinderton Lodge (clay extraction and landfill), and Cheshire Fresh development

Table 1 – Key Constraints

Table 2 below gives details of listed buildings and locally listed buildings affecting the selection of potential route corridors for Phase 3.

Listed Buildings			
Locally Listed Buildings Between M6 J18 & A533			
Building	**Location**	**Easting**	**Northing**
Manor Farm	Holmes Chapel Road	373070	366980
Parkside House	Holmes Chapel Road	372865	366943
Garage House	Holmes Chapel Road	372890	366985
Daisy Bank Farmhouse & Barns	Holmes Chapel Road	372620	366985
Dairy House Farm	Holmes Chapel Road	373140	366845
Dock Bank Farm	Brereton Lane	373345	366475
Sproston Hall	Brereton Lane	373445	366470
Parkside Farmhouse	Off Brereton Lane	373145	365850
Broad Lane Farm & Barn	Broad Lane	373650	365900
Pool Farm Cottage	Cledford Lane	372665	365215
Knightshulme Farmhouse	Bradwell Lane	373440	364450
Curtishulme Farm	Off Bradwell Lane	373180	364320

Listed Buildings Between M6 J18 & A533			
Building	**Location**	**Easting**	**Northing**
Kinderton Lodge	Off Pochin Way	372405	366010
Barn at Kinderton Lodge	Off Pochin way	372345	366040
Briar Pool Farmhouse	Cledford Lane	372425	365150
Guidepost at junction with Bradford Road	Cledford Lane	372395	365145
Outbuildings to Cledford Hall	Cledford Lane	371640	365640
Murgatroyd Club	Off Booth Lane	373075	362830
Trent & Mersey Canal Listed Structures			
Building	**Location**	**Easting**	**Northing**
Trent & Mersey Canal Rumps Lock	Adjacent Booth Lane	371445	364470
Canal Milepost immediately north of Rumps Lock	Adjacent Booth Lane	371425	364505
Milepost 200m south east of Tetton Lane Junction	Near Tetton Bridge	372250	363815
Canal Bridge no 614	Adjacent Booth Lane	372555	363500
Milepost south of Bridge no 614	Adjacent Booth Lane	372570	363470
Lock no 69	Adjacent Booth Lane	372920	363050
Lock no 68 & attached Accommodation Bridge	Adjacent Booth Lane	373075	362830
Listed Buildings Between A533 & A530			
Building	**Location**	**Easting**	**Northing**
Pettywood Farmhouse		370265	363785
Mill Lodge		370500	362385
Old Hough Farm House		369965	362390

Table 2 – Listed & Locally Listed Buildings

3.2 National Grid NTS Pipeline

The National Grid NTS pipeline and associated infrastructure has been the subject of consultation with the Health & Safety Executive and it has been identified as a Major Accident Hazard Potential (MAHP)

The pipeline is the 21 feeder Pickmere / Audley.

Consultation zones associated with the main are 78m (inner), 90m (middle), 270m (outer). Consultation zones define recommended proximities for different land uses dependent upon sensitivity of the use in the event of an accident. The proposed development is impacted slightly on the corners by the inner zone, and increasingly by the other two zones.

Restrictions within the consultation zones are implemented through Planning with HSE forming a Statutory Consultee. Depending upon the sensitivity of the development the HSE response may either be 'advise against' development (AA) or 'don't advise against' development (DAA).

The planners are not bound to accept the HSE response and if they do not, the HSE will not pursue the issue further.

Internet based research suggests that the logistics development would be low Level of Sensitivity (level 1) and DAA would be the likely response in all consultation zones. However, other aspects of the development may contribute to a higher level of sensitivity (storage of goods which could contribute to a higher general hazard in the event of an accident for example).

Advice against development (AA) in the inner zone would be expected for developments used by the general public, developments for use by vulnerable people, and very large & sensitive developments. In the middle zone AA would be expected only for the latter two, and in the outer zone only for very large and sensitive developments.

3.3 Other Constraints

Further constraints associated with ground conditions (eg salt caverns), archaeology, protected species habitats, rights of way are expected to exist within the study area, but at this stage are not assumed to be of significant influence on route option development.

Environmental constraints are the subject of current scoping study to determine the extents of further surveys required for the Phase 1A works. Surveys and Environmental Assessment works are expected to identify requirements for mitigation proposals as part of proposed highway development.

A potential relocation of the Basford Hall railway sidings from Crewe to a location adjacent to the railway line in the study area may result from the development of HS2 and High Growth City initiatives. The indicative footprint of a relocated sidings has yet to be developed but at this stage it is considered that it may extend to 2km in length over a width of 1km adjacent to the existing railway line. This will clearly be a major consideration, requiring major highway structures.

4. Route Options

Preliminary route options have been developed for all phases and are shown on Figures 2 to 5 in Appendix A as follows:

Figure 2 – Phase 1A with connection and improvements to Cledford Lane

Figure 3 – Phase 1A + 1B

Figure 4 – Phase 1A + 1B + 1C

Figure 5 – Phase 2 Future link to Sproston Bypass

Routes have been considered in plan only at this stage, with vertical alignment considerations to be the subject of further option development.

4.1 Phase 1A

4.1.1 Main Alignment

The Phase 1 alignment is significantly constrained by the NTS high pressure gas main. The location of the main shown on Figure 1 has been digitised from previous scheme drawings at this stage and verified against record drawings provided by National Grid.

On advice from National Grid, the Health & Safety Executive have been consulted to establish consultation zones associated with the main and these are described in Section 3 above and shown on the Figures. The consultation zones are not expected to influence the location of the highway.

An initial scheme for Phase 1A has been previously developed which potentially clashes with the main, and an amended alignment is now suggested in this study to remove the clash. Subject to vertical alignment development it appears that compliance with current link road standards is achievable.

The junction of Phase 1A & Pochin Way appears to be significantly constrained by the proximity of the existing bridge where Pochin way crossies the River Croco, and an existing pumping station adjacent to the Prologis development. A roundabout junction has been shown indicatively at this stage, but a different form of junction with a smaller footprint may be more easily achieved.

The Phase 1A alignment continues beyond the development and makes an interim connection to Cledford Lane as part of the initial delivery.

4.1.2 Cledford Lane

Cledford Lane will require significant improvement works to create an appropriate route standard for increased two-way traffic flows, including carriageway widening, introduction of formal drainage, potential strengthening of the Sanderson's Brook crossing, and possible improvements to the junction with Booth Lane.

The form of the Phase 1A junction with Cledford Lane has not been determined at this stage but will need to take account of likely traffic in both the short term and in the longer term following implementation of Phase 1B.

Use of Cledford Lane will be need to be restricted to light vehicles unless existing constraints associated with low headroom at the railway bridge (4.3m) and the restriction of 7.5T maximum gross weight on the Sanderson's Brook crossing are addressed as part of the upgrade.

Physical space limitations on sections of Cledford Lane also restrict the potential for the development of a standard of road suitable for HGVs unless third party land is acquired.

This may have implications for ANSA vehicles associated with the waste reprocessing depot which might reasonably be expected to be HGVs associated with waste transfer operations. Any such vehicle would be impacted by the weight restriction, and may potentially be impacted by the low headroom constraint dependent upon vehicle type. Movements for HGVs would need to be restricted to the section of Cledford Lane west of Faulkner Drive, with all movements onto the highway network via the Cledford Lane / Booth Lane junction.

4.1.3 Cledford Lane Booth Lane Junction

The junction of Cledford Lane and A533 Booth Lane is currently a low standard priority junction. with Cledford Lane forming a side road. The layout geometry is heavily constrained, by Cledford Bridge (Bridge 166) over the Trent & Mersey Canal which runs parallel to the A533 separated by a distance of approximately 10m. The kerb to kerb width of the carriageway on the bridge is around 5.6m and there is a 2m wide footway on one side only. On the opposite side there is a negligible set back from the kerb to the bridge parapet, and the potential to widen the carriageway is minimal.

The vertical profile of the carriageway over the bridge is in the form of an inverted V with no measurable vertical curve length at the reversal of the gradient. It is assumed that the profile has been adopted to generate sufficient headroom beneath the bridge, but it creates significant visibility issues for traffic in both directions. A replacement structure which allowed an increased carriageway width would be likely to have similar vertical profile issues.

On Booth Lane the typical carriageway width is 7.3m, with an entry taper to Cledford Lane from the north widening the carriageway locally to 10m. On the opposite side of Booth Lane there is a 2m footpath and frontage of terraced residential properties close to the back of footway. Solutions involving widening the carriageway or raising the elevation of Booth Lane in the vicinity of the junction appear to be constrained and complex.

4.2 Phase 1B

The Phase 1B alignment shown on Figure 3 indicates a continuation of the Phase 1B alignment from Cledford Lane to a junction location on the A533 to the west of the existing traveller site.

The alignment typically follows the NTS gas main before turning to cross the railway at approximately 90 degrees and crossing the former RHM Foods site to tie into the A533. It presents a different route through the Midpoint 18 site to the currently consented scheme but is considered to provide a less complex tie in to the A533.

The Phase 1B section is potentially affected by the potential relocation of Basford Hall sidings for which a notional layout will be prepared.

4.3 Phase 1C

Phase 1C as shown on Figure 4 continues the Phase 1B alignment from the A533 to provide a link to the A530. It avoids all identified constraints and ties into the A530 to the west of Occlestone Green.

Phase 1C crosses the Cheshire East / Cheshire West & Chester boundary at the River Wheelock.

Issues relating to Winsford transport plans will potentially influence strategic thinking related to Phase 1C and will be addressed in subsequent revisions of the report.

4.4 Phase 2 – Future Link

The Phase 2 future link is shown on Figure 5.

The Link is shown as a connection between Option 5.3 of the Sproston Bypass and as shown bisects the Kinderton Lodge site which has a current planning consent for clay extraction and subsequent landfill. This consent may be problematic depending upon relative timing of implementation of the link and enactment of the consent.

An alternative alignment to the north of the Kinderton Lodge site is also shown but this will present greater difficulty in achieving highway link design standards with a potential long sub-standard radius , and the connection with Phase 1A will closer to the Pochin Way junction and the River Croco crossing. All of these aspects reduce the attractiveness of the alignment option.

5. Cost Estimate

Basis and form of cost estimate to be agreed

6. Delivery Strategy

Delivery strategy to be agreed.

Key issues to consider in relation to delivery of a scheme perceived as a bypass (eg phase 1A alone may not be) etc

Address potential for Developer input and investor funding

7. Planning Considerations

Initial consultations with CEC Planning Officers have sought to identify any key issues associated in particular with the Phase 1 works as a significant departure from the currently consented scheme.

With the current consent for the bypass due to expire in July 2016 it is not considered that development of alternative proposal would present any particular difficulty. The existing consent is not expected to undermine a new application which would simply be seen as superseding it.

However, some key issues have been identified as listed & discussed below:

1. The current scheme is a well-established route on all plans so deviation from the existing route will need to be well substantiated.

2. The proposed Phase 1A route and much of the potential development lies outside of the current Midpoint 18 site area. The additional site area has been allocated in the Emerging Local Plan, but this has not been adopted yet and the timescales associated with this aren't certain. Objections on policy grounds would however be unlikely.

3. Protected trees and ecological issues are expected to be significant

4. Any proposals for Cledford Lane will be very important. There are currently significant issues associated with waste vehicles at the Cledford Lane / Booth Lane Junction associated with the currently unapproved ANSA Environmental Services application. British Salt have objected to the application.

In general terms, planning for Phase 1A is not currently considered to be a constraint on 2017 delivery of the development, but the programme for planning will be a key issue and risk (see Section 8).

8. Phase 1A Delivery Programme

An initial high level programme has been developed for the Phase 1A works to investigate the possibility of delivery of the scheme by the end of 2017 and to identify the critical activities and milestones to achieve delivery.

An aggressive (optimistic) programme indicates that completion of Phase 1A highway works could be achieved by February 2018 assuming a 6 month construction period.

The critical items for delivery within the required timeframes are the ecology surveys and subsequent development of mitigation proposals and the Environmental Statement to support the planning application.

The aggressive programme assumes a number of concurrent activities and favourable outcomes for planning and the granting of licenses for environmental works.

A less aggressive programme has also been developed which reduces the number of concurrent activities, but still assumes favourable outcomes for planning an environmental licenses. This programme indicates a completion of highway construction in June 2018, which is significantly outwith the end of 2017 target.

The Phase 1A delivery programmes are shown in Appendix B and key risks associated with them are discussed in Section 8.2 below.

8.1 Key Milestones

The key milestones for delivery identified in the programmes relate to the planning application and an assumed planning decision date between mid-February and mid-march 2017. Planning delays which cause significant slippage to this target date are likely to jeopardise the environmental mitigation works programme with a direct follow on effect for highway construction.

An extensive pre-application process leading up to submission of the planning application is anticipated to control risks associated with planning.

8.2 Key Programme Risks

In addition to the ecology surveys, there are a number of items which could materially influence the delivery timescales which will require specific management to mitigate potential impacts:

- Planning – the determination of the planning application will be a critical path activity, and any issues which cause this to be prolonged could severely compromise the delivery
- Newt License – a newt license will only be issued following planning consent and there is a risk that the 50 day period which Natural England are allowed for this may be exceeded causing environmental mitigation works to be prolonged and commencement of highway construction works to be delayed
- Land Assembly – there is no scope in the programme for any delays to land assembly following planning consent. It is assumed that all land will be acquired by negotiation rather than compulsory purchase order. Indicative land ownership plans provided by Pochin show all land required for Phase 1A to be in the ownership of CEC, Pochin, or 'Pochin Option' land.
- Utilities – the programme assumes no works to major utilities. Should any such work be needed to the high pressure gas main or overhead electrical services these are likely to need to be committed to well

in advance of planning consent to avoid potential delays to environmental mitigation & highway construction works.

9. Further Works Required (Phase 1A)

Implementation of the Phase 1A works will require an extensive programme of further works commencing as early as possible to enable the required delivery timeframe to be achieved.

- Initial works should focus on environmental scoping and phase 1 habitat surveys to ensure that an appropriate scope of ecological surveys are programmed and ready to take place in the next available survey windows.
- Geotechnical desk study and subsequent intrusive investigation will be required to inform highway design.
- Topographical survey and services tracing will be required early in the programme to enable detailed highway alignment design and the identification of any service diversions that may influence programme
- Consultations with key stakeholders, including statutory consultees should be commenced early to minimise risks of objections to planning

Appendix A. Figures

Appendix B. Phase 1A High Level Delivery Programme