
A228/M20 Junction 4 - Eastern Overbridge Widening

To: Tonbridge & Malling Joint Transportation Board - 7 June 2016

Main Portfolio Area: Growth, Environment & Transport

By: Roger Wilkin, Director of- Highways & Transportation

Classification: For Information

Ward: West Malling & Leybourne, and Downs & Mereworth
Division: Malling North

Summary: Progress report on M20 Junction 4 overbridge widening scheme

1.0 Introduction

1.1 Members will be aware of the scheme to widen the eastern bridge of M20 Junction 4 from previous reports and attendance by officers at meetings of this Board.

1.2 This report gives a further update on construction progress that will be supplemented by a verbal update at the meeting to reflect the fact that reports are produced sometime in advance of meetings.

2.0 Works

Piling Difficulties

2.1 The bridge piles to support the new bridge abutments were installed in early June. The piling involves driving a long Archimedes type screw (known as continuous flight auger) into the ground to remove a column of soil. The screw has a hole down the centre. As the screw is withdrawn, concrete is pumped in under pressure to fill the void. A cage of steel reinforcement bars is then pushed and vibrated into the concrete. When the concrete has set the rough top of the piles are broken away to form a level platform for constructing the base of the bridge abutments.

2.2 Difficulties were encountered in installing the reinforcement cages on four of the sixteen piles on the north side and one of the sixteen piles on the south side. These difficulties meant that some of the reinforcement cages were short of the depth required by the design and in some cases they were misplaced or damaged. Before proceeding we needed to check the design and assess the design on the basis of what had gone in to see if it was still satisfactory or whether further work was required. Our contractor, his designer and our designer all looked at this together with the support of our colleagues at Highways England to make considered and

pragmatic decisions as quickly as possible so that construction could resume. The outcome was that with the introduction of lightweight backfill the abutments could proceed without any further or remedial piling work.

2.4 Inevitably and unfortunately it did take a little while to complete the design checks and get agreement from all of the parties involved and the construction programme has been delayed about 6 weeks.

Works to date

- Site established – vehicle recovery, forward welfare base & accesses completed;
- Motorway communication cables temporarily diverted;
- Existing bridge edge demolished;
- Bridge edge prepared;
- M20 verge/embankment temporary works completed;
- Continuous flight auger piling completed;
- Pile breakdown & abutment bases completed;
- Pile caps completed;
- South abutment formwork and reinforcing underway;
- North abutment formwork and reinforcing started.

3.0 Future Works Programme

3.1 The full consequences of the delays caused by the piling issues are still being assessed and a verbal update will be given at the Board meeting but the indicative programme for completing key elements of the work is as follows:

New bridge abutments	South 18 Sept/North 23 Sept
Lift in bridge beams	Overnight on weekend of 1 & 2 October
Complete bridge sub-structure	To the end of November
Construct concrete deck	To the end of November
Reinstate motorway communications	To the end of November
Construct new parapet	December
New surfacing	December
Install signals and finishing works	December
Install 'yellow boxes'	December
Scheme complete	Before Christmas

3.2 A major milestone activity will be the delivery and lifting in of the new bridge beams that are planned to take place over weekend overnight closures of the motorway - currently planned for 1 and 2 October. During motorway closures, traffic will be taken around the works by using the slip roads. A short duration closure of the bridge being widened is also planned to facilitate the beam lifting and traffic will be signed to use Leybourne Way and Lunsford Lane.

3.3 Late access to the M20 and resolution of the motorway communications temporary diversion delayed the start of works and the piling issues has unfortunately caused a significant delay and extended the construction period. The contractor has been able to accelerate and switch some activities and work longer hours but the net effect is that the scheme will not be completed until Christmas 2016 at the earliest,

some 3 months later than originally planned. This is regretted by all parties involved in delivery of the project.

4.0 Other Matters

4.1 The opportunity will be taken while on site to resurface the western overbridge which is in a poor condition in places.

4.2 Many comments received from the public included requests for 'yellow boxes' on the gyratory to improve traffic movement. Up until recently such ideas have been rejected. The layout of 'yellow boxes' need to follow national guidance and at J4 would have been very large. In such circumstances, they can have a counter effect on capacity as drivers hesitate to enter when unsure if their exit is clear. They also need to be self-regulating as camera enforcement is not available.

4.3 However, in May 2016 the Department of Transport issued new traffic sign and road markings guidance under Circular 01/16 for 'The Traffic Signs Regulations and General Directions 2016'. The new guidance allows more flexibility in the layout of 'yellow boxes' that will allow smaller boxes that can be more focused on the areas of conflict.

4.4 Under the new guidance it is considered that 'yellow boxes' could make an effective contribution to assisting traffic flow and they will be implemented as part of the scheme. There will also be a refresh of lane and lane destination markings.

5.0 Public Relations

5.1 Dealing with the delay caused by the piling issues has been difficult. We advised Leybourne Parish Council, Borough Members and local KCC Members and openly responded to any enquiries we received from the public. However, we delayed advising the wider local community and travelling public. This was not because of any particular reluctance but I hope the Board will understand that we did not want to just say we have a problem but also wanted to be able to advise what the solution was and how that was being implemented and the effect on the construction programme. Now that there is increasing clarity we will soon be distributing Newsletter (No. 5).

5.2 The Newsletter will focus on details of the beam lift and the overnight weekend closure of the M20 through the junction on 1 & 2 October so that the local community can plan their journeys. This will be supplemented by information to the wider travelling public.

3.0 Financial

3.1 The estimated cost of the scheme is £4.80m and is being delivered within the banked S106 contributions and Local Growth Funding allocated to the scheme.

4.0 Legal implications

4.1 This Report is for information only and hence there are no legal implications for the Board.

5.0 Conclusions

5.1 There have been construction problems but they are now resolved and hopefully the scheme can now proceed smoothly to a satisfactory conclusion.

6.0 Recommendations

For Information

Future Meeting if applicable: As necessary but none planned at present	Date:
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Appendices

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