



Milton Keynes
City Council

Monkston and Brinklow Roundabout Improvements.

Highway Major Projects & Development Management
(Adoptions)



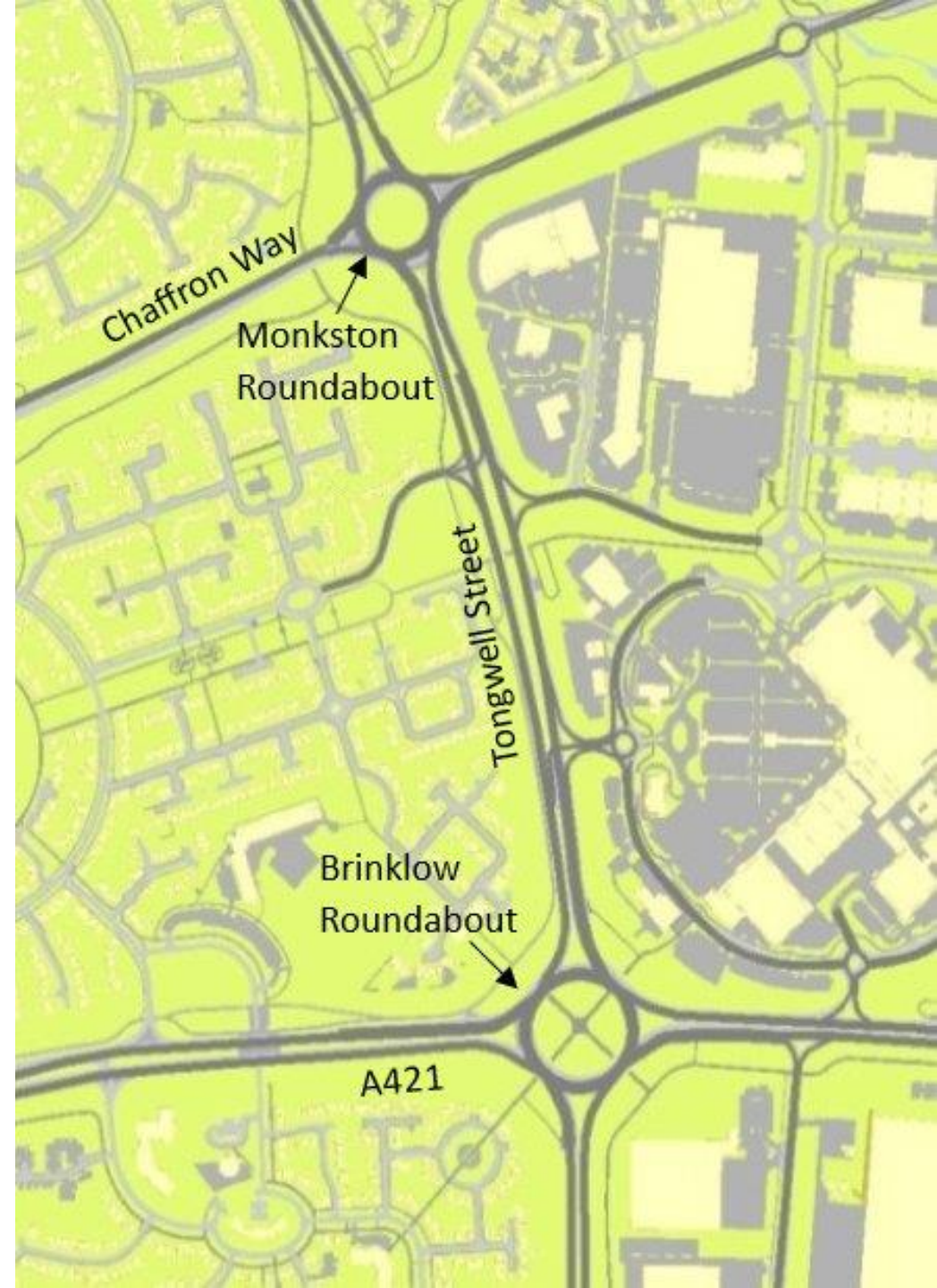
Background

Monkston and Brinklow are the two 'missing pieces' in terms of addressing capacity issues on the J13-J14 corridor. They are the next steps in improving the overall network on the east of the city and without addressing these MKCC would be in danger of not optimising the investment made on all the other works to date.

Tariff funding has been identified for the delivery of these schemes and these junction upgrades formed an important part of the Council's commitment to delivering the Programme set out in the Tariff Framework Agreement.

The Monkston and Brinklow roundabout improvements were included in the 'base case' forecasts for the Strategic Multi-Modal Model - i.e. all the modelling that has been done assumes these roundabouts have been upgraded as committed schemes. Not delivering these could therefore undermine Plan:MK modelling and further growth as well as land allocation for new developments.

Location Plan



Need for Improvements on both Roundabouts

The schemes would provide a relief to the Eastern Expansion Area of the City and continue to facilitate growth.

Through removing this potential bottleneck, the scheme will help Milton Keynes develop in line with its Core Strategy, which plans for the creation of new jobs in the future.

The scheme will improve access to the eastern area of Milton Keynes which opens opportunities for further development. By reducing congestion issues, the project will enable and inspire confidence within the development industry and business community to sustain growth.

The scheme is targeted to address adequate capacity to accommodate future forecast growth in the area to help satisfy future development aspirations.

Why Traffic Signals are needed?

Milton Keynes roundabouts were initially designed without any traffic signals but increasing vehicle numbers led to the introduction of traffic signals for better traffic flow management.

Traffic modelling of the Monkston roundabout in feasibility stages of the project indicated that a larger roundabout, without signalisation, would suffer from significant delays and congestion. Two designs were therefore shortlisted (an enlarged signalised option, and a "hamburger", which is a through-about signalised design)

The hamburger design is considered to be efficient and lower cost, due to a smaller footprint, so this option was taken forward as the preferred option for refinement.

At Brinklow roundabout, the traffic modelling indicated that the introduction of signals was sufficient to manage the conflicting movements better than the existing roundabout, as there are imbalances between overall approach flows that prevent it working efficiently. Signalisation is the minimum intervention solution in this case.



Monkston Roundabout

In 2018 JACOBS carried out a study looking at potential solutions to the capacity issues at the roundabout. In 2023/24 AECOM reviewed the various options for improving the junction capacity at the roundabouts.

These options included the following:

- Full grade separation
- Conversion from roundabout to a traffic signalised (crossroads) junction
- Enlarging the existing roundabout
- Enlarging roundabout with signalisation
- Existing roundabout with signalisation (partial or full)
- Creation of a 'hamburger' style signalised junction

The study concluded that the two best options based on traffic modelling the junctions for 'future year' growth were:

- Creation of a 'hamburger style signalised junction'
- Enlarged roundabout with signalisation



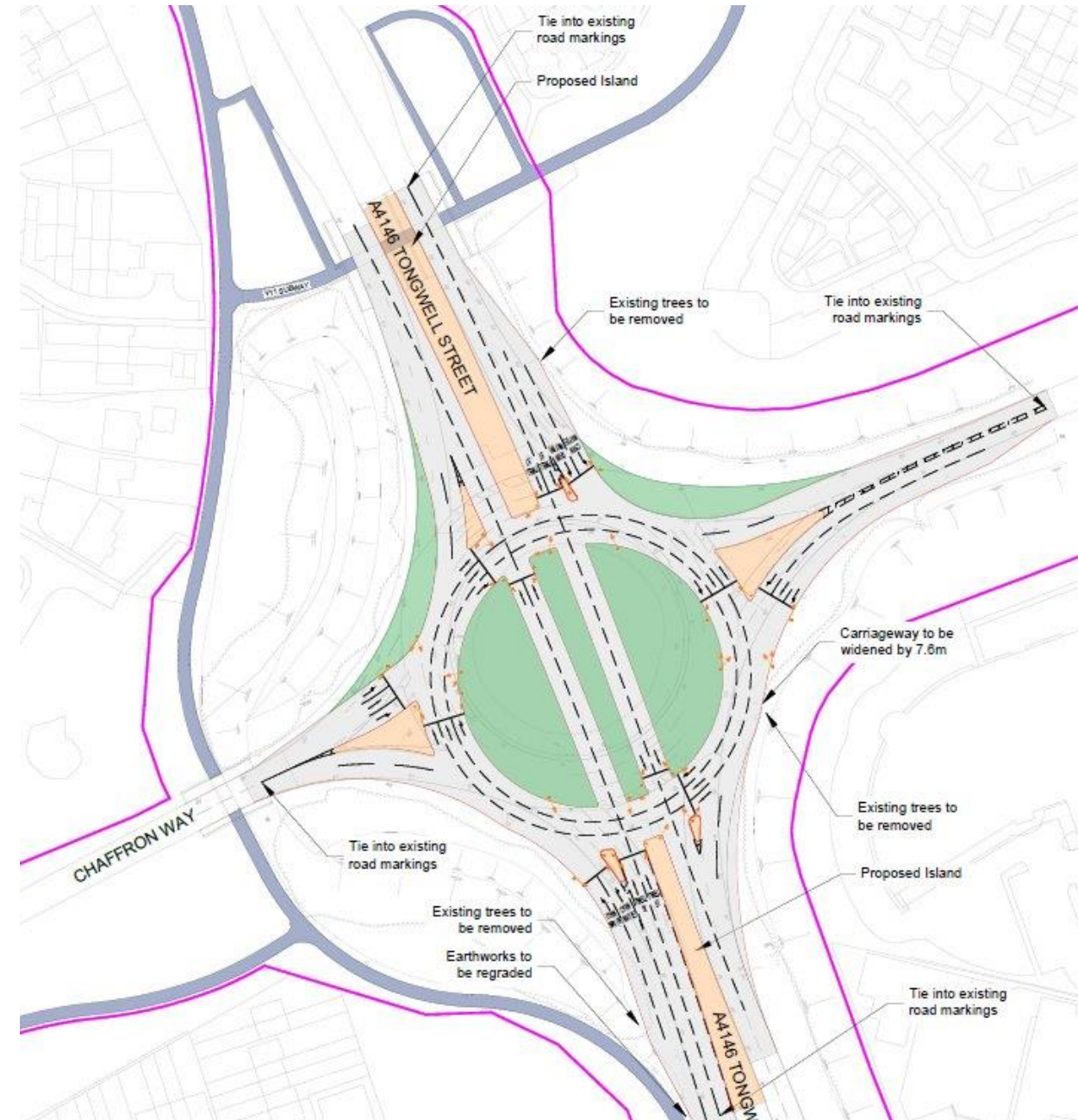
Monkston Roundabout Hamburger Option

Advantages

- Subway structures will not be affected, and cost effective
- Improves the queue capacity on the approaches and on the circulatory
- It will meet future capacity for new developments in 2031
- High buildability and less disruption on the network

Disadvantages

- Unfamiliar roundabout layout for Milton Keynes. The road users will need to get used to the different layout



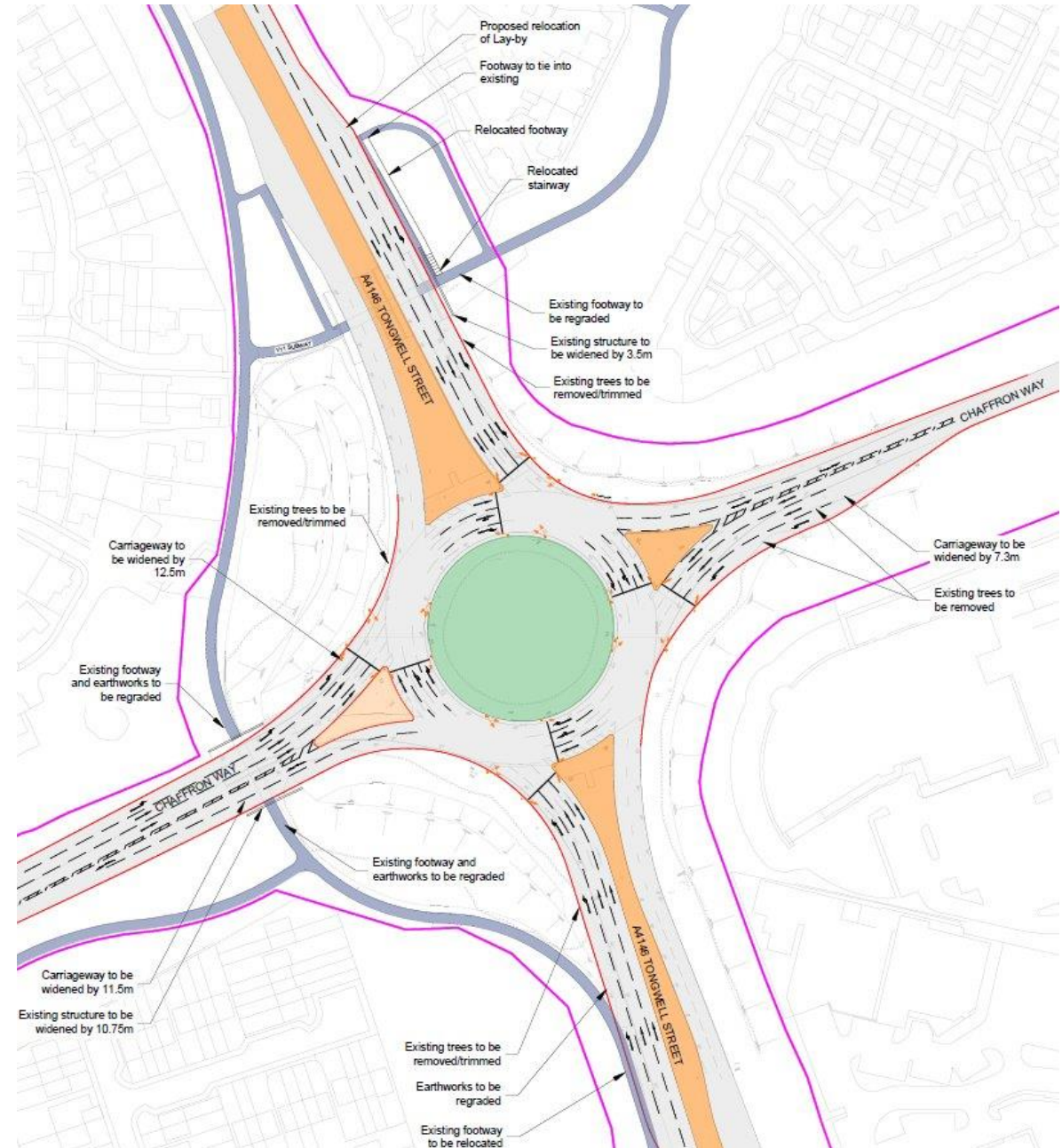
Monkston Roundabout Enlarged Roundabout Option

Advantages

- Layout is similar to Kingston and Northfield Roundabouts
- Improves the queuing capacity on the approaches

Disadvantages

- Subway structures will be affected which will increase the construction costs and duration of works
- Requires a high disruption on the network to implement the full scheme
- For future capacity over 2031 for new developments the roundabout will need to be re-assessed



Monkston Traffic Visualisation

Extent of traffic queues — — — →

No Traffic Signals



Hamburger Roundabout
with Traffic Signals



Hamburger Roundabout Example



A322 Bracknell Roundabout

Brinklow Roundabout

In 2019 JACOBS carried out a study looking at potential solutions to the capacity issues at the roundabout. The study reviewed the two options for improving the Brinklow Roundabout capacity.

Option 1

Provides signalisation of the roundabout and reassignment the movements on the nearside lane on each arm to allow for ahead movements to the circulatory. Shows significant reduction in delay in comparison to the existing layout.

Option 2

Provides the signalisation of the roundabout proposed in Option 1 by also implementing local widening at the A421 West and East arms resulting in further not significant reduction in vehicle delay at the roundabout.

Option 1 was chosen as a preferred option with minimum intervention



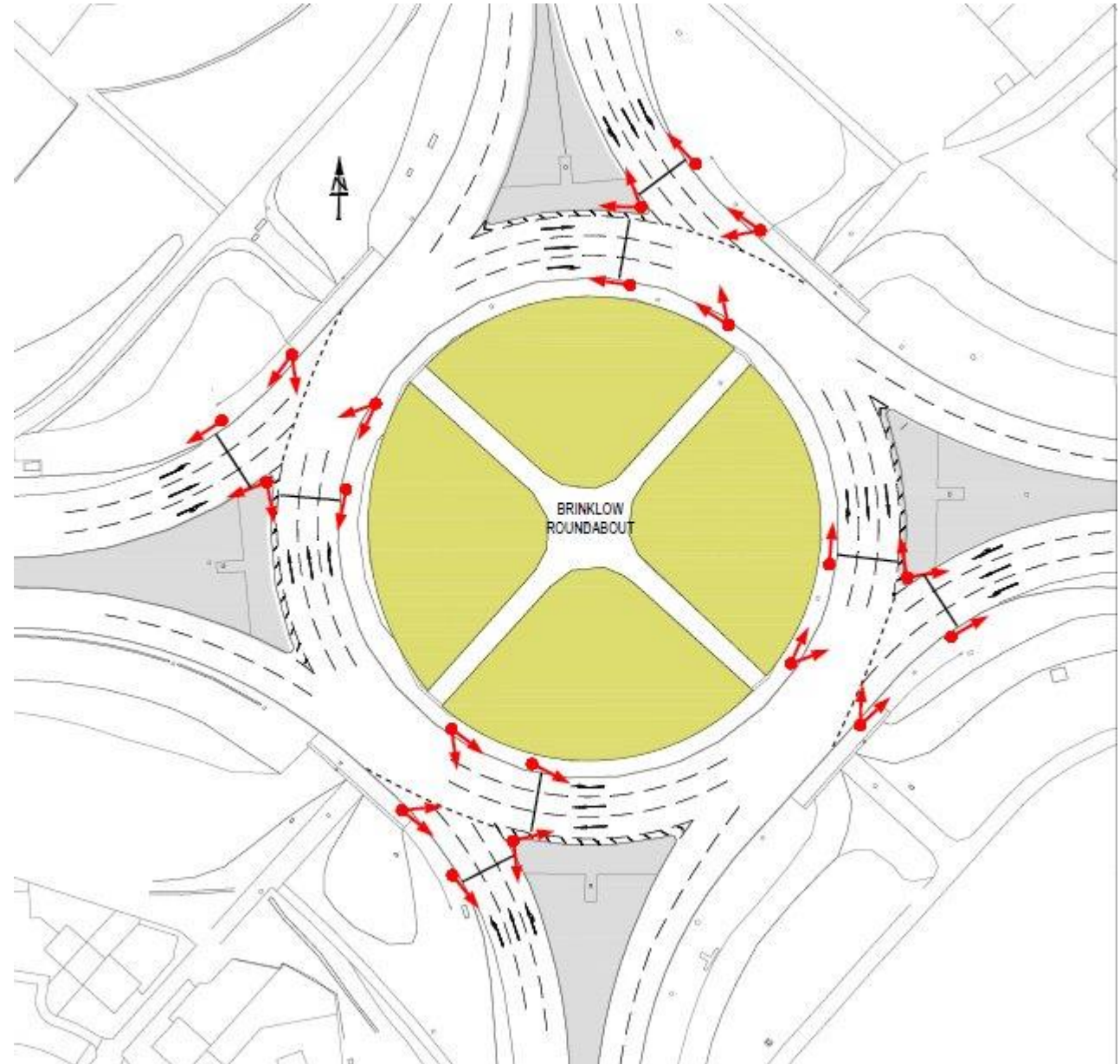
Brinklow Roundabout

Advantages

- Minimum intervention
- Queue reduction
- Cost Effective
- Short network disruption

Disadvantages

- Brinklow roundabout will potentially be over capacity if Kingston roundabout efficiency is not improved after 2031.



Brinklow Traffic Visualisation

Extent of traffic queues 

No Traffic Signals



With Traffic Signals



Video Link to:

[Brinklow and Monkston AM Peak Visualisation](#)

Please watch the whole video to understand the extent of the traffic queues in comparison!

Outline Programme

Subject to approval of MKCC Main Contractor's annual programme

- Brinklow Roundabout – Construction works planned for Autumn 2024
- Monkston Roundabout – Construction works planned for Spring 2025

How will the project be managed?

- MKCC Project Manager will co-ordinate all activities to ensure the project is delivered as approved with minimum disruption to the area.
- MKCC New Engineering Contract Site Supervisor will oversee the site works on a daily basis.
- The Project Manager & Site Supervisor will attend site on a regular basis and will be contactable to address any site or construction concerns.
- The main highways contractor will manage the site operations with a full-time Site Agent.
- All works will be carried out Monday – Friday 8-5pm, minor essential works may be carried on some Saturday mornings.



Any Questions?

