

Transport and Environment Committee

10.00am, Thursday, 11 November 2021

A71 Dalmahoy Junction Improvements

Executive/routine Wards Council Commitments	Executive 2 – Pentland Hills 16
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1. Recommendations

- 1.1 The Transport and Environment Committee is asked to:
 - 1.1.1 Note the work that has been done to date on the A71 Dalmahoy Junction Improvements project;
 - 1.1.2 Note that the current cost estimate for the introduction of a signalised junction is £962,000, which is significantly greater than the funding package of £455,000 approved by Committee in March 2017;
 - 1.1.3 Note that a safety scheme was installed in April 2017 and a reduced 40mph speed limit was subsequently implemented in February 2018. Since these changes came into effect there has been a significant reduction in personal injury collisions at the junction;
 - 1.1.4 Note that, as a result of the reduction in personal injury collisions, a preliminary design for alternative road safety measures at the junction has been developed (outlined in paragraph 4.10 and detailed in Appendix 2); and
 - 1.1.5 Approve proceeding with the alternative road safety measures proposed.

Paul Lawrence

Executive Director of Place

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Report

A71 Dalmahoy Junction Improvements

2. Executive Summary

- 2.1 This report provides Committee with an update on the A71 Dalmahoy Junction Improvements project and sets out a proposed way forward to deliver alternative road safety measures at this junction to improve road safety.

3. Background

- 3.1 Work commenced in 2014 on the investigation of possible improvements at the A71 Dalmahoy junction. This was in response to a petition requesting measures to improve vehicular access to Ratho village and the Dalmahoy Hotel and Country Club and to reduce the risk to pedestrians crossing the A71 at this location.
- 3.2 An initial report to the Transport and Environment Committee, on [28 October 2014](#), provided a preliminary cost estimate for a signalised junction of £430,000 but noted that the cost could not be justified on the basis of potential casualty savings. At that time, no funding had been identified for the improvements to be delivered.
- 3.3 On [17 March 2015](#), Committee was provided information on options for a pedestrian refuge island, a signalised pedestrian crossing and a fully signalised junction. The Committee decided that work should proceed to develop a detailed design for a fully signalised junction and to commence the process to seek to acquire the areas of land required to deliver this.
- 3.4 A further update was provided to Committee on design, land acquisition and funding issues on [30 August 2016](#). Although funding towards the delivery of the project had been secured from various sources, there was still a significant funding shortfall.
- 3.5 At that time, Committee also approved the introduction of a low cost safety scheme, as an interim measure, to address the collision profile of the junction. This involved the installation of vehicle activated “staggered junction ahead” signs, which warn oncoming traffic that vehicles ahead are either waiting at the give way line or stationary in the centre of the road, waiting to turn right.

- 3.6 On [21 March 2017](#), the Committee noted a funding package had been identified which was sufficient to meet an updated project cost estimate of £455,520:
- 3.6.1 Road Safety - £143,000;
 - 3.6.2 Access to Bus Stops - £25,000;
 - 3.6.3 Cycling, Walking, Safer Streets - £30,000;
 - 3.6.4 Craigpark Quarry S75 Agreement - £40,000;
 - 3.6.5 South West Locality (NEPS) - £50,000 (over two years); and
 - 3.6.6 Capital Investment Programme for Carriageways, Footways and Street Lighting contingency funding - £167,000.
- 3.7 In April 2017, the interim safety scheme involving vehicle-activated signs was implemented and the speed limit on this section of the A71 was subsequently reduced to 40mph in February 2018.
- 3.8 Updates on progress were provided to the former South West Locality Committee, as part of its Business Bulletins on [19 June 2018](#), [13 September 2018](#), [29 November 2018](#) and [31 January 2019](#).
- 3.9 A report was considered by Committee at its meeting on [17 June 2021](#). However, following deputations from the Ratho & District Community Council and the St Mary's Church Dalmahoy Residents Association, Committee decided to defer consideration of the report to allow for further engagement with ward Councillors and local stakeholders.

4. Main report

Signalised Junction

- 4.1 Detailed design work on a new signalised junction layout is now nearing completion.
- 4.2 While developing the design, various issues have arisen that meant some aspects of the proposals had to be altered significantly from those that were envisaged in March 2017, when the funding package for the project was approved.
- 4.3 Plans showing the proposed junction layout used for the March 2017 cost estimate, and the signalised junction layout now developed are provided in Appendix 1. The issues that have arisen since March 2017 include:
- 4.3.1 The need for considerably more widening of the A71 than was originally envisaged to ensure the safe and efficient operation of a signalised junction, which was identified during the development of a detailed design in 2017 and 2018. This additional road widening resulted in a significant increase in the quantity of earthworks and new road pavement construction required;

- 4.3.2 As a direct consequence of the requirement for additional road widening, there was also a need to provide significantly more road drainage apparatus than was originally envisaged, including the provision of a new drainage outfall solution. The current road drainage discharges by filtering surface water runoff through the ground but additional ground investigative work in 2019 revealed that this type of arrangement would not be able to cope with the additional runoff that the new junction layout would generate. Consequently, a new carrier drainage system and outfall would be required;
- 4.3.3 The original estimate made no allowance for temporary traffic management measures during construction; and
- 4.3.4 Increased sums have been included in the new cost estimate for design and site supervision costs; the contractor's site establishment and management with allowance for project risk and contingency, to reflect the increased scope of the design.
- 4.4 In recognition of the additional costs identified, a value engineering exercise has been undertaken. This involved the design and costing of several alternative signalised junction layouts and pavement coring and testing to ensure that resurfacing and reconstruction work on the existing road is limited to the minimum extent required. The current proposed signalised junction layout (as shown in Appendix 1) is the lowest cost option, that could be identified, while providing a signalised junction that would operate safely and without causing significant traffic congestion during peak traffic periods.

Personal Injury Collisions

- 4.5 With the speed limit in the vicinity of the junction reduced to 40mph in February 2018, a comparison between the numbers and severity of personal injury collisions, in the vicinity of the junction, in the three year period prior to this change and the 39 month period (for which data is currently available) following the change is shown in Table 1 below. This shows a significant reduction in collisions following the change in the speed limit.

	1 Mar 2015 – 28 Feb 2018 (36 months)	1 Mar 2018 – 31 May 2021 (39 months)
Slight	5	3
Serious	2	1
Fatal	-	-
Total	7	4

Table 1 Personal Injury Collisions - 1 Mar 2015- 31 May 2021

- 4.6 Within the last five years, there have been four occasions where repairs have been required to roadside street furniture at the junction due to collision damage. The total cost of these repairs was £6,250.
- 4.7 From analysis of recent collisions at the junction, solely on the basis of casualty reduction, and recognising the estimated cost of the signalised junction layout previously approved, a further assessment of the junction has taken place.

Alternative Proposals for Junction Improvements

- 4.8 This assessment has established that a similar level of collision reduction could be achieved, whilst also providing facilities to reduce the danger to pedestrians crossing at the junction, by a package of alternative road safety measures.
- 4.9 Following feedback with ward Councillors and the local community, the design of the alternative measures has been revised, most recently to include the realignment of Dalmahoy Road.
- 4.10 A preliminary design of these alternative measures is provided in Appendix 2 and includes:
 - 4.10.1 A signalised pedestrian crossing;
 - 4.10.2 Further lowering of the speed limit to 30mph;
 - 4.10.3 Realigning Dalmahoy Road so that it aligns with the entrance to the Hotel and Country Club, so vehicles can cross from one to the other in a single movement;
 - 4.10.4 Widening of the narrow footway on the south side of the A71, immediately to the west of the entrance to the Hotel and Country Club;
 - 4.10.5 Replacing the existing give way lines on the two side roads with stop lines;
 - 4.10.6 Locating the new stop line, at the entrance to the Hotel and Country Club, further north than the current give way line, improving visibility to the left when exiting;
 - 4.10.7 Flattening the mounded verge at the field boundary on the north side of the A71, to the west of Dalmahoy Road, improving visibility to the right when exiting;
 - 4.10.8 Moving the bus stops further away from Dalmahoy Road and the entrance to the Hotel and Country Club, thereby improving visibility to the left for traffic exiting when there is a stationary bus; and
 - 4.10.9 Introducing vehicle speed detection systems.
- 4.11 The current cost estimate for these alternative measures, including costs incurred to date in developing the project, is £625,000.
- 4.12 If these alternative measures are approved, it is expected that the works would begin on site in late Spring/early Summer.

5. Next Steps

- 5.1 Subject to the approval of the recommendations in this report, proceed with the development and delivery of the alternative road safety measures.

6. Financial impact

- 6.1 The funding package for road safety improvements at the A71 Dalmahoy Junction is already in place (detailed in paragraph 3.6).
- 6.2 Should the recommendation to implement alternative measures be approved, a further £170,000 would be required. This can be contained within the Road Safety Capital budget. Including the original £143,000 contribution towards the scheme, this would bring the total amount of Road Safety funding committed to £313,000, which is within the maximum sum of £341,000 that can be justified on the grounds of casualty reduction at this location.
- 6.3 Should the Committee decide, however, to proceed with the current design for a signalised junction, a further £507,000 would be required from within the Transport Capital programme. This would involve either cancelling or delaying the implementation of other projects.
- 6.4 The costs incurred to date to develop the proposals are approximately £94,000. Of these costs, approximately £29,000 is for design work and traffic surveys specifically relating to a signalised junction and £65,000 relates to preparation works required for any changes at the junction e.g. topographical survey, ground/pavement investigations, drainage investigations, legal costs associated with land acquisition negotiations and tree felling work.
- 6.5 The developer's contribution of £40,000, from the S75 Agreement for Craigpark Quarry, has been drawn down in full.
- 6.6 The total budget for road safety infrastructure improvements throughout the city in recent years has generally been around £700,000 per annum. In 2020/21 this was increased to £1m, due to a significant increase in the annual Cycling Walking Safer Routes funding award from Transport Scotland and a similar overall level of funding is expected to be available in 2021/22.

7. Stakeholder/Community Impact

- 7.1 Ward Councillors were briefed on the approach proposed in this report, in January 2021, and a presentation was delivered to the Ratho and District Community Council on 15 February 2021. A written update was also sent to all affected landowners. There has been subsequent email correspondence with the Community Council which provided further information on various issues and concerns that they have raised.
- 7.2 The Community Council submitted a written deputation to Committee on [22 April 2021](#) requesting that the Council proceeds with the delivery of a signalised junction.

- 7.3 In addition, shortly after the presentation to the Community Council, emails were received from fourteen members of the public, nine of whom identified themselves as members of the congregation of St Mary's Church Dalmahoy, also expressing a desire for the delivery of a signalised junction.
- 7.4 Further deputations from the Community Council and the St Mary's Church Dalmahoy Residents Association were considered by Committee, on 17 June 2021, when an update on the junction was submitted. The Committee decided to defer consideration of the report to allow for further engagement with ward Councillors and local stakeholders.
- 7.5 A further meeting with ward Councillors and the Convener of Transport and Environment Committee was held on 1 September 2021 to discuss the issues addressed in this report.
- 7.6 On 15 September 2021, the Convener and the Council's Road Safety and Active Travel Manager attended a public meeting held in St Mary's Church Hall, Dalmahoy to view the junction in operation and to meet local stakeholders and listen to their concerns. Following the meeting, further design work was undertaken and a realignment of Dalmahoy Road was added to the alternative design of road safety measures (Appendix 2).
- 7.7 Subject to the approval of the recommendations in this report, further consultation will be carried out with local stakeholders on the design for the alternative road safety measures.

8. Background reading/external references

- 8.1 None.

9. Appendices

- 9.1 Appendix 1 – Plans showing proposed signalised junction layout used for March 2017 cost estimate and current proposed layout
TDD/636718/2/05, dated June 2016
TCD/636718/2/25, dated July 2020
- 9.2 Appendix 2 – Plans showing proposed alternative road safety measures
TCD/636718/2/31, dated October 2021
TCD/636718/2/28A, dated October 2021

NOTES:

KEY:

- New kerbline
- New edging kerbline
- New drainage kerbline
- New carriageway & footway
- High friction surfacing
- Verge
- White road markings
- Stainless steel studs
- White direction arrows
- Traffic signals
- Tactile paving
- Drop kerb crossing

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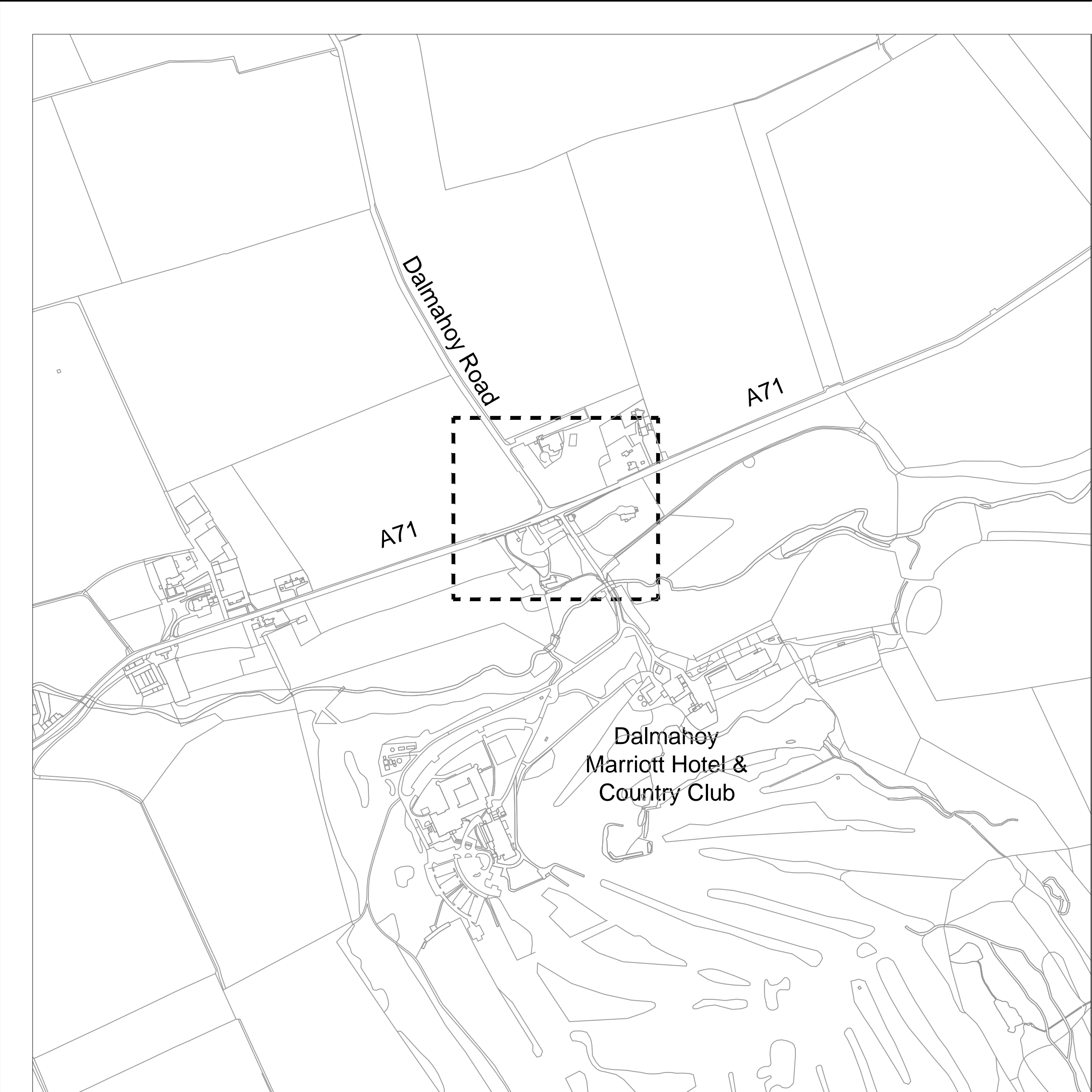
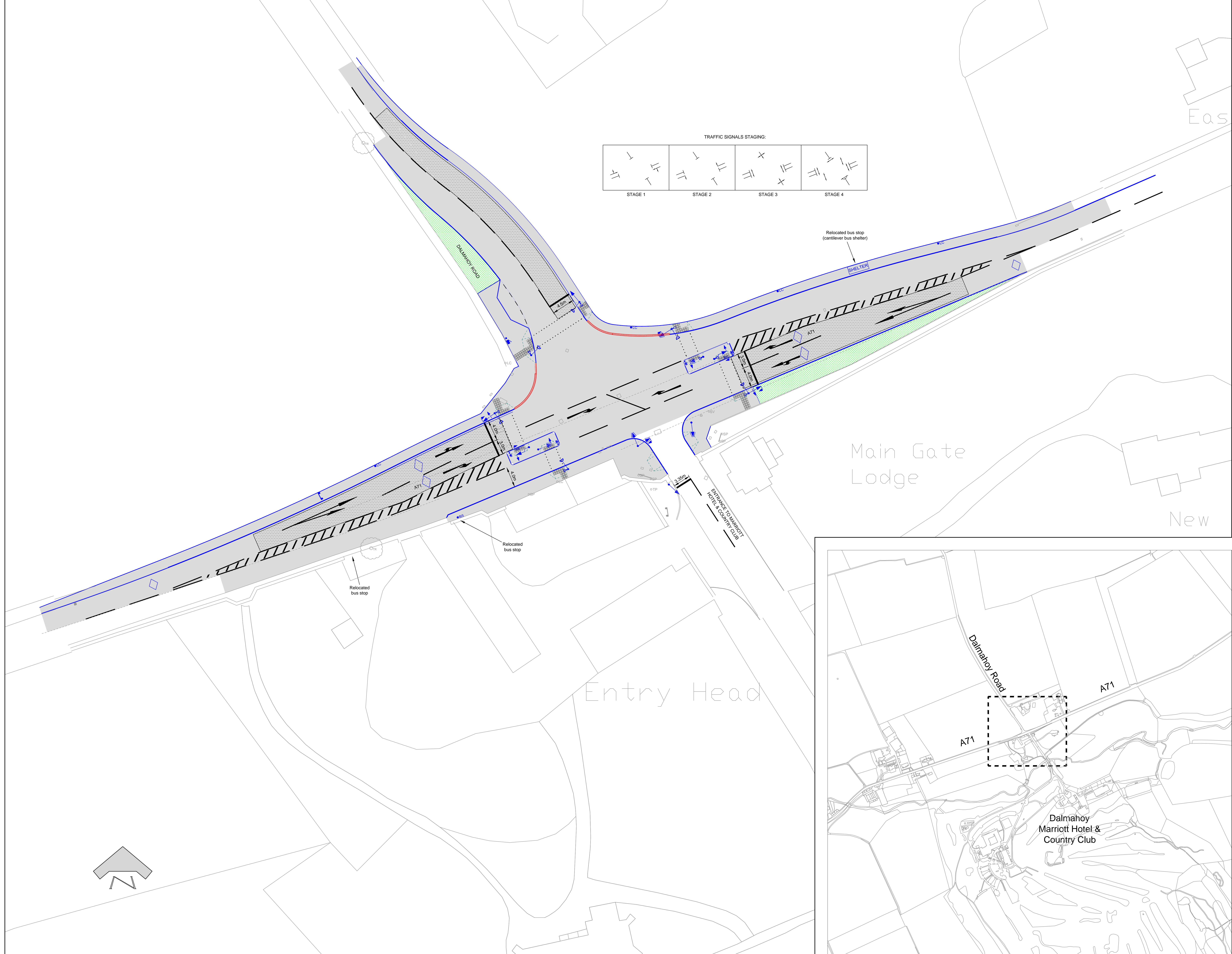
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A71 / Dalmahoy Road Junction
Signalisation
General Layout

Date: 1 June 2016 Scale: 1:250 @ A1	Job No. 636718	Drawn by: A Parkinson Checked by: D Wilson Reviewed by:
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LOCATION PLAN
Scale 1:10,000

NOTES:

KEY:

- Footway
- Carriageway
- High friction surfacing
- Grass paving blocks
- Verge
- Filter drain
- Kerblne
- Round-top edging kerblne
- Flat-top edging kerblne
- Fenceline
- White road markings
- Yellow road markings
- Tactile paving
- Drop kerb crossing

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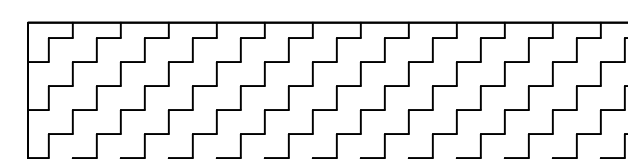
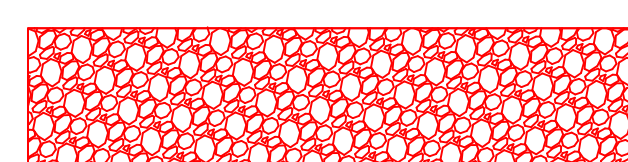







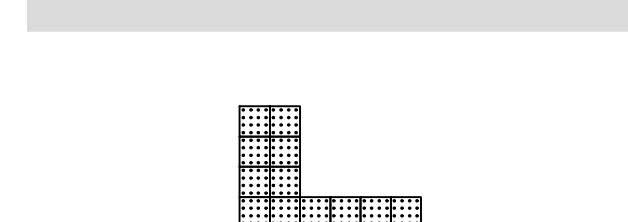

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Proposed Traffic Signals
A71 / Dalmahoy Road
Proposed Layout
Aligned Junction Arrangement
Option 2

Date: July 2020 Scale: 1:250 @A0	Job No. 636718	Drawn by: A Parkinson Checked by: SMS
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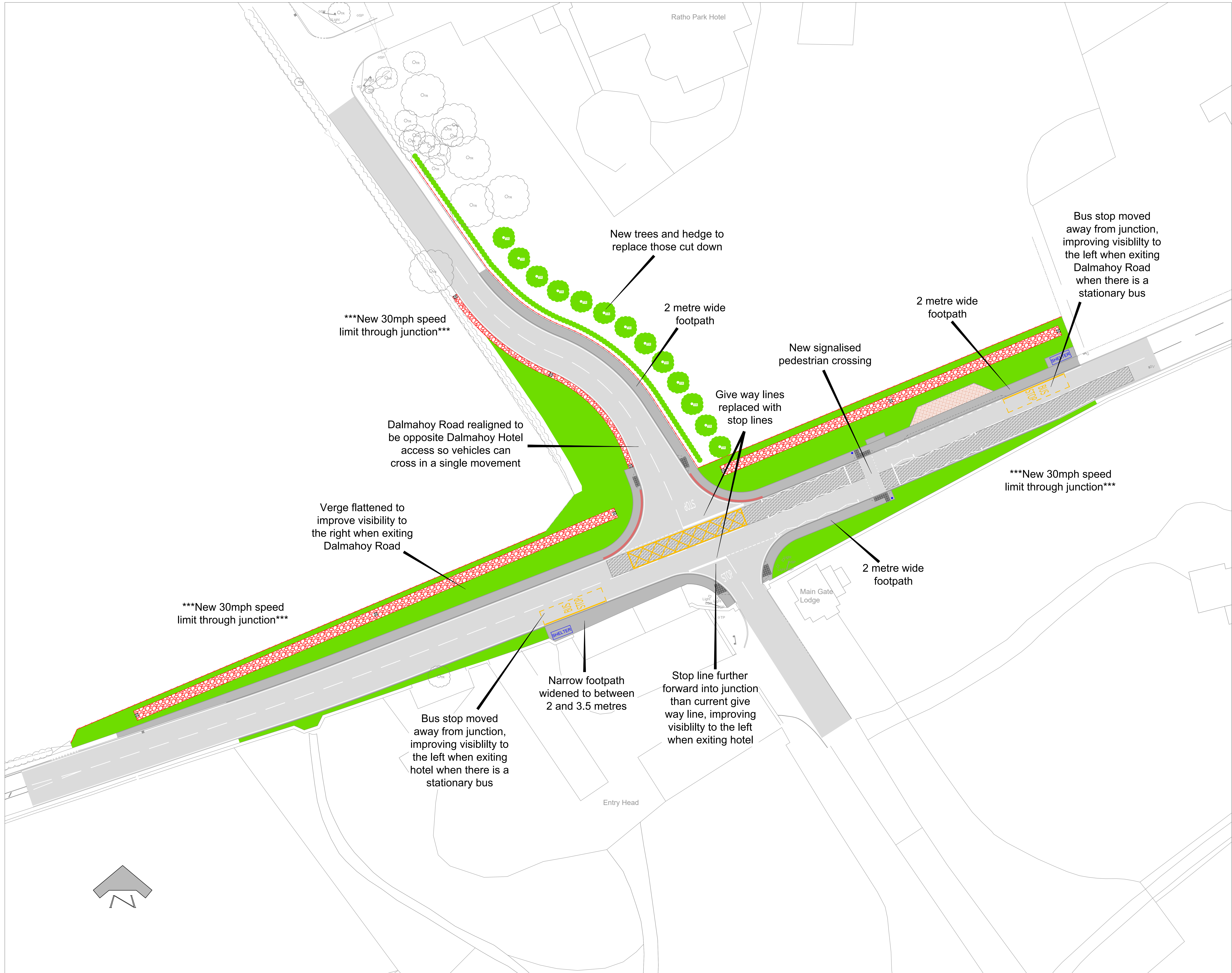
NOTES:

KEY:

- Footway
- Carriageway
- High friction surfacing
- Proposed soakaway
- Proposed maintenance layby
- Verge
- Kerblines
- Kerb drainage
- Fenceline
- White road markings
- Yellow road markings
- Tactile paving
- Drop kerb crossing

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Pedestrian Crossing
A71 / Dalmahoy Road Junction
Proposed Layout
Aligned Junction Option

Date: September 2021 Scale: 1:250 @A0	Job No. 636718	Drawn by: A Parkinson Checked by: AE
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NOTES:

30 mph speed limit

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A	Notes amended, photograph added	AP	Oct 21	AE
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A71 / Dalmahoy Road Junction
Change of Speed Limit to 30 mph

Date: Feb 2021 Scale: NTS / 1:100 @A0	Job No. 636718	Drawn by: A Parkinson Checked by: SMS
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